CATALOGUE OF INTERLOCKING and SIGNALING DEVICES

1902

SECTION 11

ELECTRIC LOCKS, ELECTRIC SLOTS, HAND RELEASES AND TIME LOCKS

The Union Switch & Signal Co.
Swissvale Pa.

SECOND EDITION, 1909

A CATALOGUE AND PRICE LIST
OF
Interlocking and Signaling Devices
MADE BY
THE
UNION SWITCH & SIGNAL CO.

FRAGILE

HANDLE WITH CARE

and Purely Mechanical Appliances
for Railway Operation.

Automatic, Semi-Automatic and Manually Operated Block Signals.

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

Plans and Estimates on Application.

General Offices and Works
SWISSVALE, PA.

New York, Central Bldg. Chicago, Monadnock Block Montreal, Commercial Union Bldg.

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OF PITTSBURGH, PA.

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SECTION XI

Electric Locks
Electric Slots
Hand Releases and
Time Locks

SECOND EDITION
1909

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334

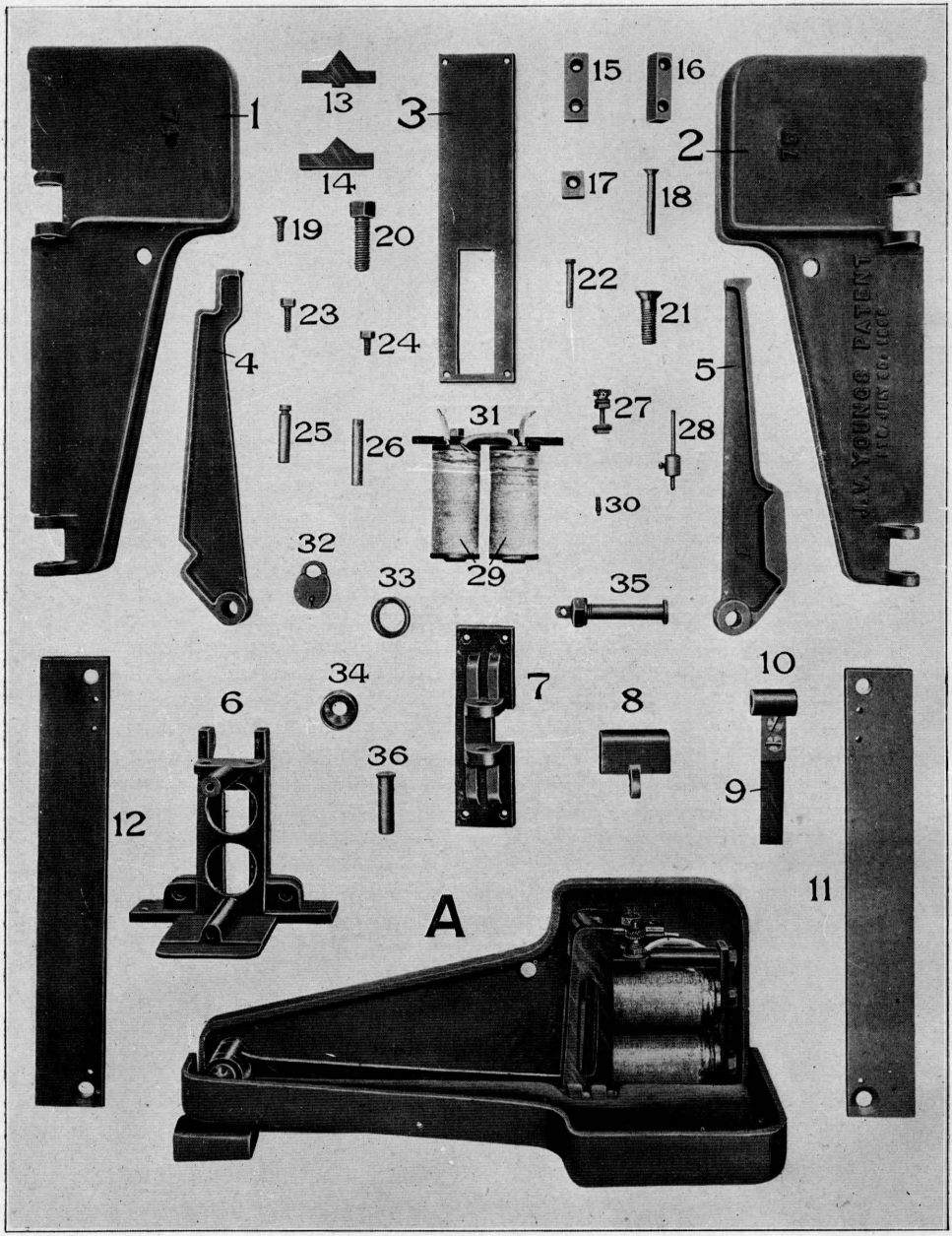
PREFACE

This section of our Catalogue treats of the detail and application of those adjuncts in general use wherein certain refinements are supplemental to a mechanical interlocking plant.

The electric locks regulate automatically such functions as are brought under their control. The hand releases, mechanical or electrical, allow of the manipulation of the interlocking by cutting out the electric locking and temporarily introducing a compensating feature in order that the machine may be set normal, but before any further routing may be done the hand release must be placed normal, whereby the electric locking is again effective. The electric slot automatically controls the movement of a signal arm to which it is an intermediary. The time lock provides a mechanical means of controlling the routing for a predetermined period, so that once a signal has been placed normal the switches can not be moved until a set time period has elapsed.

From those who are not familiar with the application of any of these devices we would invite inquiry with a statement of the existing conditions, together with what is desired to be accomplished.

The Union Switch and Signal Co.



MODEL No. 1 ELECTRIC LOCK

MODEL No. 1 ELECTRIC LOCK

Applicable to a Stevens, or an Improved Saxby & Farmer interlocking machine. (See Plate 1101).

Locking is not included in these prices and should be ordered separately.

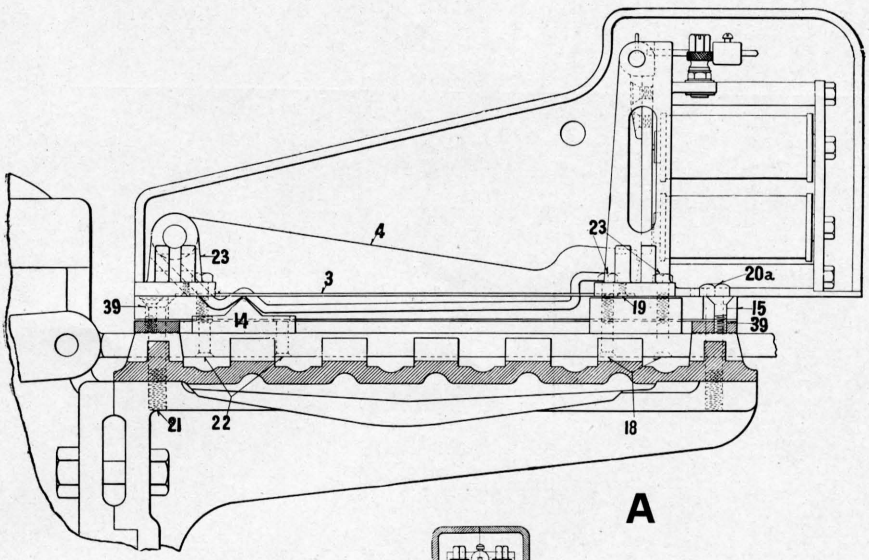
ORDER BY PLATE, LETTER OR NUMER

No.		List Price	
A	Model No. 1.1 Electric Lock complete, for application to a Stevens machine	44 00	
A1	No. A with the necessary fastenings, and fillers for a Stevens machine	44 50	
B	Model No. 1.2 Electric Lock complete, for application to an I. S. & F. machine	44 00	
B1	No. B with the necessary fastenings for an I. S. & F. machine	44 50	
1	Right Hand Cover for mechanism	2 44	
2	Left Hand Cover for mechanism	2 44	
3	$2\frac{5}{16}$" x $9\frac{5}{16}$" No. 14 Sheet Iron Plate, slotted, for connecting No. 6 and No. 7 (for use on an I. S. & F. machine)	60	
3a	No. 3 for use on a Stevens machine	60	
4	Brass Locking Lever for a Stevens machine	2 10	
5	Brass Locking Lever for an I. S. & F. machine	2 10	
6	Brass Magnet Bracket	7 90	
7	Brass Fulcrum Bracket for No. 4 or No. 5	1 60	
8	Cast Iron Cap	45	
9	Norway Iron Armature	30	
9a	No. 9 and No. 10, with two ½"x¼"-20 Flat Head Machine Screws for fastening No. 9 to No. 10	1 25	
10	Brass Pivot Bracket for No. 9	54	
11	Right Hand Supporting Strip (½"x2" x $13\frac{3}{16}$" iron) for use on a Stevens machine	60	
12	Left Hand Supporting Strip (½"x2"x$13\frac{3}{16}$ iron) for use on a Stevens machine	60	
13	C. R. S. Dog for use on an I. S. & F. machine	42	
14	C. R. S. Dog for use on a Stevens machine	46	
15	C. R. S. Filler for use on a Stevens machine	12	
16	C. R. S. Dog for use on a Stevens machine	12	
17	C. R. S. Filler for use on a Stevens machine	08	
18	¼"x1⅜" Flat Head Rivet for fastening No. 16 to tappet of a Stevens machine	01	
18a	¼"x1⅛" Flat Head Rivet for fastening No. 13 to longitudinal locking bar	01	
19	¼"-No. 6-32 Flat Head Brass Screw for securing No. 3 to No. 6 or No. 7	01	

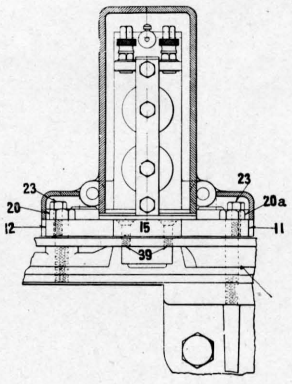
MODEL No. 1 ELECTRIC LOCK

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
20	3/8"x1 3/4" Hexagon Head Tap Bolt for securing No. 11 or No. 12 to Stevens machine.....	03	
20a	3/8"x2 1/2" Hexagon Head Tap Bolt for securing No. 11 or No. 12 to Stevens machine.....	06	
21	3/8"x1 3/4" Flat Head Tap Bolt for securing No. 11 or No. 12 to Stevens machine.....	06	
21a	3/8"x2 1/2" Flat Head Tap Bolt for securing No. 11 or No. 12 to Stevens machine.....	06	
22	1/4"x7/8" Fillister Head Rivet for fastening No. 14 to tappet.....	01	
23	1/4"x3/4" Hexagon Head Tap Bolt for fastening A or B to machine.....	05	
24	1/2"x1/4"-20 Hexagon Head Tap Bolt for fastening No. 31 to No. 6 or No. 29.....	05	
25	3/8"x1 3/4" Turned Pin for fastening No. 1, No. 2 or No. 8 to No. 6 or No. 7.....	03	
26	3/8"x2" Turned Pin for No. 10.....	03	
27	Standard Brass Binding Post with Hexagon Nut; Thumb Nut; Brass Washers and Mica Washers, complete as illustrated.....	18	
28	Brass Counterweight with No. 30 Brass Rod and 1/4"-No. 6-32 Fillister Head Brass Set Screw, complete as illustrated.....	12	
29	Magnets (specify resistance) with 1 of No. 31 and 2 of No. 24.....	5 50	
30	1/2"-No. 10-32 Headless Set Screw for securing No. 25.....	03	
30a	3/8"-No. 10-32 Headless Set Screw for securing No. 25.....	03	
31	Norway Iron Back Strap.....	30	
32	Bohannan Padlock.....	85	
33	Brass Cup Washer for No. 35.....	09	
34	Brass Cap for No. 33.....	09	
35	Special Turned Pin and Eye Bolt with Nut for securing No. 1 to No. 2.....	32	
36	1/2"x1 3/4" Round Head Turned Pin for No. 4 or No. 5.....	08	
37	11/16"-No. 46 Bronze Pin for securing No. 26 to No. 6.....	01	
38	Hard Rubber Bushing for No. 6 and No. 27.....	03	
39	1/4"x3/4" Flat Head Machine Screw for fastening Nos. 16 and 17 to Stevens Locking Plate....	02	



A



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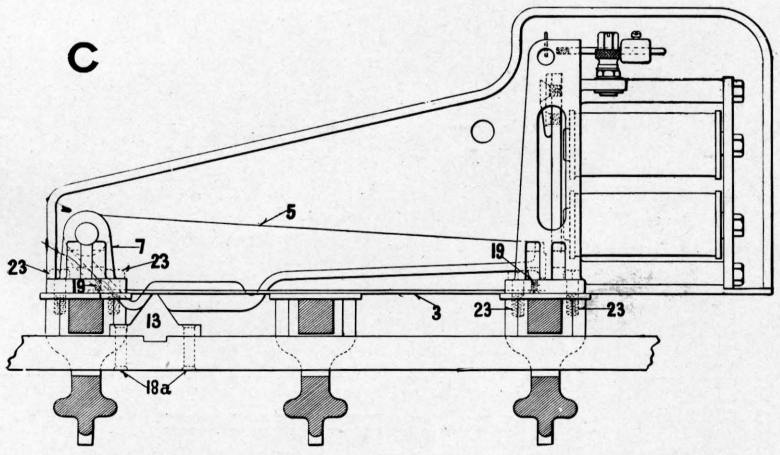
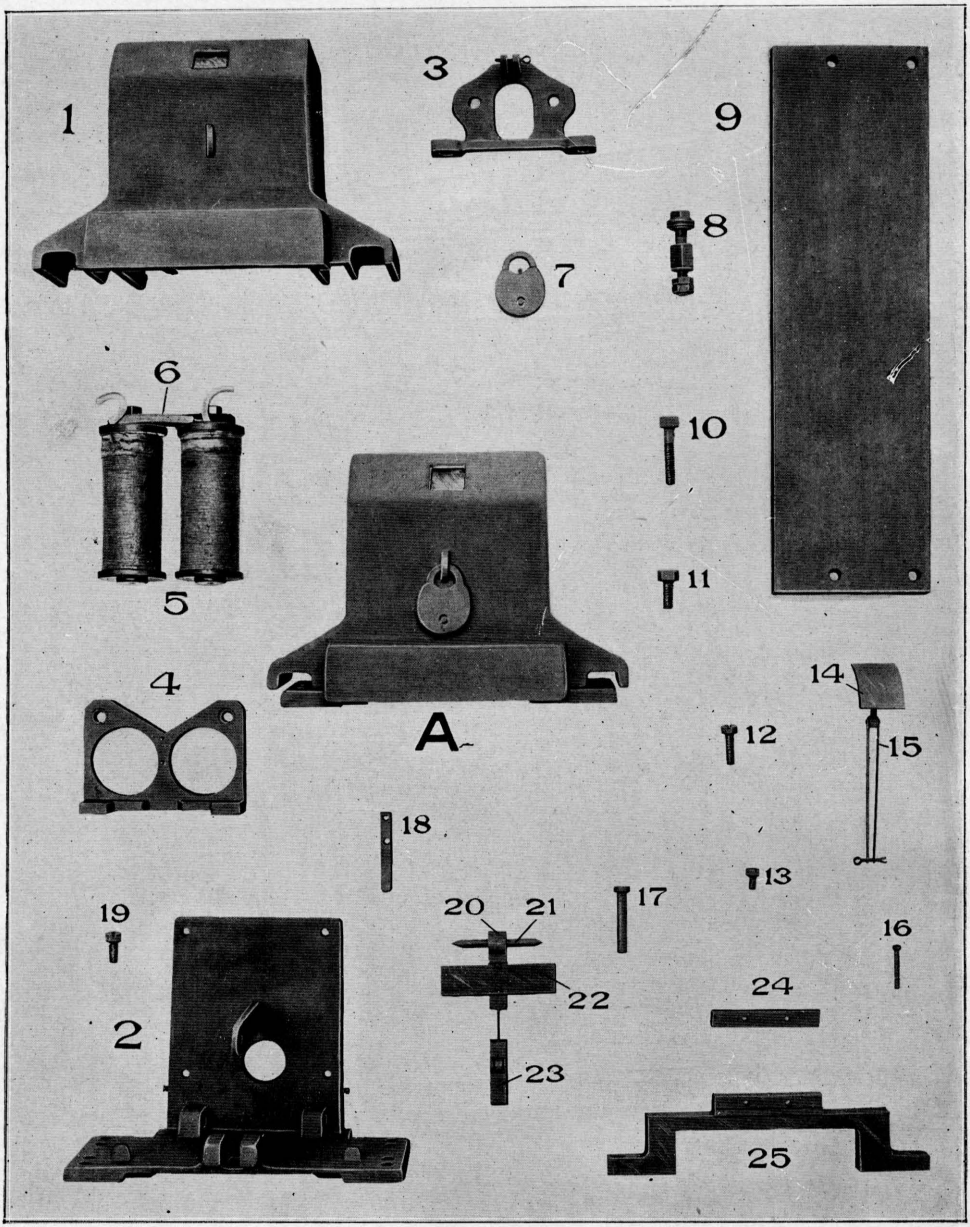


A. Application of Model No. 1 Lock to Stevens Machine
B. End View of A
C. Application of Model No. 1 Lock to I. S. & F. Machine



MODEL No. 2 ELECTRIC LOCK

(Style "B" Electric Lock)

MODEL No. 2 ELECTRIC LOCK

(Style "B" Electric Lock)

Applicable to the Improved Saxby & Farmer interlocking machine on either longitudinal or cross locking. A mechanical hand release may be used in connection with the electric lock when applied to longitudinal locking bar.

If for a machine in service, furnish dog sheet and state whether the necessary change in locking is desired. The change in locking is not included in the prices of locks in this list, and should be ordered separately.

ORDER BY PLATE, LETTER OR NUMBER

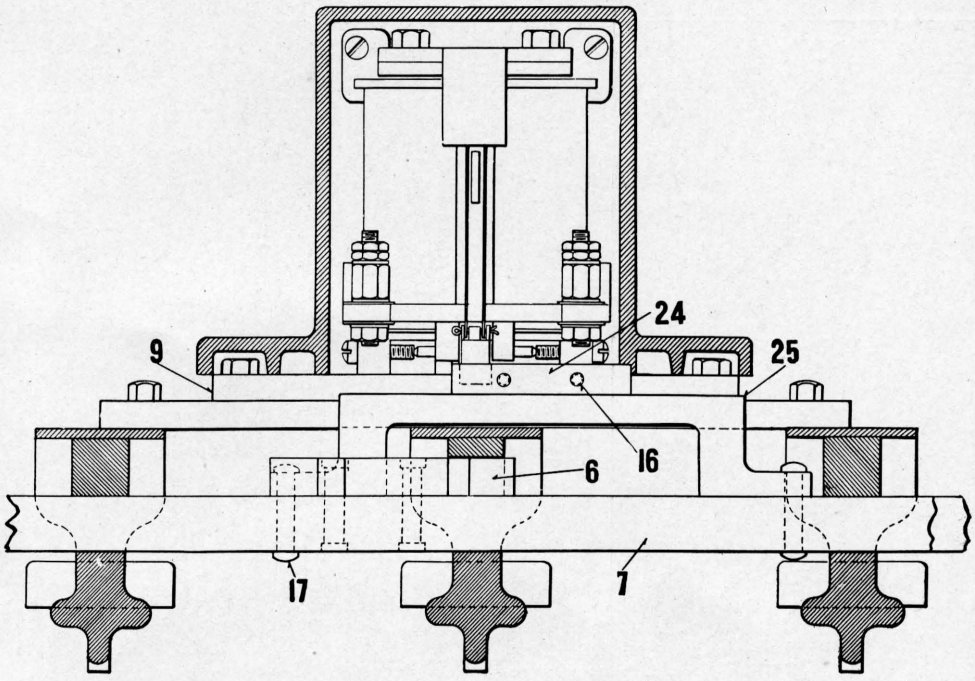
No.		List Price	
A	Model No. 2.1 Electric Lock complete as illustrated	24 80	
A1	Model No. 2.1 Electric Lock complete as per A with (1-9; 4-10; 4-11; 2-16; 2-17; 1-24; and 1-25). For use without mechanical hand release	29 50	
B	Model No. 2.2 Electric Lock complete as per A. For use with mechanical hand release using No. 23a in place of No. 23	26 10	
B1	Model 2.2 Electric Lock complete as per B with (1-9; 4-10; 4-11; 2-16; 2-17; 1-24; and 1-25). For use with mechanical hand release	30 80	
C1	Model No. 2.1 Electric Lock for application to cross-locking complete as per A with (1-9a; 4-10; 4-11; 1-26; 2-27; 1-28; and 2-29)	28 00	
1	Cast Iron Cover complete with Glass for indicator opening, Clamps, Screws and 1/8" Stud as illustrated	2 40	
2	Cast Iron Base with Staple and 1/8" Side Pins, as illustrated for A	4 15	
2a	No. 2 Slotted for B	4 30	
3	Brass Upper Bracket for No. 5 and split cotter	1 00	
4	Brass Lower Bracket for No. 5	1 00	
5	Electro-Magnet (specify resistance) with Back Strap and Hexagon Head Tap Bolts	5 50	
6	Norway Iron Back Strap for No. 5	30	
7	Bohannan Pad Lock	85	
8	Binding Post for No. 5 complete with Nuts and Washers	18	
9	3/8"x3 1/4"x10" Supporting Strip for No. 2	90	
9a	1/4"x7"x7" Supporting Plate for No. 2 of C1	1 50	
10	1/4"x1" Tap Bolt for fastening No. 9 to No. 19 of Plate 154, Section 1	03	
11	1/4"x3/4" Cap Screw for fastening No. 2 to No. 9.	03	

