



CATALOGUE OF
INTERLOCKING
and SIGNALING
DEVICES

1902

SECTION 2.
MECHANICAL
GROUND
CONNECTIONS
and **LEADOUT**
APPLIANCES.



The Union Switch & Signal Co.
Swissvale Pa.



A CATALOGUE AND PRICE LIST

OF

**Interlocking and
Signaling Devices**

MADE BY

**THE
UNION SWITCH & SIGNAL Co.
OF PITTSBURGH, PA.**

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.

Frogs, Crossings, Switches and Hand Devices for controlling them.

Plans and Estimates on Application.

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

**New York
Central Bldg.**

**Chicago
Monadnock Bldg.**

**St. Louis
Terminal Station**

Entered according to act of Congress in the year 1902
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The Union Switch & Signal Company
Swissvale, Pa.

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SECTION 2.

**MECHANICAL
GROUND CONNECTIONS
AND
LEADOUT APPLIANCES**

**FIRST EDITION
1902.**

PREFACE

SECTION 2, as its title implies, treats of the many appliances manufactured by us for making connections between interlocking machines, or other operating devices, and the derails, switches, signals, locks, etc., controlled therefrom.

It comprises the best and latest types of jaws, cranks, rocking shafts, compensators, pipe and wire carriers, chain wheels, etc., together with wood, concrete and iron foundations used in connection therewith.

Within the last five years the tendency of most railroads has been to install work of a more permanent and lasting character than previously, with a view to reducing the expense of maintenance and operation at a slightly increased cost of installation.

With this end in view, the use of wood in the construction of bridges, buildings and other structures has been largely abandoned in favor of more lasting materials, and in signal and interlocking work the best modern practice has decreed that signal posts shall be constructed of iron or steel, and that all foundations or supports subject to decay shall consist of iron or concrete.

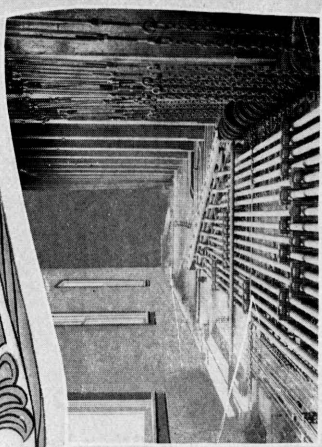
As will be noted in the following pages, we manufacture several styles of iron and concrete foundations to meet the demands of modern practice.

The Union Switch & Signal Co.

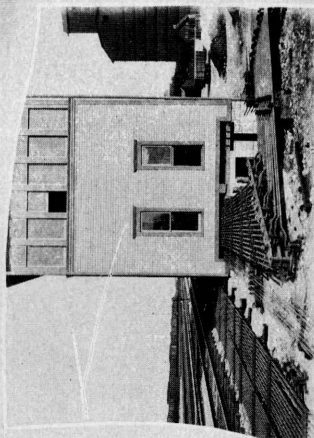
Oct., 1902



FRONT LEAOUT SHOWING BOX CRANK SYSTEM



TOWER INTERIORS SHOWING APPLICATION OF BOX CRANK LEA

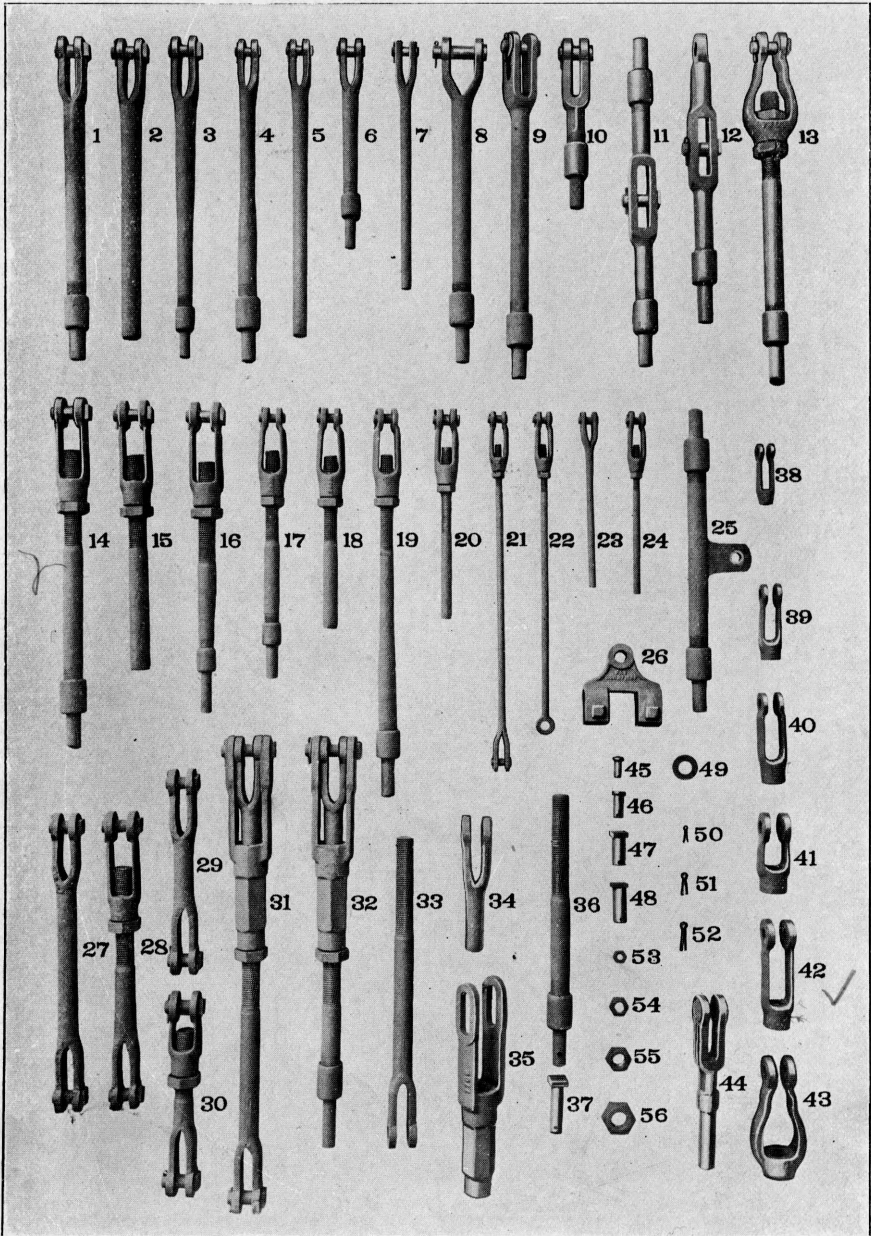


END LEAOUT SHOWING BOX CRANK SYSTEM



PIPE LEA'S SHOWING APPLICATION OF SIX 3 WAY DEFLECTION STANDS

© 1918, The B. B. Co.



Jaws, Pipe Lugs, Connecting Links, Pins and Cotters

**JAWS, PIPE-LUGS, CONNECTING LINKS, PINS
AND COTTERS**

The material illustrated on the opposite plate represents nearly all of the standard types of solid, adjustable, wide and double jaws, connections and pipe lugs in general use today, in addition to several types not heretofore catalogued.

Special attention is called to the "GAIN STROKE" jaws Nos. 31 and 32, in which the amount of lost motion can be varied at will, and the clamped pipe lug No. 26, which can be attached to an existing pipe line without cutting or disconnecting the latter.

In considering sizes of jaws it is well to remember that the size of a jaw is usually determined by the diameter of the shank. For example, Nos. 1, 2, 3, 8, 9, 10, 11, 12, 13, 14, 15, 16, 27, 28, 29, 30, 31 and 32 are all known as 1 1/4 inch jaws, that being the approximate diameter of the shank at the neck of the jaws themselves, and for the same reason Nos. 4, 5, 6, 17, 18 and 19 are known as 1 inch jaws; Nos. 7 and 20 as 3/4 inch jaws, and Nos. 21, 22, 23 and 24 as 1/2 inch jaws.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	Solid Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, 7/8" x 2 3/8" pin and cotter.....	I 35	.607
2	Solid Jaw, 1 1/4 inch, butt end, with 7/8" x 2 3/8" pin and cotter.....	I 02	.4459
3	Solid Jaw, 1 1/4 inch, tanged for 3/4 inch pipe, with sleeve, 7/8" x 2 3/8" pin and cotter.....	I 86	.837
4	Solid Jaw, 1 inch, tanged for 1 inch pipe, with sleeve, 7/8" x 1 5/8" pin and cotter.....	I 89	.85
5	Solid Jaw, 1 inch, butt end, with 5/8" x 1 5/8" pin and cotter.....	69	.31
6	Solid Jaw, 1 inch, tanged for 3/4 inch pipe, with sleeve, 5/8" x 1 3/4" pin and cotter.....	96	.432
7	Solid Jaw, 3/4 inch butt end, with 5/8" x 1 5/8" pin and cotter.....	I 08	.486
8	Solid Wide Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, 7/8" x 3 3/8" pin and cotter.....	I 80	.81
8a	Solid Wide Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, 7/8" x 3" pin and cotter, for Scotch block.....	2 16	.972
9	Slotted Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, 7/8" x 2 3/8" pin and cotter.....	2 43	1.093
10	Solid Mall. Jaw, tanged for 1 inch pipe, with sleeve, 7/8" x 2 3/8" pin and cotter.....	I 14	.513
11	Double Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, 7/8" x 2 3/8" pin and cotter.....	3 09	1.39
12	Double Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve at one end and eye at other end, 7/8" x 2 3/8" pin and cotter.....	3 45	1.552

**JAWS, PIPE LUGS, CONNECTING LINKS, PINS
AND COTTERS**

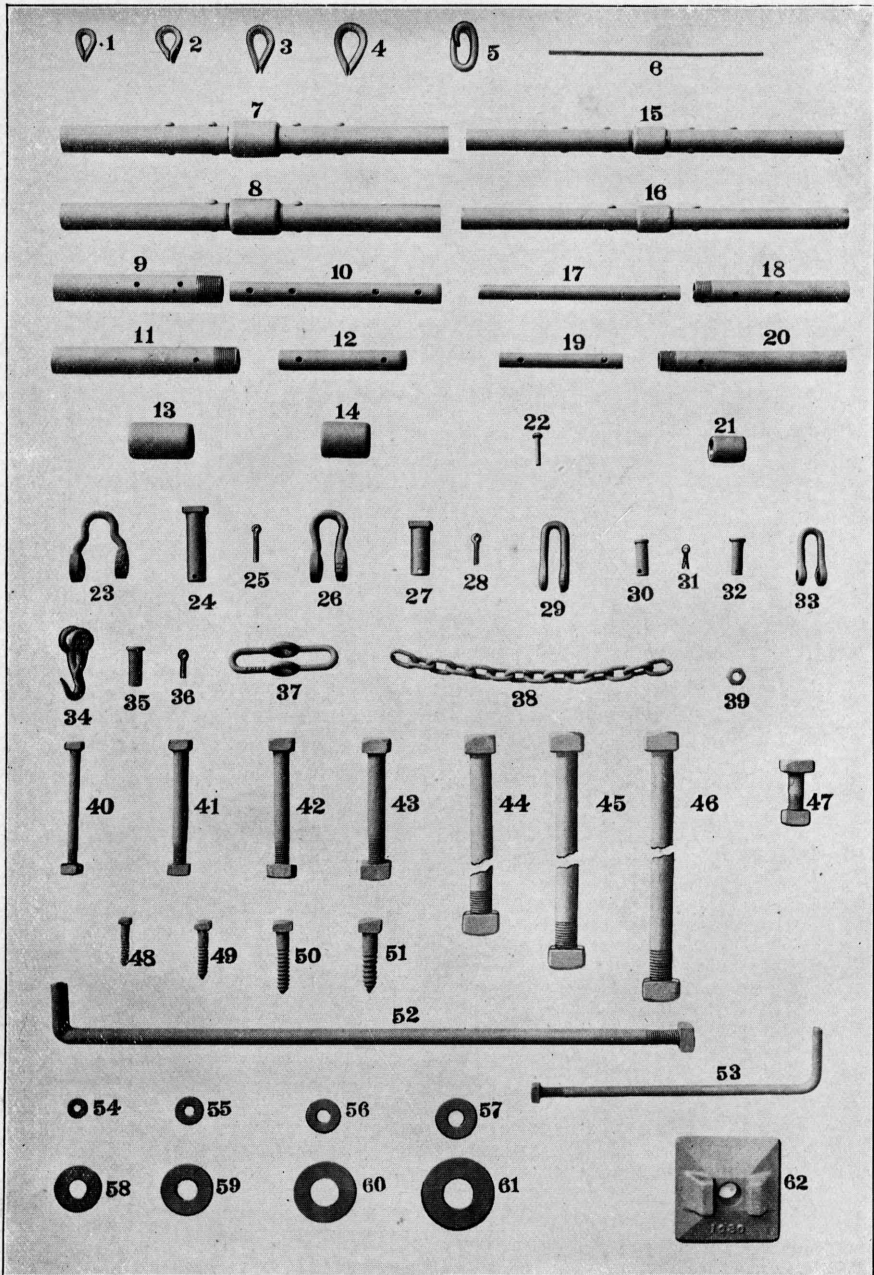
ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
13	Special Screw Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, nuts, 7/8" x 2 3/8" pin and cotter.....	2 01	.9024
14	Screw Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, nut, 7/8" x 2 3/8" pin and cotter.....	1 80	.87
15	Screw Jaw, 1 1/4 inch, butt end, with nut, 7/8" x 2 3/8" pin and cotter.....	1 50	.675
16	Screw Jaw, 1 1/4 inch, tanged for 3/4 inch pipe, with sleeve, nut, 7/8" x 2 3/8" pin and cotter.....	2 31	1.039
17	Screw Jaw, 1 inch, tanged for 3/4 inch pipe, with sleeve, nut, 5/8" x 1 5/8" pin and cotter.....	1 23	.553
17a	Screw Jaw, 1 inch, tanged for 3/4 inch pipe, with sleeve, nut, 5/8" x 1 5/8" pin and cotter, 24 inches long..	1 35	.607
18	Screw Jaw, 1 inch butt end, with nut, 5/8" x 1 5/8" pin and cotter.....	96	.432
19	Wrot Screw Jaw, 1 inch, tanged for 1 inch pipe, with sleeve, nut, 5/8" x 1 3/4" pin and cotter.....	4 53	2.038
20	Screw Jaw, 3/4 inch butt end, with nut, 5/8" x 1 5/8" pin and cotter.....	60	.27
21	Connecting Link, 1/2 inch, with solid jaw at one end and screw jaw at the other end, nut, 1/2" x 1 1/4" pin and cotter.....	1 35	.607
22	Connecting Link, 1/2 inch, with screw jaw at one end and eye at the other end, nut, 1/2" x 1 1/4" pin and cotter.....	63	.283
23	Solid Jaw, 1/2 inch butt end, with 1/2" x 1 1/4" pin and cotter.....	90	.405
24	Screw Jaw, 1/2 inch butt end, with 1/2" x 1 1/4" pin and cotter.....	54	.243
25	Wrot Lug, 1 1/4 inch, tanged for 1 inch pipe, with sleeves	1 89	.85
26	Clamped Pipe Lug for 1 inch pipe, with bolts and nuts	1 26	.567
26a	Clamped Pipe Lug for 3/4 inch pipe, with bolts and nuts	1 26	.567
27	Solid Link, 1 1/4 inch, 18 inch centers, with 7/8" x 2 3/8" pins and cotters.....	2 58	1.161
28	Adjustable Link, 1 1/4 inch, 18 inch centers, with solid jaw at one end and screw jaw at the other end, nut, 7/8" x 2 3/8" pin and cotter.....	2 40	1.08
28a	Offset Adjustable Link, 1 1/4 inch, 18 inch centers with solid jaw at one end and screw jaw at the other end, nut, 7/8" x 2 3/8" pins and cotters, with 2 1/2 inch set	2 70	1.215
29	Solid Link, 1 1/4 inch, 12 inch centers, with 7/8" x 2 3/8" pins and cotter.....	2 43	1.093
30	Adjustable Link, 1 1/4 inch, with solid jaw at one end and screw jaw at the other end, nut, 7/8" x 2 3/8" pins and cotters.....	2 37	1.066

