

The  
Union Switch & Signal Co.  
Swissvale, Pa.

1909



Electric  
Interlocking  
Catalogue

**A CATALOGUE AND PRICE LIST**  
**OF**  
**Interlocking and**  
**Signaling Devices**  
**MADE BY**  
**THE**  
**UNION SWITCH & SIGNAL Co.**  
**OF PITTSBURGH, PA.**

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**Owners of the Westinghouse System of Electro-Pneumatic Block Signaling and Interlocking.**

**Also Designers, Manufacturers and Erectors of Pneumatic, Electro-Pneumatic, Electric, Electro-Mechanical, and Purely Mechanical Appliances for Railway Protection.**

**Automatic, Semi-Automatic and Manually Operated Block Signals.**

**Electro-Pneumatic, Electric and Mechanical Interlockings to suit conditions.**

**Plans and Estimates on Application.**

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**General Offices and Works**  
**SWISSVALE, PA.**

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**New York**                      **Chicago**                      **Montreal**  
**Central Bldg.**              **Monadnock Bldg.**      **Sovereign Bank Bldg.**

SIGNAL ENGINEER,  
BALTIMORE, MD.

For  
Mr. Richie W. Taylor

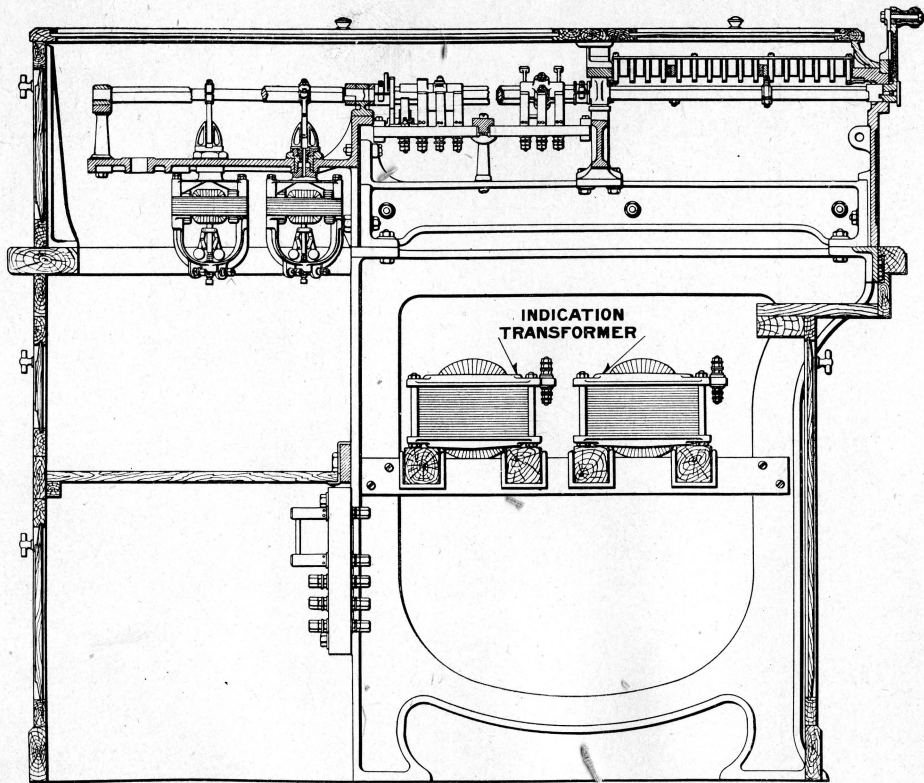
### PREFACE

This Catalogue is principally intended to enable our patrons to conveniently order such apparatus as is confined solely to our electric interlocking system. Switch and Signal fittings common to all types of interlocking will be found in our other catalogues.

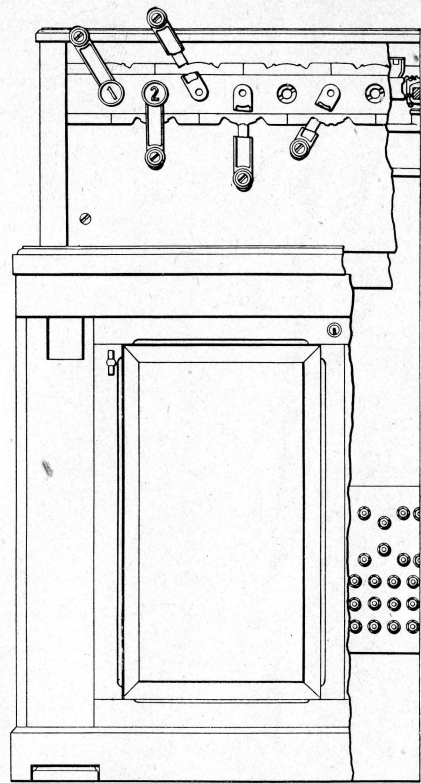
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### ORDERS

When ordering material from this Catalogue, the Plate and Figure number should be given in all cases. Also *such other information as may be called for in the notes or lists.*



SECTIONAL SIDE VIEW THROUGH LEVER  
ELECTRIC INTERLOCKING MACHINE



PORTION OF FRONT VIEW

**ELECTRIC INTERLOCKING MACHINE**

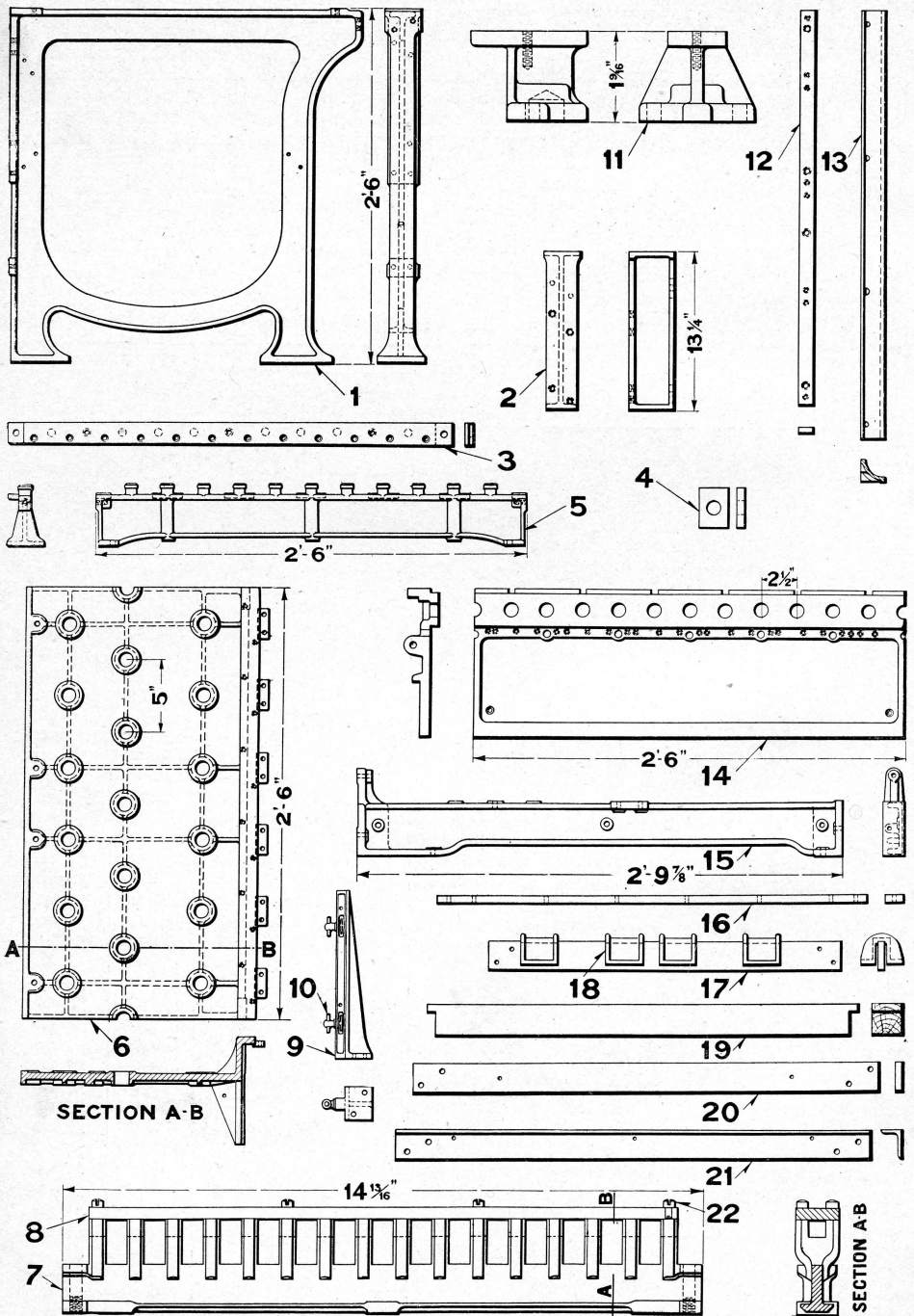
When ordering Electric Interlocking Machines, a signaled track plan should be furnished, drawn to a scale of not more than one hundred feet to the inch.

The plan must show the location of the tower and the relation of the front of the machine to the track, **(the front of a machine is that part occupied by a man when operating the levers)** and also the route or routes to be governed by each signal. It must also indicate the switches which are to be controlled by one lever, unless it is preferred to leave this to our judgment. If special mechanical locking or electric appliances are required, which are not ordinarily included, full information concerning these must accompany the order.

The following list prices are based on machine cases being made of oak and do not include track model, transformers, stroke completing attachment or electric detector circuit controllers. For these attachments see Plate 01019.

**Order by Plate, Figure and Instructions given above**

Fig.	Capacity of Machine		Principal Dimensions			Drawing Letter	List Price	
	Levers	Locking Bars	(Outside of Case)		Height to Center of Levers		Per Lever	Per Space
			Length	Width				
1	11	30	3'-3"	4'-5 <sup>7</sup> / <sub>8</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	S-2	156 00	51 00
2	17	30	4'-6"	4'-5 <sup>7</sup> / <sub>8</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	S-2	156 00	51 00
3	23	30	5'-9"	4'-7 <sup>3</sup> / <sub>8</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	S-2	156 00	51 00
4	29	30	7'-0"	4'-7 <sup>3</sup> / <sub>8</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	S-2	156 00	51 00
5	35	30	8'-3"	4'-7 <sup>3</sup> / <sub>8</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	S-2	156 00	51 00
6	41	30	9'-6"	4'-7 <sup>3</sup> / <sub>8</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	S-2	171 00	51 00
6a	41	36	9'-6"	4'-6 <sup>1</sup> / <sub>2</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	T-2	171 00	54 00
7	47	36	10'-9"	4'-6 <sup>1</sup> / <sub>2</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	T-2	171 00	54 00
7a	47	48	10'-9"	5'-1 <sup>1</sup> / <sub>2</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	U-2	171 00	54 00
8	53	36	12'-0"	4'-6 <sup>1</sup> / <sub>2</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	T-2	171 00	54 00
8a	53	48	12'-0"	5'-1 <sup>1</sup> / <sub>2</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	U-2	171 00	54 00
9	59	48	13'-3"	5'-1 <sup>1</sup> / <sub>2</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	U-2	171 00	54 00
9a	59	60	13'-3"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
10	65	48	14'-6"	5'-1 <sup>1</sup> / <sub>2</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	U-2	171 00	54 00
10a	65	60	14'-6"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
11	71	60	15'-9"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
11a	71	72	15'-9"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	171 00	54 00
12	77	60	17'-0"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
12a	77	72	17'-0"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	171 00	54 00
13	83	60	18'-3"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
13a	83	72	18'-3"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	171 00	54 00
14	89	60	19'-6"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
14a	89	72	19'-6"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	171 00	54 00
15	95	60	20'-9"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
15a	95	72	20'-9"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	171 00	54 00
16	101	60	22'-0"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
16a	101	72	22'-0"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	171 00	54 00
17	107	60	23'-3"	5'-6 <sup>3</sup> / <sub>4</sub> "	3'-2 <sup>7</sup> / <sub>8</sub> "	V-2	171 00	54 00
17a	107	72	23'-3"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	171 00	54 00
18	113	72	24'-6"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
19	119	72	25'-9"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
20	125	72	27'-0"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
21	131	72	28'-3"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
22	137	72	29'-6"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
23	143	72	30'-9"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
24	149	72	32'-0"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
25	155	72	33'-3"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
26	161	72	34'-6"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
27	167	72	35'-9"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
28	173	72	37'-0"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
29	179	72	38'-3"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
30	185	72	39'-6"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
31	191	72	40'-9"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
32	197	72	42'-0"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
33	203	72	43'-3"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	186 00	57 00
34	209	72	44'-6"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	202 00	60 00
35	215	72	45'-9"	6'-3 <sup>3</sup> / <sub>4</sub> "	3'-1 <sup>1</sup> / <sub>8</sub> "	W-2	202 00	60 00



DETAILS FOR ELECTRIC INTERLOCKING MACHINE

DETAILS FOR ELECTRIC INTERLOCKING MACHINE

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
1	Leg for machine having one 15, or one 18-way locking bar bracket.....	18-C-1382	17 50
1a	as above, for machine having two 12-way locking bar brackets.....	29-C-1382	19 60
1b	as above, for machine having two 15-way locking bar brackets.....	36-C-1382	22 90
1c	Leg with intermediate support, for machine having two 18-way locking bar brackets.....	44-C-1382	25 60
2	Angle Bracket used with leg Fig. 1, for machine having one 15-way locking bar bracket.....	4-C-5845	5 20
2a	as above, used with leg Fig 1, for machine having one 18-way locking bar bracket.	"	4 70
3	Intermediate Bearing Plate for 11-lever section for machine having one set of locking bar brackets .....	184-C-5860	4 60
3a	as above, for machine having two sets of locking bar brackets.....	140-C-5860	5 70
3b	as above, for 17-lever section for machine having one set of locking bar brackets.	189-C-5860	7 50
3c	as above, for machine having two sets of locking bar brackets.....	147-C-5860	8 50
4	Filler for intermediate bearing plates for 11 or 17-lever machines .....	144-C-5860	16
5	Intermediate Bearing, 11-lever section, with lugs for circuit controller bases.....	19-C-1792	10 00
5a	as above, without lugs.....	2-C-1792	7 90
5b	as above, 17-lever section, with lugs for circuit controller bases.....	20-C-1792	13 80
5c	as above, without lugs.....	7-C-1792	10 80
6	Back Plate only, 11-lever section.....	12-C-3915	49 00
6a	as above, 17-lever section.....	11-C-3915	70 00
7	Locking Bar Bracket only, 15-way.....	2-C-1511	2 10
7a	as above, with cover plate and machine screws, (1-7, 1-8, 8-22).....	"	2 60

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Fig.		Drawing Reference	List Price
7b	Locking Bar Bracket only, 12-way.....	3-C-1511	2 00
7c	as above, with cover plate and machine screws, (1-7b, 1-8a, 6-22).....	"	2 42
7d	Locking Bar Bracket only, 18-way.....	1-C-1511	2 24
7e	as above, with cover plate and machine screws, (1-7d, 1-8b, 8-22).....	"	2 72
8	Cover Plate, as shown, for 15-way locking bar bracket Fig 7.....	7-C-5860	34
8a	as above, for 12-way locking bar bracket Fig. 7b .....	8-C-5860	28
8b	as above, for 18-way locking bar bracket Fig. 7d .....	5-C-5860	36
9	Bracket only, for back of case.....	87-C-5860	1 12
9a	as above, with latches and handles, (1-9, 2-10) .....	175-C-5860	2 40
10	Latch and Handle, with pin, for bracket Fig. 9...	27-B-8235	60
11	Bracket for top of case.....	3-B-8270	96
12	Back Bearing Plate for 11-lever machine.....	1-C-5860	2 80
12a	as above, for 17-lever machine.....	212-C-5860	3 80
12b	as above, for 11-lever intermediate section	4-C-5860	2 80
12c	as above, for 17-lever intermediate section	215-C-5860	3 80
12d	as above, for 11-lever right hand section..	214-C-5860	2 80
12e	as above, for 17-lever right hand section..	"	3 80
12f	as above, for 11-lever left hand section..	3-C-5860	2 80
12g	as above, for 17-lever left hand section..	213-C-5860	3 80
13	Moulding for 11-lever section.....	85-C-5860	8 70
13a	as above, for 17-lever section.....	{ 85-C-5860 86-C-5860 }	{ 13 90
14	Front Plate for 11-lever section.....	4-C-1855	42 90
14a	as above, for 17-lever section.....	5-C-1855	57 90
15	Left Hand Channel Bar for machine having one 15-way locking bar bracket.....	36-C-1462	10 00
15a	Right Hand, as above.....	35-C-1462	10 00
15b	Left Hand Channel Bar for machine having one 18-way locking bar bracket.....	4-C-1462	10 00
15c	Right Hand, as above.....	3-C-1462	10 00

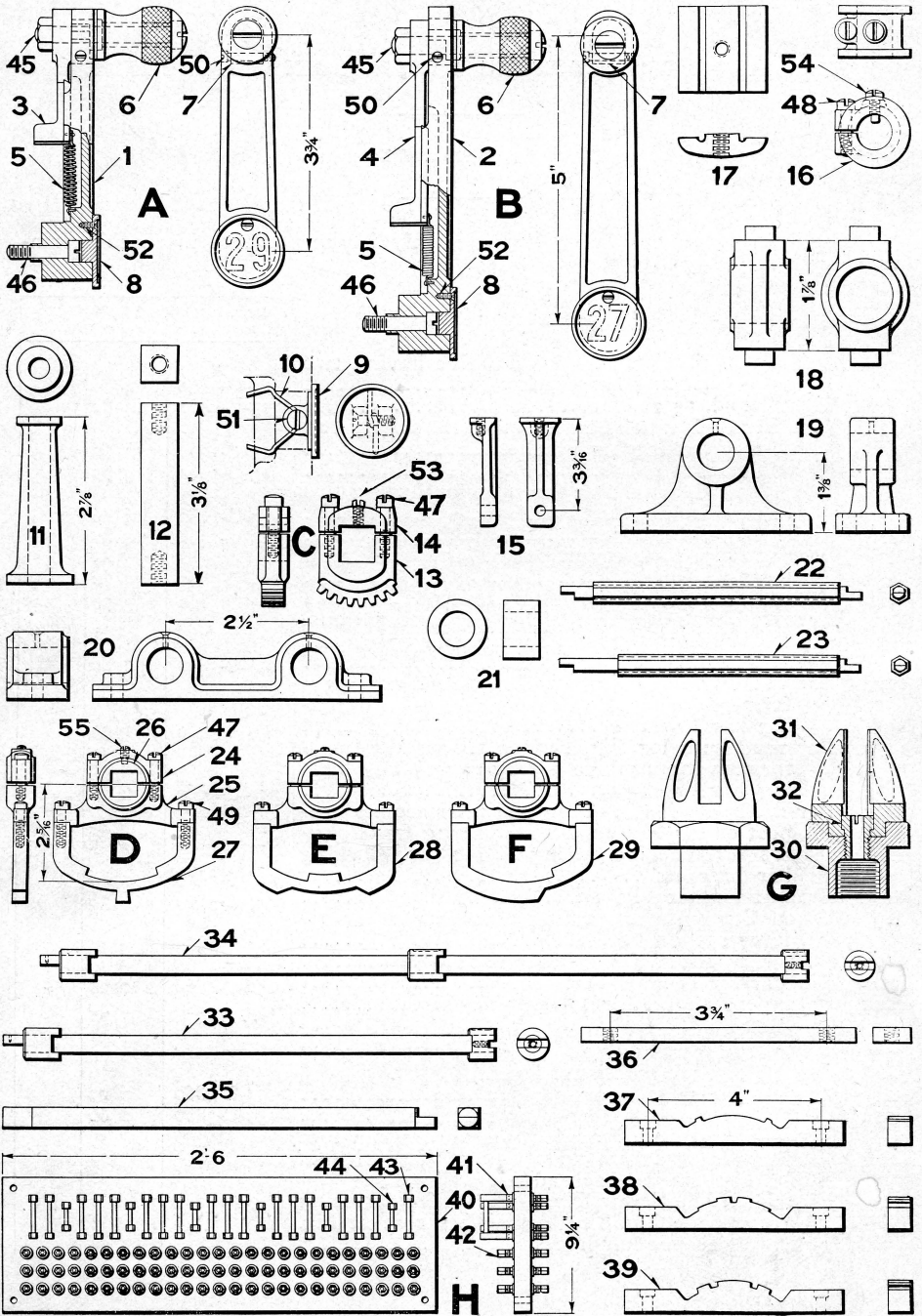


DETAILS FOR ELECTRIC INTERLOCKING MACHINE

Order by Plate and Figure

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Fig.		Drawing Reference	List Price
15d	Left Hand Channel Bar for machine having two 12-way locking bar brackets.....	16-C-1462	12 80
15e	Right Hand, as above.....	15-C-1462	12 80
15f	Left Hand Channel Bar for machine having two 15-way locking bar brackets.....	14-C-1462	13 70
15g	Right Hand, as above.....	13-C-1462	13 70
15h	Left Hand Channel Bar for machine having two 18-way locking bar brackets.....	30-C-1462	14 80
15k	Right Hand, as above.....	29-C-1462	14 80
16	Bar for supporting circuit controller bases for 11-lever section .....	233-C-5860	2 60
16a	as above, for 17-lever section.....	234-C-5860	3 70
17	Bar used with leg Fig. 1, for supporting transformers for machine having one 15 or one 18-way locking bar bracket.....	258-C-5860	1 80
17a	Bar used with leg Fig. 1a, for supporting transformers for machine having two 12-way locking bar brackets.....	260-C-5860	1 90
17b	Bar used with leg Fig. 1b, for supporting transformers for machine having two 15-way locking bar brackets.....	259-C-5860	2 00
17c	Bar used between back leg and intermediate support of leg Fig. 1c, for supporting transformers for machine having two 18-way locking bar brackets .....	256-C-5860	2 00
18	Bracket for bar Fig. 17.....	229-C-5860	36
19	Wood Strip for supporting transformer for 11-lever section .....	223-C-5860	10
19a	as above, for 17-lever section.....	224-C-5860	12
20	Tie Bar for 11-lever machine.....	152-C-5860	2 20
20a	as above, for 17-lever machine.....	158-C-5860	2 40
	NOTE—For price of tie bars for machine of over 17 levers add \$0.04 to list price of Fig. 20a for each additional lever.		
21	Angle Bar for 11-lever machine.....	153-C-5860	2 00
21a	as above, for 17-lever machine.....	159-C-5860	2 60
	NOTE—For price of angle bars for machine of over 17 levers add \$0.12 to list price of Fig. 21a for each additional lever.		
22	Fil. Hd. Mach. Screw, No. 6-32x $\frac{1}{2}$ ", for fastening cover plate Fig. 8 to locking bar bracket Fig. 7. Price per hundred.....		1 00



DETAILS FOR ELECTRIC INTERLOCKING MACHINE

**DETAILS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Short Switch Lever, as shown, (1-1, 1-3, 1-5, 1-6a, 1-7, 1-8, 1-45, 1-46).....	143b-C-5860	14 20
Aa	Short Signal Lever, (1-1, 1-3a, 1-5, 1-6a, 1-7, 1-8, 1-45, 1-46).....	143d-C-5860	14 20
B	Long Switch Lever, as shown, (1-2, 1-4, 1-5, 1-6a, 1-7, 1-8, 1-45, 1-46).....	143a-C-5860	14 40
Ba	Long Signal Lever, (1-2, 1-4a, 1-5, 1-6a, 1-7, 1-8, 1-45, 1-46).....	143c-C-5860	14 40
C	Locking Bar Driver, as shown, (1-13, 1-14, 2-47, 1-53).....	32a-C-5860	1 00
D	Indication Segment, as shown, for switch lever, (1-24, 1-25, 1-26, 1-27, 2-47, 2-49, 1-55).....		5 70
E	Indication Segment, as shown, for signal lever, (1-24, 1-25, 1-26, 1-28, 2-47, 2-49, 1-55).....		5 70
F	Indication Segment, as shown, for three-position signal lever, (1-24, 1-25, 1-26, 1-29, 2-47, 2-49, 1-55).....		6 40
G	Guide with nut and bushing, as shown, for indication latch and segment, (1-30, 1-31, 1-32).	2-C-5732	2 36
H	Terminal Board, as shown, for 11-lever section..	1-C-6035	61 50
Ha	as above, for 17-lever section.....	2-C-6035	91 30
1	Short Switch or Signal Lever Arm only.....	36-C-5860	3 24
2	Long Switch or Signal Lever Arm only.....	35-C-5860	3 34
3	Latch only, for short switch lever Fig. A.....	28-C-5860	3 60
3a	as above, for short signal lever Fig. Aa..	31-C-5860	3 60
4	Latch only, for long switch lever Fig. B.....	29-C-5860	3 80
4a	as above, for long signal lever Fig. Ba..	30-C-5860	3 80
5	Spring, with escutcheon pins for fastening to latches and arms, for latches Figs. 3, 3a, 4 and 4a.....	36-B-7770	20
6	Lever Handle, with sleeve.....	13-B-8311	1 70
6a	Lever Handle, with sleeve, washer, screw and nut.....		1 84
7	Bearing, with machine screw Fig. 50 for fastening to lever arms, for lever handle Fig. 6....	39-C-5860	94
8	Number Plate with machine screw Fig. 52, for fastening to lever arms. Specify number when ordering.....	7-B-8286	42
9	Blank Number Plate, with spring and machine screw, for spare space, (1-10, 1-51).....	1-A-2443	80
10	Spring for holding blank number plate Fig. 9 in front plate.....	3-B-8124	12
11	Post for supporting back bearing plate Fig. 12, Plate 01003, on back plate Fig. 6, Plate 01003	110-C-5860	70
12	Post for supporting bar Fig. 16, Plate 01003, on channel bar Fig. 15, Plate 01003.....	230-C-5860	16
13	Locking Dog Driver only.....	32a-C-5860	26
14	Cap for locking dog driver Fig. 13.....	32b-C-5860	14
15	End Bracket for intermediate bearing Fig. 5, Plate 01003.....	50-C-5860	70

DETAILS FOR ELECTRIC INTERLOCKING MACHINE

Order by Plate and Figure

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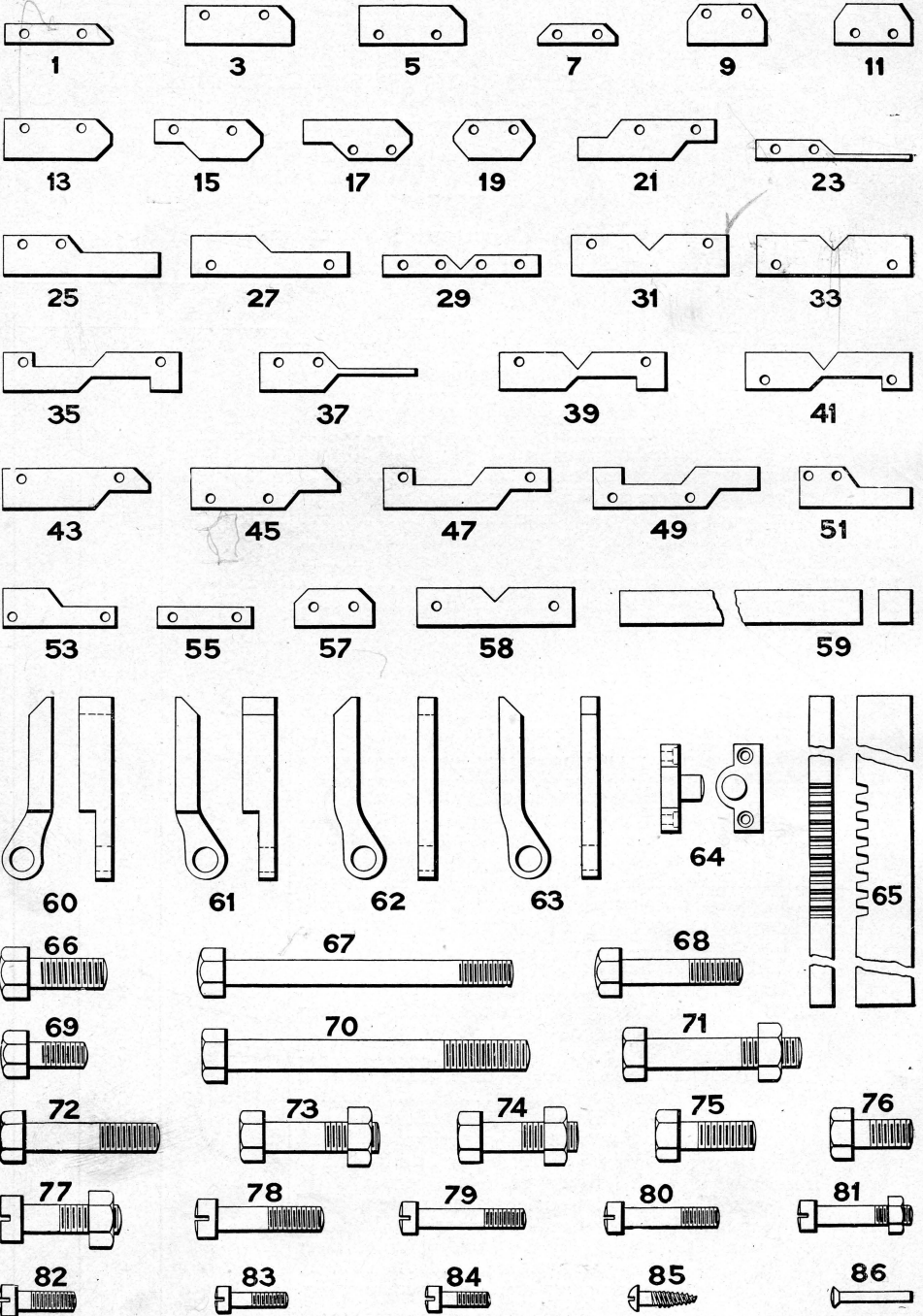
Fig.		Drawing Reference	List Price
16	Coupling, with screws, for lever shaft and circuit controller shaft, (1-48, 1-54).....	52-C-5860	80
17	Clamp for fastening circuit controller bases to bar Fig. 16, Plate 01003.....	231-C-5860	08
18	Trunnion for intermediate bearing Fig 5, Plate 01003 .....	47-C-5860	90
18a	as above, with tapped ends.....	130-C-5860	1 00
18b	Suspended Trunnion for use at junction of two sections .....	48-C-5860	94
19	Bearing, 1-way, for circuit controller shaft.....	156-C-5860	62
19a	as above, 2-way.....	155-C-5860	92
20	Bearing, 2-way, for indication segment shafts...	46-C-5860	90
20a	as above, 3-way.....	45-C-5860	1 14
21	Coupling for circuit controller shaft and indication segment shaft.....	112-B-8072	08
22	Switch Lever Circuit Controller Shaft, with insulation, as shown, for machine having one 18, two 12, or two 15-way locking bar brackets	30-C-5984	3 70
22a	as above, for machine having one 15 or two 18-way locking bar brackets.....	52-C-5984	4 40
23	Signal Lever Circuit Controller Shaft, with insulation, as shown, for machine having one 18, two 12, or two 15-way locking bar brackets	44-C-5984	3 70
23a	as above, for machine having one 15, or two 18-way locking bar brackets.....	54-C-5984	4 40
23b	Three-Position Signal Lever Circuit Controller Shaft, with insulation, for machine having one 18, two 12, or two 15-way locking bar brackets .....	31-C-5984	3 70
23c	as above, for machine having one 15, or two 18-way locking bar brackets.....	53-C-5984	4 40
24	Cap for clamp Fig. 25. (Furnished only with Fig. 25) .....	27b-C-5860	
25	Clamp, with cap, bushing and screws, for indication segments Figs. D, E and F, (1-24, 1-26, 2-47, 1-55) .....	27a-C-5860	2 80
26	Split Bushing for clamp Fig. 25. (Furnished only with Fig. 25).....	27c-C-5860	
27	Indication Segment only, for Fig. D.....	14-B-8316	2 80
28	Indication Segment only, for Fig. E.....	15-B-8316	2 80
29	Indication Segment only, for Fig. F.....	19-B-8316	3 50
30	Nut for Fig. G.....	1-C-5732	92
31	Guide for Fig. G.....	2-C-5732	1 32
32	Bushing for Fig. G.....	70-B-8350	08
33	Lever Shaft, with two bushings, as shown, for machine having one 15-way locking bar bracket .....	6-C-5984	3 80
33a	as above, for machine having one 18-way locking bar bracket.....	27-C-5984	4 00

DETAILS FOR ELECTRIC INTERLOCKING MACHINE

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
34	Lever Shaft, with three bushings, as shown, for machine having two 12-way locking bar brackets .....	1-C-5984	6 50
34a	as above, for machine having two 15-way locking bar brackets.....	5-C-5984	6 80
34b	as above, for machine having two 18-way locking bar brackets.....	3-C-5984	6 90
35	Indication Segment Shaft for switch lever or two-position signal lever.....	49-C-5984	1 14
35a	as above, for three-position signal lever..	50-C-5984	1 26
36	Strip for supporting circuit controller bases....	232-C-5860	20
37	Switch Lever Quadrant.....	5-B-8349	2 70
38	Signal Lever Quadrant.....	12-B-8349	2 70
39	Three-Position Signal Lever Quadrant.....	14-B-8349	2 70
40	Terminal Board only, for 11-lever section.....	1-C-6035	9 40
40a	as above, for 17-lever section.....	2-C-6035	14 26
41	Terminal Post, with contact springs, rivets, plate washers and nuts, for Figs. 43 and 44.....	146-B-8094	60
42	Terminal Post, with plate washers and nuts.....	147-B-8094	24
43	3-Ampere Fuse .....	2-B-9014	20
44	10-Ampere Fuse .....	1-B-9014	16
45	Fil. Hd. Mach. Screw and Nut, 5/16"-32x2-5/16" for handle Fig. 6. Price per hundred.....	27-B-8190	8 00
46	Fl. Fil. Hd. Mach. Screw, 1/4"-24x1", for fastening lever to shaft. Price per hundred.....	3-B-8099	2 00
47	Fil. Hd. Mach. Screw, No. 10-32x7/8", for fastening cap to clamp Fig. 25 and for fastening cap to locking dog driver Fig. 13. Price per hundred .....	91-B-8098	3 00
48	Fil. Hd. Mach. Screw, No. 10-32x3/4", for coupling Fig. 16. Price per hundred.....	129-B-8098	3 00
49	Fil. Hd. Mach. Screw, No. 10-32x5/8", for fastening indication segments Figs. 27, 28 and 29 to clamp. Price per hundred.....	131-B-8098	3 00
50	Fil. Hd. Mach. Screw, No. 4-40x7/8", for bearing Fig. 7. Price per hundred.....	12-B-8098	3 00
51	Countersunk Hd. Brass Mach. Screw, No. 10-32x11/16", for fastening spring to blank number plate Fig. 9. Price per hundred....		2 00
52	Countersunk Hd. Brass Mach. Screw, No. 4-40x1/4", for fastening number plate Fig. 8 to arms Figs. 1 and 2. Price per hundred....		1 00
53	Set Screw, No. 10-32x3/8", for locking dog driver Fig. 13. Price per hundred.....	92-B-8098	2 00
54	Pivot Screw, No. 10-32x7/16", for coupling Fig. 16. Price per hundred.....	28-B-8378	3 00
55	Pivot Screw, No. 10-32x1/4", for cap Fig. 24. Price per hundred.....	96-B-8098	2 00



LOCKING DOGS AND DETAILS FOR ELECTRIC INTERLOCKING MACHINE

**LOCKING DOGS AND DETAILS FOR ELECTRIC INTERLOCKING MACHINE**

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
1	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	1-B-3352	12
2	as above, $\frac{3}{16}$ " thick.....	2-B-3352	10
3	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	3-B-3352	10
4	as above, $\frac{3}{16}$ " thick.....	4-B-3352	10
5	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	5-B-3352	10
6	as above, $\frac{3}{16}$ " thick.....	6-B-3352	10
7	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	7-B-3352	12
8	as above, $\frac{3}{16}$ " thick.....	8-B-3352	12
9	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	9-B-3352	14
10	as above, $\frac{3}{16}$ " thick.....	10-B-3352	12
11	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	11-B-3352	14
12	as above, $\frac{3}{16}$ " thick.....	12-B-3352	12
13	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	13-B-3352	14
14	as above, $\frac{3}{16}$ " thick.....	14-B-3352	12
15	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	15-B-3352	20
16	as above, $\frac{3}{16}$ " thick.....	16-B-3352	20
17	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	17-B-3352	20
18	as above, $\frac{3}{16}$ " thick.....	18-B-3352	20
19	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	19-B-3352	20
20	as above, $\frac{3}{16}$ " thick.....	20-B-3352	20
21	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	21-B-3352	16
22	as above, $\frac{3}{16}$ " thick.....	22-B-3352	16
23	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	23-B-3352	14
24	as above, $\frac{3}{16}$ " thick.....	24-B-3352	14
25	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	25-B-3352	16
26	as above, $\frac{3}{16}$ " thick.....	26-B-3352	14
27	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	27-B-3352	16
28	as above, $\frac{3}{16}$ " thick.....	28-B-3352	14
29	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	29-B-3352	16
30	as above, $\frac{3}{16}$ " thick.....	30-B-3352	14

**LOCKING DOGS AND DETAILS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
31	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	31-B-3352	14
32	as above, $\frac{3}{16}$ " thick.....	32-B-3352	12
33	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	33-B-3352	14
34	as above, $\frac{3}{16}$ " thick.....	34-B-3352	12
35	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	35-B-3352	22
36	as above, $\frac{3}{16}$ " thick.....	36-B-3352	20
37	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	37-B-3352	20
38	as above, $\frac{3}{16}$ " thick.....	38-B-3352	18
39	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	39-B-3352	20
40	as above, $\frac{3}{16}$ " thick.....	40-B-3352	16
41	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	41-B-3352	20
42	as above, $\frac{3}{16}$ " thick.....	42-B-3352	16
43	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	43-B-3352	16
44	as above, $\frac{3}{16}$ " thick.....	44-B-3352	16
45	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	45-B-3352	16
46	as above, $\frac{3}{16}$ " thick.....	46-B-3352	16
47	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	47-B-3352	20
48	as above, $\frac{3}{16}$ " thick.....	48-B-3352	18
49	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	49-B-3352	20
50	as above, $\frac{3}{16}$ " thick.....	50-B-3352	18
51	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	51-B-3352	12
52	as above, $\frac{3}{16}$ " thick.....	52-B-3352	10
53	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	53-B-3352	12
54	as above, $\frac{3}{16}$ " thick.....	54-B-3352	10
55	Locking Dog, as shown, $\frac{3}{8}$ " thick.....	55-B-3352	08
56	as above, $\frac{3}{16}$ " thick.....	56-B-3352	08
57	Locking Dog, as shown, $\frac{3}{16}$ " thick.....	57-B-3352	16
58	Locking Dog, as shown, $\frac{3}{16}$ " thick.....	58-B-3352	14
59	Cross Locking Bar, $\frac{3}{8}$ "x $\frac{3}{8}$ ". Specify length when ordering. Price per foot.....		10



**LOCKING DOGS AND DETAILS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
60	Swinging Dog, Right Hand, as shown, $\frac{3}{8}$ " thick..	1-B-7223	60
60a	as above, with point cut as per Fig. 61...	2-B-7223	60
61	Swinging Dog, Left Hand, as shown, $\frac{3}{8}$ " thick...	3-B-7223	60
61a	as above, with point cut as per Fig. 60...	4-B-7223	60
62	Swinging Dog, as shown, $\frac{3}{16}$ " thick.....	5-B-7223	66
63	Swinging Dog, as shown, $\frac{3}{16}$ " thick.....	6-B-7223	66
64	Single Reach Trunnion, as shown.....	9-B-7223	20
64a	Double Reach Trunnion.....	8-B-7223	30
64b	Triple Reach Trunnion.....	7-B-7223	40
65	Longitudinal Locking Bar, $\frac{1}{4}$ "x $\frac{5}{8}$ ", with rack. Specify length when ordering. Price per foot		20
65a	as above, without rack. Specify length when ordering. Price per foot.....		16
66	Cap Screw, $\frac{3}{8}$ "x1", for fastening end bracket Fig. 15, Plate 01005, to intermediate bearing Fig. 5, Plate 01003. Price per hundred.....		3 00
67	Cap Screw, $\frac{5}{16}$ "x $3\frac{3}{4}$ ", for fastening tapped trunnion Fig. 18a, Plate 01005, to interme- diate bearing Fig. 5, Plate 01003. Price per hundred .....		6 00
68	Cap Screw, $\frac{5}{16}$ "x1", for fastening end bracket Fig. 15, Plate 01005, to intermediate bearing plate Fig. 3, Plate 01003. Price per hundred.		2 00
69	Cap Screw, $\frac{5}{16}$ "x $\frac{3}{4}$ ", for holding tapped and sus- pended trunnions, Figs. 18a and 18b, Plate 01005, to intermediate bearing plate Fig. 3, Plate 01003. Price per hundred.....		2 00
70	Bolt, $\frac{3}{8}$ "x $4\frac{1}{8}$ ", for post Fig. 11, Plate 01005. Price each .....	8-B-8709	20

**LOCKING DOGS AND DETAILS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

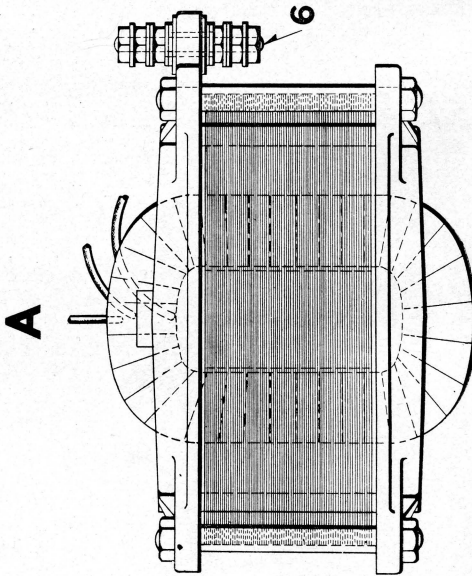
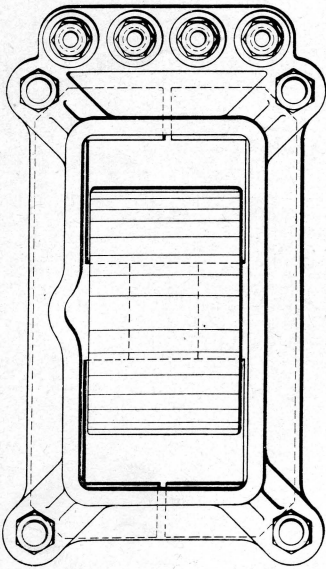
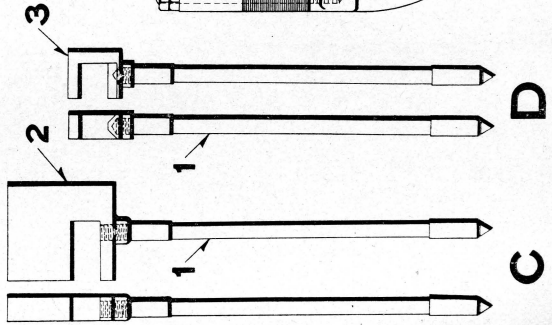
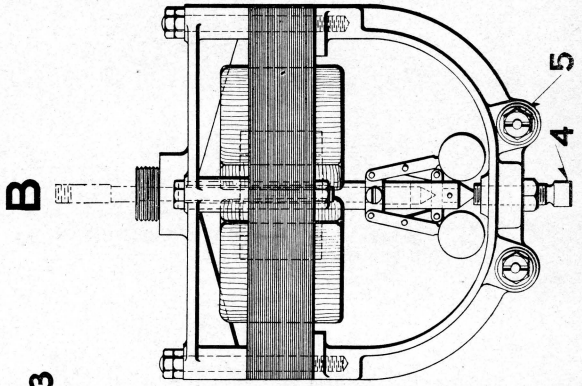
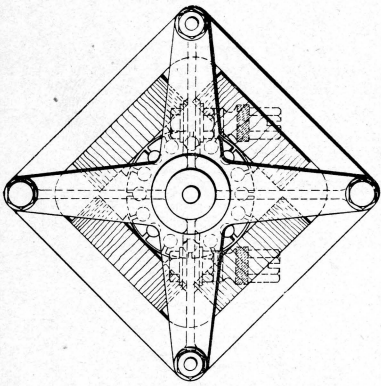
Fig.	Drawing Reference	List Price
71	Cap Screw and Nut, $\frac{3}{8}$ "x2", for fastening back plate Fig. 6, to channel bar Fig. 15, Plate 01003. Price per hundred.....	4 00
72	Tap Bolt, $\frac{3}{8}$ "x1- $\frac{1}{4}$ ", for fastening terminal board Fig. 40, Plate 01005, to leg Fig. 1, Plate 01003. Price per hundred.....	2 00
73	Cap Screw and Nut, $\frac{3}{8}$ "x1- $\frac{1}{2}$ ", for fastening intermediate bearing Fig. 5 and back plate Fig. 6 to channel bar Fig. 15, for fastening channel bar Fig. 15 to leg Fig. 1 and for holding together front plates Fig. 14 and back plates Fig. 6, Plate 01003. Price per hundred.....	4 00
74	Cap Screw and Nut, $\frac{3}{8}$ "x1- $\frac{1}{4}$ ", for holding together right and left hand channel bars Fig. 15, Plate 01003. Price per hundred.....	4 00
75	Tap Bolt, $\frac{3}{8}$ "x1", for fastening tie bar Fig. 20 to leg Fig. 1 or bracket Fig. 2, Plate 01003. Price per hundred.....	2 00
76	Tap Bolt, $\frac{3}{8}$ "x $\frac{3}{4}$ ", for fastening angle bar Fig. 21 to leg Fig. 1, Plate 01003. Price per hundred .....	2 00
77	Fl. Fil. Hd. Mach. Screw and Nut, $\frac{3}{8}$ "x1- $\frac{1}{4}$ ", for fastening front plate Fig. 14 to channel bars Fig. 15, Plate 01003. Price per hundred.....	4 00
78	Fil. Hd. Mach. Screw, $\frac{5}{16}$ "x1- $\frac{3}{8}$ ", for fastening locking bar bracket Fig. 7 to front and intermediate bearing plates Figs. 14 and 3, Plate 01003. Price per hundred.....	3 00
79	Fil. Hd. Mach. Screw, $\frac{1}{4}$ "x1- $\frac{3}{8}$ ", for post Fig. 12 and clamp Fig. 17, Plate 01005. Price per hundred .....	2 00

**LOCKING DOGS AND DETAILS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Drawing Reference	List Price
80	Fil. Hd. Mach. Screw, $\frac{1}{4}$ "x1- $\frac{1}{4}$ ", for fastening strip Fig. 36, Plate 01005, to intermediate bearing Fig. 5 and back plate Fig. 6, Plate 01003. Price per hundred.....	2 00
81	Fil. Hd. Mach. Screw and Nut, $\frac{1}{4}$ "x1- $\frac{1}{4}$ ", for fastening transformer supporting bar Fig. 17 to leg Fig. 1, Plate 01003. Price per hundred.....	2 00
82	Fil. Hd. Mach. Screw, $\frac{1}{4}$ "x $\frac{3}{4}$ ", for fastening post Fig. 12, Plate 01005, to channel bar Fig. 15, Plate 01003. Price per hundred.....	1 00
83	Fil. Hd. Mach. Screw, No. 12-32x $\frac{3}{4}$ ", for bearings Figs. 19, 19a, 20 and 20a and for quadrants Figs. 37, 38 and 39, Plate 01005. Price per hundred.....	1 00
84	Fil. Hd. Mach. Screw, No. 12-32x $\frac{5}{8}$ ", for fastening bracket Fig. 11 to intermediate bearing plate Fig. 3, and moulding Fig. 13 to front plate Fig. 14, Plate 01003. Price per hundred.....	1 00
85	Rd. Hd. Wood Screw, No. 8x $\frac{3}{4}$ ", for fastening bracket Fig. 9, Plate 01003, to wood frame of case. Price per hundred.....	1 00
86	Rivet, $\frac{1}{8}$ "x1-1/16", as shown, for fastening locking dog $\frac{3}{8}$ " thick to locking bar. Price per hundred.....	1 00
86a	Rivet, $\frac{1}{8}$ "x15/16", for fastening locking dog 3/16" thick to locking bar. Price per hundred....	1 00



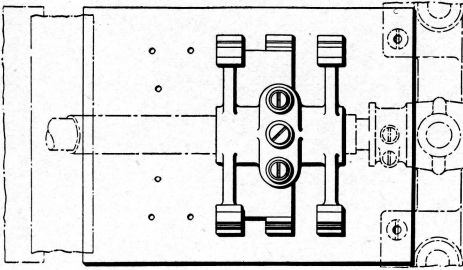
INDICATION TRANSFORMER AND MOTOR

**INDICATION TRANSFORMER AND MOTOR**

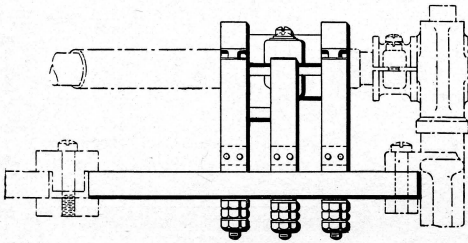
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

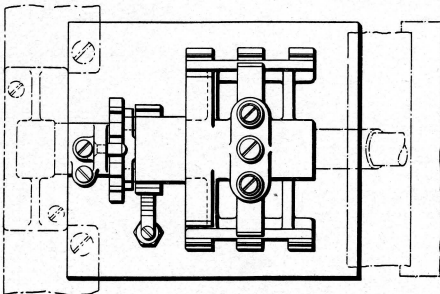
Fig.		Drawing Reference	List Price
A	Indication Transformer, with terminal posts, as shown .....	3-C-5025	21 70
B	A. C. Indication Motor, with pivot screw and terminal posts, as shown.....	1-C-5003	24 00
Ba	as above, with switch lever indication latch and stem, (1-B, 1-C).....	"	26 20
Bb	as above, with signal lever indication latch and stem, (1-B, 1-D).....	"	25 90
C	Switch Lever Indication Latch and Stem, (1-1, 1-2) .....	9-B-8711	2 20
D	Signal Lever Indication Latch and Stem, (1-1, 1-3) .....	5-B-8711	1 90
1	Stem for indication latches.....	2-B-9595	56
2	Switch Lever Indication Latch.....	9-B-8711	1 64
3	Signal Lever Indication Latch.....	5-B-8711	1 34
4	Pivot Screw, with lock nut, for armature shaft of indication motor .....	14-B-8378	30
5	Terminal Post, with plate washers, nuts, insulating washers and insulating bushings, for motor Fig. B.....	163-B-8094	26
6	Terminal Post, with plate washers, nuts, insulating washers and insulating bushing, for transformer Fig. A.....	141-B-8094	54



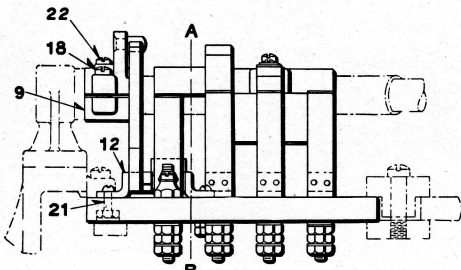
PLAN VIEW



SIDE VIEW

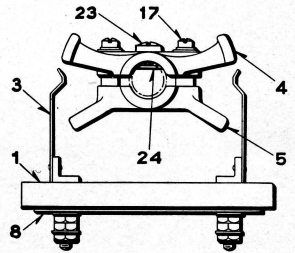


PLAN VIEW

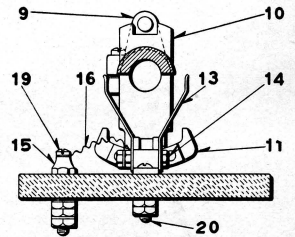


SIDE VIEW

A

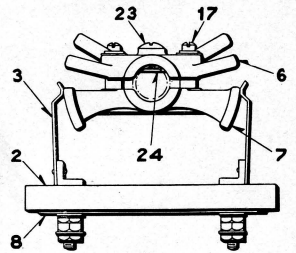


FRONT VIEW



SECTIONAL VIEW THRO' A-B  
SHOWING CIRCUIT SHIFTER

B



FRONT VIEW OMITTING PARTS  
BACK OF A-B

CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE

**CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

Circuit Controllers listed below include parts shown in full lines on opposite plate.