MODEL No. 2 ELECTRIC LOCK

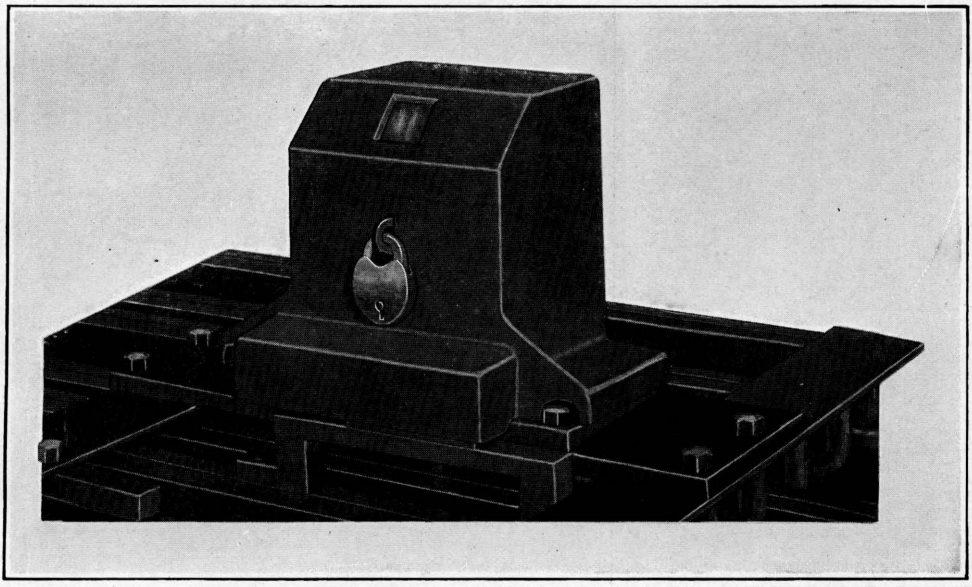
(Style "B" Electric Lock)

ORDER BY PLATE, LETTER OR NUMBER

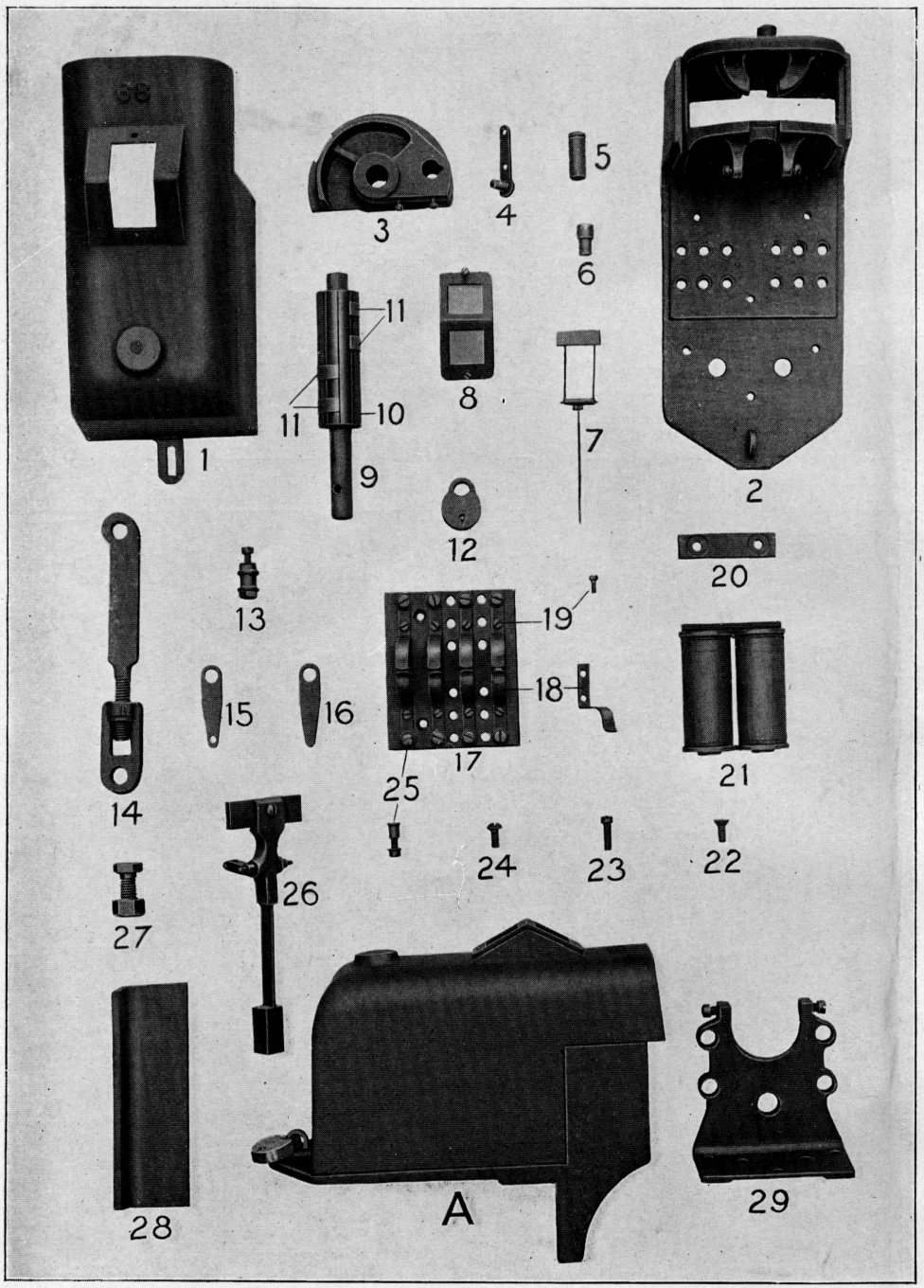
No.		List Price	
12	11/16"-No. 12-32 Fillister Head Brass Bearing Screw for No. 21	01	
13	1/4"-No. 4-40 Fillister Head Brass Screw for securing No. 18 to No. 2	01	
14	Phosphor Bronze Indicator Card with Brass Arm and Rivet	60	
15	Pair of Phosphor Bronze Links and Split Cotter for connecting No. 14 to No. 23	35	
16	1/8"x3/4" Rivet for fastening No. 24 to No. 25	01	
17	1/4"x1 1/4" Rivet for fastening No. 25 to locking	01	
18	Phosphor Bronze Spring for No. 23	18	
19	1/2"-No. 12-32 Fillister Head Brass Screw for fastening No. 3 and No. 4 to No. 2	01	
20	Brass Armature Bar with rivets	54	
20a	No. 20 with No. 21	60	
20b	No. 20a with No. 22	1 00	
20c	No. 20b with No. 23	1 90	
20d	No. 20b with No. 23a	3 20	
21	Steel Armature Shaft for No. 20	05	
22	Norway Iron Armature with two 13/32" No. 4-32 Fillister Head Brass Screws	10	
23	Lock Piece with Phosphor Bronze Lever and Rivets for ordinary use	74	
23a	No. 23 with Roller and Shaft for "B" (used with mechanical hand release)	2 10	
24	Guard Plate for No. 25	34	
25	C. R. S. Locking Dog for A or B	3 20	
25a	No. 25 with (1-24; 2-16; and 2-17)	3 60	
26	C. R. S. Locking Dog for C1, not illustrated	30	
27	1/4"x1 3/4" Fillister Head Rivet for fastening No. 26 to locking, not illustrated	01	
28	No. 10 Phosphor Bronze Spring for C1, not illus.	1 00	
29	1/4"x1/2" Cap Screw for fastening No. 28 to machine, not illustrated	05	



Nos. 9, 16, 17, 24 and 25 refer to Plates 1105 and 1106 and 7 to Plate 1141



Application of Model No. 2 Electric Lock to an I. S. & F. Interlocking Machine



MODEL No. 3 ELECTRIC LOCK

The Union Electric Lock

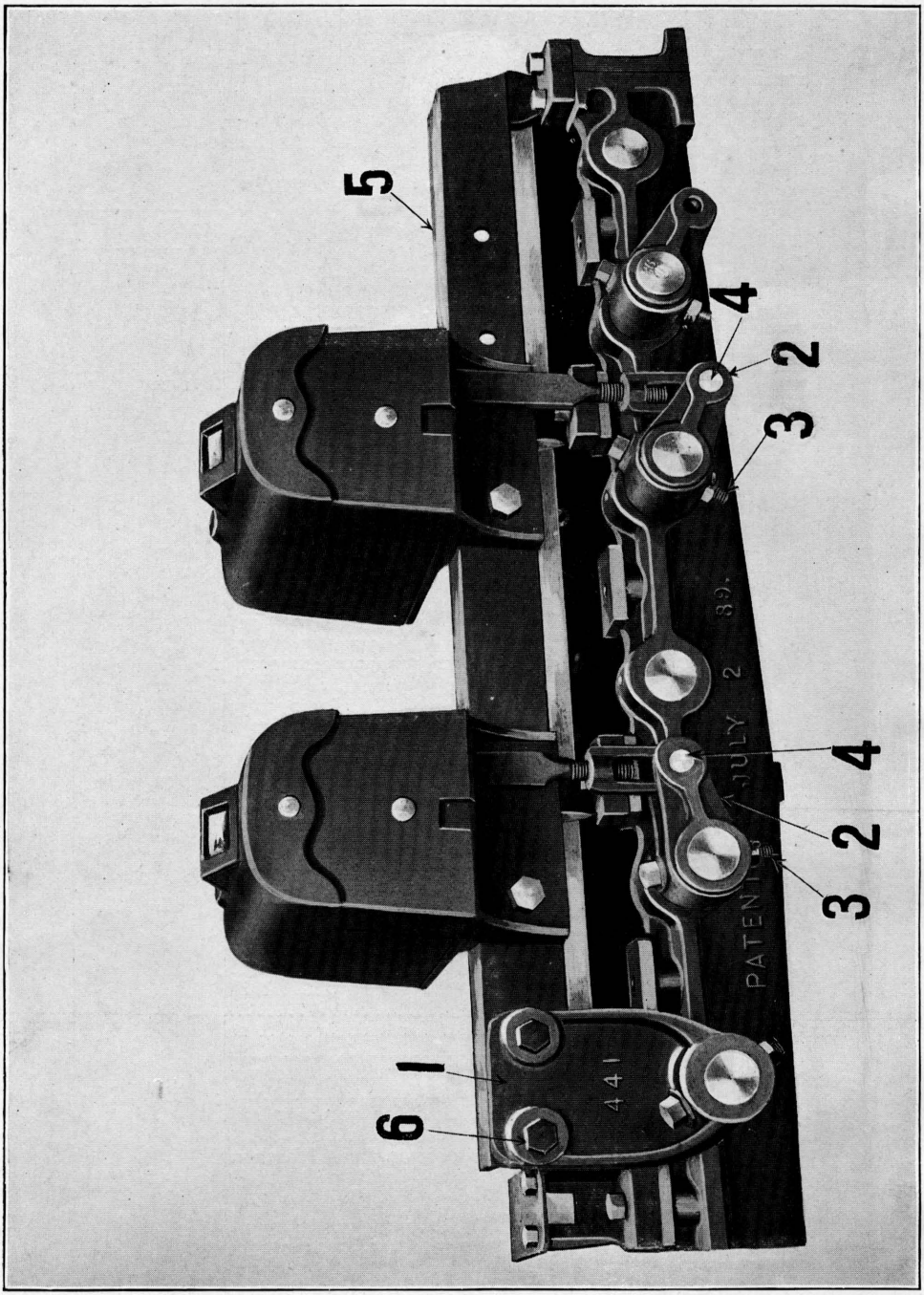
MODEL No. 3 ELECTRIC LOCK
(The Union Electric Lock)

When ordering Model No. 3 Electric Lock, specify the type of machine with which it is to be used.

The fittings for attaching the lock are not included in this list and should be ordered separately. These fittings will vary according to the type of machine to which the lock is to be attached.

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Model No. 3.1 Electric Lock, complete as illustrated	44 00	
1	Cast Iron Cover, as illustrated	2 00	
2	Cast Iron Base, as illustrated	4 90	
3	Segmental Locking Dog with two 3/8"-No. 8-32 Fillister Head Brass Screws	1 10	
4	Phosphor Bronze Strip with Steel Pin for fastening No. 3 to No. 9	10	
5	1/2"x1 1/4" Round Head Turned Pin for connecting No. 3 to No. 14	05	
6	1/2"x7/8" Steel Stud for No. 2	05	
7	Indicator, complete as illustrated	89	
8	Indicator Frame, Celluloid Shield and two 1/4"-No. 6-32 Fillister Head Brass Screws, as illustrated	1 00	
9	5/8"x6 3/4" C. R. S. Shaft	16	
10	1 1/4"x3 3/4" Hard Rubber Drum for No. 9	1 52	
11	Phosphor Bronze Contact Spring for No. 10	04	
12	Bohannan Padlock	85	
13	Brass Binding Post with Nuts, Brass Washers, Mica Washers, Bushing and 1/2"-No. 12-24 Fillister Head Brass Screw, complete as illustrated	18	
14	Wrought Iron Link with Malleable Screw Jaw for No. 3	30	
15	Phosphor Bronze Contact Spring with Platinum Disc	72	
16	Phosphor Bronze Contact Spring with Platinum Point	58	
17	Hard Rubber Base	85	
18	Phosphor Bronze Contact Spring for No. 17	72	
19	3/8"-No. 8-32 Fillister Head Brass Screw for securing No. 18 to No. 17	01	
20	Back Strap for No. 21	30	
21	Electro-Magnet (specify resistance) with Back Strap	5 50	
22	5/8"x1/4"-20, Flat Head Screw for securing No. 20 to No. 21	01	
23	3/4"-No. 12-32 Fillister Head Brass Screw for securing No. 17 to No. 2	01	
24	1/2"-1/4"-20 Round Head Screw for securing No. 29 to No. 2	01	
25	Brass Binding Post with Bushing, Brass Washer, and 1/2"-No. 10-32 Fillister Head Brass Screw as illustrated, for fastening No. 18 to No. 17	18	
26	Armature and Counterweight complete as illustrated	2 35	
27	1/2"x1 1/4" Bolt with Nut for fastening No. 28 to the machine frame and No. 2 to No. 28	05	
28	1 3/8"x2" Angle Iron for supporting A, per lineal foot	18	
29	Brass Magnet Bracket with two 9/16"-1/4"-32 Fillister Head Brass Trunnion Screws, as illustrated	2 10	

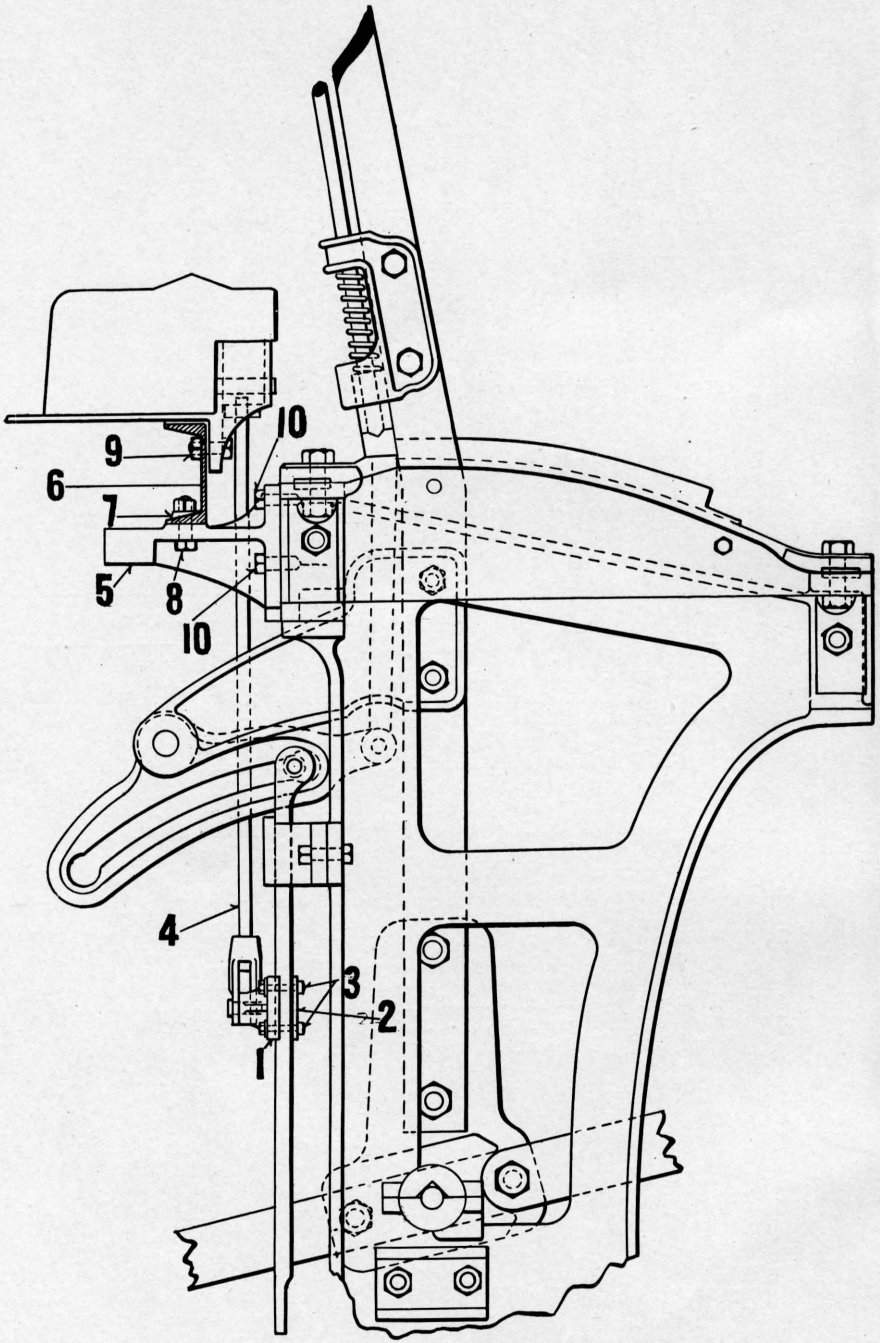


MODEL No. 3 ELECTRIC LOCK
(Applied to an I. S. & F. Machine)

MODEL No. 3 ELECTRIC LOCK
(Applied to an I. S. & F. Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for attaching Model No. 3 Electric Lock to an I. S. & F. machine (2-1, 1-2, 3-3, 1-4,) and (18½" of 28, 6-27 Plate 1110)	5 62	
A1	Model No. 3 Electric Lock with fittings for application to an I. S. & F. machine (1-A and 1-A Plate 1110)	49 62	
1	Cast Intermediate Bracket for supporting angle iron No. 28, Plate 1110	1 26	
1a	Cast End Bracket for supporting angle iron. No. 28, Plate 1110. (State whether left hand or right hand is desired)	1 70	
2	Cast Arm for connecting No. 14, Plate 1110, to extended locking shaft	88	
3	⅜"x2¾" Tap Bolt with Hexagon Nut, Washers and Cotter for fastening Nos. 1 and 2 to extended locking shafts	12	
4	½"x2" Round Head C. R. S. Pin for No. 2	08	
5	See No. 28, Plate 1110		
6	See No. 27, Plate 1110		



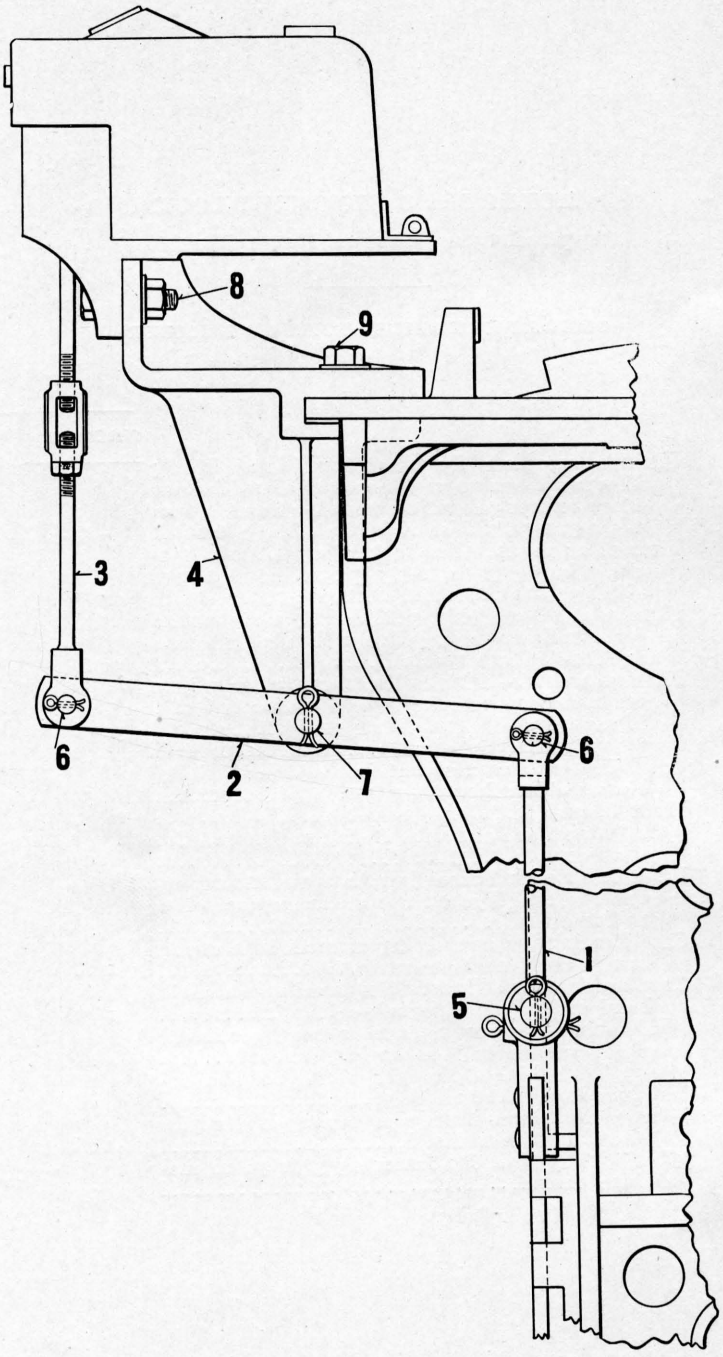
MODEL No. 3 ELECTRIC LOCK

(Applied to a Johnson No. 1 Machine)