JAWS, PIPE LUGS, CONNECTING LINKS, PINS
AND COTTERS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
31	Gain Stroke Jaw, 1 1/4 inch, with solid jaw at one end, nut, 7/8" x 3 5/8" and 7/8" x 2 3/8" pins and cotters.....	4 20	1.89
32	Gain Stroke Jaw, 1 1/4 inch, tanged for 1 inch pipe, with sleeve, nut, 7/8" x 3 5/8" pin and cotter.....	3 75	1.287
33	Solid Jaw, 1 1/4 inch, with threaded end as shown.....	I 11	1.499
33a	Solid Jaw, 1 1/4 inch, with threaded end, nut, 7/8" x 2 3/8" pin and cotter.....	I 20	.54
34	Solid Jaw, 1 1/4 inch, stub end.....	99	1.445
35	Special Screw Jaw, 1 1/4 inch, for Gain Stroke Jaw, as shown.....	99	1.445
35a	Special Screw Jaw, 1 1/4 inch, for Gain Stroke Jaw with 7/8" x 3 5/8" pin and cotter.....	I 29	.58
36	1 1/4 inch Threaded Rod, tanged for 1 inch pipe, with sleeve for No. 32.....	84	1.378
36a	1 1/4 inch Threaded Rod, tanged, sleeve and nut for No. 32.....	96	1.432
37	7/8" x 3 7/8" Pin.....	30	1.135
38	Screw Jaw, 1/2 inch, as shown.....	27	1.21
39	" " 3/4 inch, as shown.....	33	1.48
40	" " 1 " " ".....	42	1.189
41	" " 1 1/4 " " for No. 30, as shown.....	51	1.229
42	" " 1 1/4 " " " 14, etc., as shown.....	51	1.229
43	Mall. Jaw, 1 1/4 inch, for No. 13, as shown.....	60	1.27
44	Mall. Jaw, 1 1/4 inch, for No. 10, as shown.....	81	1.364
45	Pin, 1/2" x 1 1/4", round head.....	09	1.04
46	" " 5/8" x 1 5/8" " ".....	09	1.04
46a	" " 5/8" x 1 3/4" " ".....	09	1.04
47	" " 7/8" x 2 3/8" square " ".....	09	1.04
47a	" " 7/8" x 3 " " ".....	12	1.054
47b	" " 7/8" x 3 3/8" " ".....	14	1.063
47c	" " 7/8" x 3 5/8" " ".....	14	1.063
47d	" " 7/8" x 2 " " ".....	09	1.04
48	" " 1 1/16" x 2 3/8" " ".....	12	1.054
48a	" " 1 5/16" x 3 3/8" " ".....	15	1.067
49	Washer, 7/8 inch, for No. 9, 31 and 32.....	02	1.007
50	Cotter, 1/8" x 3/4".....	01	1.004
51	Cotter, 1/8" x 1".....	01	1.004
52	Cotter, 3/16" x 1 1/2".....	01	1.004
53	Nut, 1/2 inch Hex.....	03	1.013
54	" " 3/4 " ".....	06	1.027
55	" " 1 " ".....	12	1.054
56	" " 1 1/4 " " (thin).....	12	1.054



Pipe, Wire, Wire Eyes, Shackles, Chain, Foundation Bolts, Lag Screws, Etc.

PIPE, WIRE, WIRE EYES, SHACKLES, CHAIN,
FOUNDATION BOLTS, LAG SCREWS, ETC.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	Wire Eye, 1½ inch.....	03	.013
2	“ “ 1½ “.....	03	.013
3	“ “ 2 “.....	09	.04
4	“ “ 2½ “.....	09	.04
5	Split Link.....	03	.013
6	No. 9 Steel Signal Wire, per hundred feet.....	90	.405
6a	No. 8 Steel Signal Wire, “ “.....	90	.405
7	1 inch Black Pipe with 10 inch plug, 3 inch long sleeve.....		
7a	1 inch Galvanized Pipe with 10 inch plug, 3 inch long sleeve.....		
8	1 inch Black Pipe with 6 inch plug, 2¼ inch long sleeve.....		
8a	1 inch Galvanized Pipe with 6 inch plug, 2¼ inch long sleeve.....		
9	1 inch Black Pipe, drilled for 2 rivets.....		
9a	1 inch Galvanized Pipe, drilled for 2 rivets.....		
10	1" x 10" Plug, 4 holes.....	18	.081
11	1 inch Black Pipe, drilled for 1 rivet.....		
11a	1 inch Galvanized Pipe, drilled for 1 rivet.....		
12	1" x 6" Plug, 2 holes.....	09	.04
13	1" x 3" Black Sleeve.....	27	.121
13a	1" x 3" Galvanized Sleeve.....	39	.175
14	1" x 2¼" Black Sleeve.....	24	.08
14a	1" x 2¼" Galvanized Sleeve.....	36	.162
15	¾ inch Black Pipe with 10 inch plug, 1⅝ inch long sleeve.....		
15a	¾ inch Galvanized Pipe with 10 inch plug, 1⅝ inch long sleeve.....		
16	¾ inch Black Pipe with 6 inch plug, 1⅝ inch long sleeve.....		
16a	¾ inch Galvanized Pipe with 6 inch plug, 1⅝ inch long sleeve.....		
17	¾" x 10" Plug, 4 holes.....	12	.054
18	¾ inch Black Pipe, drilled for 2 rivets.....		
18a	¾ inch Galvanized Pipe, drilled for 2 rivets.....		
19	¾" x 6" Plug, 2 holes.....	09	.04
20	¾ inch Black Pipe, drilled for 1 rivet.....		
20a	¾ inch Galvanized Pipe, drilled for 1 rivet.....		
21	¾" x 1⅝" Black Sleeve.....	18	.081
21a	¾" x 1⅝" Galvanized Sleeve.....	21	.094
22	¼" x 1⅞" B. H. Rivet.....	01	.004
22a	⅝" x 1⅞" “ “.....	01	.004
22b	¼" x 1¼" “ “.....	01	.004
22c	⅝" x 1¼" “ “.....	01	.004
23	Wide Shackle.....	06	.027
23a	Wide Shackle, pin and cotter (1-24, 1-25).....	21	.094

Prices on ¾ inch and 1 inch Black and Galvanized Pipe furnished on application.

PIPE, WIRE, WIRE EYES, SHACKLES, CHAIN,
FOUNDATION BOLTS, LAG SCREWS, ETC.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
24	$\frac{7}{8}$ " x $3\frac{3}{8}$ " Pin	15	.067
25	Cotter, $\frac{3}{16}$ " x $1\frac{1}{2}$ "	01	.004
26	Standard $\frac{7}{8}$ inch Shackle	06	.027
26a	Standard $\frac{7}{8}$ inch Shackle with pin and cotter (1-27, 1-28)	17	.076
27	$\frac{7}{8}$ " x $2\frac{3}{8}$ " Pin	11	.049
28	$\frac{3}{16}$ " x $1\frac{1}{2}$ " Cotter	01	.004
29	$\frac{5}{8}$ inch Shackle	06	.027
29a	$\frac{5}{8}$ inch Shackle with pin and cotter (1-30, 1-31)	17	.076
30	$\frac{5}{8}$ " x $1\frac{5}{8}$ " Pin	09	.044
31	Cotter, $\frac{3}{16}$ " x $1\frac{1}{8}$ "	01	.004
32	$\frac{1}{2}$ " x $1\frac{3}{4}$ " Pin	06	.027
33	$\frac{1}{2}$ inch Shackle	06	.027
33a	$\frac{1}{2}$ inch Shackle with pin and cotter (1-32, 1-31)	12	.054
34	Shackle Hook for selector	81	.364
34a	Shackle Hook for selector with pin and cotter (1-35, 1-36)	90	.405
35	Pin, $\frac{5}{8}$ " x $1\frac{5}{8}$ "	09	.04
36	Cotter, $\frac{3}{16}$ " x $1\frac{1}{8}$ "	01	.004
37	Double Shackle	09	.04
37a	Double Shackle with pin and cotter (1-35, 1-36)	18	.081
38	$\frac{1}{4}$ inch Chain, per foot	21	.094
39	$\frac{3}{8}$ " Nut (Sq)	02	.009
39a	$\frac{1}{2}$ " " "	03	.013
39b	$\frac{5}{8}$ " " "	03	.013
39c	$\frac{3}{4}$ " " "	06	.027
39d	$\frac{7}{8}$ " " "	06	.027
39e	1 " " "	09	.04
39f	$1\frac{1}{4}$ " " "	20	.09
39g	$1\frac{1}{2}$ " " "	29	.13
39h	$\frac{3}{8}$ " " (Hex)	03	.013
39i	$\frac{1}{2}$ " " "	03	.013
39j	$\frac{5}{8}$ " " "	03	.013
39k	$\frac{3}{4}$ " " "	06	.027
39l	$\frac{7}{8}$ " " "	09	.04
39m	1 " " "	12	.054
39n	$1\frac{1}{4}$ " " "	21	.094
39o	$1\frac{1}{2}$ " " "	30	.135
40	$\frac{3}{8}$ " x 8" Bolt, square head and nut	06	.027
40a	$\frac{3}{8}$ " x $8\frac{1}{4}$ " Bolt, square head and nut	06	.027

PIPE, WIRE, WIRE EYES, SHACKLES, CHAIN,
FOUNDATION BOLTS, LAG SCREWS, ETC.

ORDER BY PLATE, NUMBER AND LETTER

No.			List Price	
40b	3/8"	x 9"	06	.1027
40c	3/8"	x 9 1/2"	06	.027
40d	3/8"	x 10"	06	.027
41	1/2"	x 8"	09	.044
41a	1/2"	x 8 1/2"	12	.054
41b	1/2"	x 9"	12	.054
41c	1/2"	x 9 1/2"	12	.054
41d	1/2"	x 10"	12	.054
42	5/8"	x 8"	15	.067
42a	5/8"	x 8 1/2"	15	.067
42b	5/8"	x 9"	15	.067
42c	5/8"	x 9 1/2"	18	.081
42d	5/8"	x 10"	18	.081
42e	5/8"	x 10 1/2"	18	.081
42f	5/8"	x 11"	18	.081
42g	5/8"	x 11 1/2"	18	.081
42h	5/8"	x 12"	18	.081
42i	5/8"	x 12 1/2"	18	.081
42j	5/8"	x 13"	18	.081
42k	5/8"	x 13 1/2"	21	.094
42l	5/8"	x 14"	21	.094
42m	5/8"	x 14 1/2"	21	.094
42n	5/8"	x 15"	21	.094
43	3/4"	x 5 1/2"	15	.067
43a	3/4"	x 6"	18	.081
43b	3/4"	x 6 1/2"	18	.081
43c	3/4"	x 7"	18	.081
43d	3/4"	x 7 1/2"	18	.081
43e	3/4"	x 8"	21	.094
43f	3/4"	x 8 1/2"	21	.094
43g	3/4"	x 9"	21	.094
43h	3/4"	x 9 1/2"	21	.094
43i	3/4"	x 10"	21	.094
43j	3/4"	x 10 1/2"	24	.108
43k	3/4"	x 11"	24	.108
43l	3/4"	x 11 1/2"	24	.108
43m	3/4"	x 12"	24	.108
43n	7/8"	x 5"	21	.094
43o	7/8"	x 5 1/2"	24	.108
43p	7/8"	x 6"	24	.108

PIPE, WIRE, WIRE EYES, SHACKLES, CHAIN,
FOUNDATION BOLTS, LAG SCREWS, ETC.