Adjacent parts of the interlocking machine are shown in dot and dash lines and are not included with the circuit controllers.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Circuit Controller, with slate base, contact springs and contact arms, as shown, for switch lever for machine having one 18, two 12 or two 15-way locking bar brackets.....	C 5769	7 30
B	Circuit Controller, with slate base, contact springs and contact arms, as shown, for signal lever for machine having one 18, two 12 or two 15-way locking bar brackets.....	C-5762	12 00
1	Slate Base for switch lever circuit controller Fig. A. ....	42-C-6447	80
2	Slate Base for signal lever circuit controller Fig. B. ....	41-C-6447	80
3	Contact Spring and Terminal Post, with nuts and washers, for slate bases Figs. 1 and 2.....	147-B-8385	60
4	Upper Contact Arm for switch lever circuit controller Fig. A.....	1-C-5769	1 14
5	Lower Contact Arm for switch lever circuit controller Fig. A.....	2-C-5769	1 14
5a	Upper and Lower Contact Arms, with insulations, screws and washer, (1-4, 1-5, 2-17, 1-23, 1-24).		2 90
6	Upper Contact Arm for signal lever circuit controller Fig. B.....	2-C-5762	1 44
7	Lower Contact Arm for signal lever circuit controller Fig. B.....	3-C-5762	1 48

**CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
7a	Upper and Lower Contact Arms, with insulations, screws and washer, (1-6, 1-7, 2-17, 1-23, 1-24).		3 54
8	Copper Strip for connecting terminals of switch and signal lever circuit controllers, Figs. A and B .....	47-B-8064	10
9	Clamp Crank Arm, with pin and screws Figs. 18 and 22, for circuit shifter of circuit controller Fig. B.....	26-B-8192	86
10	Operating Arm .....	16-C-6447	70
11	Operating Piece and Contact Spring Support, with rivets .....	14-C-6447	1 00
11a	as above, with base brackets, contact springs, terminal post and screws, (1-11, 2-12, 2-13, 1-14, 1-20, 1-21).....	"	2 10
12	Base Bracket for operating piece and contact spring support Fig. 11.....	15-C-6447	10
13	Contact Spring for circuit shifter.....	148-B-8385	10
14	Terminal Post, (No. 8-32x1" Rd. Hd. Mach. Screw), with insulating bushing, insulating washers, plate washers and nuts.....		20
15	Terminal Post, with plate washers, nuts and machine screw Fig. 19.....	15-B-8094	18

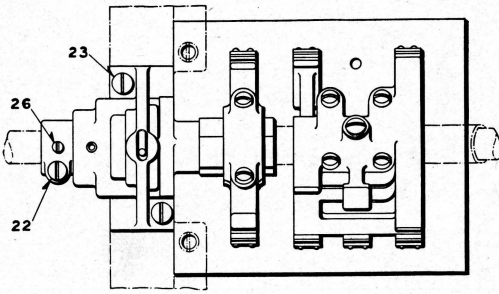


**CIRCUIT CONTROLLERS FOR ELECTRIC  
INTERLOCKING MACHINE**

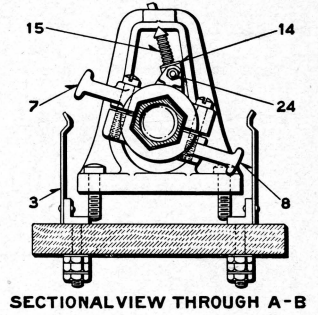
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

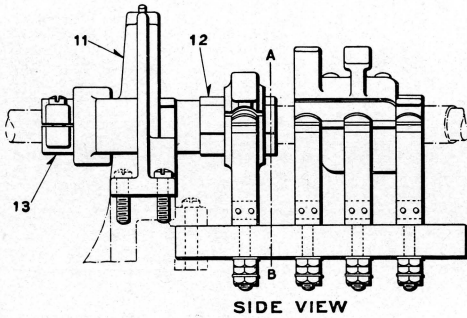
Fig.		Drawing Reference	List Price
16	Flexible Connector for terminal posts Figs. 14 and 15 .....	10-B-8762	06
17	Fil. Hd. Mach. Screw, No. 10-32x1-1/4", with insulating bushing, insulating washer and washer, for fastening together upper and lower contact arms of switch and signal lever circuit controllers Figs. A and B.....		
18	Fil. Hd. Mach. Screw, No. 10-32x3/4", for arm Fig. 9. Price per hundred.....	129-B-8098	3 00
19	Fil. Hd. Mach. Screw, No. 4-40x1/4", for fastening flexible connector to terminal post Fig. 15. Price per hundred.....		
20	Rd. Hd. Mach. Screw, No. 10-32x1-1/8", with nuts, for base bracket Fig. 12.....		04
21	Rd. Hd. Mach. Screw, No. 10-32x3/8", with nut, for base bracket Fig. 12.....		02
22	Pivot Screw, No. 10-32x7/16", for clamp arm Fig. 9 .....	28-B-8378	03
23	Special Set Screw, 3/8"-30x3/8", for upper contact arms Figs. 4 and 6.....	72-B-8070	04
24	Special Insulating Washer for circuit controllers Figs. A and B.....	193-B-8078	01



PLAN VIEW

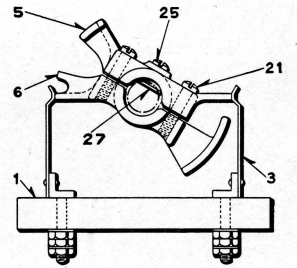


SECTIONAL VIEW THROUGH A-B

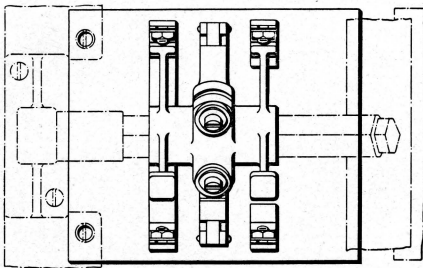


SIDE VIEW

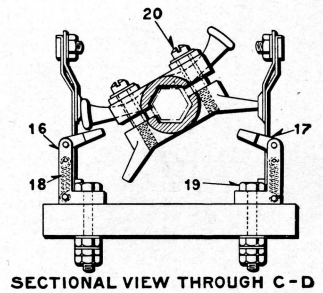
**A**



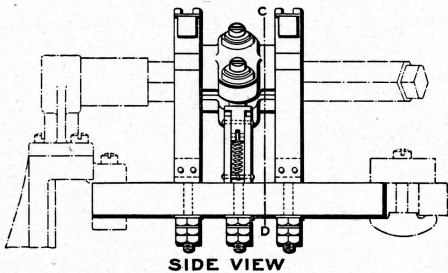
FRONT VIEW  
OMITTING PARTS BACK OF A-B



PLAN VIEW

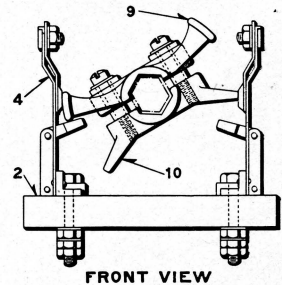


SECTIONAL VIEW THROUGH C-D



SIDE VIEW

**B**



FRONT VIEW

CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE

**CIRCUIT CONTROLLERS FOR ELECTRIC  
INTERLOCKING MACHINE**

Circuit Controllers listed below include parts shown in full lines on opposite plate.

Adjacent parts of the interlocking machine are shown in dot and dash lines and are not included with the circuit controllers.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Three-Position Signal Circuit Controller, with slate base, contact springs, contact arms and bracket, as shown, for round shaft for machine having one 18, two 12 or two 15-way locking bar brackets. (Shaft coupling not included) .....	1-C-6201	15 10
B	Switch Lever Circuit Controller, with short slate base Fig. 2, contact springs, contact arms and bracket, as shown, for hexagon shaft for machine having one 18, two 12 or two 15-way locking bar brackets.....	89-C-6447	10 30
Ba	as above, with long slate base Fig. 2a, for machine having one 15 or two 18-way locking bar brackets.....	"	10 60
1	Slate Base for circuit controller Fig. A.....	6-C-6201	80
2	Short Slate Base for circuit controller Fig. B....	42-C-6447	80
2a	Long Slate Base for circuit controller Fig. Ba...	84-C-6447	1 00
3	Contact Spring and Terminal Post, with washers and nuts, for circuit controller Fig. A.....	147-B-8385	60
4	Contact Spring and Terminal Post, with contact spring support, bolt, washers and nuts.....	446 B-8385	1 10
5	Upper Contact Arm for three-position signal circuit controller Fig. A.....	2-C-6201	1 60
6	Lower Contact Arm for three-position signal circuit controller Fig. A.....	5-C-6201	1 65
6a	Upper and Lower Contact Arms, with screws and washer, (1-5, 1-6, 4-21, 1-25, 1-27).....		3 64

**CIRCUIT CONTROLLERS FOR ELECTRIC  
INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

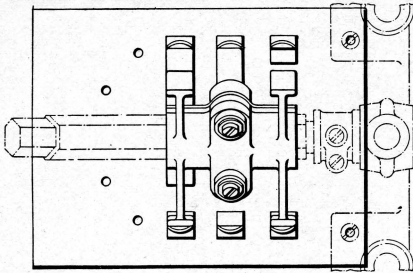
Fig.		Drawing Reference	List Price
7-	Upper Contact Arm for circuit shifter of circuit controller Fig. A.....	3-C-6201	80
8	Lower Contact Arm for circuit shifter of circuit controller Fig. A.....	4-C-6201	82
8a	Upper and Lower Contact Arms, with insulating sleeve and screws, (1-7, 1-8, 1-12a, 2-21).....		2 20
9	Upper Contact Arm for circuit controller Fig. B.	2-C-6447	1 00
10	Lower Contact Arm for circuit controller Fig. B.	3-C-6447	1 14
10a	Upper and Lower Contact Arms, with insulation and screws, (1-9, 1-10, 2-20).....		2 76
11	Bracket for circuit shifter Fig. 12.....	44-C-5860	1 76
12	Circuit Shifter, with screw and nut Fig. 24, for three-position circuit controller Fig. A.....	7-C-6201	2 14
12a	Insulating Sleeve .....	67-B-8095	40
13	Coupling, with mach. screw Fig. 22, for operating circuit shifter Fig. 12.....	54-C-5860	1 40
14	Toggle Joint, with pivot, spring guide and spring Fig. 15 .....	91-C-5860	50
15	Spring for toggle joint Fig. 14.....	90-B-7770	14
16	Contact Block Support, with pins, for circuit controller Fig. B.....	86-C-6447	48
16a	as above, with contact block, spring and terminal post, (1-16, 1-17, 1-18, 1-19).....	"	1 20
17	Contact Block .....	87-C-6447	36
18	Spring .....	135-B-7770	16

**CIRCUIT CONTROLLERS FOR ELECTRIC  
INTERLOCKING MACHINE**

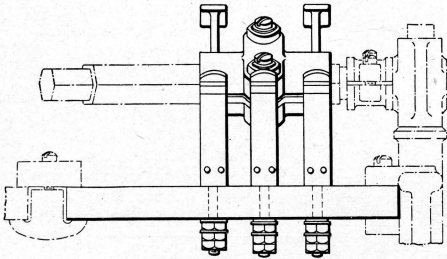
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

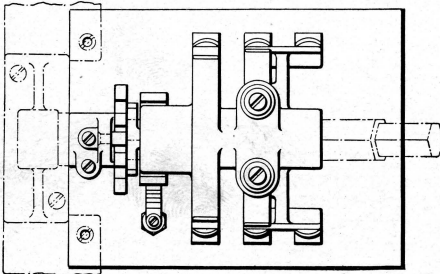
Fig.		Drawing Reference	List Price
19	Terminal Post, with washers and nuts, for contact block support Fig. 16.....	208-B-8094	14
20	Fil. Hd. Mach. Screw, No. 10-32x1-1/4", with insulating bushing, insulating washer and plate washer, for fastening lower contact arm Fig. 10 to upper contact arm Fig. 9. Price each...	130-B-8098	18
21	Fil. Hd. Mach. Screw, No. 10-32x1-1/8", for fastening lower contact arms Figs. 6 and 8 to upper contact arms Figs. 5 and 7. Price per hundred .....	"	3 00
22	Fil. Hd. Mach. Screw, No. 10-32x3/4", for coupling Fig. 13. Price per hundred.....	129-B-8098	3 00
23	Fil. Hd. Mach. Screw, No. 12-32x3/4", for fastening bracket Fig. 11, Plate 01013, to back plate Fig. 6, Plate 01003. Price per hundred.....	122-B-8098	3 00
24	Fil. Hd. Mach. Screw, 6-32x1/2", with hex nut, for toggle joint Fig. 14. Price each.....	132-B-8098	06
25	Special Set Screw, 3/8"-30x3/8", for upper contact arm Fig. 5.....	72-B-8070	04
26	Special Set Screw, No. 10-32x5/16", for coupling Fig. 13. Price each.....	41-B-8098	02
27	Special Insulating Washer for circuit controller Fig. A .....	193-B-8078	01



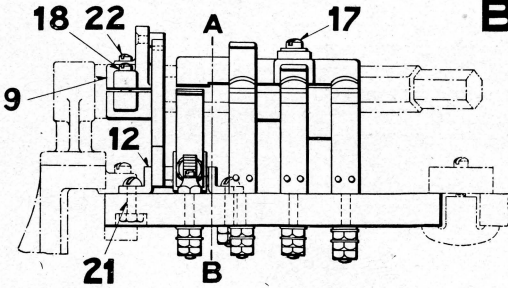
PLAN VIEW



SIDE VIEW



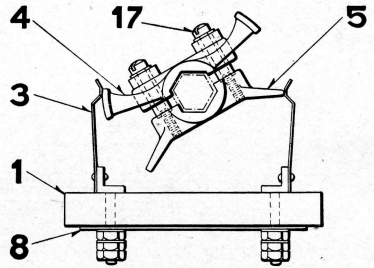
PLAN VIEW



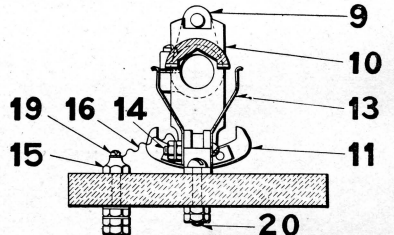
SIDE VIEW

CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE

**A**

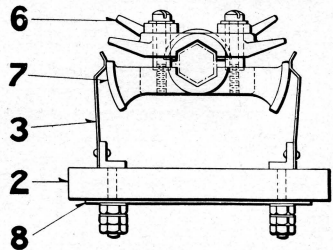


FRONT VIEW



SECTIONAL VIEW THRO' A-B SHOWING CIRCUIT SHIFTER

**B**



FRONT VIEW OMITTING PARTS BACK OF A-B

**CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

Circuit Controllers listed below include parts shown in full lines on opposite plate.

Adjacent parts of the interlocking machine are shown in dot and dash lines and are not included with the circuit controllers.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Circuit Controller, with short slate base Fig. 1, contact springs and contact arms, as shown, for switch lever for machine having one 18, two 12 or two 15-way locking bar brackets...	1-C-6447	7 00
Aa	as above, with long slate base Fig. 1a, for machine having one 15 or two 18-way locking bar brackets .....	"	7 30
B	Circuit Controller, with short slate base Fig. 2, contact springs and contact arms, as shown, for signal lever for machine having one 18, two 12 or two 15-way locking bar brackets...	81-C-6447	12 40
Ba	as above, with long slate base Fig. 2a, for machine having one 15 or two 18-way locking bar brackets.....	"	12 70
1	Short Slate Base for switch lever circuit controller Fig. A.....	42-C-6447	80
1a	Long Slate Base for switch lever circuit controller Fig. Aa.....	84-C-6447	1 00
2	Short Slate Base for signal lever circuit controller Fig. B.....	41-C-6447	80
2a	Long Slate Base for signal lever circuit controller Fig. Ba.....	83-C-6447	1 00
3	Contact Spring and Terminal Post, with washers and nuts, for slate bases Figs. 1, 1a, 2 and 2a.	147-B-8385	60

**CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
4	Upper Contact Arm for switch lever circuit controllers Figs. A and Aa.....	2-C-6447	1 00
5	Lower Contact Arm for switch lever circuit controllers Figs. A and Aa.....	3-C-6447	1 14
5a	Upper and Lower Contact Arms, with insulation and screws, (1-4, 1-5, 2-17).....		2 76
6	Upper Contact Arm for signal lever circuit controllers Figs. B and Ba.....	10-C-6447	1 10
7	Lower Contact Arm for signal lever circuit controllers Figs. B and Ba.....	82-C-6447	1 26
7a	Upper and Lower Contact Arms, with insulation and screws, (1-6, 1-7, 2-17).....		2 94
8	Copper Strip for connecting terminals of switch and signal lever circuit controllers.....	47-B-8064	10
9	Clamp Crank Arm, with pin and screws Figs. 18 and 22, for circuit shifter of circuit controllers Figs. B and Ba.....	26-B-8192	88
10	Operating Arm .....	16-C-6447	70
11	Operating Piece and Contact Spring Support, with rivets .....	14-C-6447	1 00
11a	as above, with base brackets, contact springs, terminal post and screws, (1-11, 2-12, 2-13, 1-14, 1-20, 1-21).....	"	2 10
12	Base Bracket for operating piece and contact spring support Fig. 11.....	15-C-6447	10
13	Contact Spring for circuit shifter.....	148-B-8385	10

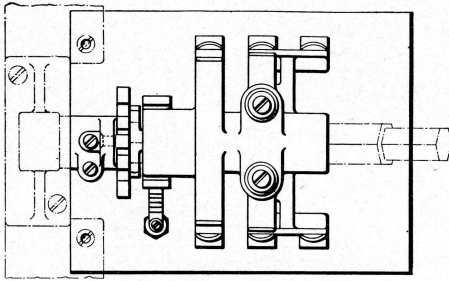


**CIRCUIT CONTROLLERS FOR ELECTRIC  
INTERLOCKING MACHINE**

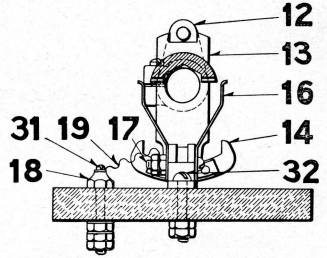
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

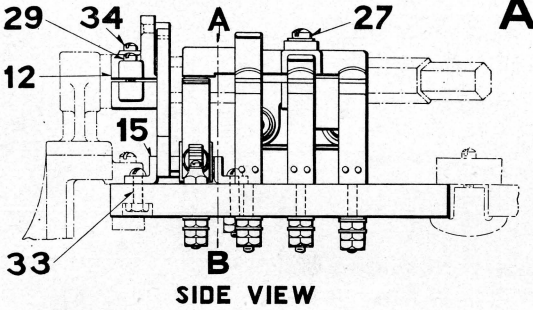
Fig.		Drawing Reference	List Price
14	Terminal Post (No. 8-32x1" Rd. Hd. Mach. Screw), with insulating bushing, insulating washers, plate washers and nuts.....		20
15	Terminal Post, with washers, nuts and machine screw Fig. 19.....	15-B-8094	18
16	Flexible Connector for terminal posts Figs. 14 and 15 .....	10-B-8762	06
17	Fil. Hd. Mach. Screw, No. 10-32x1-3/4", with insulating bushing, insulating washer and plate washer, for fastening together upper and lower contact arms of switch and signal lever circuit controllers Figs. A, Aa, B and Ba.....	130-B-8098	18
18	Fil. Hd. Mach. Screw, No. 10-32x3/4", for arm Fig. 9. Price per hundred.....	129-B-8098	3 00
19	Fil. Hd. Mach. Screw, No. 4-40x1/4", for fastening flexible connector to terminal post Fig. 15. Price per hundred.....		1 00
20	Rd. Hd. Mach Screw, No. 10-32x1-1/8", with nuts, for base bracket Fig. 12.....		04
21	Rd. Hd. Mach. Screw, No. 10-32x5/8", with nut, for base bracket Fig. 12.....		02
22	Pivot Screw, No. 10-32x7/16", for clamp arm Fig. 9 .....	28-B-8378	03



PLAN VIEW

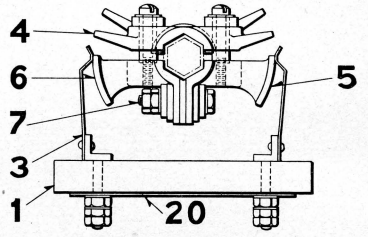


SECTIONAL VIEW THRO A-B  
SHOWING CIRCUIT SHIFTER

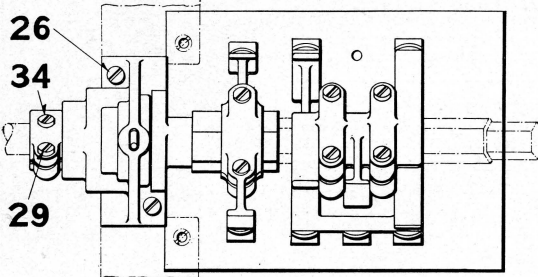


SIDE VIEW

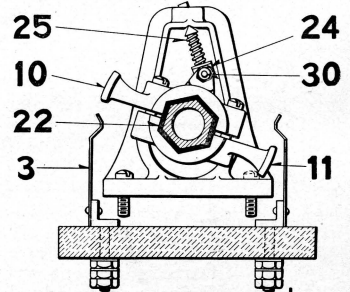
**A**



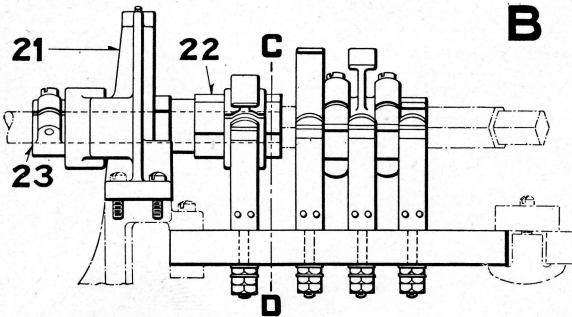
FRONT VIEW OMITTING PARTS  
BACK OF A-B



PLAN VIEW

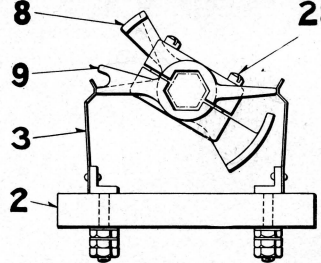


SECTIONAL VIEW THRO C-D  
SHOWING CIRCUIT SHIFTER



SIDE VIEW

**B**



FRONT VIEW OMITTING PARTS  
BACK OF C-D

CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE

**CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

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**Order by Plate and Figure**

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	Drawing Reference	List Price
Fig. A		
A	Circuit Controller, with short slate base Fig. 1, contact springs and contact arms, used on one of the two levers controlling a two-arm signal with an opposing signal on each lever, for machine having one 18, two 12 or two 15-way locking bar brackets.....	93-C-6447 13 50
Aa	as above, with long slate base Fig. 1a, for machine having one 15 or two 18-way locking bar brackets.....	" 13 80
B	Three-Position Signal Circuit Controller, with short slate base Fig. 2, contact springs, contact arms and bracket, for machine having one 18, two 12 or two 15-way locking bar brackets. (Shaft coupling not included.)...	24-C-6447 14 50
Ba	as above, with long slate base Fig. 2a, for machine having one 15 or two 18-way locking bar brackets.....	" 14 90
1	Short Slate Base for circuit controller Fig. A....	41-C-6447 80
1a	Long Slate Base for circuit controller Fig. Aa....	83-C-6447 1 00
2	Short Slate Base for circuit controller Fig. B....	29-C-6447 80
2a	Long Slate Base for circuit controller Fig. Ba....	108-C-6447 1 00
3	Contact Spring and Terminal Post, with washers and nuts, for slate bases Figs. 1, 1a, 2 and 2a.	147-B-8385 60
4	Upper Contact Arm, for circuit controllers Figs. A and Aa.....	10-C-6447 1 10
5	Lower Contact Arm, Right Half, for circuit controllers Figs. A and Aa.....	95-C-6447 1 20
5a	as above, with left half contact arm, insulating strip and machine screws, (1-5, 1-6, 2-7) .....	3 36
5b	Upper and Lower Contact Arms, with insulations and screws, (1-4, 1-5a, 2-27).....	5 20
6	Lower Contact Arm, Left Half, for circuit controllers Figs. A and Aa.....	94-C-6447 1 20

**CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

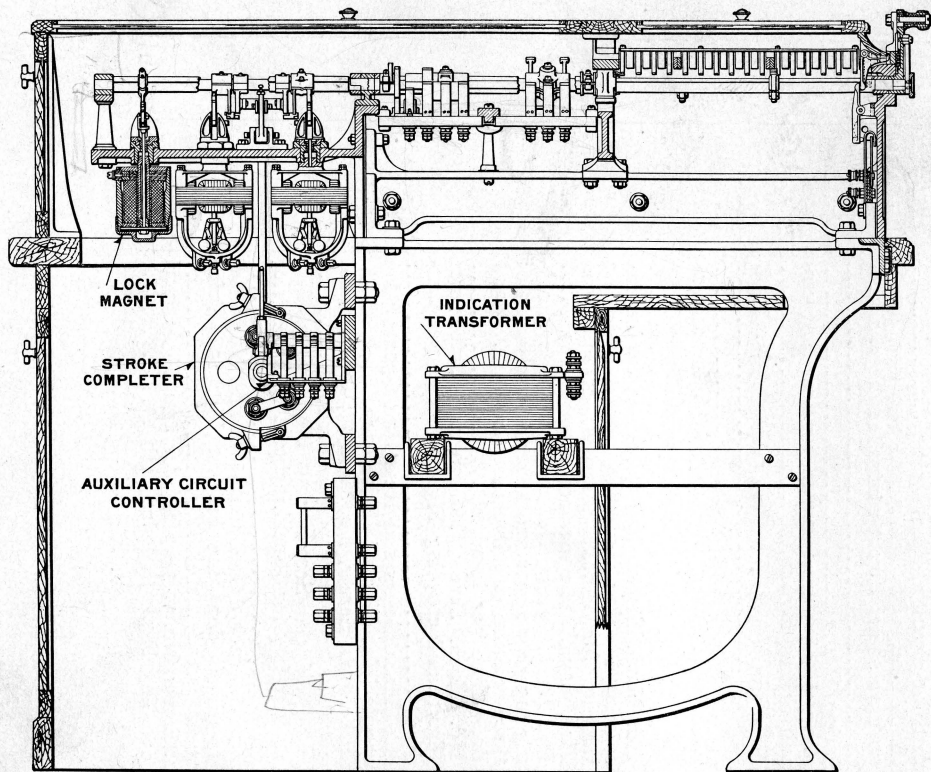
Fig.		Drawing Reference	List Price
7	Hex. Hd. Mach. Screw, No. 10-32x1-1/4", with insulating bushing, insulating washers, plate washers and nuts, for lower contact arms Figs. 5 and 6.....		26
8	Upper Contact Arm for three-position signal circuit controllers Figs. B and Ba.....	28-C-6447	1 46
9	Lower Contact Arm for three-position signal circuit controllers Figs. B and Ba.....	27-C-6447	1 60
9a	Upper and Lower Contact Arms, with screws, (1-8, 1-9, 4-28).....		3 30
10	Upper Contact Arm for circuit shifter of circuit controllers Figs. B and Ba.....	25-C-6447	76
11	Lower Contact Arm for circuit shifter of circuit controllers Figs. B and Ba.....	26-C-6447	84
11a	Upper and Lower Contact Arms, with insulating sleeve and screws, (1-10, 1-11, 1-22a, 2-28)....		2 12
12	Clamp Crank Arm, with pin and screws, for circuit shifter of Figs. A and Aa.....	26-B-8192	88
13	Operating Arm .....	16-C-6447	70
14	Operating Piece and Contact Spring Support....	14-C-6447	1 00
14a	as above, with base brackets, contact springs, terminal posts and screws, (1-14, 2-15, 2-16, 1-17, 1-32, 1-33).....	"	2 10
15	Base Bracket for operating piece and contact spring support Fig. 14.....	15-C-6447	10
16	Contact Spring for circuit shifter.....	148-B-8385	10
17	Terminal Post (No. 8-32x1" Rd. Hd. Mach. Screw), with insulating bushing, insulating washers, plate washer and nut.....		20
18	Terminal Post, with washers, nuts and machine screw Fig. 31.....	15-B-8094	14
19	Flexible Connector for terminal posts Figs. 17 and 18 .....	10-B-8762	06
20	Copper Strip for connecting terminal posts of circuit controllers Figs. A and Aa.....	47-B-8064	10

**CIRCUIT CONTROLLERS FOR ELECTRIC  
INTERLOCKING MACHINE**

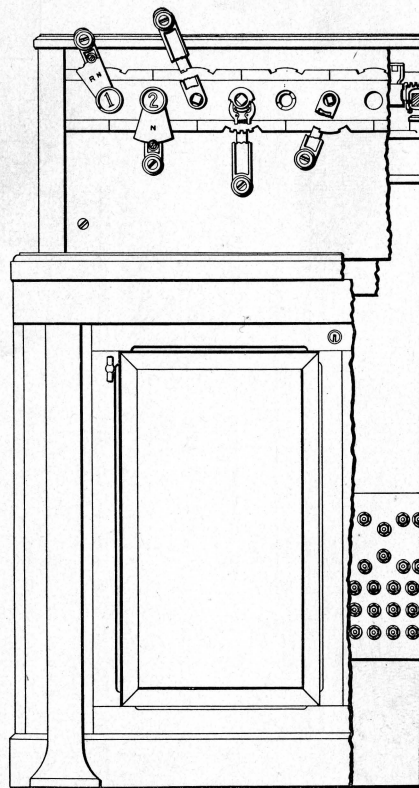
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
21	Bracket for circuit shifter Fig. 22.....	44-C-5860	1 76
22	Circuit Shifter, with screw and nut, for three-position signal circuit controllers Figs. B and Ba .....		
		30-C-6447	2 14
22a	Insulating Sleeve .....	67-B-8095	40
23	Coupling, with machine screws, for operating circuit shifter Fig. 22.....		
		54-C-5860	1 40
24	Toggle Joint, with pivot, spring guide and spring Fig. 25 .....		
		91-C-5860	50
25	Spring for toggle joint Fig. 24.....	90-B-7770	14
26	Fil. Hd. Mach. Screw, No. 12-32x $\frac{3}{4}$ ", for fastening bracket Fig. 21, Plate 01017, to back plate Fig. 6, Plate 01003.....	122-B-8098	03
27	Fil. Hd. Mach. Screw, No. 10-32x1- $\frac{1}{4}$ ", with insulating bushing, insulating washer and plate washer, for fastening lower contact arms Figs. 5 and 6 to upper contact arm Fig. 4....	130-B-8098	18
28	Fil. Hd. Mach. Screw, No. 10-32x1- $\frac{1}{8}$ ", for holding together upper and lower contact arms of three-position circuit controllers Figs. B and Ba. Price per hundred.....	"	3 00
29	Fil. Hd. Mach. Screw, No. 10-32x $\frac{3}{4}$ ", for arm Fig. 12 and coupling Fig. 23. Price per hundred .....	129-B-8098	3 00
30	Fil. Hd. Mach. Screw and Hex. Nut, 6-32x $\frac{1}{2}$ ", for toggle joint Fig. 24. Price each.....	132-B-8098	06
31	Fil. Hd. Mach. Screw, No. 4-40x $\frac{1}{4}$ ", for terminal post Fig. 18. Price per hundred.....		1 00
32	Rd. Hd. Mach. Screw and Hex. Nuts, No. 10-32x1- $\frac{1}{8}$ ", for base bracket Fig. 15. Price each .....		04
33	Rd. Hd. Mach. Screw and Hex. Nut, No. 10-32x $\frac{5}{8}$ ", for base bracket Fig. 15. Price each .....		02
34	Pivot Screw, No. 10-32x7/16", for arm Fig. 12 and coupling Fig. 23. Price each.....	28-B-8378	03



SECTIONAL SIDE VIEW THROUGH LEVER



PORTION OF FRONT VIEW

ELECTRIC INTERLOCKING MACHINE

**ELECTRIC INTERLOCKING MACHINE**

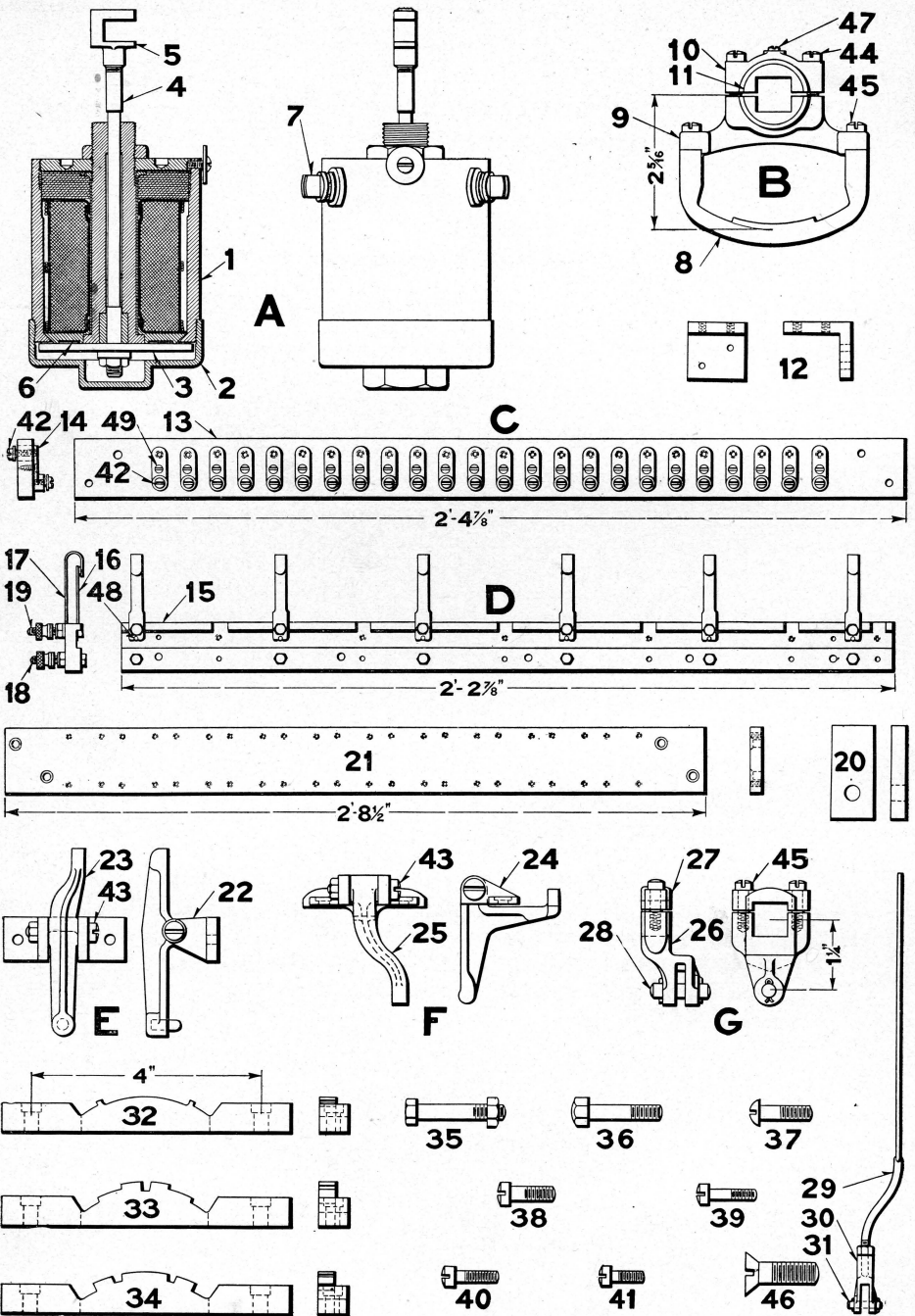
When ordering Electric Interlocking Machines follow the instructions given on Plate 01001.

The opposite plate merely illustrates the application of the Indication Transformers, Stroke Completing Attachment and Electric Detector Circuit Controller, for which prices are quoted below. For details of Indication Transformer see Fig. A, Plate 01009; Indication Motor Fig. B, Plate 01009; Lock Magnet Fig. A, Plate 01021; Auxiliary Circuit Controller Fig. E, Plate 01025.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

	Drawing Reference	List Price
For each Indication Transformer.....	3-C-5025	21 70
For each Lever fitted with stroke completing attachment .....		14 00
For Stroke Completing Motor only.....	C-5846	200 00
For each Lever fitted with Electric Detector Circuit Controller .....		32 00



DETAILS FOR ELECTRIC INTERLOCKING MACHINES WITH  
ELECTRIC DETECTOR CIRCUITS AND AUXILIARY  
CIRCUIT CONTROLLERS.



**DETAILS FOR ELECTRIC INTERLOCKING MACHINES WITH  
ELECTRIC DETECTOR CIRCUITS AND AUXILIARY  
CIRCUIT CONTROLLERS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Lock Magnet, as shown, for electric detector circuits, (130 ohms), (I-1a, I-3, I-4a, I-6).....	I-B-8342	20 00
B	Indication Segment, as shown, for electric detector circuits .....	34-C-5860	5 70
C	Terminal Board, 11-lever section, as shown, for wires of electric detector circuits.....	227-C-5860	6 50
Ca	as above, 17-lever section.....	228-C-5860	9 50
D	Base, 11-lever section, as shown, with 6 sets of contact springs and terminal posts, for circuit controllers operated by latches of switch levers .....	242-C-5860	14 00
Da	as above, 17-lever section, with 8 sets of contact springs and terminal posts, for circuit controllers operated by latches of switch levers .....	244-C-5860	19 00
E	Lever, with bearing and machine screw, as shown, for operating contact springs on circuit controller base Fig. D.....	12-C-4277	90
F	Crank, with bearings and machine screw, as shown, for operating lever Fig. E.....	11-C-4277	1 50
G	Clamp Arm, as shown, for operating rod Fig. 29..	87-B-8192	90
I	Magnet, with two terminal posts Fig. 7.....	I-B-8342	13 80
1a	as above, with cap Fig. 2.....		14 62
2	Cap for magnet Fig. 1.....	13-C-1992	82
3	Armature .....	27-B-8157	1 60
4	Stem, with nut, for armature Fig. 3.....	I-B-9595	64
4a	as above, with latch, (I-4, I-5).....	"	1 90
5	Latch for stem Fig. 4.....	2-B-8711	1 30
6	Spring for releasing armature.....	6-C-1992	16
7	Terminal Post, with insulating bushing and plate washers .....	72-B-8094	14
8	Indication Segment only, for electric detector circuits .....	20-B-8316	2 80
9	Clamp, with cap, bushing and screws, for segment Fig. 8, (I-10, I-11, 2-44, I-47).....	27a-C-5860	2 80
10	Cap for Clamp Fig. 9. (Furnished only with Fig. 9) .....	27b-C-5860	

DETAILS FOR ELECTRIC INTERLOCKING MACHINES WITH  
ELECTRIC DETECTOR CIRCUITS AND AUXILIARY  
CIRCUIT CONTROLLERS

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

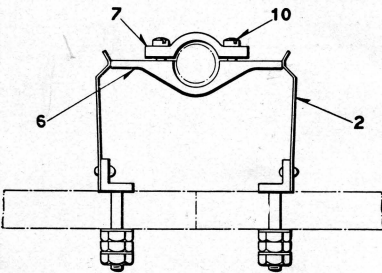
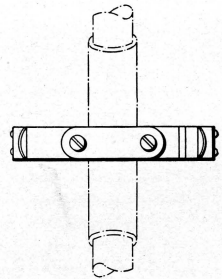
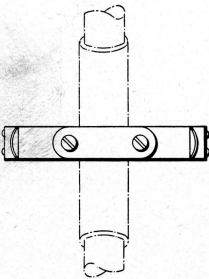
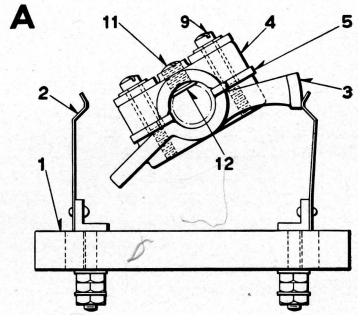
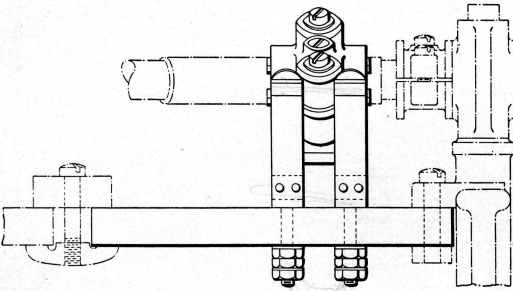
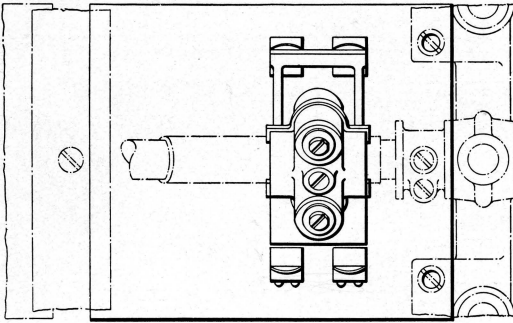
Fig.		Drawing Reference	List Price
11	Split Bushing for clamp Fig. 9. (Furnished only with Fig. 9).....	27c-C-5860	
12	Angle Bracket, Left Hand, for terminal board Fig. 13 .....	225-C-5860	56
12a	as above, Right Hand.....	226-C-5860	56
13	Terminal Board only, 11-lever section, for wires of electric detector circuits.....	227-C-5860	2 10
13a	as above, 17-lever section.....	228-C-5860	3 00
14	Two-Way Terminal, with screws and washers, (2-42, 1-49) .....		
		1-B-8064	20
15	Circuit Controller Base only, 11-lever section....	242-C-5860	7 60
15a	as above, 17-lever section.....	244-C-5860	10 90
16	Front Contact Spring.....	84-B-8385	22
17	Back Contact Spring.....	322-B-8385	30
18	Terminal Post, with plate washers and nuts, for contact spring Fig. 17.....		
		40-B-8094	18
19	Terminal Post, with plate washers, nuts, insulating washer and bushing, for contact spring Fig. 16 .....	"	24
20	Insulating Spacer for base Fig. 15.....	78-C-5860	16
21	Bar, 11-lever section, for supporting auxiliary circuit controllers .....	208-C-5860	7 20
	as above, 17-lever section.....	209-C-5860	10 64
21a		15-C-5860	40
22	Bearing for lever Fig. 23.....		
		12-C-4277	42
23	Lever, with rubber tip, for operating contact springs on circuit controller base Fig. D.....	24-C-5860	36
24	Bearing for crank Fig. 25.....	11-C-4277	1 06
25	Crank for operating lever Fig. 23.....		
		87-B-8192	84
26	Clamp Arm, with cap and screws, for operating rod Fig. 29, (1-27, 2-45).....		
		"	
27	Cap for arm Fig. 26. (Furnished only with Fig. 26) .....	53-B-8063	06
28	Pin, with cotters, for arm Fig. 26.....		
		105-C-6447	64
29	Rod, with lock nut, for operating auxiliary circuit controller .....		
	as above, with screw jaw, pin and cotters, (1-29, 1-30, 1-31).....	"	1 10
29a			
		18-B-7742	32
30	Screw Jaw for rod Fig. 29.....	53-B-8063	06
31	Pin, with cotters, for screw jaw Fig. 30.....		

**DETAILS FOR ELECTRIC INTERLOCKING MACHINES WITH  
ELECTRIC DETECTOR CIRCUITS AND AUXILIARY  
CIRCUIT CONTROLLERS**

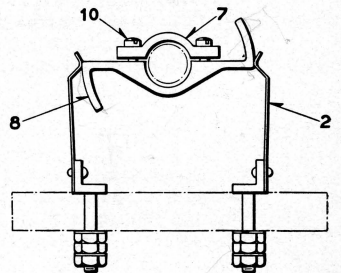
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
32	Switch Lever Quadrant.....	17-B-8349	2 70
33	Signal Lever Quadrant.....	19-B-8349	2 70
34	Three-Position Signal Lever Quadrant.....	20-B-8349	2 70
35	Bolt and Nut, $\frac{1}{4}$ "x1- $\frac{1}{2}$ ", for fastening angle brackets Fig. 12, Plate 01021, to leg Fig. 1, Plate 01003. Price per hundred.....		2 60
36	Cap Screw, $\frac{1}{4}$ "x1 $\frac{1}{4}$ ", for fastening circuit controller base Fig. 15, Plate 01021, to front plate Fig. 14, Plate 01003. Price per hundred.....		2 00
37	Rd. Hd. Mach. Screw, $\frac{1}{4}$ "x $\frac{7}{8}$ ", for fastening terminal board Fig. 13 to angle bracket Fig. 12. Price per hundred.....		1 00
38	Fil. Hd. Mach. Screw, $\frac{1}{4}$ "x $\frac{3}{4}$ ", for fastening frame of auxiliary circuit controller to bar Fig. 21. Price per hundred.....		1 00
39	Fil. Hd. Mach. Screw, No. 12-32x13/16", for fastening bearing Fig. 22, Plate 01021, to front plate Fig. 14, Plate 01003. Price per hundred.....		1 00
40	Fil. Hd. Mach. Screw, No. 12-32x $\frac{3}{4}$ ", for quadrants Figs. 32, 33 and 34. Price per hundred.....		1 00
41	Fil. Hd. Mach. Screw, No. 12-32x $\frac{1}{2}$ ", for fastening bearing Fig. 24, Plate 01021, to front plate Fig. 14, Plate 01003. Price per hundred.....		1 00
42	Fil. Hd. Mach. Screw, No. 12-32x $\frac{3}{8}$ ", with plate washer, for two-way terminal Fig. 14. Price each.....		02
43	Fil. Hd. Mach. Screw and Nut, No. 10-32x1-1/16", for holding levers Figs. 23 and 25 in bearings. Price each.....	121-B-8098	04
44	Fil. Hd. Mach. Screw, No. 10-32x $\frac{7}{8}$ ", for fastening cap Fig. 10 to clamp. Price each.....	91-B-8098	03
45	Fil. Hd. Mach. Screw, No. 10-32x $\frac{5}{8}$ ", for fastening clamp Fig. 9 to segment Fig. 8 and cap Fig. 27 to arm Fig. 26. Price each.....	131-B-8098	03
46	Csk. Hd. Iron Mach. Screw, $\frac{3}{8}$ "x1", for fastening bar Fig. 21, Plate 01021, to leg Fig. 1, Plate 01003. Price per hundred.....		2 50
47	Special Pivot Screw, No. 10-32x $\frac{1}{4}$ ", for cap Fig. 10. Price each.....	96-B-8098	02
48	Headless Set Screw, No. 8-32x $\frac{3}{8}$ ", for contact spring Fig. 16. Price each.....	73-B-8098	02
49	Brass Wood Screw, No. 6x $\frac{1}{2}$ ", for two-way terminal Fig. 14. Price per hundred.....		1 00



**B**



**C**

**SPECIAL CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

**SPECIAL CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

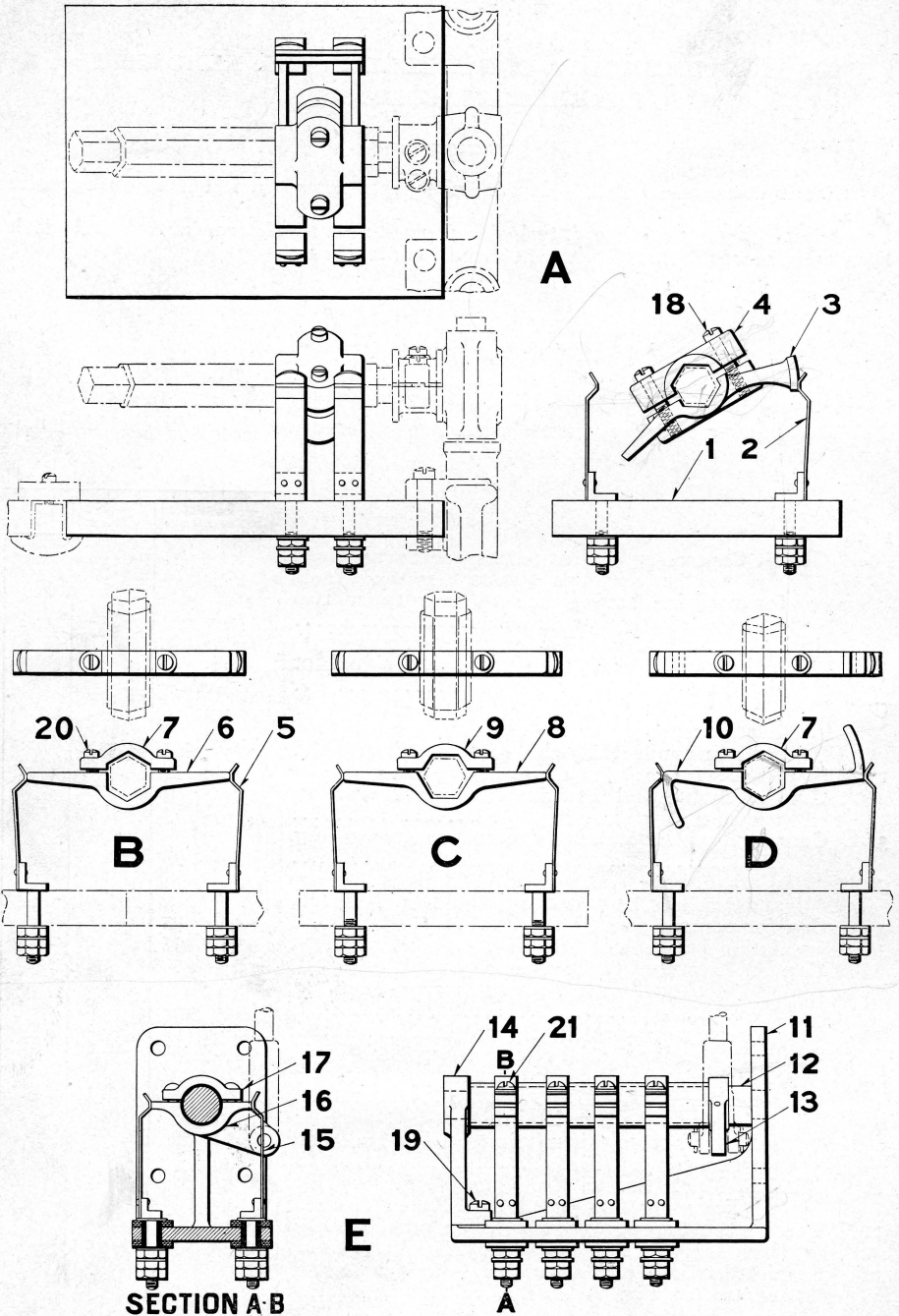
Circuit Controllers listed below include parts shown in full lines on opposite plate.

Adjacent parts of the interlocking machine are shown in dot and dash lines and are not included with the circuit controllers.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Circuit Controller, with slate base, contact springs and contact arm, as shown, for lock lever for machine having one 18, two 12 or two 15-way locking bar brackets.....	1-C-6195	5 60
B	Special Circuit Controller, with contact springs and contact arm, as shown, for signal or switch lever .....	1a-C-6052	2 20
C	Two-Position Special Circuit Controller, with contact springs and contact arm, as shown, used in connection with route locking.....	1b-C-6052	2 38
1	Slate Base for lock lever circuit controller Fig. A	5-C-6195	66
2	Contact Spring and Terminal Post, with washers and nuts, for base Fig. 1.....	147-B-8385	60
3	Contact Arm for lock lever circuit controller Fig. A .....	2-C-6195	1 40
3a	as above, with cap, insulations, screws and washers, (1-3, 1-4, 2-5, 2-9, 1-11, 1-12)....		3 00
4	Cap for contact arm Fig. 3.....	4-C-6195	52
5	Insulation for contact arm Fig. 3.....	3-C-6195	26
6	Contact Arm for special circuit controller Fig. B.	3-C-6052	46
6a	as above, with cap and screws, (1-6, 1-7, 2-10) .....		82
7	Cap for contact arms Figs. 6 and 8.....	5-C-6052	20
8	Contact Arm for special circuit controller Fig. C.	4-C-6052	62
8a	as above, with cap and screws, (1-8, 1-7, 2-10) .....		1 00
9	Fil. Hd. Mach. Screw, No. 10-32x1-1/4", with insulating bushing, insulating washer and plate washer, for cap Fig. 4.....		18
10	Fil. Hd. Mach. Screw, No. 8-32x1/2", for cap Fig. 7. Price per hundred.....		1 00
11	Special Set Screw, 3/8"-30x3/8", for cap Fig. 4 of lock lever circuit controller Fig. A.....	72-B-8070	04
12	Special Insulating Washer for lock lever circuit controller Fig. A.....	193-B-8078	01



SPECIAL CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE

**SPECIAL CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

Circuit Controllers listed below include parts shown in full lines on opposite plate.