MODEL No. 3 ELECTRIC LOCK
(Applied to a Johnson No. 1 Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for attaching Model No. 3 Electric Lock to a Johnson No. 1 Machine when lock is at end of machine frame, (1-1a, 1-4, 1-5, 1-5a, 2 feet of 6, 2-7, 4-8, 4-9, 6-10)..	7 80	
A1	Fittings as per A, when lock is in middle of machine frame (1-1a, 1-4, 2-5a, 2 feet of 6, 2-7, 4-8, 4-9, 8-10).....	8 00	
B	Fittings and Model No. 3 Electric Lock complete for attaching to a Johnson No. 1 Machine. (1-A, 1-A Plate 1110).....	51 80	
B1	Fittings and Model No. 3 Electric Lock complete for attaching to middle of a Johnson No. 1 Machine. (1-A1, 1-A Plate 1110).....	52 00	
1	Cast Tappet Bar Bracket.....	32	
1a	Cast Tappet Bar Bracket with Clamp, Bolts, Nuts and Washers, (1-1, 1-2, 2-3).....	54	
2	Wrot Clamp.....	14	
3	⅜"x2" Machine Bolts with Hexagon Nut and Cut Washer	07	
4	Wrot Link with Screw Jaw, Pin and Cotter on one end and Eye on the other (replaces No. 14 Plate 1110).....	1 50	
5	Cast Bracket for supporting channel iron at left hand end of machine frame.....	1 28	
5a	Cast Bracket for supporting channel iron at right hand end of machine frame.....	1 44	
6	4" Channel 6.25 pounds per lineal foot, per foot..	68	
7	Special Wrot Taper Washer for No. 8.....	28	
8	½"x1⅝" Machine Bolt with Hexagon Nut for fastening No. 6 to No. 5.....	06	
9	½"x1⅜" Machine Bolt with Hexagon Nut for fastening lock to No. 6.....	06	
10	½"x1¼" Tap Bolt for fastening 5 or 5a to machine frame.....	03	



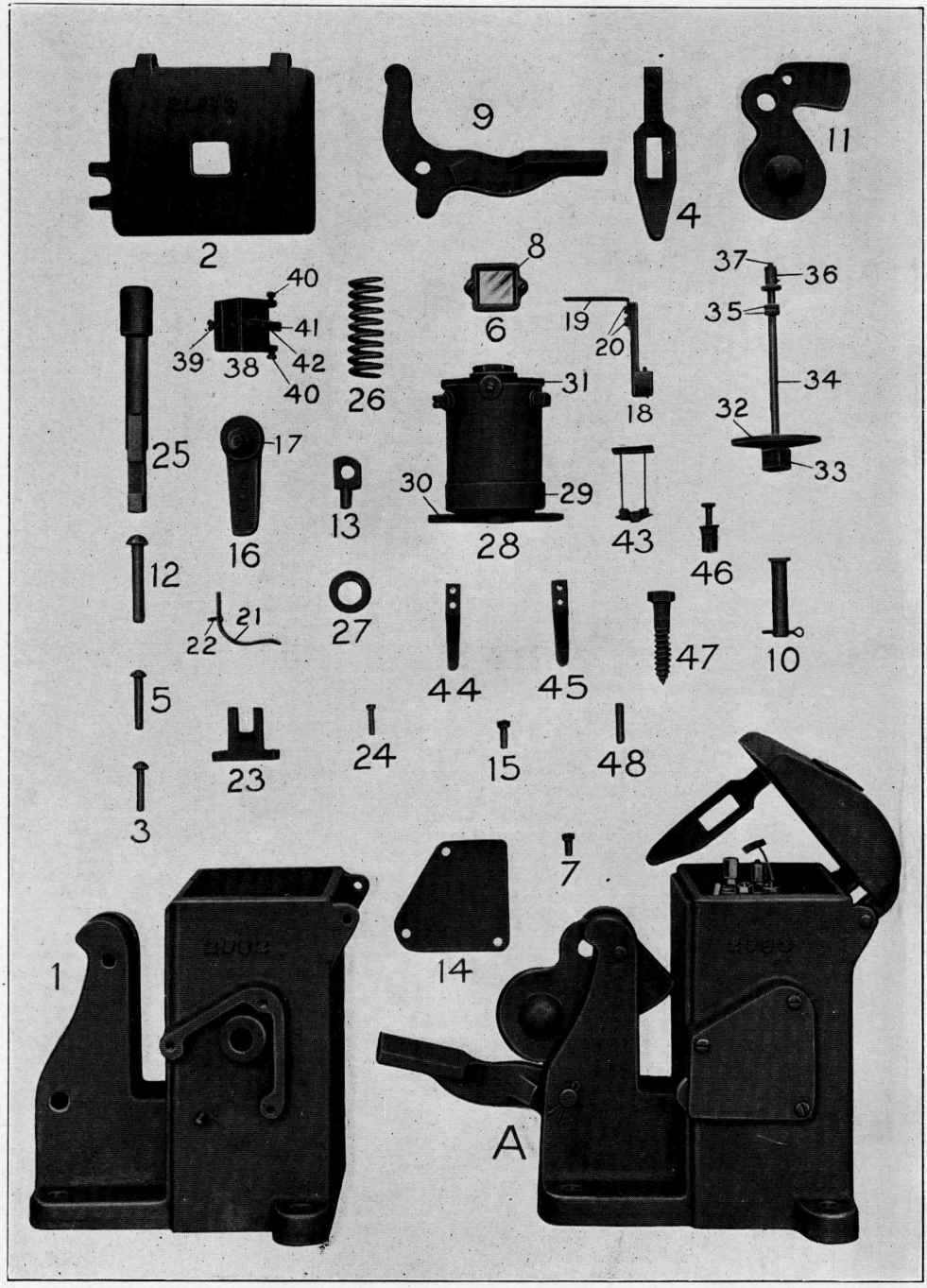
MODEL No. 3 ELECTRIC LOCK
(Applied to a National Machine)

MODEL NO. 3 ELECTRIC LOCK

(Applied to a National Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for applying Model No. 3 Lock to a National Machine. (1-1, 1-2, 1-3, 1-4, 1-5, 2-6, 1-7, 2-8, 2-9)	11 70	
B	Fittings and Model No. 3 Lock for application to a National Machine. (1-A, 1-A Plate 1110)	55 70	
1	Rod with Eye on one end and Solid Jaw on the other, for connecting No. 2 to tappet	2 80	
2	Wrot Lever	35	
3	Adjustable Link with Solid Jaw on one end, Eye on the other, and Adjusting Screw with Jamb Nuts	5 34	
4	Cast Bracket	1 38	
5	¾″x3 1/16″ Pin with Cotter for fastening No. 1 to tappet	12	
6	½″x1⅜″ Pin with Cotter for fastening Nos. 1 and 3 to No. 2	09	
7	⅝″x2″ Stud with Cotter for supporting No. 2	11	
8	½″x1½″ Machine Bolt with Nut for fastening lock to No. 4	07	
9	½″x1¼″ Tap Bolt for fastening No. 4 to machine frame	03	



MODEL No. 4 ELECTRIC LOCK

(Switch Stand Electric Lock)

MODEL No. 4 ELECTRIC LOCK
(Switch Stand Electric Lock)

Applicable to the Low and High Rotary Switch Stands, Models 5, 6, 7 and 8. (Plates 6520 and 6530 of Second Edition, Section No. 6.)

Lag screws or padlock are not included in this list; if desired order separately. Model No. 4.1 differs from Model No. 4.2 in the substitution of a Cam for the Treadle of Model 4.1.

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Model No. 4.1 Electric Lock, complete as illustrated	52 80	
B	Model No. 4.2 Electric Lock, complete as A	52 80	
1	Box as illustrated	8 60	
2	Door for No. 1	96	
3	¼"x1⅜" Button Head Rivet for fastening No. 2 to No. 1	01	
4	Hasp for No. 2	40	
5	¼"x1½" Button Head Rivet for fastening No. 4 to No. 2	01	
6	Indicator Opening Frame	36	
7	⅜"-No. 6-32 Fillister Head Brass Screw for fastening No. 6 to No. 2	03	
8	Celluloid Shield for No. 6	14	
9	Treadle	66	
9a	Cam for Model No. 4.2 to replace No. 9 of Model No. 4.1	60	
10	½"x2¼" Round Head Pin with Cotter for No. 9 or No. 9a	11	
11	Latch	1 02	
12	⅜"x2¼" Button Head Rivet for fastening No. 11 to No. 1	03	
13	Staple	15	

MODEL No. 4 ELECTRIC LOCK

(Switch Stand Electric Lock)

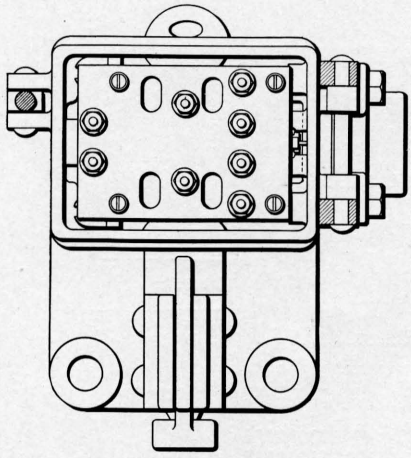
ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
14	Cover Plate for No. 1	70	
15	$\frac{9}{16}$"-¼"-32 Fillister Head Brass Screw for fastening No. 14, No. 30 and No. 31 to No. 1	03	
16	Outside Arm with ⅛"x$1\frac{5}{16}$" Dowel Pin	39	
17	Turned Pin for No. 16 and No. 18	18	
18	Inside Arm with $\frac{3}{32}$"x$\frac{13}{16}$" Dowel Pin	61	
19	No. 14 Phosphor Bronze Locking Strip	22	
20	¼"-No. 8-32 Fillister Head Brass Screw for securing No. 19 to No. 18	03	
21	Steel Spring for No. 16	78	
22	⅛"x$\frac{7}{16}$" Button Head Rivet for securing No. 21 to No. 1	01	
23	Brass Plunger Guide	30	
24	⅞"-No. 10-32 Fillister Head Brass Screw for fastening No. 23 to No. 1	03	
25	Steel Plunger	1 94	
26	Coil Spring for No. 25	32	
27	Punched Steel Washer for No. 25	14	
28	Iron Clad Magnet with back strap and binding posts complete as illustrated	17 46	
29	Magnet Cap	1 14	
30	Lower Magnet Bracket	72	
31	Upper Magnet Bracket	72	
32	Armature	1 65	
33	Case Hardened Steel Dog with Dowel Pin	32	

MODEL No. 4 ELECTRIC LOCK
(Switch Stand Electic Lock)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
34	Brass Armature Stem	88	
35	3/8" Brass Nut for No. 34	03	
36	Brass Sleeve with Dowel Pin, for No. 34	18	
37	3/16"x3/8" Fiber Pin for No. 34 and for dowel for fastening No. 44 and No. 45 to No. 1	18	
38	Brass Bracket for Indicator	99	
39	3/8"-No. 10-32 Flat Head Screw for fastening No. 38 to No. 1	03	
40	5/16"-No. 10-32 Fillister Head Brass Trunnion Screw for No. 38	03	
41	No. 20 Phosphor Bronze Spring for Indicator Crank	30	
42	1/8"-No. 6-32 Fillister Head Brass Screw for fastening No. 41 to No. 38	03	
43	Brass Indicator Crank with Phosphor Bronze Indicator Card and German Silver Arms, complete as illustrated	65	
44	No. 16 Phosphor Bronze Spring with Platinum Point	82	
45	No. 26 Phosphor Bronze Spring with Platinum Disc	86	
46	Brass Binding Post complete as illustrated, with Hard Rubber Brushing, Brass Washer, Mica Washers, Nut and Lock Nut	21	
17	1/2"x2 1/2" Lag Screw	03	
8	Steel Pin	02	
9	Mica Plate Washer for Nos. 44 and 45	10	



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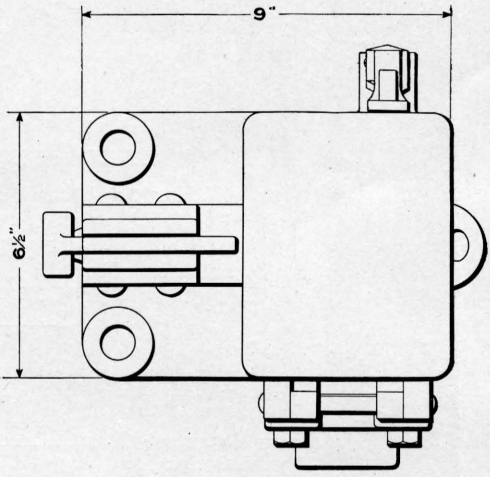
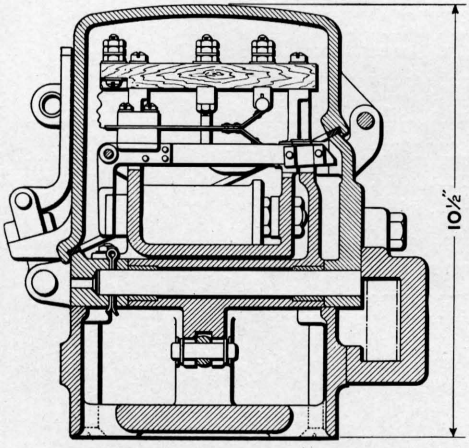
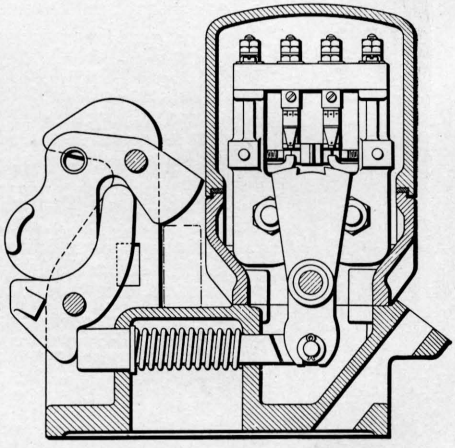


PLAN VIEW



SECTIONAL FRONT VIEW



SECTIONAL SIDE VIEW

ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS

(Without Key Release)

ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS

(Without Key Release)

This lock is designed to lock the New Century, Dead Center or any similar type of throw-over switch stand.

The mechanism is housed in a strong cast iron waterproof case.

Locks can be furnished with two independent front or two independent back contacts, or one independent front and one independent back contact, or two common front and back contacts.

Unless otherwise specified, standard locks will be furnished with one common silver contact with graphite front and silver back contact. Magnets are usually wound to 100 and 250 ohms resistance. Specify resistance when ordering.

The locks listed below do not include lock rods, and if required must be ordered in addition to the lock. For lock rods see Section 3, Mechanical Catalogue. When ordering lock rods give distance from gauge of rail to center of switch stand.

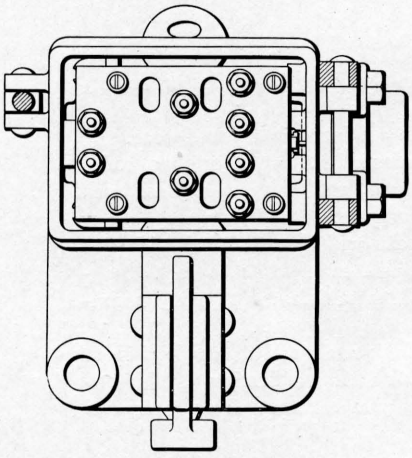
For details of lock see Plate 1118.

For application see Plates 1119 and 1119½.

ORDER BY PLATE, LETTER 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 Switch Lock (without key release) with horizontal magnets, having one common silver contact with graphite front and silver back contact, complete as shown, with lever lock rod, Fig. 8, Plate 1118	1-D-1351	56 00
A1	as above, with two common front and back contacts	1-D-1351	60 00
A2	as above, with one independent front or one independent back contact	1-D-1351	60 00
A3	as above, with two independent front or two independent back contacts	1-D-1351	60 00



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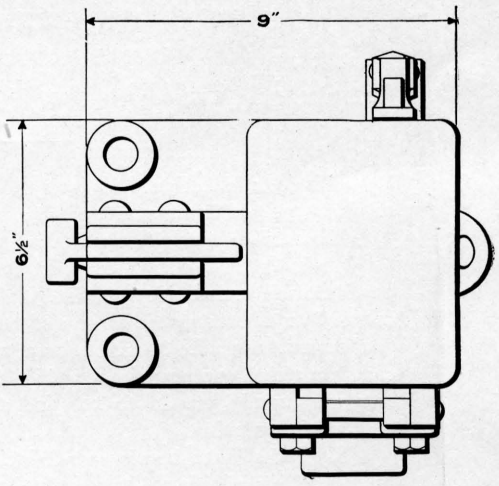
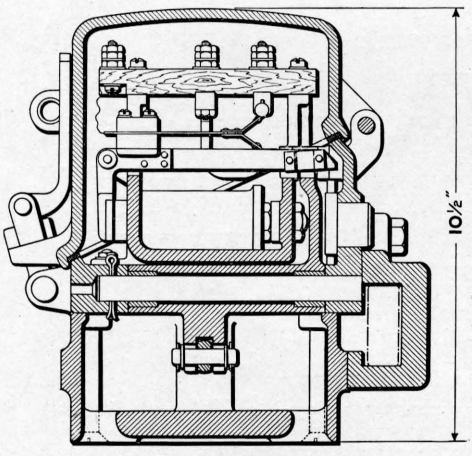
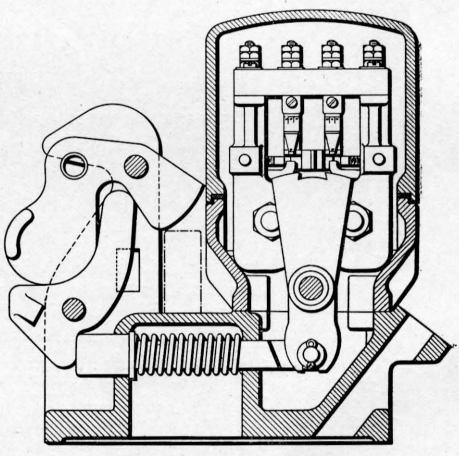


PLAN VIEW



SECTIONAL FRONT VIEW



SECTIONAL SIDE VIEW

ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS

(With Key Release)

ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS
(With Key Release)

Plate 1117 is same as Plate 1116 with the addition of a key release which consists of a Yale Paracentric Lock applied in a position to lift the locking dog by the turning of the key; the latter, however, cannot be removed without reversing it and the lock bolt to the normal position.

Locks can be furnished with two independent front or two independent back contacts, or one independent front and one independent back contact, or two common front and back contacts.

Unless otherwise specified, standard locks will be furnished with one common silver contact with graphite front and silver back contact. Magnets are usually wound to 100 and 250 ohms resistance. Specify resistance when ordering.

The locks listed below do not include lock rods, and if required must be ordered in addition to the lock. For lock rods see Section 3, Mechanical Catalogue. When ordering lock rods give distance from gauge of rail to center of switch stand.