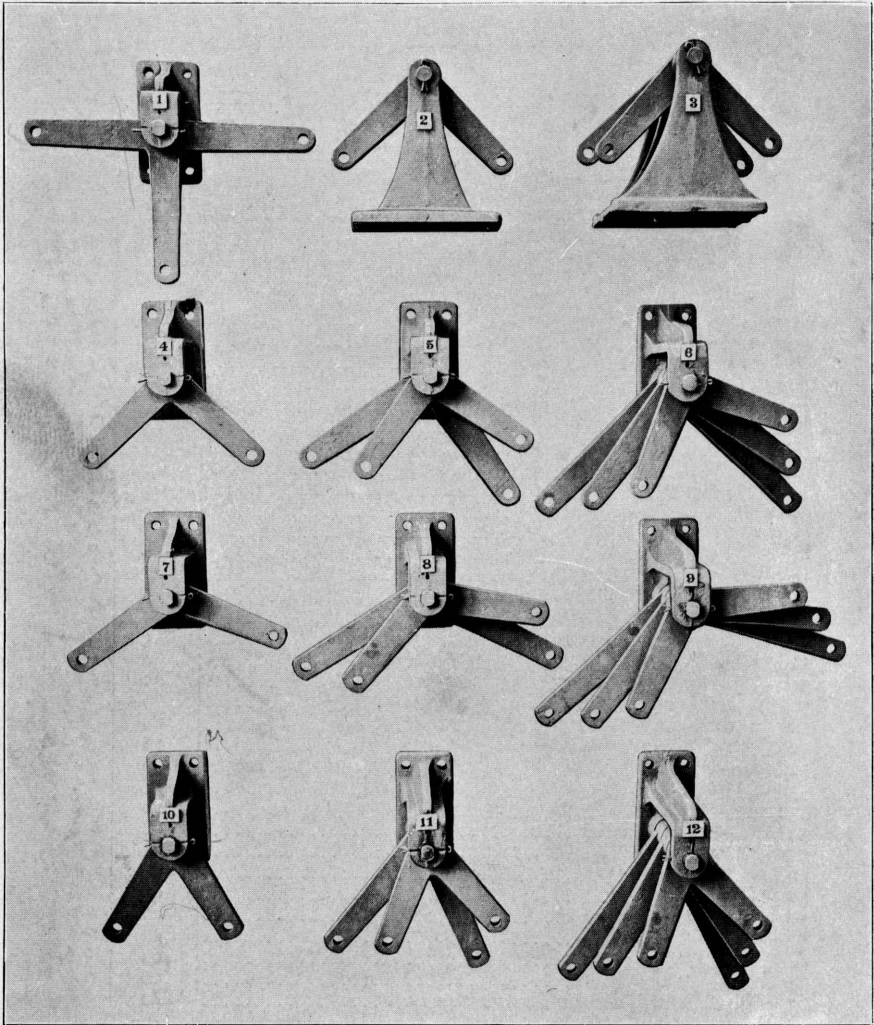
ORDER BY PLATE, NUMBER AND LETTER

No.							List Price
43q	7/8"	x	6 1/2"	Bolt, square head and nut			24 .108
43r	7/8"	x	7"	"	"	"	27 .121
43s	7/8"	x	7 1/2"	"	"	"	27 .121
43t	7/8"	x	8"	"	"	"	27 .121
43u	7/8"	x	8 1/2"	"	"	"	30 .135
43v	7/8"	x	9"	"	"	"	30 .135
43w	7/8"	x	9 1/2"	"	"	"	33 .148
43x	7/8"	x	10"	"	"	"	33 .148
43y	7/8"	x	10 1/2"	"	"	"	33 .148
43z	7/8"	x	11"	"	"	"	33 .148
43aa	7/8"	x	11 1/2"	"	"	"	36 .162
43bb	7/8"	x	12"	"	"	"	36 .162
43cc	7/8"	x	12 1/2"	"	"	"	39 .175
43dd	7/8"	x	13"	"	"	"	39 .175
43ee	7/8"	x	13 1/2"	"	"	"	39 .175
43ff	7/8"	x	14"	"	"	"	39 .175
43gg	7/8"	x	14 1/2"	"	"	"	42 .189
43hh	7/8"	x	15"	"	"	"	42 .189
43ii	7/8"	x	15 1/2"	"	"	"	45 .202
43jj	7/8"	x	16"	"	"	"	45 .202
43kk	7/8"	x	16 1/2"	"	"	"	45 .202
43ll	7/8"	x	17"	"	"	"	45 .202
44	1"	x	6"	"	"	"	33 .148
44a	1"	x	6 1/2"	"	"	"	33 .148
44b	1"	x	7"	"	"	"	36 .162
44c	1"	x	7 1/2"	"	"	"	36 .162
44d	1"	x	8"	"	"	"	39 .175
44e	1"	x	8 1/2"	"	"	"	42 .189
44f	1"	x	9"	"	"	"	42 .189
44g	1"	x	9 1/2"	"	"	"	42 .189
44h	1"	x	10"	"	"	"	42 .189
44i	1"	x	10 1/2"	"	"	"	45 .202
44j	1"	x	11"	"	"	"	45 .202
44k	1"	x	11 1/2"	"	"	"	48 .216
44l	1"	x	12"	"	"	"	48 .216
44m	1"	x	12 1/2"	"	"	"	51 .229
44n	1"	x	13"	"	"	"	51 .229
44o	1"	x	13 1/2"	"	"	"	54 .243
44p	1"	x	14"	"	"	"	54 .243
44q	1"	x	14 1/2"	"	"	"	57 .256

PIPE, WIRE, WIRE EYES, SHACKLES, CHAIN,
FOUNDATION BOLTS, LAG SCREWS, ETC.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
14r	1" x 15" Bolt, square head and nut	57	.256
14s	1" x 15 1/2" " " " "	57	.256
14t	1" x 16" " " " "	57	.256
14u	1" x 17" " " " "	60	.27
14v	1" x 18" " " " "	63	.283
14w	1" x 19" " " " "	66	.297
14x	1" x 20" " " " "	69	.31
45	1 1/4" x 5 feet Foundation Bolt	2 61	1.174
46	1 1/2" x 5 " " "	3 36	1.512
47	3/4" x 4 5/8" Bolt, special, square head and square nut	15	.067
48	5/16" x 2" Lag Screw	03	.013
48a	3/8" x 2 1/2" " "	03	.013
49	1/2" x 2 1/2" " "	03	.013
50	5/8" x 3" " "	06	.027
51	3/4" x 4" " "	09	.04
51a	3/4" x 6" " "	12	.054
52	3/4" x 14" Hook Bolt and Nut for Foundation	24	.108
52a	3/4" x 24" " " " "	39	.175
52b	3/4" x 30" " " " "	45	.202
52c	3/4" x 36" " " " "	51	.229
52d	3/4" x 48" " " " "	60	.27
52e	1" x 14" " " " "	42	.189
52f	1" x 24" " " " "	60	.27
52g	1" x 30" " " " "	69	.31
52h	1" x 36" " " " "	78	.351
52i	1" x 48" " " " "	96	.432
53	1/2" x 13" " " " "	15	.067
53a	1/2" x 22" " " " "	18	.081
54	3/8 inch Washer	01	.004
55	1/2 " " "	01	.004
56	5/8 " " "	01	.004
57	3/4 " " "	02	.009
58	7/8 " " "	02	.009
59	1 " " "	03	.013
60	1 1/4 " " "	03	.013
61	1 1/2 " " "	06	.027
52	Cast Iron Plate for Foundation Bolt	42	.189



Cranks—Horizontal and Vertical Types

CRANKS—HORIZONTAL AND VERTICAL TYPES

All Cranks, Rocker Arms and similar devices manufactured by this Company are drop forged from the best grade of Iron, and supported on cast iron bases of especially strong designs.

In the following combinations the Jaws and Pins referred to are those shown on Plate 200, No. 1, the bolts are $\frac{3}{4}$ " x 6" and the lag screws $\frac{3}{4}$ " x 4" in each case.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
I	1-way 3-arm Horizontal Crank, 9" x 9" x 9", as shown	3 99	1.795
Ia	1-way 3-arm Horizontal Crank, 9" x 9" x 9", with jaws and pins	8 04	3.618
Ib	1-way 3-arm Horizontal Crank, 9" x 9" x 9", with jaws, pins, bolts and lag screws	8 55	3.847
Ic	1-way 3-arm Horizontal Crank, 9" x 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ "	5 31	2.389
Id	1-way 3-arm Horizontal Crank, 9" x 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ ", with jaws and pins	9 36	4.212
Ie	1-way 3-arm Horizontal Crank, 9" x 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ ", with jaws, pins, bolts and lag screws	9 90	4.455
If	1-way 3-arm Horizontal Crank, 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ "	5 85	2.632
Ig	1-way 3-arm Horizontal Crank, 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ ", with jaws and pins	9 90	4.455
Ih	1-way 3-arm Horizontal Crank, 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ ", with jaws, pins, bolts and lag screws	10 44	4.698
Ii	1-way 3-arm Horizontal Crank, 12" x 10" x 12"	5 31	2.389
Ij	1-way 3-arm Horizontal Crank, 12" x 10" x 12", with jaws and pins	9 36	4.212
Ik	1-way 3-arm Horizontal Crank, 12" x 10" x 12", with jaws, pins, bolts and lag screws	9 90	4.455
Il	1-way 3-arm Horizontal Crank, 10" x 12" x 12"	5 31	2.389
Iim	1-way 3-arm Horizontal Crank, 10" x 12" x 12", with jaws and pins	9 36	4.212
Iin	1-way 3-arm Horizontal Crank, 10" x 12" x 12", with jaws, pins, bolts and lag screws	9 90	4.455
Io	1-way 3-arm Horizontal Crank, 10" x 11" x 11"	4 68	2.106
Ip	1-way 3-arm Horizontal Crank, 10" x 11" x 11", with jaws and pins	8 73	3.928
Iq	1-way 3-arm Horizontal Crank, 10" x 11" x 11", with jaws, pins, bolts and lag screws	9 27	4.211
Ir	1-way 3-arm Horizontal Crank, 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ "	6 96	3.132

For Details see Plate 203

CRANKS—HORIZONTAL AND VERTICAL TYPES

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1s	1-way 3-arm Horizontal Crank, 14½" x 14½" x 14½", with jaws and pins	11 01	4.154
1t	1-way 3-arm Horizontal Crank, 14½" x 14½" x 14½", with jaws, pins, bolts and lag screws	11 55	5.197
2	1-way Vertical Crank, 9" x 9", as shown	3 90	1.355
2a	1-way Vertical Crank, 9" x 9", with jaws and pins	6 60	2.97
2b	1-way Vertical Crank, 9" x 9", with jaws, pins, bolts and lag screws	7 14	3.213
3	2-way Vertical Crank, 9" x 9", as shown	7 20	3.24
3a	2-way Vertical Crank, 9" x 9", with jaws and pins	12 60	5.67
3b	2-way Vertical Crank, 9" x 9", with jaws, pins, bolts and lag screws	13 14	6.913
4	1-way Horizontal Crank, right angle 9" x 9", as shown	3 48	1.566
4a	1-way Horizontal Crank, right angle 9" x 9", with jaws and pins	6 18	2.781
4b	1-way Horizontal Crank, right angle 9" x 9", with jaws, pins, bolts and lag screws	6 72	3.024
4c	1-way Horizontal Crank, right angle 11¾" x 11¾"	3 78	1.701
4d	1-way Horizontal Crank, right angle 11¾" x 11¾", with jaws and pins	6 48	2.916
4e	1-way Horizontal Crank, right angle 11¾" x 11¾", with jaws, pins, bolts and lag screws	7 02	3.159
5	2-way Horizontal Crank, right angle 9" x 9" and 11¾" x 11¾", as shown	5 85	2.632
5a	2-way Horizontal Crank, right angle 9" x 9" and 11¾" x 11¾", with jaws and pins	11 25	5.062
5b	2-way Horizontal Crank, right angle 9" x 9" and 11¾" x 11¾", with jaws, pins, bolts and lag screws	11 79	5.305
6	3-way Horizontal Crank, right angle 9" x 9", 11¾" x 11¾" and 14½" x 14½", as shown	9 51	4.279
6a	3-way Horizontal Crank, right angle 9" x 9", 11¾" x 11¾" and 14½" x 14½", with jaws and pins	17 61	7.924
6b	3-way Horizontal Crank, right angle 9" x 9", 11¾" x 11¾" and 14½" x 14½", with jaws, pins, bolts and lag screws	18 15	8.167
7	1-way Horizontal Crank, obtuse angle 9" x 9", as shown	3 48	1.566
7a	1-way Horizontal Crank, obtuse angle 9" x 9", with jaws and pins	6 18	2.781
7b	1-way Horizontal Crank, obtuse angle 9" x 9", with jaws, pins, bolts and lag screws	6 72	3.024
7c	1-way Horizontal Crank, obtuse angle 11¾" x 11¾"	3 78	1.701