Adjacent parts of the interlocking machine are shown in dot and dash lines and are not included with the circuit controllers.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Circuit Controller, with short slate base Fig. 1, contact springs and contact arm, as shown, for lock lever for machine having one 18, two 12 or two 15-way locking bar brackets.....	17-C-6447	4 90
Aa	as above, with long slate base Fig. 1a, for machine having one 15, or two 18-way locking bar brackets.....	"	5 14
B	Special Circuit Controller, with contact springs, contact arm, terminal posts, nuts and washers, as shown, for signal lever.....	35a-C-6447	2 20
C	Special Circuit Controller, with contact springs, contact arm, terminal posts, nuts and washers, as shown, for switch lever.....	35c-C-6447	2 20
D	Two-Position Special Circuit Controller, with contact springs, contact arm, terminal posts, nuts and washers, as shown, used in connection with route locking.....	35b-C-6447	2 38
E	Auxiliary Circuit Controller, 4-way, as shown....	102-C-6447	12 00
Ea	as above, with clamp arm, rod, and machine screws for fastening to supporting bar, (1-E, Plate 01025), (1-G, 1-29a, 4-38, Plate 01021) .....	"	14 00
Eb	Auxiliary Circuit Controller, 6-way.....	109-C-6447	19 00
Ec	as above, with clamp arm, rod, and machine screws for fastening to supporting bar, (1-Eb, Plate 01025), (1-G, 1-29a, 4-38, Plate 01021) .....	"	21 00

**SPECIAL CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
Ed	Auxiliary Circuit Controller, 11-way.....	100-C-6447	30 00
Ee	as above, with clamp arm, rod, and machine screws for fastening to supporting bar, (1-Ed, Plate 01025), (1-G, 1-29a, 4-38, Plate 01021) .....	"	32 00
1	Short Slate Base for lock lever circuit controller Fig. A .....	42-C-6447	80
1a	Long Slate Base for lock lever circuit controller Fig. Aa .....	84-C-6447	1 00
2	Contact Spring and Terminal Post, with washers and nuts, for slate base Fig. 1.....	147-B-8385	60
3	Contact Arm for lock lever circuit controller....	19-C-6447	1 40
3a	as above, with cap and screws, (1-3, 1-4, 2-18) .....		2 10
4	Cap for contact arm Fig. 3.....	18-C-6447	52
5	Contact Spring and Terminal Post, with washers and nuts, for special circuit controllers Figs. B, C and D.....	359-B-8385	56
6	Contact Arm for special circuit controller Fig. B.	36-C-6447	46
6a	as above, with cap and screws, (1-6, 1-7, 2-20) .....		78
7	Cap for contact arms Figs. 6 and 10.....	38-C-6447	20
8	Contact Arm for special circuit controller Fig. C.	37-C-6447	46
8a	as above, with cap and screws, (1-8, 1-9, 2-20) .....		78
9	Cap for contact arm Fig. 8.....	39-C-6447	20
10	Contact Arm for special circuit controller Fig. D.	40-C-6447	64
10a	as above, with cap and screws, (1-10, 1-7, 2-20) .....		96

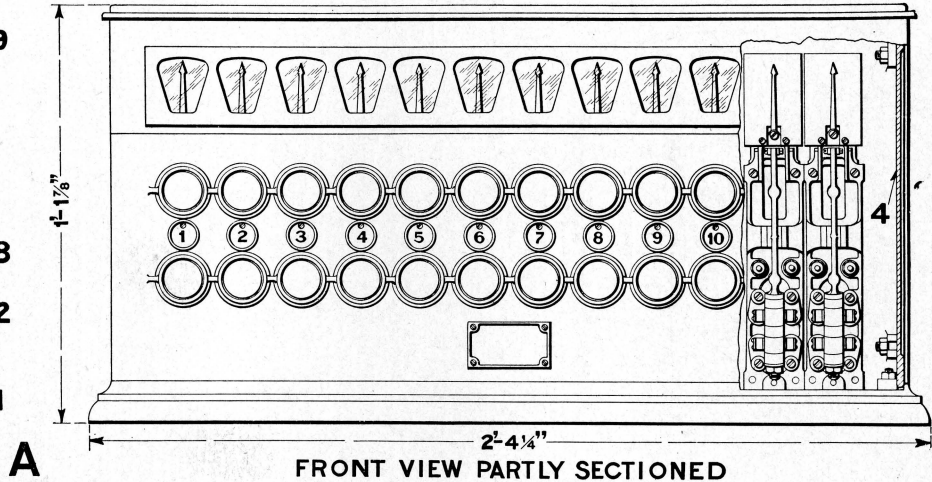
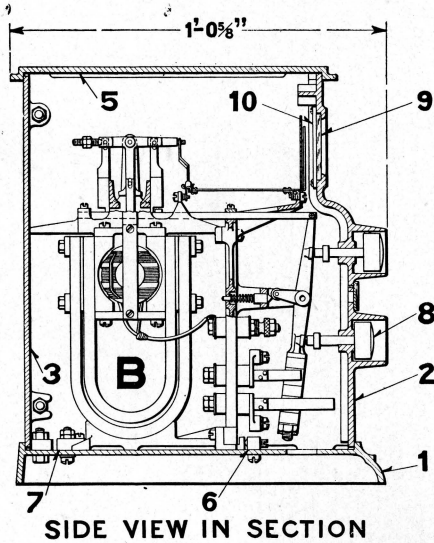


**SPECIAL CIRCUIT CONTROLLERS FOR ELECTRIC INTERLOCKING MACHINE**

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
11	Bracket, 4-way, for auxiliary circuit controller...	104-C-6447	70
11a	as above, 6-way.....	103-C-6447	80
11b	as above, 11-way.....	101-C-6447	2 24
12	Shaft, with insulation, for 4-way auxiliary circuit controller .....	106-C-6447	50
12a	as above, 6-way.....	107-C-6447	68
12b	as above, 11-way.....	96-C-6447	1 12
13	Crank Arm, with dowel pin, for shafts Figs. 12, 12a and 12b.....	84-B-8192	34
14	Bearing for shaft Fig. 12.....	66-C-6447	48
15	Contact Spring and Terminal Post, with washers, nuts, insulating washers and insulating bushing, for auxiliary circuit controllers Figs. E, Eb and Ed.....	272-B-8385	74
16	Contact Arm for auxiliary circuit controllers.....	63-C-6447	34
16a	as above, with cap and screws, (1-16, 1-17, 2-21) .....		64
17	Cap for contact arm Fig. 16.....	62-C-6447	16
18	Fil. Hd. Mach. Screw, No. 10-32x1-1/8", for cap Fig. 4. Price per hundred.....	130-B-8098	3 00
19	Fil. Hd. Mach. Screw, No. 10-32x1/2", for fastening bearing Fig. 14 to bracket Fig. 11. Price per hundred .....		1 00
20	Fil. Hd. Mach. Screw, No. 8-32x1/2", for caps Figs. 7 and 9. Price per hundred.....		1 00
21	Rd. Hd. Mach. Screw, No. 8-32x7/16", for cap Fig. 17. Price per hundred.....		1 00



**ELECTRIC PUSH BUTTON MACHINE**

**ELECTRIC PUSH BUTTON MACHINE**

**(For Classification Yards)**

This machine is furnished in 12-way sections with iron cases, although if desired, a two, four or six-way can be furnished in wooden case.

Orders for repair parts of the mechanism Fig. B should be accompanied by samples of the parts required.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Electric Push Button Machine, 12-way, complete, with iron case.....		1006 00
Aa	as above, 2-way, complete, with wooden case .....		196 00
Ab	as above, 4-way, complete, with wooden case .....		374 00
Ac	as above, 6-way, complete, with wooden case .....		552 00
B	Single Mechanism, complete.....	1-C-6434	80 00
1	Bottom Plate for case of Fig. A.....	3-C-6157	3 30
1a	as above, with supporting bar, retaining bar, machine screws and nuts, (1-1, 1-6, 1-7)..	"	12 40
2	Front Plate for case of Fig. A.....	1-B-9510	9 30
2a	as above, with glass and retaining strips, (1-2, 1-9, 4-10).....	"	10 60
3	Back Plate for case of Fig. A.....	2-C-6157	3 20
4	Right Hand Side Plate for case of Fig. A.....	1-C-6158	2 00
4a	Left Hand Side Plate for case of Fig. A.....	2-C-6158	2 00

**ELECTRIC PUSH BUTTON MACHINE**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

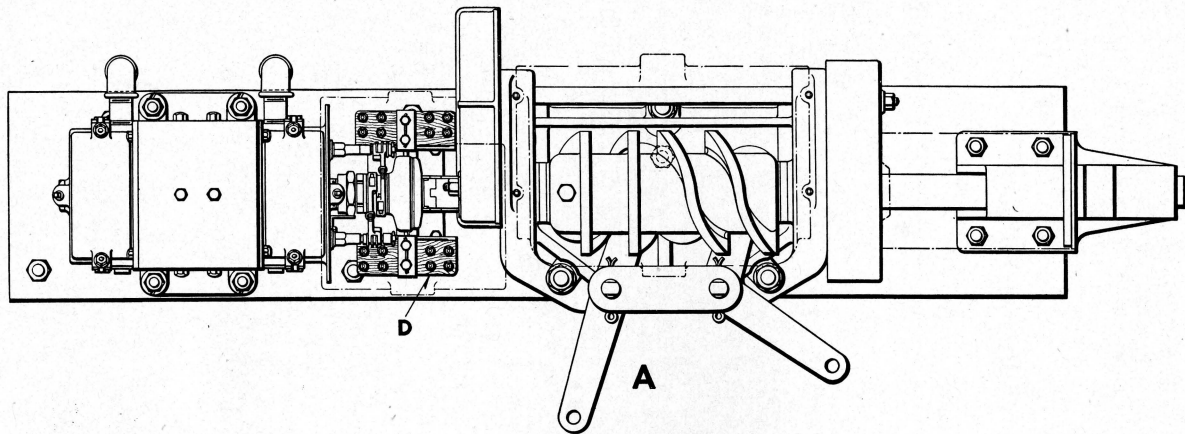
Fig.		Drawing Reference	List Price
5	Top Plate for case of Fig. A.....	1-C-6157	3 00
6	Supporting Bar, with pivot screws Fig. 17 and machine screws Fig. 14.....	4-C-6158	3 30
7	Retaining Bar, with set screws Fig. 15 and machine screws Fig. 13.....	3-C-4977	3 60
8	Push Button, with rod, pin, collar and cotter pin..	43-B-8235	80
9	Glass for indication openings in front plate.....		20
10	Retaining Strip, with screws Fig. 16, for holding glass Fig. 9 in place.....	5-C-6158	14
11	Sq. Hd. Mach. Bolt and Nut, $\frac{1}{4}$ "x $\frac{3}{4}$ ", for fastening back plate to bottom plate. Price per hundred .....		3 00

ELECTRIC PUSH BUTTON MACHINE

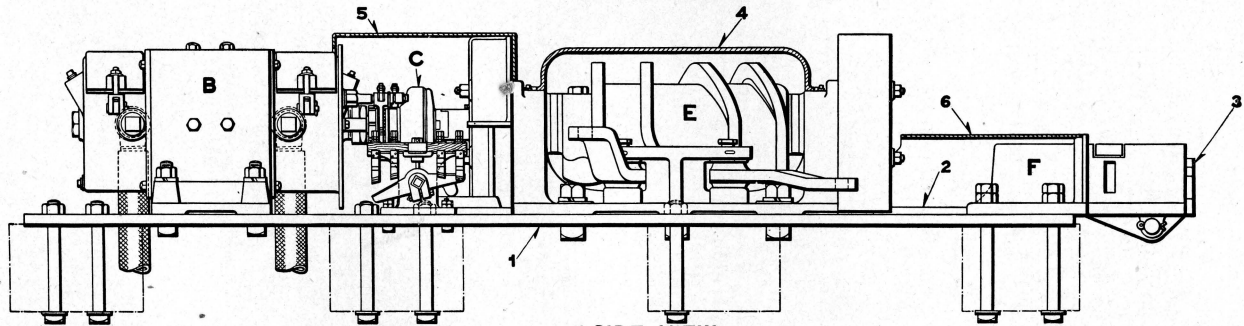
Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
12	Fl. Hd. Mach. Screw, $\frac{1}{4}$ "x $\frac{7}{8}$ ", with nut, for fastening side plates to back plates.....		02
13	Fil. Hd. Mach. Screw, No. 10-32x1", with nuts and washers, for fastening retaining bar Fig. 7 to bottom plate. Price per hundred.....		5 00
14	Fil. Hd. Mach. Screw, No. 10-32x $\frac{5}{8}$ ", for fastening supporting bar Fig. 6 to bottom plate. Price per hundred.....		2 00
15	Fil. Hd. Mach. Screw, No. 10-32x $\frac{5}{16}$ ", for retaining bar Fig. 7. Price per hundred.....		1 00
16	Rd. Hd. Mach. Screw, No. 4-40x $\frac{1}{4}$ ", for fastening retaining strip Fig. 10 to front plate. Price per hundred.....		1 00
17	Headless Pivot Screw, $\frac{1}{4}$ "-32x $\frac{7}{8}$ ", for supporting bar Fig. 6.....		06



PLAN VIEW  
COVERS OUTLINED



SIDE VIEW  
COVERS SECTIONED

ELECTRIC SWITCH AND LOCK AND DETECTOR BAR MOVEMENTS

**ELECTRIC SWITCH AND LOCK AND DETECTOR  
BAR MOVEMENTS**

The Electric Switch and Lock and Detector Bar Movements listed below do not include safety switch circuit controllers shown on Plates 01047 and 01049. When ordering specify layout for which movement is desired. For single switch layout, see Plate 01097.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Drawing Reference	List Price
A	Electric Switch and Lock Movement, Right Hand, for operating a single switch and detector bar or one end of a double slip and detector bar. Assemblage—Short motor, electric clutch, circuit controller, switch and lock movement, single lock box, base plate, driving bar, slide bar, covers, and all the necessary bolts, washers and nuts (1-B, 1-C, 2-D, 1-E, 1-F, 1-I, 1-2a, 1-4, 1-5, 1-6).....	400 00
Aa	as above, for operating a single switch or one end of a double slip only, (no detector bar), (1-B, 1-C, 2-D, 1-Ea, 1-F, 1-I, 1-2a, 1-4, 1-5, 1-6) .....	400 00
Ab	as above, Left Hand, for operating a single switch and detector bar or one end of a double slip and detector bar, (1-B, 1-C, 2-D, 1-Eb, 1-F, 1-I, 1-2a, 1-4, 1-5a, 1-6).....	400 00
Ac	as above, for operating a single switch or one end of a double slip only, (no detector bar), (1-B, 1-C, 2-D, 1-Ed, 1-F, 1-I, 1-2a, 1-4, 1-5a, 1-6) .....	400 00
Ad	Electric Switch and Lock Movement, Right Hand, for operating one end of a double slip and detector bar. Assemblage—Long motor, electric clutch, circuit controller, switch and lock movement, single lock box, base plate, driving bar, slide bar, covers, and all the necessary bolts, washers and nuts, (1-Ba, 1-C, 2-D, 1-Ed, 1-F, 1-I, 1-2a, 1-4, 1-5, 1-6).....	426 00
Ae	as above, for operating one end of a double slip only, (no detector bar), (1-Ba, 1-C, 2-D, 1-Ee, 1-F, 1-I, 1-2a, 1-4, 1-5, 1-6)....	426 00
Af	as above, Left Hand, for operating one end of a double slip and detector bar, (1-Ba, 1-C, 2-D, 1-Ef, 1-F, 1-I, 1-2a, 1-4, 1-5a, 1-6)....	426 00
Ag	as above, for operating one end of a double slip only, (no detector bar), (1-Ba, 1-C, 2-D, 1-Eg, 1-F, 1-I, 1-2a, 1-4, 1-5a, 1-6)....	426 00

**ELECTRIC SWITCH AND LOCK AND DETECTOR  
BAR MOVEMENTS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Drawing Reference	List Price	
Ah	Electric Switch and Lock Movement with Frog Point Movement, Right Hand, for operating movable point frog and detector bars. Assemblage—Long motor, electric clutch, circuit controller, switch and lock movement, frog point movement, double lock box, connecting shaft, base plate, driving bar, slide bar, covers, and all the necessary bolts, washers and nuts, (1-Ba, 1-C, 2-D, 1-E, 1-Fa, 1-G, 1-1a, 1-2c, 1-4, 1-4a, 1-5, 1-6a, Plate 01029), (1-33a, Plate 01037) .....	488 00	
Aj	as above, for operating movable point frog only, (no detector bars), (1-Ba, 1-C, 2-D, 1-Ea, 1-Fa, 1-G, 1-1a, 1-2c, 1-4, 1-4a, 1-5, 1-6a, Plate 01029), (1-33a, Plate 01037) .....	488 00	
Ak	as above, Left Hand, for operating movable point frog and detector bars, (1-Ba, 1-C, 2-D, 1-Eb, 1-Fa, 1-Ga, 1-1a, 1-2c, 1-4, 1-4a, 1-5a, 1-6a, Plate 01029), (1-33a, Plate 01037)..	488 00	
Am	as above, for operating movable point frog only, (no detector bars), (1-Ba, 1-C, 2-D, 1-Ec, 1-Fa, 1-Ga, 1-1a, 1-2c, 1-4, 1-4a, 1-5a, 1-6a, Plate 01029), (1-33a, Plate 01037)...	488 00	
An	Electric Detector Bar Movement, Right Hand, for operating a detector bar only. Assemblage—Short motor, electric clutch, circuit controller, detector bar movement, base plate, driving bar, covers, and all the necessary bolts, washers and nuts, (1-B, 1-C, 2-D, 1-H, 1-1b, 1-2d, 1-4b, 1-5) .....	369 00	
Ap	as above, Left Hand, (1-B, 1-C, 2-D, 1-Ha, 1-1b, 1-2d, 1-4b, 1-5a) .....	369 00	



**ELECTRIC SWITCH AND LOCK AND DETECTOR  
BAR MOVEMENTS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Drawing Reference	List Price
B	Short Motor. For details see Fig. Aa, Plate 01031 .....	220 00
Ba	Long Motor. For details see Fig. Ac, Plate 01031 .....	242 00
C	Electric Clutch. For details see Fig. A, Plate 01033 .....	22 00
D	Indication Circuit Controller. For details see Fig. B, Plate 01039. (Two required for each movement.) .....	13 40
E	Switch and Lock Movement, Right Hand, for Figs. A and Ah. For details see Fig. A, Plate 01037 .....	87 00
Ea	as above, for Figs. Aa and Aj. For details see Fig. Aa, Plate 01037.....	87 00
Eb	Switch and Lock Movement, Left Hand, for Figs. Ab and Ak. For details see Fig. Ab, Plate 01037 .....	87 00
Ec	as above, for Figs. Ac and Am. For details see Fig. Ac, Plate 01037.....	87 00
Ed	Switch and Lock Movement, Right Hand, for Fig. Ad. For details see Fig. Ah, Plate 01037.	91 00
Ee	as above, for Fig. Ae. For details see Fig. Ak, Plate 01037.....	91 00
Ef	Switch and Lock Movement, Left Hand, for Fig. Af. For details see Fig. Am, Plate 01037.....	91 00
Eg	as above, for Fig. Ag. For details see Fig. An, Plate 01037.....	91 00

**ELECTRIC SWITCH AND LOCK AND DETECTOR  
BAR MOVEMENTS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

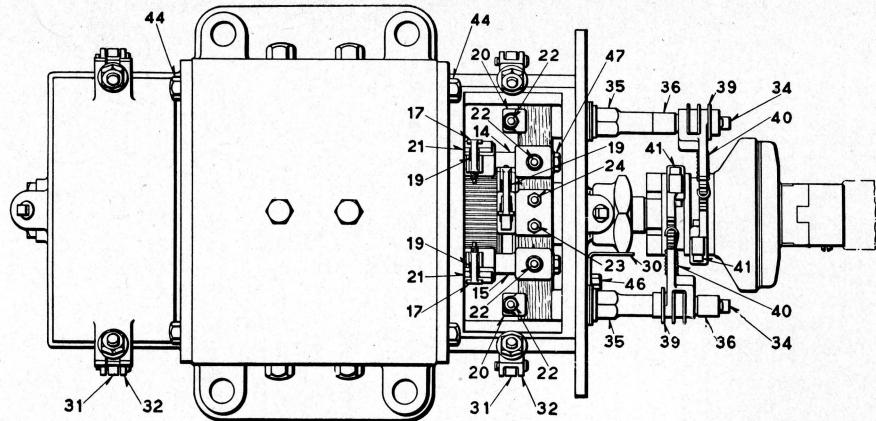
Fig.		Drawing Reference	List Price
F	Single Lock Box for Figs. A, Aa, Ab, Ac, Ad, Ae, Af and Ag. For details see Fig. A, Plate 01041 ..		5 50
Fa	Double Lock Box for Figs. Ah, Aj, Ak and Am. For details see Fig. B, Plate 01041.....		4 50
G	Frog Point Movement, Left Hand (not shown) for Figs. Ah and Aj. For details see Fig. B, Plate 01037 .....		37 00
Ga	as above, Right Hand, for Figs. Ak and Am. For details see Fig. Ba, Plate 01037....		37 00
H	Detector Bar Movement, Right Hand, (not shown) for Fig. An. For details see Fig. Aa, Plate 01039 .....		77 50
Ha	as above, Left Hand, for Fig. Ap. For details see Fig. A, Plate 01039.....		77 50
I	Base Plate for electric switch and lock movements Figs. A, Aa, Ab, Ac, Ad, Ae, Af and Ag	121-B-8325	15 30
Ia	as above, for electric movable frog point movements Figs. Ah, Aj, Ak and Am.....	157-B-8325	24 50
Ib	as above, for detector bar movements Figs. An and Ap.....	131-B-8325	10 60
2	Driving Bar, with driving dogs, screws and rivets, for Figs. A, Aa, Ab, Ac, Ad, Ae, Af and Ag...	55-C-6140	6 40
2a	as above, with slide bar (1-2, 1-3).....		11 00

**ELECTRIC SWITCH AND LOCK AND DETECTOR  
BAR MOVEMENTS**

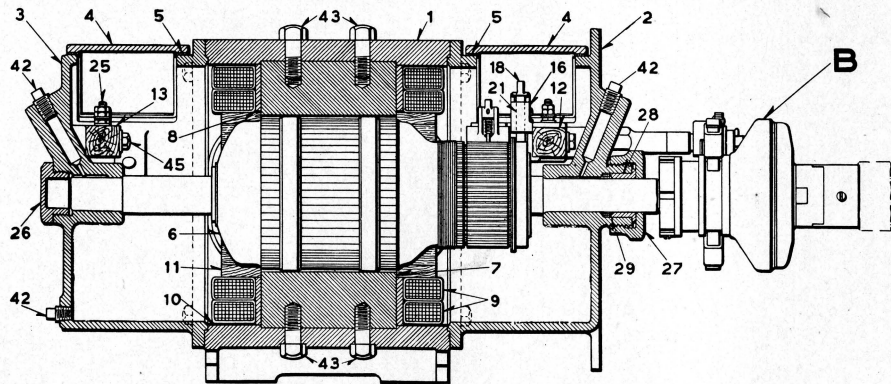
**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
2b	Driving Bar, with driving dogs, screws and rivets, for Figs. Ah, Aj, Ak and Am.....	73-C-6140	5 20
2c	as above, with slide bar for double lock box, (I-2b, I-3a).....		11 80
2d	Driving Bar, with driving dogs, screws and rivets, for Figs. An and Ap.....	57-C-6140	4 00
3	Slide Bar for single lock box.....	I-C-605I	4 60
3a	Slide Bar for double lock box.....		6 60
4	Cover for double cam of electric switch and lock movements Figs. E, Ea, Eb, Ec, Ed, Ee, Ef and Eg .....	39-C-1060	3 90
4a	Cover for single cam of frog point movements Figs. G and Ga.....	45-C-1060	2 50
4b	Cover for single cam of detector bar movements Figs. H and Ha.....	37-C-1060	2 20
5	Cover, Right Hand, for electric clutch of movements Figs. A, Aa, Ad, Ae, Ah, Aj and An..	40-C-1060	3 10
5a	as above, Left Hand, for Figs. Ab, Ac, Af, Ag, Ak, Am and Ap.....	38-C-1060	3 10
6	Cover for single lock box of electric switch and lock movements Figs. A, Aa, Ab, Ac, Ad, Ae, Af and Ag.....	61-C-4540	1 00
6a	Cover for double lock box and connecting shaft, for electric movable frog point movements Figs. Ah, Aj, Ak and Am.....	74-C-4540	7 90

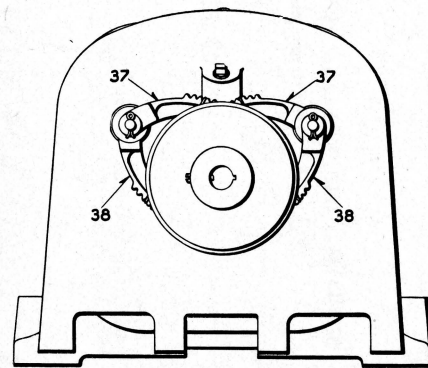


**PLAN VIEW**



**SIDE VIEW IN SECTION**

**A**



**END VIEW**

**MOTOR FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENT**

09

MOTOR FOR STYLE "B" ELECTRIC SWITCH AND  
LOCK MOVEMENT

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Short Switch Motor, with clutch, as shown, for style "B" electric switch and lock movement.	1-D-1051	242 00
Aa	as above, without clutch.....	"	220 00
Ab	Long Switch Motor, with clutch, for style "B" electric switch and lock movement.....	4-D-1051	264 00
Ac	as above, without clutch.....	"	242 00
B	Electric Clutch. For details see Plate 01033.....		22 00
1	Field for Figs. A and Aa.....	1-C-4830	31 00
1a	as above, for Figs. Ab and Ac.....	15-C-4830	36 00
2	Front Head .....	1-C-4854	8 70
3	Rear Head .....	3-C-4830	7 80
4	Cover for front and rear heads Figs. 2 and 3....	2-C-4830	30
5	Gasket for cover Fig. 4.....	138-B-8078	30
6	Armature, with commutator, for Figs. A and Aa..	1-C-5912	69 30
6a	as above, for Figs. Ab and Ac.....	8-C-5912	88 00
7	Pole Piece for Figs. A and Aa.....	5-C-4830	4 90
7a	as above, for Figs. Ab and Ac.....	16-C-4830	5 90
8	Copper Sleeve for Figs. A and Aa.....	9-C-4830	1 62
8a	as above, for Figs. Ab and Ac.....	17-C-4830	1 84
9	Coil for Figs. A and Aa.....	14-C-5912	4 20
9a	as above, for Figs. Ab and Ac.....	9-C-5912	4 90
10	Insulation for Figs. A and Aa.....	6-C-5912	32
10a	as above, for Figs. Ab and Ac.....	11-C-5912	42
11	Block for Figs. A and Aa.....	11-C-4991	10
11a	as above, for Figs. Ab and Ac.....	18-C-4830	10
12	Carbon Holder Support for Figs. A, Aa, Ab and Ac .....	3-C-4991	20
12a	as above, with right and left hand and indication carbon holders, terminal posts and screws, (1-12, 1-14a, 1-15a, 1-16a, 2-22, 1-23, 1-24, 2-47) .....		4 40
13	Terminal Holder for Figs. A, Aa, Ab and Ac....	7-C-4991	26
13a	as above, with terminal posts and screws, (1-13, 4-25, 2-45).....		1 06
14	Left Hand Carbon Holder, with pin, for Figs. A, Aa, Ab and Ac.....	3-C-4834	60
14a	as above, with tension bar, spring and brush, (1-14, 1-17, 1-19, 1-21).....		1 26

**MOTOR FOR STYLE "B" ELECTRIC SWITCH AND  
LOCK MOVEMENT**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

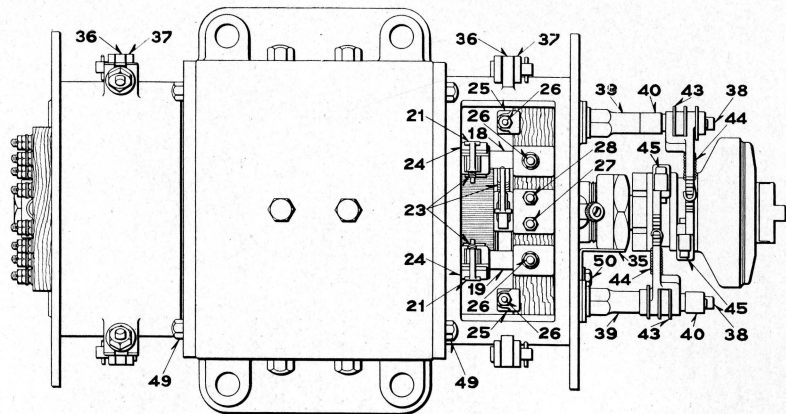
Fig.		Drawing Reference	List Price
15	Right Hand Carbon Holder, with pin, for Figs. A, Aa, Ab and Ac.....	2-C-4834	60
15a	as above, with tension bar, spring and brush, (1-15, 1-17, 1-19, 1-21).....		1 26
16	Indication Carbon Holder, with pin, for Figs. A, Aa, Ab and Ac.....	1-C-499I	50
16a	as above, with tension bar, spring and brush, (1-16, 1-18, 1-19, 1-21).....		1 16
17	Carbon Tension Bar, with dowel pin, for carbon holders Figs. 14 and 15.....	5-C-4834	18
18	Carbon Tension Bar, with dowel pin, for indication carbon holder Fig. 16.....	2-C-499I	18
19	Spring for carbon holders Figs. 14, 15 and 16....	52-B-7770	12
20	Head for brush holder rod Fig. 34.....	2-B-938I	28
20a	as above, with terminal post, (1-20, 1-22).		40
21	Brush for carbon holders Figs. 14, 15 and 16.....	10-C-499I	18
22	Terminal Post, with washers and nuts, for carbon holders Figs. 14 and 15 and for head Fig. 20.	108-B-8094	12
23	Terminal Post, with washers and nuts, for indication carbon holder Fig. 16.....	213-B-8094	12
24	Special Screw, with two nuts, for indication carbon holder Fig. 16.....	24-B-8094	10
25	Terminal Post, with washers and nuts, for terminal holder Fig. 13.....	23-B-8094	12
26	Cast Nut for rear head Fig. 3.....	21-B-8082	26
27	Cast Nut for front head Fig. 2.....	22-B-8082	22
28	Gland for stuffing box in front head Fig. 2.....	5 B-8327	64
29	Packing for stuffing box in front head Fig. 2....		02
31	Staple .....	8-C-499I	10
30	Nut Lock .....	7-B-819I	14
32	Screw Jaw, with nut and washer.....	43-B-7742	26
32a	as above, with pin, (1-32, 1-32b).....		34
32b	Pin, with cotter.....	4-B-8079	06
33	Insulated Street Ell and Nipple (not shown) for wire inlet .....		70
33a	Clamp (not shown) for circular loom Fig. 33b...		28

**MOTOR FOR STYLE "B" ELECTRIC SWITCH AND  
LOCK MOVEMENT**

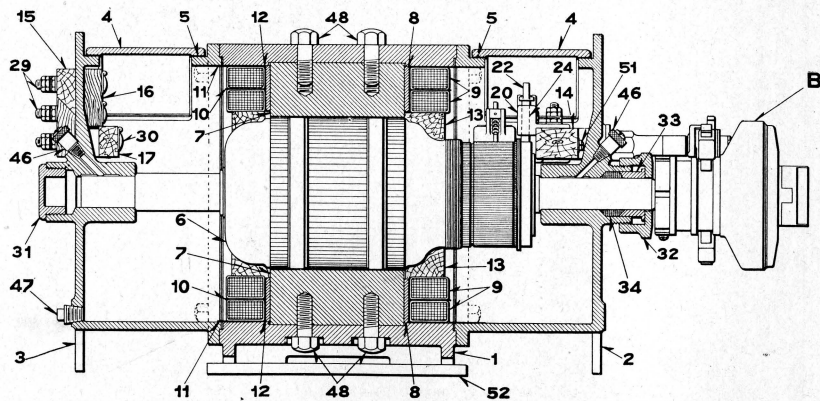
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
33b	Circular Loom (not shown), 15" long, for wire inlet .....		90
33c	Plug (not shown) for closing wire inlet.....		06
34	Brush Holder Rod, with cotter.....	6-B-9381	60
34a	as above, with brush holders, bushings, head, nut, plate washers, insulating bushings and insulating washers, (1-20a, 1-34, 1-34b, 1-34c, 1-34d, 1-34e, 1-34f, 1-35, 1-36, 1-37a, 1-38a, 3-39, 1-40a).....	1-B-9534	4 00
34b	Insulating Bushing for rod Fig. 34.....	75-B-8095	08
34c	Insulating Bushing .....	85-B-8095	03
34d	Insulating Bushing .....	90-B-8095	04
34e	Insulating Washer .....	174-B-8078	10
34f	Plate Washer .....	12-B-7826	03
35	Special Nut .....	94-B-8109	40
36	Collar .....	99-B-8350	10
37	Upper Brush Holder.....	3-B-9534	70
37a	as above, with brush Fig. 41.....		90
38	Lower Brush Holder.....	2-B-9534	70
38a	as above, with brush Fig. 41.....		90
39	Insulating Washer .....	197-B-8078	08
40	Spring for brush holders.....	43-B-8124	16
40a	as above, with links, (1-40, 2-40b).....		24
40b	Link .....	4-B-9534	04
41	Brush .....	5-B-9534	20
42	Plug, 1/4" .....		02
43	Cap Screw, 1/2"x1-1/4", for fastening pole pieces Fig. 7 to field Fig. 1.....		04
44	Cap Screw, 3/8"x1", for fastening front and rear heads Figs. 2 and 3 to field Fig. 1.....		03
45	Cap Screw, 1/4"x1-1/2", with washer, for fastening terminal holder Fig. 13 to rear head Fig. 3...		02
46	Cap Screw, 1/4"x1/2", for fastening nut lock Fig. 30 to front head Fig. 2.....		02
47	Special Screw, No. 10-32x1-5/8", with washer, for fastening carbon holders Figs. 14 and 15 to carbon holder support Fig. 12.....	38-B-8094	08

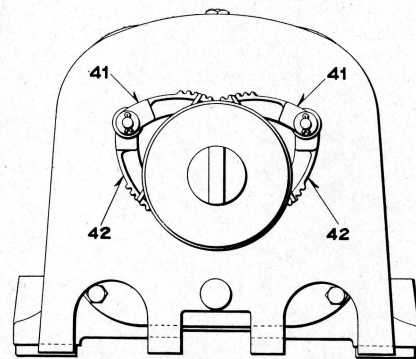


PLAN VIEW



SECTIONAL SIDE VIEW

A



END VIEW

MOTOR FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENT



**MOTOR FOR STYLE "B" ELECTRIC SWITCH AND  
LOCK MOVEMENT**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Switch Motor, with clutch, as shown, for style "B" electric switch and lock movement.....	10-D-1051	242 00
Aa	as above, without clutch.....	"	220 00
B	Electric Clutch. For details see Plate 01033.....		22 00
1	Field .....	1-C-4830	31 00
2	Front Head .....	30-C-4830	8 70
3	Rear Head .....	29-C-4830	8 86
4	Cover for front and rear heads Figs. 2 and 3.....	2-C-4830	30
5	Gasket for cover Fig. 4.....	138-B-8078	30
6	Armature, with commutator.....	1-C-5912	69 30
7	Pole Piece .....	5-C-4830	4 90
8	Copper Sleeve .....	9-C-4830	1 62
9	Coil .....	14-C-5912	4 20
10	Insulation, between coils Fig. 9.....	397-B-8750	32
11	Insulation, between coils Fig. 9 and field Fig. 1.....	398-B-8750	32
12	Insulation, between coils Fig. 9 and copper sleeve Fig. 8.....	399-B-8750	12
13	Block .....	11-C-4991	10
14	Carbon Holder Support.....	24-C-4991	20
15	Outside Terminal Post Block.....	20-C-4991	12
16	Inside Terminal Post Block.....	21-C-4991	12
17	Block .....	23-C-4991	08
18	Left Hand Carbon Holder, with pin.....	3-C-4834	60
18a	as above, with tension bar, spring and brush, (1-18, 1-21, 1-23, 1-24).....		1 26
19	Right Hand Carbon Holder, with pin.....	2-C-4834	60
19a	as above, with tension bar, spring and brush, (1-19, 1-21, 1-23, 1-24).....		1 26
20	Indication Carbon Holder, with pin.....	1-C-4991	50
20a	as above, with tension bar, spring and brush, (1-20, 1-22, 1-23, 1-24).....		1 16

**MOTOR FOR STYLE "B" ELECTRIC SWITCH AND  
LOCK MOVEMENT**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

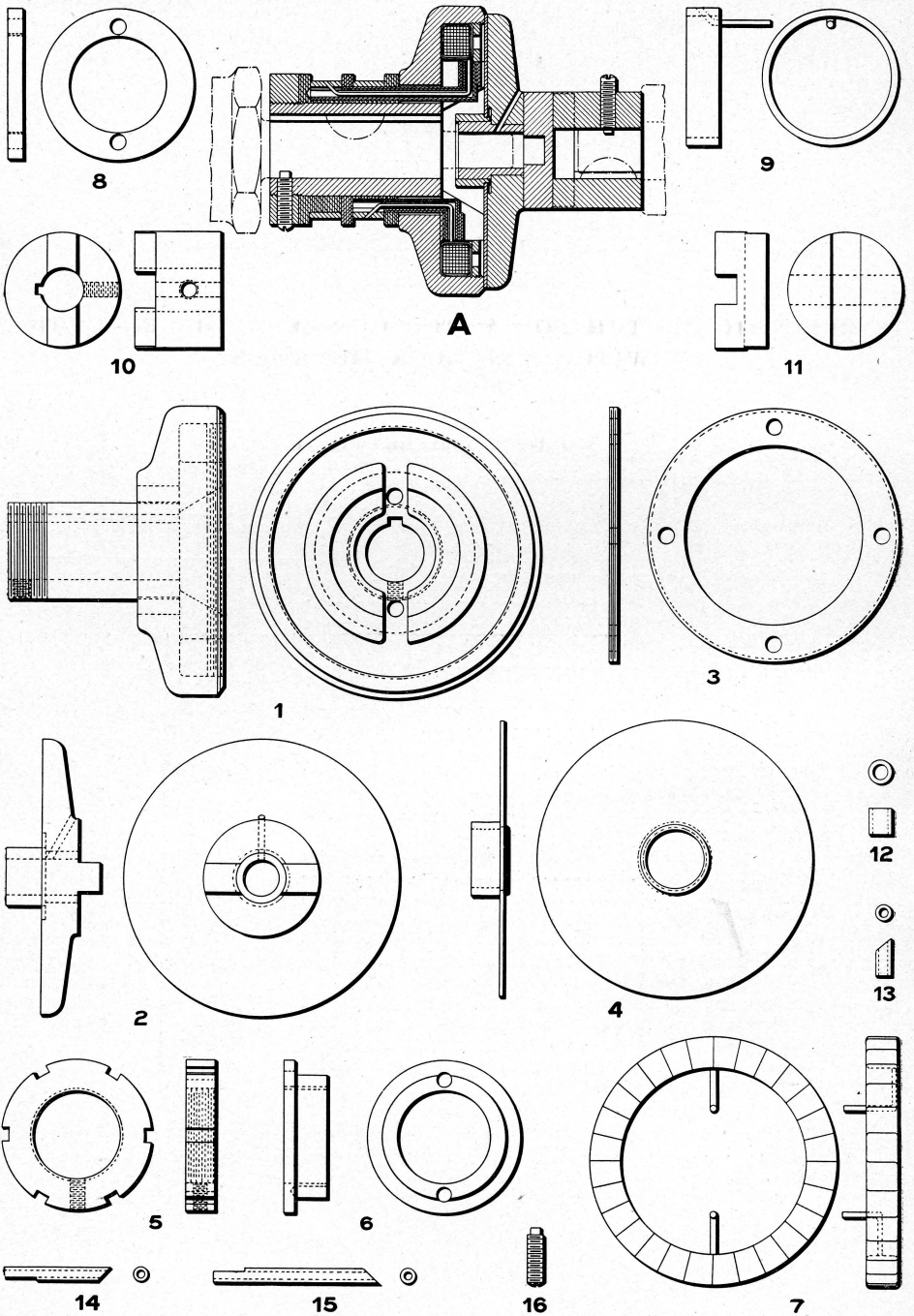
Fig.		Drawing Reference	List Price
21	Carbon Tension Bar, with dowel pin, for carbon holders Figs. 18 and 19.....	5-C-4834	18
22	Carbon Tension Bar, with dowel pin, for indication carbon holder Fig. 20.....	2-C-4991	18
23	Spring for carbon holders Figs. 18, 19 and 20....	52-B-7770	12
24	Brush for carbon holders Figs. 18, 19 and 20....	10-C-4991	18
25	Head for brush holder rod Fig. 38.....	2-B-9381	28
25a	as above, with terminal post, (1-25, 1-26)		40
26	Terminal Post, with washers and nuts, for carbon holders Figs. 18 and 19 and for head Fig. 25..	108-B-8094	12
27	Terminal Post, with washers and nuts, for indication carbon holder Fig. 20.....	213-B-8094	12
28	Special Screw, with two nuts, for indication carbon holder Fig. 20.....	24-B-8094	10
29	Terminal Post, with wire terminal, washers and nuts .....	493-B-8094	28
30	Terminal Post, with wire terminal, washers and nuts .....	500-B-8094	32
31	Cast Nut for rear head Fig. 3.....	21-B-8082	26
32	Cast Nut for front head Fig. 2.....	22-B-8082	22
33	Gland for stuffing box in front head Fig. 2.....	5-B-8327	64
34	Packing for stuffing box in front head Fig. 2.....		02
35	Nut Lock .....	8-C-4991	10
36	Staple .....	7-B-8191	14
37	Screw Jaw, with nut and washer.....	43-B-7742	26
37a	as above, with pin, (1-37, 1-37b).....		34
37b	Pin, with cotter.....	1-B-10208	06
38	Brush Holder Rod, with cotter.....	6-B-9381	60
38a	as above, with brush holders, bushings, head, nut, plate washers, insulating bushings and insulating washers, (1-25a, 1-38, 1-38b, 1-38c, 1-38d, 1-38e, 1-38f, 1-39, 1-40, 1-41a, 1-42a, 3-43, 1-44a).....	1-B-9534	4 00

**MOTOR FOR STYLE "B" ELECTRIC SWITCH AND  
LOCK MOVEMENT**

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
38b	Insulating Bushing for rod Fig. 38.....	75-B-8095	08
38c	Insulating Bushing .....	85-B-8095	03
38d	Insulating Bushing .....	90-B-8095	04
38e	Insulating Washer .....	174-B-8078	10
38f	Plate Washer .....	12-B-7826	03
39	Special Nut.....	94-B-8109	40
40	Collar .....	99-B-8350	10
41	Upper Brush Holder.....	3-B-9534	70
41a	as above, with brush Fig. 45.....		90
42	Lower Brush Holder.....	2-B-9534	70
42a	as above, with brush Fig. 45.....		90
43	Insulating Washer .....	197-B-8078	08
44	Spring for brush holders.....	43-B-8124	16
44a	as above, with links, (1-44, 2-44b).....		24
44b	Link .....	4-B-9534	04
45	Brush .....	5-B-9534	20
46	Dust Proof Oil Cup.....		16
47	Plug, 1/4" .....		02
48	Cap Screw, 1/2"x1-1/4", for fastening pole pieces Fig. 7 to field Fig. 1.....		04
49	Cap Screw, 3/8"x1", for fastening front and rear heads Figs. 2 and 3 to field Fig. 1.....		03
50	Cap Screw, 1/4"x1/2", with washer, for fastening nut lock Fig. 35 to front head Fig. 2.....		02
51	Fil. Hd. Brass Mach. Screw, No. 10-32x1-3/8", with washer, for fastening carbon holders Figs. 18 and 19 to carbon holder support Fig. 14 .....		
		38-B-8094	08
52	Riser Plate .....	108-B-8325	16



ELECTRIC CLUTCH FOR MOTOR OF STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENT

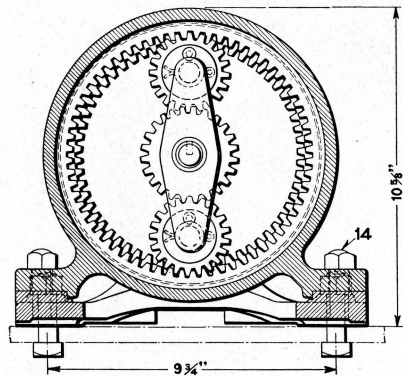
**ELECTRIC CLUTCH FOR MOTOR OF STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENT**

**Order by Plate and Figure**

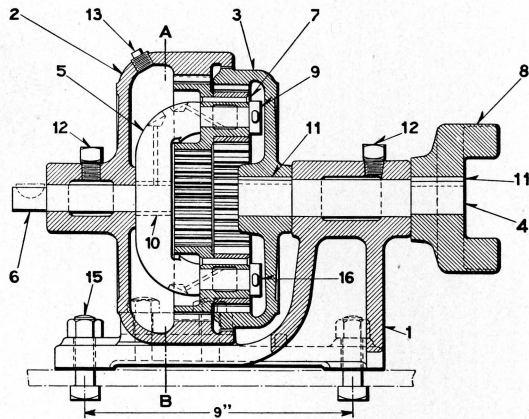
The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Electric Clutch, as shown, for motor of style "B" electric switch and lock movement.....	1-C-4847	22 00
1	Coil Plate .....	5-C-4847	8 20
2	Armature Plate, with bushing.....	2-C-4847	4 30
3	Coil Cover Plate.....	6-C-4847	80
4	Wearing Plate, with bushing.....	16-C-4847	80
5	Nut .....	8-C-4847	30
6	Insulation, with two holes, as shown.....	9-C-4817	80
6a	as above, with one hole.....	10-C-4847	80
7	Coil .....	13-C-4847	1 40
8	Insulation .....	11-C-4847	34
9	Contact Ring .....	12-C-4847	34
10	Male Half of Clutch.....	3-C-4847	66
11	Female Half of Clutch.....	4-C-4847	44
12	Insulating Bushing .....	57-B-8095	04
13	Insulating Bushing .....	61-B-8095	04
14	Insulating Bushing .....	59-B-8095	12
15	Insulating Bushing .....	60-B-8095	18
16	Pivot Screw, 1/4" x 7/8" .....	58-B-8378	03

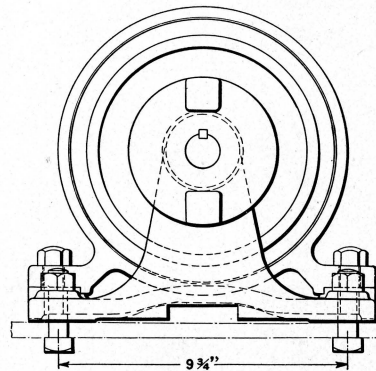
70



END VIEW  
SECTION THROUGH A-B



SECTIONAL SIDE VIEW



END VIEW

A- RATIO 25 TO 1

B- " 45 " 1

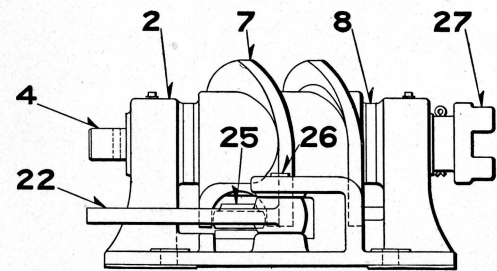
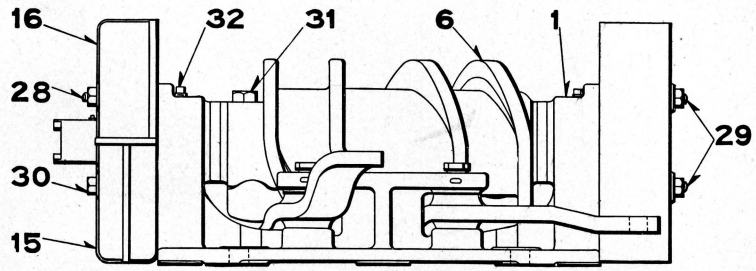
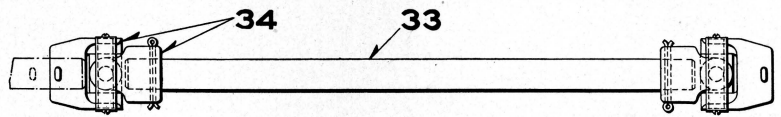
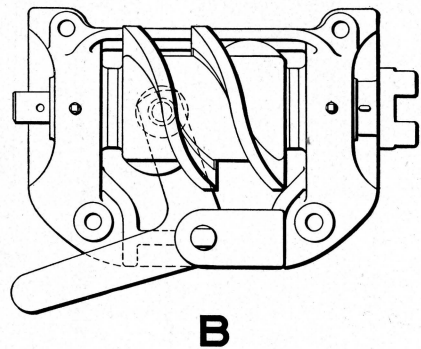
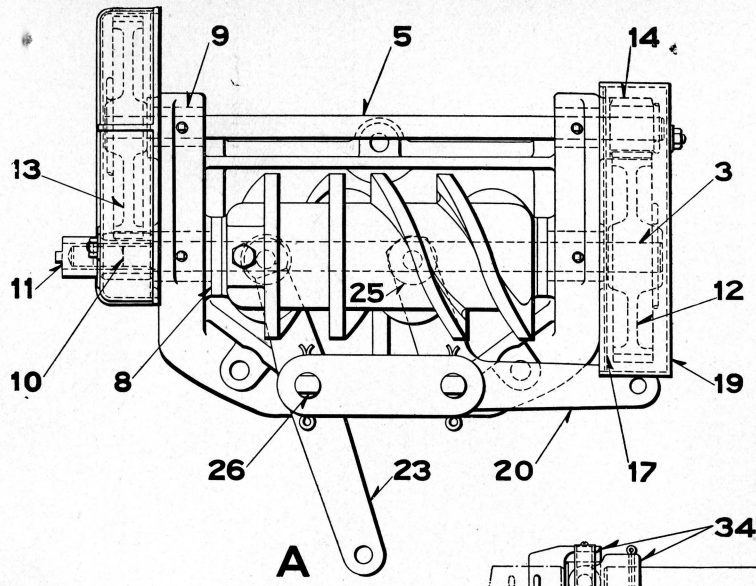
REDUCTION GEARS FOR STYLE "B" ELECTRIC SWITCH  
AND LOCK MOVEMENT

**REDUCTION GEARS FOR STYLE "B" ELECTRIC SWITCH  
AND LOCK MOVEMENT**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Reduction Gear, ratio 25 to 1, as shown, for style "B" electric switch and lock movement, (1-1a, 1-2a, 1-3, 1-4, 1-5a, 1-8, 2-11, 4-14).....	C-5979	90 00
B	Reduction Gear, ratio 45 to 1, for style "B" electric switch and lock movement, (1-1a, 1-2a, 1-3a, 1-4, 1-5c, 1-8, 2-11, 4-14).....	C-5978	82 00
1	Base for Figs. A and B.....	6-C-4365	9 90
1a	as above, with plug and bolts, (1-1, 1-12, 4-15) .....	"	10 50
2	Fixed Gear for Figs. A and B.....	1-C-5977	13 70
2a	as above, with plugs, (1-2, 1-12, 1-13)....	"	13 80
3	Movable Gear for Fig. A.....	2-C-5977	6 70
3a	as above, for Fig. B.....	5-C-5977	6 70
4	Shaft for Figs. A and B.....	2-C-4365	1 00
5	Arm for Fig. A.....	4-C-5977	7 80
5a	as above, with pinion, planet gears, collars, bushing and cotters, (1-5, 1-6, 2-7, 2-9, 1-10, 2-16) .....	"	42 30
5b	Arm for Fig. B.....	3-C-5977	9 10
5c	as above, with pinion, planet gears, collars, bushing and cotters, (1-5b, 1-6a, 2-7a, 2-9, 1-10, 2-16).....	"	39 60
6	Pinion for Fig. A.....	42-B-8425	9 00
6a	as above, for Fig. B.....	38-B-8424	7 80
7	Planet Gear for Fig. A.....	{ 14-B-8424 15-B-8424	11 70
7a	as above, for Fig. B.....	{ 14-B-8425 12-B-8424	10 20
8	Male Half of Clutch for Figs. A and B.....	12-C-4371	1 40
9	Collar for holding planet gear in place, for Figs. A and B.....	63-B-8072	20
10	Bushing for shaft of pinions Figs 6 and 6a.....	47-B-8350	1 20
11	Key for shaft Fig. 4.....	4-C-4365	12
12	Special Plug, 1/4"x5/8".....	1-B-9511	10
13	Pipe Plug, 1/2"x1/2".....		02
14	Cap Screw, 5/8"x1-5/8", for fastening fixed gear Fig. 2 to base Fig. 1.....		06
15	Bolt and Nut, 5/8"x2-1/4", for fastening base Fig. 1 to base plate.....		10
16	Split Cotter, 3/16"x1-1/2", for collar Fig. 9.....		01



SWITCH AND LOCK MOVEMENTS



SWITCH AND LOCK MOVEMENTS

The Switch and Lock Movements listed below do not include covers shown on Plate 01029.