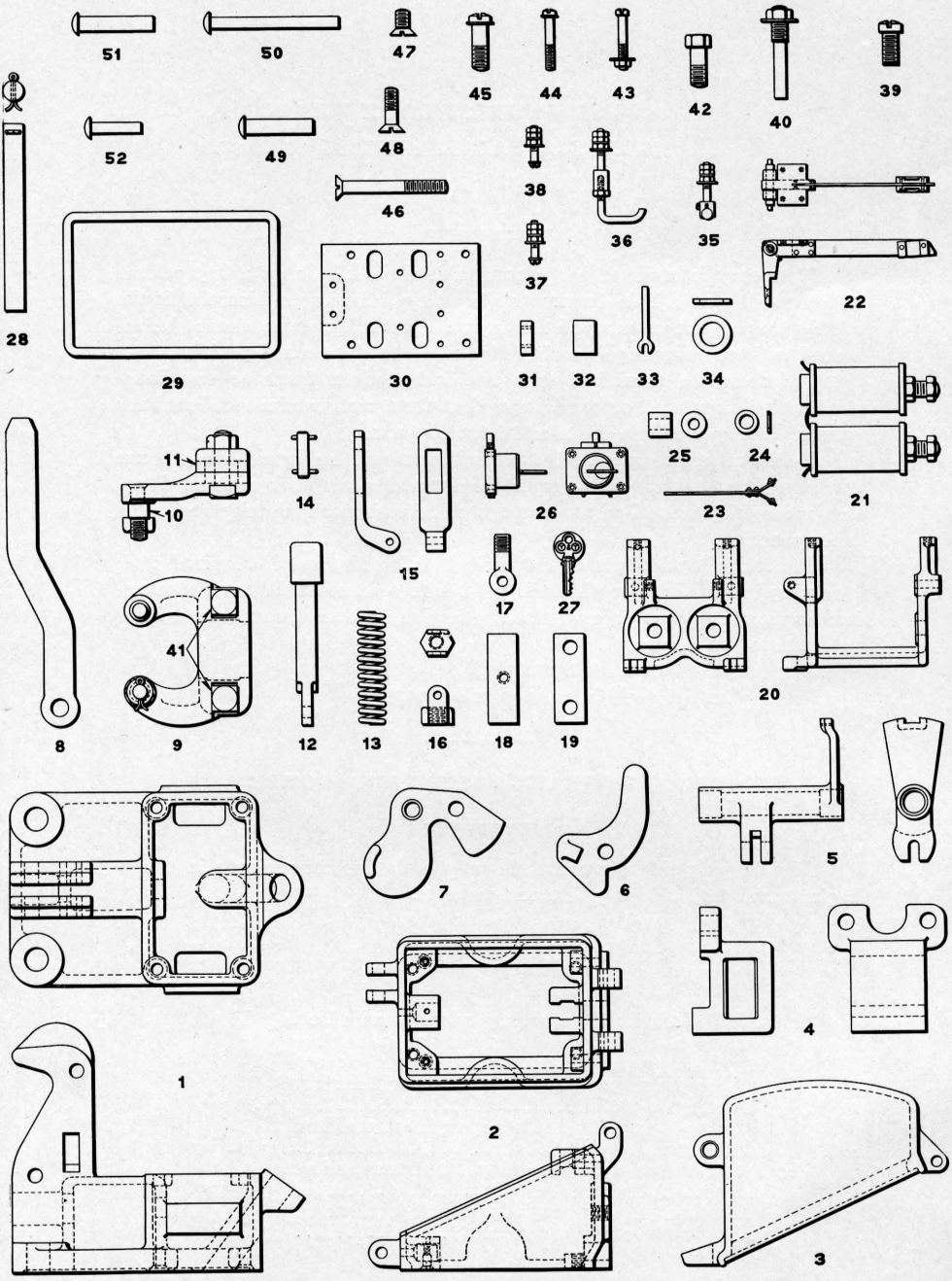
For details of lock see Plate 1118.

For application see Plates 1119 and 1119½.

ORDER BY PLATE, LETTER 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 Switch Lock (with key release) with horizontal magnets, having one common silver contact with graphite front and silver back contact, complete as shown, with lever lock rod, Fig. 8, Plate 1118	3-D-1351	59 00
A1	as above, with two common front and back contacts	3-D-1351	63 00
A2	as above, with one independent front or one independent back contact	3-D-1351	63 00
A3	as above, with two independent front or two independent back contacts	3-D-1351	63 00



ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS—DETAILS

ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS DETAILS

Magnets are usually wound to 100 and 250 ohms resistance. When ordering specify resistance.

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	Base	1-C-6967	4 40
2	Frame with hole for lock	13-C-6967	4 74
2a	as above, without hole for lock	8-C-6967	4 10
3	Cover	3-C-6967	1 66
4	Lock Rod Support	16-C-6967	36
5	Sector	9-C-6967	3 40
6	Latch	4-C-6967	20
7	Hand Latch	7-B-8369	28
8	Lever Lock Rod	17-C-6967	1 68
9	Lever Lock Rod Support, with stud Fig. 10	11-C-6967	1 50
9a	as above, with stud, clamp and bolts, (1-9, 1-10a, 1-11, 2-41)		2 32
10	Stud with nut and cotter	47-B-8071	30
10a	Stud only	47-B-8071	24
11	Clamp	10-C-6967	66
12	Plunger	2-C-6967	1 10
13	Spring for plunger	7-B-7770	12
14	Pin with cotters, for plunger Fig. 12	18-B-10209	06
15	Hasp	26-B-8299	10
16	Nut	52-B-8082	34
17	Eye Bolt	64-B-8034	10
18	Armature for armature bars Fig. 22 or 22a	99-B-8157	56
19	Back Strap	78-B-8162	68
20	Magnet Bracket	105-B-8075	3 76
21	Magnets with nuts	59-B-8133	8 00
22	Armature Bar (U. S. & S. Type)	133-B-8130	2 34
22a	as above, (P. R. R. Type)	134-B-8130	2 50
23	Contact Spring	503-B-8385	1 60
24	Washer, 7/16", for pin Fig. 14. Price per hundred.	46-B-7828	4 00

ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS DETAILS

Magnets are usually wound to 100 and 250 ohms resistance. When ordering specify resistance.

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
25	Bushing for sector Fig. 5	94-B-8350	46
26	Special Yale Lock No. 513, with key, Fig. 27		3 46
27	Key No. 1592 only, for special Yale Lock		50
28	Shaft with cotter	5-C-6967	10
29	Gasket for cover	276-B-8078	64
30	Terminal Board	6-C-6967	50
31	Insulation for contact spring Fig. 23	252-B-8750	04
32	Insulating Strip for contact spring Fig. 23		01
33	Flexible Connector	29-B-8762	14
34	Washer for plunger	2-B-8332	06
35	Front Terminal Post, complete, with graphite tip, screw, washers and nuts	370-B-8094	64
36	Back Terminal Post, complete, with silver tip, washers and nuts	373-B-8094	90
37	Terminal Post, No. 10–32x1-1/4", complete, with washers and nuts	228-B-8098	18
38	Terminal Post, No. 10–32x1-1/16", complete, with washers and nuts	227-B-8098	18
39	Trunnion Screw, 1/4"-32x9/16", for armature bar	38-B-8378	04
40	Special Screw, with nut lock and nut, for fastening magnet bracket Fig. 20 to frames Figs. 2 or 2a	239-B-8098	14
41	Bolt and Nut, 1/2"x1-3/4", for fastening clamp Fig. 11 to lever lock rod support Fig. 9. Price per hundred		8 00
42	Tap Bolt, 1/2"x1-3/16", for fastening lock rod support Fig. 4 to frames Figs. 2 or 2a. Price per hundred		8 00

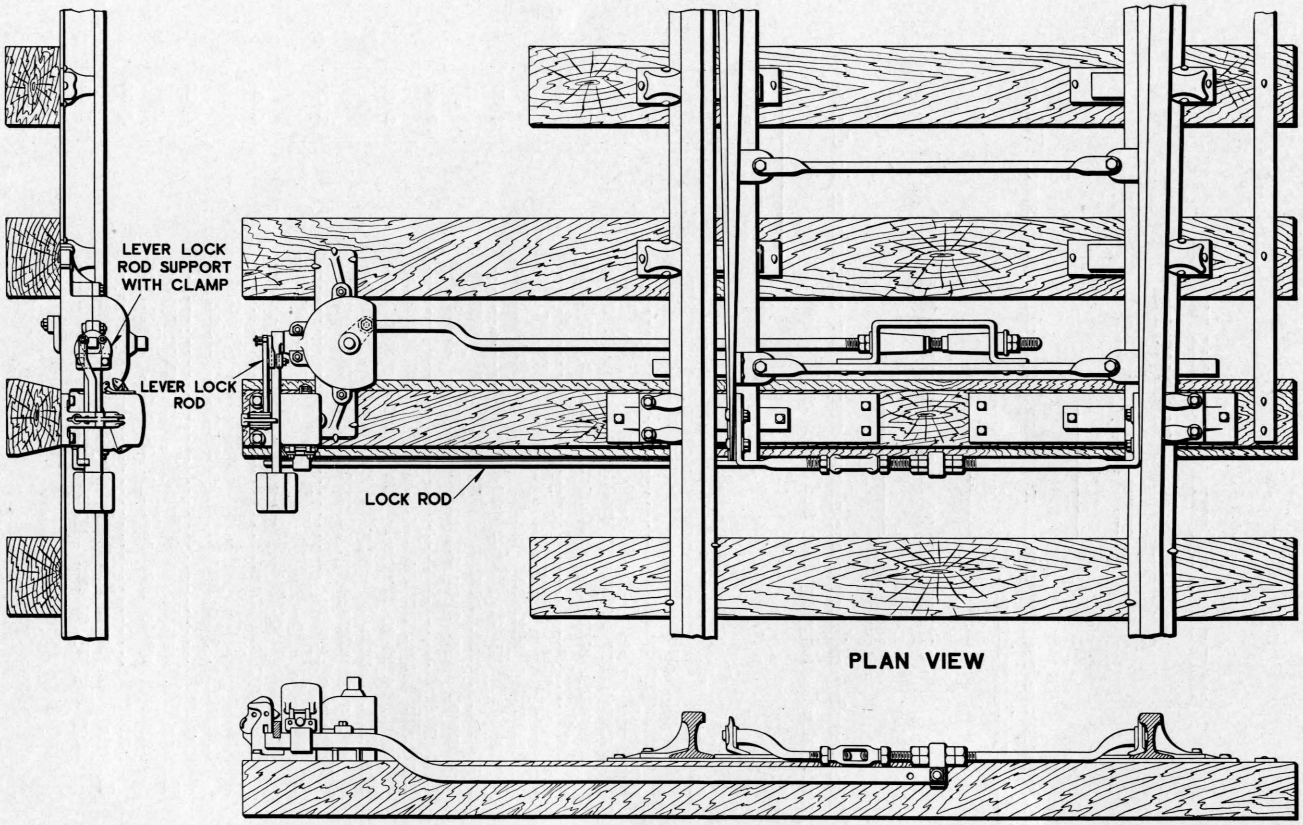
ELECTRIC SWITCH LOCK WITH HORIZONTAL MAGNETS DETAILS

Magnets are usually wound to 100 and 250 ohms resistance. When ordering specify resistance.

ORDER BY PLATE AND FIGURE

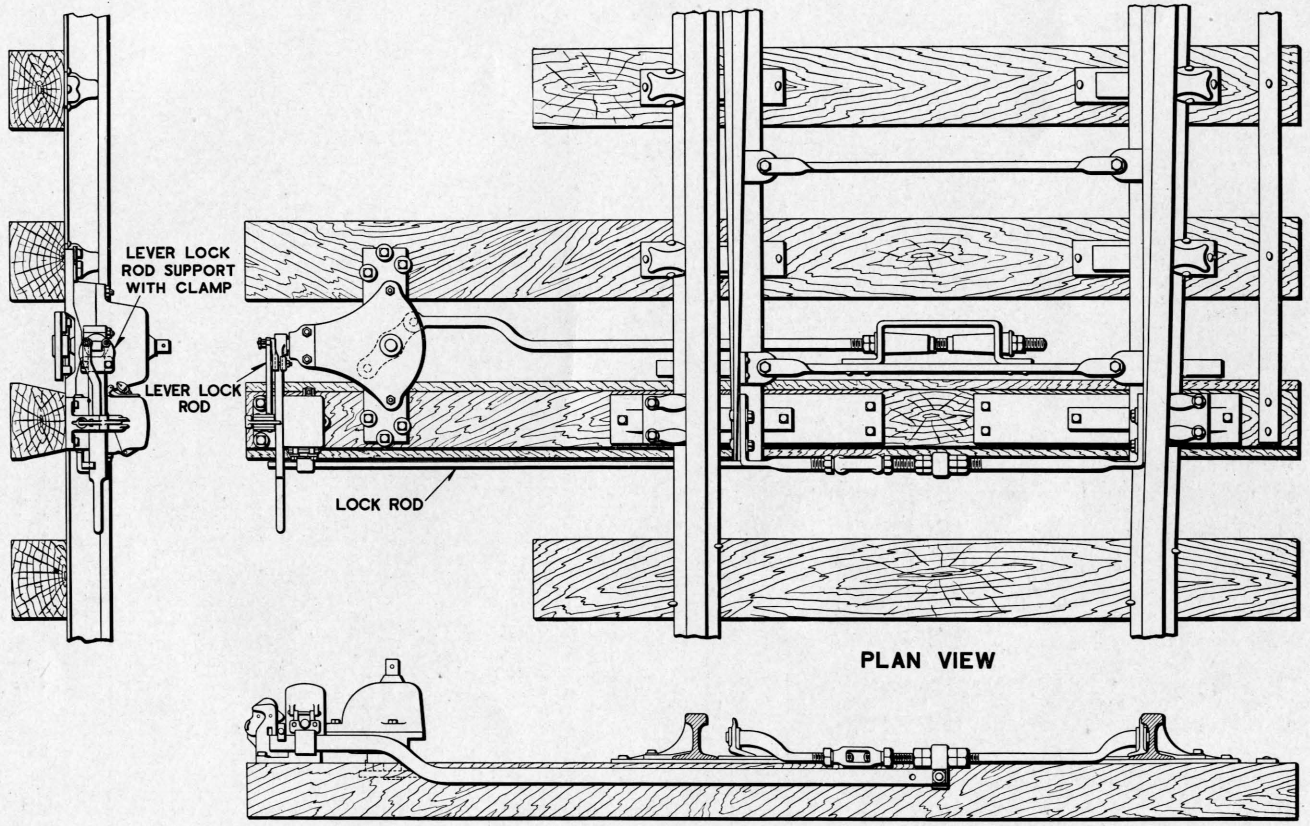
The drawing references are shown merely for convenience in checking material with shipping lists and invoices.

Fig.		Drawing Reference	List Price
43	Bolt and Nut, ¼"x2", with nut lock, for fastening magnet bracket Fig. 20 to frames Figs. 2 or 2a. Price per hundred		12 00
44	Fil. Hd. Mach Screw, No. 4-40x15/16", with washer, for fastening contact spring Fig. 23 to armature bars Figs. 22 or 22a. Price per hundred		4 00
45	Fil. Hd. Mach. Screw, ¼"x⅞", with washer, for fastening terminal board Fig. 30 to magnet bracket Fig. 20. Price per hundred		4 00
46	Flat Hd. Mach. Screw, ⅜"x3-¾", for fastening frames Figs. 2 or 2a, to base Fig. 1. Price per hundred		10 00
47	Flat Hd. Mach. Screw, No. 8-32x⅝", for fastening lock Fig. 26 to frame Fig. 2. Price per hundred.		2 00
48	Flat Hd. Mach. Screw, No. 12-24x5/16", for fastening armature Fig. 18 to armature bar Fig. 22. Price per hundred		2 00
49	Button Hd. Iron Rivet, ½"x2-¼", for fastening hand latch Fig. 7 and latch Fig. 6 to base Fig. 1. Price per hundred		4 00
50	Button Hd. Iron Rivet, ⅜"x4-⅜", for fastening cover Fig. 3 to frames Figs. 2 or 2a. Price per hundred		4 00
51	Button Hd. Iron Rivet, ⅜"x1-⅝", for fastening eye bolt Fig 17 to frames Figs. 2 or 2a. Price per hundred		4 00
52	Button Hd. Iron Rivet, ¼"x1-¼", for fastening hasp Fig. 15, to nut Fig. 16. Price per hundred.		1 00

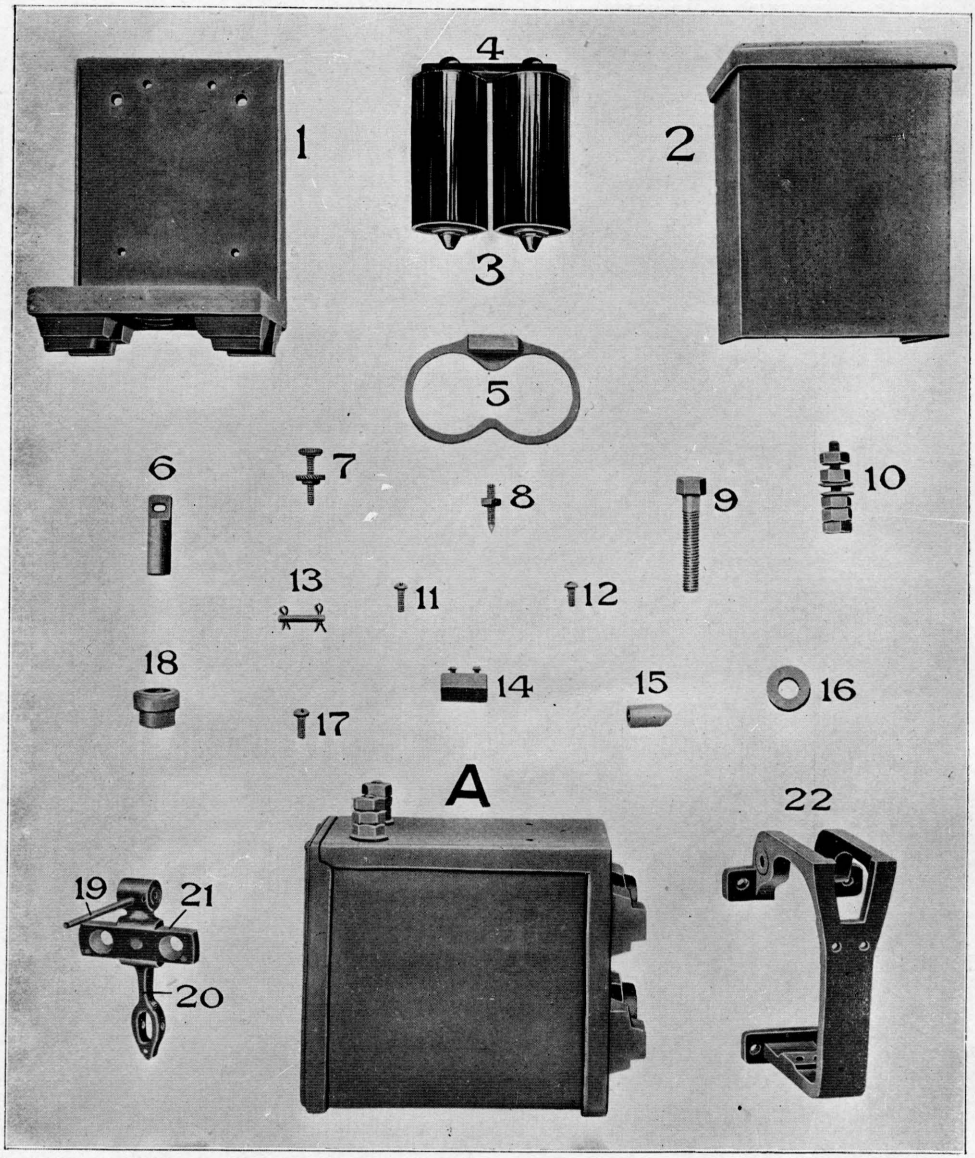


LAYOUT SHOWING APPLICATION OF ELECTRIC SWITCH LOCK TO NEW CENTURY SWITCH STAND

Plate 1119



LAYOUT SHOWING APPLICATION OF ELECTRIC SWITCH LOCK TO DEAD CENTRE SWITCH STAND



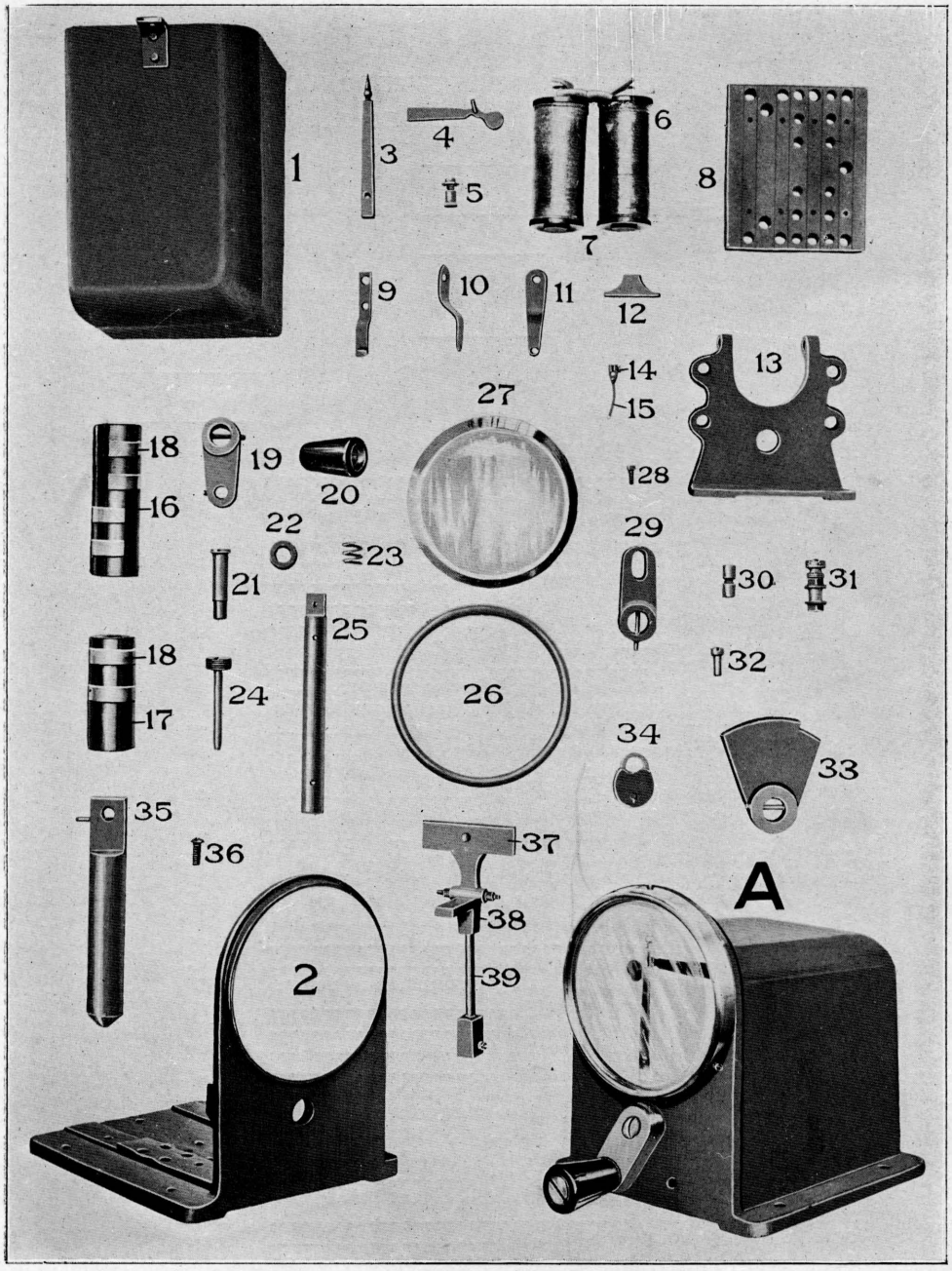
MODEL No. 5 ELECTRIC LOCK
(National Electric Lock)

MODEL No. 5 ELECTRIC LOCK
(National Electric Lock)

Applicable to a National Interlocking Machine.