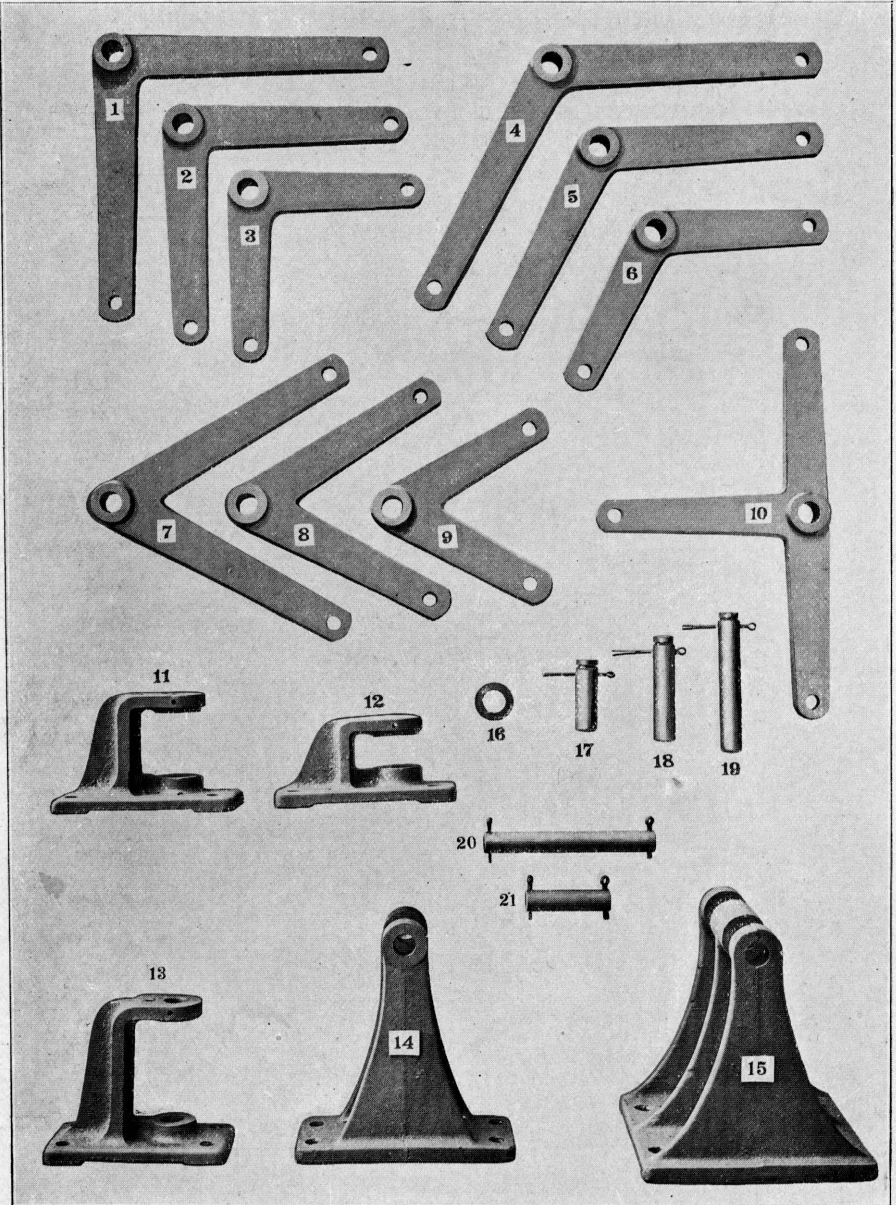
For Details see Plate 203

CRANKS—HORIZONTAL AND VERTICAL TYPES

ORDER BY PLATE NUMBER AND LETTER

No.		List Price	
7d	1-way Horizontal Crank, obtuse angle $11\frac{3}{4}'' \times 11\frac{3}{4}''$, with jaws and pins.....	6 48	2.916
7e	1-way Horizontal Crank, obtuse angle $11\frac{3}{4}'' \times 11\frac{3}{4}''$, with jaws, pins, bolts and lag screws.....	7 02	3.159
8	2-way Horizontal Crank, obtuse angle $9'' \times 9''$ and $11\frac{3}{4}'' \times 11\frac{3}{4}''$, as shown.....	5 85	2.632
8a	2-way Horizontal Crank, obtuse angle $9'' \times 9''$ and $11\frac{3}{4}'' \times 11\frac{3}{4}''$, with jaws and pins.....	11 25	5.062
8b	2-way Horizontal Crank, obtuse angle $9'' \times 9''$ and $11\frac{3}{4}'' \times 11\frac{3}{4}''$, with jaws, pins, bolts and lag screws.....	11 19	5.305
9	3-way Horizontal Crank, obtuse angle $9'' \times 9''$, $11\frac{3}{4}'' \times 11\frac{3}{4}''$ and $14\frac{1}{2}'' \times 14\frac{1}{2}''$, as shown.....	9 51	4.219
9a	3-way Horizontal Crank, obtuse angle $9'' \times 9''$, $11\frac{3}{4}'' \times 11\frac{3}{4}''$ and $14\frac{1}{2}'' \times 14\frac{1}{2}''$, with jaws and pins.....	17 61	7.924
9b	3-way Horizontal Crank, obtuse angle $9'' \times 9''$, $11\frac{3}{4}'' \times 11\frac{3}{4}''$ and $14\frac{1}{2}'' \times 14\frac{1}{2}''$, with jaws, pins, bolts and lag screws.....	18 15	8.167
10	1-way Horizontal Crank, acute angle $9'' \times 9''$, as shown.....	3 48	1.566
10a	1-way Horizontal Crank, acute angle $9'' \times 9''$, with jaws and pins.....	6 18	2.781
10b	1-way Horizontal Crank, acute angle $9'' \times 9''$, with jaws, pins, bolts and lag screws.....	6 72	3.024
10c	1-way Horizontal Crank, acute angle $11\frac{3}{4}'' \times 11\frac{3}{4}''$	3 78	1.701
10d	1-way Horizontal Crank, acute angle $11\frac{3}{4}'' \times 11\frac{3}{4}''$, with jaws and pins.....	6 48	2.916
10e	1-way Horizontal Crank, acute angle $11\frac{3}{4}'' \times 11\frac{3}{4}''$ with jaws, pins, bolts and lag screws.....	7 02	3.159
11	2-way Horizontal Crank, acute angle $9'' \times 9''$ and $11\frac{3}{4}'' \times 11\frac{3}{4}''$ as shown.....	5 85	2.632
11a	2-way Horizontal Crank, acute angle $9'' \times 9''$ and $11\frac{3}{4}'' \times 11\frac{3}{4}''$, with jaws and pins.....	11 25	5.062
11b	1-way Horizontal Crank, acute angle $9'' \times 9''$ and $11\frac{3}{4}'' \times 11\frac{3}{4}''$, with jaws, pins, bolts and lag screws.....	11 79	5.305
12	3-way Horizontal Crank, acute angle $9'' \times 9''$, $11\frac{3}{4}'' \times 11\frac{3}{4}''$ and $14\frac{1}{2}'' \times 14\frac{1}{2}''$, as shown.....	9 51	4.279
12a	3-way Horizontal Crank, acute angle $9'' \times 9''$, $11\frac{3}{4}'' \times 11\frac{3}{4}''$ and $14\frac{1}{2}'' \times 14\frac{1}{2}''$, with jaws and pins.....	17 61	7.924
12b	3-way Horizontal Crank, acute angle $9'' \times 9''$, $11\frac{3}{4}'' \times 11\frac{3}{4}''$ and $14\frac{1}{2}'' \times 14\frac{1}{2}''$, with jaws, pins, bolts and lag screws.....	18 15	8.167

For Details see Plate 203



Cranks—Horizontal and Vertical Types

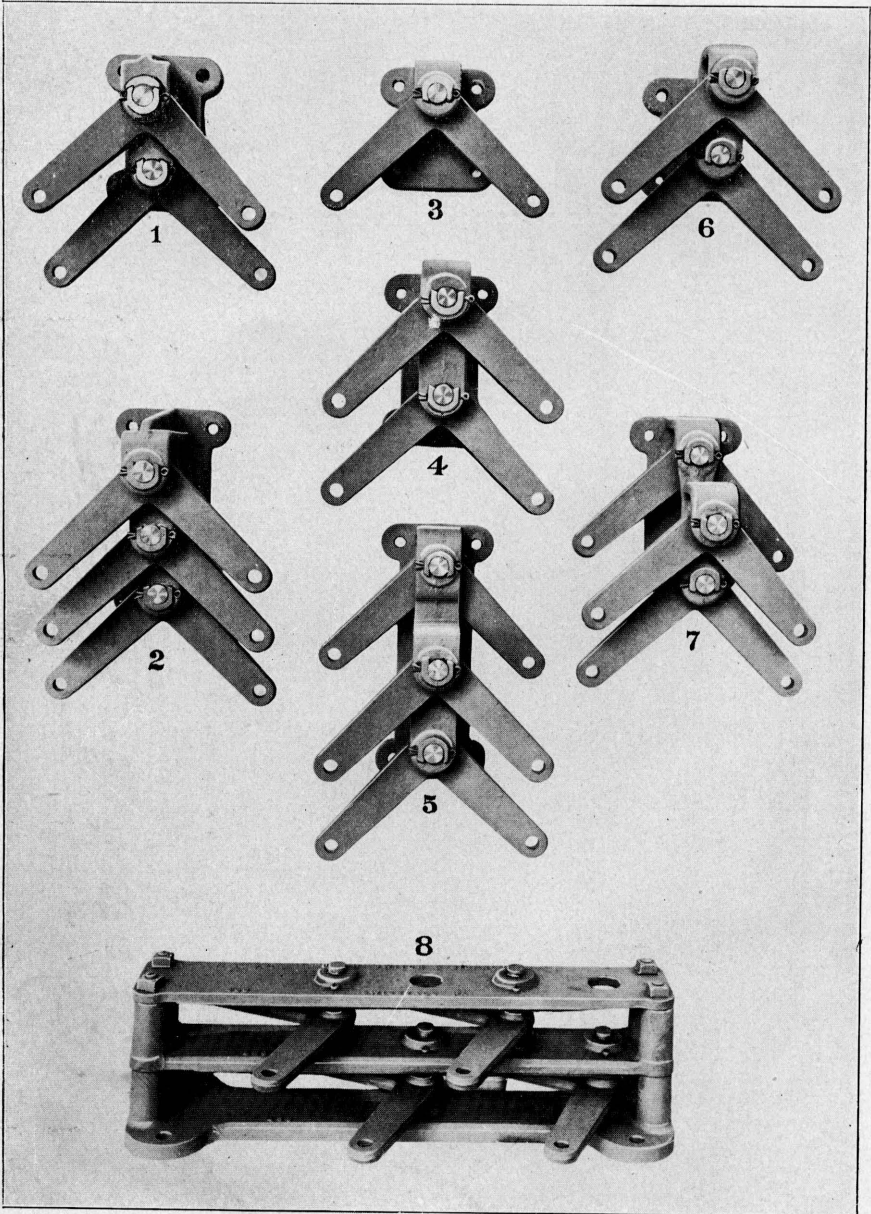
CRANKS—HORIZONTAL AND VERTICAL TYPES

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	Right Angle Crank only, 14½" x 14½"	3 21	1.444
2	" " " " 11¾" x 11¾"	1 71	.769
3	" " " " 9" x 9"	1 41	.634
4	Obtuse " " 14½" x 14½"	3 21	1.444
5	" " " " 11¾" x 11¾"	1 71	.769
6	" " " " 9" x 9"	1 41	.634
7	Acute " " 14½" x 14½"	3 21	1.444
8	" " " " 11¾" x 11¾"	1 71	.769
9	" " " " 9" x 9"	1 41	.634
10	3-arm Crank only, 9" x 9" x 9"	1 92	.864
10a	" " " " 9" x 11¾" x 11¾"	3 21	1.458
10b	" " " " 11¾" x 11¾" x 11¾"	3 78	1.701
10c	" " " " 12" x 10" x 12"	3 24	1.458
10d	" " " " 10" x 12" x 12"	3 24	1.458
10e	" " " " 10" x 11" x 11"	2 61	1.176
10f	" " " " 14½" x 14½" x 14½"	4 87	2.20
11	2-way Horizontal Crank Stand only	1 85	.837
11a	2-way Horizontal Crank Stand, with pin, cotter and washer (1-18, 1-16)	2 31	1.039
12	1-way Horizontal Crank Stand only	1 50	.675
12a	" " " " with pin and cotter	1 87	.85
13	3-way " " " " only	2 01	
13a	" " " " with pin, cotter and washer (1-19, 2-16)	2 58	1.161
14	1-way Vertical Crank Stand only	1 95	.877
14a	" " " " with pin and cotters	2 31	1.039
15	2-way " " " " only	3 60	1.62
15a	" " " " with pin and cotters	4 17	1.876
16	Special Washer, 1¼" x 2¼", for separating 2 and 3-way Cranks	02	.009
17	Turned Pin, 1¼ inch diameter, with cotter for 1-way Stand No. 12	28	.126
18	Turned Pin, 1¼ inch diameter, with cotter for 2-way Stand No. 11	34	.153
19	Turned Pin, 1¼ inch diameter, with cotter for 3-way Stand No. 13	43	.193
20	Turned Pin, 1¼ inch diameter, with cotter for 2-way Stand No. 15	46	.207
21	Turned Pin, 1¼ inch diameter, with cotter for 1-way Stand No. 11	25	.112

For Assembled Views see Plate 202



Cranks—Separate Pin Leadout and Box Types

CRANKS—SEPARATE PIN LEADOUT AND BOX TYPES

SEPARATE PIN CRANKS, MODEL 1. (Nos. 1 and 2) are designed to overcome the objections to the use of a single center pin for more than one crank. They can be used for all purposes to which the ordinary 2 and 3-way Horizontal Cranks shown on Plate 202, Nos. 5 and 6, are applicable since the heights and distances between centers, ($2\frac{3}{4}$ inches) are common to both types.

SEPARATE PIN LEADOUT CRANKS, MODEL 2. (Nos. 3, 4 and 5), as their name implies, are used in leading out from interlocking towers, and are designed to connect on one side to pipe lines from the machine or vertical cranks spaced 5 inches apart, and on the other to the outside pipe lines spaced $2\frac{3}{4}$ inches apart. They possess an advantage over the box type, No. 8, in that an existing nest of cranks can be increased at any time by the addition of a 1, 2 or 3-way, or multiples of same. By referring to Nos. 3, 4 and 5 on Plate 205, the design of bases permitting of these additions will readily be noted.

SEPARATE PIN CRANKS, MODEL 3. (Nos. 6 and 7) are arranged to connect on both sides to pipe lines $2\frac{3}{4}$ inch centers, and differ only from Model 1 in that they can be built up in nests in the same manner as the lead-out type, Model 2, the 1-way crank (No. 3) being used with either Model 2 or Model 3.

In the following combinations the jaws and pins referred to are those shown on Plate 200, No. 1, the bolts and nuts are $\frac{3}{4}$ " x 6", and the lag screws $\frac{3}{4}$ " x 4" in each case.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	2-way Separate Pin Crank, Model 1, as shown	6 09	2.74
1a	2-way Separate Pin Crank, Model 1, with jaws and pins	11 49	5.17
1b	2-way Separate Pin Crank, Model 1, with jaws, pins, bolts and lag screws	12 03	5.413
2	3-way Separate Pin Crank, Model 1, as shown	9 00	4.05
2a	3-way Separate Pin Crank, Model 1, with jaws and pins	17 10	7.695
2b	3-way Separate Pin Crank, Model 1, with jaws, pins, bolts and lag screws	17 64	7.938
3	1-way Separate Pin Leadout Crank, Model 2, as shown	3 48	1.566
3a	1-way Separate Pin Leadout Crank, Model 2, with jaws and pins	6 18	2.781
3b	1-way Separate Pin Leadout Crank, Model 2, with jaws, pins, bolts and lag screws	6 72	3.024
4	2-way Separate Pin Leadout Crank, Model 2, as shown	6 51	2.929
4a	2-way Separate Pin Leadout Crank, Model 2, with jaws and pins	11 91	5.359
4b	2-way Separate Pin Leadout Crank, Model 2, with jaws, pins, bolts and lag screws	12 45	5.602
5	3-way Separate Pin Leadout Crank, Model 2, as shown	8 88	3.996