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Switch and Lock Movement, Right Hand, with short shaft, single arm switch crank and combined detector bar and driving bar crank, as shown, for operating a single switch and detector bars or one end of a double slip and detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15a, I-17a, I-20, I-23, 2-25) .....	51-C-6282	87 00
Aa	as above, with short shaft, single arm switch crank and driving bar crank, for operating a single switch without detector bars or one end of a double slip without detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15a, I-17a, I-20, I-24, 2-25) .....	52-C-6282	87 00
Ab	Switch and Lock Movement, Left Hand, with short shaft, single arm switch crank and combined detector bar and driving bar crank, for operating a single switch and detector bars or one end of a double slip and detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15c, I-17d, I-20a, I-23, 2-25) .....	53-C-6282	87 00
Ac	as above, with short shaft, single arm switch crank and driving bar crank, for operating a single switch without detector bars or one end of a double slip without detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15c, I-17d, I-20a, I-24, 2-25) .....	54-C-6282	87 00
Ad	Switch and Lock Movement, Right Hand, with long shaft, single arm switch crank and combined detector bar and driving bar crank, for operating a movable point frog and detector bars, (I-1a, I-3a, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15a, I-17b, I-20, I-23, 2-25) .....		88 00
Ae	as above, with long shaft, single arm switch crank and driving bar crank, for operating a movable point frog without detector bars, (I-1a, I-3a, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15a, I-17b, I-20, I-24, 2-25) .....		88 00

SWITCH AND LOCK MOVEMENTS

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Drawing Reference	List Price
Af	Switch and Lock Movement, Left Hand, with long shaft, single arm switch crank and combined detector bar and driving bar crank, for operating a movable point frog and detector bars, (I-1a, I-3a, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15c, I-17e, I-20a, I-23, 2-25) .....	88 00
Ag	as above, with long shaft, single arm switch crank and driving bar crank, for operating a movable point frog without detector bars, (I-1a, I-3a, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15c, I-17e, I-20a, I-24, 2-25) .....	88 00
Ah	Switch and Lock Movement, Right Hand, with short shaft, double arm switch crank and combined detector bar and driving bar crank, for operating one end of a double slip and frog point movement and detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15a, I-17a, I-21, I-23, 2-25) .....	91 00
Ak	as above, with short shaft, double arm switch crank and driving bar crank, for operating one end of a double slip and frog point movement without detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15a, I-17a, I-21, I-24, 2-25) .....	91 00
Am	Switch and Lock Movement, Left Hand, with short shaft, double arm switch crank and combined detector bar and driving bar crank, for operating one end of a double slip and frog point movement and detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15c, I-17d, I-21a, I-23, 2-25) .....	91 00
An	as above, with short shaft, double arm switch crank and driving bar crank, for operating one end of a double slip and frog point movement without detector bars, (I-1a, I-3, I-5, I-6, 2-8, 2-9, I-10, I-11, I-12a, I-13a, I-14, I-15c, I-17d, I-21a, I-24, 2-25) .....	91 00

SWITCH AND LOCK MOVEMENTS

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

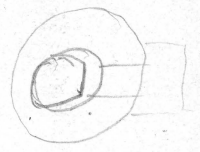
Fig.		Drawing Reference	List Price
B	Frog Point Movement, Left Hand, as shown, for operating a right hand movable point frog, (I-2a, I-4, I-7, 2-8, I-22, I-25, I-27).....	60-C-6282	37 00
Ba	as above, Right Hand, for operating a left hand movable point frog, (I-2c, I-4, I-7, 2-8, I-22a, I-25, I-27).....	60a-C-6282	37 00
I	Base for right or left hand switch and lock movements .....	35-C-6256	21 90
1a	as above, with crank pins and pipe plugs, (I-1, 2-26, 4-32).....	"	22 64
2	Base, Left Hand, for frog point movement Fig. B .....	31-C-6256	15 20
2a	as above, with crank pin and pipe plugs, (I-2, I-26, 2-32).....	"	15 60
2b	Base, Right Hand, for frog point movement Fig. Ba .....	32-C-6256	15 20
2c	as above, with crank pin and pipe plugs, (I-2b, I-26, 2-32).....	"	15 60
3	Short Shaft for switch and lock movements Figs. A, Aa, Ab, Ac, Ah, Ak, Am and An.....	11-C-6107	3 70
3a	Long Shaft (not shown), for switch and lock movements Figs. Ad, Ae, Af and Ag.....	14-C-6107	4 70
4	Shaft for frog point movements Figs. B and Ba..	16-C-6107	2 10
5	Countershaft, with cotter 5/16"x1-1/2", for switch and lock movements.....	12-C-6107	1 70
6	Double Cam, with set bolt Fig. 31, for switch and lock movements .....	7-C-4313	8 90
7	Single Cam for frog point movements.....	9-C-4970	5 60
8	Journal for cam shafts Figs. 3, 3a and 4.....	24-B-8093	2 10
9	Journal for countershaft Fig. 5.....	34-B-8092	1 30
10	Pinion Bushing for cam shafts Figs. 3 and 3a....	35-B-8092	1 20
11	Driving Pinion, with plug bushing and oil hole cover, for cam shafts Figs. 3 and 3a.....	42-B-8424	8 30
12	Large Gear for cam shafts Figs. 3 and 3a.....	46-B-8425	5 60
12a	as above, with cotter 5/16"x3-1/2".....	"	5 62
13	Large Gear for countershaft Fig. 5.....	47-B-8425	6 60
13a	as above, with cotter 5/16"x3-1/2".....	"	6 62
14	Small Gear for countershaft Fig. 5.....	41-B-8424	3 10
15	Gear Case, Right Hand, for Figs. A, Aa, Ad, Ae, Ah and Ak.....	20-C-6829	1 50
15a	as above, with cap, short stud bolt and cap screw, (I-15, I-16, I-28, I-30).....	"	2 60

**SWITCH AND LOCK MOVEMENTS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
15b	Gear Case, Left Hand, for Figs. Ab, Ac, Af, Ag, Am and An.....	21-C-6829	1 40
15c	as above, with cap, short stud bolt and cap screw, (1-15b, 1-16a, 1-28, 1-30).....	"	2 50
16	Cap, Right Hand, for gear case Fig. 15.....	18-C-6829	84
16a	as above, Left Hand, for gear case Fig. 15b.....	19-C-6829	84
17	Cover Plate, Right Hand, for Figs. A, Aa, Ad, Ae, Ah and Ak.....	10-C-6829	46
17a	as above, with gear case and long stud bolts, for Figs. A, Aa, Ah and Ak, (1-17, 1-19, 2-29).....	"	2 84
17b	as above, with gear case and long stud bolts, for Figs. Ad and Ae, (1-17, 1-19a, 2-29).....	"	2 64
17c	Cover Plate, Left Hand, for Figs. Ab, Ac, Af, Ag, Am and An.....	15-C-6829	46
17d	as above, with gear case and long stud bolts, for Figs. Ab, Ac, Am and An, (1-17c, 1-19b, 2-29).....	"	2 84
17e	as above, with gear case and long stud bolts, for Figs. Af and Ag, (1-17c, 1-19c, 2-29).....	"	2 84
18	Pin for cranks Figs. 20, 21 and 22.....	16-B-8090	12
18a	Pin for cranks Figs. 23 and 24.....	69-B-8090	12
19	Gear Case, Right Hand, for Figs. A, Aa, Ah and Ak.....	14-C-6829	1 90
19a	as above, for Figs. Ad and Ae.....	17-C-6829	1 70
19b	Gear Case, Left Hand, for Figs. Ab, Ac, Am and An.....	13-C-6829	1 90
19c	as above, for Figs. Af and Ag.....	16-C-6829	1 90
20	Single Arm Switch Crank, Right Hand, with pin Fig. 18, for switch and lock movements Figs. A, Aa, Ad and Ae.....	144-B-8117	2 80
20a	as above, Left Hand, for Figs. Ab, Ac, Af and Ag.....	143-B-8117	2 80
21	Double Arm Switch Crank (not shown), Right Hand, with pin Fig. 18, for Figs. Ah and Ak..	193-B-8117	6 80
21a	as above, Left Hand, for Figs. Am and An.....	194-B-8117	6 80

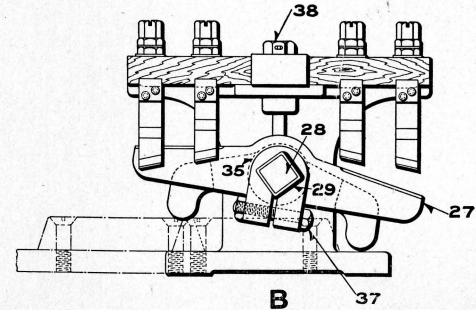
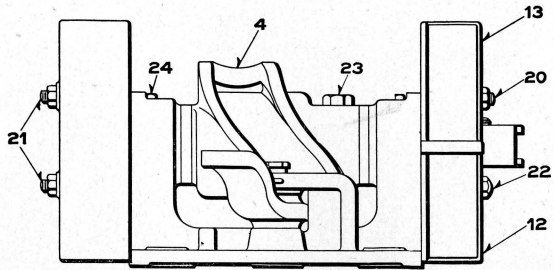
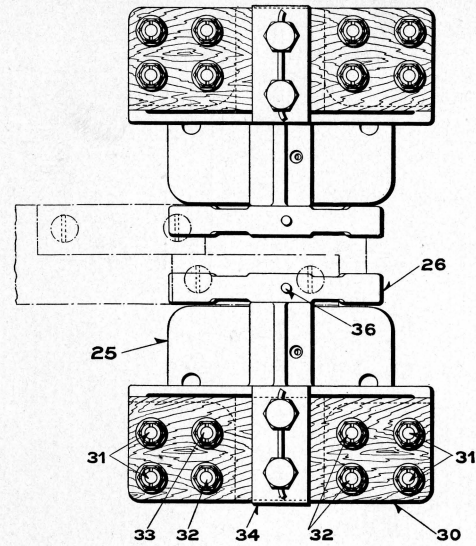
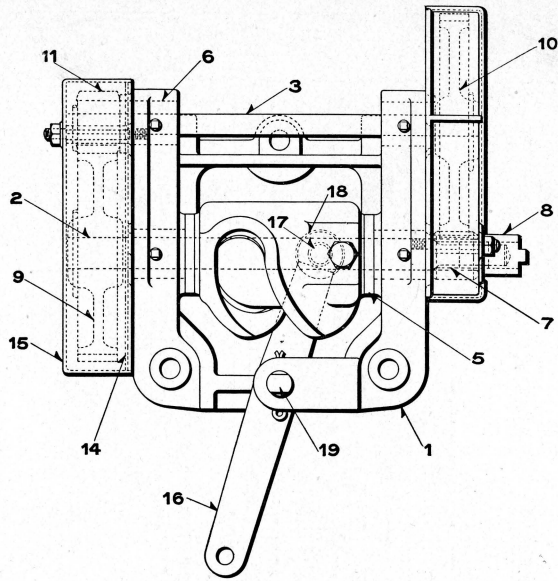


**SWITCH AND LOCK MOVEMENTS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
22	Switch Crank, Left Hand, with pin Fig. 18, for left hand frog point movement Fig. B.....	146-B-8117	2 80
22a	as above, Right Hand, for right hand frog point movement Fig. Ba.....	147-B-8117	2 80
23	Combined Detector Bar and Driving Bar Crank, with pin Fig. 18a, for switch and lock movements Figs. A, Ab, Ad, Af, Ah and Am.....	33-B-8120	3 50
24	Driving Bar Crank (not shown), with pin Fig. 18a, for switch and lock movements Figs. Aa, Ac, Ae, Ag, Ak and An.....	145-B-8117	3 50
25	Roller .....	22-B-8072	1 16
26	Pin, with cotter $\frac{1}{4}'' \times 3-\frac{3}{4}''$ , for bases Figs. 1, 2 and 2b .....	26-B-8067	20
27	Coupling, with cotter $\frac{5}{16}'' \times 3-\frac{1}{2}''$ , for shaft Fig. 4 .....	3-B-9834	1 80
28	Short Stud Bolt, with hex nut, for gear cases Figs. 15 and 15b.....	27-B-8115	22
29	Long Stud Bolt, with hex nut, for cover plates Figs. 17 and 17c.....	26-B-8115	24
30	Cap Screw, $\frac{1}{2}'' \times 3-\frac{1}{2}''$ , for gear cases Figs. 15 and 15b .....		08
31	Set Bolt for fastening double cam Fig. 6 to shafts .....	38-B-8132	30
32	Standard $\frac{1}{4}''$ Pipe Plug for bases Figs. 1, 2 and 2b .....		02
33	Connecting Shaft for connecting switch and lock and frog point movements.....	21-C-6107	3 00
33a	as above, with couplings, (1-33, 2-34a)...		13 40
34	Coupling Jaw, with cotter $\frac{5}{16}'' \times 3-\frac{1}{2}''$ .....	6-C-4969	1 40
34a	Coupling for attaching switch and lock movement shaft to connecting shaft, and connecting shaft to frog point movement shaft, (2-34, 1-34b, 1-34c, 2-34d, 1-34e).....	10-C-4970	5 20
34b	Cross Piece for coupling.....	3-C-4969	46
34c	Long Pin .....	20-B-8076	12
34d	Short Pin .....	21-B-8076	04
34e	Ring, with two rd. hd. machine screws No. 10-32x $\frac{3}{8}''$ .....	3-C-4970	50



DETECTOR BAR MOVEMENT AND INDICATION CIRCUIT CONTROLLER

**DETECTOR BAR MOVEMENT AND INDICATION  
CIRCUIT CONTROLLER**

The Detector Bar Movement and Indication Circuit Controller listed below do not include covers shown on Plate 01029.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Detector Bar Movement, Left Hand, as shown, (I-1a, I-2, I-3, I-4, 2-5, 2-6, I-7, I-8, I-9a, I-10a, I-11, I-12a, I-14a, I-16, I-18).....	61-C-6282	77 50
Aa	as above, Right Hand, (I-1c, I-2, I-3, I-4, 2-5, 2-6, I-7, I-8, I-9a, I-10a, I-11, I-12c, I-14c, I-16, I-18).....	62-C-6282	77 50
B	Indication Circuit Controller, as shown, (I-25a, I-30a, I-34, 2-38). (Two required for each movement) .....	C-6616	13 40
I	Base, Left Hand, for detector bar movement Fig. A .....	33-C-6256	22 20
1a	as above, with crank pin and pipe plugs, (I-1, I-19, 4-24).....		22 80
1b	Base, Right Hand, for detector bar movement Fig. Aa .....	34-C-6256	22 20
1c	as above, with crank pin and pipe plugs, (I-1b, I-19, 4-24).....		22 80
2	Shaft for detector bar movements Figs. A and Aa .....	18-C-6107	3 70
3	Countershaft, with cotter 5/16"x1-1/2", for detector bar movements Figs. A and Aa.....	17-C-6107	1 54
4	Single Cam, with set bolt Fig. 23, for detector bar movements Figs. A and Aa.....	4-C-5046	5 60
5	Journal for cam shaft Fig. 2.....	24-B-8093	2 10
6	Journal for countershaft Fig. 3.....	34-B-8092	1 30
7	Pinion Bushing for cam shaft Fig. 2.....	35-B-8092	1 16
8	Driving Pinion, with plug bushing and oil hole cover, for cam shaft Fig. 2.....	42-B-8424	8 10
9	Large Gear for cam shaft Fig. 2.....	46-B-8425	5 60
9a	as above, with cotter 5/16"x3-1/2".....	"	5 62
10	Large Gear for countershaft Fig. 3.....	47-B-8425	6 60
10a	as above, with cotter 5/16"x3-1/2".....	"	6 62
11	Small Gear for countershaft Fig. 3.....	41-B-8424	3 10
12	Gear Case, Left Hand, for detector bar movement Fig. A.....	21-C-6829	1 40
12a	as above, with cap, short stud bolt and cap screw, (I-12, I-13, I-20, I-22).....	"	2 52

**DETECTOR BAR MOVEMENT AND INDICATION  
CIRCUIT CONTROLLER**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
12b	Gear Case, Right Hand, for detector bar movement Fig. Aa.....	20-C-6829	1 50
12c	as above, with cap, short stud bolt and cap screw, (1-12b, 1-13a, 1-20, 1-22).....	"	2 60
13	Cap, Left Hand, for gear case Fig. 12.....	19-C-6829	84
13a	as above, Right Hand, for gear case Fig. 12b.....	18-C-6829	84
14	Cover Plate, Left Hand, for detector bar movement Fig. A.....	15-C-6829	46
14a	as above, with gear case and long stud bolts, for detector bar movement Fig. A, (1-14, 1-15, 2-21).....		2 80
14b	Cover Plate, Right Hand, for detector bar movement Fig. Aa.....	10-C-6829	46
14c	as above, with gear case and long stud bolts, for detector bar movement Fig. Aa, (1-14b, 1-15a, 2-21).....		2 80
15	Gear Case, Left Hand, for detector bar movement Fig. A.....	13-C-6829	1 90
15a	Gear Case, Right Hand, for detector bar movement Fig. Aa.....	14-C-6829	1 90
16	Combined Detector Bar and Driving Bar Crank, with pin Fig. 17, for detector bar movements Figs. A and Aa.....	52-B-8120	3 64
17	Pin for crank Fig. 16.....	69-B-8090	12
18	Roller.....	22-B-8072	1 16
19	Pin, with cotter $\frac{1}{4} \times 3-\frac{3}{4}$ ", for bases Figs. 1 and 1a.....	26-B-8067	20
20	Short Stud Bolt, with hex. nut, for gear cases Figs. 12 and 12b.....	27-B-8115	22
21	Long Stud Bolt, with hex. nut, for cover plates Figs. 14 and 14b.....	26-B-8115	24
22	Cap Screw, $\frac{1}{2} \times 3-\frac{1}{2}$ ", for gear cases Figs. 12 and 12b.....		08

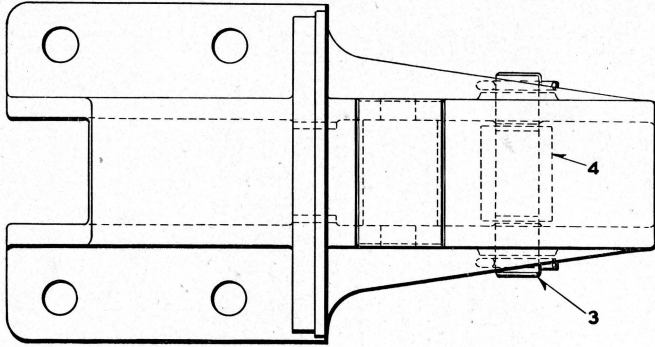


**DETECTOR BAR MOVEMENT AND INDICATION  
CIRCUIT CONTROLLER**

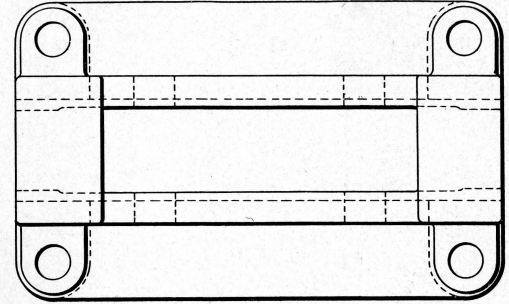
**Order by Plate and Figure**

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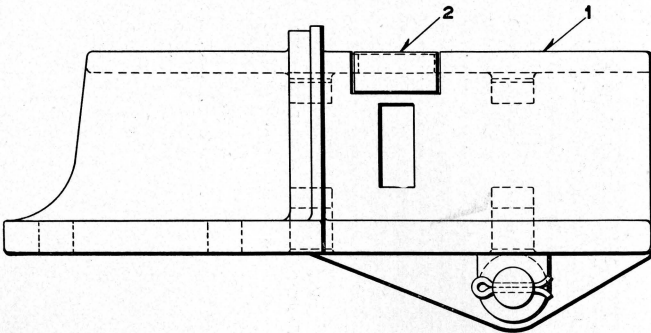
Fig.	Description	Drawing Reference	List Price
23	Set Bolt for fastening single cam Fig. 4 to shaft Fig. 2	38-B-8132	30
24	Standard 1/4" Pipe Plug for bases Figs. 1 and 1a.		02
25	Bracket for indication circuit controller Fig. B...	1-C-6832	1 54
25a	as above, with operating arm, contact fingers, shaft, insulation, dowel pin, washer and bolts, (1-25, 1-26, 2-27, 1-28, 1-29, 1-35, 1-36, 2-37)		7 50
26	Operating Arm for indication circuit controller Fig. B	2-C-6832	96
27	Contact Finger	9-B-8429	72
28	Shaft for indication circuit controller Fig. B...	3-C-6832	20
29	Insulation for shaft Fig. 28.	158-B-8095	34
30	Contact Spring Board for combined contact springs and terminal posts.	31-B-9968	16
30a	as above, with combined contact springs and terminal posts, (1-30, 4-31, 3-32, 1-33)		5 40
31	Contact Spring and Terminal Post, with washers and nuts		66
32	Contact Spring and Terminal Post, with washers and nuts		66
33	Contact Spring and Terminal Post, with washers and nuts		68
34	Strap	6-C-6832	18
35	Washer for shaft Fig. 28.	14-B-8112	04
36	Dowel Pin for operating arm Fig. 26.	4-B-8059	06
37	Hex. Hd. Steel Cap Screw and Nut, 1/4"x7/16", for contact finger Fig. 27.		04
38	Special Tap Bolt, 3/8"x1-1/8", for fastening strap Fig. 35 and contact spring board Fig. 30 to bracket Fig. 25.		08



**A**



**B**



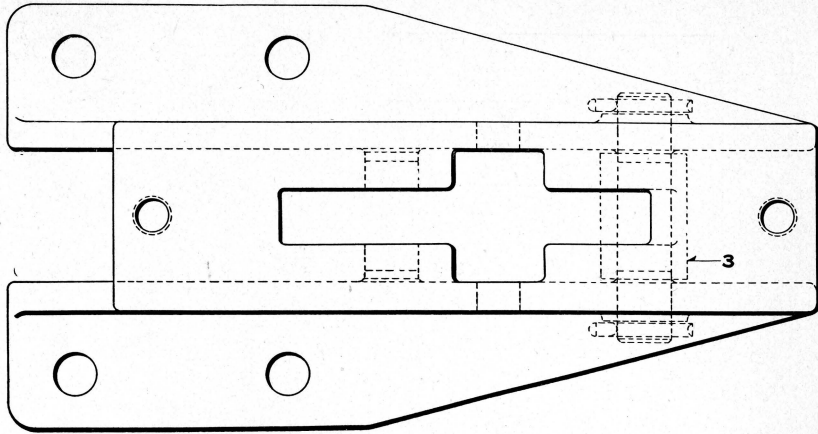
**SINGLE AND DOUBLE LOCK BOXES  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS**

**SINGLE AND DOUBLE LOCK BOXES  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS**

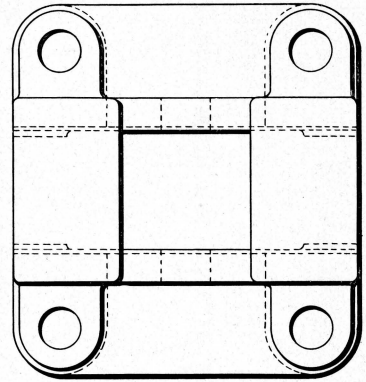
**Order by Plate and Figure**

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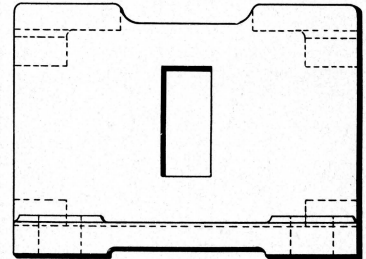
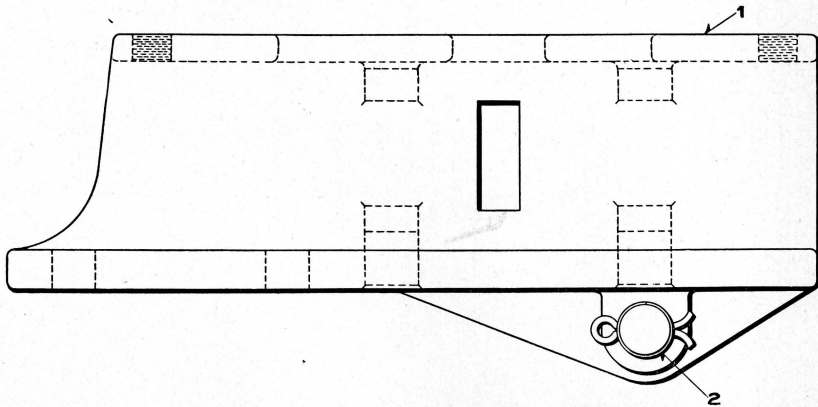
Fig.		Drawing Reference	List Price
A	Lock Box, with cover, pin, cotters and roller, as shown, for single switch using single lock rod (no slide bar), (1-1, 1-2, 1-3, 1-4).....	C-5796	5 50
Aa	as above, for single switch using adjustable lock rod (no slide bar), (1-1a, 1-2, 1-3, 1-4) .....	C-5819	5 60
B	Lock Box, as shown, for movable frog point movement using two single lock rods.....	2-C-4968	4 50
1	Lock Box for single lock rod.....	1-C-5796	4 60
1a	as above, for adjustable lock rod.....	1-C-5819	4 70
2	Cover for lock boxes Figs. 1 and 1a.....	2-C-5796	22
3	Pin, with cotters, for lock boxes Figs. 1 and 1a..	39-B-8066	18
4	Roller for lock boxes Figs. 1 and 1a.....	71-B-8065	44



A



B



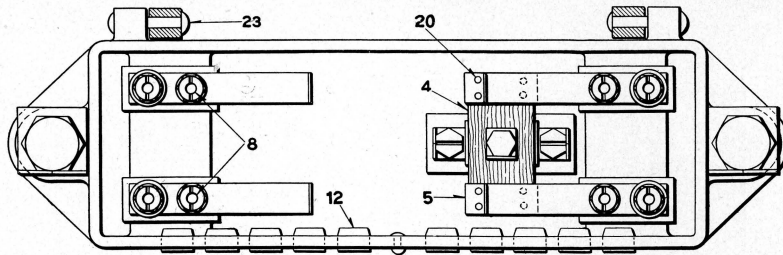
SINGLE LOCK BOXES  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS

**SINGLE LOCK BOXES  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS**

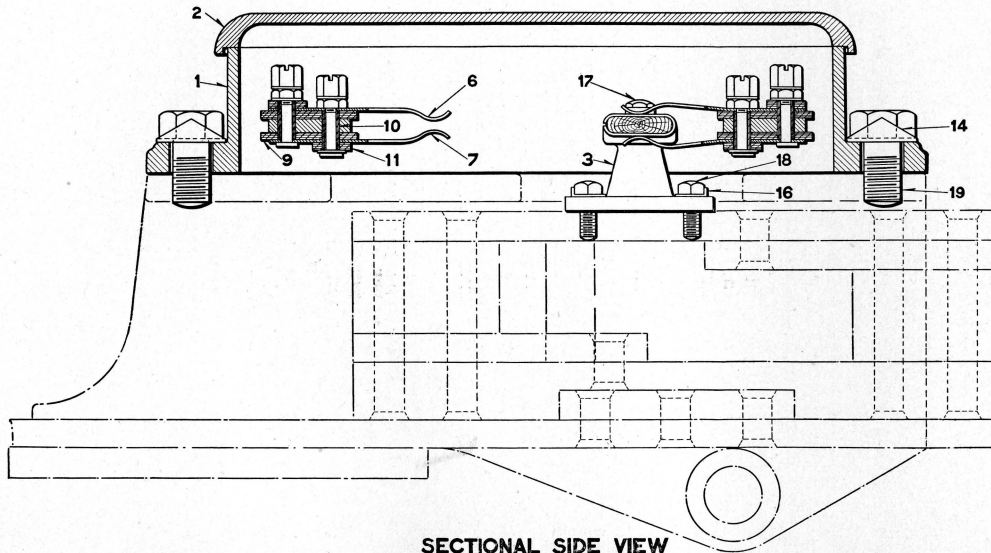
Order by Plate and Figure

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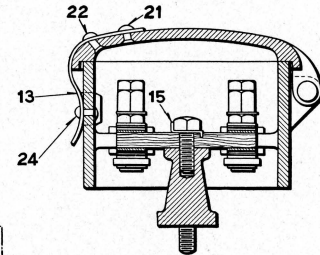
Fig.		Drawing Reference	List Price
A	Lock Box, with pin, cotters, roller, cover and cover support, as shown, for single switch using single lock rod (no slide bar); suitable for mounting circuit controllers Figs. A or B, Plate 01045, (1-1a, 1-4a, 1-5).....	C-6264	13 30
Aa	as above, for single switch using adjustable lock rod (no slide bar), (1-1c, 1-4a, 1-5).	3-C-6264	13 50
Ab	Lock Box, with pin, cotters, roller and cover, for single switch using single lock rod (no slide bar), (1-1, 1-2a, 1-3, 1-4).....	C-6264	13 30
Ac	as above, for single switch using adjustable lock rod (no slide bar), (1-1b, 1-2a, 1-3, 1-4) .....	3-C-6264	13 50
B	Lock Box for single switch using single lock rod.	12-C-4909	2 50
Ba	as above, for single switch using adjustable lock rod.....	11-C-4909	2 60
1	Lock Box for single lock rod.....	1-C-6264	4 70
1a	as above, with pin, roller and cotters, (1-1, 1-2, 1-3).....		5 34
1b	Lock Box for adjustable lock rod.....	3-C-6264	4 86
1c	as above, with pin, roller and cotters, (1-1b, 1-2, 1-3).....		5 50
2	Pin, with cotters, for lock boxes Figs. 1 and 1b..	39-B-8066	18
2a	as above, used with lock box cover Fig. 4	81-B-8066	20
3	Roller for lock boxes Figs. 1 and 1b.....	71-B-8065	40
4	Cast Iron Lock Box Cover (not shown).....	56-C-1060	94
4a	Sheet Iron Lock Box and Circuit Controller Cover (not shown), with heads, handles, bolts, nuts and rivets.....	38-C-4540	7 74
5	Cover Support (not shown) for supporting cover Fig. 4a .....	28-C-1060	24



PLAN VIEW  
COVER REMOVED



SECTIONAL SIDE VIEW



SECTIONAL END VIEW

LOCK BOX INDICATION CIRCUIT CONTROLLER  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS

**LOCK BOX INDICATION CIRCUIT CONTROLLER  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS**

Indication Circuit Controllers listed below include parts shown in full lines on opposite plate.

Adjacent parts of the lock box and slide bar are shown in dot and dash lines, and are not included with the indication circuit controllers.

For lock boxes see Figs. A and Ab, Plate 01043.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Indication Circuit Controller, with nut locks and bolts, as shown, for lock box; arranged for controlling two separate circuits in each position; (1-1a, 1-2a, 1-3a, 2-14, 2-19, 2-23).....	1-C-6601	14 80
B	as above, with nut locks and bolts, for lock box; arranged for controlling three separate circuits in each position; (1-1c, 1-2c, 1-3c, 2-14, 2-19, 2-23).....	2-C-6601	21 80
1	Case only, for Fig. A.....	7-C-6602	1 30
1a	as above, with contact springs, bushings and stud, (1-1, 4-6a, 10-12, 1-24).....		8 50
1b	Case only, for Fig. B.....	1-C-6899	3 10
1c	as above, with contact springs, bushings and stud, (1-1b, 6-6a, 10-12, 1-24).....		13 80
2	Cover only, for Fig. A.....	2-C-6257	80
2a	as above, with clasp spring and rivets, (1-2, 1-13, 1-21, 1-22).....		1 30
2b	Cover only, for Fig. B.....	2-C-6899	92
2c	as above, with clasp spring and rivets, (1-2b, 1-13, 1-21, 1-22).....		1 40
3	Contact Piece Support for Fig. A.....	6-C-6602	68
3a	as above, with contact block, contact bands, nut locks, bolts and rivets, (1-3, 1-4, 2-5, 1-15, 2-16, 1-17, 2-18, 8-20).....		2 36

**LOCK BOX INDICATION CIRCUIT CONTROLLER  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
3b	Contact Piece Support for Fig. B.....	3-C-6899	1 36
3c	as above, with contact block, contact bands, nut locks, bolts, rivets and screws, (1-3b, 1-4a, 3-5, 2-16, 2-18, 12-20, 2-25).....		3 90
4	Contact Block for Fig. A.....	5-C-6602	06
4a	as above, for Fig. B.....	4-C-6899	10
5	Contact Band for Figs. A and B.....	473-B-8385	42
6	Upper Contact Spring for Figs. A and B.....	384-B-8385	30
6a	as above, with lower contact spring, terminal posts and insulations, (1-6, 1-7, 2-8, 2-9, 2-10, 2-11).....		1 50
7	Lower Contact Spring for Figs. A and B.....	383-B-8385	30
8	Terminal Post, with two washers and two nuts, for Figs. A and B.....	24-B-8094	18
8a	as above, with insulating bushing and insulating washer, (1-8, 1-10, 1-11).....		24
9	Insulating Strip for contact springs Figs. 6 and 7.	154-B-8750	14
10	Insulating Bushing for contact springs Figs. 6 and 7.....	81-B-8095	04
11	Insulating Washer for contact springs Figs. 6 and 7.....	159-B-8078	02
12	Maple Bushing for wire opening in cases Figs. 1 and 1b.....	198-B-8095	02
13	Clasp Spring for covers Figs. 2 and 2b.....	89-B-8735	34
14	Nut Lock for bolt Fig. 19.....	27-B-8486	04
15	Nut Lock for screw Fig. 17.....	40-B-8486	08
16	Nut Lock for screw Fig. 18.....	20-B-8486	08
17	Cap Screw, 1/4"x3/4", for fastening contact block Fig. 4 to contact piece support Fig. 3. Price per hundred.....		2 00

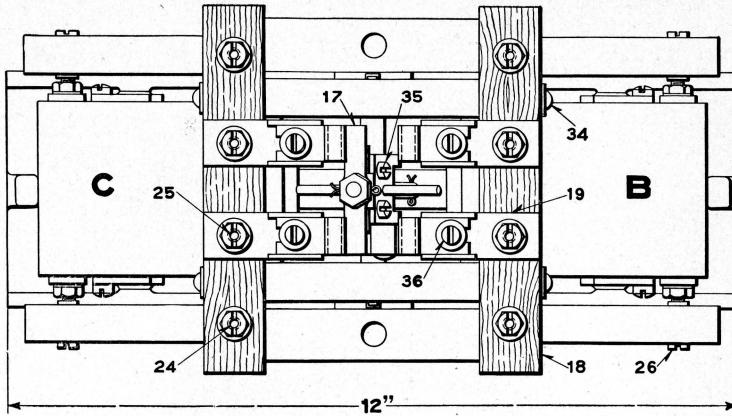


**LOCK BOX INDICATION CIRCUIT CONTROLLER  
FOR STYLE "B" ELECTRIC SWITCH AND LOCK MOVEMENTS**

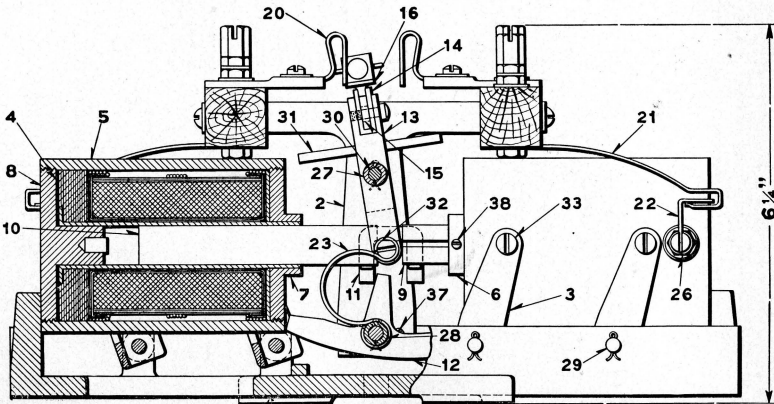
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

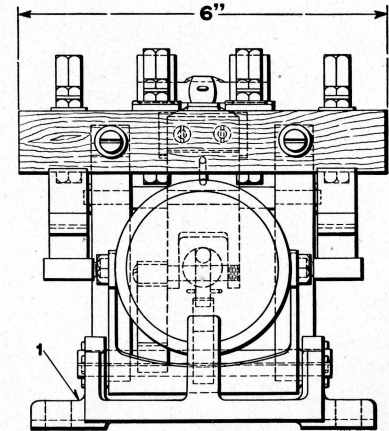
Fig.		Drawing Reference	List Price
18	Special Steel Cap Screw, $\frac{1}{4} \times \frac{3}{4}$ ", for fastening contact piece supports Figs. 3 and 3b to slide bars. Price each.....		02
19	Tap Bolt, $\frac{5}{8} \times 1 - \frac{1}{8}$ ", for fastening cases Figs. 1 and 1b to lock boxes. Price per hundred....		5 00
19a	Tap Bolt, $\frac{5}{8} \times 1 - \frac{1}{4}$ ", used in place of tap bolt Fig. 19, for fastening cover support Fig. 5, Plate 01043, and case Fig. 1, Plate 01045, to lock box. Price per hundred.....		5 00
20	Rivet, No. 15x7/16", for fastening contact band Fig. 5 to contact blocks Figs. 4 and 4a. Price per hundred .....		1 00
21	Rivet, $\frac{1}{8} \times 5/16$ ", for fastening clasp spring Fig. 13 to covers Figs. 2 and 2b. Price per hundred .....		1 00
22	Rivet, $\frac{1}{8} \times \frac{3}{8}$ ", for fastening clasp spring Fig. 13 to covers Figs. 2 and 2b. Price per hundred.		1 00
23	Rivet, $3/16 \times 1 - \frac{3}{8}$ ", for fastening cover Fig. 2 to case Fig. 1 and cover Fig. 2b to case Fig. 1b. Price per hundred.....		1 00
24	Stud, $\frac{1}{8} \times 5/16$ ", fastened to cases Figs. 1 and 1b, for clasp spring Fig. 13.....	50-B-8114	02
25	Fil. Hd. Brass Mach. Screw, No. 12-32x7/16", with washers, for fastening contact block Fig. 4a to contact piece support Fig. 3b. Price each .....		02



PLAN VIEW



SIDE VIEW PARTLY SECTIONED



END VIEW

SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "A")

PLATE 01047

**SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "A")**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Safety Switch Circuit Controller (Style "A"), as shown .....	C-4965	60 00
Aa	as above, with case, (1-A, Plate 01047), (1-A, Plate 01051).....		68 00
B	Magnet, with coil, cover, caps, plunger, terminal posts and screw, (1-4, 1-5, 1-6, 1-8, 1-9, 2-26, 1-38) .....	4-B-8342	16 00
C	Magnet, with coil, cover, caps, plunger and terminal posts, (1-4, 1-5, 1-7, 1-8, 1-10, 2-26).....	"	16 00
1	Base .....	1-C-4966	2 20
2	Contact Spring Support Arm.....	2-C-4966	60
3	Magnet Bracket .....	5-C-4966	50
4	Magnet Coil, without cover, caps or terminal posts, for magnets Figs. B and C.....		8 30
5	Cover for magnet coil Fig. 4.....	12-C-4966	2 16
6	Front Magnet Cap, with tapped hole for screw Fig. 38, for magnet Fig. B.....	16-C-4966	2 30
7	Front Magnet Cap, without tapped hole, for magnet Fig. C.....	15-C-4966	2 24
8	Rear Magnet Cap, with stop pin.....	14-C-4966	2 50
9	Plunger, with slot, for magnet Fig. B.....	18-C-4966	1 50
10	Plunger, without slot, for magnet Fig. C.....	17-C-4966	1 40
11	Plunger Connector, with cotters.....	21-C-4966	60
12	Locking Pawl .....	4-C-4966	40
13	Contact Plate Arm.....	6-C-4966	1 10
13a	as above, with contact piece, contact piece support, contact stop, insulation, insulating bushings and screws, (1-13, 1-14, 2-15, 1-16, 1-17, 1-31, 2-35).....		2 62

**SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "A")**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

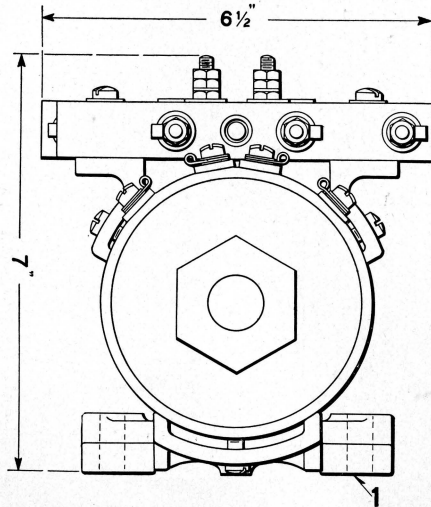
Fig.		Drawing Reference	List Price
14	Insulation for contact piece support Fig. 16.....	167-B-8750	36
15	Insulating Bushing .....	4-B-8100	01
16	Contact Piece Support, with cotter.....	2-A-2549	34
17	Contact Piece .....	1-A-2549	26
18	Contact Spring Support.....	7-C-4966	90
18a	as above, with contact springs, contact spring supports, terminal posts and screws, (1-18, 2-19a, 2-21, 2-24, 2-25, 2-34).....		4 00
19	Contact Spring Support for contact spring Fig. 20	3-A-2549	20
19a	as above, with contact spring and screw, (1-19, 1-20, 1-36).....		66
20	Contact Spring for contact spring support Fig. 19.	274-B-8385	40
21	Contact Spring for contact spring support Fig. 18.	77-B-8385	30
22	Contact Spring for terminal post Fig. 26.....	79-B-8385	10
23	Tension Spring .....	34-B-8735	50
24	Terminal Post, with washers and nuts, for contact spring Fig. 21.....	52-B-8094	50
25	Terminal Post, with washers and nuts, for contact spring Fig. 20.....	29-B-8094	20
26	Terminal Post, with washer and nut, for contact spring Fig. 22.....	129-B-8094	10
27	Sleeve for pin Fig. 30.....	10-B-8350	02
28	Sleeve for pin Fig. 29.....	9-B-8350	03
29	Pin, with two cotters, for fastening magnet brackets Fig. 3 to base Fig. 1.....	5-B-10203	04
29a	as above, with sleeves, for fastening locking pawl Fig. 12 to base Fig. 1, (1-29, 2-28) ..		12

**SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "A")**

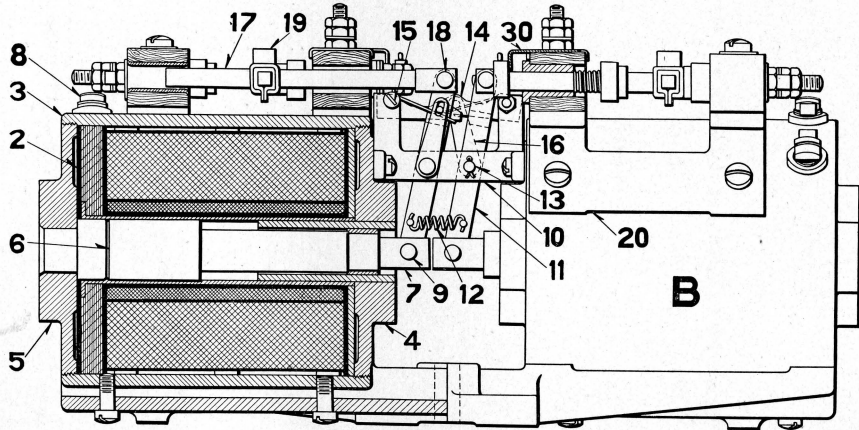
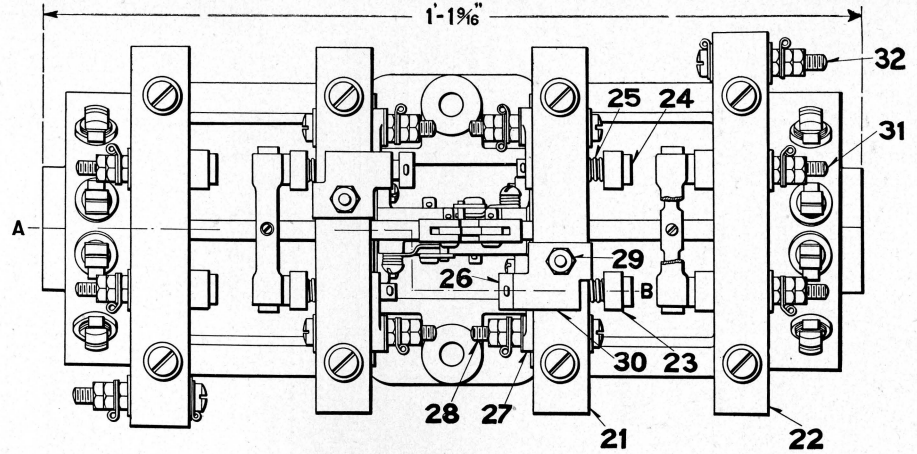
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
30	Pin, with two cotters, used as shaft for contact plate arm Fig. 13.....	9-B-10203	04
30a	as above, with sleeves, (1-30, 2-27).....		10
31	Contact Stop .....		01
32	Special Screw for fastening tension spring Fig. 23 to contact plate arm Fig. 13. Price each.....	95-B-8098	06
33	Pivot Screw for holding magnets Figs. B and C to magnet bracket Fig. 3. Price each.....	12-B-8378	01
34	Rd. Hd. Mach. Screw, No. 10-32x1-3/8", with washer, for fastening contact spring support Fig. 18 to contact spring support arm Fig. 2. Price each .....		03
35	Fil. Hd. Mach. Screw, No. 10-32x1/2", for fastening contact piece support Fig. 16 to contact plate arm Fig. 13. Price per hundred.....		1 00
36	Fil. Hd. Mach. Screw, No. 10-32x5/16", with washer, for fastening contact spring Fig. 20 to contact spring support Fig. 19. Price each.....		04
37	Flat Hd. Mach. Screw, No. 10-32x3/4", for fastening contact spring support arm Fig. 2 to base Fig. 1. Price per hundred.....		1 24
38	Guide Screw, used in front magnet cap Fig. 6 to guide plunger Fig. 9. Price each.....	73-B-8098	02



**A**



**SECTION A-B  
SIDE VIEW PARTLY SECTIONED**

**SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "B")**

**SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "B")**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Safety Switch Circuit Controller, as shown.....	C-6205	88 00
Aa	as above, with case and resistance plates, (1-A, Plate 01049), (1-Aa, Plate 01053).....		123 00
B	Magnet, with coil, cover, caps, plunger, screw jaw and terminal posts.....	10-B-8342	27 80
1	Base .....	10-C-6206	90
2	Magnet Coil without cover or caps.....		18 70
3	Cover for magnet coil Fig. 2.....	11-C-6206	3 10
4	Front Magnet Cap, with sleeve.....	62-B-8162	2 54
5	Rear Magnet Cap, with stop pin.....	61-B-8162	1 34
6	Plunger, with brass collar.....	8-C-6206	90
6a	as above, with screw jaw and pin, (1-6, 1-7a) .....	"	1 66
7	Screw Jaw for plunger Fig. 6.....	9-C-6206	24
7a	as above, with pin, (1-7, 1-9).....		32
8	Terminal Post, with plate washers, terminal washer and insulating bushing, for magnet Fig. B .....	72-B-8094	22
9	Pin, with cotter, for screw jaw Fig. 7.....	88-B-8097	06
10	Bracket only, for supporting levers and pawls....	24-C-6206	1 30
10a	as above, with operating levers, spring, pins, pawls, links and screws, (1-10, 2-11, 1-12, 2-13, 2-14, 2-15, 2-16, 4-36).....	"	6 50
11	Operating Lever, with pins, for operating pawl Fig. 14 and rod Fig. 17.....	23-C-6206	1 10
12	Coil Spring for lever Fig. 11.....	105-B-7770	22
13	Pin, with cotter, for supporting lever Fig. 11 and link Fig. 16.....	84-B-8097	06
14	Pawl, with pin, for engaging link Fig. 16.....	25-C-6206	54
15	Special Screw, No. 8-32x1", with nut and spring, for pawl Fig. 14.....	173-B-8098	40

**SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "B")**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
16	Link for pawl Fig. 14.....	22-C-6206	02
17	Operating Rod only.....	1-C-6206	76
17a	as above, with pin and contact bridge, (1-17, 1-18, 1-19).....		2 12
18	Pin, with cotter, for rod Fig. 17.....	66-B-8097	06
19	Contact Bridge, with contact piece, insulation and machine screw Fig. 37, for fastening to operating rod Fig. 17.....	6-C-6206	1 30
20	Bracket for front and back contact supports Figs. 21 and 22.....	15-C-6206	24
21	Front Contact Support only.....	21-C-6206	16
21a	as above, with contact posts, terminal connectors, terminal posts, contact piece and machine screws, for fastening to bracket Fig. 20, (1-21, 1-23a, 1-24a, 2-27, 2-28, 1-29, 1-30, 2-35) .....		3 10
22	Back Contact Support, with bushing, for operat- ing rod Fig. 17.....	14-C-6206	20
22a	as above, with contact posts, terminal post and machine screws, for fastening to bracket Fig. 20, (1-22, 2-31, 1-32, 2-35).....		1 90
23	Long Contact Post for front contact support Fig. 21 .....	307-B-8094	50
23a	as above, with spring and collar, (1-23, 1-25, 1-26) .....		82
24	Short Contact Post for front contact support Fig. 21 .....	246-B-8094	46
24a	as above, with spring Fig. 25 and cotter.		60
25	Spring for contact posts Figs. 23 and 24.....	104-B-7770	12
26	Collar, with dowel pin, for fastening to contact post Fig. 23.....	138-B-8350	08

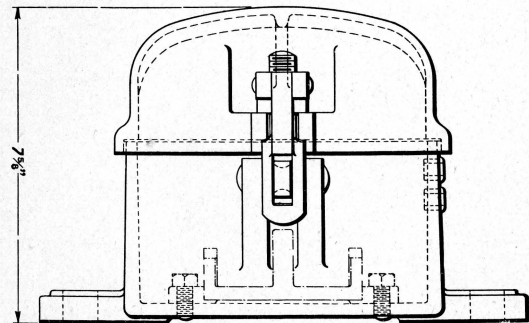
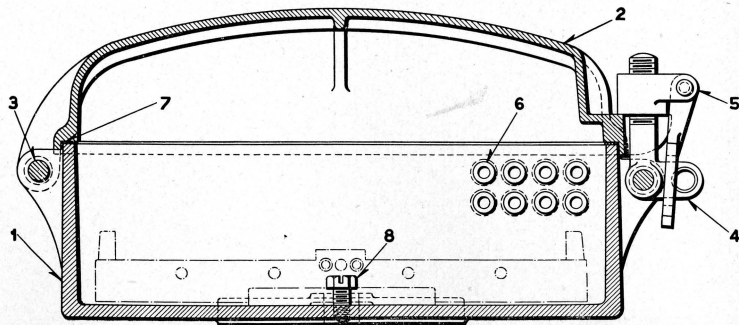
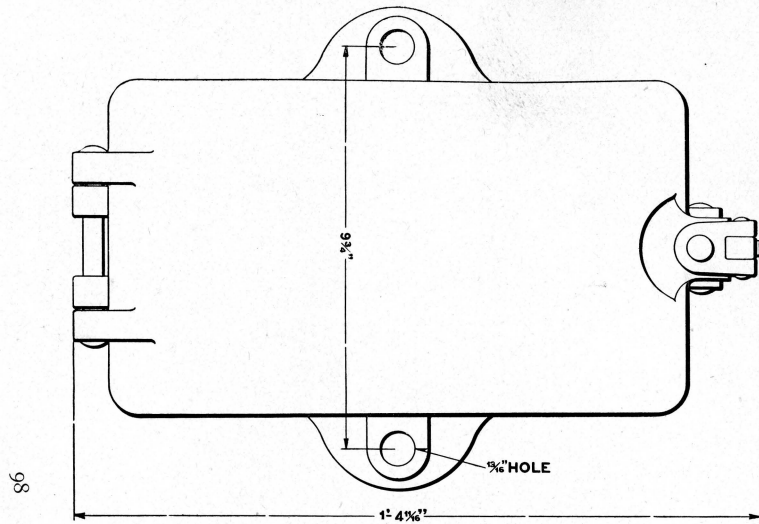


**SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "B")**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
27	Terminal Connector for contact posts Figs. 23 and 24 and terminal post Fig. 28.....	40-B-8064	22
28	Terminal Post (No. 14-32x2" Fil. Hd. Mach. Screw), with terminal washer, plate washers and nuts, for terminal connector Fig. 27.....		16
29	Terminal Post, with plate washers and nuts, for contact piece Fig. 30.....	308-B-8094	18
30	Contact Piece .....	20-C-6206	08
31	Contact Post, with terminal washer, plate washers and nuts, for back contact support Fig. 22.	247-B-8094	62
32	Terminal Post (No. 14-32x1-7/8" Fil. Hd. Mach. Screw), with terminal washers, plate washers and nuts, for back contact support Fig. 22.		18
33	Fil. Hd. Mach. Screw, No. 14-24x5/8", for fastening magnet Fig. B to base Fig. 1. Price per hundred .....		2 00
34	Fil. Hd. Mach. Screw, No. 14-24x1/2", for fastening bracket Fig. 20 to magnet cover. Price per hundred .....		2 00
35	Fil. Hd. Mach. Screw, 1/4"-20x1-1/4", with washer, for fastening front and back contact supports Figs. 21 and 22 to bracket. Price per hundred .....		4 00
36	Fil. Hd. Mach. Screw, No. 10-32x7/16", for fastening bracket Fig. 10 to front magnet caps. Price per hundred.....		1 00
37	Special Flat Hd. Mach. Screw, No. 4-40x5/8", for fastening contact bridge Fig. 19 to operating rod. Price per hundred.....		1 00



**A**

**CASE FOR SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "A")**

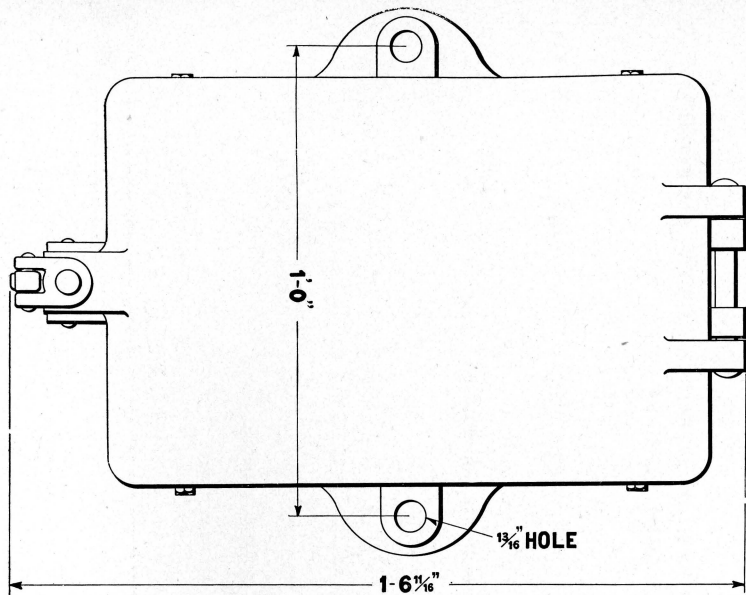
**CASE FOR SAFETY SWITCH CIRCUIT CONTROLLER  
(STYLE "A")**

For Safety Switch Circuit Controller (Style "A") see Plate 01047.