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Electric Lock, Model No. 5.1 complete, as shown	18 50	
1	Base Casting	1 75	
2	Cover Casting	84	
3	Magnets with Backstrap and two 1/4"x3/4" Round Head Machine Screws. (State resistance required)	7 10	
4	Back Strap for Magnets	30	
5	Brass Bracket for Magnets	75	
6	1/2"x1 3/4" Slotted Plunger	33	
7	7/8"-No. 8-32 Adjusting Screw with nut for plunger	12	
8	1 1/8"-No. 10-32 Trunnion Screw with nut	06	
9	3/8"x2" Hexagonal Head Machine Screw for securing No. 1 to interlocking machine	07	
10	Binding Post with nuts and washers	18	
11	5/8"-No. 10-32 Round Head Machine Screw for securing No. 3 to No. 22	01	
12	1/2"-No. 10-32 Round Head Machine Screw for securing No. 22 to No. 1	01	
13	5/32"x1" Shaft with split spring cotters for No. 20	03	
14	Brass Counterweight with two 5/16"-No. 4-36 round head machine screws for armature	18	
15	Releasing Plunger to be used with screw hand release	09	
16	3/8" Plate Washer for No. 8	01	
17	1/2"-No. 8-32 Round Head Machine Screw for securing No. 2 to No. 1	01	
18	Brass Bushing for No. 6	46	
19	No. 6 Brass Rod for counterweight	02	
20	Brass Lever for armature	1 50	
21	Norway Iron Armature with one 1/2"-No. 14-20 Fillister Head Machine Screw for fastening No. 21 to No. 20, and 1/8"x5/16" Brass Pins	1 00	
21a	Armature with Lever and Counterweight complete (1-21, 1-20, 1-19, 1-14)	2 70	
22	Brass Bracket for supporting Magnet and Armature Lever	2 88	
23	Fiber Bushing for No. 10	02	
24	5/8"-No. 8-32 Round Head Brass Machine Screw for securing No. 5 to No. 22	02	



MODEL No. 6 ELECTRIC LOCK

With Electrically Locked Circuit Controller and Indicator

MODEL No. 6 ELECTRIC LOCK
(With an Electically Locked Circuit Controller and Indicator)

The application of this lock may be seen on Plate 1126 which shows a two lever dwarf machine with a Model No. 6 Lock on each lever. The lock levers are shown normally to the left and designated as left hand.

A similar lock may be placed at a point from which a switch is to be controlled for the purpose of indicating the position of the switch as well as controlling the lock on the switch stand.

There are many situations where the inter-control of functions is desired, that are covered by this lock.

ORDER BY PLATE, LETTER OR NUMBER

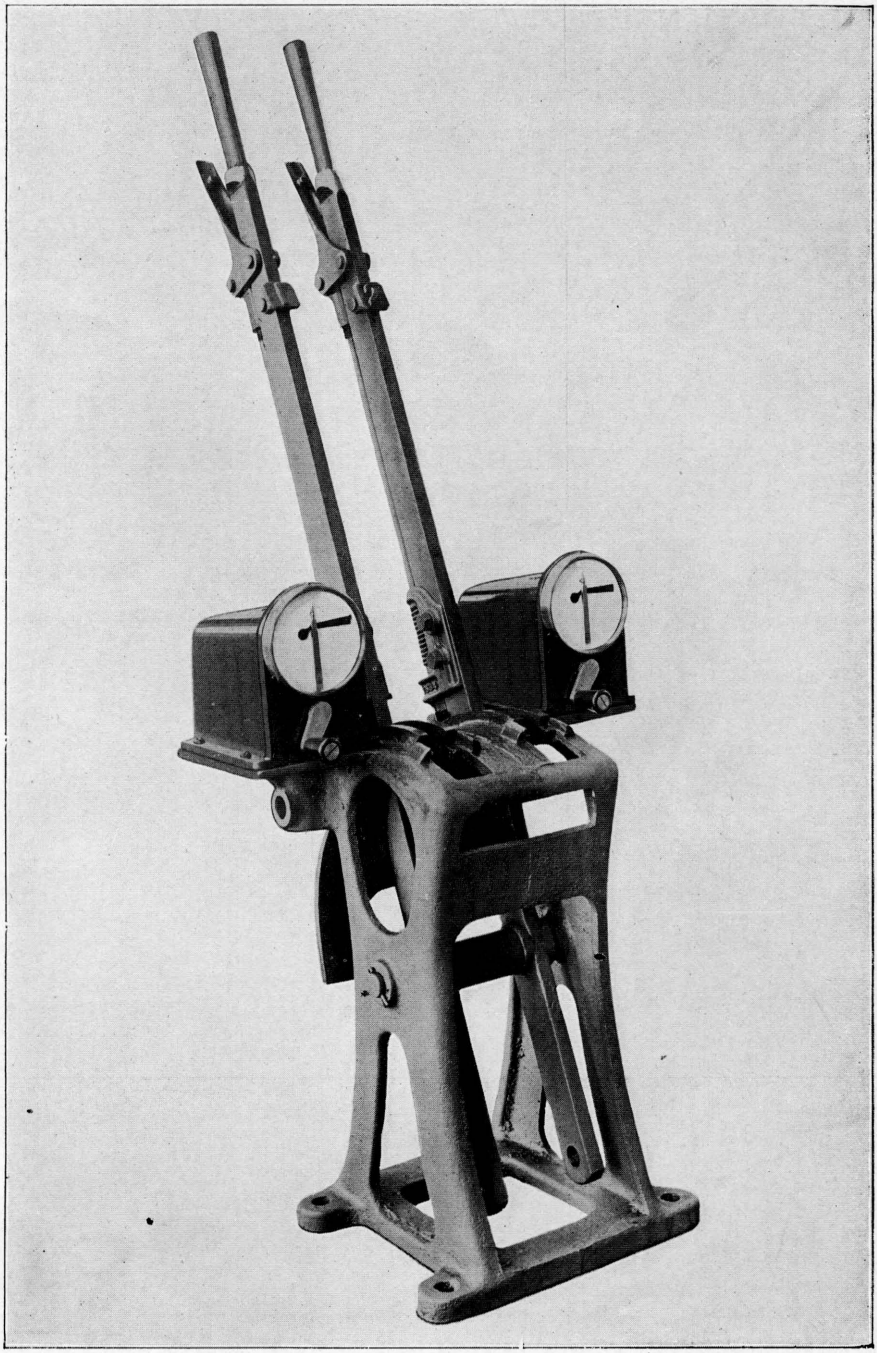
No.		List Price	
A	Model No. 6.1 Electric Lock, complete as shown for towers or telegraph stations (left hand)..	56 00	
A1	Model No. 6.2 Electric Lock, as per A (right hand)	56 00	
B	Model No. 6.3 Electric Lock, Circuit Controller and Indicator (right hand) for dwarf machine	58 41	
B1	Model No. 6.3 Electric Lock, Circuit Controller and Indicator (left hand) for dwarf machine	58 41	
1	Cover Casting.....	1 75	
2	Base Casting for A1.....	5 66	
2a	Base Casting for B.....	5 66	
2b	Base Casting for B1.....	5 66	
3	Indicator Post.....	46	
4	Indicator Blade with shaft.....	30	
5	Binding Post for No. 8.....	18	
6	Back Strap for magnets.....	30	
7	Magnets (give resistance required), with back strap	5 50	
8	Rubber Base for Circuit Controller.....	1 85	
9	No. 24 Phosphor Bronze Contact Spring for No. 16 and No. 18.....	08	
10	No. 22 Phosphor Bronze Contact Spring with platinum point.....	68	
11	No. 22 Phosphor Bronze Contact Spring with platinum disc.....	72	
12	Bracket for supporting No. 4.....	62	
13	Spectacle Casting.....	2 04	
14	Clamp for indicator shaft.....	30	

MODEL No. 6 ELECTRIC LOCK

(With an Electrically Locked Circuit Controller and Indicator)

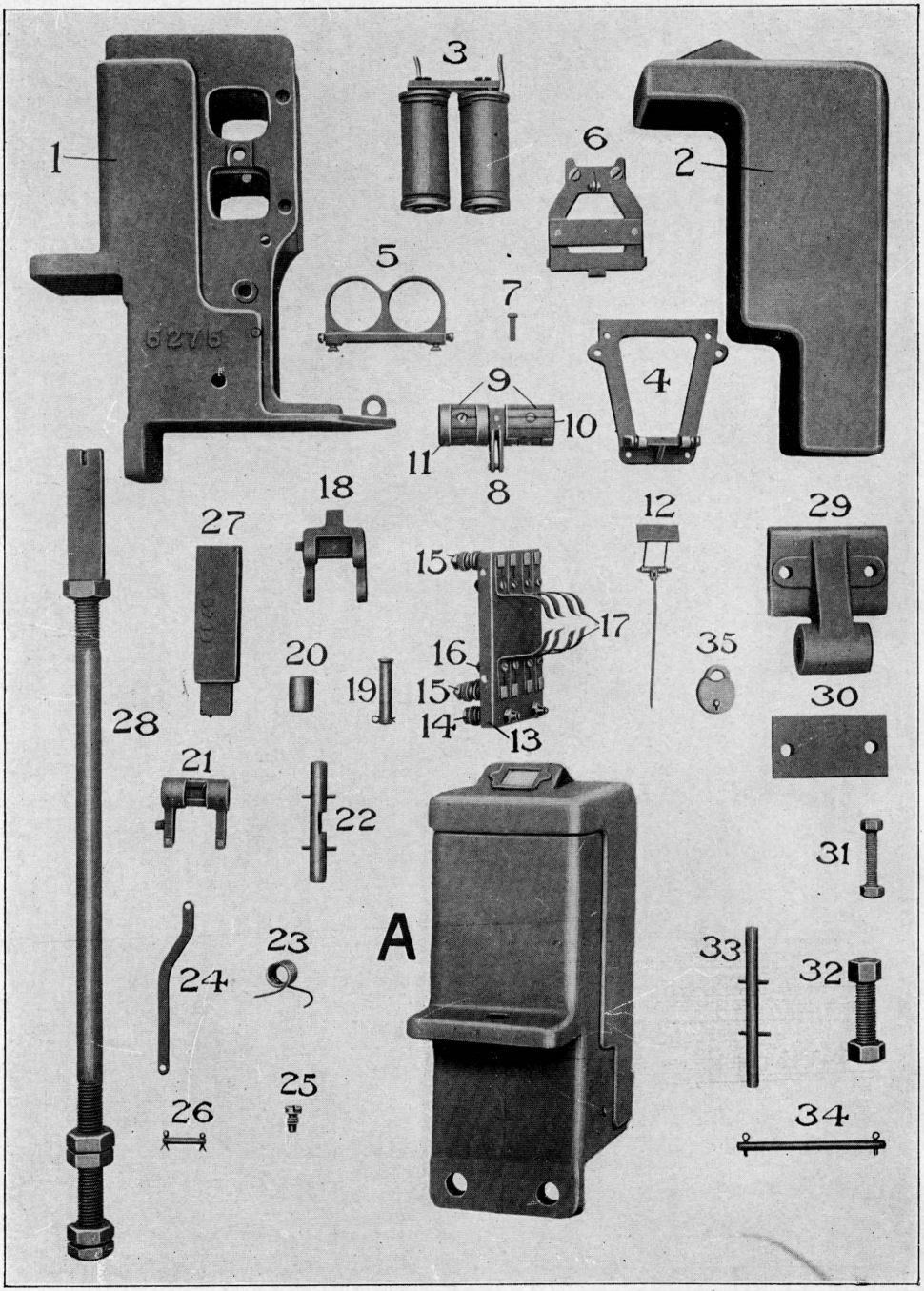
ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
15	Link connecting No. 4 and No. 39	12	
16	Rubber Roller for Circuit Controller for A or A1	1 52	
17	Rubber Roller for Circuit Controller for B or B1	1 38	
18	Phosphor Bronze Contact Strip for No. 16 and No. 17	04	
19	Crank Arm for Handle	1 04	
20	Hard Rubber Handle for No. 19	1 10	
21	Pin for securing No. 20 to No. 19	62	
22	Washer for No. 20	06	
23	Spiral Spring for No. 24	18	
24	Lock Pin for Handle	42	
25	Shaft for Circuit Breaker	46	
26	Retaining Ring for No. 27	30	
27	Glass Cover for Indicator	55	
28	8/32"-¼" Fillister Head Screw for securing No. 9 to No. 8	01	
29	Crank Arm for B and B1	1 30	
30	Pin for securing No. 29 to No. 35	12	
31	Binding Post for No. 13 with nuts and washers	18	
32	Bearing Screw for No. 38	03	
33	Locking Dog	96	
34	Bohannan Pad Lock	85	
35	Tappet for B or B1	84	
36	¼"x⅝" Round Head Machine Screw for securing No. 13 to No. 2	01	
37	Armature	30	
38	Armature Bar	1 40	
38a	Armature Bar with bronze strip and lock piece	2 10	
39	No. 15 Phosphor Bronze Strip with lock piece	70	
40	Rubber Ring	06	



MODEL No. 6 ELECTRIC LOCK

(Applied to a Two Lever Dwarf Interlocking Machine)



MODEL No. 7 ELECTRIC LOCK

MODEL No. 7 ELECTRIC LOCK

This lock may be applied to any of the standard types of interlocking machines.

The detailed fittings Nos. 28, 29 and 30 shown on Plate 1130 are for connecting Model No. 7 Lock to a Johnson No. 1 machine.

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Model No. 7.1 Electric Lock, complete as illustrated	72 25	
1	Case with Staple and Spring Stops, as illustrated	7 95	
2	Cover with Hasp and Indicator, as illustrated	3 05	
3	Electro-Magnets (state resistance) with Back Straps and two 1"-¼"-20 Flat Head Screws	10 90	
4	Brass Back Strap Bracket with two ⅜"-No. 10-32 Fillister Head Brass Screws; tapped for No. 12	2 20	
5	Brass Magnet Bracket with two $\frac{7}{16}$"-No. 10-32 Flat Head Brass Screws and two ⅞"-No. 12-32 C. R. S. Headless Trunnion Screws with Set Nuts	1 33	
6	Brass Armature Bar with Norway Iron Armature, Steel Stop, one $\frac{3}{16}$"-No. 4-40 Fillister Head Brass Screw, two $\frac{5}{16}$"-No. 10-32 Round Head Screws and two ¼"-No. 10-32 Round Head Screws	2 10	
7	$\frac{11}{16}$"-No. 10-32 Round Head Screw	02	
8	Brass Arm with one $\frac{7}{16}$" x $\frac{3}{16}$" Fillister Head Bearing Screw	1 20	

MODEL No. 7 ELECTRIC LOCK

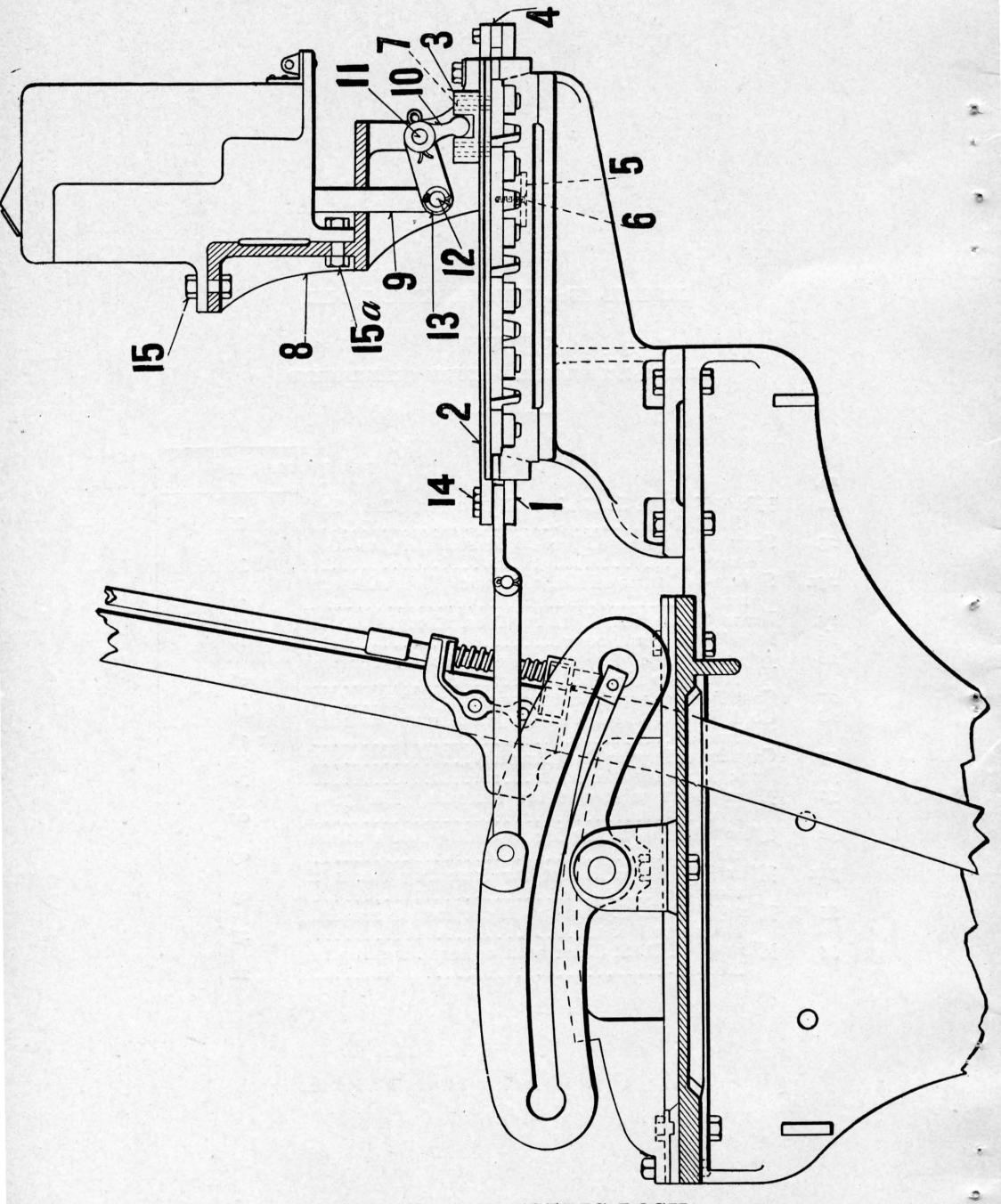
ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
9	1¼"x1 7/16" Hard Rubber Roller with one ⅜"-No. 8-32 Round Head Screw	1 22	
10	⅝"x3⅛" C. R. S. Shaft with No. 28x1⅛" Stub Steel Pins	45	
11	Phosphor Bronze Contact Spring for No. 9	04	
12	Indicator with Connecting Link, as illustrated	89	
13	Slate Base for Contact Springs and Binding Posts	2 89	
14	Brass Terminal Post with Washers, Nuts, Thumb Nut, and one ¼"-No. 4-40 Fillister Head Brass Screw	18	
15	Brass Binding Post with Nut, Thumb Nut and Washers		
16	¾"-No. 8-32 Fillister Head Brass Screw with Nut and Washer for securing No. 17 to No. 13	18	
17	Phosphor Bronze Contact Spring	03	
18	Malleable Iron Plunger Lever with two Steel Lugs	72 1 12	
19	⅜"x1⅞" Round Head Turned Pin with Cotter for No. 18	05	
20	¾"x1 1/16" C. R. S. Roller for No. 19	22	
21	Cast Locking Lever	1 05	