For Details see Plate 205

CRANKS—SEPARATE PIN LEADOUT AND BOX TYPES

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
5a	3-way Separate Pin Leadout Crank, Model 2, with jaws and pins	16 98	7.644
5b	3-way Separate Pin Leadout Crank, Model 2, with jaws, pins, bolts and lag screws	17 52	7.884
6	2-way Separate Pin Crank, Model 3, as shown	5 79	2.605
6a	2-way Separate Pin Crank, Model 3, with jaws and pins	11 19	5.035
6b	2-way Separate Pin Crank, Model 3, with jaws, pins, bolts and lag screws	11 73	5.278
7	3-way Separate Pin Crank, Model 3, as shown	8 07	3.631
7a	3-way Separate Pin Crank, Model 3, with jaws and pins	16 17	7.276
7b	3-way Separate Pin Crank, Model 3, with jaws, pins, bolts and lag screws	16 71	7.519
8	4-way Box Crank, as shown	21 27	9.571
8a	“ “ “ with jaws and pins	32 07	14.431
8b	“ “ “ with jaws, pins, bolts and lag screws	32 73	14.728
8c	5-way “ “ only	28 26	12.717
8d	“ “ “ with jaws and pins	41 76	18.792
8e	“ “ “ with jaws, pins, bolts and lag screws	42 60	19.117
8f	6-way “ “ only	29 67	13.351
8g	“ “ “ with jaws and pins	45 87	20.641
8h	“ “ “ with jaws, pins, bolts and lag screws	46 68	21.006
8i	7-way “ “ only	36 69	16.51
8j	“ “ “ with jaws and pins	55 59	25.015
8k	“ “ “ with jaws, pins, bolts and lag screws	56 40	25.38
8l	8-way “ “ only	38 16	17.172
8m	“ “ “ with jaws and pins	59 76	26.892
8n	“ “ “ with jaws, pins, bolts and lag screws	60 54	27.243
8o	9-way “ “ only	44 31	19.239
8p	“ “ “ with jaws and pins	68 61	30.574
8q	“ “ “ with jaws, pins, bolts and lag screws	69 57	31.306
8r	10-way “ “ only	45 72	20.574

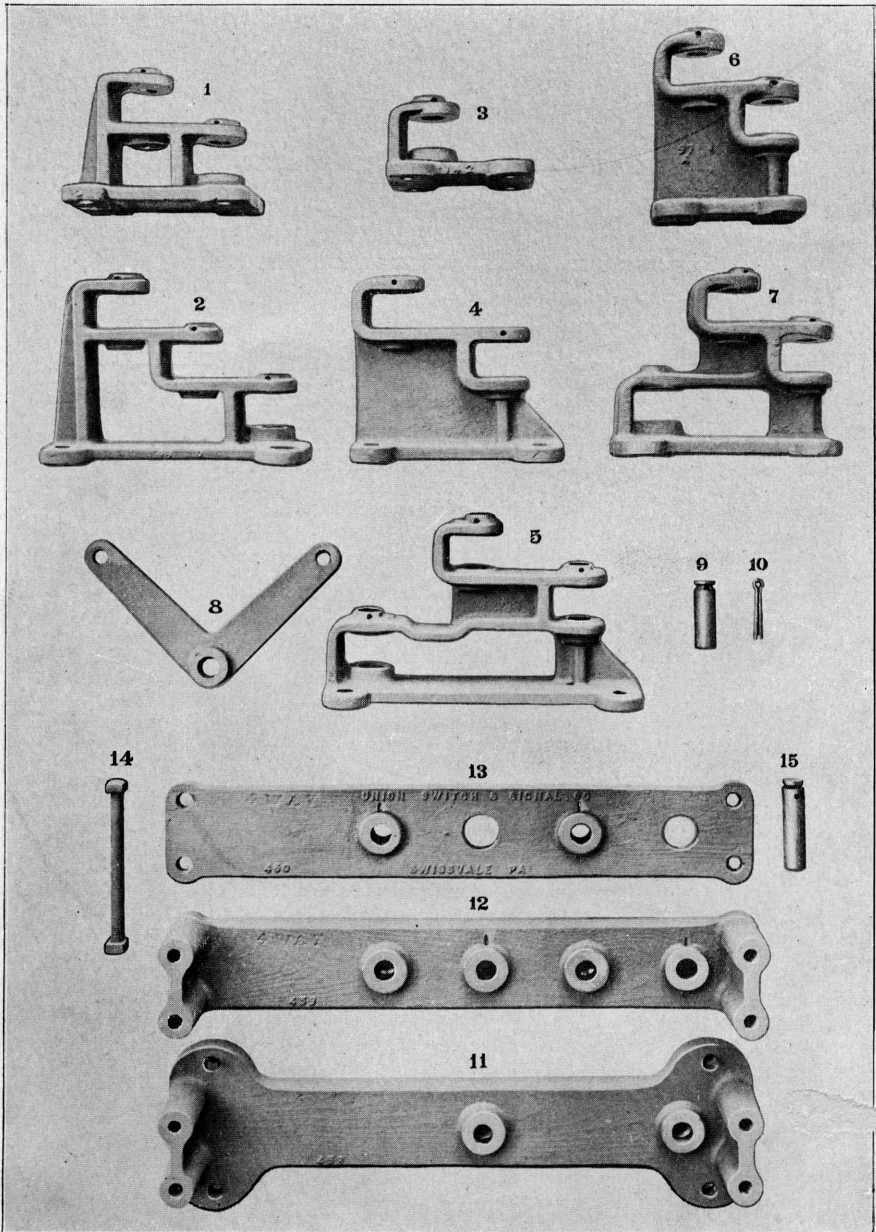
For Details see Plate 205

CRANKS—SEPARATE PIN LEADOUT AND BOX TYPES

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
8s	10-way Box Crank, with jaws and pins	72 72	32.128
8t	“ “ “ with jaws, pins, bolts and lag screws	73 65	33.142
8u	11-way “ “ only	51 03	22.963
8v	“ “ “ with jaws and pins	80 73	36.328
8w	“ “ “ with jaws, pins, bolts and lag screws	81 66	36.747
8x	12-way “ “ only	52 44	23.598
8y	“ “ “ with jaws and pins	84 84	38.178
8z	“ “ “ with jaws, pins, bolts and lag screws	85 77	38.596
8aa	13-way “ “ only	59 13	26.608
8bb	“ “ “ with jaws and pins	94 23	42.403
8cc	“ “ “ with jaws, pins, bolts and lag screws	95 49	42.99
8dd	14-way “ “ only	60 54	27.24
8ee	“ “ “ with jaws and pins	98 34	44.253
8ff	“ “ “ with jaws, pins, bolts and lag screws	99 57	44.806
8gg	15-way “ “ only	66 75	30.03
8hh	“ “ “ with jaws and pins	107 25	48.262
8ii	“ “ “ with jaws, pins, bolts and lag screws	108 51	48.829
8jj	16-way “ “ only	68 16	30.672
8kk	“ “ “ with jaws and pins	111 36	50.112
8ll	“ “ “ with jaws, pins, bolts and lag screws	112 56	50.652
8mm	17-way “ “ only	74 61	33.574
8nn	“ “ “ with jaws and pins	120 51	67.229
8oo	“ “ “ with jaws, pins, bolts and lag screws	121 77	54.796
8pp	18-way “ “ only	76 02	34.209
8qq	“ “ “ with jaws and pins	124 62	56.099
8rr	“ “ “ with jaws, pins, bolts and lag screws	125 82	56.619
8ss	19-way “ “ only	83 10	37.395
8tt	“ “ “ with jaws and pins	134 40	60.48
8uu	“ “ “ with jaws, pins, bolts and lag screws	135 75	61.087
8vv	20-way “ “ only	84 51	38.029
8ww	“ “ “ with jaws and pins	138 51	62.329
8xx	“ “ “ with jaws, pins, bolts and lag screws	139 86	62.937

For Details see Plate 205



Cranks—Details of Separate Pin Leadout and Box Types

**CRANKS—DETAILS OF SEPARATE PIN LEADOUT
AND BOX TYPES**

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	2-way Stand for Separate Pin Crank, Model 1, as shown	2 43	1.093
1a	" " " " " " " " 1, with pins	3 03	1.363
2	3-way " " " " " " " " 1, as shown	3 51	1.579
2a	" " " " " " " " 1, with pins	4 38	1.971
3	1-way " " " " " " Models 2 or 3, as shown	1 50	1.673
3a	1-way Stand for Separate Pin Crank, Models 2 or 3, with pins	1 89	.85
4	2-way Stand for Separate Pin Leadout Crank, Model 2, as shown	3 06	1.377
4a	2-way Stand for Separate Pin Leadout Crank, Model 2, with pins	3 66	1.647
5	3-way Stand for Separate Pin Leadout Crank, Model 2, as shown	4 08	1.836
5a	3-way Stand for Separate Pin Leadout Crank, Model 2, with pins	4 95	2.227
6	2-way Stand for Separate Pin Crank, Model 3, as shown	2 34	1.053
6a	" " " " " " " " 3, with pins	2 94	1.323
7	3-way " " " " " " " " 3, as shown	3 66	1.647
7a	" " " " " " " " 3, with pins	4 50	2.025
8	Right Angle 9" x 9" Crank, for Nos. 1, 2, 3, 4, 5, 6, 7, 11, as shown	1 41	.634
9	Turned Pin, 1 1/4" x 4 1/8", for Nos. 1, 2, 3, 4, 5, 6, 7, as shown	27	1.121
9a	Turned Pin, 1 1/4" x 4 1/8", for Nos. 1, 2, 3, 4, 5, 6, 7, with cotter	28	1.126
10	Cotter 1/4" x 2 1/2", for No. 9	01	1.004
11	Base only for 4-way Box Crank, as shown	5 64	2.538
11a	Base for 4-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	14 51	6.529
11b	Base for 4-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 4-15, 4-10)	15 63	7.033
11c	Base only for 6-way Box Crank	7 50	3.375
11d	Base for 6-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	19 53	8.788
11e	Base for 6-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 6-15, 6-10)	21 21	9.544
11f	Base only for 8-way Box Crank	9 33	4.198
11g	Base for 8-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	24 64	11.088
	Base for 8-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 8-15, 8-10)	26 88	12.096

For Assembled Views see Plate 204

**CRANKS—DETAILS OF SEPARATE PIN LEADOUT
AND BOX TYPES**

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
11i	Base only for 10-way Box Crank	11 04	4.968
11j	Base for 10-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	28 82	12.969
11k	Base for 10-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 10-10, 10-15)	31 62	14.229
11l	Base only for 12-way Box Crank	12 57	5.656
11m	Base for 12-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	32 16	14.472
11n	Base for 12-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 12-15, 12-10)	35 52	15.984
11o	Base only for 14-way Box Crank	14 22	6.389
11p	Base for 14-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	36 88	16.596
11q	Base for 14-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 14-15, 14-10)	40 80	18.36
11r	Base only for 16-way Box Crank	16 23	7.303
11s	Base for 16-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	41 12	18.504
11t	Base for 16-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 16-15, 16-10)	45 60	20.52
11u	Base only for 18-way Box Crank	17 79	8.005
11v	Base for 18-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	45 60	20.52
11w	Base for 18-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 18-15, 18-10)	50 64	22.788

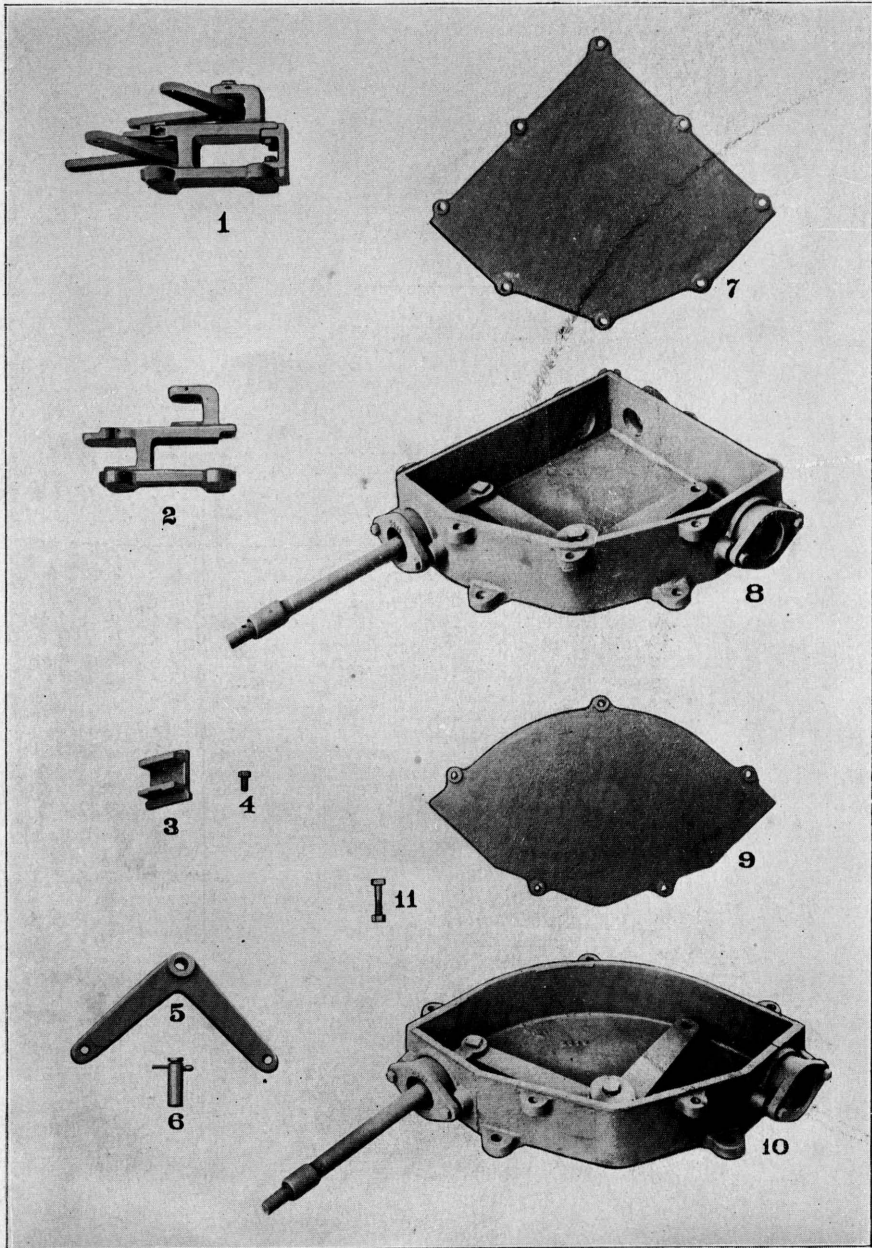
For Assembled Views see Plate 204

**CRANKS—DETAILS OF SEPARATE PIN LEADOUT
AND BOX TYPES**

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
11x	Base only for 20-way Box Crank	19 80	8.91
11y	Base for 20-way Box Crank, with top and middle pieces and bolts (1-12, 1-13, 4-14)	50 71	22819
11z	Base for 20-way Box Crank, with top and middle pieces and bolts, pins and cotters (1-12, 1-13, 4-14, 20-15, 20-10)	56 31	25339
12	Top for 4-way Box Crank, as shown	2 88	1.296
12a	“ “ 6-way “ “ only	4 47	1.971
12b	“ “ 8-way “ “ “	5 61	2.524
12c	“ “ 10-way “ “ “	6 60	2.99
12d	“ “ 12-way “ “ “	7 32	3.294
12e	“ “ 14-way “ “ “	8 88	3.996
12f	“ “ 16-way “ “ “	9 42	4.239
12g	“ “ 18-way “ “ “	10 89	4.90
12h	“ “ 20-way “ “ “	12 03	5.443
13	Middle piece for 4-way Box Crank, as shown	4 92	2.212
13a	“ “ “ 6-way “ “ only	6 39	2.575
13b	“ “ “ 8-way “ “ “	8 46	3.809
13c	“ “ “ 10-way “ “ “	9 87	4.441
13d	“ “ “ 12-way “ “ “	10 83	4.87
13e	“ “ “ 14-way “ “ “	12 63	5.683
13f	“ “ “ 16-way “ “ “	13 83	6.223
13g	“ “ “ 18-way “ “ “	15 24	6.858
13h	“ “ “ 20-way “ “ “	17 25	7.762
14	Bolt $\frac{3}{4}$ " x $9\frac{1}{2}$ ", for fastening Nos. 11 and 12 to- gether	21	1.094
15	Turned Pin, $1\frac{1}{4}$ " x $5\frac{1}{4}$ ", for Box Cranks	27	1.21
15a	Turned Pin, $1\frac{1}{4}$ " x $5\frac{1}{4}$ ", for Box Cranks with cotter	28	1.26