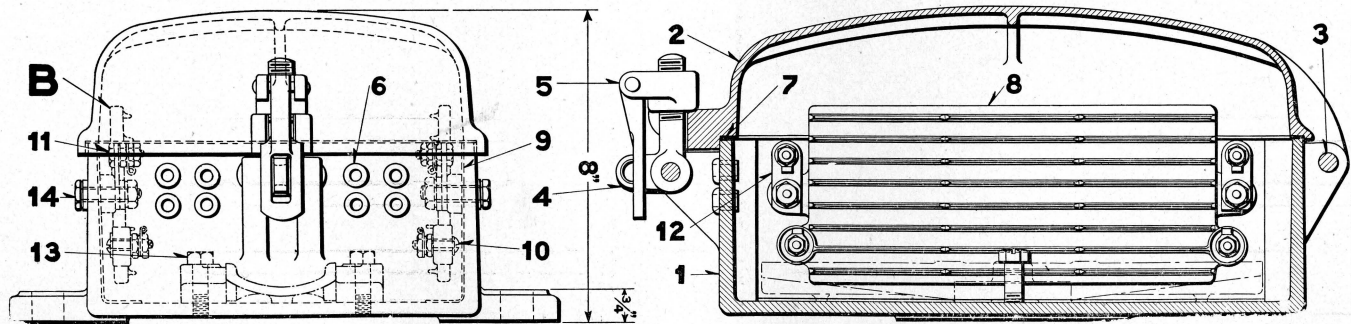
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Case, as shown, (1-1a, 1-2a, 2-8).....	C-5031	8 00
1	Case only .....	1-C-5030	3 80
1a	as above, with eye bolt, hasp and bushings, (1-1, 1-4, 1-5, 8-6).....	"	5 00
2	Cover for case Fig. 1.....	1-C-5029	1 62
2a	as above, with rivet and felt gasket, (1-2, 1-3, 1-7) .....	"	2 00
3	Rivet, 1/2"x4-7/8", for fastening cover to case.....		04
4	Eye Bolt, with rivet, for fastening to case Fig. 1.	10-B-8034	12
5	Hasp, with nut and rivet.....	2-B-9925	40
6	Hard Rubber Bushing for wire opening in case...	75-B-8100	04
7	Felt Gasket .....		12
8	Special Hex. Hd. Mach. Bolt, 3/8"x3/4", for fastening safety switch circuit controller to case...	3-B-8709	10



**A**



CASE AND RESISTANCE PLATE FOR SAFETY SWITCH CIRCUIT CONTROLLER (STYLE "B")

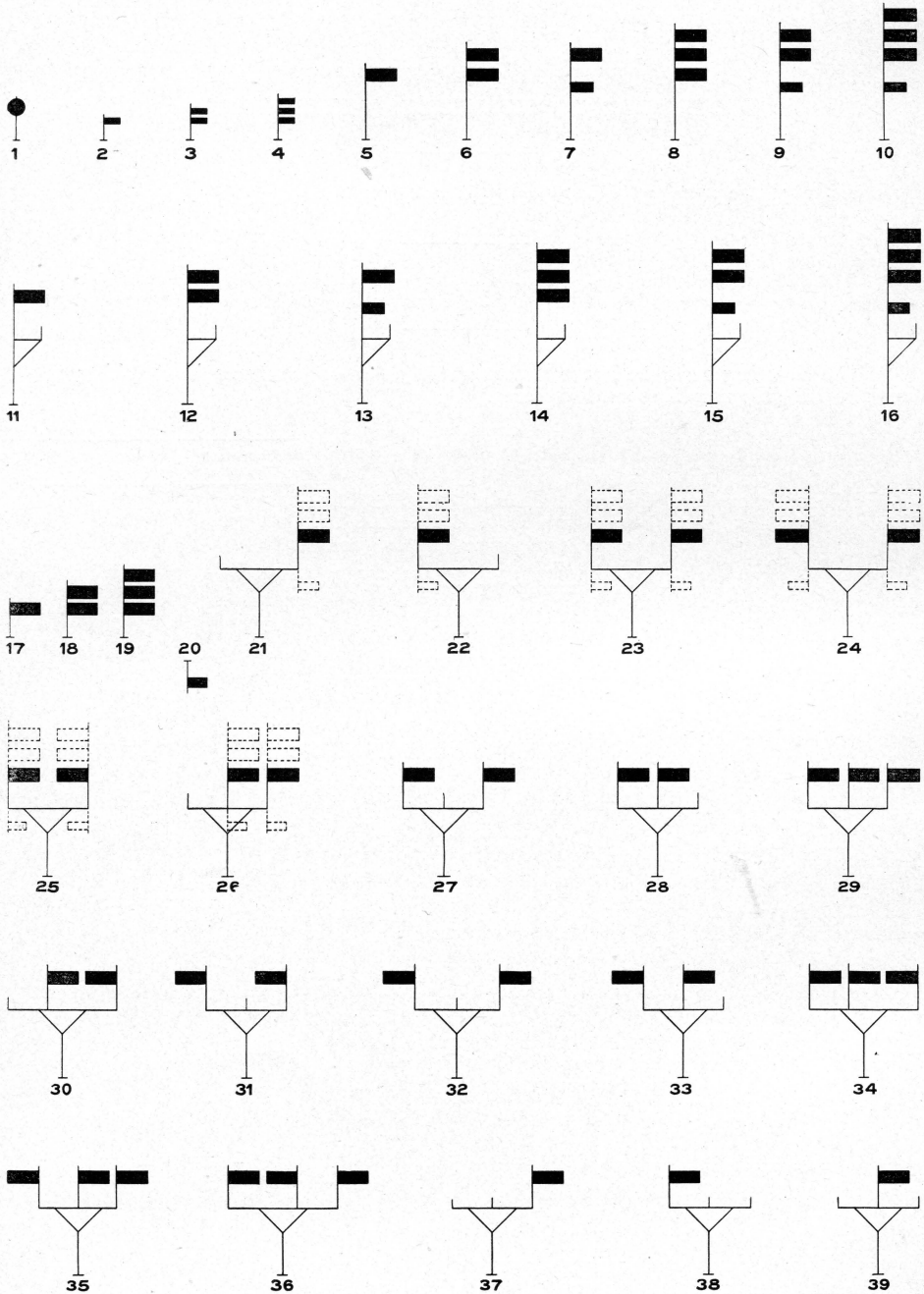
**CASE AND RESISTANCE PLATE FOR SAFETY SWITCH  
CIRCUIT CONTROLLER (STYLE "B")**

For Safety Switch Circuit Controller (Style "B") see Plate 01049.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Case, complete, for safety switch circuit controller, (1-1a, 1-2a, 2-13).....	C-6645	8 70
Aa	as above, with resistance plates, complete, (1-A, 2-B).....	"	32 00
B	Resistance Plate, with insulating strip, terminal connectors, terminal posts and bolts, for fastening to case Fig. A, (1-8, 1-9, 2-10, 2-11, 2-12, 2-14) .....	B-9065	11 40
I	Case only .....	I-C-6647	4 90
1a	as above with eye bolt, hasp and bushings, (1-1, 1-4, 1-5, 8-6).....	"	5 80
2	Cover for case Fig. 1.....	I C-6645	2 30
2a	as above, with rivet and felt gasket, (1-2, 1-3, 1-7) .....	"	2 60
3	Rivet, 1/2"x4-7/8", for fastening cover to case....		04
4	Eye Bolt, with rivet, for fastening to case Fig. 1..	10-B-8034	14
5	Hasp, with nut and rivet.....	2-B-9925	40
6	Maple Bushing for wire opening in case.....	201-B-8095	02
7	Felt Gasket .....		12
8	Resistance Plate only, 20-ohms, 3-1/2 amperes....	11-B-9065	7 20
9	Insulating Strip for resistance plate.....	157-B-8750	2 44
10	Terminal Post (No. 10-32x1-1/8" Rd. Hd. Mach. Screw), with nuts, terminal washer, plate washers, insulating bushing and insulating washers .....		22
11	Terminal Post (No. 10-32x7/8" Hex. Hd. Mach. Screw), with nuts, terminal washer and plate washer, for terminal connector Fig. 12.....		10
12	Terminal Connector only.....	74-B-8064	32
13	Special Hex. Hd. Mach. Bolt, 3/8"x1-3/8", for fastening safety switch circuit controller to case .....		06
14	Hex. Hd. Mach. Bolt and Nut, 1/4"x1-1/2", with plate washers, insulating bushing and insulating washers, for fastening resistance plates to case .....	20-B-8709	06
			42



DIAGRAMS OF ELECTRIC SIGNALS

DIAGRAMS OF ELECTRIC SIGNALS

Signals listed below include main bracket post, signal post, mechanism case, mechanism, front and back spectacles, glass, blades, ladder, ladder foundation, foundation bolts and all other fittings shown on the following plates.

They do not include lamps, number plates or safety signal circuit controllers, which must be ordered separately when required. Any variation from the general dimensions shown must be specifically called for when ordering.

For Dwarf Signals, see Plates 01087 and 01089; Ground Signals, Plate 01057; Bridge or Bracket Signals, Plate 01059.

Order by Plate, Figure and Instructions given above

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
1	Pot Signal. Price furnished on application.....		
2	One-Arm, 60 deg., Electric Dwarf Signal. For detail see Fig. A, Plate 01087.....	C-5919	200 00
3	Two-Arm, 60 deg., Electric Dwarf Signal. For detail see Fig. B, Plate 01089.....	D-1116	236 00
4	Three-Arm, 60 deg., Electric Dwarf Signal. Price furnished on application.....		
5	One-Arm, 90 deg., Two-Position Electric Ground Signal. For detail see Fig. A, Plate 01057....	16-E-1421	384 00
5a	One-Arm, 90 deg., Three-Position Electric Ground Signal. For detail see Fig. Ab, Plate 01057..	"	474 00
5b	One-Arm, 60 deg., Two-Position Electric Ground Signal. For detail see Fig. Ad, Plate 01057..	18-E-1421	376 00
6	Two-Arm, 60 deg., Two-Position Electric Ground Signal. For detail see Fig. B, Plate 01057...	17-E-1421	506 00
6a	Two-Arm, 90 deg., Two-Position Electric Ground Signal. For detail see Fig. Bb, Plate 01057..	13-E-1421	520 00
6b	Two-Arm, 90 deg., Three-Position Electric Ground Signal. For detail see Fig. Bf, Plate 01057 .....	"	820 00
6c	Two-Arm, 90 deg., Electric Ground Signal; one arm three-position, the other two-position. For detail see Fig. Bd, Plate 01057.....		636 00
6d	Two-Arm, 90 deg., Electric Ground Signal; top arm three-position, bottom arm fixed. (Mechanism equipped for top arm only).....		528 00

**DIAGRAMS OF ELECTRIC SIGNALS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
6e	Two-Arm, 60 deg., Electric Ground Signal; top arm two-position, bottom arm fixed. (Mechanism equipped for top arm only).....		422 00
7	One-Arm and Low Speed, 60 deg., Two-Position Electric Ground Signal.....		506 00
8	Three-Arm, 60 deg., Two-Position Electric Ground Signal. For details see Fig. Bh, Plate 01057 .....	14-E-142I	688 00
8a	Three-Arm, 90 deg., Two-Position Electric Ground Signal. For detail see Fig. Bk, Plate 01057 .....	15-E-142I	704 00
9	Two-Arm and Low Speed, 60 deg., Electric Ground Signal .....		688 00
10	Price furnished on application.....		
11	One-Arm, 60 deg., Two-Position Electric Ground Signal, with cantilever attachment.....		404 00
12	Two-Arm, 60 deg., Two-Position Electric Ground Signal, with cantilever attachment.....		534 00
13			
14	Prices furnished on application.....		
15			
16			
17	Bridge or Bracket Signals. For prices see Plate		
18	01059 .....		
19			



**DIAGRAMS OF ELECTRIC SIGNALS**

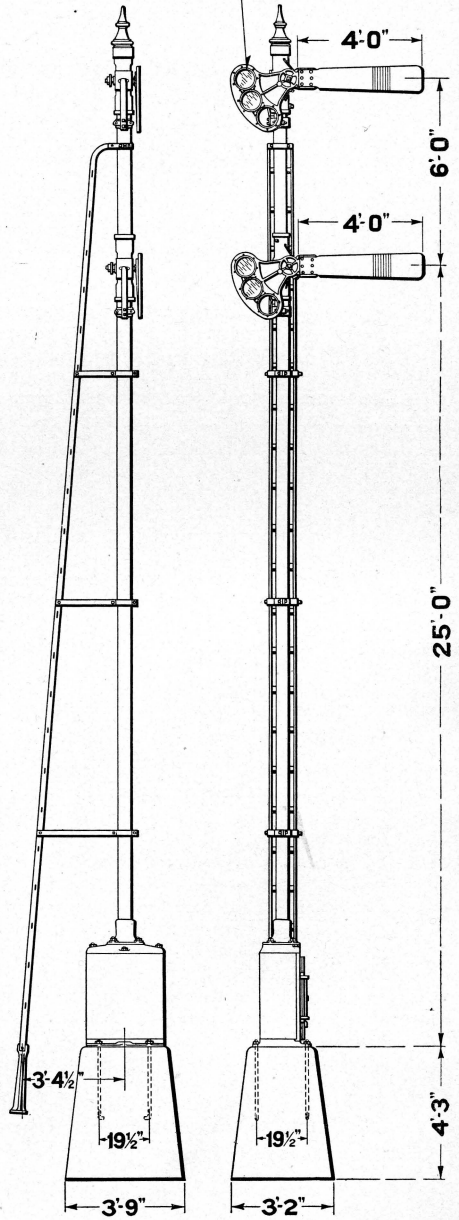
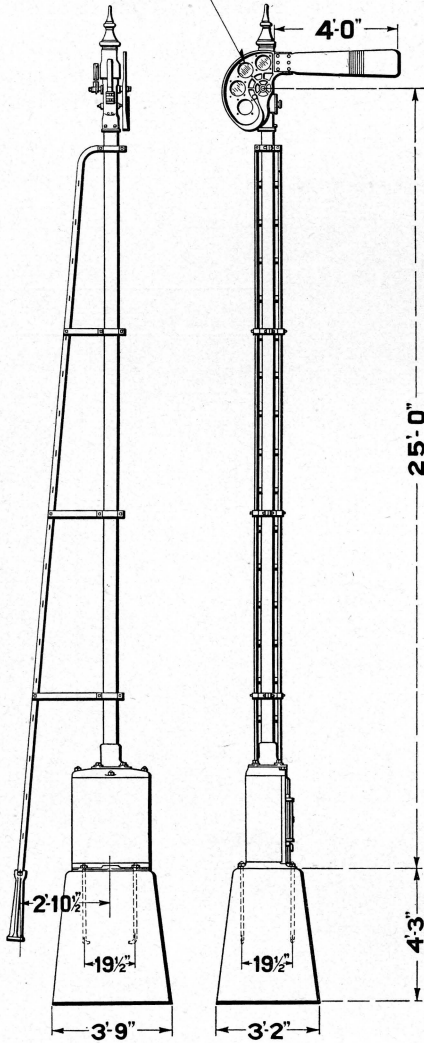
**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price	
20	Suspended Route Signal for signal bridge or bracket post; no mechanism or mechanism case .....	15-C-6931	52 00	
21				
22				
23				
24				
25				
26				
27				
28				
29				
30	Prices furnished on application.....			
31				
32				
33				
34				
35				
36				
37				
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39				

DIAMETER OF ROUNDEL  
IN SPECTACLE  $6\frac{1}{2}$ "

DIAMETER OF ROUNDEL  
IN SPECTACLE  $8\frac{3}{8}$ "



**A**

**B**

ELECTRIC GROUND SIGNALS

**ELECTRIC GROUND SIGNALS**

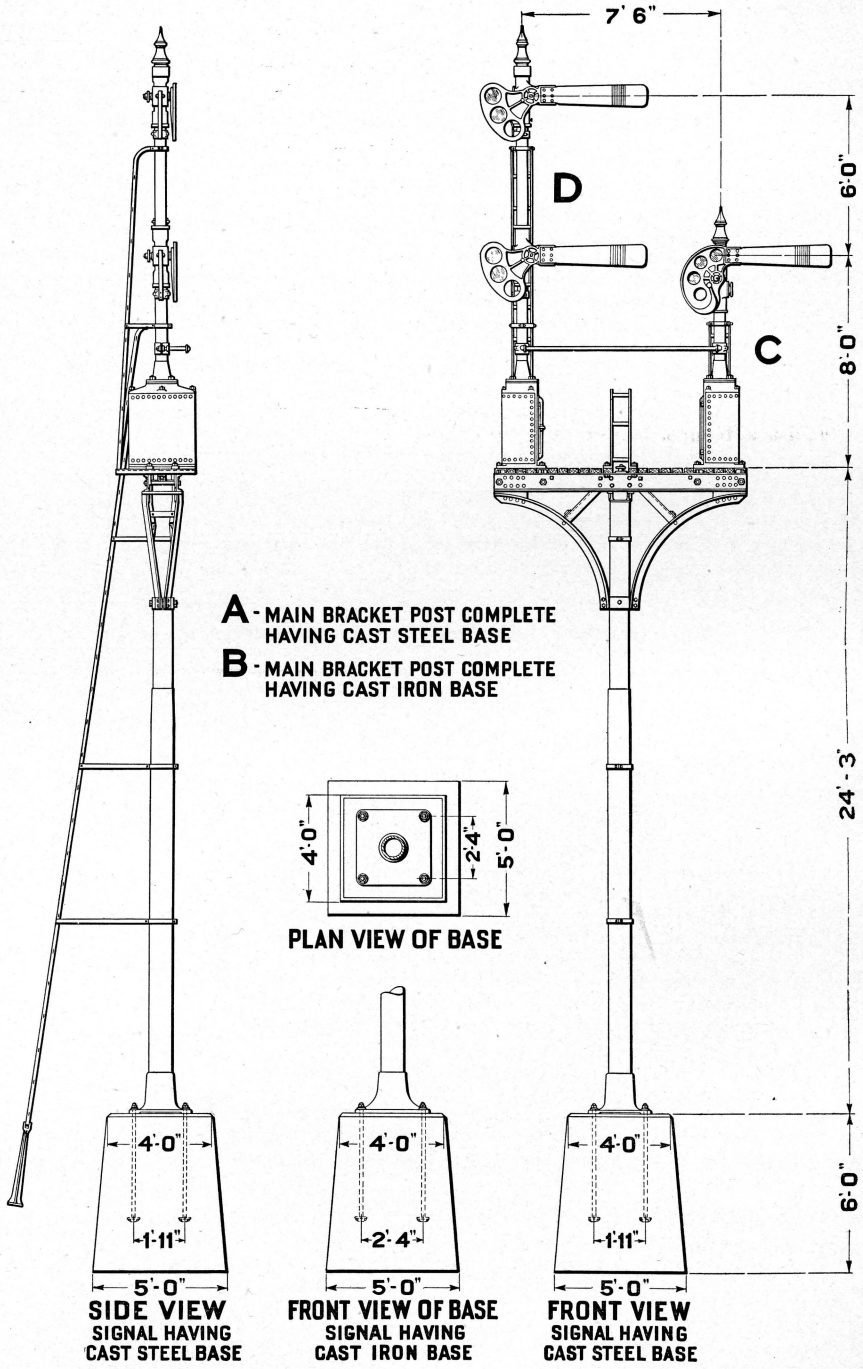
Signals listed below include post, mechanism case, mechanism, front and back spectacles, glass, blades, ladder, ladder foundation, foundation bolts and all other fittings shown on the opposite plate.

They do not include lamps, number plates, safety signal circuit controllers or foundations, which must be ordered separately when required. Any variation from the general dimensions shown must be specifically called for when ordering.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	One-Arm, 90 deg., (oil lighted) Two-Position Home or Distant Signal, complete.....	16-E-1421	384 00
Aa	as above, electrically lighted.....	8-E-1421	396 00
Ab	One-Arm, 90 deg., (oil lighted) Three-Position Signal, complete .....	16-E-1421	474 00
Ac	as above, electrically lighted.....	8-E-1421	486 00
Ad	One-Arm, 60 deg., (oil lighted) Two-Position Home or Distant Signal, complete.....	18-E-1421	376 00
Ae	as above, electrically lighted.....	"	388 00
B	Two-Arm, 60 deg., (oil lighted) Two-Position Home or Distant Signal, complete.....	17-E-1421	506 00
Ba	as above, electrically lighted.....	"	520 00
Bb	Two-Arm, 90 deg., (oil lighted) Two-Position Home or Distant Signal, complete.....	13-E-1421	520 00
Bc	as above, electrically lighted.....	9-E-1421	534 00
Bd	Two-Arm, 90 deg., (oil lighted) Signal; one arm three-position; the other, two-position.....		636 00
Be	as above, electrically lighted.....		650 00
Bf	Two-Arm, 90 deg., (oil lighted) Three-Position Signal, complete .....	13-E-1421	820 00
Bg	as above, electrically lighted.....	9-E-1421	834 00
Bh	Three-Arm, 60 deg., (oil lighted) Two-Position Home or Distant Signal, complete.....	14-E-1421	688 00
Bj	as above, electrically lighted.....	"	704 00
Bk	Three-Arm, 90 deg., (oil lighted) Two-Position Home or Distant Signal, complete.....	15-E-1421	704 00
Bm	as above, electrically lighted.....	"	720 00



ELECTRIC BRIDGE OR BRACKET SIGNALS

**ELECTRIC BRIDGE OR BRACKET SIGNALS**

Signals listed below are designed to be applied to a signal bridge or to a bracket post, as shown on the opposite plate.

As combinations for bracket signals are too numerous to list, we give below separate figures for the main bracket post and for the signals. By adding together the price of the main bracket post and the price of the signal desired, the cost of any combination can be obtained. Ordinary combinations are shown on Plate 01055.

The main bracket post includes the base casting with foundation bolts, post, crosstree, platform, channel irons, hand rail, ladder and ladder foundation.

The signals include post, mechanism case, mechanism, front and back spectacles, glass, blades, ladders and hook bolts.

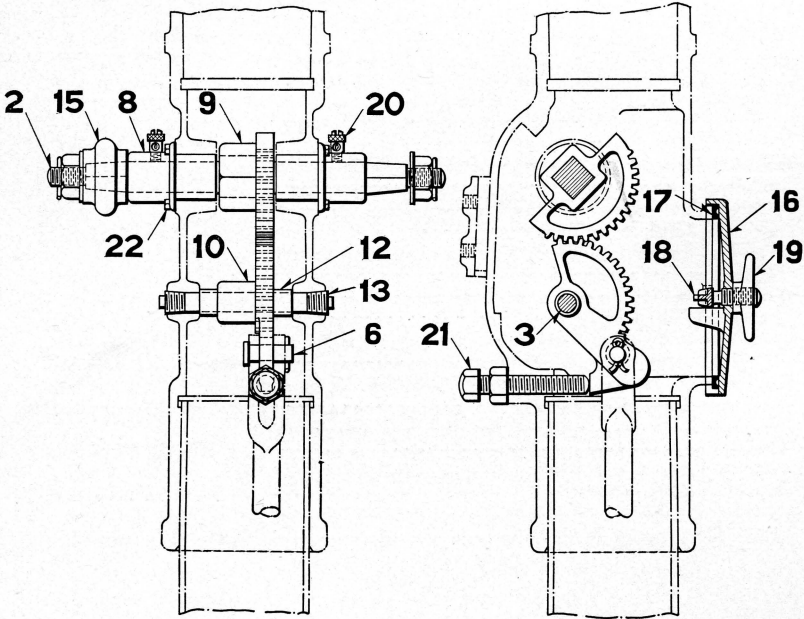
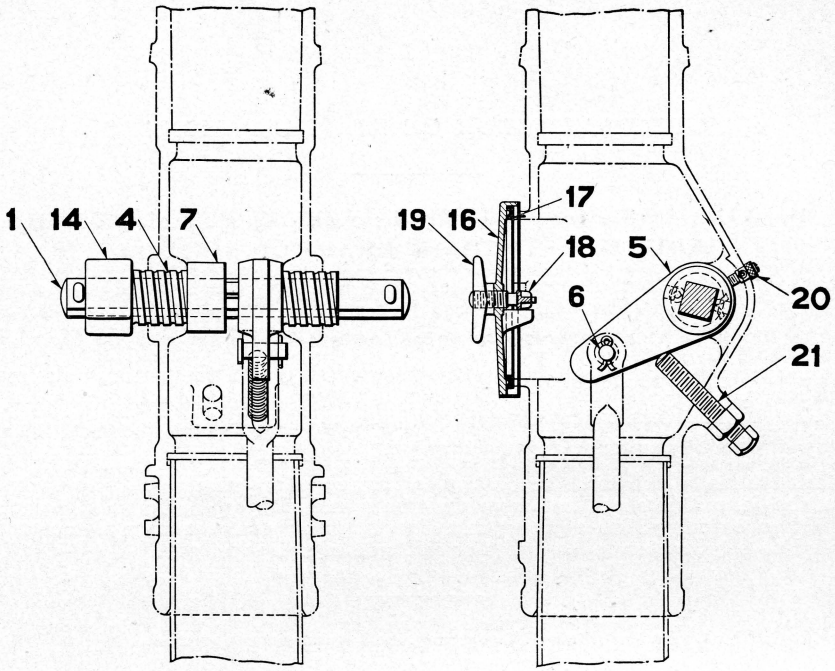
They do not include lamps, number plates, safety signal circuit controllers or foundations, which must be ordered separately when required. Any variation from the general dimensions shown must be specifically called for when ordering.

When ordering bridge or bracket signals, specify whether signals are to be applied to a bridge or to the right or left side of a bracket post.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Main Bracket Post, with cast steel base. (No signals) .....	D-1299	252 00
B	Main Bracket Post, with cast iron base. (No signals) .....	"	262 00
C	One-Arm, 90 deg., Two-Position Home or Distant Signal, complete.....	20-C-693I	354 00
Ca	One-Arm, 90 deg., Three-Position Signal, complete .....	"	444 00
Cb	One-Arm, 60 deg., Two-Position Home or Distant Signal, complete.....	19-C-693I	346 00
D	Two-Arm, 60 deg., Two-Position Home or Distant Signal, complete.....	14-C-693I	468 00
Da	Two-Arm, 90 deg., Two-Position Home or Distant Signal, complete.....	21-C-693I	482 00
Db	Two-Arm, 90 deg., Three-Position Signal, complete .....	"	782 00
Dc	Three-Arm, 60 deg., Two-Position Home or Distant Signal, complete.....	23-C-693I	642 00
Dd	Three-Arm, 90 deg., Two-Position Home or Distant Signal, complete.....	22-C-693I	658 00



DETAILS FOR SEMAPHORE BEARINGS FOR ELECTRIC  
GROUND, BRIDGE OR BRACKET SIGNALS

**DETAILS FOR SEMAPHORE BEARINGS FOR ELECTRIC  
GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
I	Semaphore Shaft, with two cotters 7/16" x 2-1/2", for a one or two-arm, or for the top and middle arms of a three-arm 60 deg. signal.....	15-B-8026	1 12
1a	as above, with journals, (1-1, 2-4).....		2 52
1b	as above, with journals and separator, (1-1a, 1-7) .....		2 66
1c	as above, with journals, crank and separator, (1-1b, 1-5).....	"	3 40
1d	Semaphore Shaft, with two cotters 7/16" x 2-1/2", for the bottom arm of a three-arm 60 deg. signal .....	17-B-8026	1 24
1e	as above, with journals (1-1d, 2-4a).....		3 36
1f	as above, with journals and separator, (1-1e, 1-7a) .....		3 60
1g	as above, with journals, crank and separator, (1-1f, 1-5).....	"	4 32
2	Semaphore Shaft, with two cotters 3/16" x 1-1/8", two 3/4" hex. nuts and two washers, for a one or two-arm, or for the top and middle arm of a three-arm 90 deg. signal.....	14-B-8026	2 28
2a	as above, with bushings and segment, (1-2, 2-8a, 1-9).....	"	7 64
2b	Semaphore Shaft, with two cotters 3/16" x 1-1/8", two 3/4" hex. nuts and two washers, for the bottom arm of a three-arm 90 deg. signal....	45-B-8026	2 96
2c	as above, with bushings, segment and separator, (1-2b, 1-7b, 2-8a, 1-9).....	"	8 52
3	Shaft for combined operating arm and segment for a one or two-arm, or for the top and middle arm of a three-arm 90 deg. signal.....	3-B-8076	10

**DETAILS FOR SEMAPHORE BEARINGS FOR ELECTRIC  
GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
3a	Shaft, with combined operating arm and segment and separators, for a one-arm, or for the top arm of a three-arm 90 deg. signal, (1-3, 1-10, 2-12).....	3-B-8076	1 78
3b	Shaft, with combined operating arm and segment and separators, for the bottom arm of a two-arm, and the middle arm of a three-arm 90 deg. signal, (1-3, 1-11, 2-12).....	"	1 78
3c	Shaft for combined operating arm and segment for the bottom arm of a three-arm 90 deg. signal .....	6-B-8076	10
3d	as above, with combined operating arm and segment and separators, (1-3c, 1-11, 1-12a, 1-12b) .....	"	1 80
4	Journal for semaphore shaft Fig. 1.....	1-B-8093	70
4a	as above, for semaphore shaft Fig. 1d....	2-B-8093	1 06
5	Semaphore Crank for a 60 deg. signal.....	7-B-8103	72
6	Pin, $\frac{5}{8}$ "x1- $\frac{5}{8}$ ", with cotter $\frac{3}{16}$ "x1- $\frac{1}{8}$ ", for up and down rod.....	3-B-8057	06
7	Separator for semaphore shaft Fig. 1.....	2-B-8047	14
7a	as above, for semaphore shaft Fig. 1b....	5-B-8047	24
7b	as above, for semaphore shaft Fig. 2b....	8-B-8047	20
8	Bushing, with three tap bolts Fig. 22, for fastening to semaphore bearing of 90 deg. signals..	6-B-8092	1 82
8a	as above, with oil cup, (1-8, 1-20).....	"	2 10
9	Segment for semaphore shafts Figs. 2 and 2b....	1-C-3903	1 16
10	Combined Operating Arm and Segment, Left Hand, for Fig. 3a.....	3-C-3903	1 66
11	Combined Operating Arm and Segment, Right Hand (not shown), for Figs. 3b and 3d.....	2-C-3903	1 66

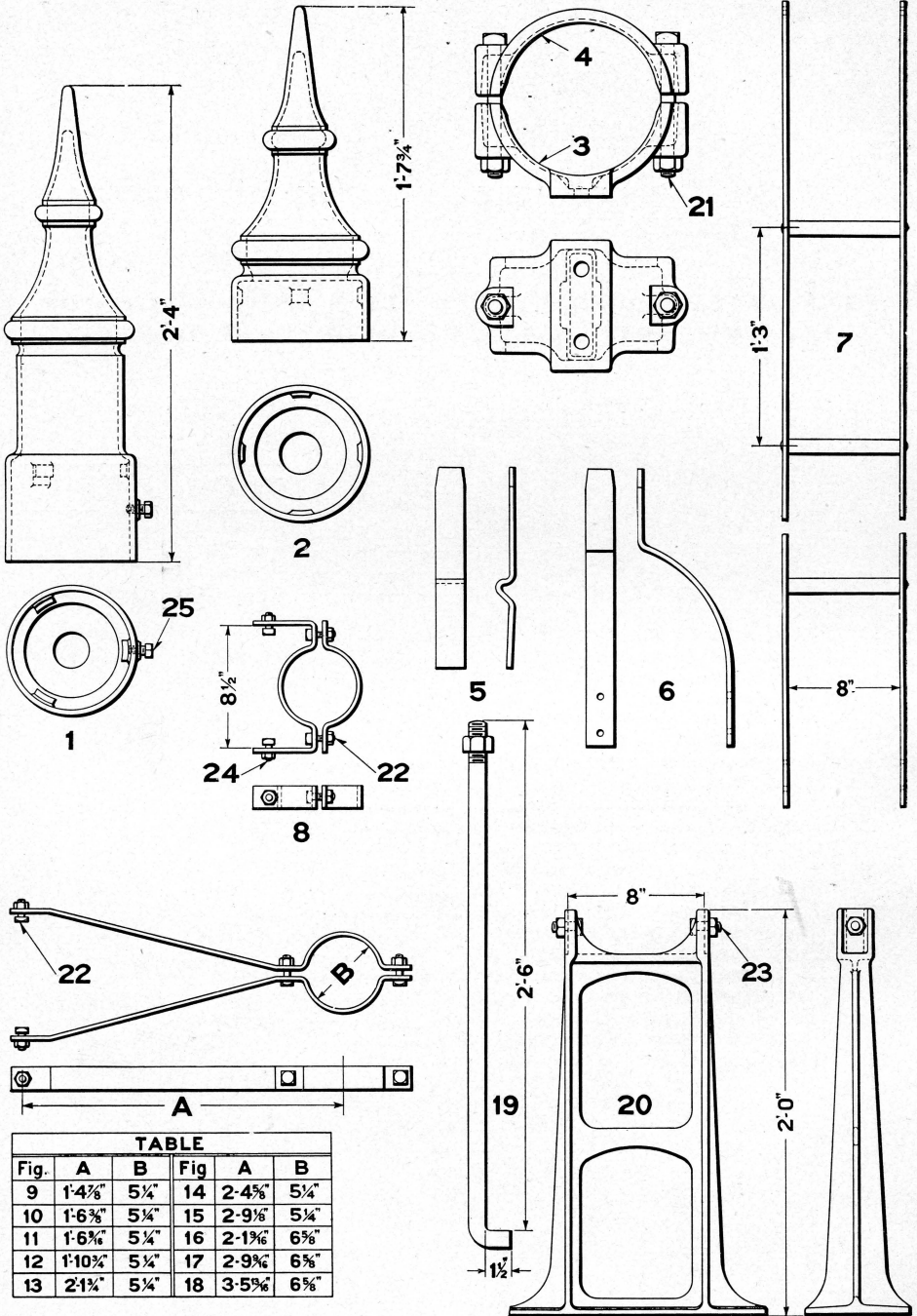


**DETAILS FOR SEMAPHORE BEARINGS FOR ELECTRIC  
GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
12	Separator for shaft Fig. 3.....	25-B-813I	02
12a	as above, for shaft Fig. 3c.....	34-B-813I	04
12b	as above, for shaft Fig. 3c.....	35-B-813I	02
13	1/2" Pipe Plug for holding shafts Figs. 3 and 3c in semaphore bearing.....		02
14	Separator for semaphore shafts Figs. 1 and 1b; to take place of back spectacle.....	9-B-8047	22
15	Separator for semaphore shafts Figs. 2 and 2b; to take place of back spectacle.....	6-B-8047	22
16	Hand Hole Plate, with gasket Fig. 17, for a one or two-arm signal.....	1-B-8074	94
16a	as above, with clamp and handle, (1-16, 1-18a).....	"	1 18
16b	Hand Hole Plate, with gasket Fig. 17a, for the bottom arm of a three-arm signal.....	5-B-8074	1 14
16c	as above, with clamp and handle, (1-16b, 1-18c).....	"	1 42
17	Gasket for hand hole plate Fig. 16.....	262-B-8078	28
17a	as above, for hand hole plate Fig. 16b....	9-B-8074	26
18	Clamp for hand hole plate Fig. 16.....	3-B-8074	10
18a	as above, with handle, (1-18, 1-19).....	"	24
18b	Clamp for hand hole plate Fig. 16b.....	7-B-8074	14
18c	as above, with handle, (1-18b, 1-19).....	"	28
19	Handle for clamp Figs. 18 and 18b.....	22-B-831I	12
20	Dust Proof Oil Hole Cover.....		22
21	Cap Screw and Nut, 3/4"x4-1/2", for stopping cranks Figs. 5 and 10. Price each.....		26
22	Tap Bolt, 1/4"x3/4", for fastening bushings Fig. 8 to semaphore bearing. Price per hundred...	20-B-8099	2 00



**TABLE**

Fig.	A	B	Fig.	A	B
9	1'-4 3/8"	5 1/4"	14	2'-4 3/8"	5 1/4"
10	1'-6 3/8"	5 1/4"	15	2'-9 1/8"	5 1/4"
11	1'-6 3/8"	5 1/4"	16	2'-1 1/8"	6 3/8"
12	1'-10 1/8"	5 1/4"	17	2'-9 1/8"	6 3/8"
13	2'-1 1/8"	5 1/4"	18	3'-5 1/8"	6 3/8"

PINNACLES, LADDER, LADDER STAYS AND DETAILS FOR ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS

**PINNACLES, LADDER, LADDER STAYS AND DETAILS FOR  
ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
1	Pinnacle, with tap bolt Fig. 25, for a 90 deg. signal .....	14-B-8121	3 60
2	Pinnacle, with tap bolt Fig. 25, for a 60 deg. signal .....	5-B-8121	2 50
3	Clamp for lamp bracket for a one or two-arm 60 deg. signal .....	1-B-6035	42
3a	as above, with cap and bolts for holding together, (1-3, 1-4, 2-21).....		1 00
3b	as above, with cap, bolts for holding together and bolts for lamp bracket, (1-3, 1-4, 2-21, 2-23) .....		1 14
3c	Clamp for lamp bracket for the bottom arm of a three-arm 60 deg. signal.....	1-B-6517	78
3d	as above, with cap and bolts for holding together, (1-3c, 1-4a, 2-21a).....	"	1 84
3e	as above, with cap, bolts for holding together and bolts for lamp bracket, (1-3c, 1-4a, 2-21a, 2-23).....	"	2 00
4	Cap for clamp Fig. 3.....	2-B-6035	34
4a	as above, for clamp Fig. 3c.....	2-B-6517	76
5	Lamp Bracket for a 90 deg. signal.....	71-B-8069	70

**PINNACLES, LADDER, LADDER STAYS AND DETAILS FOR  
ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
6	Lamp Bracket for a one or two-arm 60 deg. signal .....	66-B-8069	56
6a	as above, for the bottom arm of a three-arm 60 deg. signal .....	72-B-8069	58
7	Ladder, 23'6", with stays and bolts, for a one-arm signal .....	66-B-8363	9 50
7a	Ladder, 29'6", with stays and bolts, for a two-arm signal .....	67-B-8363	11 50
7b	Ladder, 35'6", with stays and bolts, for a three-arm signal .....	169-B-8363	13 50
7c	For each foot increase of ladder only (stays extra) add .....		28
8	Top Clamp, with bolts, as shown, for ladder.....	13-B-7501	56
9	Top Ladder Stay, with bolts, for a one-arm signal.	11-B-7501	72
10	as above, for a two-arm signal.....	"	72
11	as above, for a three-arm signal.....	"	72
12	Middle Ladder Stay, as above, for a one-arm signal .....	"	78
13	as above, for a two-arm signal.....	"	82
14	Bottom Ladder Stay, as above, for a one-arm signal .....	"	84
15	as above, for a two-arm signal.....	"	90
16	Second Ladder Stay, as above, for a three-arm signal .....	4-B-7501	86

**PINNACLES, LADDER, LADDER STAYS AND DETAILS FOR  
ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
17	Third Ladder Stay, as above, for a three-arm signal .....	4-B-7501	94
18	Bottom Ladder Stay, as above, for a three-arm signal .....	"	1 04
19	Hook Bolt and Nut, 1"x2'6", for fastening mechanism case to foundation .....	53-B-7913	80
20	Ladder Foundation, with bolts Fig. 23 .....	22-B-8848	3 86
21	Sq. Hd. Bolt and Nut, 1/2"x4-1/2", for fastening cap Fig. 4 to clamp Fig. 3. Price per hundred....		7 00
21a	as above, 5/8"x6", for fastening cap Fig. 4a to clamp Fig. 3c. Price per hundred .....		12 00
22	Sq. Hd. Bolt and Nut, 1/2"x1-1/2", for top clamp Fig. 8 and ladder stays. Price per hundred...		6 00
23	Sq. Hd. Bolt and Nut, 1/2"x1-1/4", for ladder foundation Fig. 20 and for fastening lamp bracket Fig. 6 to clamp. Price per hundred..		6 00
24	Sq. Hd. Bolt and Nut, 1/2"x1", for top clamp Fig. 8. Price per hundred .....		6 00
25	Tap Bolt, 1/2"x1", for pinnacles Figs. 1 and 2 and for fastening lamp bracket Fig. 5 to semaphore bearing. Price per hundred .....		3 00

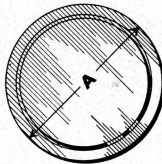
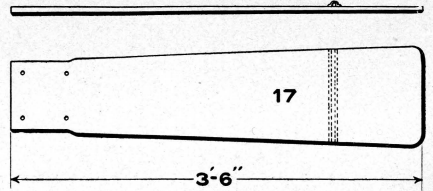
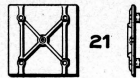
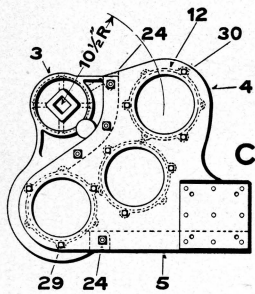
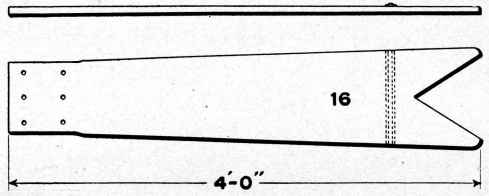
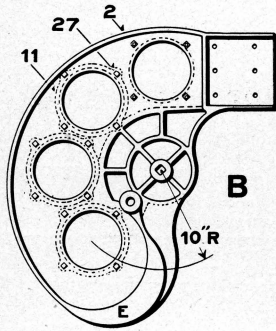
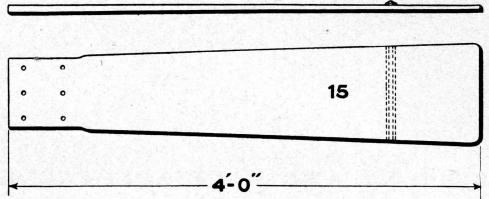
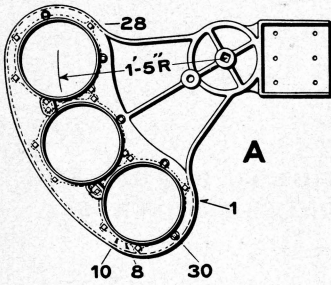
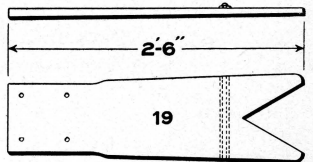
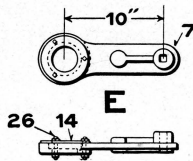
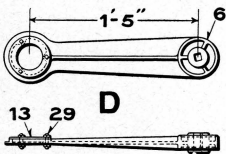
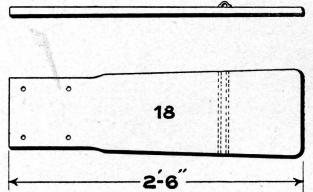


TABLE	
Fig.	A
32	8 3/4"
33	6 1/2"
34	3"



FRONT AND BACK SPECTACLES AND SIGNAL BLADES FOR ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS

**FRONT AND BACK SPECTACLES AND SIGNAL BLADES FOR  
ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS**

Spectacles listed below do not include glass.  
Signal blades are given one priming coat of white lead before shipment.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Three-Light, 60 deg., Front Spectacle (takes 8- $\frac{3}{8}$ inch glass), with rings and bolts, as shown, (1-1, 3-8a) .....	30-C-7230	7 20
B	Four-Light, 90 deg., Front Spectacle (takes 6- $\frac{1}{2}$ inch glass), with rings and bolts, as shown, (1-2, 3-11, 12-27).....	16-C-7231	11 50
C	Three-Light, 90 deg., Front Spectacle (takes 6- $\frac{1}{2}$ inch glass), with rings and bolts, as shown, used on signal giving indication in the upper quadrant, (1-3, 1-4, 1-5, 3-12, 4-24, 2-29, 7-30) ..	4-C-7298	10 40
D	Back Spectacle (takes 3 inch glass), with ring and bolts, as shown, used with front spectacle Fig. A, (1-6, 1-13, 3-29).....	50-B-7601	1 38
E	Back Spectacle (takes 3 inch glass), with ring and bolts, as shown, used with front spectacle Fig. B, (1-7, 1-14, 3-26).....	6-B-7601	1 12
1	Three-Light, 60 deg., Front Spectacle only, (takes 8- $\frac{3}{8}$ " glass) .....	29-C-7230	5 72
2	Four-Light, 90 deg., Front Spectacle only, (takes 6- $\frac{1}{2}$ inch glass).....	15-C-7231	10 50
3	90 deg. Spectacle only, (takes 6- $\frac{1}{2}$ inch glass) used on signal giving indications in the upper quadrant .....	3-C-7298	3 40
4	Roundel Support for 90 deg. spectacle Fig. 3.....	11-C-7296	5 30
5	Spectacle Brace for roundel support Fig. 4.....	6-C-6725	54
6	Back Spectacle only, (takes 3 inch glass) used with front spectacle Fig. 1.....	49-B-7601	1 20
7	Back Spectacle only, (takes 3 inch glass) used with front spectacle Fig. 2.....	5-B-7601	90

**FRONT AND BACK SPECTACLES AND SIGNAL BLADES FOR  
ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
8	Malleable Iron Ring for holding glass in spectacle Fig. 1.....	94-B-7632	16
8a	as above, with sheet steel ring and bolts, (1-8, 1-10, 4-28, 3-30).....		42
10	Sheet Steel Ring for holding glass in malleable iron ring Fig. 8.....	42-B-7436	06
11	Cast Iron Ring for holding glass in spectacle Fig. 2.....	46-B-7632	12
12	Malleable Iron Ring for holding glass in spectacle Fig. 3.....	56-B-7632	10
13	Sheet Steel Ring for holding glass in spectacle Fig. 6.....	4-B-7436	06
14	Cast Iron Ring for holding glass in spectacle Fig. 7.....	68-B-7632	10
15	Home Signal Blade, used with spectacles Figs. A and B.....	25-B-5672	1 70
15a	as above, with bolts, (1-15, 6-22).....	"	1 94
16	Distant Signal Blade, used with spectacles Figs. A and B.....	25-1-B-5672	1 74
16a	as above, with bolts, (1-16, 6-22).....	"	1 98
17	High Speed Signal Blade, used with spectacle Fig. C.....	95-B-5672	1 60
17a	as above, with plate, bolts and wood screw, (1-17, 1-21, 4-23, 1-31).....	"	2 06
18	Low Speed Home Signal Blade, used with spectacle Fig. C.....	46-B-5672	1 28
18a	as above, with plate, bolts and wood screw, (1-18, 1-21, 4-23, 1-31).....	"	1 74
19	Low Speed Distant Signal Blade, used with spectacle Fig. C.....	104-B-5672	1 32
19a	as above, with plate, bolts and wood screw, (1-19, 1-21, 4-23, 1-31).....	"	1 78
	NOTE—For painting Figs. 15, 16, 17, 18 or 19, add.		50

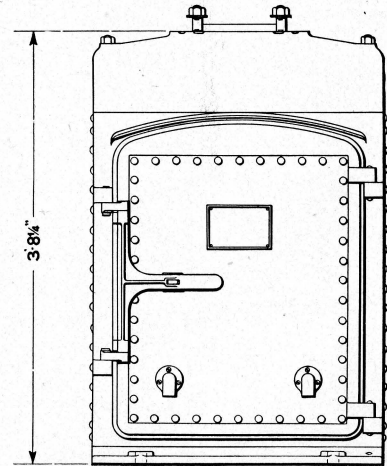
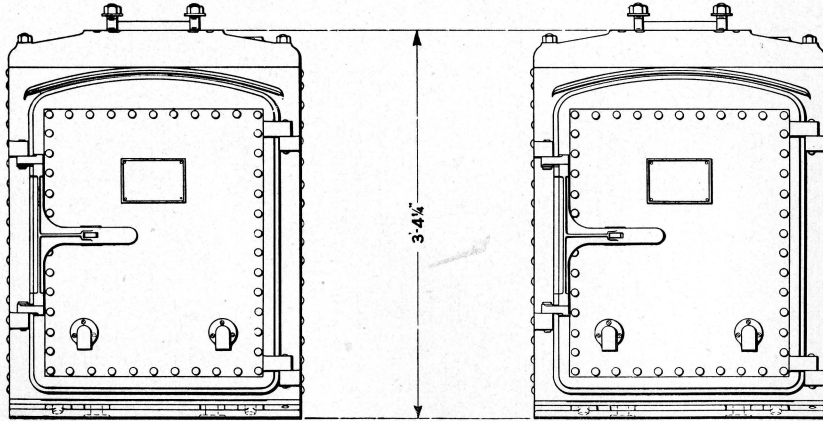
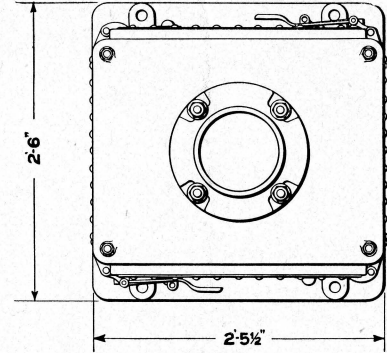
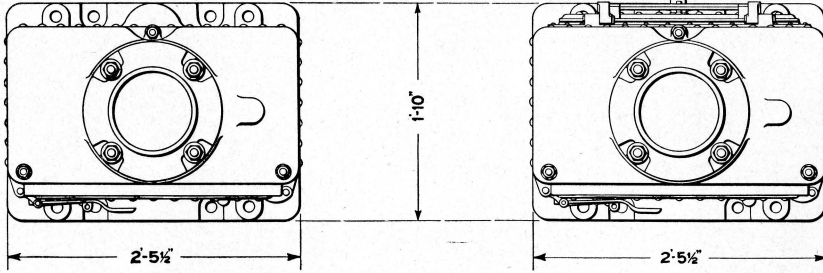


**FRONT AND BACK SPECTACLES AND SIGNAL BLADES FOR  
ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
21	Blade Plate for blades Figs. 17, 18 and 19.....	2-B-8466	26
22	Carriage Bolt and Nut, $\frac{3}{8}$ "x1- $\frac{1}{2}$ ", for fastening blades Figs. 15 and 16 to spectacles Figs. A and B, used without blade plate. Price per hundred .....	1-B-8469	4 00
23	Bolt and Nut, $\frac{3}{8}$ "x1- $\frac{3}{4}$ ", for fastening blades Figs. 17, 18 and 19 to spectacle Fig. C, used with blade plate. Price per hundred.....		4 00
24	Bolt and Nut, $\frac{3}{8}$ "x1- $\frac{1}{4}$ ", for fastening roundel support Fig. 4 to spectacle Fig. 3. Price per hundred .....		4 00
26	Bolt and Nut, $\frac{1}{4}$ "x1- $\frac{3}{8}$ ", for fastening ring Fig. 14 to back spectacle Fig. 7. Price per hundred..		3 00
27	Bolt and Nut, $\frac{1}{4}$ "x1- $\frac{1}{4}$ ", for fastening ring Fig. 11 to spectacle Fig. 2. Price per hundred.....		3 00
28	Bolt and Nut, $\frac{1}{4}$ "x1", for fastening rings Fig. 8 to spectacle Fig. 1. Price per hundred.....		3 00
29	Bolt and Nut, $\frac{1}{4}$ "x1", for fastening ring Fig. 12 to roundel support Fig. 4 and spectacle Fig. 3, and sheet steel ring Fig. 13 to back spectacle Fig. 6. Price per hundred.....		3 00
30	Bolt and Nut, $\frac{1}{4}$ "x $\frac{5}{8}$ ", for fastening sheet steel rings Fig. 10 to rings Fig. 8 and rings Fig. 12 to roundel support Fig. 4. Price per hundred.		3 00
31	Wood Screw, No. 14x $\frac{3}{4}$ ", for fastening blade plate to blade. Price per hundred.....		30
32	} Moulded Semaphore Roundels. See Supplement to Section 4, Plate 481 $\frac{1}{2}$ .		
33			
34			



A

B

C

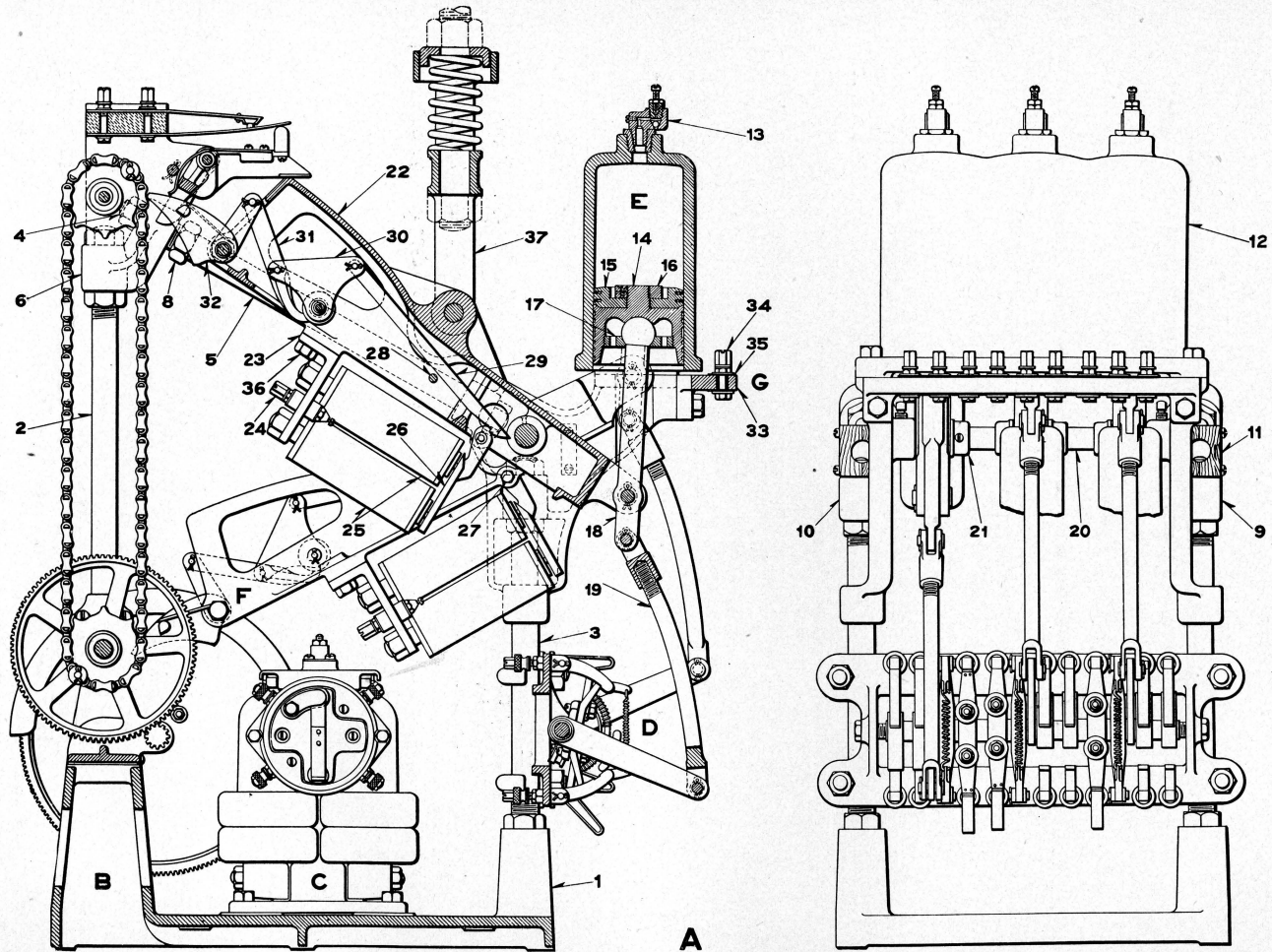
MECHANISM CASES FOR ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS

**MECHANISM CASES FOR ELECTRIC GROUND, BRIDGE OR  
BRACKET SIGNALS**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price	
A	Mechanism Case, complete, for mechanism having one or two slot arms.....	1-C-7323	63 00	
B	Mechanism Case, complete, for mechanism having three slot arms.....	10-C-7323	78 00	
C	Mechanism Case, complete, for mechanism having four slot arms.....	6-C-7323	92 00	



MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
OR BRACKET SIGNALS**

When ordering mechanism, specify resistance of slot arm magnets.