MODEL No. 7 ELECTRIC LOCK

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
22	½"x3⅝" C. R. S. Shaft with two No. 28x1" Stub Steel Pins	66	
23	Spring-11 Turns of No. 26 Music Wire, as illustrated	34	
23a	Spring-11 Turns of No. 26 Music Wire, with ends parallel	34	
24	Brass Connecting Link for Nos. 28 and 8	70	
25	Steel Trunnion Screw	10	
26	3/16"x1¼" Steel Shaft with cotters for securing No. 24 to No. 28	06	
27	Cast Tube for guarding connecting wires	25	
28	Cold Rolled Steel Plunger with nuts, as illustrated	1 98	
29	Cast Iron Tappet Bar Bracket	92	
30	Back Strap for No. 29	32	
31	⅜"x2" Bolt with nut for fastening No. 30 to No. 29	04	
32	⅝"x2" Bolt with nut for fastening No. 1 to machine	09	
32a	⅝"x2¾" Bolt with nut for fastening No. 1 to machine	09	
33	⅜"x4¾" C. R. S. Shaft with cotters for securing No. 21 to No. 1	23	
34	¼"x4⅜" C. R. S. Shaft with cotters for strap for No. 18	22	



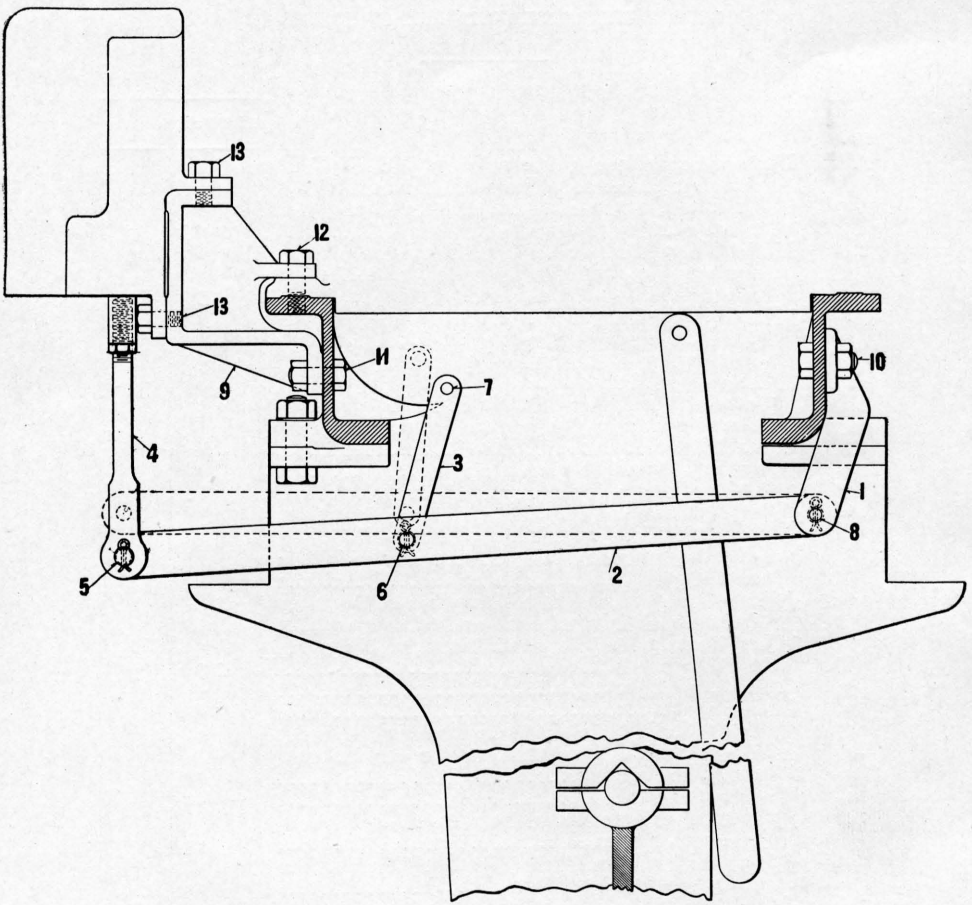
MODEL No. 7 ELECTRIC LOCK
(Applied to a Johnson No. 2 Machine)

MODEL No. 7 ELECTRIC LOCK

(Applied to a Johnson No. 2 Interlocking Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for applying Model No. 7 Electric Lock to a Johnson No. 2 Machine. (1-1, 1-2, 1-3, 1-4, 1-5, 2-6, 4-7, 1-8, 1-9, 1-10, 1-11, 1-12, 1-13, 2-14, 1-15, 2-15a)	10 15	
B	Model No. 7 Electric Lock with fittings complete for applying to a Johnson No. 2 Machine, as illustrated. (1-A; 1-A, Plate 1130)	82 75	
1	½"x2"x15¾" Tappet for a 4 way locking plate (add 21 cents for each additional 2 way of plate up to a 10 way inclusive)	84	
2	½"x2"x15¾" Bar for a 4 way locking plate—carries No. 3—(add 21 cents for each additional 2 way of plate up to a 10 way inclusive)	87	
3	C. R. S. Dog	48	
4	½"x1"x2" Filler for Nos. 1 and 2	16	
5	⅜"x⅞"x2" Plate for underneath locking plate	15	
6	5/16"x⅞" Flat Head Machine Screw for No. 5 (two of No. 6 required unless lock is on end of machine, when one of No. 6 and one of No. 6a are used)	02	
6a	5/16"x1¼" Flat Head Machine Screw for No. 5 (when lock is located at end of machine)	03	
7	¼"x15/8" Countersunk Head Rivet for No. 3	01	
8	Cast Supporting Bracket	3 52	
9	C. R. S. Plunger	90	
10	Cast Crank	60	
11	⅝"x4¾" C. R. S. Pin with cotter for No. 10	08	
12	½"x1½" C. R. S. Pin with cotter for fastening No. 9 to No. 10	10	
13	Washer for No. 12	02	
14	⅜"x1½" Hexagon Head Tap Bolt for fastening No. 1 to No. 2	03	
14a	5/16"x1 7/16" Hexagon Head Tap Bolt for fastening No. 8 to locking plate	02	
14b	5/16"x2" Hexagon Head Tap Bolt for fastening No. 8 to locking plate	02	
15	⅝"x15/8" Hexagon Head Machine Bolt with Hexagon Nut for fastening lock to No. 8	09	
15a	⅝"x1¾" Hexagon Head Machine Bolt with Hexagon Nut for fastening lock to No. 8	09	

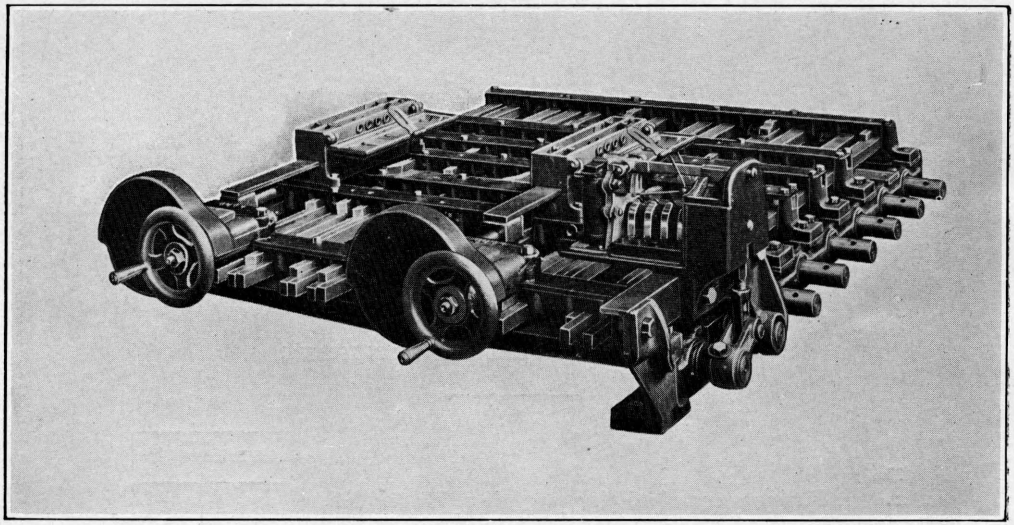


MODEL No. 7 ELECTRIC LOCK
(Applied to a Standard Interlocking Machine)

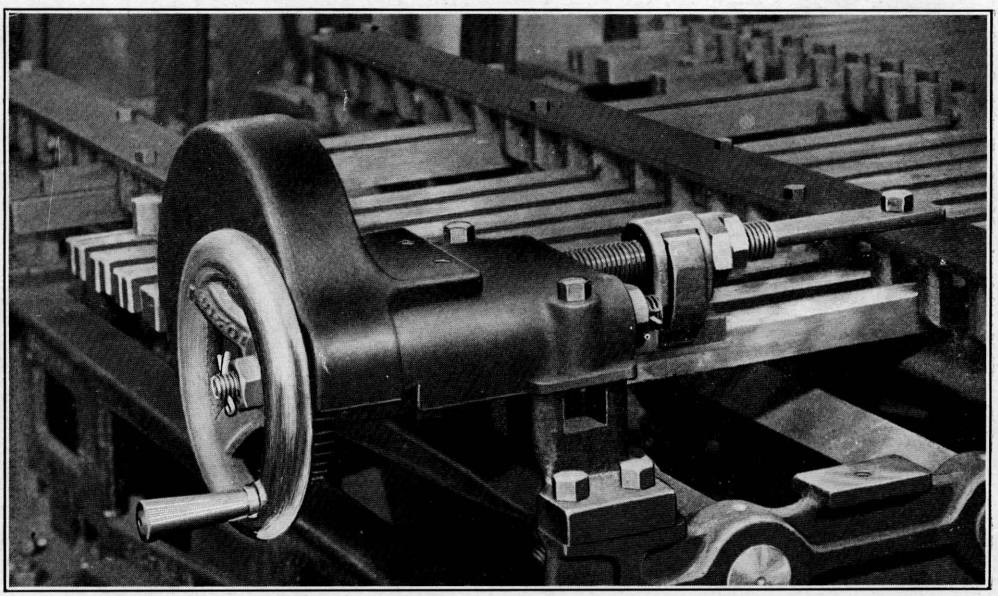
MODEL No. 7 ELECTRIC LOCK
(Applied to a Standard Interlocking Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for applying Model No. 7 Electric Lock to a Standard Machine. (1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8, 1-9, 2-10, 1-11, 2-12, 3-13)	9 20	
B	Fittings and Model No. 7 Electric Lock complete for applying to a Standard Machine. (1-A; 1-A, Plate 1130)	81 45	
1	Cast Link Bracket	66	
2	C. R. S. Lock Link	1 22	
3	Connecting Link from Rocker to No. 2	50	
4	¾" Solid Jaw, threaded end with Steel Plunger and Hexagon Nut (replaces No. 28, Plate 1130)	1 88	
5	⅝"x1¾" Pin with cotter for fastening No. 4 to No. 2	10	
6	⅝"x1½" Stud with cotter for fastening No. 3 to No. 2	06	
7	¾"x2¼" Pin with cotter for fastening No. 3 to Rocker of machine	1 05	
8	⅝"x2⅛" Stud with cotter for fastening No. 2 to No. 1	10	
9	Cast Lock Bracket	3 05	
10	½"x1½" Hexagon Head Machine Bolt with Hexagon Nut for fastening No. 1 to machine frame	06	
11	½"x1¾" Hexagon Head Machine Bolt with Hexagon Nut for fastening No. 9 to machine frame	06	
12	⅝"x2" Hexagon Head Tap Bolt for fastening No. 9 to machine frame	07	
13	⅝"x1" Hexagon Head Tap Bolt for fastening lock to No. 9	04	



MODEL No. 2 ELECTRIC HAND RELEASE
(Applied to an I. S. & F. Machine)



MODEL No. 2 MECHANICAL HAND RELEASE
(Applied to an I. S. & F. Machine)

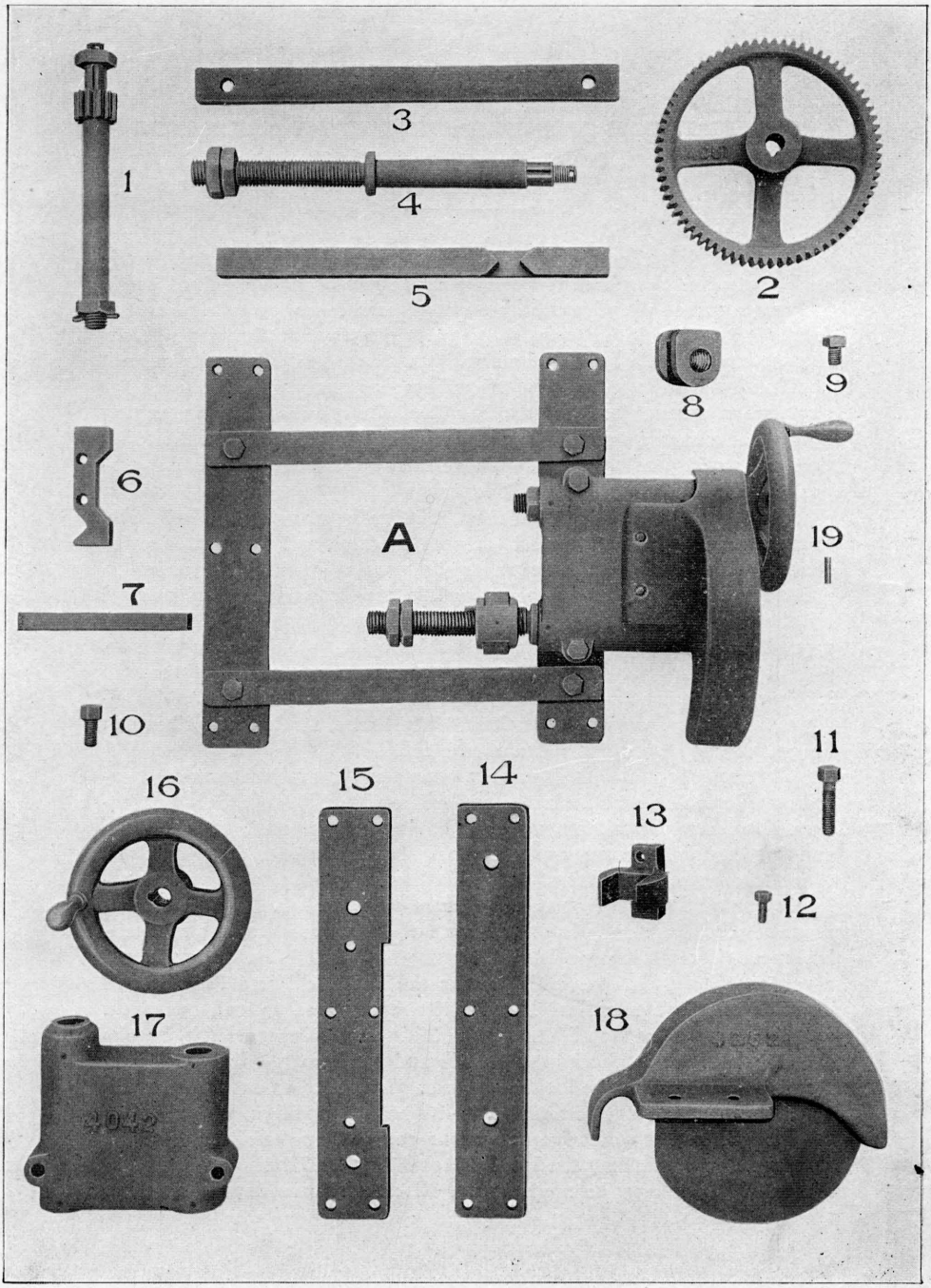
MECHANICAL AND ELECTRIC HAND RELEASES
(Models No. 1 and No. 2)

The usual application of electric locking to derails and switches is such that after the home signal of a route has been given the electric locking becomes effective until certain prescribed conditions have been fulfilled; principally that a train has entered a track section (an unlocking section) and that the home signal has been returned to its normal position before the releasing section becomes unoccupied. Should for any reason a route be desired other than that given but not accepted by a train a means must be mechanically applied to perform the function of a train passing through the releasing section. This is the purpose of the Mechanical Hand Release.

Two types are in common use: The ordinary release, Model No. 1, requiring about 10 seconds to release the lock and an equal time to return the releasing mechanism to its normal position, in order to release the signals that were meanwhile mechanically locked normal by the operation that released the electric lock; and the slow speed type, Model No. 2, requiring about 2 minutes for a complete operation.

In applying the hand release certain changes in the mechanical locking are required which can be determined only upon definite knowledge of the requirements of each individual case, so that no prices can be quoted covering this indeterminate feature.

A later type of release has been put upon the market to cover situations wherein electric locks are applied to signal lever latches, whereby a signal may be taken away after having been cleared, but the latch can not be placed normal until the electric lock has been energized. In order to energize the lock a train must have entered upon a certain releasing section and before it has cleared this section the signal lever must be placed normal. In the absence of a train movement a mechanical means for releasing a latch is at times desired in order to change a route. This apparatus is known as the Electric Hand Release and consists of the Mechanical Hand Release attached to and operating a circuit controller (see Plate 1140). This device in operation, breaks the circuit of all conflicting automatic and semi-automatic signals and releases the electrically locked latches. In order to set up another route the release must be returned to its normal position, which makes the electric locking effective as well as completing the signal circuits, which are controlled by the hand release. Either Model No. 1 or No. 2 Hand Release may be used for the Electric release depending upon the speed desired.



MODEL No. 2 MECHANICAL HAND RELEASE

(Slow Speed Release)

MECHANICAL HAND RELEASE
(Models No. 1 and No. 2)

Model No. 1 requires about 20 seconds to release and make while Model No. 2 takes 2 minutes. Shaft No. 4 is connected direct to the hand wheel No. 16, in Model No. 1, the gear wheel No. 2 being eliminated.

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Model No. 2.1 Slow Speed Mechanical Hand Release (2 minute release), complete as illustrated	34 80	
B	Model No. 1.1 Mechanical Hand Release (20 second release), similar to A except that the locking bar is driven direct from the hand-wheel shaft without the introduction of the gear wheel No. 2 and the shaft and pinion No. 1	26 00	
C	Model No. 2.2 Slow Speed Electric Hand Release, similar to A without the straps No. 3	32 20	
C1	Model No. 2.2 Slow Speed Electric Hand Release with Circuit Controller and connections complete (see Plate 1140)	44 40	
D	Circuit Controller for Electric Hand Release, complete with Box; Cover; Hasp and Staple; Fibre, Mica and Paper Insulations; Phosphor Bronze Contact Springs; Connecting Plates for Binding Posts; Binding Posts, Slide and Contact Block	12 20	

MECHANICAL HAND RELEASE

(Models No. 1 and No. 2)

ORDER BY PLATE, LETTER OR NUMBER

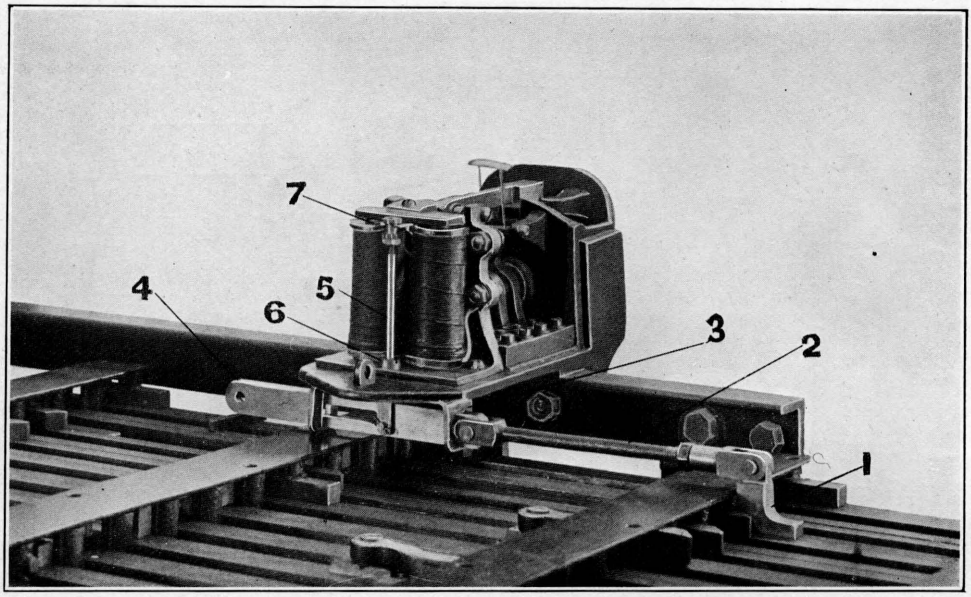
No.		List Price	
1	C. R. S. Shaft with Pinion, Nuts and Cotter, as illustrated (for Model No. 2 Release)	3 15	
2	Cast Gear Wheel (for Model No. 2 Release)	4 35	
3	¼"x1"x11¾" Iron Strap	14	
4	C. R. S. Shaft with Nuts and Cotter, as illustrated (use with Model No. 1 or No. 2 Release)	3 05	
5	C. R. S. Lifting Dog for A or B	1 85	
6	Special C. R. S. Dog for A or B (rivets to No. 7)	42	
7	½"x¾" C. R. S. Locking Bar for A or B, per lineal ft	27	
7a	¼"x1½"x18¼" C. R. S. Slide Bar for C	1 02	
8	Brass Driving Nut for No. 4 when used on a mechanical hand release	2 00	
8a	Brass Driving Nut for No. 4 when used on an electric hand release	2 00	
9	⅜"x½" Hexagon Head Tap Bolt for fastening No. 3 to machine frame	05	
10	⅜"x¾" Hexagon Head Tap Bolt for fastening No. 18 to No. 17	05	
11	$\frac{5}{16}$"x1½" Hexagon Head Tap Bolt for fastening No. 17 to No. 15	06	
12	¼"x¾" Hexagon Head Tap Bolt for fastening Nos. 14 and 15 to locking brackets	05	
13	Wrot Yoke for No. 8	3 75	