For Assembled Views see Plate 204

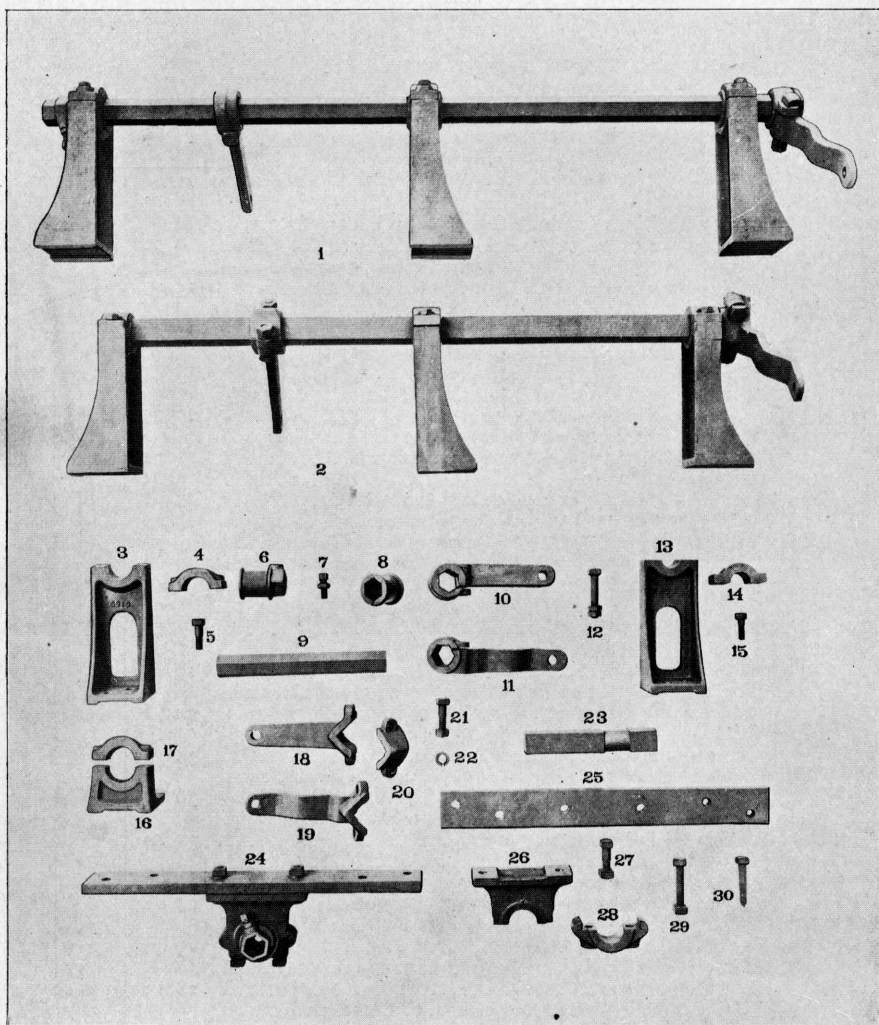


Cranks—Multiple Leadout and Water-tight Types

CRANKS—MULTIPLE LEADOUT AND WATER-TIGHT TYPES

ORDER BY PLATE NUMBER AND LETTER

No.		List Price
I	2-way Multiple Leadout Crank Stand, complete with cranks only	8 52
1a	2-way Multiple Leadout Crank Stand, complete with cranks and jaws	13 92
1b	2-way Multiple Leadout Crank Stand, complete with cranks, jaws, bolts and lag screws	14 46
1c	4-way Multiple Leadout Crank Stand, complete with cranks only	16 44
1d	4-way Multiple Leadout Crank Stand, complete with cranks and jaws	27 24
1e	4-way Multiple Leadout Crank Stand, complete with cranks, jaws, bolts and lag screws	28 32
2	2-way Stand only	4 14
2a	“ “ with end piece and tap bolts	5 01
2b	“ “ “ “ “ tap bolts, pins and cotters.	5 46
2c	4-way “ “ “ “ and tap bolts	9 39
2d	“ “ “ “ “ tap bolts, pins and cotters	10 29
3	End piece for No. 2	45
4	Tap Bolts, $\frac{5}{8}$ " x $1\frac{1}{4}$ ", for fastening No. 3 to No. 2	04
5	Crank only, $7\frac{1}{2}$ " x 9"	1 56
6	Pin, $1\frac{1}{4}$ " x $4\frac{3}{16}$ ", with cotter	20
7	Cover for No. 8	9 15
8	Water-tight Crank Box, with 4 openings, complete with stuffing boxes and cover only, no crank or jaw	32 76
8a	Water-tight Crank Box, as above, complete with crank only	34 17
8b	Water-tight Crank Box, as above, complete with crank and jaws	36 87
8c	Water-tight Crank Box, as above, complete with crank, jaws, bolts and lag screws	37 40
9	Cover for No. 10	6 93
10	Water-tight Crank Box, with 2 openings, complete with stuffing boxes and cover only, no crank or jaws	24 02
10a	Water-tight Crank Box, as above, complete with crank only	25 43
10b	Water-tight Crank Box, as above, complete with crank and jaws	28 13
10c	Water-tight Crank Box, as above, complete with crank, jaws, bolts and lag screws	28 67
11	Bolt and Nut $\frac{3}{8}$ " x $2\frac{7}{8}$ ", for fastening No. 7 to No. 8 and No. 9 to No. 10	09



Rocking Shafts and Fittings

ROCKING SHAFTS AND FITTINGS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	Hexagon Rocking Shaft (8 ft. long) complete as shown	31 17	14.020
1a	Hexagon Rocking Shaft (8 ft. long) complete with jaws, pins, six $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers. . . .	34 95	15.727
	For Rocker Shafts longer or shorter than 8 feet add or deduct per foot.	1 77	.796
	For each additional bearing with intermediate journal (No. 3d) add.	2 91	1.309
	For each additional bearing with intermediate journal (No. 3d) with two $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers, add.	3 28	1.476
2	Square Rocking Shafts (8 ft. long) complete as shown	32 64	14.688
2a	Square Rocking Shaft (8 ft. long) complete with jaws, pins, six $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers.	36 42	16.389
	For Square Rocking Shaft longer or shorter than 8 feet, add or deduct per foot.	2 37	1.066
	For each additional Bearing, No. 13a, add.	2 25	1.012
	For each additional Bearing, No. 13a, with two $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers, add.	2 61	1.174
3	1-way High Bearing for hex. shaft, as shown.	1 65	.742
3a	1-way High Bearing, with cap and tap bolts (1-4, 2-5)	2 25	1.012
3b	1-way High Bearing, with cap, tap bolts, end journal and set screw (1-4, 2-5, 1-6, 1-7).	3 15	1.417
3c	1-way High Bearing for hex. shaft, with cap, tap bolts, end journal, set screw, two $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers.	3 55	1.597
3c'	1-way High Bearing for hex. shaft, with cap, tap bolts, intermediate journals (1-4, 2-5, 1-8).	2 91	1.309
3c''	1-way High Bearing for hex. shaft, with cap, tap bolts, intermediate journals, two $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers.	3 27	1.471
3f	2-way High Bearing for hex. shaft.	3 51	1.579
3g	2-way High Bearing for hex. shaft, with caps and tap bolts (2-4, 4-5).	4 65	2.092
3h	2-way High Bearing for hex. shaft, with caps, tap bolts, end journals, set screws, (2-4, 4-5, 2-6, 2-7).	6 45	2.902
3i	2-way High Bearing for hex. shaft, with caps, tap bolts, end journals, set screws, four $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers.	7 17	3.226
3j	2-way High Bearing for hex. shaft, with caps, tap bolts and intermediate journals (2-4, 4-5, 2-8).	5 91	2.659
3k	1-way High Bearing for hex. shaft, with caps, bolts, intermediate journals, four $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers.	6 63	2.983
3l	4-way High Bearing for hex. shaft.	6 63	2.983
3m	4-way High Bearing for hex. shaft, with caps and tap bolts (4-4, 8-5).	8 94	4.023
3n	4-way High Bearing for hex. shaft, with caps, tap bolts, end journals and set screws (4-4, 8-5, 4-6, 4-7).	12 54	5.643
3o	4-way High Bearing for hex. shaft, with caps, tap bolts, end journals, set screws, eight $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers.	13 98	6.291

ROCKING SHAFTS AND FITTINGS

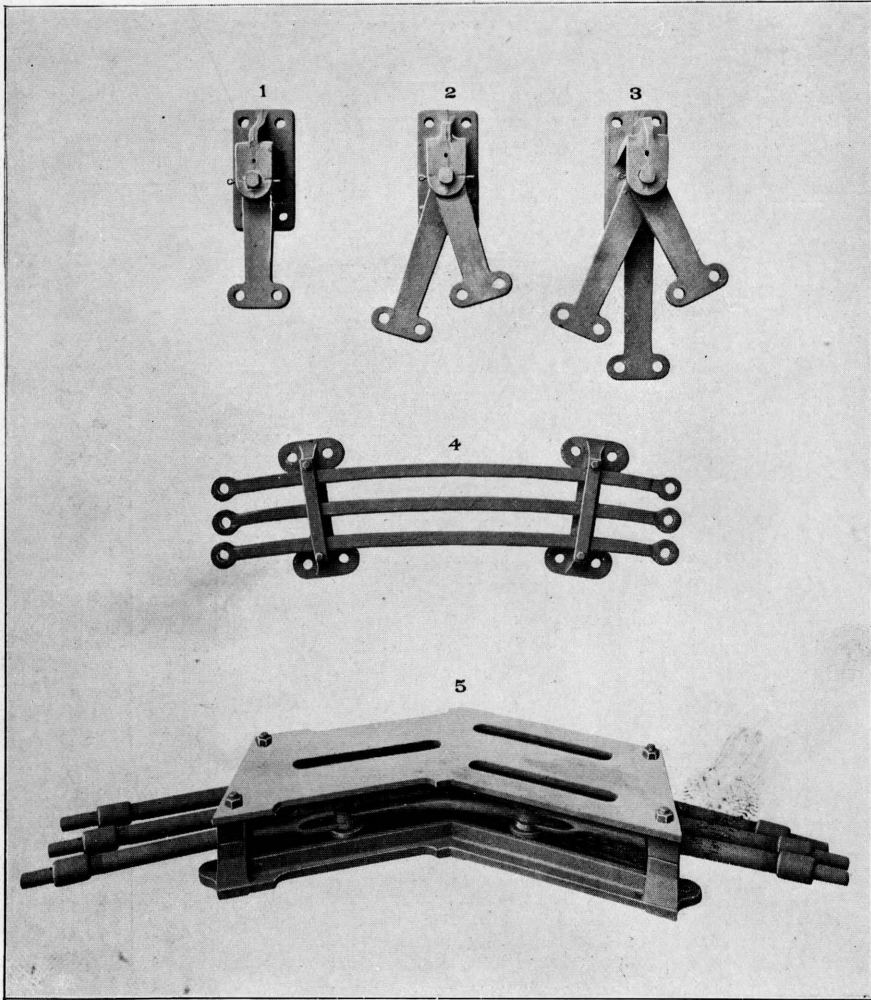
ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
3P	4-way High Bearing for hex. shaft, with cap, tap bolts and intermediate journals (4-4, 8-5, 4-8).....	11 46	5.158
3Q	4-way High Bearing for hex. shaft, with caps, tap bolts, intermediate journals, eight $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers	12 90	5.805
4	Cap for No. 3	48	.216
5	Tap Bolt $\frac{5}{8}$ " x $2\frac{1}{4}$ ", for fastening No. 4 to No. 13	06	.227
6	End Journal for hex. shaft	78	.357
6a	End Journal for hex. shaft, with set screw No. 7	90	.405
7	Set Screw for No. 6	12	.054
8	Intermediate Journal for hex. shaft	£3	.283
9	Hexagon Rocking Shaft, per foot	1 77	.798
10	Straight Arm for hex. shaft	1 71	.769
10a	Straight Arm for hex. shaft, with clamping bolt No. 12	1 86	.837
11	Offset Arm for hex. shaft	1 80	.81
11a	Offset Arm for hex. shaft, with clamping bolt No. 12	1 95	.877
12	Bolt, $\frac{3}{4}$ " x 4", with 2 hex. nuts, for clamping No. 10 or No. 11 to No. 9	15	.067
13	1-way High Bearing for square shaft	1 65	.742
13a	" " " with cap and tap bolts (1-14, 2-15)	2 25	1.012
13b	" " " " " tap bolts, two $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers	2 61	1.174
13c	2-way High Bearing for square shaft	3 51	1.579
13d	" " " with caps and tap bolts (2-14, 4-15)	4 65	2.092
13e	" " " " " tap bolts, four $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers	5 37	2.516
13f	4-way High Bearing for square shaft	6 63	2.983
13g	" " " with caps and tap bolts (4-14, 8-15)	8 94	4.823
13h	" " " " " tap bolts, eight $\frac{3}{4}$ " x $5\frac{1}{2}$ " bolts and washers	10 38	4.671
14	Cap for No. 13	48	.216
14a	Cap for No. 13, with tap bolts (2-15)	60	.27
15	Tap Bolt $\frac{5}{8}$ " x 2", for No. 14	06	.227
16	Low Bearing for hex. shaft (made in 1-way only)	1 14	.513
16a	" " " with cap and tap bolts	1 86	.837
16b	" " " " " tap bolts, end journal and set screw	2 76	1.212