For running gear see Plate 01077; motor, Plate 01081; and circuit controller, Plate 01083.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Mechanism, with motor and quick acting circuit controller, as shown, for a three-arm two-position signal (three slot arms), (1-B, 1-C, 1-D, 1-E, 3-F, 1-G, 3-19a, 1-20a, Plate 01069), (1-Ab, 1-23d, 1-29k, Plate 01077).....	D-980	385 00
Aa	as above, for a one-arm two-position signal (one slot arm), (1-Ba, 1-C, 1-Da, 1-Ea, 1-F, 1-Ga, 1-19a, 1-20c, Plate 01069), (1-A, 1-23a, 1-29b, Plate 01077).....	"	226 00
Ab	as above, for a two-arm two-position signal (two slot arms), (1-Ba, 1-C, 1-Db, 1-Eb, 2-F, 1-Gb, 2-19a, 1-20d, Plate 01069), (1-Aa, 1-23b, 1-29e, Plate 01077).....	"	300 00
B	Frame for mechanism having three slot arms Fig A, (1-1, 2-2, 2-3, 2-4a, 1-6, 1-7, 1-9a, 1-10a).		20 00
Ba	Frame for mechanism having one slot arm Fig. Aa or two slot arms Fig. Ab, (1-1a, 2-2, 2-3, 2-4a, 1-6a, 1-7a, 1-9a, 1-10a).....		17 30
C	Motor, with four tap bolts, 5/16"x7/8", for fastening to base. For details see Fig. A, Plate 01081 .....		94 00
D	Quick Acting Circuit Controller, with hook bolts for fastening to frame, for Fig. A. For details see Fig. Ab, Plate 01083.....		42 00
Da	as above, for Fig. Aa. For details see Fig. Aa, Plate 01083.....		16 00
Db	as above, for Fig. Ab. For details see Fig. A, Plate 01083.....		30 00
E	Buffer Cylinder, with check valves, pistons, rods and four tap bolts, 3/8"x1-1/8", for mechanism having three slot arms Fig. A, (1-12, 3-13, 3-14a) .....		41 00
Ea	as above, with check valve, piston, rod and four tap bolts, 3/8"x1-1/8", for mechanism having one slot arm Fig. Aa, (1-12a, 1-13, 1-14a) .....		12 30
Eb	as above, with check valves, pistons, rods and four tap bolts, 3/8"x1-1/8", for mechanism having two slot arms Fig. Ab, (1-12b, 2-13, 2-14a) .....		23 70
F	Slot Arm for Figs. A, Aa and Ab (specify resistance of magnets); (1-22, 1-25a, 1-26, 1-27, 1-27a, 1-28, 1-29, 1-30, 1-31, 1-32).....		31 50

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
OR BRACKET SIGNALS**

Order by Plate, Figure and Instructions given

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
G	Terminal Support, with terminal posts, insulations and two tap bolts, $\frac{3}{8}$ "x $1\frac{1}{4}$ ", for fastening to buffer cylinder brackets of mechanism having three slot arms Fig. A, (I-33, 9-34, 2-35) .....		3 80
Ga	as above, for mechanism having one slot arm Fig. Aa, (I-33a, 3-34, 2-35a) .....		1 42
Gb	as above, for mechanism having two slot arms Fig. Ab, (I-33a, 6-34, 2-35b) .....		2 50
I	Base for Fig. B.....	101-C-3636	8 30
1a	as above, for Fig. Ba.....	56-C-3636	6 00
2	Long Upright, with three $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick, for frame .....	42-C-3636	50
3	Short Upright, with two $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick and one $\frac{7}{8}$ " nut $\frac{3}{8}$ " thick, for frame.....	43-C-3636	44
4	Diagonal Inner Rod, with two $\frac{5}{8}$ " nuts $\frac{7}{16}$ " thick, for frame.....	45-C-3636	30
4a	as above, with outer tube and nuts, for frame, (I-4, I-5).....	"	84
5	Diagonal Outer Tube.....	44-C-3636	44
6	Contact Spring Board Bracket, Right Hand, with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B.....		1 60
6a	as above, for frame Fig. Ba.....	40-C-3636	1 60
7	Contact Spring Board Bracket, Left Hand (not shown), with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B.....		1 60
7a	as above, for frame Fig. Ba.....	41-C-3636	1 60
8	Special Screw for contact spring board brackets Figs. 6, 6a, 7 and 7a, for adjusting diagonal outer tube Fig. 5.....	55-B-8070	50
9	Buffer Cylinder Bracket, Right Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	54-C-3636	1 34
9a	as above, with wire carrier Fig. II.....	"	1 56
10	Buffer Cylinder Bracket, Left Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	55-C-3636	1 34
10a	as above, with wire carrier Fig. II.....	"	1 56

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
OR BRACKET SIGNALS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
11	Wire Carrier, with two fil. hd. mach. screws, No. 10-32x2", and two nuts, for buffer cylinder brackets Figs. 9 and 10.....	31-C-3636	22
12	Buffer Cylinder for Fig. E.....	10-C-4767	14 20
12a	as above, for Fig. Ea.....	1-C-4767	3 10
12b	as above, for Fig. Eb.....	2-C-4767	5 60
13	Check Valve, with bushing, adjusting screw and lock nut, for buffer cylinder.....	2-A-2454	90
14	Piston only, for buffer cylinder.....	17-B-8328	3 00
14a	as above, with cage, piston rings, nuts and piston rod, (1-14, 1-15, 2-15a, 1-16, 1-17, 1-18) .....	"	7 70
15	Cage for piston rings Fig. 15a.....	6-C-2218	1 30
15a	Piston Ring.....	1-B-8197	66
16	Nut, with flat hd. mach. screw, No. 10-32x3/8", for fastening cage Fig. 15 to piston Fig. 14...	104-B-8109	32
17	Special Nut for holding piston rod Fig. 18 in piston Fig. 14.....	67-B-8082	54
18	Piston Rod.....	6-B-8195	58
19	Link only, for operating quick acting circuit controller .....	98-C-3636	68
19a	as above, with screw jaw, pins and cotter, (1-19, 1-19b, 2-19c).....	"	1 26
19b	Screw Jaw.....	47-B-7742	46
19c	Pin, with cotter, for link Fig. 19 and screw jaw Fig. 19b.....	47-B-8079	04
20	Slot Arm Shaft for mechanism having three slot arms Fig. A.....	123-C-3636	20
20a	as above, with collars, (1-20, 4-21).....	"	1 40
20b	Slot Arm Shaft for mechanism having one or two slot arms Figs. Aa and Ab.....	127-C-3636	14
20c	as above, with collar, for Fig. Aa, (1-20b, 1-21).....	"	42
20d	as above, with collars, for Fig. Ab, (1-20b, 2-21).....	"	72
21	Collar, with special set screw, No. 10-32x5/16", for shafts Figs. 20 and 20b.....	29-B-8350	30
22	Slot Arm, with pin Fig. 22a.....	2-C-3572	3 60

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
OR BRACKET SIGNALS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
22a	Pin, 1/2"x1-11/16", with cotters, for connecting piston rod Fig. 18 to slot arm Fig. 22.....	34-B-10215	04
23	Back Strap for magnet coils Fig. 25.....	32-B-8162	1 04
23a	as above, with terminal posts and cap screws, (1-23, 2-24, 2-36).....	"	1 64
24	Terminal Post, with insulating bushings, cup washers, washers, nuts and fl. hd. mach. screw, No. 4-40x3/4", for back strap Fig. 23....	8-B-8094	26
25	Magnet Coils, with two 1/2" nuts, for fastening to back strap Fig. 23. Specify resistance....	14-B-8133	12 80
25a	as above, with back strap, (1-25, 1-23a)...		15 30
26	Armature, with trunnion and supporting pin....	45-B-8157	2 30
27	Trunnion Screw for supporting armature Fig. 26....	77-B-8378	08
27a	Trunnion for supporting armature Fig. 26.....	78-B-8378	04
28	Pin for stopping latch Fig. 29.....	2-B-8097	18
29	Latch for engaging armature Fig. 26.....	7-C-3572	84
30	Link for connecting latch Fig. 29 and link Fig. 31.	C-3572	80
30a	as above, with pins, cotters and link, (1-30, 1-30b, 1-30c, 1-30d, 1-31).....	12-C-3572	1 60
30b	Pin, with cotters, for fastening latch Fig. 29 to link Fig. 30.....	75-B-8097	06
30c	Pin for fastening link Fig. 31 to link Fig. 30....	6-B-8097	02
30d	Pin, with cotters, for supporting link Fig. 30....	3-B-8097	06
31	Link for operating lifting crank Fig. 32.....	9-C-3572	66
32	Lifting Crank, with pin Fig. 32c.....	36-C-3572	1 00
32a	Special Bolt and Nut, 3/8"x3", for supporting lifting crank Fig. 32.....	7-B-8709	12
32b	Spring for lifting crank Fig. 32.....	16-B-8124	10
32c	Pin, with cotters, for fastening link Fig. 31 to lifting crank Fig. 32.....	4-B-8097	06
33	Terminal Support only, for Fig. G.....	2-C-4831	54
33a	as above, for Figs. Ga and Gb.....	52-C-3636	32
34	Terminal Post, with insulating bushing, washers and nuts, for terminal supports Figs 33 and 33a .....	40-B-8094	22

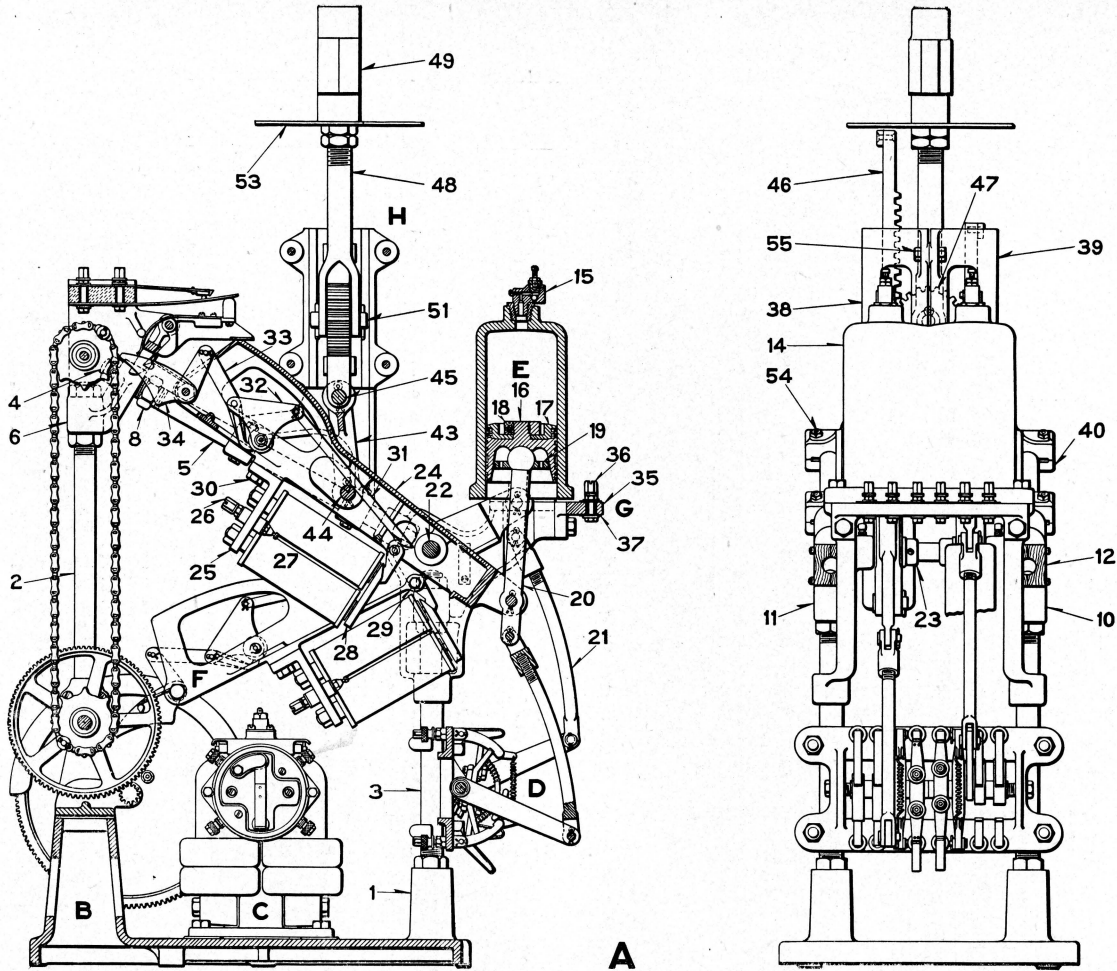


**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
OR BRACKET SIGNALS**

Order by Plate, Figure and Instructions given

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Fig.		Drawing Reference	List Price
35	Insulating Strip for terminal support Fig. G....	344-B-8750	42
35a	as above, for terminal support Fig. Ga..	342-B-8750	14
35b	as above, for terminal support Fig. Gb..	343-B-8750	28
36	Cap Screw, $\frac{3}{8}$ "x1", for fastening back strap Fig. 23 to slot arm Fig. 22. Price per hundred..		3 00
	NOTE:—The following are not included with mechanism:		
37	Spring Buffer, with pin, screw jaw, spring and socket, for up and down rod of two-position signal, (1-37a, 1-37b, 1-37c, 1-37d).....	B-925I	1 30
37a	Pin, with cotter, for fastening spring buffer to slot arm.....	99-B-8057	06
37b	Screw Jaw for spring buffer Fig. 37.....	39-B-7742	70
37c	Spring .....	95-B-7770	28
37d	Socket for spring Fig. 37c.....	21-B-8084	04



MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
 BRIDGE OR BRACKET SIGNALS

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
BRIDGE OR BRACKET SIGNALS**

When ordering mechanism, specify resistance of slot arm magnets.  
For running gear see Plate 01077; motor, Plate 01081; and circuit controller, Plate 01083.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Drawing Reference	List Price
A	Mechanism, with motor, quick acting circuit controller and three-position attachment, as shown, for a one-arm three-position signal (two slot arms), (1-B, 1-C, 1-D, 1-E, 2-F, 1-G, 1-H, 2-21a, 1-22a, Plate 01071), (1-Aa, 1-23b, 1-29e, Plate 01077).....	D-980 317 00
Aa	as above, for a two-arm two and three-position signal (three slot arms), (1-Ba, 1-C, 1-Da, 1-Ea, 2-F, 1-Fa, 1-Ga, 1-Ha, 3-21a, 1-22c, Plate 01071), (1-Ab, 1-23d, 1-29k, Plate 01077)	" 402 00
Ab	as above, for a two-arm three-position signal (four slot arms), (1-Bb, 1-C, 1-Db, 1-Eb, 4-F, 1-Gb, 1-Hb, 4-21a, 1-22e, Plate 01071), (1-Ac, 1-23f, 2-29r, Plate 01077).....	" 569 00
B	Frame for mechanism having two slot arms Fig. A, (1-1, 2-2, 2-3, 2-4a, 1-6, 1-7, 1-10a, 1-11a)....	17 30
Ba	Frame for mechanism having three slot arms Fig. Aa, (1-1a, 2-2, 2-3, 2-4a, 1-6a, 1-7a, 1-10a, 1-11a) .....	20 00
Bb	Frame for mechanism having four slot arms Fig. Ab, (1-1b, 2-2, 2-3, 2-4a, 1-6b, 1-7b, 1-9, 1-10c, 1-11c, 1-13).....	27 00
C	Motor, with four tap bolts, 5/16"x7/8", for fastening to base. For details see Fig. A, Plate 01081 .....	94 00
D	Quick Acting Circuit Controller, with four hook bolts for fastening to frame, for Fig. A. For details see Fig. A, Plate 01083.....	30 00
Da	as above, for Fig. Aa. For details see Fig. Ab, Plate 01083.....	42 00
Db	as above, for Fig Ab. For details see Fig. Ac, Plate 01083.....	56 00
E	Buffer Cylinder, with check valves, pistons, rods and four tap bolts, 3/8"x1 1/8", for mechanism having two slot arms Fig. A, (1-14, 2-15, 2-16a) .....	23 70
Ea	as above, with check valves, pistons, rods and four tap bolts, 3/8"x1 1/8", for mechanism having three slot arms Fig. Aa, (1-14a, 3-15, 3-16a) .....	41 00

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
BRIDGE OR BRACKET SIGNALS**

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Fig.		Drawing Reference	List Price
Eb	Buffer Cylinder, with check valves, pistons, rods and four tap bolts, $\frac{3}{8}$ "x $1\frac{1}{8}$ ", for mechanism having four slot arms Fig. Ab, (1-14b, 4-15, 4-16a) .....		57 50
F	Slot Arm for three-position signals Figs. A, Aa and Ab (specify resistance of magnets); (1-24, 1-27a, 1-28, 1-29, 1-29a, 1-31, 1-32, 1-33, 1-34) .....		31 20
Fa	Slot Arm for two-position signal Fig. Aa (specify resistance of magnets); (1-24a, 1-27a, 1-29, 1-29a, 1-31, 1-32, 1-33, 1-34) .....		31 50
G	Terminal Support, with terminal posts, insulations and two tap bolts, $\frac{3}{8}$ "x $1\frac{1}{4}$ ", for fastening to buffer cylinder brackets of mechanism having two slot arms Fig. A, (1-35, 6-36, 2-37) .....		2 50
Ga	as above, for mechanism having three slot arms Fig. Aa, (1-35a, 9-36, 2-37a) .....		3 80
Gb	as above, for mechanism having four slot slot arms Fig. Ab, (1-35b, 12-36, 2-37b) .....		5 30
H	Three-Position Attachment for mechanism having two slot arms Fig. A, (1-38a, 2-43, 2-46, 1-47, 1-48, 1-49, 1-53) .....	C-3482	17 00
Ha	as above, for mechanism having three slot arms Fig. Aa, (1-38d, 2-43, 2-46, 1-47, 1-48a, 1-48b, 1-49) .....	C-4863	17 00
Hb	as above, for mechanism having four slot arms Fig. Ab, (1-38b, 4-43, 4-46, 2-47, 2-50, 2-52, 2-53a) .....		68 50
I	Base for Fig. B. ....	56-C-3636	6 00
Ia	as above, for Fig. Ba. ....	101-C-3636	8 30
Ib	as above, for Fig. Bb. ....	64-C-3636	9 00
2	Long Upright, with three $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick, for frame .....	42-C-3636	50
3	Short Upright, with two $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick and one $\frac{7}{8}$ " nut $\frac{5}{8}$ " thick, for frame. ....	43-C-3636	44
4	Diagonal Inner Rod, with two $\frac{5}{8}$ " nuts $\frac{7}{16}$ " thick, for frame. ....	45-C-3636	30
4a	as above, with outer tube and nuts, for frame, (1-4, 1-5) .....	"	84
5	Diagonal Outer Tube .....	44-C-3636	44
6	Contact Spring Board Bracket, Right Hand, with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B. ....	40-C-3636	1 60
6a	as above, for frame Fig. Ba. ....		1 60
6b	as above, for frame Fig. Bb. ....	81-C-3636	5 70

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
BRIDGE OR BRACKET SIGNALS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
7	Contact Spring Board Bracket, Left Hand (not shown), with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B.....	41-C-3636	1 60
7a	as above, for frame Fig. Ba.....		1 60
7b	as above, for frame Fig. Bb.....	82-C-3636	5 70
8	Special Screw for contact spring board brackets Figs. 6, 6a, 6b, 7, 7a and 7b, for adjusting diagonal outer tube Fig. 5.....	55-B-8070	50
9	Contact Spring Board Centre Bracket (not shown), with four tap bolts, $\frac{3}{8}$ "x $\frac{3}{4}$ ", and cap Fig. 9a, for adjoining right and left hand contact spring board brackets Figs. 6b and 7b, for frame Fig. Bb.....	59-C-3636	3 90
9a	Cap, with four fil. hd. mach. screws, No. 10-32x $\frac{5}{8}$ ", for holding contact spring boards to contact spring board centre bracket Fig. 9.....	30-C-3636	40
10	Buffer Cylinder Bracket, Right Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	54-C-3636	1 34
10a	as above, with wire carrier Fig. 12.....	"	1 56
10b	Buffer Cylinder Bracket, Right Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frame Fig. Bb.....	79-C-3636	1 60
10c	as above, with wire carrier Fig. 12.....	"	1 82
11	Buffer Cylinder Bracket, Left Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	55-C-3636	1 34
11a	as above, with wire carrier Fig. 12.....	"	1 56
11b	Buffer Cylinder Bracket, Left Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frame Fig. Bb.....	80-C-3636	1 60
11c	as above, with wire carrier Fig. 12.....	"	1 82
12	Wire Carrier, with two fil. hd. mach. screws, No. 10-32x2", and two nuts, for buffer cylinder brackets Figs. 10, 10b, 11 and 11b.....	31-C-3636	22
13	Slot Arm Shaft Bearing (not shown), with four tap bolts, $\frac{3}{8}$ "x $\frac{3}{4}$ ", for fastening to buffer cylinder brackets Figs. 10b and 11b, for frame Fig. Bb.....	83-C-3636	1 92
14	Buffer Cylinder for Fig. E.....	2-C-4767	5 60
14a	as above, for Fig. Ea.....	10-C-4767	14 20
14b	as above, for Fig. Eb.....	8-C-4767	22 30
15	Check Valve, with bushing, adjusting screw and lock nut, for buffer cylinder.....	2-A-2454	90
16	Piston only, for buffer cylinder.....	17-B-8328	3 00
16a	as above, with cage, piston rings, nuts and piston rod, (1-16, 1-17, 2-17a, 1-18, 1-19, 1-20) .....	"	7 70

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
BRIDGE OR BRACKET SIGNALS**

Order by Plate, Figure and Instructions given

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Fig.		Drawing Reference	List Price
17	Cage for piston rings Fig. 17a.....	6-C-2218	1 30
17a	Piston Ring.....	1-B-8197	66
18	Nut, with flat hd. mach. screw, No. 10-32x $\frac{3}{8}$ ", for fastening cage Fig. 17 to piston Fig. 16...	104-B-8109	32
19	Special Nut for holding piston rod Fig. 20 in piston Fig. 16.....	67-B-8082	54
20	Piston Rod.....	6-B-8195	58
21	Link only, for operating quick acting circuit controller.....	98-C-3636	68
21a	as above, with screw jaw, pins and cotters, (1-21, 1-21b, 2-21c).....	"	1 26
21b	Screw Jaw.....	47-B-7742	42
21c	Pin, with cotter, for link Fig. 21 and screw jaw Fig. 21b.....	47-B-8079	04
22	Slot Arm Shaft for mechanism having two slot arms Fig. A.....	127-C-3636	14
22a	as above, with collars, (1-22, 2-23).....	"	42
22b	Slot Arm Shaft for mechanism having three slot arms Fig. Aa.....	123-C-3636	20
22c	as above, with collars, (1-22b, 4-23).....	"	1 40
22d	Slot Arm Shaft for mechanism having four slot arms Fig. Ab.....	136-C-3636	40
22e	as above, with collars, (1-22d, 4-23).....	"	1 60
23	Collar, with special set screw, No. 10-32x $\frac{5}{16}$ ", for shafts Figs. 22, 22b and 22d.....	29-B-8350	30
24	Slot Arm, with pin Fig. 24b, for Fig. F.....	5-C-3572	3 30
24a	as above, for Fig. Fa.....	2-C-3572	3 60
24b	Pin, $\frac{1}{2}$ "x1-11/16", with cotters, for connecting piston rod Fig. 20 to slot arms Figs. 24 and 24a.....	34-B-10215	04
25	Back Strap for magnet coils Fig 27.....	32-B-8162	1 04
25a	as above, with terminal posts and cap screws, (1-25, 2-26, 2-30).....	"	1 64
26	Terminal Post, with insulating bushings, cup washers, washers, nuts and fil. hd. mach screw, No. 4-40x $\frac{1}{4}$ ", for back strap Fig. 25..	8-B-8094	26
27	Magnet Coils, with two $\frac{1}{2}$ " nuts, for fastening to back strap Fig. 25. Specify resistance.....	14-B-8133	12 80
27a	as above, with back strap, (1-27, 1-25a)...	"	15 30

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
BRIDGE OR BRACKET SIGNALS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
28	Armature, with trunnion and supporting pin...	45-B-8157	2 30
29	Trunnion Screw for supporting armature Fig. 28.	77-B-8378	08
29a	Trunnion for supporting armature Fig. 28.....	78-B-8378	04
30	Cap Screw, $\frac{3}{8}$ "x1", for fastening back strap Fig. 25 to slot arms Figs. 24 and 24a. Price per hundred.....		3 00
31	Latch for engaging armature Fig. 28.....	7-C-3572	84
32	Link for connecting latch Fig. 31 and link Fig. 33	C-3572	80
32a	as above, with pins, cotters and link, (1-32, 1-32b, 1-32c, 1-32d, 1-33).....	12-C-3572	1 60
32b	Pin, with cotters, for fastening latch Fig. 31 to link Fig. 32.....	75-B-8097	06
32c	Pin for fastening link Fig. 33 to link Fig. 32....	6-B-8097	02
32d	Pin, with cotters, for supporting link Fig. 32...	3-B-8097	06
33	Link for operating lifting crank Fig. 34.....	9-C-3572	66
34	Lifting Crank, with pin Fig. 34c.....	36-C-3572	1 00
34a	Special Bolt and Nut, $\frac{3}{8}$ "x3", for supporting lifting crank Fig. 34.....	7-B-8709	12
34b	Spring for lifting crank Fig. 34.....	16-B-8124	10
34c	Pin, with cotters, for fastening link Fig. 33 to lifting crank Fig. 34.....	4-B-8097	06
35	Terminal Support only, for Fig. G.....	52-C-3636	32
35a	as above, for Fig. Ga.....	2-C-4831	54
35b	as above, for Fig Gb.....	103-C-3636	1 00
36	Terminal Post, with insulating bushing, washers and nuts, for terminal supports Figs. 35, 35a and 35b.....	40-B-8094	22
37	Insulating Strip for terminal support Fig. 35....	343-B-8750	28
37a	as above, for terminal support Fig. 35a..	344-B-8750	42
37b	as above, for terminal support Fig. 35b..	115-B-8750	14

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND BRIDGE OR BRACKET SIGNALS**

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Fig.		Drawing Reference	List Price
38	Bracket and Rack Guide, Left Hand, for three-position attachments Figs. H and Hb.....	107-C-3636	1 50
38a	as above, with right hand bracket and rack guide, caps and bolts, for Fig. H, (1-38, 1-39, 4-40, 4-54, 4-55).....	"	4 56
38b	as above, with right hand bracket and rack guide, caps, middle rack guide, gear segments and bolts, for Fig. Hb, (1-38, 1-39, 4-40, 1-41, 2-42, 4-54, 8-55).....	"	29 84
38c	Bracket and Rack Guide, Left Hand, for three-position attachment Fig. Ha.....	151-C-3636	1 60
38d	as above, with right hand bracket and rack guide, caps and bolts, for Fig. Ha, (1-38c, 1-39, 4-40, 4-54, 4-55).....	"	4 66
39	Bracket and Rack Guide, Right Hand, for three-position attachments Figs. H, Ha and Hb...	106-C-3636	1 50
40	Cap for brackets and rack guides Figs. 38, 38c and 39.....	108-C-3636	10
41	Middle Rack Guide (not shown), with pin, $\frac{3}{4}$ " x $1\frac{1}{4}$ ", and cotters, for gear segments for three-position attachment Fig. Hb.....	78-C-3636	14 30
42	Gear Segment (not shown) for Fig. Hb.....	66-C-3636	5 00
43	Link, with pins and cotters, for connecting slot arm Fig. 24 to rack Fig. 46 for three-position attachments Figs. H, Ha and Hb.....	111-C-3636	36
44	Pin, $\frac{5}{8}$ " x $2\frac{1}{8}$ ", with cotter, for attaching link Fig. 43 to slot arm Fig. 24.....	15-B-10218	06
45	Pin, $\frac{5}{8}$ " x $1\frac{11}{16}$ ", with cotter, for attaching link Fig. 43 to rack Fig. 46.....	2-B-10218	06

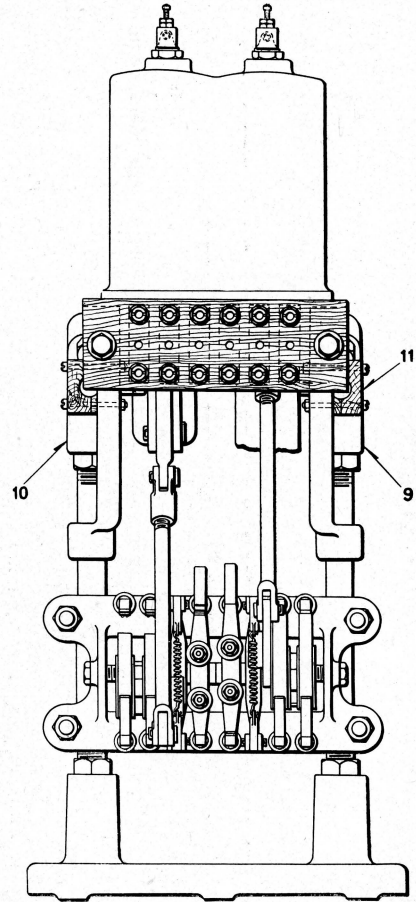
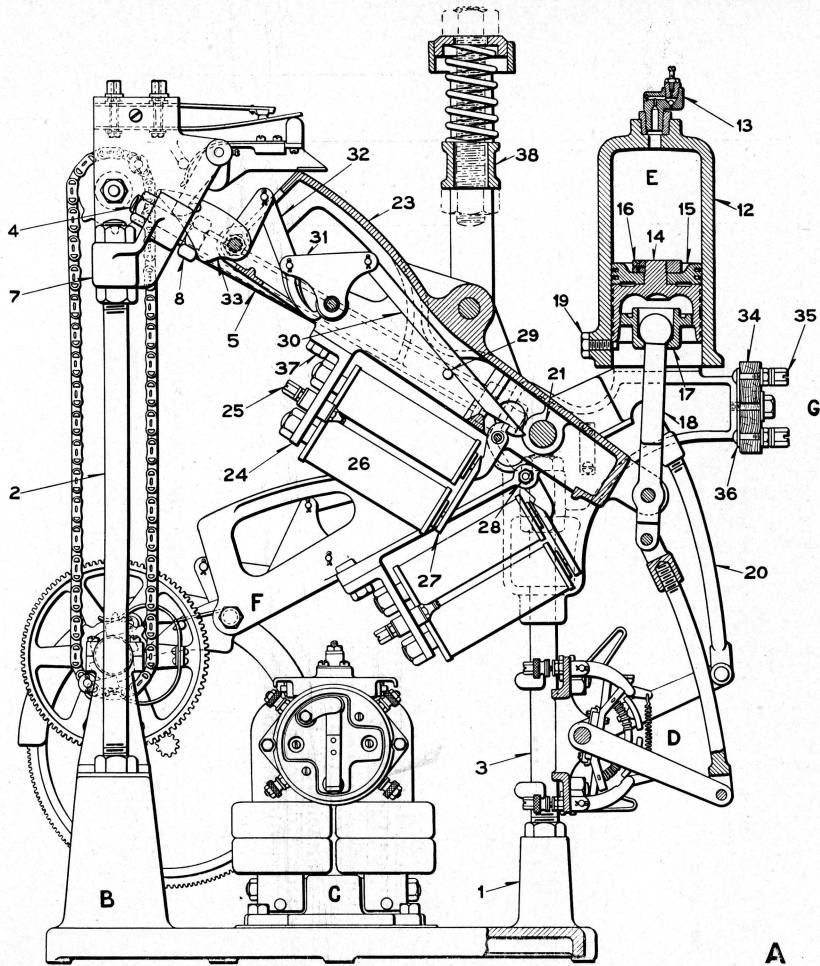


**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
BRIDGE OR BRACKET SIGNALS**

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Fig.		Drawing Reference	List Price
46	Rack and Stop for three-position attachments Figs. H, Ha and Hb.....	109-C-3636	1 62
47	Gear, operated by rack Fig. 46, for three-position attachments Figs. H, Ha and Hb.....	10-B-8424	2 40
48	Screw Jaw, with pin Fig. 51 and two hex. nuts, 1"x $\frac{3}{8}$ ", for three-position attachment Fig. H	7-B-7722	80
48a	as above, for Fig. Ha.....	18-B-7722	90
48b	as above, with pin Fig. 51a, for Fig Ha.	3-B-8025	1 20
49	Turnbuckle for three-position attachments Figs. H and Ha.....	5-B-8313	38
50	Jaw and Rack (not shown), with pin, for three-position attachment Fig. Hb.....	29-C-3636	6 20
51	Pin, $\frac{5}{8}$ "x $2\frac{3}{8}$ ", for jaws Figs. 48, 48a and 50....	3-B-10217	04
51a	Pin, $\frac{5}{8}$ "x $2-11/16$ ", with cotter, for screw jaw Fig. 48b.....	7-B-10218	08
52	Screw Jaw (not shown), operated by gear segment Fig. 42, with pin $\frac{5}{8}$ "x $2-1/16$ ", and cotter, for three-position attachment Fig. Hb..	53-B-7742	1 02
53	Shield Plate for three-position attachment Fig. H	1-B-7636	08
53a	Shield Plate, with hex. hd. mach. bolts, $5/16$ "x $1-1/16$ ", nuts and cotters, for three-position attachment Fig. Hb.....	28-C-3636	64
54	Hex. Hd. Bolt and Nut, $5/16$ "x $1\frac{7}{8}$ ", for fastening cap Fig. 40 to brackets and rack guides Figs. 38 and 39. Price per hundred.....		4 00
55	Hex. Hd. Bolt and Nut, $5/16$ "x $1\frac{1}{8}$ ", for fastening brackets and rack guides Figs. 38 and 39 and middle rack guide Fig. 41 together. Price per hundred.....		4 00



MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE OR BRACKET SIGNALS

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
OR BRACKET SIGNALS**

When ordering mechanism, specify resistance of slot arm magnets.

For running gear see Plate 01077; motor, Plate 01081; and circuit controller, Plate 01083.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
A	Mechanism, with motor and quick acting circuit controller, for a two-arm two-position signal (two slot arms), (1-B, 1-C, 1-D, 1-E, 2-F, 1-G, 2-20a, 1-21b, Plate 01073), (1-Aa, 1-23b, 1-29e, Plate 01077).....	27-D-980	300 00
Aa	Mechanism, with motor and quick acting circuit controller, for a one-arm two-position signal (one slot arm), (1-B, 1-C, 1-Da, 1-Ea, 1-F, 1-Ga, 1-20a, 1-21a, Plate 01073), (1-A, 1-23a, 1-29b, Plate 01077).....	26-D-980	226 00
Ab	Mechanism, with motor and quick acting circuit controller, for a three-arm two-position signal (three slot arms), (1-Ba, 1-C, 1-Db, 1-Eb, 3-F, 1-Gb, 3-20a, 1-21d, Plate 01073), (1-Ab, 1-23d, 1-29k, Plate 01077).....		385 00
B	Frame for mechanism having one slot arm Fig. Aa or two slot arms Fig. A, (1-1, 2-2, 2-3, 2-4a, 1-6, 1-7, 1-9a, 1-10a).....		17 30
Ba	Frame for mechanism having three slot arms Fig. Ab, (1-1a, 2-2, 2-3, 2-4a, 1-6a, 1-7a, 1-9a, 1-10a).....		20 00
C	Motor, with four tap bolts, 5/16"x7/8", for fastening to base, for Figs. A, Aa and Ab. For details see Plate 01081.....		94 00
D	Quick Acting Circuit Controller, with four hook bolts for fastening to frame, for Fig. A. For details see Fig. A, Plate 01083.....		30 00
Da	as above, for Fig. Aa. For details see Fig. Aa, Plate 01083.....		16 00
Db	as above, for Fig. Ab. For details see Fig. Ab, Plate 01083.....		42 00
E	Buffer Cylinder, with check valves, pistons, rods and four tap bolts, 3/8"x1 1/8", for mechanism having two slot arms Fig. A, (1-12, 2-13, 2-14a, 2-19).....		23 70
Ea	as above, with check valve, piston, rod and four tap bolts, 3/8"x1 1/8", for mechanism having one slot arm Fig. Aa, (1-12a, 1-13, 1-14a, 1-19).....		12 30
Eb	as above, with check valves, pistons, rods and four tap bolts, 3/8"x1 1/8", for mechanism having three slot arms Fig. Ab, (1-12b, 3-13, 3-14a, 3-19).....		41 00

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
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Fig.		Drawing Reference	List Price
F	Slot Arm for Figs. A, Aa and Ab (specify resistance of magnets); (1-23, 1-26a, 1-27, 1-28, 1-28a, 1-29, 1-30, 1-31, 1-32, 1-33).....		31 50
G	Terminal Board, with terminal posts, terminal connectors and two tap bolts, $\frac{3}{8}$ "x $1\frac{1}{8}$ ", for fastening to buffer cylinder brackets of mechanism having two slot arms Fig. A, (1-34, 12-35, 6-36).....		1 72
Ga	as above, for mechanism having one slot arm Fig. Aa, (1-34a, 6-35, 3-36).....		94
Gb	as above, for mechanism having three slot arms Fig. Ab, (1-34b, 18-35, 9-36).....		2 56
1	Base for Fig. B.....	56-C-3636	6 00
1a	as above, for Fig. Ba.....	101-C-3636	8 30
2	Long Upright, with three $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick, for frame.....	42-C-3636	50
3	Short Upright, with two $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick and one $\frac{7}{8}$ " nut $\frac{5}{8}$ " thick, for frame.....	43-C-3636	44
4	Diagonal Inner Rod, with two $\frac{5}{8}$ " nuts $\frac{7}{16}$ " thick, for frame.....	45-C-3636	30
4a	as above, with outer tube and nuts, for frame, (1-4, 1-5).....	"	84
5	Diagonal Outer Tube.....	44-C-3636	44
6	Contact Spring Board Bracket, Right Hand (not shown), with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B.....	40-C-3636	1 60
6a	as above, for frame Fig. Ba.....		1 60
7	Contact Spring Board Bracket, Left Hand, with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B.....	41-C-3636	1 60
7a	as above, for frame Fig. Ba.....		1 60
8	Special Screw for contact spring board brackets Figs. 6, 6a, 7 and 7a, for adjusting diagonal outer tube Fig. 5.....	55-B-8070	50
9	Buffer Cylinder Bracket, Right Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	117-C-3636	1 34
9a	as above, with wire carrier Fig. 11.....	"	1 56
10	Buffer Cylinder Bracket, Left Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	118-C-3636	1 34
10a	as above, with wire carrier Fig. 11.....	"	1 56

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
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Fig.		Drawing Reference	List Price
11	Wire Carrier, with two fil. hd. mach. screws, No. 10-32x2", and two nuts, for buffer cylinder brackets Figs. 9 and 10.....	31-C-3636	22
12	Buffer Cylinder for Fig. E.....	2-C-4767	5 60
12a	as above, for Fig. Ea.....	1-C-4767	3 10
12b	as above, for Fig. Eb.....	10-C-4767	14 20
13	Check Valve, with bushing, adjusting screw and lock nut, for buffer cylinder.....	2-A-2454	90
14	Piston only, for buffer cylinder.....	17-B-8328	3 00
14a	as above, with cage, piston rings, nuts and piston rod, (1-14, 1-15, 2-15a, 1-16, 1-17, 1-18) .....	"	7 70
15	Cage for piston rings Fig. 15a.....	6-C-2218	1 30
15a	Piston Ring.....	1-B-8197	66
16	Nut, with flat hd. mach. screw, No. 10-32x3/8", for fastening cage Fig. 15 to piston Fig. 14.....	104-B-8109	32
17	Special Nut for holding piston rod Fig. 18 in piston Fig. 14.....	2-B-9597	54
18	Piston Rod.....	6-B-8195	58
19	Piston Stop for buffer cylinder.....	23-B-8099	06
20	Link only, for operating quick acting circuit controller .....	98-C-3636	68
20a	as above, with screw jaw, pins and cot- ters, (1-20, 1-20b, 2-20c).....	"	1 26
20b	Screw Jaw.....	47-B-7742	46
20c	Pin, with cotter, for link Fig. 20 and screw jaw Fig. 20b.....	47-B-8079	04
21	Slot Arm Shaft for mechanism having one or two slot arms Figs. A and Aa.....	127-C-3636	14
21a	as above, with collar, for Fig. Aa, (1-21, 1-22) .....	"	42
21b	as above, with collars, for Fig. A, (1-21, 2-22) .....	"	72
21c	Slot Arm Shaft for mechanism having three slot arms Fig. Ab.....	123-C-3636	20
21d	as above, with collars, for Fig. Ab, (1-21, 4-22) .....	"	1 40
22	Collar (not shown), with special set screw, No. 10-32x5/16", for shafts Figs. 21 and 21c....	29-B-8350	30

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
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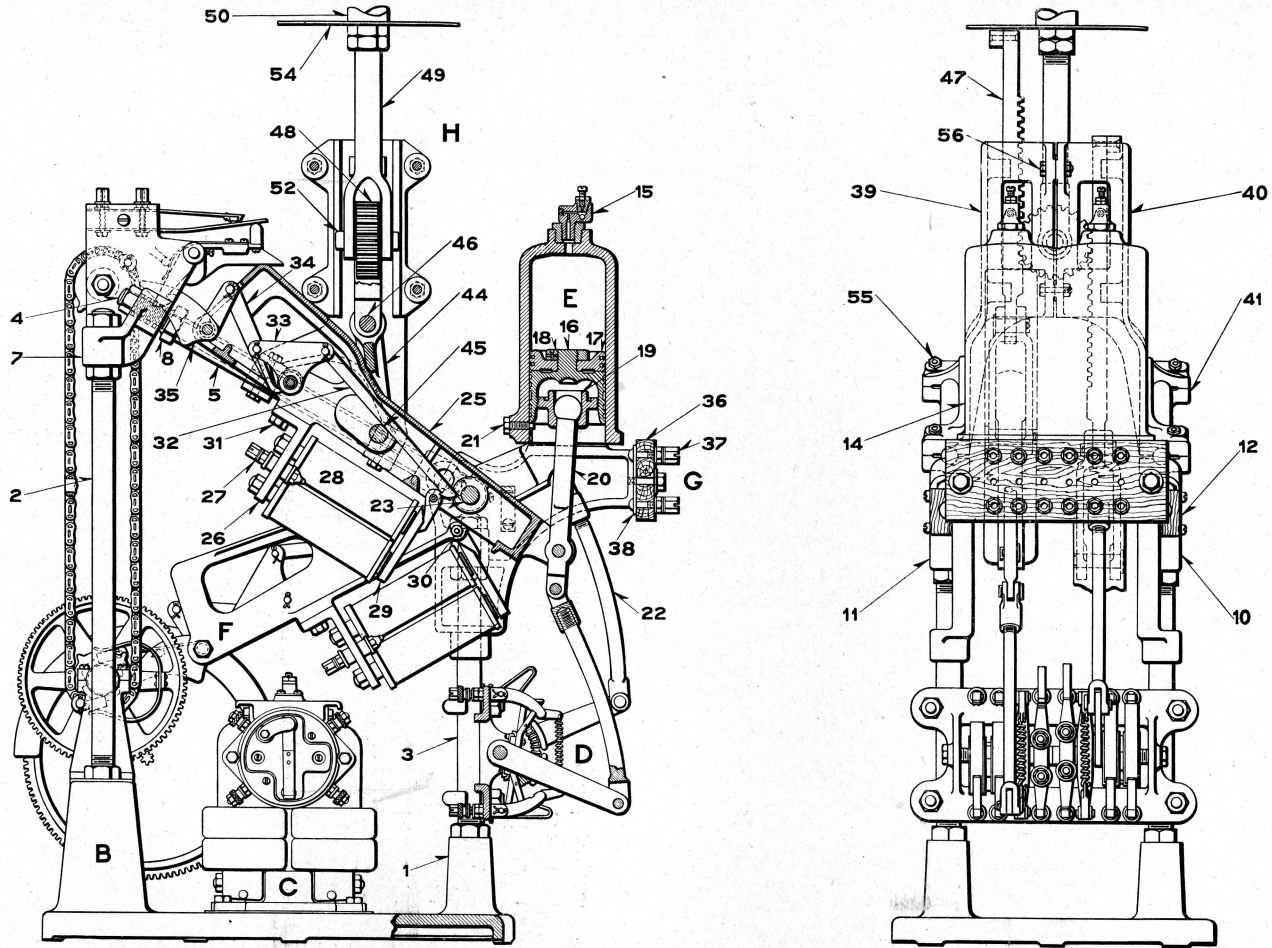
Fig.		Drawing Reference	List Price
23	Slot Arm, with pin Fig. 23a.....	2-C-3572	3 60
23a	Pin, 1/2"x1-11/16", for connecting piston rod Fig. 18 to slot arm Fig 23.....	34-B-10215	04
24	Back Strap for magnet coils Fig. 26.....	32-B-8162	1 04
24a	as above, with terminal posts and cap screws, (1-24, 2-25, 2-37).....	"	1 64
25	Terminal Post, with insulating bushings, cup washers, washers, nuts and fil. hd. mach. screw, No. 4-40x1/4", for back strap Fig. 24..	8-B-8094	26
26	Magnet Coils, with two 1/2" nuts, for fastening to back strap Fig. 24. Specify resistance....	14-B-8133	12 80
26a	as above, with back strap, (1-26, 1-24a)..	"	15 30
27	Armature, with trunnion and supporting pin...	45 B-8157	2 30
28	Trunnion Screw for supporting armature Fig. 27	77-B-8378	08
28a	Trunnion for supporting armature Fig. 27.....	78-B-8378	04
29	Pin for stopping latch Fig. 30.....	2-B-8097	18
30	Latch for engaging armature Fig. 27.....	7-C-3572	84
31	Link for connecting latch Fig. 30 and link Fig. 32.....	C-3572	80
31a	as above, with pins, cotters and link, (1-31, 1-31b, 1-31c, 1-31d, 1-32).....	12-C-3572	1 60
31b	Pin, with cotters, for fastening latch Fig. 30 to link Fig. 31.....	75-B-8097	06
31c	Pin for fastening link Fig. 32 to link Fig. 31....	6-B-8097	02
31d	Pin, with cotters, for supporting link Fig. 31..	3-B-8097	06
32	Link for operating lifting crank Fig. 33.....	9-C-3572	66
33	Lifting Crank, with pin Fig. 33c.....	36-C-3572	1 00
33a	Special Bolt and Nut 3/8"x3", for supporting lifting crank Fig. 33.....	7-B-8709	12
33b	Spring for lifting crank Fig. 33.....	16-B-8124	10
33c	Pin, with cotters, for fastening link Fig. 32 to lifting crank Fig. 33.....	4-B-8097	06
34	Terminal Board only, for Fig. G.....	119-C-3636	16
34a	as above, for Fig. Ga.....	113-C-3636	10
34b	as above, for Fig. Gb.....	116-C-3636	20

**MECHANISM FOR TWO-POSITION ELECTRIC GROUND, BRIDGE  
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Fig.		Drawing Reference	List Price
35	Terminal Post, with washers and nuts, for terminal boards Figs. 34, 34a and 34b.....	230-B-8098	10
36	Terminal Connector for terminal posts Fig. 35..	105-B-8064	04
37	Cap Screw, $\frac{3}{8}$ "x1", for fastening back strap Fig. 24 to slot arm Fig. 23. Price per hundred...		3 00
	NOTE:—The following are not included with mechanism.		
38	Spring Buffer, with pin, screw jaw, spring and socket, for up and down rod of two-position signal, (1-38a, 1-38b, 1-38c, 1-38d).....	B-9251	1 30
38a	Pin, with cotter, for fastening spring buffer to slot arm.....	99-B-8057	06
38b	Screw Jaw for spring buffer Fig. 38.....	39-B-7742	70
38c	Spring .....	95-B-7770	28
38d	Socket for spring Fig. 38c.....	21-B-8084	04



A  
**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
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For running gear see Plate 01077; motor, Plate 01081; and circuit controller, Plate 01083.