MECHANICAL HAND RELEASE

(Models No. 1 and No. 2)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
13a	C. R. S. Yoke for No. 8a	42	
14	Inside Cover Plate for locking bracket	75	
15	Outside Cover Plate for locking bracket and supporting plate for No. 17	75	
16	5" Cast Hand Wheel with handle for A, B or C	2 58	
17	Bearing for No. 1 and No. 4 of Model No. 2 Hand Release	3 85	
17a	Bearing for No. 4 of Model No. 1 Hand Release	2 00	
18	Gear Case for Model No. 2 Hand Release	55	
19	¼"x¾" Dowel Pin for securing Nos. 2 and 16 to Nos. 1 and 4	03	
20	¼"x$\frac{9}{16}$" Flat Head Rivet for securing No. 13a to No. 7a	01	
20a	¼"x1⅜" Flat Head Rivet for securing No. 13 to No. 7	01	
21	¼"x1¼" Fillister Head Rivet for securing No. 6 to No. 7	01	
22	¼"x1"x7¾" C. R. S. Stop for C	39	
23	½"-No. 20-¼" Round Head Machine Screw for fastening No. 22 to No. 7a	01	
24	Fibre Contact Holder with Fibre Plate; two ½"-No. 10-32 Fillister Head Screws and two ⅛"x1¾" Round Head Rivets, complete for C1	45	



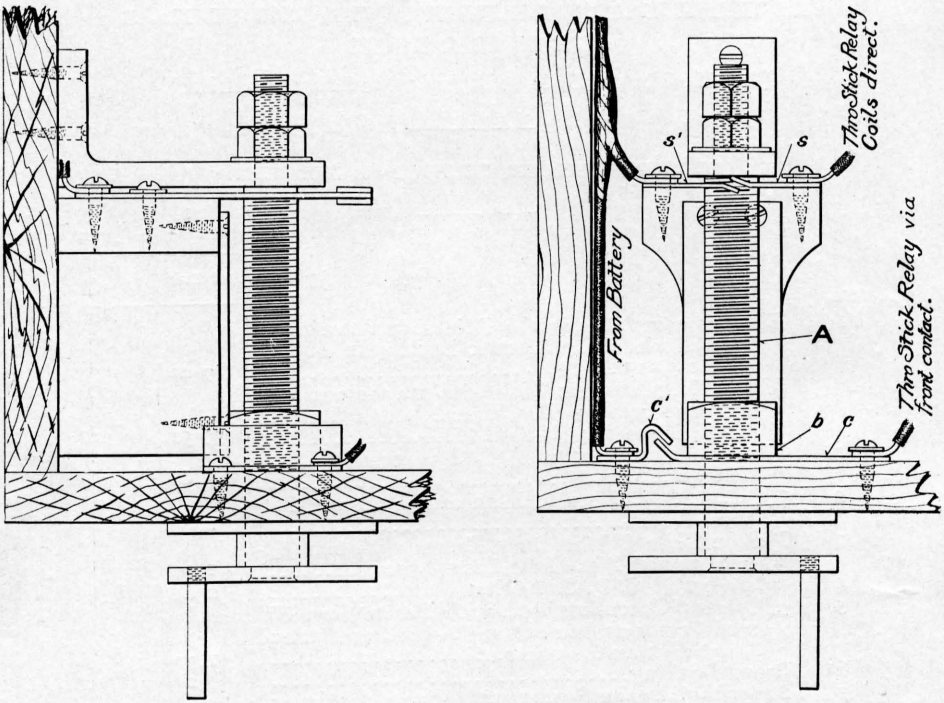
RELEASING ATTACHMENT FOR A MODEL No. 3 ELECTRIC LOCK
(Applied to an I. S. & F. Interlocking Machine)

RELEASING ATTACHMENT FOR A MODEL No. 3 ELECTRIC LOCK

(Applied to an I. S. & F. Interlocking Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for the Releasing Attachment of a Model No. 3 Electric Lock. (1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7)	9 22	
B	Model No. 3 Electric Lock with fittings complete for use with a Mechanical Hand Release. (1-A, Plate 1141; 1-A)	59 50	
1	Wrot Lug with two ¼" Countersunk Head Rivets	68	
2	⅜" C. R. S. Adjustable Link with Pins and Cotters	2 44	
3	Motion Plate Guide (Sheet Brass) with two ⅜"-No. 20x¼" Flat Head Brass Screws	1 24	
4	$\frac{5}{16}$"x⅞"x7⅝" C. R. S. Motion Plate	2 64	
5	¼" Brass Operating Rod with Screw Jaw, Pin and Cotter on one end and Adjusting Nut and Jamb Nut on the other end	1 50	
6	Brass Bushing	20	
7	Phosphor Bronze Spring with Rivets for fastening to armature of lock	56	



Side View

Front View

MODEL No. 3 ELECTRIC HAND RELEASE
(Located in Relay Box in First Story of Tower)

ELECTRIC HAND RELEASE
Model No. 3

This device is used where a cheaper type of apparatus is desired for the release of electric locks than that employing Models No. 1 or No. 2.

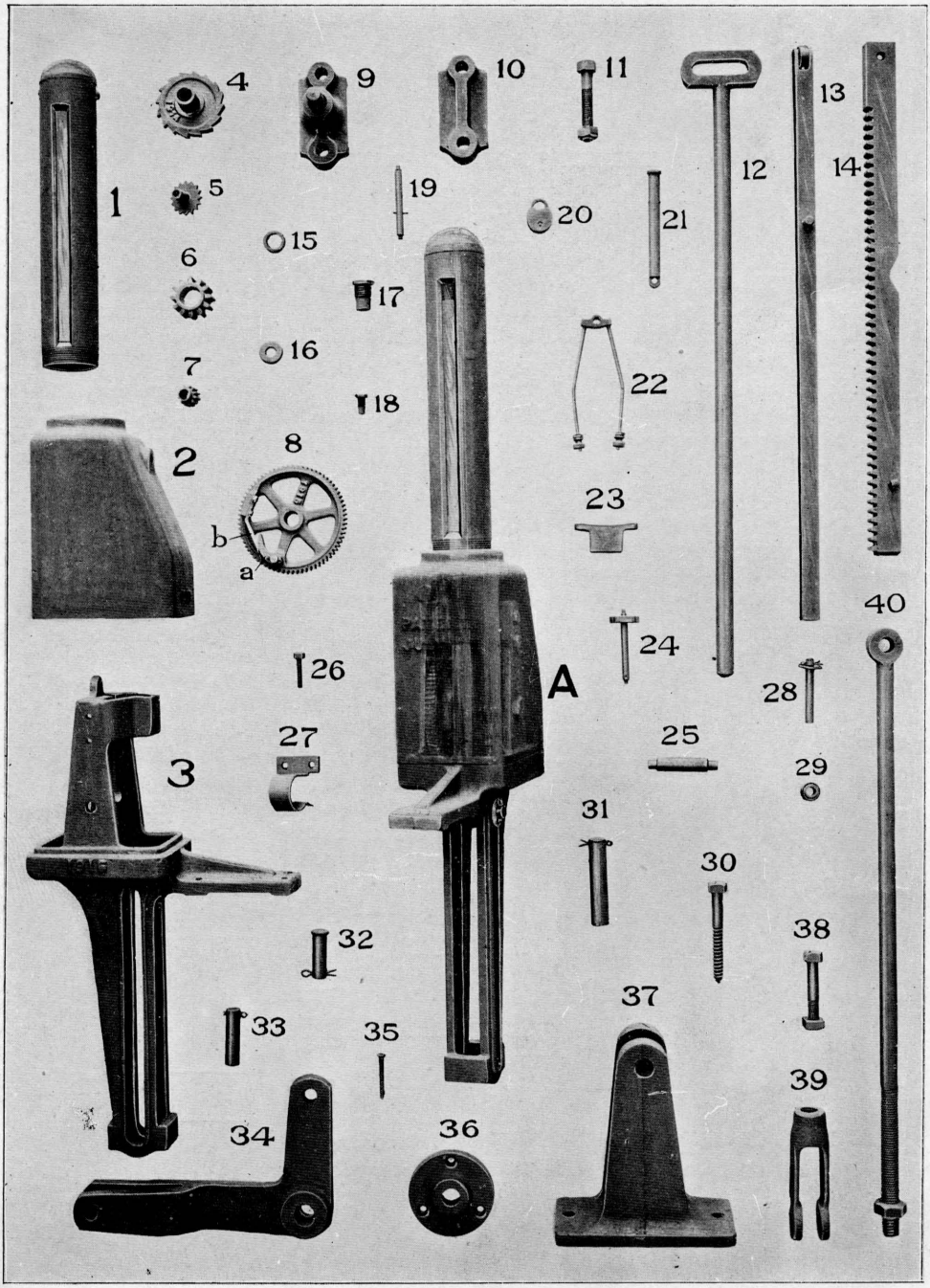
By revolving the threaded shaft A, a nut b is made to rise, which after a few turns of the shaft, will allow the contact springs c and c1 to close. When the nut has traveled to the top of the shaft it closes the normally open springs s and s1 which completes a circuit through the locking relay coils and the circuit controllers attached to the signal levers. This energizes the locking relay just as if the track relay had dropped its armature and completed the circuit.

In order to compel the return of the nut to its normal position the contacts s, s1 and c, c1 must both be opened, as otherwise the batteries will have two complete circuits for their current, one through the locks, the front contact of the locking relay, the locking relay coils and the circuit controllers on the signal levers and a second path via the contact c, c1, the front contact of the locking relay, etc., as above, shunting the locks. This will prevent the armatures of the locks from being raised and compel the opening of the contact c, c1 in order to get the full current through the locks, whereupon the locks will pick up and release the functions controlled by the electric locking.

This release is designed to be placed in the relay box in the lower story of the interlocking cabin and necessitates the signalman's going down stairs to release his locks. This as well as the screwing up and down of the traveling nut consumes a certain amount of time and secures the desired time interval before a route may be changed.

ORDER BY PLATE AND LETTER

No.		List Price	
A	Model No. 3.1 Electric Hand Release, complete as illustrated, for use in relay box.....	14 30	



MODEL No. 1 MECHANICAL TIME LOCK

MODEL No. 1 MECHANICAL TIME LOCK

Fittings should be ordered separately, specifying size of locking bracket.

38
76
2660

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Model No. 1 Mechanical Time Lock, as illustrated	76 00	
1	Cover for Indicator with Cap and Glass, as illustrated	5 84	
2	Cover for Mechanism	7 20	
2a	Cover for Indicator and Mechanism (1-2 and 1-1)	13 04	
3	Frame for Mechanism	11 50	
4	Steel Ratchet Wheel (16 teeth)	1 34	
5	Steel Escapement Wheel (16 teeth)	1 60	
6	Steel Pinion Wheel (12 teeth, 8 pitch)	1 38	
7	Steel Pinion Wheel (12 teeth, 16 pitch)	78	
8	Brass Main Gear Wheel (72 teeth, 16 pitch)	4 44	
8a	Brass Main Gear Wheel (72 teeth, 16 pitch) with Stud, Cotter and Pawl	6 00	
8b	Main Gear Wheel (72 teeth, 16 pitch) with Stud, Cotter, Pawl and Spring, and round head brass screws	6 46	
9	Front Half, Clamp for Lever with Stud, Cotter and Washer	2 00	
10	Back Half, Clamp for Lever	70	
10a	Clamp for Lever with Stud, Washer, Cotter and Bolts (1-9, 1-10 and 2-11)	2 22	
11	3/8"x3" Bolt with nut for 10a	08	
12	Steel Lifting Rod 25¼" long	3 00	
13	Steel Cross Locking Dog with Roller and Stop (specify length)	2 00	
14	Steel Vertical Locking Bar and Rack (8 pitch) with Stop	5 70	
15	1/16" Brass Washer for No. 25	06	

38
27
65

MODEL No. 1 MECHANICAL TIME LOCK

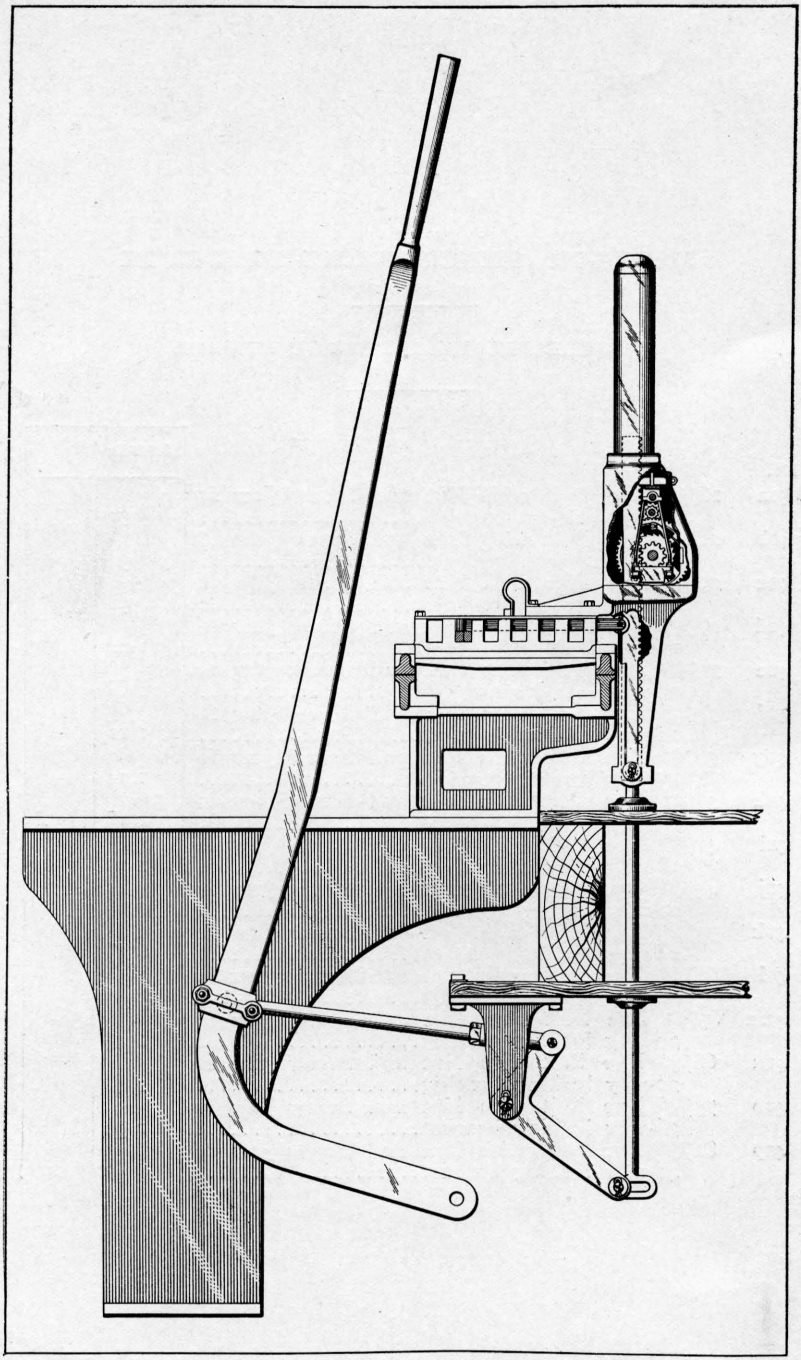
ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
16	Steel Roller for No. 13	10	
17	Hexagon Head Trunnion Screw for No. 19	48	
18	Hexagon Head Trunnion Screw for No. 24	14	
19	Ratchet Shaft with Dowel Pin for Nos. 5 and 7	18	
20	Bohannan Padlock for No. 21	85	
21	Eye Bolt for securing No. 2 to No. 3	64	
22	Pendulum Rods with Hanger Thumb-nuts and Dowel Pins	1 62	
23	Pendulum Weight	60	
23a	Pendulum Complete (1-22 and 1-23)	2 22	
24	Shaft with Escapement Pawl	1 84	
24a	Shaft for Escapement Pawl	30	
25	Shaft for Main Gear	20	
26	¼"x1¼" Cap Screw for securing A to machine	06	
27	No. 14 Phosphor Bronze Spring for No. 13	72	
28	Roller Shaft with Washers and Cotters for No. 14	08	
28a	Roller Shaft with Rollers, Washers and Cotters (1-28 and 2-29)	48	
29	Roller for No. 28	08	
30	3¼"x4" Lag Screw for securing No. 37 to Beam	09	
31	¾"x3⅝" Pin with Cotters for No. 37	12	
32	⅝"x1⅞" Pin with Cotter for No. 39	10	
33	⅝"x2⅜" Pin with Cotters for No. 12	10	
34	4¾"x8¾" Special Crank for No. 37	3 44	
35	1½" No. 15 Wood Screw for securing No. 36	01	
36	Guide for Lifting Rod	22	
37	Crank Stand	96	
37a	Crank Stand with Crank, pin and cotters (1-34, 1-31 and 1-37)	4 50	
38	½"x2¾" Bolt with nut for securing No. 37 to floor	06	
39	¾" Screw Jaw	33	
40	Eye Bolt and Nut for 4-way locking bracket	50	

MODEL No. 1 MECHANICAL TIME LOCK

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
40a	16⅞" Eye Bolt with Nut and Screw Jaw for 4-way locking bracket	90	
40b	20⅜" Eye Bolt with Nut and Screw Jaw for 6-way locking bracket	94	
40c	23⅞" Eye Bolt with Nut and Screw Jaw for 8-way locking bracket	98	
40d	27⅜" Eye Bolt with Nut and Screw Jaw for 10-way locking bracket	1 02	
40e	30⅞" Eye Bolt with Nut and Screw Jaw for 12-way locking bracket	1 06	
40f	34⅜" Eye Bolt with Nut and Screw Jaw for 14-way locking bracket	1 10	
40g	36⅞" Eye Bolt with Nut and Screw Jaw for 15-way locking bracket	1 14	
40h	37⅞" Eye Bolt with Nut and Screw Jaw for 16-way locking bracket	1 18	
40i	41⅜" Eye Bolt with Nut and Screw Jaw for 18-way locking bracket	1 22	
40j	44⅞" Eye Bolt with Nut and Screw Jaw for 20-way locking bracket	1 26	
40k	54⅝" Eye Bolt with Nut and Screw Jaw for 24-way locking bracket	1 36	
40l	61⅝" Eye Bolt with Nut and Screw Jaw for 28-way locking bracket	1 40	
40m	65⅛" Eye Bolt with Nut and Screw Jaw for 30-way locking bracket	1 44	
40n	68⅝" Eye Bolt with Nut and Screw Jaw for 32-way locking bracket	1 48	
40o	75⅝" Eye Bolt with Nut and Screw Jaw for 36-way locking bracket	1 52	
40p	82⅝" Eye Bolt with Nut and Screw Jaw for 40-way locking bracket	1 56	



MODEL No. 1 MECHANICAL TIME LOCK
(Applied to an I. S. & F. Machine)

MODEL No. 1 MECHANICAL TIME LOCK

(Applied to an I. S. & F. Interlocking Machine)

(Numbers Refer to Plate 1155)

(By modifying the connections from the machine to the lock, the Time Lock may be applied to any of the standard types of interlocking machines.)

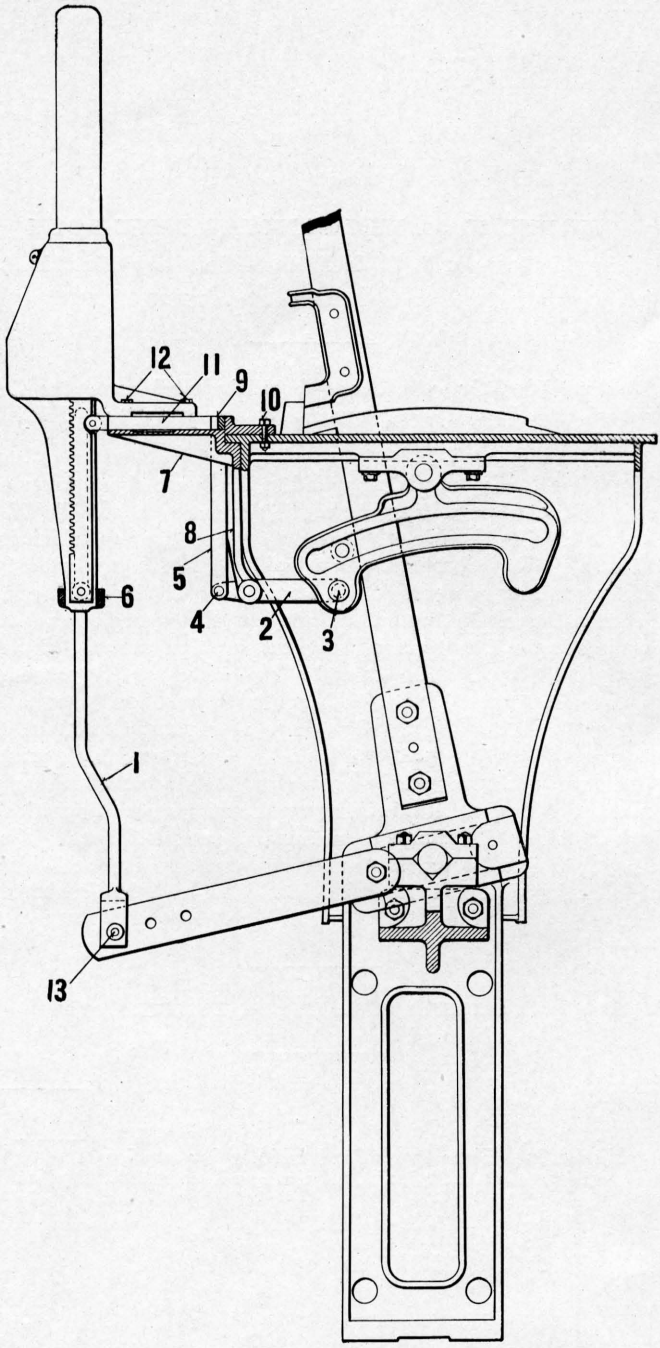
The Time Lock is usually applied to the home signal lever and becomes effective upon placing the signal lever at "normal." The rack or vertical locking bar No. 14 is raised by the lever to which it is attached being reversed, whereupon a locking dog No. 13, in the locking bed of the machine, is forced from its position in the notch of No. 14, which locks the conflicting switch levers until the rack has fallen and the locking dog again at home in the notch. The rack falls by gravity and is regulated by a pendulum and escapement pawl Nos. 23a and 24. The mean time required for releasing a function is one (1) minute. By regulating the weight No. 23, by means of the thumb nuts of No. 22, the time limit may be raised to one and one-quarter (1¼) minutes.