ROCKING SHAFTS AND FITTINGS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
16c	Low Bearing with cap, tap bolts, end journal, set screws, bolts and washers	3 12	14404
16d	Low Bearing with cap, tap bolts and intermediate journal	2 49	1.12
16e	Low Bearing with cap, tap bolts, intermediate journal, bolts and washers	2 85	1.282
17	Cap for No. 16	48	2.16
18	Straight Arm for square shaft	1 83	.823
18a	Straight Arm with cap, bolts and lock washer (1-20, 2-21, 2-22)	3 13	1.4608
19	Offset Arm for square shaft	2 19	.985
19a	Offset Arm with cap, bolts and lock washers (1-20, 2-21, 2-22)	3 51	1.579
20	Cap for No. 17 and No. 18	1 02	.4259
21	Bolt $\frac{3}{4}$ " x $2\frac{3}{8}$ ", for fastening No. 19 to No. 17 or No. 18	12	.054
22	Lock Washer for No. 20	02	.009
23	Square Rocking Shaft, 6 feet long, for 2 journals	14 19	6.385
23a	" " " 8 " " 3 "	19 26	8.1667
23b	" " " 10 " " 3 "	23 28	10.476
23c	" " " 12 " " 3 "	27 30	12.285
23d	" " " 14 " " 3 "	31 32	14.094
23e	" " " 16 " " 3 "	35 34	15.903
23f	" " " 18 " " 4 "	40 41	18.184
24	Low Bearing for detector bars, complete with end journal, as shown	7 67	3.451
24a	Low Bearing for detector bars, complete with end journal, four $\frac{3}{4}$ " x 4" lag screws	8 02	3.609
25	Tie Plate for Bearing No. 26	2 85	1.382
26	Low Bearing for Tie Plate No. 25	2 00	.982
26a	Low Bearing with cap, cap bolts and nut locks (1-28, 2-27, 2-22)	3 58	1.611
26b	Low Bearing with cap, all bolts and nut locks (1-28, 2-27, 2-29, 4-22)	3 81	1.714
27	$\frac{3}{4}$ " x $2\frac{3}{4}$ " Square Head Bolt and Nuts	12	.054
28	Cap for No. 26	1 32	.594
29	$\frac{3}{4}$ " x 4" Square Head Bolts and Nuts	15	.067
30	Lag Screw $\frac{3}{4}$ " x 4", for fastening No. 24 to ties	09	.04



Radial Arms and Deflecting Bars

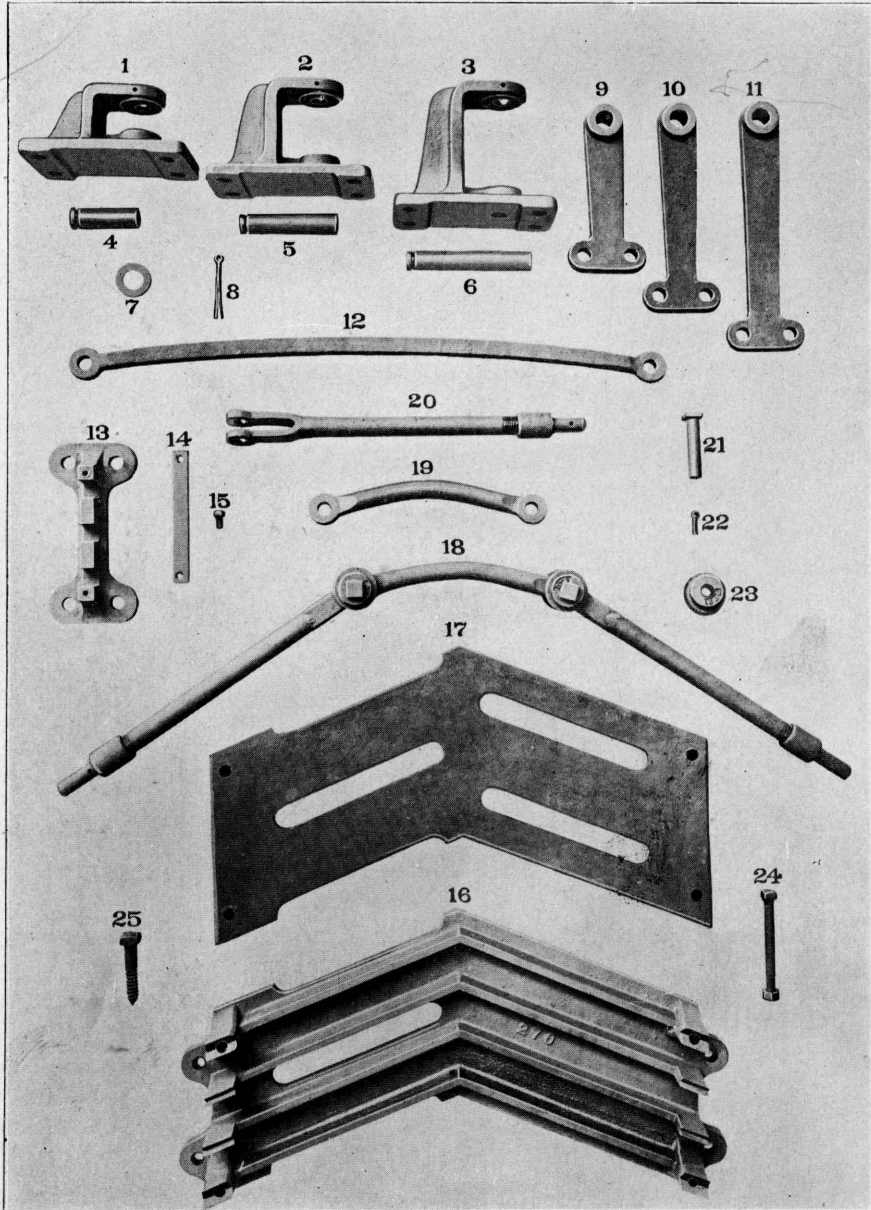
RADIAL ARMS AND DEFLECTING BARS

In the following, combinations the jaws and pins referred to are those shown on Plate 200, No. 1, the bolts and nuts are $\frac{3}{4}$ " x 6", and the lag screws $\frac{3}{4}$ " x 4", except when specified otherwise.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	1-way Radial Arm, 9", as shown	3 15	1417
1a	" " " 9" with jaws and pins	5 85	2632
1b	" " " 9" " " pins, bolts and lag screws	6 39	2,875
1c	1-way Radial Arm, 11 $\frac{3}{4}$ "	3 30	1485
1d	" " " 11 $\frac{3}{4}$ " with jaws and pins	6 00	270
1e	" " " 11 $\frac{3}{4}$ " " " pins, bolts and lag screws	6 54	2,943
2	2-way Radial Arm, 9" and 11 $\frac{3}{4}$ ", as shown	4 95	2,1227
2a	" " " 9" " 11 $\frac{3}{4}$ " with jaws and pins	10 35	4657
2b	" " " 9" " 11 $\frac{3}{4}$ " " " pins, bolts and lag screws	10 89	4,884
3	3-way Radial Arm, 9", 11 $\frac{3}{4}$ " and 14 $\frac{1}{2}$ ", as shown	7 92	3,584
3a	" " " 9", 11 $\frac{3}{4}$ " and 14 $\frac{1}{2}$ ", with jaws and pins	16 02	7,209
3b	3-way Radial Arm, 9", 11 $\frac{3}{4}$ " and 14 $\frac{1}{2}$ ", with jaws, pins, bolts and lag screws	16 56	7,452
4	3-way Deflecting Bars, as shown	7 23	3,253
4a	" " " with jaws and pins	15 33	6,898
4b	" " " " " pins, bolts and lag screws	16 41	7,384
4c	4-way Deflecting Bars	9 18	4,131
4d	" " " with jaws and pins	19 98	5,991
4e	" " " " " pins, bolts and lag screws	20 94	9,423
	For each one way increase to 4c, add	1 95	.877
	For each one way increase to 4d, add	4 65	3,092
5	45° Deflecting Stand, as shown (made as a 3-way only)	41 49	18,67
5a	45° Deflecting Stand, with four $\frac{3}{4}$ " x 6" bolts	42 18	18,981

For Details see Plate 209



Radial Arms and Deflecting Bars
(Details)

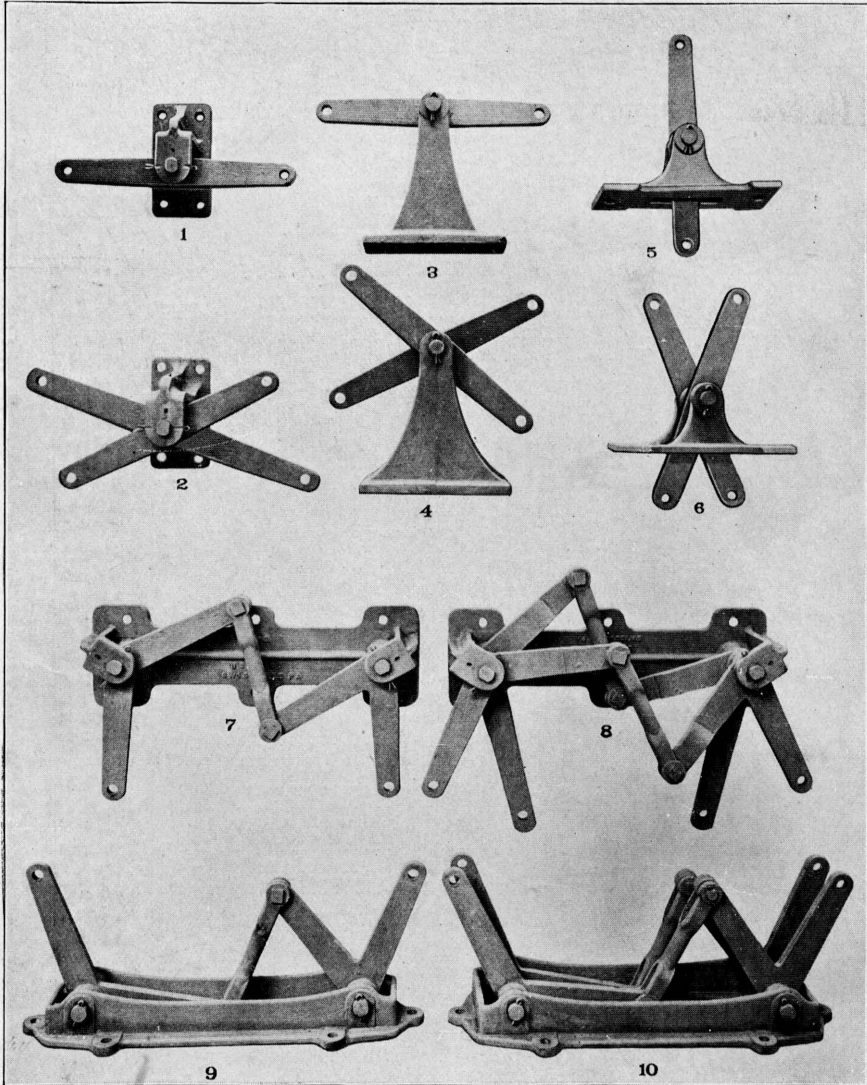
RADIAL ARMS AND DEFLECTING BARS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
1	1-way Base only	1 50 .673
1a	“ “ with pins and cotters	1 89 .85
2	2-way “ only	1 86 .837
2a	“ “ with pins and cotters	2 31 1.039
3	3-way “ only	2 01 .904
3a	“ “ with pins and cotters	2 58 1.161
4	Pin for No. 1	27 1.21
5	“ “ “ 2	33 1.148
6	“ “ “ 3	42 1.189
7	1 1/4 inch Washer for separating cranks in No. 2 and No. 3	02 .009
8	Cotter for Nos. 1, 2 and 3	01 .004
9	9 inch Radial Arm	1 20 .54
10	11 3/4 inch Radial Arm	1 32 .594
11	14 1/2 inch Radial Arm	2 67 1.201
12	Rod, 1 inch square for No. 13	1 65 .742
13	Base for 3-way Deflecting Bar	1 92 .414
13a	“ “ “ “ with caps and screws	1 00 .45
13b	“ “ 4-way “ “ with caps and screws	1 20 .54
13c	“ “ “ “ with caps and screws	1 30 .585
	For each one way increase to “13b,” add	23 .126
	For each one way increase to “13c,” add	30 .135
14	Cap for No. 13 (3-way)	05 .022
	For each one way increase to No. 14, add	01 .064
15	Tap Bolt, 3/8" x 3/4", for fastening No. 14 to No. 13...	02 .009
16	Base for 3-way 45° Deflecting Stand	8 40 3.78
16a	Base for 3-way 45° Deflecting Stand, with cover and bolts (1-17, 4-24)	15 42 6.939
17	Cover for No. 16	7 95 3.577
17a	Cover for No. 16, with bolts (4-24) and nut locks	8 63 3.883
18	Rod complete for No. 16	8 03 3.613
19	Link for No. 18	1 71 .769
20	Wrot Jaw, for No. 19 or No. 12	1 23 .553
20a	“ “ with 7/8" x 2 3/8" pin and cotter	1 35 .607
20b	“ “ “ 7/8" x 4" “	1 18 .666
20c	“ “ “ 7/8" x 4" pin, cotter and rollers (1-21, 1-22, 2-23)	3 16 1.422
21	Turned Pin, 7/8" x 4"	24 1.108
22	3/16" x 1 1/2" Cotter, for No. 21	01 .004
23	Roller for No. 20	84 3.78
24	3/8" x 6 1/2" Bolt, for fastening No. 17 to No. 16	15 .067
25	3/4" x 4" Lag Screw, for fastening No. 1, 2, 3, 13 to foundation	09 .04

For Assembled Views see Plate 208



Pipe Compensators—Horizontal and Vertical Designs of Straight Arm and Lazy Jack Type

PIPE COMPENSATORS

Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types

In addition to the various standard types of Compensators illustrated, we now manufacture the 2-way Horizontal Lazy Jack type (No. 8), with separate pins for each crank similar in design to the type shown on Plate 204, Nos. 1, 4 and 6.

In the following combinations, the Jaws and Pins referred to are those shown on Plate 200, No. 1, the bolts and nuts are $\frac{3}{4}$ " x 6", and the lag screws $\frac{3}{4}$ " x 4" in each case.