**Order by Plate, Figure and Instructions given above**

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Fig.	Description	Drawing Reference	List Price
A	Mechanism, with motor, quick acting circuit controller and three-position attachment, for a one-arm three-position signal (two slot arms), (1-B, 1-C, 1-D, 1-E, 2-F, 1-G, 1-H, 2-22a, 1-23a, Plate 01075), (1-Aa, 1-23b, 1-29e, Plate 01077) .....	D-980	317 00
Aa	Mechanism, with motor, quick acting circuit controller and three-position attachment, for a two-arm two and three-position signal (three slot arms), (1-Ba, 1-C, 1-Da, 1-Ea, 2-F, 1-Fa, 1-Ga, 1-Ha, 3-22a, 1-23c, Plate 01075), (1-Ab, 1-23d, 1-29k, Plate 01077).....	31-D-980	402 00
Ab	Mechanism, with motor, quick acting circuit controller and three-position attachment, for a two arm three-position signal (four slot arms), (1-Bb, 1-C, 1-Db, 1-Eb, 4-F, 1-Gb, 1-Hb, 4-22a, 1-23c, Plate 01075), (1-Ac, 1-23f, 2-29r, Plate 01077).....	40-D-980	569 00
B	Frame for mechanism having two slot arms Fig. A, (1-1, 2-2, 2-3, 2-4a, 1-6, 1-7, 1-10a, 1-11a)...		17 30
Ba	Frame for mechanism having three slot arms Fig. Aa, (1-1a, 2-2, 2-3, 2-4a, 1-6a, 1-7a, 1-10a, 1-11a) .....		20 00
Bb	Frame for mechanism having four slot arms Fig. Ab, (1-1b, 2-2, 2-3, 2-4a, 1-6b, 1-7b, 1-9, 1-10c, 1-11c, 1-13).....		27 00
C	Motor, with four tap bolts, 5/16"x7/8", for fastening to base, for Figs. A, Aa and Ab. For details see Plate 01081.....		94 00
D	Quick Acting Circuit Controller, with four hook bolts for fastening to frame, for Fig. A. For details see Fig. A, Plate 01083.....		30 00
Da	as above, for Fig. Aa. For details see Fig. Ab, Plate 01083.....		42 00
Db	as above, for Fig. Ab. For details see Fig. Ac, Plate 01083.....		56 00
E	Buffer Cylinder, with check valves, pistons, rods and four tap bolts, 3/8"x1 1/8", for mechanism having two slot arms Fig. A, (1-14, 2-15, 2-16a, 2-21) .....		23 70

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
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Fig.		Drawing Reference	List Price
Ea	Buffer Cylinder, with check valves, pistons, rods and four tap bolts, $\frac{3}{8}$ "x $1\frac{1}{8}$ ", for mechanism having three slot arms Fig. Aa, (1-14a, 3-15, 3-16a, 3-21).....		41 00
Eb	as above, with check valves, pistons, rods and four tap bolts, $\frac{3}{8}$ "x $1\frac{1}{8}$ ", for mechanism having four slot arms Fig. Ab, (1-14b, 4-15, 4-16a, 4-21).....		57 50
F	Slot Arm for three-position signals Figs. A, Aa and Ab (specify resistance of magnets); (1-25, 1-28a, 1-29, 1-30, 1-30a, 1-32, 1-33, 1-34, 1-35) .....		31 20
Fa	Slot Arm for two-position signal Fig. Aa (specify resistance of magnets); (1-25a, 1-28a, 1-29, 1-30, 1-30a, 1-32, 1-33, 1-34, 1-35).....		31 50
G	Terminal Board, with terminal posts, terminal connectors and two tap bolts, $\frac{3}{8}$ "x $1\frac{1}{8}$ ", for fastening to buffer cylinder brackets of mechanism having two slot arms Fig. A, (1-36, 12-37, 6-38).....		1 74
Ga	as above, for mechanism having three slot arms Fig. Aa, (1-36a, 18-37, 9-38).....		2 60
Gb	as above, for mechanism having four slot arms Fig. Ab, (1-36b, 24-37, 12-38).....		3 30
H	Three-Position Attachment for mechanism having two slot arms Fig. A, (1-39a, 2-44, 2-47, 1-48, 1-49, 1-50, 1-54).....	C-3482	17 00
Ha	as above, for mechanism having three slot arms Fig. Aa, (1-39d, 2-44, 2-47, 1-48, 1-49a, 1-49b, 1-50).....	C-4863	17 00
Hb	as above, for mechanism having four slot arms Fig. Ab, (1-39b, 4-44, 4-47, 2-48, 2-51, 2-53, 2-54a).....		68 50
I	Base for Fig. B.....	56-C-3636	6 00
Ia	as above, for Fig. Ba.....	101-C-3636	8 30
Ib	as above, for Fig Bb.....	64-C-3636	9 00
2	Long Upright, with three $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick, for frame .....	42-C-3636	50
3	Short Upright, with two $\frac{7}{8}$ " nuts $\frac{1}{2}$ " thick and one $\frac{7}{8}$ " nut $\frac{5}{8}$ " thick, for frame.....	43-C-3636	44
4	Diagonal Inner Rod, with two $\frac{5}{8}$ " nuts $\frac{7}{16}$ " thick, for frame.....	45-C-3636	30
4a	as above, with outer tube and nuts, for frame, (1-4, 1-5).....	"	84
5	Diagonal Outer Tube.....	44-C-3636	44

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
BRIDGE OR BRACKET SIGNALS**

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Fig.	Description	Drawing Reference	List Price
6	Contact Spring Board Bracket, Right Hand (not shown), with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B.....	40-C-3636	1 60
6a	as above, for frame Fig. Ba.....		1 60
6b	as above, for frame Fig. Bb.....	81-C-3636	5 70
7	Contract Spring Board Bracket, Left Hand, with one special screw Fig. 8 and one fil. hd. set screw, No. 10-32x $\frac{3}{8}$ ", for upper sprocket shaft, for frame Fig. B.....	41-C-3636	1 60
7a	as above, for frame Fig. Ba.....		1 60
7b	as above, for frame Fig. Bb.....	82-C-3636	5 70
8	Special Screw for contact spring board brackets Figs. 6, 6a, 6b, 7, 7a and 7b, for adjusting diagonal outer tube Fig. 5.....	55-B-8070	50
9	Contract Spring Board Centre Bracket (not shown), with four tap bolts, $\frac{3}{8}$ "x $\frac{3}{4}$ ", and cap Fig. 9a, for adjoining right and left hand contact spring board brackets Figs. 6b and 7b, for frame Fig. Bb.....	59-C-3636	3 90
9a	Cap, with four fil. hd. mach. screws, No. 10-32x $\frac{3}{8}$ ", for holding contact spring board to contact spring board centre bracket Fig. 9.....	30-C-3636	40
10	Buffer Cylinder Bracket, Right Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	117-C-3636	1 34 1 56
10a	as above, with wire carrier Fig. 12.....		
10b	Buffer Cylinder Bracket, Right Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frame Fig. Bb.....	79-C-3636	1 60 1 82
10c	as above, with wire carrier Fig. 12.....		
11	Buffer Cylinder Bracket, Left Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frames Figs. B and Ba.....	118-C-3636	1 34 1 56
11a	as above, with wire carrier Fig. 12.....		
11b	Buffer Cylinder Bracket, Left Hand, with sq. hd. set screw, $\frac{3}{8}$ "x $\frac{1}{2}$ ", for slot arm shaft, for frame Fig. Bb.....	80-C-3636	1 60 1 82
11c	as above, with wire carrier Fig. 12.....		
12	Wire Carrier, with two fil. hd. mach. screws, No. 10-32x2", and two nuts, for buffer cylinder brackets Figs. 10, 10b, 11 and 11b.....	31-C-3636	22
13	Slot Arm Shaft Bearing (not shown), with four tap bolts, $\frac{3}{8}$ "x $\frac{3}{4}$ ", for fastening to buffer cylinder brackets Figs. 10b and 11b, for frame Fig. Bb.....	83-C-3636	1 92

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Fig.		Drawing Reference	List Price
14	Buffer Cylinder for Fig. E.....	2-C-4767	5 60
14a	as above, for Fig. Ea.....	10-C-4767	14 20
14b	as above, for Fig. Eb.....	8-C-4767	22 30
15	Check Valve, with bushing, adjusting screw and nut, for buffer cylinder.....	2-A-2454	90
16	Piston only, for buffer cylinder.....	17-B-8328	3 00
16a	as above, with cage, piston rings, nuts and piston rod, (1-16, 1-17, 2-17a, 1-18, 1-19, 1-20) .....	"	7 70
17	Cage for piston rings Fig. 17a.....	6-C-2218	1 30
17a	Piston Ring.....	1-B-8197	66
18	Nut, with flat hd. mach. screw, No. 10-32x $\frac{3}{8}$ ", for fastening cage Fig. 17 to piston Fig. 16.....	104-B-8109	32
19	Special Nut for holding piston rod Fig. 20 in piston Fig. 16.....	2-B-9597	54
20	Piston Rod.....	6-B-8195	58
21	Piston Stop for buffer cylinder.....	23-B-8099	06
22	Link only, for operating quick acting circuit controller.....	98-C-3636	68
22a	as above, with screw jaw, pins and cotters, (1-22, 1-22b, 2-22c).....	"	1 26
22b	Screw Jaw.....	47-B-7742	42
22c	Pin, with cotter, for link Fig. 22 and screw jaw Fig. 22b.....	47-B-8079	04
23	Slot Arm Shaft for mechanism having two slot arms Fig. A.....	127-C-3636	14
23a	as above, with collars, (1-23, 2-24).....	"	42
23b	Slot Arm Shaft for mechanism having three slot arms Fig. Aa.....	123-C-3636	20
23c	as above, with collars, (1-23b, 4-24).....	"	1 40
23d	Slot Arm Shaft for mechanism having four slot arms Fig. Ab.....	136-C-3636	40
23e	as above, with collars, (1-23d, 4-24).....	"	1 60
24	Collar (not shown), with special set screw, No. 10-32x $\frac{5}{16}$ ", for shafts Figs. 23, 23b and 23d.....	29-B-8350	30
25	Slot Arm, with pin Fig. 25b, for Fig. F.....	5-C-3572	3 30
25a	as above, for Fig. Fa.....	2-C-3572	3 60
25b	Pin, $\frac{1}{2}$ "x1-11/16", with cotters, for connecting piston rod Fig. 20 to slot arms Figs. 25 and 25a .....	34-B-10215	04

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Fig.		Drawing Reference	List Price
26	Back Strap for magnet coils Fig. 28.....	32-B-8162	1 04
26a	as above, with terminal posts and cap screws, (1-26, 2-27, 2-31).....	"	1 64
27	Terminal Post, with insulating bushings, cup washers, washers, nuts and fil. hd. mach. screw, No. 4-40x $\frac{3}{8}$ ", for back strap Fig. 26...	8-B-8094	26
28	Magnet Coils, with two $\frac{1}{2}$ " nuts, for fastening to back strap Fig. 26. Specify resistance...	14-B-8133	12 80
28a	as above, with back strap, (1-28, 1-26a)...	"	15 30
29	Armature, with trunnion and supporting pin...	45-B-8157	2 30
30	Trunnion Screw for supporting armature Fig. 29	77-B-8378	08
30a	Trunnion for supporting armature Fig. 29.....	78-B-8378	04
31	Cap Screw, $\frac{3}{8}$ "x1", for fastening back strap Fig. 26 to slot arms Figs. 25 and 25a. Price per hundred.....		3 00
32	Latch for engaging armature Fig. 29.....	7-C-3572	84
33	Link for connecting latch Fig. 32 and link Fig. 34	C-3572	80
33a	as above, with pins, cotters and link, (1-33, 1-33b, 1-33c, 1-33d, 1-34).....	12-C-3572	1 60
33b	Pin, with cotters, for fastening latch Fig. 32 to link Fig. 33.....	75-B-8097	06
33c	Pin for fastening link Fig. 34 to link Fig. 33...	6-B-8097	02
33d	Pin, with cotters, for supporting link Fig. 33..	3-B-8097	06
34	Link for operating lifting crank Fig. 35.....	9-C-3572	66
35	Lifting Crank, with pin Fig. 35c.....	36-C-3572	1 00
35a	Special Bolt and Nut, $\frac{3}{8}$ "x3", for supporting lifting crank Fig. 35.....	7-B-8709	12
35b	Spring for lifting crank Fig. 35.....	16-B-8124	10
35c	Pin, with cotters, for fastening link Fig. 34 to lifting crank Fig. 35.....	4-B-8097	06
36	Terminal Board only, for Fig. G.....	119-C-3636	16
36a	as above, for Fig. Ga.....	116-C-3636	20
36b	as above, for Fig. Gb.....	112-C-3636	26
37	Terminal Post, with washers and nuts, for terminal boards Figs. 36, 36a and 36b.....	230-B-8098	10
38	Terminal Connector for terminal posts Fig. 37..	105-B-8064	04

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
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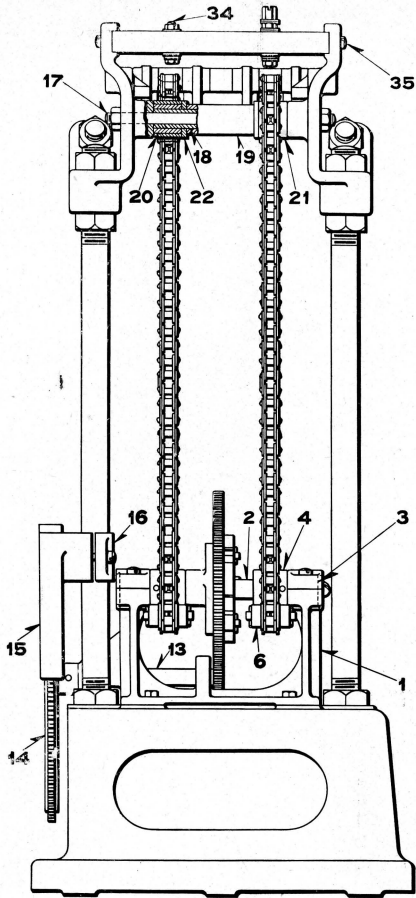
Fig.		Drawing Reference	List Price
39	Bracket and Rack Guide, Left Hand, for three-position attachments Figs. H and Hb.....	107-C-3636	1 50
39a	as above, with right hand bracket and rack guide, caps and bolts, for Fig. H, (1-39, 1-40, 4-41, 4-55, 4-56).....	"	4 56
39b	as above, with right hand bracket and rack guide, caps, middle rack guide, gear segments and bolts, for Fig. Hb, (1-39, 1-40, 4-41, 1-42, 2-43, 4-55, 8-56).....	"	29 84
39c	Bracket and Rack Guide, Left Hand, for three-position attachment Fig. Ha.....	151-C-3636	1 60
39d	as above, with right hand bracket and rack guide, caps and bolts, for Fig. Ha, (1-39c, 1-40, 4-41, 4-55, 4-56).....	"	4 66
40	Bracket and Rack Guide, Right Hand, for three-position attachments Figs. H, Ha and Hb..	106-C-3636	1 50
41	Cap for brackets Figs. 39, 39c and 40.....	108-C-3636	10
42	Middle Rack Guide (not shown), with pin, $\frac{3}{4}$ " x $1\frac{1}{4}$ ", and cotters, for gear segments for three-position attachment Fig. Hb.....	78-C-3636	14 30
43	Gear Segment (not shown) for Fig. Hb.....	66-C-3636	5 90
44	Link, with pins and cotters, for connecting slot arm Fig. 25 to rack Fig. 47, for three-position attachments Figs. H, Ha and Hb.....	111-C-3636	36
45	Pin, $\frac{5}{8}$ " x $2\frac{1}{8}$ ", with cotter, for attaching link Fig. 44 to slot arm Fig. 25.....	15-B-10218	06
46	Pin, $\frac{5}{8}$ " x $1\frac{1}{16}$ ", with cotter, for attaching link Fig. 44 to rack Fig. 47.....	2-B-10218	06
47	Rack and Stop for three-position attachments Figs. H, Ha and Hb.....	109-C-3636	1 62
48	Gear, operated by rack Fig. 47, for three-position attachments Figs. H, Ha and Hb.....	10-B-8424	2, 40
49	Special Jaw, with pin Fig. 52 and two hex. nuts, $1$ " x $\frac{3}{8}$ ", for three-position attachment Fig. H.	7-B-7722	80
49a	as above, for Fig. Ha.....	18-B-7722	90
49b	as above, with pin Fig. 52a, for Fig. Ha.	3-B-8025	1 20
50	Turnbuckle for three-position attachments Figs. H and Ha.....	5-B-8313	38
51	Jaw and Rack (not shown), with pin, for three-position attachment Fig. Hb.....	29-C-3636	6 20
52	Pin, $\frac{5}{8}$ " x $2\frac{3}{8}$ ", for jaws Figs. 49, 49a and 51.....	3-B-10217	04
52a	Pin, $\frac{5}{8}$ " x $2\frac{1}{16}$ ", with cotter, for screw jaw Fig. 49b.....	7-B-10218	08

**MECHANISM FOR THREE-POSITION ELECTRIC GROUND,  
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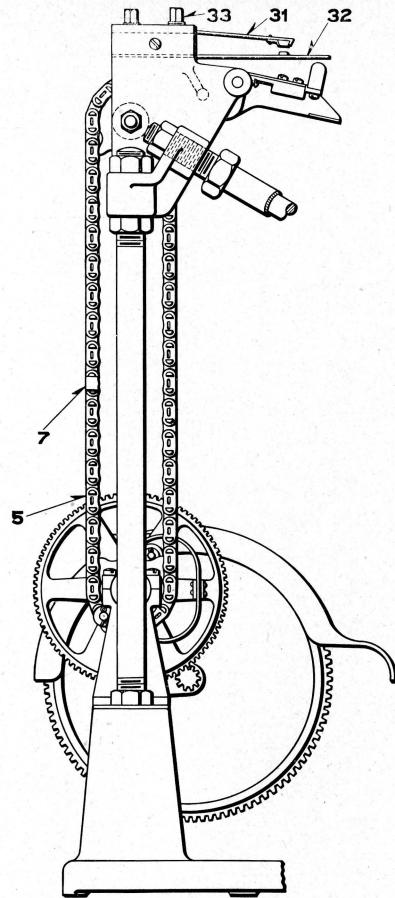
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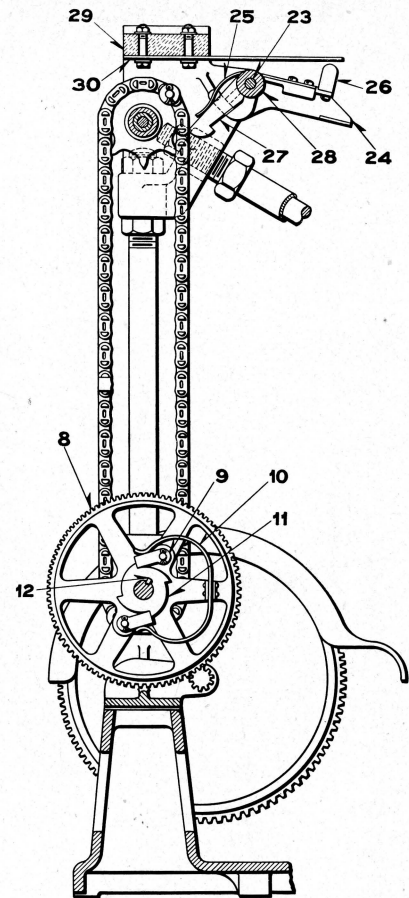
Fig.		Drawing Reference	List Price
53	Screw Jaw (not shown), operated by gear segment Fig. 43, with pin, $\frac{5}{8}$ "x2-1/16", and cotter, for three-position attachment Fig. Hb	53-B-7742	1 02
54	Shield Plate for three-position attachment Fig. H	1-B-7636	08
54a	Shield Plate, with hex. hd. mach. bolts, $\frac{5}{16}$ "x 1-1/16", nuts and cotters, for three-position attachment Fig. Hb.....	28-C-3636	64
55	Hex. Hd. Bolt and Nut, $\frac{5}{16}$ "x1 $\frac{7}{8}$ ", for fastening cap Fig. 41 to brackets and rack guides Figs. 39 and 40. Price per hundred.....		4 00
56	Hex. Hd. Bolt and Nut, $\frac{5}{16}$ "x1 $\frac{1}{8}$ ", for fastening brackets and rack guides Figs. 39 and 40 and middle rack guide Fig. 42 together. Price per hundred .....		4 00



BACK VIEW



SIDE VIEW



SECTIONAL SIDE VIEW

RUNNING GEAR FOR ELECTRIC GROUND, BRIDGE OR BRACKET  
SIGNAL MECHANISM



**RUNNING GEAR FOR ELECTRIC GROUND, BRIDGE OR  
BRACKET SIGNAL MECHANISM**

For other details of mechanism see Plates 01069, 01071, 01073 and 01075.

**Order by Plate and Figure**

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Fig.		Drawing Reference	List Price
A	Running Gear for mechanism having one slot arm Fig. Aa, Plate 01069, and Fig. Aa, Plate 01073, (1-1, 1-2a, 1-4, 1-5, 1-8a, 1-11, 1-12, 1-13, 1-14, 1-15a, 1-17a).....		39 40
Aa	as above, for mechanism having two slot arms Fig. Ab, Plate 01069, Fig. A, Plate 01071, Fig. A, Plate 01073, and Fig. A, Plate 01075, (1-1, 1-2a, 2-4, 2-5, 1-8a, 1-11, 1-12, 1-13, 1-14, 1-15a, 1-17b).....		48 10
Ab	as above, for mechanism having three slot arms Fig. A, Plate 01069, Fig. Aa, Plate 01071, Fig. Ab, Plate 01073, and Fig. Aa, Plate 01075, (1-1a, 1-2c, 3-4, 3-5, 1-8a, 1-11, 1-12, 1-13, 1-14, 1-15a, 1-17d).....		57 70
Ac	as above, for mechanism having four slot arms Fig. Ab, Plate 01071, and Fig. Ab, Plate 01075, (1-1b, 1-2e, 4-4, 4-5, 1-8a, 1-11, 1-12, 1-13, 1-14, 1-15a, 1-17f).....		82 30
1	Lower Sprocket Shaft Bracket, with two caps and four tap bolts, 1/4"x1", for fastening to base of mechanism, for Figs. A and Aa.....	14a-C-3636	7 10
1a	Lower Sprocket Shaft Bracket, with two caps and five tap bolts, 1/4"x1", for fastening to base of mechanism, for Fig. Ab.....	70-C-3636	13 40
1b	Lower Sprocket Shaft Bracket, with three caps and six tap bolts, 1/4"x1", for fastening to base of mechanism, for Fig. Ac.....	65-C-3636	19 00
2	Lower Sprocket Shaft, with retaining washers and two rd. hd. brass mach. screws, for Figs. A and Aa.....	24-C-3636	42 1 24
2a	as above, with roller bearings, (1-2, 2-3).		
2b	Lower Sprocket Shaft, with retaining washers and two rd. hd. brass mach. screws, for Fig. Ab.....	120-C-3636	45 1 26
2c	as above, with roller bearings, (1-2b, 2-3)		
2d	Lower Sprocket Shaft, with retaining washers and two rd. hd. brass mach. screws, for Fig. Ac.....	122-C-3636	48 1 28
2e	as above, with roller bearings, (1-2d, 2-3)		
3	Roller Bearing for lower sprocket shafts.....	1-B-7490	40

**RUNNING GEAR FOR ELECTRIC GROUND, BRIDGE OR  
BRACKET SIGNAL MECHANISM**

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Fig.		Drawing Reference	List Price
4	Sprocket Wheel, with pin, for lower sprocket shafts Figs. 2, 2b and 2d.....	7-C-3636	1 04
5	Sprocket Chain, with two trunnions Fig. 6 and lock link Fig. 7.....		6 10
6	Trunnion, with links, pins, rollers and cotters, (2-6a, 2-6b, 2-6c).....		58
6a	Link, with cotter, for trunnion Fig. 6.....	8-C-3636	06
6b	Pin for connecting links Fig. 6a.....	41-B-8097	01
6c	Roller for link Fig. 6a.....	44-B-8072	02
7	Lock Link for connecting ends of chain Fig. 5. Included in price for sprocket chain.....		
8	Intermediate Gear Wheel for lower sprocket shafts Figs. 2, 2b and 2d.....	50-B-8425	5 20
8a	as above, with pawls and spring, (1-8, 2-9, 1-10).....		7 50
9	Pawl, with pin and cotter, for gear wheel Fig. 8.	22-B-9121	32
10	Spring, with escutcheon pins, for riveting to gear wheel Fig. 8.....	101-B-8735	18
11	Ratchet Wheel for engaging pawls Fig. 9.....	23-B-9121	86
12	Special Key for ratchet wheel Fig. 11.....	4-B-9673	10
13	Countershaft and Pinion for brackets Figs. 1, 1a and 1b.....	50-B-8424	2 10
14	Main Gear, with pin, for fastening to countershaft and pinion Fig. 13.....	1-B-8425	6 40
15	Shield for gear Fig. 14.....	138-C-3636	22
15a	as above, with cap Fig. 16.....	"	44
16	Cap, with two fil. hd. mach. screws, 1/4"x1", for shield Fig. 15.....	125-C-3636	22
17	Upper Sprocket Shaft, with two 3/8" hex. nuts, for Figs. A and Aa.....	48-C-3636	06
17a	as above, with sleeve, separator, bushing, sprocket wheel and washer, for Fig. A, (1-17, 1-18, 1-19a, 1-20, 1-21, 1-22).....	"	3 20
17b	as above, with sleeve, separator, bushings, sprocket wheels and washers, for Fig. Aa, (1-17, 1-18, 1-19, 2-20, 2-21, 2-22).....	"	5 20
17c	Upper Sprocket Shaft, with two 3/8" hex. nuts, for Fig. Ab.....	74-C-3636	10
17d	as above, with sleeve, separators, bushings, sprocket wheels and washers, (1-17c, 1-18a, 2-19, 3-20, 3-21, 4-22).....	"	7 30

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Fig.		Drawing Reference	List Price
17e	Upper Sprocket Shaft, with two 3/8" hex. nuts, for Fig. Ac.....	40-B-8114	12
17f	as above, with sleeves, separators, bushings, sprocket wheels and washers, (1-17e, 2-18, 2-19, 4-20, 4-21, 4-22).....	"	9 90
18	Sleeve for shafts Figs. 17a, 17b and 17f.....	39-B-8072	16
18a	as above, for shaft Fig. 17d.....	72-C-3636	24
19	Separator for shafts Figs. 17b, 17d and 17f.....	43-B-8072	12
19a	as above, for shaft Fig. 17a.....	"	16
20	Bushing for upper sprocket wheel Fig. 21.....	161-B-8350	28
21	Upper Sprocket Wheel.....	126-C-3636	1 26
22	Washer for upper sprocket wheel Fig. 21.....	6-B-8332	06
23	Circuit Closing Shaft for mechanism having one or two slot arms.....	47-C-3636	06
23a	as above, with circuit closing lever, pawl and separator, for Fig. Aa, Plate 01069, and Fig. Aa, Plate 01073, (1-23, 1-24a, 1-27, 1-28a).....	"	2 20
23b	as above, with circuit closing levers, pawls and separators, for Fig. Ab, Plate 01069, Fig. A, Plate 01071, Fig. A, Plate 01073, and Fig. A, Plate 01075, (1-23, 2-24a, 2-27, 1-28).....	"	3 10
23c	Circuit Closing Shaft for mechanism having three slot arms.....	4-C-4836	10
23d	as above, with circuit closing levers, pawls and separators, (1-23c, 3-24a, 3-27a, 2-28).....	"	4 90
23e	Circuit Closing Shaft for mechanism having four slot arms.....	11-B-8184	08
23f	as above, with circuit closing levers, pawls and separators, (1-23e, 4-24a, 4-27, 2-28).....	"	6 30
24	Circuit Closing Lever only, for Figs. A, Aa and Ac.....	38-C-3636	46
24a	as above, with spring, insulation and screws, (1-24, 1-25, 1-26).....	137-C-3636	80
24b	Circuit Closing Lever only, for Fig. Ab.....	49-C-3636	48
24c	as above, with spring, insulation and screws, (1-24b, 1-25, 1-26).....	142-C-3636	84
25	Spring, with two fil. hd. mach. screws, No. 8-32x 3/8", for fastening to circuit closing lever Fig. 24.....	30-B-8735	06
26	Insulation, with two fil. hd. mach. screws, No. 8-32x5/16", for circuit closing lever Fig. 24....	162-C-3636	12

**RUNNING GEAR FOR ELECTRIC GROUND, BRIDGE OR  
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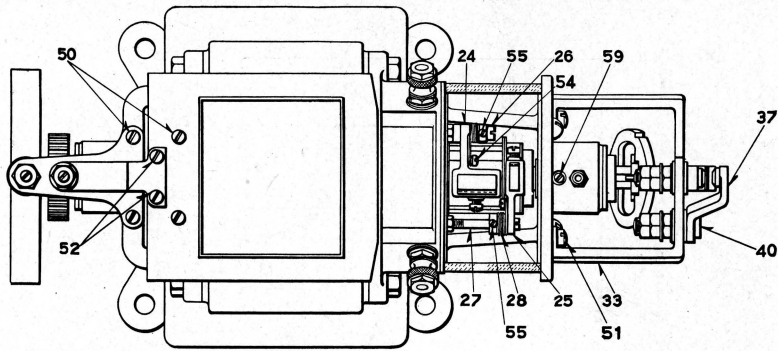
Fig.		Drawing Reference	List Price
27	Pawl for engaging slot arm for Figs. A, Aa and Ac .....	121-C-3636	70
27a	as above, for Fig. Ab.....	143-C-3636	76
28	Separator for shafts Figs. 23b, 23d and 23f.....	42-B-8072	02
28a	as above, for shaft Fig. 23a.....	41-B-8072	14
29	Contact Spring Board, with two screws Fig. 35, for mechanism having one slot arm Fig. Aa, Plate 01073 .....	I-B-9968	66
29a	as above, with plate spring and bolts, (I-29, I-30, 2-34).....	"	1 30
29b	as above, with one set of contact springs and terminal posts, (I-29, I-31, I-32, 2-33).....	"	2 32
29c	Contact Spring Board, with two screws Fig. 35, for mechanism having two slot arms.....	2-B-9968	76
29d	as above, with two plate springs and bolts, (I-29c, 2-30, 4-34).....	"	2 52
29e	as above, with two sets of contact springs and terminal posts, (I-29c, 2-31, 2-32, 4-33) .....	"	4 14
29f	as above, with one plate spring and one set of contact springs, bolts and terminal posts, (I-29c, I-30, I-31, I-32, 2-33, 2-34).....	"	2 90
29g	Contact Spring Board, with two screws Fig. 35, for mechanism having three slot arms.....	5-B-9968	I 10
29h	as above, with three plate springs and bolts, (I-29g, 3-30, 6-34).....	"	3 04
29k	as above, with three sets of contact springs and terminal posts, (I-29g, 3-31, 3-32, 6-33) .....	"	6 10
29m	as above, with two plate springs and one set of contact springs, terminal posts and bolts, (I-29g, 2-30, I-31, I-32, 2-33, 4-34).....	"	4 10
29n	as above, with one plate spring and two sets of contact springs, terminal posts and bolts, (I-29g, I-30, 2-31, 2-32, 4-33, 2-34).....	"	4 80
29p	Contact Spring Board, with one screw Fig. 35, for mechanism having four slot arms.....	3-B-9968	76
29r	as above, with two sets of contact springs and terminal posts, (I-29p, 2-31, 2-32, 4-33). (Two boards required for each mechanism frame).....	"	7 50
	NOTE:—For each extra set of springs and terminal posts, add to the above terminal boards.		I 80

**RUNNING GEAR FOR ELECTRIC GROUND, BRIDGE OR  
BRACKET SIGNAL MECHANISM**

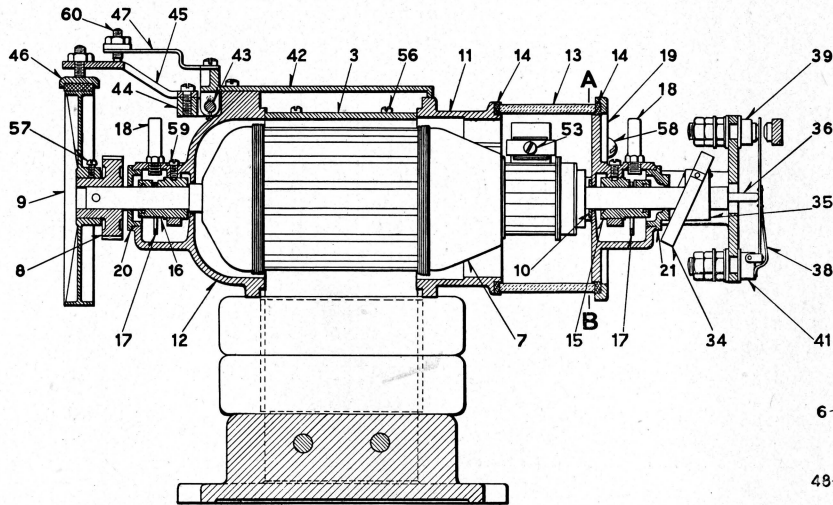
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The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

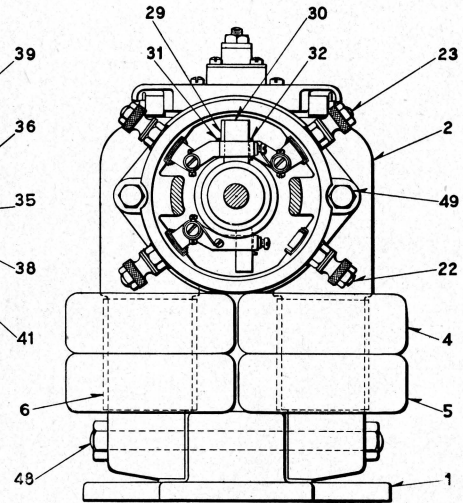
Fig.		Drawing Reference	List Price
30	Plate Spring.....	120-B-8735	32
31	Upper Contact Spring.....	151-B-8385	82
32	Lower Contact Spring.....	152-B-8385	32
33	Terminal Post, with plate washers, insulating bushings and nuts.....	38-B-8094	26
34	Hex. Hd. Mach. Screw and Nut, No. 10-32x1 $\frac{1}{8}$ ", for fastening plate spring to contact spring board.....		
35	Fil. Hd. Mach. Screw, No. 10-32x $\frac{5}{8}$ ", for fastening contact spring board to contact spring board brackets Figs. 6 and 7, Plate 01069, Figs. 6 and 7, Plate 01071, Figs. 6 and 7, Plate 01073, and Figs. 6 and 7, Plate 01075. Price per hundred.....		10
			2 00



PLAN VIEW



SIDE VIEW IN SECTION



SECTION A-B  
END VIEW

MOTOR FOR ELECTRIC SIGNAL MECHANISM

MOTOR FOR ELECTRIC SIGNAL MECHANISM

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Motor, with cast steel pole pieces, brake, circuit controller and commutator shield, as shown, for electric signal mechanism.....	I-C-4666	94 00
1	Cast Steel Base.....	2-C-4839	3 40
2	Cast Steel Pole Piece.....	I-C-4839	5 70
3	Dust Plate.....	18-C-4839	40
3a	as above, with four screws Fig. 56.....	"	42
4	Operation Field Coil.....	2-C-5911	4 00
5	Indication Field Coil.....	I-C-5911	4 00
6	Copper Sleeve.....	16-C-4839	I 34
7	Armature, with commutator.....	6-C-5911	30 00
7a	as above, with pinion, brake wheel and wearing ring, (I-7, I-8, I-9, I-10).....	"	34 00
8	Pinion, with pin, for fastening to armature shaft.....	22-B-8424	I 20
9	Brake Wheel, with screw Fig. 57.....	19-C-4840	I 10
10	Wearing Ring.....	7-C-4839	04
11	Armature Shaft Bearing (commutator end).....	I-C-4840	3 70
12	Armature Shaft Bearing (gear end).....	I-C-5818	2 20
13	Glass Commutator Shield.....	7-B-8163	34
14	Leather Washer for shield Fig. 13.....	28-B-8078	18
15	Bushing for armature shaft bearing Fig. 11.....	84-B-8350	26
16	Bushing for armature shaft bearing Fig. 12.....	"	26
17	Oil Ring.....	6-C-4839	06
18	Oil Cup.....	11-C-4839	06
19	Shield Holder for shield Fig. 13.....	12-C-5042	34
19a	as above, with screws, (I-19, 2-58).....	"	36
20	Cap for armature shaft bearing Fig. 12.....	129-B-8109	18
21	Cap for armature shaft bearing Fig. 11.....	47-B-8082	24
22	Terminal Post, with plate washers, nuts, insulating washers and insulating bushings.....	120-B-8094	40
23	Terminal Post, with plate washers, nuts, insulating washers and insulating bushings, for brush holders Figs. 24 and 25.....	140-B-8094	42
24	Brush Holder, with screws Figs. 53 and 54, for operation brush.....	16-C-4840	22
24a	as above, with bracket, supporting screw, spring, brush and binding plate, (I-24, I-24b, I-26, I-28, I-29, I-31).....	"	I 00
24b	Bracket only, for brush holders Figs. 24 and 25..	12-C-2819	08
25	Brush Holder, with screws Figs. 53 and 54, for indication brush.....	15-C-4840	18
25a	as above, with bracket, supporting screw, spring, brush and binding plate, (I-25, I-24b, I-27, I-28, I-30, I-32).....	"	I 00
26	Special Fil. Hd. Mach. Screw, No. 8-32x1 1/4", with collars, nut and two screws Fig. 55, for fastening brush holder Fig. 24 to bracket Fig. 24b..	172-B-8094	18

MOTOR FOR ELECTRIC SIGNAL MECHANISM

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
27	Special Fil. Hd. Mach. Screw, No. 8-32x1-11/16", with collar, nut and two screws Fig. 55, for fastening brush holder Fig. 25 to bracket Fig. 24b.....	173-B-8094	20
28	Spring for brush holders Figs. 24 and 25.....	69-B-7770	08
29	Operation Brush for brush holder Fig. 24.....	13-C-4840	16
30	Indication Brush for brush holder Fig. 25.....	14-C-4840	16
31	Binding Plate for operation brush Fig. 29.....	17-C-4840	04
32	Binding Plate for indication brush Fig. 30.....	18-C-4840	04
33	Bracket for circuit controller.....	1-C-5042	60
33a	Centrifugal Circuit Controller, with bracket, ring, pin, contact piece, contact spring, terminal posts and screws, (1-33, 1-34a, 1-30, 1-37, 1-38, 1-39, 1-40, 1-41, 2-51).....	15-C-5042	4 60
34	Ring, with steel pin.....	16-C-5042	44
34a	as above, with clamp, (1-34, 1-35).....	"	80
35	Clamp, with set screw.....	17-C-5042	36
36	Pin, with fibre tip.....	9-C-5042	14
37	Contact Piece, with carbon tip.....	2-C-5042	42
38	Contact Spring, with hinge and spring.....	164-B-8385	62
39	Terminal Post, with carbon tip, washers, nuts, insulating washers and insulating bushings....	142-B-8094	60
40	Terminal Post, with washers, nuts, insulating washers and insulating bushings, for holding contact piece Fig. 37.....	42-B-8094	32
41	Terminal Post, with washers, nuts, insulating washers and insulating bushings, for contact spring Fig. 38.....	189-B-8094	50
41a	as above, with contact spring and hinge, (1-41, 1-38).....	"	1 16
42	Name Plate and Shield for brake armature Fig. 44.....	22-B-8225	80
42a	as above, with pin, armature, support, brake shoe, spring and screws, (1-42, 1-43, 1-44, 1-45, 1-46, 1-47, 5-50, 2-52, 1-60).....	"	2 56
43	Pin, with cotters.....	28-B-8097	10
44	Brake Armature.....	56-B-8157	56
45	Support for brake shoe Fig. 46.....	16-C-2819	22
46	Brake Shoe, with nut.....	272-B-8098	26
47	Spring for brake.....	10-B-8735	18
48	Stud Bolt and Two Nuts, 3/8"x5/8", for fastening pole piece Fig. 2 to base Fig. 1.....	59-B-8114	06
49	Tap Bolt, 5/16"x1", for fastening armature shaft bearings Figs. 11 and 12 to pole piece Fig. 2. Price per hundred.....		2 00
50	Fil. Hd. B. Mach. Screw, No. 10-32x1/2", for fastening name plate Fig. 42 to armature shaft bearing Fig. 12 and support Fig. 45 to brake armature Fig. 44. Price per hundred.....		1 00

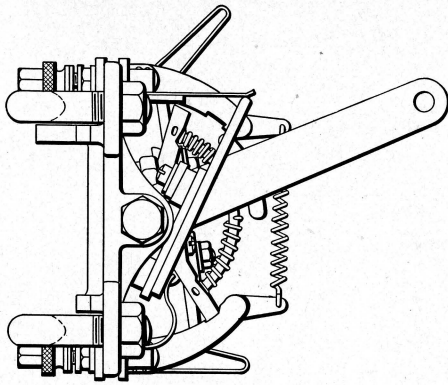


MOTOR FOR ELECTRIC SIGNAL MECHANISM

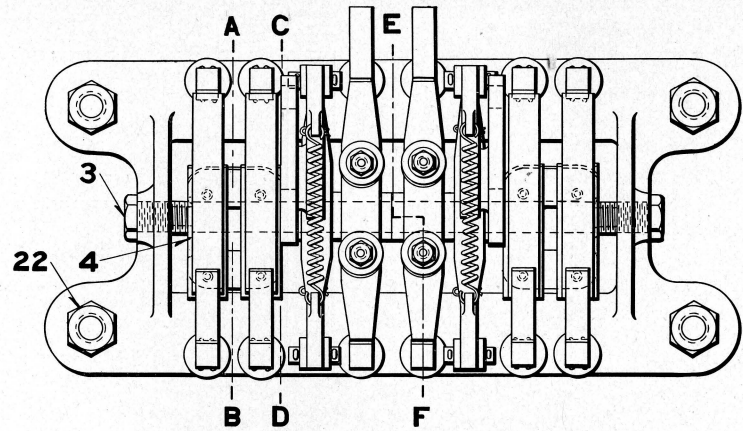
Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

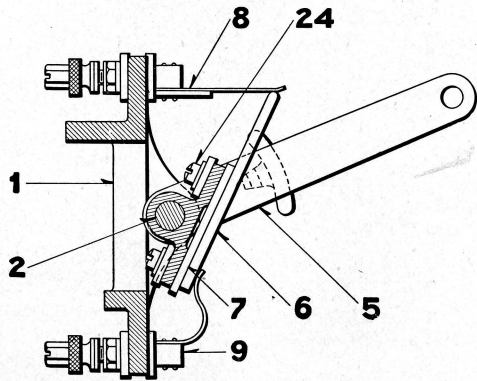
Fig.		Drawing Reference	List Price
51	Fil. Hd. B. Mach. Screw, No. 10-32x $\frac{3}{8}$ ", for fastening bracket Fig. 33 to armature shaft bearing Fig. 11. Price per hundred.....		1 00
52	Fil. Hd. B. Mach. Screw, No. 10-32x $\frac{1}{4}$ ", for fastening brake spring Fig. 47 to name plate Fig. 42. Price per hundred.....		1 00
53	Fil. Hd. S. Mach. Screw, No. 8-32x $\frac{1}{4}$ ", for holding brushes Figs. 29 and 30 in brush holders Figs. 24 and 25. Price per hundred.....		1 00
54	Fil. Hd. B. Mach. Screw, No. 6-32x $\frac{1}{4}$ ", for fastening spring Fig. 28 to brush holders Figs. 24 and 25. Price per hundred.....		1 00
55	Fil. Hd. S. Mach. Screw, No. 4-40x $\frac{1}{8}$ ", for fastening spring Fig. 28 to collar and collar to screws Figs. 26 and 27. Price per hundred..		1 00
56	Fil. Hd. B. Mach. Screw, No. 4-40x $\frac{1}{4}$ ", for fastening dust plate Fig. 3 to pole piece Fig. 2. Price per hundred.....		1 00
57	Round Hd. S. Mach. Screw, No. 10-32x $\frac{3}{8}$ ", for fastening brake wheel Fig. 9 to pinion Fig. 8. Price per hundred.....		1 00
58	Fil. Hd. B. Mach. Screw, No. 10-32x $\frac{3}{8}$ ", for fastening shield holder Fig. 19 to armature shaft bearing Fig. 11. Price per hundred.....		1 00
59	Fil. Hd. Pivot Screw, No. 8-32x $\frac{5}{16}$ ", for holding bushings Figs. 15 and 16 in armature shaft bearings Figs. 11 and 12. Price per hundred.		2 00
60	Headless Screw and Nut, No. 10-32x $\frac{9}{16}$ ", for brake spring Fig. 47. Price per hundred....	37-B-8378 66-B-8098	2 00 2 00



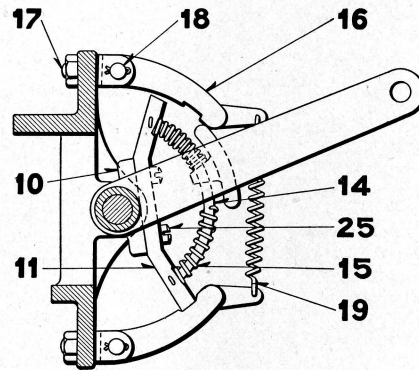
**SIDE VIEW**



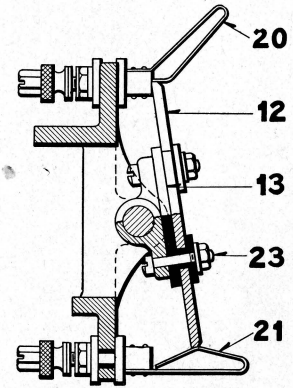
**FRONT VIEW**



**SECTION A-B**



**SECTION C-D**



**SECTION E-F**

**QUICK ACTING CIRCUIT CONTROLLERS FOR ELECTRIC SIGNAL MECHANISM**

**QUICK ACTING CIRCUIT CONTROLLERS FOR ELECTRIC  
SIGNAL MECHANISM**

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Quick Acting Circuit Controller, as shown, for a two-arm two-position, or a one-arm three-position signal mechanism, (1-1, 1-2, 2-3, 2-4, 2-5a, 4-8, 4-9, 2-10a, 4-16a, 2-19, 2-20, 2-21, 4-22).....	4-C-5047	30 00
Aa	as above, for a one-arm two-position signal mechanism, (1-1, 1-2, 1-2a, 2-3, 2-4, 1-5a, 2-8, 2-9, 1-10a, 2-16a, 1-19, 1-20, 1-21, 4-22)....	"	16 00
Ab	as above, for a three-arm two-position, or a two-arm two and three-position signal mechanism, (1-1a, 1-2b, 1-2c, 2-3, 2-4, 3-5a, 6-8, 6-9, 3-10a, 6-16a, 3-19, 3-20, 3-21, 4-22).....	12-C-5047	42 00
Ac	as above, for a two-arm three-position signal mechanism, (1-1b, 1-2d, 1-2e, 2-3, 2-4, 4-5a, 8-8, 8-9, 4-10a, 8-16a, 4-19, 4-20, 4-21, 4-22)	9-C-5047	56 20
1	Frame for circuit controllers Figs. A and Aa....	1-C-5047	66
1a	as above, for circuit controller Fig. Ab..	17-C-5047	86
1b	as above, for circuit controller Fig. Ac..	14-C-5047	2 26
2	Shaft for circuit controllers Figs. A and Aa.....	3-C-5047	08
2a	Separator for shaft Fig. 2, used in circuit controller Fig. Aa.....	122-B-8350	08
2b	Shaft for circuit controller Fig. Ab.....	13-C-5047	10
2c	Separator for shaft Fig. 2b.....	27-B-8350	04
2d	Shaft for circuit controller Fig. Ac.....	15-C-5047	12
2e	Separator for shaft Fig. 2d.....	169-B-8350	02
3	Trunnion Screw for supporting shafts Figs. 2, 2b and 2d.....	73-B-8378	14
4	Plate Washer for shafts Figs. 2, 2b and 2d.....	5-B-8112	02

**QUICK ACTING CIRCUIT CONTROLLERS FOR ELECTRIC  
SIGNAL MECHANISM**

**Order by Plate and Figure**

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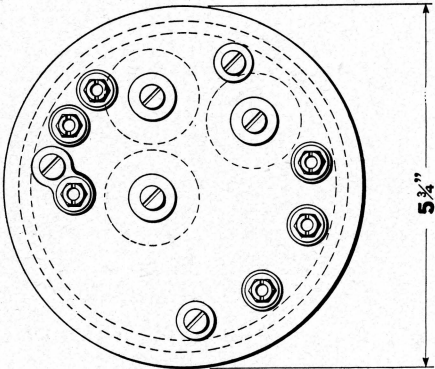
Fig.		Drawing Reference	List Price
5	Driving Arm only, for circuit controllers Figs. A, Aa, Ab and Ac.....	6-B-9823	1 20
5a	as above, with contact arms, insulating strips, screws, plate washers, insulating washers and insulating bushings, (1-5, 2-6, 2-7, 4-24).....	"	2 80
6	Contact Arm for driving arm Fig. 5.....	7-B-9365	26
7	Insulating Strip for contact arm Fig. 6.....	74-B-8750	12
8	Straight Contact Spring and Terminal Post, with nuts, plate washers, insulating washers and insulating bushings, for contact arm Fig 6...	480-B-8385	54
9	Bent Contact Spring and Terminal Post, with nuts, plate washers, insulating washers and insulating bushings, for contact arm Fig. 6...	481-B-8385	52
10	Bracket for quick acting contact arm Fig. 12....	4-B-9365	60
10a	as above, with latch, contact arm, insulating strip, rod, springs, screws, insulating washers and insulating bushings, (1-10, 1-11, 1-12, 1-13, 1-14, 2-15, 2-23, 2-25).....	"	2 30
11	Latch for bracket Fig. 10.....	6-C-4675	44
12	Quick Acting Contact Arm.....	6-B-9365	26
13	Insulating Strip for quick acting contact arm Fig. 12.....	74-B-8750	12
14	Rod, with cotters for fastening to latch Fig. 11, for latch springs.....	10-C-4675	10
14a	as above, with latch springs, (1-14, 2-15).	"	38
15	Spring for latch Fig. 11.....	45-B-7770	12

**QUICK ACTING CIRCUIT CONTROLLERS FOR ELECTRIC  
SIGNAL MECHANISM**

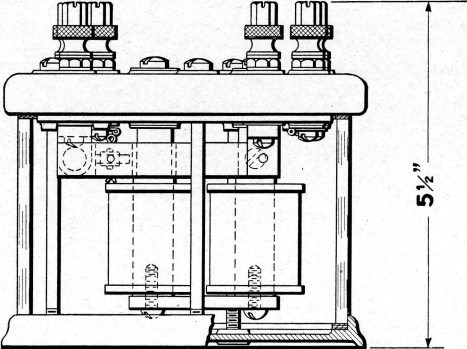
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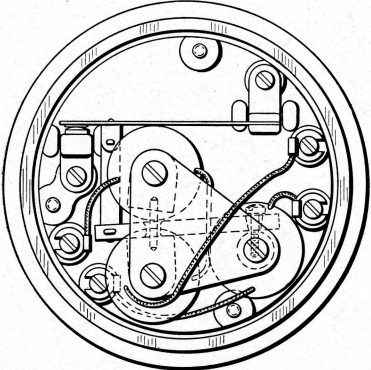
Fig.		Drawing Reference	List Price
16	Latch Arm.....	5-C-4675	28
16a	as above, with screw jaw and pin, (1-16, 1-17, 1-18).....	"	82
17	Screw Jaw, with nut, for latch arm Fig. 16.....	8-B-8025	24
18	Pin, with cotters, for screw jaw Fig. 17.....	12-B-8063	08
19	Spring for latch arms Fig. 16.....	46-B-7770	16
20	Upper Contact Spring and Terminal Post, with plate washers, nuts, insulating washers and insulating bushings, for contact arm Fig. 12..	271-B-8385	58
21	Lower Contact Spring and Terminal Post, with plate washers, nuts, insulating washers and insulating bushings, for contact arm Fig. 12..	270-B-8385	54
22	Hook Bolt, with 1/2" nut, for fastening frame of circuit controller to frame of signal mechanism.....	28-B-7913	06
23	Fil. Hd. Mach. Screw, No. 10-32x15/16", with nut, plate washer, insulating washer and insulating bushing, for fastening quick acting contact arm Fig. 12 to bracket Fig. 10.....		16
24	Fil. Hd. Mach. Screw, No. 10-32x3/4", with plate washer, insulating washer and insulating bushing, for fastening contact arm Fig. 6 to driving arm Fig. 5.....		16
25	Fil. Hd. Mach. Screw, No. 10-32x1/2", for fastening latch Fig. 11 to bracket Fig. 10. Price per hundred.....		2 00



PLAN VIEW



SIDE VIEW  
PARTLY SECTIONED



INVERTED PLAN VIEW  
BOTTOM PLATE REMOVED

SAFETY SIGNAL CIRCUIT CONTROLLER

**SAFETY SIGNAL CIRCUIT CONTROLLER**

Orders for repair parts of safety signal circuit controller shown on the opposite plate should always be accompanied by samples of the parts required.

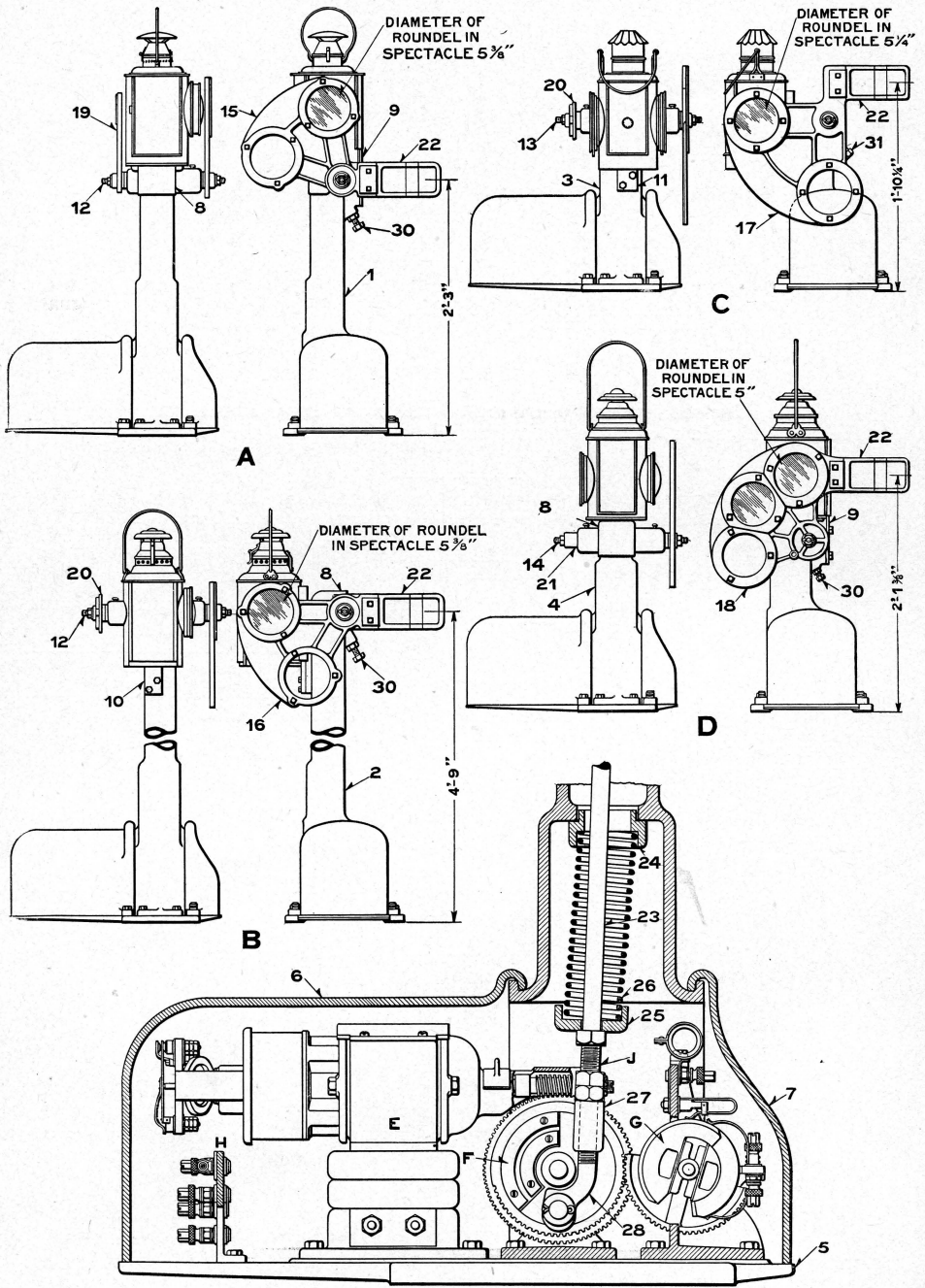
**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.

A Safety Signal Circuit Controller, complete.....