The time lock is peculiarly adapted to outlying interlocking plants, to situations where electric locking track circuits are impracticable, or for such roads as do not care to maintain electrical devices. The operation is positive and compels a hasty signalman to *stop* and *think*.

Applications other than those illustrated will be furnished upon request.

ORDER BY PLATE AND LETTER

No.		List Price	
A	Mechanical Time Lock Model No. 1 for application to an I. S. & F. Machine, as illustrated..	94 00	

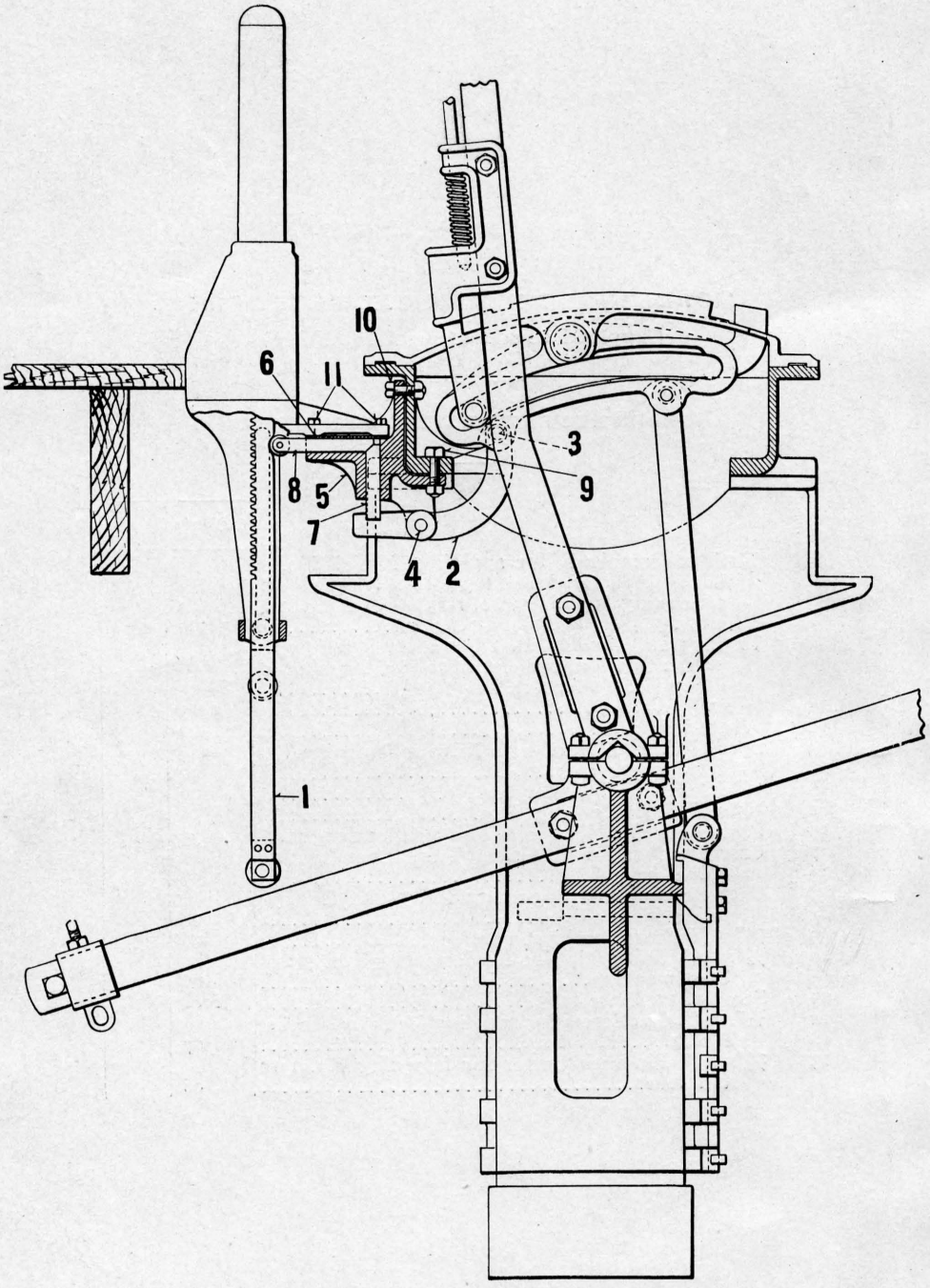


MODEL No. 1 MECHANICAL TIME LOCK
(Applied to a National Machine)

MODEL No. 1 MECHANICAL TIME LOCK
(Applied to a National Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for applying Model No. 1 Time Lock (A, Plate 1155) to a National Interlocking Machine (1-1, 1-13, 1-6, 1-2, 1-3, 1-4, 1-8, 1-7, 5-10, 1-5, 1-9, 1-11, 4-12)	12 25	
B	Fittings and Model No. 1 Time Lock for application to a National Interlocking Machine, as illustrated (1-A; 1-A, Plate 1155)	83 25	
1	¾"x18" Wrot Jaw	2 15	
2	Wrot Lever	1 70	
3	Special C. R. S. Stud with Nut for fastening No. 2 to rocker link	90	
4	½"x1" Pin with Cotter for No. 5	06	
5	¾"x¾"x8½" Locking Bar	56	
6	Cast Guide for No. 1 with two ⅜" Set Screws	36	
7	Cast Bracket for fastening Time Lock to machine frame	1 37	
8	Cast Bracket for supporting No. 5 and forming guide for locking	1 23	
9	¾"x¾" Cross Locking, per foot	28	
10	½"x1½" Bolt with Nut for fastening Nos. 7 and 8 to machine	06	
11	See No. 13, Plate 1155	1 08	
12	¼"x1¼" Cap Screw for securing Lock to Bracket No. 7	07	
13	⅜"x1¾" Pin with Cotter for fastening No. 1 to tail lever	06	



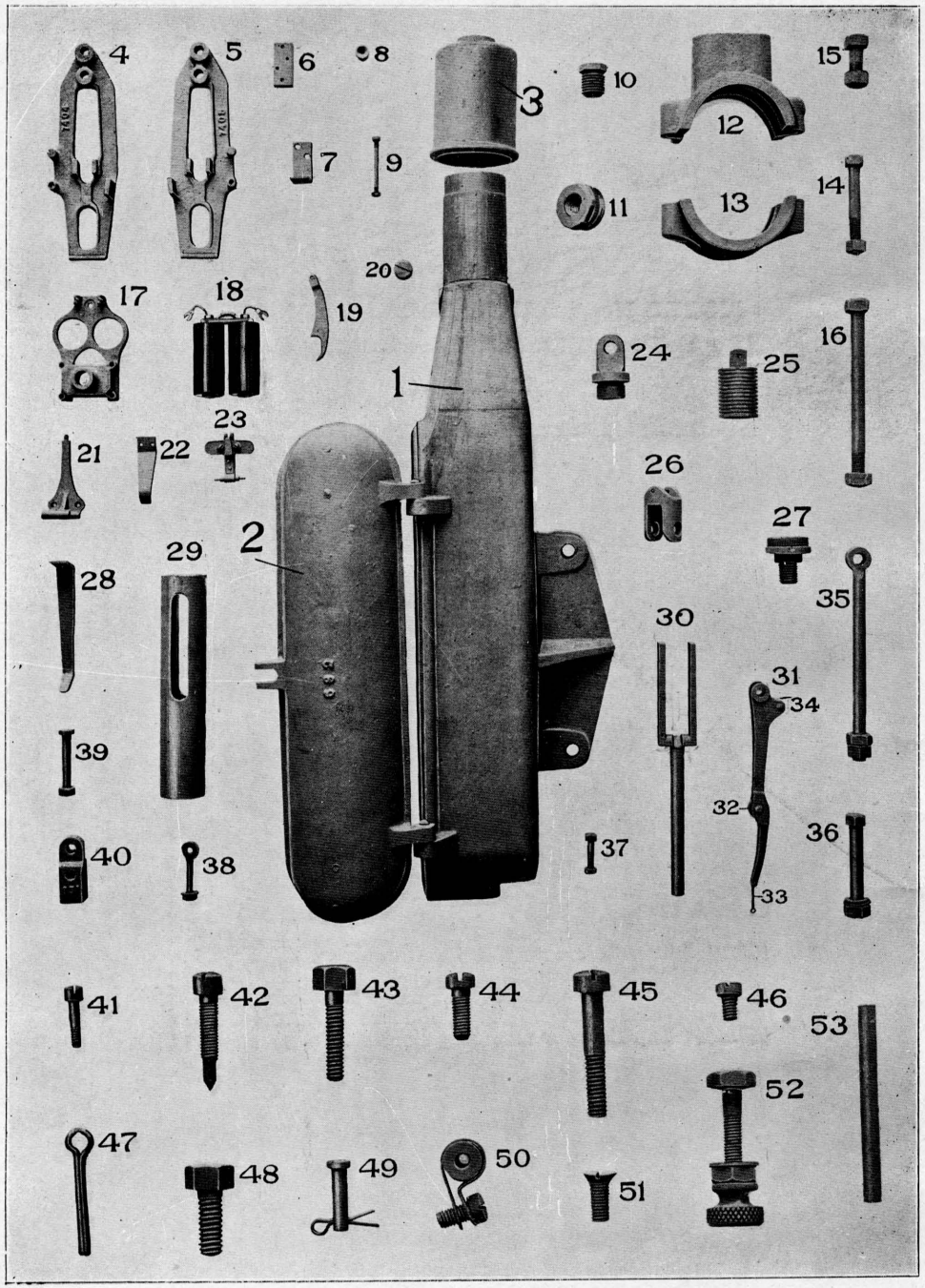
MODEL No. 1 MECHANICAL TIME LOCK
(Applied to a Standard Interlocking Machine)

MODEL No. 1 MECHANICAL TIME LOCK

(Applied to a Standard Interlocking Machine)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Fittings complete for applying Model No. 1 Time Lock to a Standard Interlocking Machine (1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 1-7, 1-8, 1-9, 1-10, 4-11)	14 70	
B	Fittings and Model No. 1 Time Lock for application to a Standard Interlocking Machine, as illustrated (1-A; 1-A, Plate 1155)	90 70	
1	C. R. S. Vertical Locking Bar and Rack (replaces No. 14, Plate 1155) with Roller, Roller Support, Stud, Cotter and Rivets, complete	8 98	
2	Wrot Locking Lever	65	
3	¾"x2¼" Rocker Pin with Cotter	10	
4	¾"x1⅞" Locking Lever Pin with Cotter	09	
5	Cast Bracket	2 05	
6	Sheet Steel Cover for No. 5	10	
7	¾"x3⅝" C. R. S. Locking Pin	30	
8	C. R. S. Cross Lock Rod (replaces No. 13, Plate 1155) with Roller, Pin and Rivets	1 07	
9	½"x2¼" Tap Bolt with Nut for fastening No. 5 to machine frame	06	
10	½"x1¾" Tap Bolt with Nut for fastening No. 5 to machine frame	06	
11	¼"x1¼" Tap Bolt for fastening Lock to No. 5	02	



MODEL No. 3 ELECTRIC SLOT
(For Manually Operated Signals)

MODEL No. 3 ELECTRIC SLOT

(For Manually Operated Signals)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
A	Model No. 3.1 Electric Slot, complete for wood pole	94 00	
A1	Model No. 3.2 Electric Slot, complete for iron pole	98 00	
1	Mechanism Case	10 88	
2	Mechanism Case Door	1 58	
3	Shield	1 30	
4	Right Hand Malleable Slide Plate	1 32	
5	Left Hand Malleable Slide Plate	1 32	
6	Hard Rubber Cleat for Binding Posts	40	
7	No. 14 Phosphor Bronze Bracket for No. 6	42	
8	Hard Rubber Bushing for No. 1 and No. 52	05	
9	¼"x3⅛" Bolt and Nuts for No. 21	03	
10	Adjusting Sleeve 1¼"x15⅝"	1 95	
11	Bottom Cylinder Head	1 24	
12	Front Half of Clamp for securing Case to Iron Signal Post	1 02	
12a	Clamp complete with Cap and Bolts (1-12, 1-13 and 2-14)	1 95	
13	Back Half of Clamp for securing Case to Iron Signal Post	60	
14	⅝"x4½" Bolt for securing No. 12 and No. 13	12	
15	¾"x2¼" Bolt for securing No. 1 to No. 12	12	
16	¾"x9" Bolt for securing No. 1 to Wood Pole	21	
17	Brass Magnet Spectacle	2 25	
18	Electro-Magnets with Backstrap and Cap screws, (specify resistance desired)	6 60	
19	Pawl	90	

MODEL No. 3 ELECTRIC SLOT

(For Manually Operated Signals)

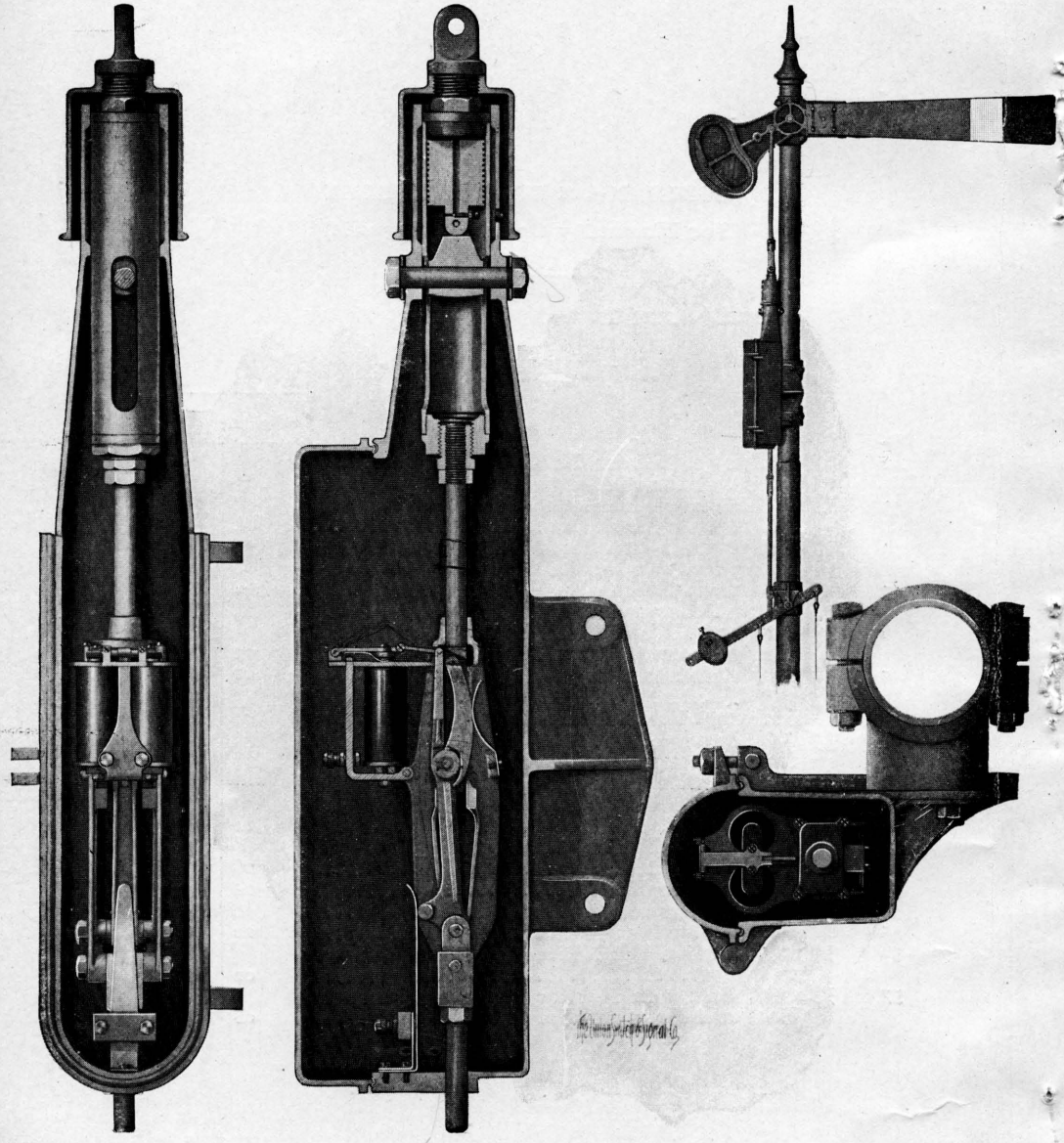
ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
20	Brass Plug to fit ¾" Pipe Tap for No. 1	38	
21	Malleable Bracket for Magnet	1 02	
21a	Malleable Bracket for Slow Acting Magnets	1 02	
22	No. 20 Phosphor Bronze Spring for No. 19	34	
23	Armature Bar with Norway Iron Armature, Spring, and ½"-No. 8-32 Brass Fillister Head Screws	1 72	
24	Eye Piece	2 35	
25	Brass Piston for Buffer	4 50	
26	Brass Jaw Piece for No. 25	2 16	
27	Top Cylinder Head	3 50	
28	No. 14 Phosphor Bronze Spring for No. 31	60	
29	2⅜" Brass Cylinder 11¼" long	7 80	
30	Malleable Iron Fork	2 88	
31	Malleable Swinging Lever	1 54	
32	Friction Roller and Pin for lower end of No. 31	03	
33	Phosphor Bronze Link connecting No. 23 to No. 31	32	
34	Friction Roller and Pin for engaging No. 19	03	
35	¾"x10½" Lifting Rod with Nuts	50	
36	¾"x5¾" Bolt with Washers and Nut for fastening No. 26 to No. 1	58	
37	⅜"x1¾" Bolt and Nut for fastening No. 38 to No. 1	04	
38	Eye Bolt with Nut for securing door	35	
39	½"x3¼" Bolt for securing No. 4, No. 5 and No. 31 to No. 40	09	
40	Lower Connecting Piece	50	
41	7/16"-No. 6-32 Fillister Head Brass Screw for securing No. 23 to No. 17	03	

MODEL No. 3 ELECTRIC SLOT
(For Manually Operated Signals)

ORDER BY PLATE, LETTER OR NUMBER

No.		List Price	
42	¾"-No. 10-32 Fillister Head Brass Screw with Lock Nut for Pin Valve of No. 25	05	
43	¼"x¾" Hexagon Head Cap Screw for securing No. 18 to No. 21	04	
44	½"-No. 10-32 Fillister Head Brass Screw for securing No. 7 to No. 1	01	
45	1¼"-No. 12-24 Fillister Head Brass Screw for securing No. 17 to No. 4 and No. 5	04	
46	¼"-No. 8-32 Fillister Head Brass Screw for securing No. 22 to No. 4 and No. 5	01	
47	⅛"x1⅛" Cotter for No. 54	01	
48	¼"x⅝" Hexagon Head Cap Screw for securing backstrap to magnets	04	
49	$\frac{5}{32}$"x⅝" Round Head Turned Pin and Cotter for No. 23	08	
50	Wire Guide with Hard Rubber Bushing and ¼"-No. 10-32 Fillister Head Brass Screw	35	
51	½"-No. 10-32 Flat Head Screw for No. 29	01	
52	1⅜"-No. 10-32 Binding Screw with Nuts and Washers	18	
53	$\frac{3}{16}$"x2 $\frac{1}{16}$" Pin for No. 19	04	
54	⅝"x2¼" Pin for No. 35	10	
55	Friction Roller for No. 26	20	
56	¼"x1¾" Button Head Rivet for securing No. 2 to No. 1	02	
57	½"x3⅛" Bolt with Nut for fastening No. 40 to No. 4 and No. 5 and No. 31 to No. 40	06	



MODEL No. 3 ELECTRIC SLOT

(For Manually Operated Signals)

The Slot is here shown applied to pole of iron construction. It is equally as well adapted to posts of wooden construction

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