Drawing Reference	List Price	
C-6753	16 00	



SECTIONAL VIEW SHOWING MECHANISM

ONE ARM ELECTRIC DWARF SIGNALS



**ONE-ARM ELECTRIC DWARF SIGNALS**

The list prices given below for signals shown on the opposite plate do not include the lamps or safety signal circuit controllers. If lamps and safety signal circuit controllers are required, they must be ordered as separate items.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	One-Arm, 60 deg., Dwarf Signal, as shown; circuit controller without derail control.....	C-5919	198 00
Aa	One-Arm, 60 deg., Dwarf Signal, as above; circuit controller with derail control.	"	204 00
B	One-Arm, 60 deg., Dwarf Signal, as shown; circuit controller without derail control.....	"	202 00
Ba	One-Arm, 60 deg., Dwarf Signal, as above; circuit controller with derail control.	"	208 00
C	One-Arm, 90 deg., Dwarf Signal, as shown; circuit controller without derail control.....	C-5920	198 00
Ca	One-Arm, 90 deg., Dwarf Signal, as above; circuit controller with derail control.	"	204 00
D	One-Arm, 90 deg., Dwarf Signal, as shown; circuit controller without derail control.....	"	198 00
Da	One-Arm, 90 deg., Dwarf Signal, as above; circuit controller with derail control.	"	204 00
E	Motor, with four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of dwarf signals. Orders for repair parts should be accompanied by samples of the parts required.....	1-C-5902	92 00
F	Electric Clutch, with four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of one-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	3-C-5773	37 00

ONE-ARM ELECTRIC DWARF SIGNALS

Order by Plate, Figure and Instructions given

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
G	Circuit Controller (without derail control), with resistance tube and four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of one-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	4-C-5774	15 00
Ga	Circuit Controller (with derail control), with resistance tube and four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of one-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	3-C-5774	21 00
H	Terminal and Fuse Bracket, with terminal posts, fuse and two 1/4"x3/8" hex. hd. steel tap bolts for fastening to base plate of signal. Orders for repair parts should be accompanied by samples of the parts required.....	B-9854	3 70
J	Up and Down Rod, with upper and lower sections of up and down rod, turnbuckle and nuts, for dwarf signal Fig. A, (I-23, I-27, I-28)		2 00
Ja	as above, for dwarf signal Fig. B, (I-23a, I-27, I-28).....		2 80
Jb	as above, for dwarf signals Figs. C and D, (I-23b, I-27, I-28).....		2 00
I	Combined Post and Semaphore Bearing, with oil plugs, for dwarf signal Fig. A.....	I-C-5772	7 40
Ia	as above, with cap, cap screw and tap bolts, (I-1, I-8a, I-30).....	"	8 20
2	Combined Post and Semaphore Bearing, with oil plugs, for dwarf signal Fig. B.....	I-C-6614	11 30
2a	as above, with cap, cap screw and tap bolts, (I-2, I-8a, I-30).....	"	12 10

ONE-ARM ELECTRIC DWARF SIGNALS

Order by Plate, Figure and Instructions given

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
3	Combined Post and Semaphore Bearing, with oil plugs, for dwarf signal Fig. C.....	1-C-5766	6 30
3a	as above, with cap, cap screw and tap bolts, (1-3, 1-8a, 1-31).....	"	7 10
4	Combined Post and Semaphore Bearing, with oil plugs, for dwarf signal Fig. D.....	2-C-5772	6 30
4a	as above, with cap, cap screw and tap bolts, (1-4, 1-8a, 1-30).....	"	7 10
5	Base Plate, with studs and cotters, for cover....	2-C-5766	7 60
6	Back Cover for mechanism.....	1-C-5771	3 50
7	Front Cover for mechanism.....	3-C-5771	1 50
8	Cap only, for combined post and semaphore bearings Figs. 1, 2, 3 and 4.....	2-C-5771	32
8a	as above, with bolts, (1-8, 2-36).....	"	36
9	Lamp Bracket for dwarf signals Figs. A and D..	60-B-8069	24
9a	as above, with bolts, (1-9, 2-35).....	"	28
10	Lamp Bracket for dwarf signal Fig. B.....	107-B-8069	96
10a	as above, with bolts, (1-10, 2-33).....	"	1 00
11	Lamp Bracket for dwarf signal Fig. C.....	55-B-8069	46
11a	as above, with bolts, (1-11, 2-34).....	"	50
12	Semaphore Shaft, with nuts, washers and cotters, for dwarf signals Figs. A and B.....	97-B-8026	1 56
13	Semaphore Shaft, as above, for dwarf signal Fig. C.....	98-B-8026	1 62
14	Semaphore Shaft, as above, for dwarf signal Fig. D.....	100-B-8026	1 58
15	Two-Light, 60 deg., Front Spectacle, with rings and bolts, for dwarf signal Fig. A. For glass see Fig. 37.....	32-C-7241	1 80

**ONE-ARM ELECTRIC DWARF SIGNALS**

**Order by Plate, Figure and Instructions given**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

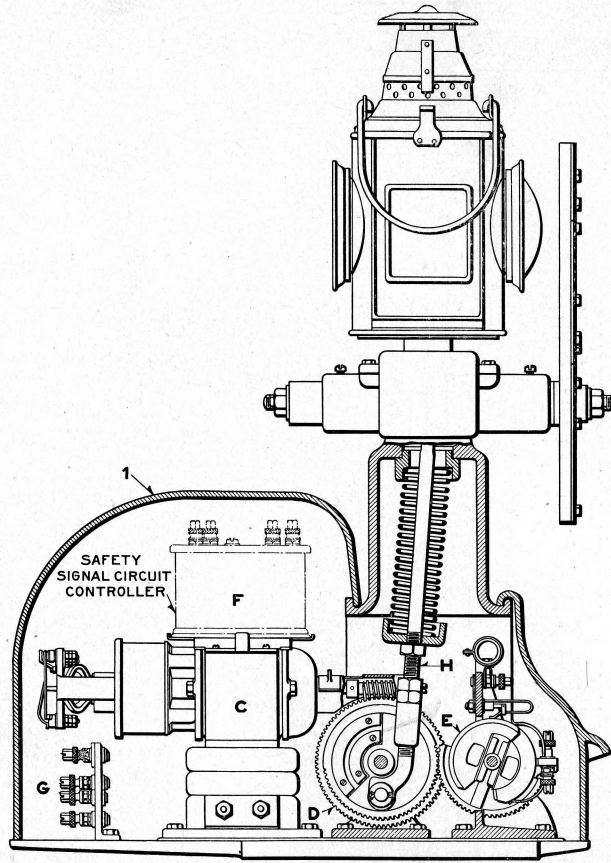
Fig.		Drawing Reference	List Price
16	Two-Light, 60 deg., Front Spectacle, as above, for dwarf signal Fig. B. For glass see Fig. 37	34-C-724I	1 80
17	Two-Light, 90 deg., Front Spectacle, as above, for dwarf signal Fig. C. For glass see Fig. 38	96-C-724I	2 20
18	Three-Light, 90 deg., Front Spectacle, as above, for dwarf signal Fig. D. For glass see Fig. 39.....	144-C-724I	3 45
19	Back Spectacle, with rings and bolts, for dwarf signal Fig. A. For glass see Fig. 40.....	60-B-7654	80
20	Back Spectacle, as above, for dwarf signals Figs. B and C. For glass see Fig. 40.....	58-B-7654	84
21	Separator for semaphore shaft Fig. 14, to take place of back spectacle.....	1-B-8047	06
22	Rubber Blade, with plate and bolts, (not painted)	47-B-5672	86
22a	as above, painted.....	"	1 30
23	Upper Section of Up and Down Rod only, for up and down rod Fig. J.....	44-B-805I	40
23a	as above, for up and down rod Fig. Ja..	186-B-805I	1 16
23b	as above, for up and down rod Fig. Jb..	55-B-805I	40
24	Top Spring Socket.....	18-B-8084	08
25	Bottom Spring Socket.....	19-B-8084	10
26	Spring.....	70-B-7770	28
27	Turnbuckle.....	4-B-832I	78
28	Lower Section of Up and Down Rod for up and down rods Figs. J, Ja and Jb.....	4-C-577I	70
29	Semaphore Crank (not shown), with pin and cot- ters, for dwarf signals Figs. A and B.....	15-B-8102	48
29a	as above, for dwarf signals Figs. C and D	14-B-8102	44

**ONE-ARM ELECTRIC DWARF SIGNALS**

**Order by Plate, Figure and Instructions given**

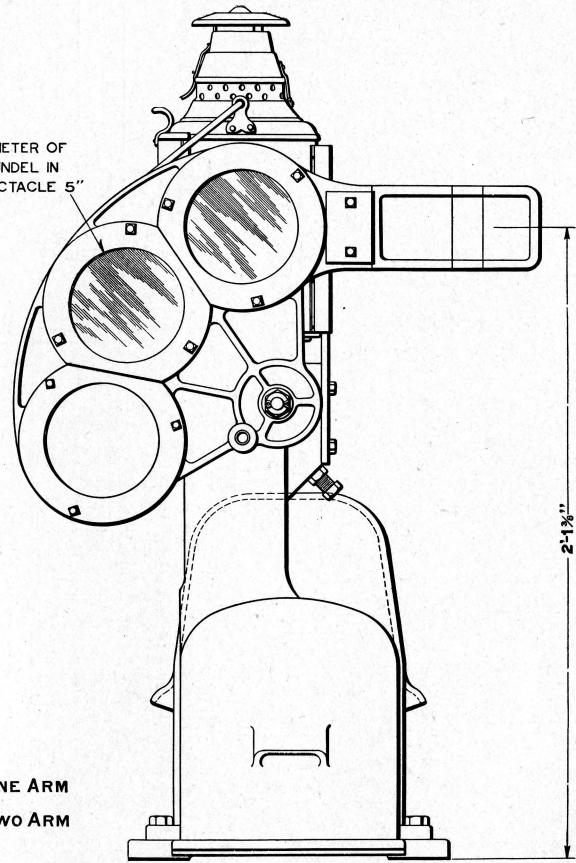
The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Drawing Reference	List Price
30	Cap Screw, $\frac{1}{2}$ "x4", with nut, for adjusting spectacles on dwarf signals Figs. A, B and D...	12
31	Cap Screw, $\frac{1}{2}$ "x2 $\frac{1}{2}$ ", with nut, for adjusting spectacle on dwarf signal Fig. C.....	06
32	Hex. Hd. Tap Bolt, $\frac{1}{2}$ "x1 $\frac{3}{8}$ ", for fastening combined post and semaphore bearings Figs. 1, 2, 3 and 4 to base plate Fig. 5. Price per hundred.....	3 00
33	Hex. Hd. Tap Bolt, $\frac{3}{8}$ "x1 $\frac{1}{2}$ ", for fastening lamp bracket Fig. 10 to combined post and semaphore bearing Fig. 2. Price per hundred....	2 00
34	Hex. Hd. Tap Bolt, $\frac{3}{8}$ "x1 $\frac{1}{4}$ ", for fastening lamp bracket Fig. 11 to combined post and semaphore bearing Fig. 3. Price per hundred.....	2 00
35	Hex. Hd. Tap Bolt, $\frac{3}{8}$ "x1", for fastening lamp bracket Fig. 9 to combined post and semaphore bearings Figs. 1 and 4. Price per hundred.....	2 00
36	Hex. Hd. Tap Bolt, $\frac{1}{4}$ "x $\frac{3}{8}$ ", for fastening cap Fig. 8 to combined post and semaphore bearings Figs. 1, 2, 3 and 4. Price per hundred..	2 00
37 } 38 } 39 } 40 }	Moulded Semaphore Roundels. See Supplement to Section 4, Plate 48I $\frac{1}{2}$ .....	



SECTIONAL SIDE VIEW

DIAMETER OF  
ROUNDEL IN  
SPECTACLE 5"



A - ONE ARM  
B - TWO ARM

FRONT VIEW

ONE AND TWO-ARM ELECTRIC DWARF SIGNALS

ONE AND TWO-ARM ELECTRIC DWARF SIGNALS

The list prices given below for signals shown on the opposite plate do not include the lamps or safety signal circuit controllers. If lamps and safety signal circuit controllers are required, they must be ordered as separate items.

Safety signal circuit controller Fig. F, when used, takes the place of terminal and fuse bracket Fig. G.

For parts not numbered, see Plate 01087 which is identical.

Order by Plate, Figure and Instructions given above

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	One-Arm, 90 deg., Dwarf Signal, 2 feet 1 3/8 inches from base to center line of blade, as shown; circuit controller without derail control; (1-C, 1-D, 1-E, 1-G, 1-H, 1-I, Plate 01089), (1-4a, 1-5, 1-7, 1-9a, 1-14, 1-18, 1-21, 1-22, 1-29a, 4-32, Plate 01087).....	C-5920	200 00
Aa	One-Arm, 90 deg., Dwarf Signal, 2 feet 1 3/8 inches from base to center line of blade; circuit controller with derail control; (1-C, 1-D, 1-Ea, 1-G, 1-H, 1-I, Plate 01089), (1-4a, 1-5, 1-7, 1-9a, 1-14, 1-18, 1-21, 1-22, 1-29a, 4-32, Plate 01087).....	"	206 00
Ab	One-Arm, 90 deg., Dwarf Signal, 1 foot 10 1/4 inches from base to center line of blade; circuit controller without derail control; (1-C, 1-D, 1-E, 1-G, 1-H, 1-I, Plate 01089), (1-3a, 1-5, 1-7, 1-11a, 1-13, 1-17, 1-20, 1-22, 1-29, 4-32, Plate 01087).....	"	200 00
Ac	One-Arm, 90 deg., Dwarf Signal, 1 foot 10 1/4 inches from base to center line of blade; circuit controller with derail control; (1-C, 1-D, 1-Ea, 1-G, 1-H, 1-I, Plate 01089), (1-3a, 1-5, 1-7, 1-11a, 1-13, 1-17, 1-20, 1-22, 1-29a, 4-32, Plate 01087).....	"	206 00
Ad	One-Arm, 60 deg., Dwarf Signal, 2 feet 3 inches from base to center line of blade; circuit controller without derail control; (1-C, 1-D, 1-E, 1-G, 1-Ha, 1-I, Plate 01089), (1-1a, 1-5, 1-7, 1-9a, 1-12, 1-15, 1-19, 1-22, 1-29, 4-32, Plate 01087).....	C-5919	200 00
Ae	One-Arm, 60 deg., Dwarf Signal, 2 feet 3 inches from base to center line of blade, circuit controller with derail control; (1-C, 1-D, 1-Ea, 1-G, 1-Ha, 1-I, Plate 01089), (1-1a, 1-5, 1-7, 1-9a, 1-12, 1-15, 1-19, 1-27, 1-29, 4-32, Plate 01087).....	"	206 00
Af	One-Arm, 60 deg., Dwarf Signal, 4 feet 9 inches from base to center line of blade; circuit controller without derail control; (1-C, 1-D, 1-E, 1-G, 1-Hb, 1-I, Plate 01089), (1-2a, 1-5, 1-7, 1-10a, 1-12, 1-16, 1-20, 1-22, 1-29, 4-32, Plate 01087).....	"	200 00

ONE AND TWO-ARM ELECTRIC DWARF SIGNALS

Order by Plate, Figure and Instructions given

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
Ag	One-Arm, 60 deg., Dwarf Signal, 4 feet 9 inches from base to center line of blade; circuit controller with derail control; (1-C, 1-D, 1-Ea, 1-G, 1-Hb, 1-I, Plate 01089), (1-2a, 1-5, 1-7, 1-10a, 1-12, 1-16, 1-20, 1-22, 1-29, 4-32, Plate 01087).....	C-5919	206 00
B	Two-Arm, 60 deg., Dwarf Signal, 1 foot 6 1/4 inches from base to center line of bottom blade and 1 foot 7 inches between blades; circuit controller without derail control; (1-C, 1-Da, 1-Eb, 1-G, 1-H, 1-Hc, 1-I, 1-2a, 2-4a, 1-5, 1-6, 1-7, Plate 01089), (1-5, 1-7, 1-13, 2-16, 2-20, 2-22, 1-29, 4-32, Plate 01087).....	D-1116	236 00
Ba	Two-Arm, 60 deg., Dwarf Signal, 1 foot 6 1/4 inches from base to center line of bottom blade and 1 foot 7 inches between blades; circuit controller with derail control; (1-C, 1-Da, 1-Ec, 1-G, 1-H, 1-Hc, 1-I, 1-2a, 2-4a, 1-5, 1-6, 1-7, Plate 01089), (1-5, 1-7, 1-13, 2-16, 2-20, 2-22, 1-29, 4-32, Plate 01087).....	"	247 00
C	Motor, with four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of signal. Orders for repair parts should be accompanied by samples of the parts required.....	1-C-5902	92 00
D	Electric Clutch, with four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of one-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	3-C-5773	37 00
Da	as above, for a two-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	2-C-5773	59 00
E	Circuit Controller (without derail control), with resistance tube and four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of one-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	4-C-5774	15 00
Ea	Circuit Controller (with derail control), with resistance tube and four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of one-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	3-C-5774	21 00
Eb	Circuit Controller (without derail control), with resistance tube and four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of two-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	2-C-5774	27 00

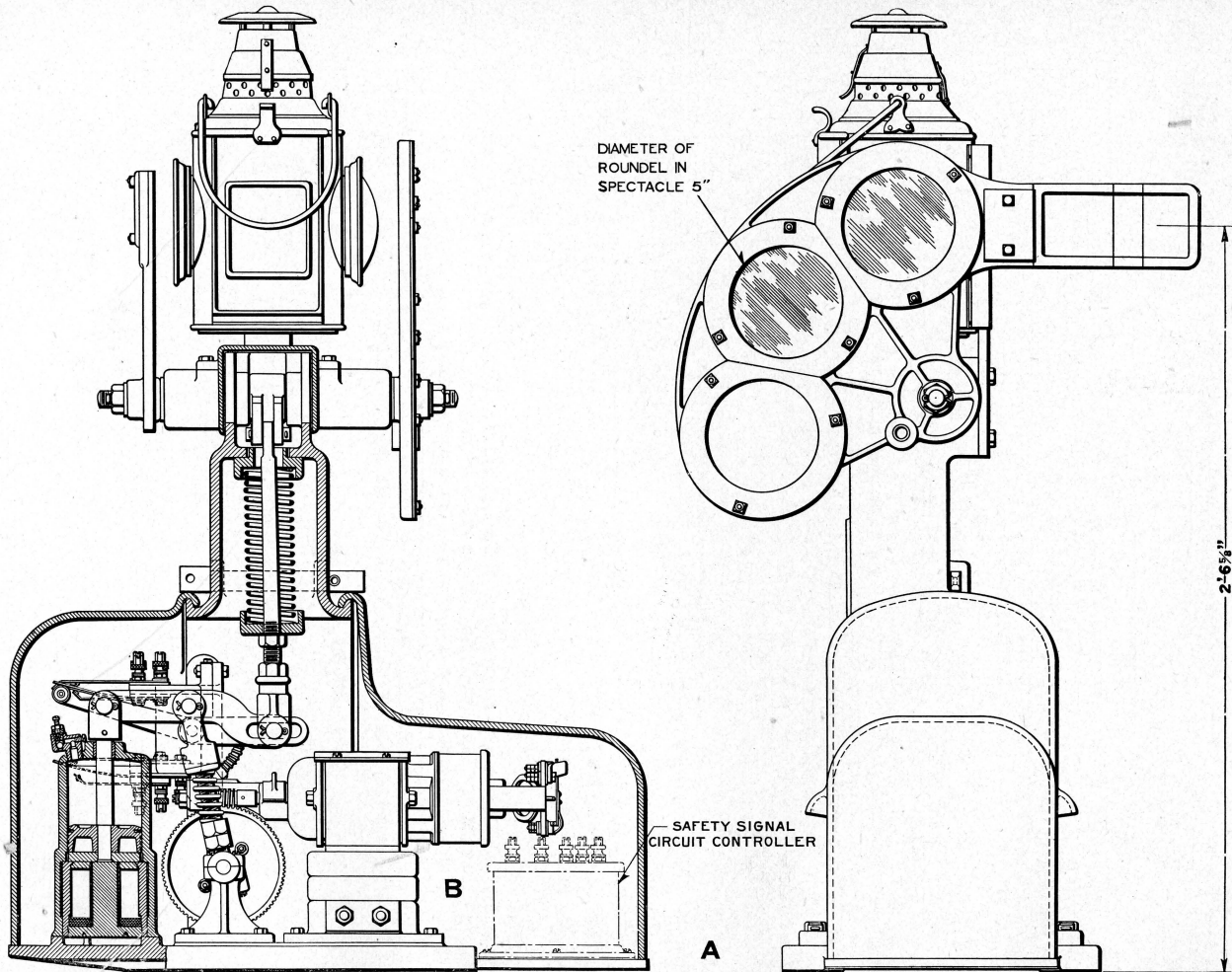


ONE AND TWO-ARM ELECTRIC DWARF SIGNALS

Order by Plate, Figure and Instructions given

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
Ec	Circuit Controller (with derail control), with resistance tube and four 5/16"x1" hex. hd. steel tap bolts, for fastening to base plate of two-arm dwarf signal. Orders for repair parts should be accompanied by samples of the parts required.....	1-C-5774	38 00
F	Safety Signal Circuit Controller, see Plate 01085. This circuit controller is not included with a dwarf signal complete, and must be ordered separately when required.....		16 00
G	Terminal and Fuse Bracket, with terminal posts, fuse and two 1/4"x5/8" hex. hd. steel tap bolts, for fastening to base plate of signal. Orders for repair parts should be accompanied by samples of the parts required.....	B-9854	3 70
H	Up and Down Rod, with upper and lower sections of up and down rod, turnbuckle and nuts, for dwarf signals Figs. A, Aa, Ab, Ac, B and Ba, (1-23b, 1-27, 1-28, Plate 01087)....		2 00
Ha	as above, for dwarf signals Figs. Ad and Ae, (1-23, 1-27, 1-28, Plate 01087).....		2 00
Hb	as above, for dwarf signals Figs. Af and Ag, (1-23a, 1-27, 1-28, Plate 01087).....		2 80
Hc	as above, for dwarf signals Figs. B and Ba, (1-8, Plate 01089), (1-27, 1-28, Plate 01087).....		3 32
1	Back Cover for mechanism.....	1-C-5711	5 70
2	Combined Post and Semaphore Bearings only (not shown), for two-arm dwarf signals Figs. B and Ba.....	1-C-5898	12 20
2a	as above, with caps, oil plugs, cap screw and tap bolts, (1-2, 1-3a, Plate 01089), (1-8a, 1-30, Plate 01087).....	"	13 80
3	Cap only (not shown), for lower arm of two-arm dwarf signals Figs. B and Ba.....	2-C-5898	26
3a	as above, with bolts, (1-3, Plate 01089), (2-36, Plate 01087).....	"	30
4	Lamp Bracket (not shown) for dwarf signals Figs. B and Ba.....	61-B-8069	46
4a	as above, with bolts, (1-4, Plate 01089), (2-33, Plate 01087).....	"	50
5	Semaphore Shaft (not shown), with nuts, washers and cotters, for upper arm of two-arm dwarf signals Figs. B and Ba.....	99-B-8026	1 60
6	Semaphore Crank (not shown), with pin and cotters, for lower arm of two-arm dwarf signals Figs. B and Ba.....	16-B-8102	48
7	Pin (not shown), with cotters, used as stop for lower arm of two-arm dwarf signals Figs. B and Ba.....	55-B-8058	06
8	Upper Section of Up and Down Rod (not shown) for up and down rod Fig. Hc.....	57-B-8051	1 70



ONE-ARM ELECTRIC DWARF SIGNAL

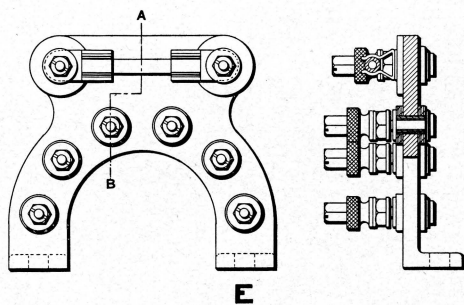
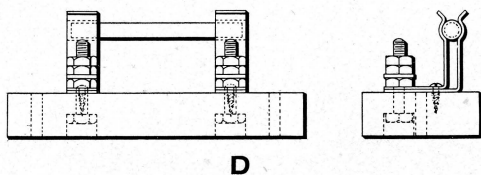
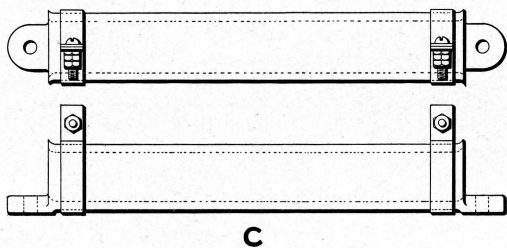
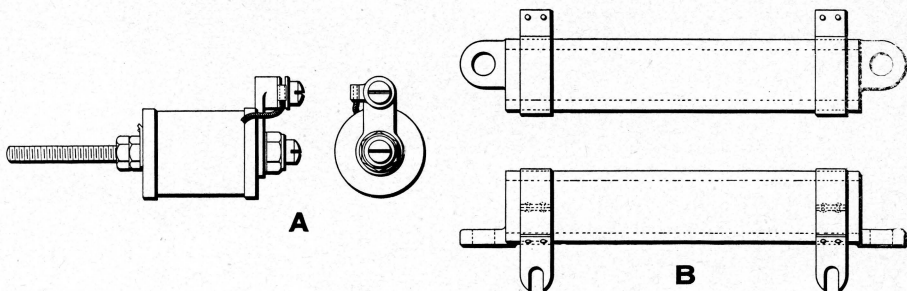
**ONE-ARM ELECTRIC DWARF SIGNAL**

The list price given below for signal on the opposite plate does not include lamp or safety signal circuit controller. If lamp and safety signal circuit controller are required, they must be ordered as separate items.

**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	One-Arm, 90 deg., Electric Dwarf Signal (no lamp), with mechanism, base plate, post, covers, cap, front and back spectacles, blade, semaphore shaft, lamp bracket, up and down rod and all necessary bolts.....	I-C-679I	232 00
B	Mechanism, with motor, operating gear with crank shaft, buffer, quick acting circuit controller, terminal bracket and bolts.....	"	190 00



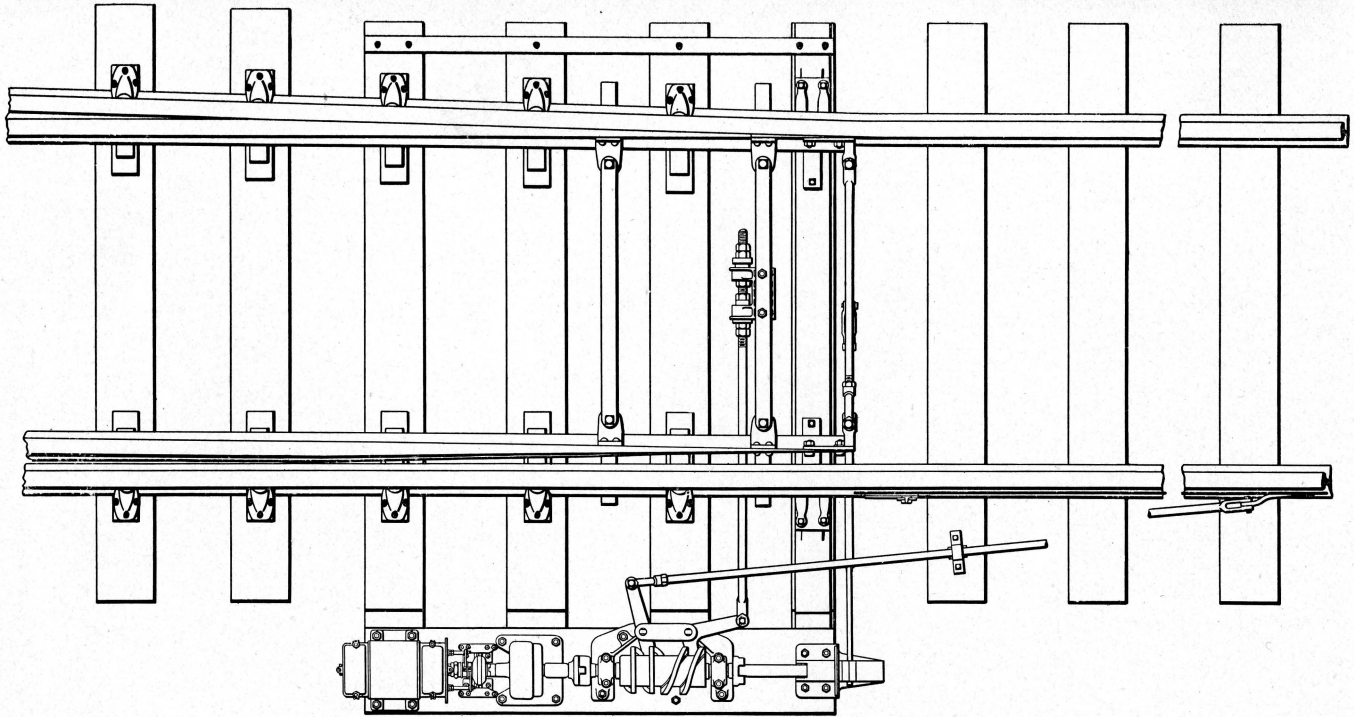
RESISTANCE COIL, RESISTANCE TUBES, FUSE  
BLOCK AND TERMINAL BRACKET

**RESISTANCE COIL, RESISTANCE TUBES, FUSE  
BLOCK AND TERMINAL BRACKET**

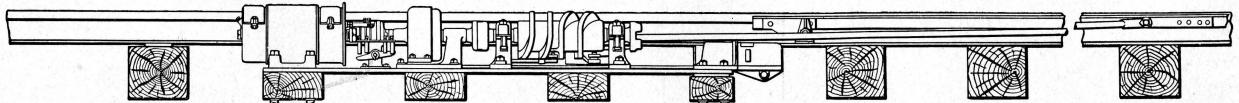
**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Resistance Coil.....	16-B-8737	4 00
B	Resistance Tube, 200 ohms, used in dwarf signals	1-B-9065	2 00
C	Resistance Tube, 1,000 ohms, used in high signals	16-B-9065	2 00
D	Fuse Block, with fuse Fig. Da.....	1-B-9064	1 40
Da	Fuse only, 3 amperes.....	2-B-9014	14
E	Terminal and Fuse Bracket, with fuse Fig. Ea or Eb, for motor driven dwarf signal.....	1-B-9854	3 70
Ea	Fuse only, 3 amperes.....	4-B-9014	14
Eb	as above, 10 amperes.....	1-B-9014	14



LEFT HAND MOVEMENT.



ELECTRIC SWITCH AND LOCK MOVEMENT LAYOUT FOR SINGLE SWITCH WITH ONE DETECTOR BAR

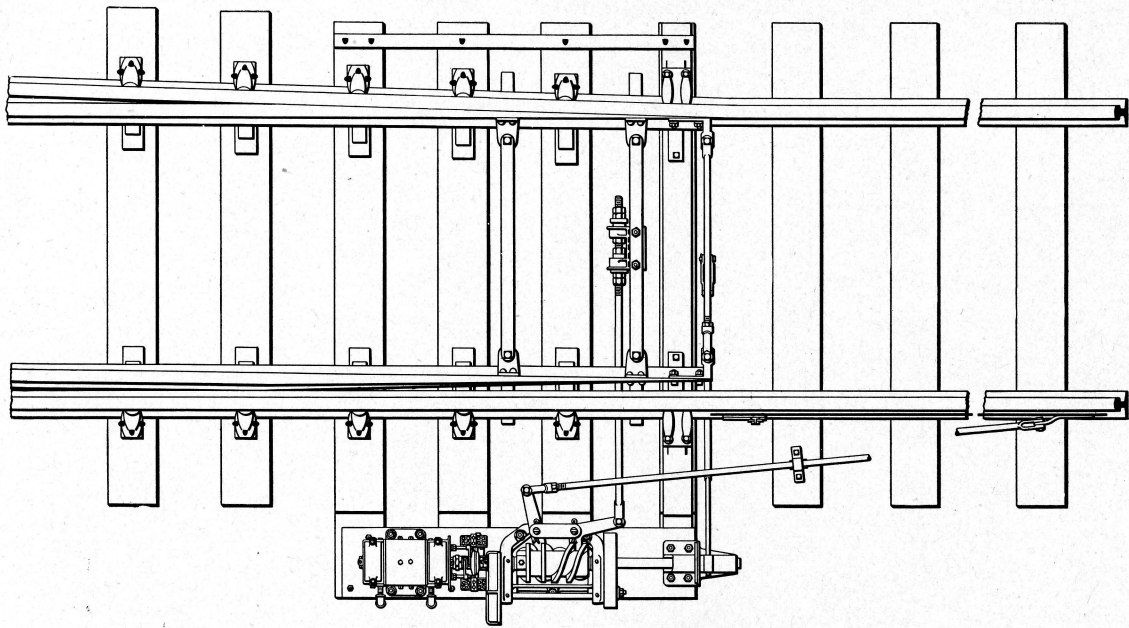
**ELECTRIC SWITCH AND LOCK MOVEMENT LAYOUT FOR  
SINGLE SWITCH WITH ONE DETECTOR BAR**

Mechanical details, such as front and lock rods, detector bars, rail clips, etc., are the U. S. & S. Co.'s standard, and will be found in section No. 3 of the mechanical catalogue.

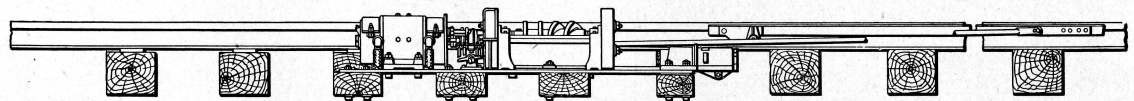
**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Layout for single switch with detector bar ahead of points. Specify whether a right or left hand layout is desired (left hand is shown) and give weight of rail. ASSEMBLAGE:—Iron base plate for supporting switch and lock movement on ties; tie plate with riser plates; motor; clutch; circuit controller; reduction gear; switch and lock movement; lock box; covers; switch operating rod and cage; front and lock rods; 50 foot detector bar with driving piece and 16 motion plate rail clips, complete; connecting rod between detector bar crank and detector bar; 2½"x½" strap iron; and all the necessary pins, bolts, nuts, lag screws and rivets.....		
Aa	Layout, as above, without detector bar or its fittings.....		530 00 479 00
DETAILS.			
	For Motor see Fig. Aa, Plate 01031. For Clutch see Plate 01033. For Circuit Controller see Fig. B, Plate 01039. For Reduction Gear see Plate 01035. For Lock Box see Fig. A, Plate 01041. For Slide Bar see Fig. 3, Plate 01029.		
Ab	Switch and Lock Movement only, operating a detector bar. ASSEMBLAGE:—Base casting, caps, cam, shaft, coupling, cranks, crank pins, bolts, nuts, washers and cotters.....	25-C-6282	41 70
Ac	as above, without detector bar.....	26-C-6282	39 50
Ad	Combined Cover (in two pieces) for switch and lock movement, reduction gear, clutch and circuit controller.....	43-C-4540 44-C-4540	11 80
Ae	Cover for lock box.....	45-C-4540	1 64
Af	Driving Bar.....	2-C-6140	7 00
	NOTE:—Prices for Double Slip and Movable Point Frog Layouts, etc., furnished on application.		



LEFT HAND MOVEMENT



ELECTRIC SWITCH AND LOCK MOVEMENT LAYOUT FOR SINGLE SWITCH WITH ONE DETECTOR BAR



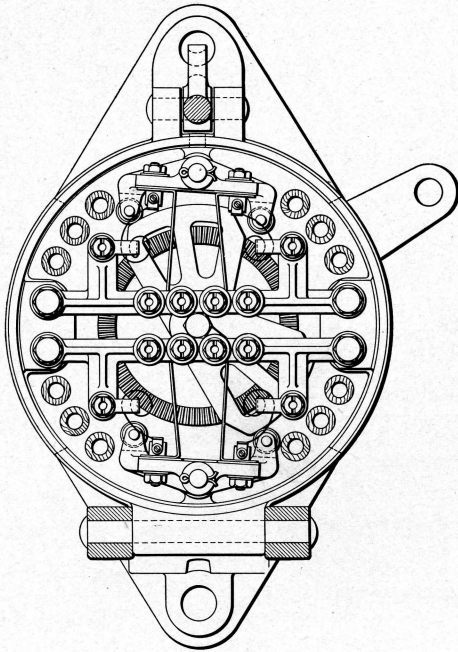
**ELECTRIC SWITCH AND LOCK MOVEMENT LAYOUT FOR  
SINGLE SWITCH WITH ONE DETECTOR BAR**

Mechanical details, such as front and lock rods, detector bars, rail clips, etc., are the U. S. & S. Co.'s standard, and will be found in section No. 3 of the mechanical catalogue.

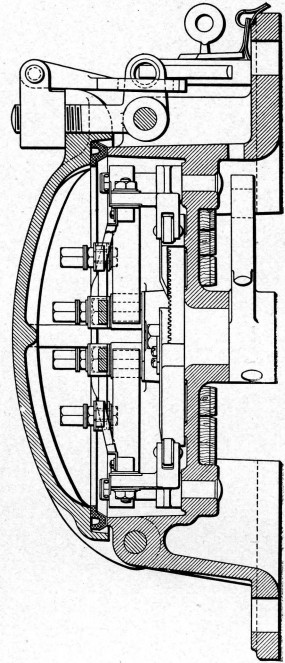
**Order by Plate, Figure and Instructions given above**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

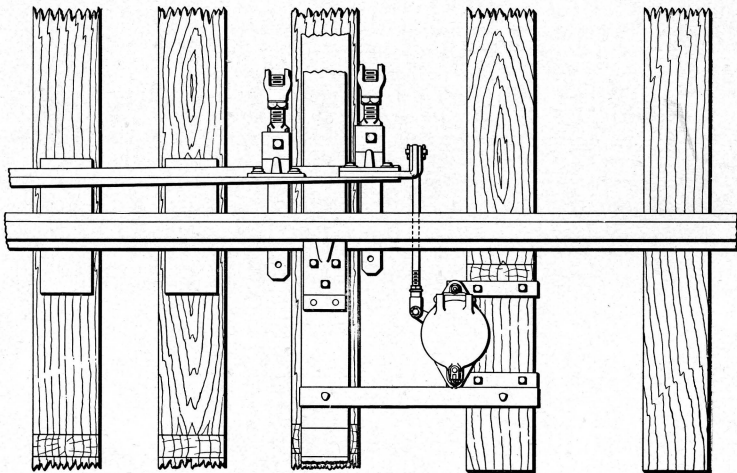
Fig.	Drawing Reference	List Price
A	Layout for single switch with detector bar ahead of points. Specify whether a right or left hand layout is desired (left hand is shown) and give weight of rail. ASSEMBLAGE:—Iron base plate for supporting switch and lock movement on ties; tie plate with riser plates; motor; clutch; circuit controller; switch and lock movement; lock box; covers; switch operating rod and cage; front and lock rods; 50 foot detector bar with driving piece and 16 motion plate rail clips, complete; connecting rod between detector bar crank and detector bar; 2½"x½" strap iron; and all the necessary pins, bolts, nuts, lag screws and rivets.....	484 00
Aa	Layout, as above, without detector bar or its fittings..... For movement and covers see Plate 01029.	435 00
DETAILS.		
For Motor see Fig. Aa, Plate 01031.		
For Clutch see Plate 01033.		
For Switch and Lock Movement see Fig. A, Plate 01037.....		
For Circuit Controller see Fig. B, Plate 01039.		
For Lock Box see Fig. A, Plate 01041.		
NOTE:—Prices for Double Slip and Movable Point Frog Layouts, etc., furnished on application.		



PLAN VIEW



SECTIONAL SIDE VIEW



PLAN VIEW SHOWING APPLICATION OF  
DUPLEX ROTARY CIRCUIT CONTROLLER

DUPLEX ROTARY CIRCUIT CONTROLLER

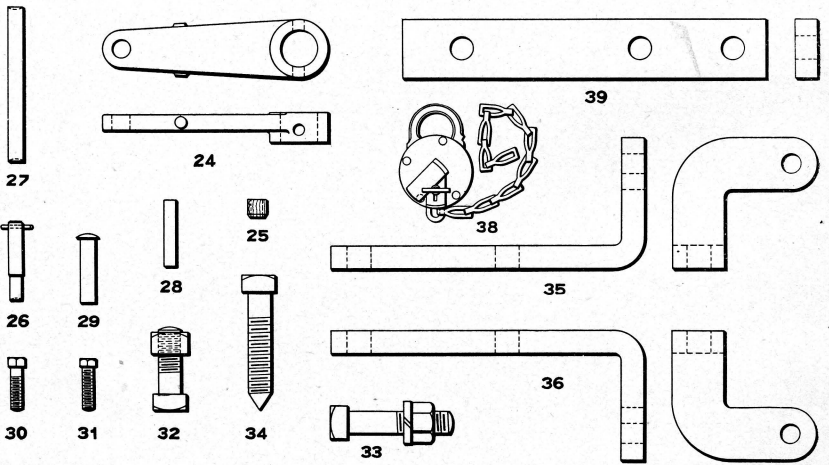
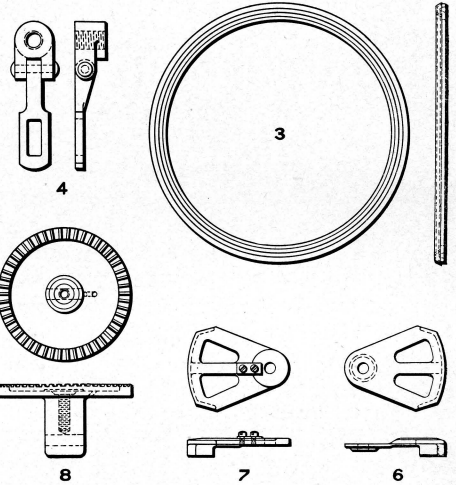
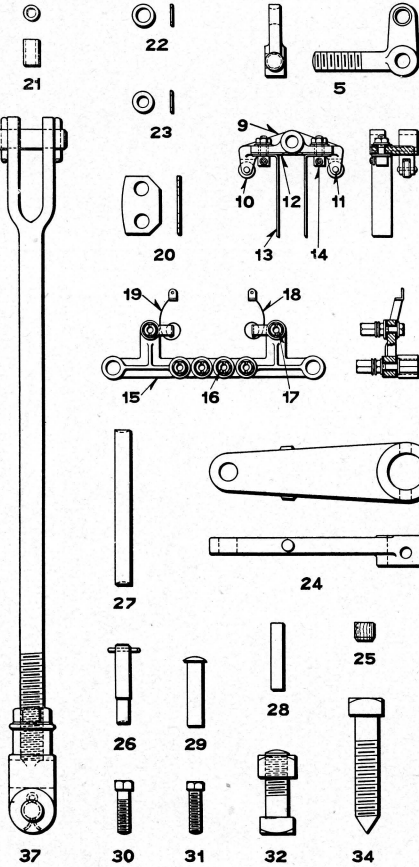
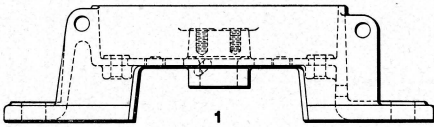
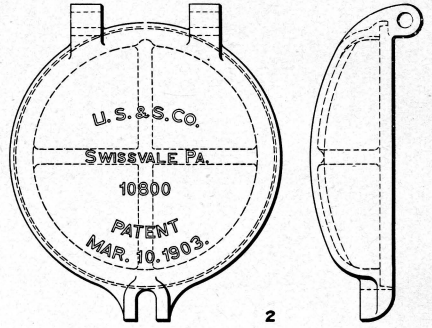
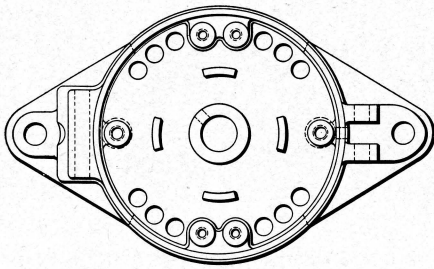
**DUPLEX ROTARY CIRCUIT CONTROLLER**

For details see Plate 01101

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Duplex Rotary Circuit Controller, with padlock and key, as shown.....	C-4655	30 00
Aa	Duplex Rotary Circuit Controller, with padlock and key, left hand point lug, connecting rod, supporting straps, lag screws and bolts, for a left hand layout, (1-A, Plate 01099), (2-32, 2-33, 4-34, 1-35, 1-37, 2-39, Plate 01101).....		36 00
Ab	Duplex Rotary Circuit Controller, with padlock and key, right hand point lug, connecting rod, supporting straps, lag screws and bolts, for a right hand layout, (1-A, Plate 01099), (2-32, 2-33, 4-34, 1-36, 1-37, 2-39, Plate 01101).....		36 00



DETAILS OF DUPLEX ROTARY CIRCUIT CONTROLLER

**DETAILS OF DUPLEX ROTARY CIRCUIT CONTROLLER**

For the general drawing and application of Duplex Rotary Circuit Controller, see Plate 01099.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
1	Box.....	1-C-3085	7 08
2	Cover.....	2-B-9787	1 14
2a	as above, with rubber gasket, (1-2, 1-3) ..	"	1 60
3	Gasket for cover Fig. 2.....	246-B-8078	32
4	Hasp, with nut and rivet.....	2-B-9925	56
5	Eye Bolt.....	10-B-8034	12
6	Bottom Reversible Cam.....	5-C-3104	2 06
7	Top Reversible Cam, with nut lock and two screws.....	6-C-3104	2 06
8	Cam Holder.....	7-C-3104	2 96
9	Rocker Arm and Contact Spring Bracket.....	4-C-3085	80
9a	as above, with rollers, pins, insulations, contact springs and terminal posts, (1-9, 2-10, 2-11, 2-12, 2-13, 2-14).....	"	3 00
10	Roller for rocker arm and contact spring bracket.	19-B-8072	10
11	Pin, 1/8"x5/8", for fastening roller Fig. 10 to rocker arm and contact spring bracket Fig. 9.....		01
12	Insulation for contact spring Fig. 13.....	90-B-8750	10
13	Contact Spring.....	280-B-8385	30
14	Terminal Post, with insulating bushing, insulating washers, plate washers, nut and screw...	331-B-8094	30
15	Contact Bracket.....	2-C-3104	86
15a	as above, with terminal posts and flexible terminal connectors, (1-15, 4-16, 2-17, 1-18, 1-19).....	"	3 30
16	Terminal Post, with insulating bushing, insulating washers, plate washers and nuts.....	77-B-8094	30
17	Terminal Post, with insulating bushing, insulating washers, plate washers and nuts.....	43-B-8094	30
18	Right Hand Flexible Terminal Connector.....	24-B-8762	30

DETAILS OF DUPLEX ROTARY CIRCUIT CONTROLLER

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

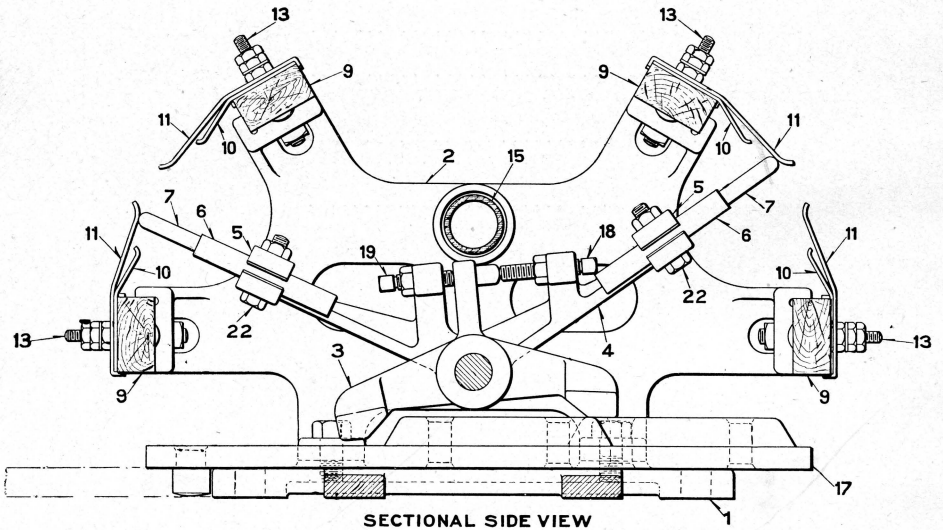
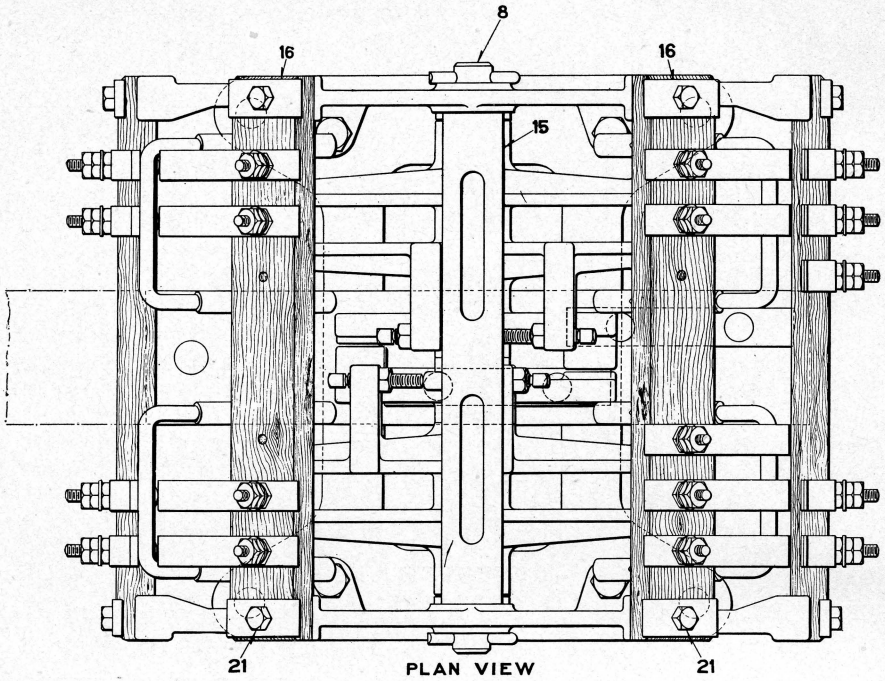
Fig.		Drawing Reference	List Price
19	Left Hand Flexible Terminal Connector.....	23-B-8762	30
20	Insulation for insulating contact bracket Fig. 15 from box Fig. 1.....	91-B-8750	10
21	Insulating Bushing for insulating contact bracket Fig. 15 from tap bolt Fig. 30.....	3-B-10273	06
22	Insulating Washer for insulating contact bracket Fig. 15 from tap bolt Fig. 30.....	258-B-8078	02
23	Steel Washer for tap bolt Fig. 30.....	56-B-7826	01
24	Operating Arm.....	63-B-8192	62
25	Bushing for wire opening in box Fig. 1.....	173-B-8095	03
26	Stud, with cotter, for rocker arm and contact spring bracket Fig. 9.....	2-B-8114	06
27	Hinge Pin, $\frac{1}{2}$ "x $5\frac{1}{4}$ ", for fastening cover Fig. 2 to box Fig. 1.....	16-B-10213	06
28	Pin, $\frac{3}{8}$ "x $2\frac{1}{4}$ ", for fastening operating arm Fig. 24 to cam holder Fig. 8.....	1-B-10217	06
29	Rivet, $\frac{1}{2}$ "x $2\frac{1}{4}$ ", for fastening eye bolt Fig. 5 to box Fig. 1. Price per hundred.....		3 00
30	Tap Bolt, $\frac{3}{8}$ "x $1\frac{1}{2}$ ", for fastening contact bracket Fig. 15 to box Fig. 1.....		03
30a	as above, with insulating bushing, insulating washer and plate washer, (1-30, 1-21, 1-22, 1-23).....		14
31	Special Bolt for fastening bottom and top reversible cams Figs. 6 and 7 to cam holder Fig. 8.....	24-B-8709	04
32	Bolt and Nut, $\frac{3}{4}$ "x $2\frac{1}{4}$ ", for fastening duplex rotary circuit controller to supporting strap Fig. 39. Price per hundred.....		12 00
33	Bolt and Nut, $\frac{5}{8}$ "x $4\frac{1}{8}$ ", with lock washer, for fastening point lug Fig. 35 or 36 to switch point. Price per hundred.....		12 00

**DETAILS OF DUPLEX ROTARY CIRCUIT CONTROLLER**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.	Description	Drawing Reference	List Price
34	Lag Screw, 3/4"x4", for fastening supporting strap Fig. 39 to tie. Price per hundred.....		9 00
35	Left Hand Point Lug for duplex rotary circuit controller.....	109-B-8181	2 34
36	Right Hand Point Lug for duplex rotary circuit controller.....	116-B-8181	2 34
37	Connecting Rod, with solid jaw, screw jaw, nut, pins and cotters, for operating duplex rotary circuit controller.....	15-B-7727	2 24
38	Padlock, with chain and key.....		1 60
39	Supporting Strap for supporting duplex rotary circuit controller.....	17-B-9375	40



**A**  
**INDICATION CIRCUIT CONTROLLER**



**INDICATION CIRCUIT CONTROLLER**

The Indication Circuit Controllers listed below do not include covers.

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
A	Indication Circuit Controller (no cover), as shown, for a crossover, (1-1a, 2-3, 2-4a, 1-8, 1-9a, 1-9b, 1-9c, 1-9d, 8-16, 1-17, 8-21).....	3-C-6727	26 00
Aa	Indication Circuit Controller, as above, for a single switch, (1-1a, 2-3, 2-4b, 1-8, 2-9, 1-9c, 1-9d, 8-16, 1-17, 8-21).....	2 C-6727	20 00
1	Base.....	8-C-6842	2 00
1a	as above, with side plates, wire carrier and screws, (1-1, 2-2, 1-15, 4-20).....	"	5 00
2	Side Plate.....	12-C-6842	1 00
3	Operating Arm, with stud.....	14-C-6842	1 00
4	Contact Arm.....	13-C-6842	1 10
4a	as above, with caps, insulating sleeves, contact fingers and screws, for a crossover, (1-4, 2-5, 4-6, 2-7, 1-18, 1-19, 4-22).....	"	5 00
4b	as above, for a single switch, (1-4, 1-5, 2-6, 1-7, 1-18, 1-19, 2-22).....	"	3 12
5	Cap for contact arm Fig. 4.....	4-C-7401	10
6	Insulating Sleeve for contact finger Fig. 7.....	17-B-10270	10
7	Contact Finger.....	52-B-8429	1 40

**INDICATION CIRCUIT CONTROLLER**

**Order by Plate and Figure**

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
8	Pin, 5/8"x9-15/16", with cotters, used as shaft for operating arm Fig. 3 and contact arm Fig. 4.	49-B-10216	16
9	Contact Spring Board.....	35-B-9968	10
9a	as above, with reinforcing springs, contact springs and terminal posts, for the lower front end of the circuit controller used for crossover, (1-9, 4-10, 4-11, 4-13).....	"	1 20
9b	as above, for the upper front end of the circuit controller used for crossover, (1-9, 4-10, 4-11, 4-13).....	"	1 20
9c	as above, for the lower back end of the circuit controller used for crossover and single switch, (1-9, 5-10, 5-11, 5-13).....	"	1 50
9d	as above, for the upper back end of the circuit controller used for crossover and single switch, (1-9, 5-10, 5-11, 5-13).....	"	1 50
10	Reinforcing Spring.....	130-B-8735	08
11	Contact Spring.....	619-B-8385	10
13	Terminal Post, with washers and nuts.....	230-B-8094	10

INDICATION CIRCUIT CONTROLLER

Order by Plate and Figure

The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price.
15	Wire Carrier.....	227-B-8095	70
16	Special Washer.....	57-B-7826	34
17	Slide Bar Extension, with dogs and rivets.....	4-C-6842	2 20
18	Set Screw and Hex. Nut, 5/16"x1/2", for contact arm Fig. 4.....		03
19	Set Screw and Hex. Nut, 5/16"x7/8", for contact arm Fig. 4.....		03
20	Hex. Hd. S. Mach. Screw, 3/8"x3/4", for fastening side plate Fig. 2 to base Fig. 1. Price per hundred.....		3 00
21	Hex. Hd. S. Mach. Screw and Nut, 1/4"x1 1/4", for fastening contact spring board Fig. 9 to side plate Fig. 2. Price per hundred.....		3 00
22	Hex. Hd. S. Mach. Screw and Nut, 1/4"x1 1/8", for fastening cap Fig. 5 to contact arm Fig. 4. Price per hundred.....		3 00
23	Cover (not shown).....	96-C-4540	8 40

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