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
i	1-way Horizontal Straight Arm Pipe Compensator, with 9" x 9" arms, as shown	3 48	1.566
ia	1-way Horizontal Straight Arm Pipe Compensator, with 9" x 9" arms, with jaws and pins	6 18	2.781
ib	1-way Horizontal Straight Arm Pipe Compensator, with 9" x 9" arms, with jaws, pins, bolts and lag screws	6 72	3.024
ic	1-way Horizontal Straight Arm Pipe Compensator, with 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " arms only	3 78	1.701
id	1-way Horizontal Straight Arm Pipe Compensator with 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " arms, with jaws and pins	6 48	2.916
ie	1-way Horizontal Straight Arm Pipe Compensator, with 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " arms with jaws, pins, bolts and lag screws	7 02	3.159
if	1-way Horizontal Straight Arm Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms only	5 28	2.376
ig	1-way Horizontal Straight Arm Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms, with jaws and pins	7 98	3.591
ih	1-way Horizontal Straight Arm Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms, with jaws, pins, bolts and lag screws	8 52	3.834
ii	1-way Horizontal Straight Arm Pipe Compensator, with 18" x 18" arms only	7 74	3.483
ij	1-way Horizontal Straight Arm Pipe Compensator, with 18" x 18" arms, with jaws and pins	10 44	4.698
ik	1-way Horizontal Straight Arm Pipe Compensator, with 18" x 18" arms, with jaws, pins, bolts and lag screws	10 98	4.941
il	1-way Horizontal Straight Arm Pipe Compensator, with 24" x 24" arms only	7 83	3.523
im	1-way Horizontal Straight Arm Pipe Compensator, with 24" x 24" arms, with jaws and pins	10 53	4.738

For Details see Plate 211

PIPE COMPENSATORS

Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1a	1-way Horizontal Straight Arm Pipe Compensator with 24" x 24" arms, with jaws, pins bolts and lag screws.....	11 07	4.981
2	2-way Horizontal Straight Arm Pipe Compensator, with 9" x 9" and 11 3/4" x 11 3/4" arms, as shown.	5 85	2.632
2a	2-way Horizontal Straight Arm Pipe Compensator with 9" x 9" and 11 3/4" x 11 3/4" arms, with jaws and pins.....	11 25	5.062
2b	2-way Horizontal Straight Arm Pipe Compensator with 9" x 9" and 11 3/4" x 11 3/4" arms, with jaws, pins, bolts and lag screws.....	11 79	5.305
2c	2-way Horizontal Straight Arm Pipe Compensator, with 11 3/4" x 11 3/4" and 14 1/2" x 14 1/2" arms, as shown.....	7 65	3.442
2d	2-way Horizontal Straight Arm Pipe Compensator, with 11 3/4" x 11 3/4" and 14 1/2" x 14 1/2" arms with jaws and pins.....	13 05	5.872
2e	2 way Horizontal Straight Arm Pipe Compensator, with 11 3/4" x 11 3/4" and 14 1/2" x 14 1/2" arms, with jaws, pins, bolts and lag screws.....	13 59	6.115
3	1-way Straight Arm High Vertical Pipe Compensator, with 9" x 9" arms, as shown.....	3 90	1.755
3a	1-way Straight Arm High Vertical Pipe Compensator, with 9" x 9" arms, with jaws and pins.....	6 60	2.97
3b	1-way Straight Arm High Vertical Pipe Compensator, with 9" x 9" arms, with jaws, pins, bolts and lag screws.....	7 14	3.213
3c	1-way Straight Arm High Vertical Pipe Compensator, with 11 3/4" x 11 3/4" arms only.....	4 83	2.173
3d	1-way Straight Arm High Vertical Pipe Compensator, with 11 3/4" x 11 3/4" arms, with jaws and pins.....	7 53	3.388
3e	1-way Straight Arm High Vertical Pipe Compensator with 11 3/4" x 11 3/4" arms, with jaws, pins, bolts and lag screws.....	8 07	3.631

For Details see Plate 211

PIPE COMPENSATORS

Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
4	2-way Straight Arm High Vertical Pipe Compensator, with 9" x 9" arms, as shown	7 20	3.24
4a	2-way Straight Arm High Vertical Pipe Compensator, with 9" x 9" arms, with jaws and pins	12 60	5.67
4b	2-way Straight Arm High Vertical Pipe Compensator, with 9" x 9" arms, with jaws, pins, bolts and lag screws	13 14	5.913
4c	2-way Straight Arm High Vertical Pipe Compensator, with 11 3/4" x 11 3/4" arms only	9 00	4.05
4d	2-way Straight Arm High Vertical Pipe Compensator, with 11 3/4" x 11 3/4" arms, with jaws and pins	14 40	6.48
4e	2-way Straight Arm High Vertical Pipe Compensator, with 11 3/4" x 11 3/4" arms, with jaws, pins, bolts and lag screws	14 94	6.723
5	1-way Straight Arm Low Vertical Pipe Compensator, with 9" x 9" arms, as shown	3 63	1.635
5a	1-way Straight Arm Low Vertical Pipe Compensator, with 9" x 9" arms, with jaws and pins	6 33	2.848
5b	1-way Straight Arm Low Vertical Pipe Compensator, with 9" x 9" arms, with jaws, pins, bolts and lag screws	6 69	3.01
5c	1-way Straight Arm Low Vertical Pipe Compensator, with 11 3/4" x 11 3/4" arms only	3 93	1.768
5d	1-way Straight Arm Low Vertical Pipe Compensator, with 11 3/4" x 11 3/4" arms, with jaws and pins	6 63	2.983

For Details see Plate 211

PIPE COMPENSATORS

Horizontal and Vertical Designs of Straight Arm and
Lazy Jack Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
5e	1-way Straight Arm Low Vertical Pipe Compensator, with 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " arms, with jaws, pins, bolts and lag screws.....	6 99	3,145
5f	1-way Straight Arm Low Vertical Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms only.....	5 43	2,443
5g	1-way Straight Arm Low Vertical Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms, with jaws and pins....	8 13	3,658
5h	1-way Straight Arm Low Vertical Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms, with jaws, pins, bolts and lag screws.....	8 49	3,82
6	2-way Straight Arm Low Vertical Pipe Compensator, with 9" x 9" arms only.....	6 36	2,862
6a	2-way Straight Arm Low Vertical Pipe Compensator with 9" x 9" arms, with jaws and pins.....	11 76	5,292
6b	2-way Straight Arm Low Vertical Pipe Compensator, with 9" x 9" arms, with jaws, pins, bolts and lag screws.....	12 30	5,535
6c	2-way Straight Arm Low Vertical Pipe Compensator, with 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " arms only.....	6 96	3,132
6d	2-way Straight Arm Low Vertical Pipe Compensator, with 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " arms, with jaws and pins....	12 36	5,562
6e	2 way Straight Arm Low Vertical Pipe Compensator, with 11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " arms, with jaws, pins, bolts and lag screws.....	12 90	5,805
6f	2-way Straight Arm Low Vertical Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms only.....	9 96	4,482
6g	2-way Straight Arm Low Vertical Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms, with jaws and pins....	15 36	6,912
6h	2-way Straight Arm Low Vertical Pipe Compensator, with 14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " arms, with jaws, pins, bolts and lag screws.....	15 90	7,155
7	1-way Horizontal Lazy Jack Pipe Compensator, as shown.....	10 50	4,545
7a	1-way Horizontal Lazy Jack Pipe Compensator, with jaws and pins.....	13 20	5,84

For Details see Plate 211

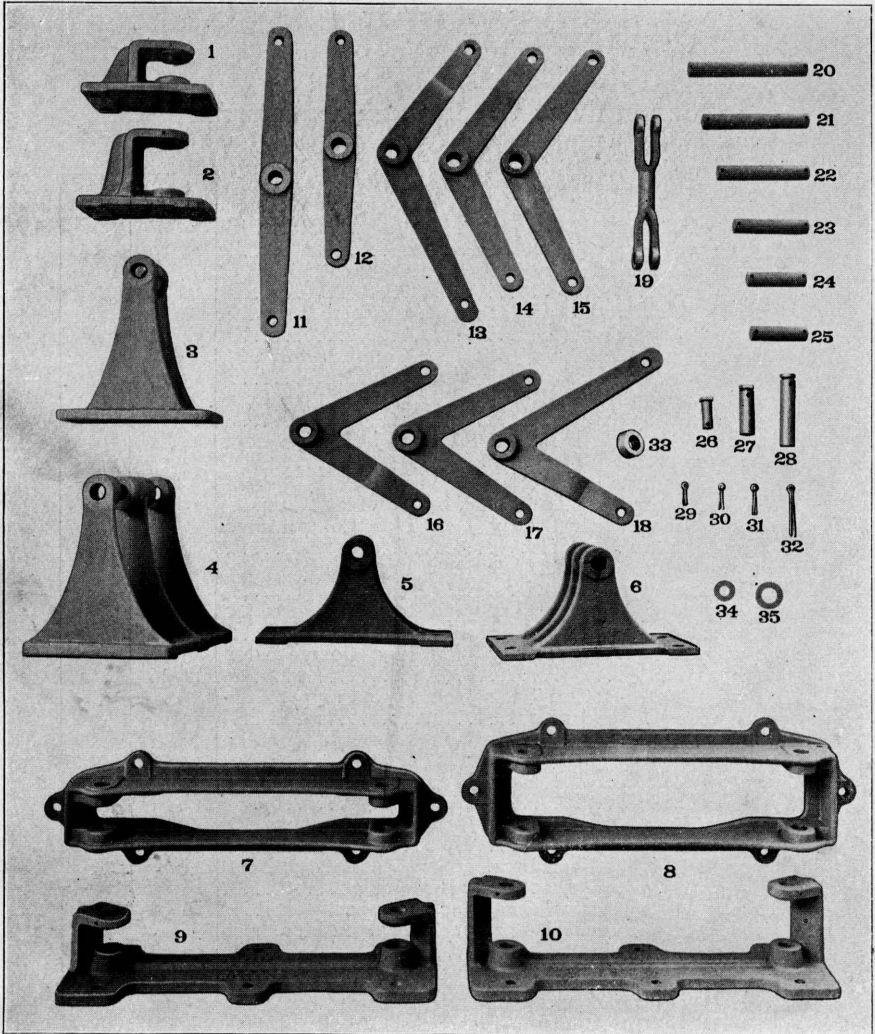
PIPE COMPENSATORS

Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
7b	1-way Horizontal Lazy Jack Pipe Compensator, with jaws, pins bolts and lag screws.....	14 10	6.345
8	2-way Horizontal Lazy Jack Pipe Compensator, as shown.....	18 84	8.478
8a	2-way Horizontal Lazy Jack Pipe Compensator, with jaws and pins.....	24 24	10.908
8b	2-way Horizontal Lazy Jack Pipe Compensator, with jaws, pins, bolts and lag screws.....	25 14	11.313
8c	2-way Separate Pin Horizontal Lazy Jack Pipe Compensator only.....	19 29	8.68
8d	2-way Separate Pin Horizontal Lazy Jack Pipe Compensator, with jaws and pins.....	24 66	11.097
8e	2-way Separate Pin Horizontal Lazy Jack Pipe Compensator, with jaws, pins, bolts and lag screws.....	25 56	11.502
9	1-way Low Vertical Lazy Jack Pipe Compensator, as shown.....	9 81	11.414
9a	1-way Low Vertical Lazy Jack Pipe Compensator, with jaws and pins.....	12 51	5.629
9b	1-way Low Vertical Lazy Jack Pipe Compensator, with jaws, pins, bolts and lag screws.....	13 41	6.034
9c	1-way High Vertical Lazy Jack Pipe Compensator only.....	11 46	5.157
9d	1-way High Vertical Lazy Jack Pipe Compensator, with jaws and pins.....	14 16	6.372
9e	1-way High Vertical Lazy Jack Pipe Compensator, with jaws, pins, bolts and lag screws.....	15 06	6.777
10	2-way Low Vertical Lazy Jack Pipe Compensator, as shown.....	12 51	5.629
10a	2-way Low Vertical Lazy Jack Pipe Compensator, with jaws and pins.....	17 91	8.059
10b	2-way Low Vertical Lazy Jack Pipe Compensator, with jaws, pins, bolts and lag screws.....	18 81	8.464
10c	2-way High Vertical Lazy Jack Compensator.....	16 98	7.641
10d	2-way High Vertical Lazy Jack Compensator, with jaws and pins.....	22 38	10.071
10e	2-way High Vertical Lazy Jack Compensator, with jaws, pins, bolts and lag screws.....	23 28	10.476

For Details see Plate 211



Pipe Compensators—Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types
(Details)

PIPE COMPENSATORS

Details of Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
I	1-way Stand for Horizontal Straight Arm Compensator, as shown	I 50	675
1a	1-way Stand for Horizontal Straight Arm Compensator, with pins	I 89	85
2	2-way Stand for Horizontal Straight Arm Compensator, as shown	I 86	837
2a	2-way Stand for Horizontal Straight Arm Compensator, with pins	2 3I	1039
3	1-way Stand for High Vertical Straight Arm Pipe Compensator, as shown	I 95	877
3a	1-way Stand for High Vertical Straight Arm Pipe Compensator, with pins	2 3I	1039
3b	1-way Stand for High Vertical Straight Arm Pipe Compensator, for 11 3/4" x 11 3/4" Arms	2 6I	1174
3c	1-way Stand for High Vertical Straight Arm Pipe Compensator, with pins, for 11 3/4" x 11 3/4" Arms	2 97	1336
4	2-way Stand for High Vertical Straight Arm Pipe Compensator, as shown	3 60	162
4a	2-way Stand for High Vertical Straight Arm Pipe Compensator, with pins	4 17	1876
4b	2-way Stand for High Vertical Straight Arm Pipe Compensator, for 11 3/4" x 11 3/4" Arms	4 83	2173
4c	2-way Stand for High Vertical Straight Arm Pipe Compensator, with pins, for 11 3/4" x 11 3/4" Arms	5 40	243
5	1-way Stand for Low Vertical Straight Arm Pipe Compensator, as shown	I 68	1756
5a	1-way Stand for Low Vertical Straight Arm Pipe Compensator, with pins	2 07	931
6	2-way Stand for Low Vertical Straight Arm Pipe Compensator, as shown	2 85	1282
6a	2-way Stand for Low Vertical Straight Arm Pipe Compensator, with pins	3 36	1512
7	1-way Stand for Low Vertical Lazy Jack Pipe Compensator, as shown	4 77	2146
7a	1-way Stand for Low Vertical Lazy Jack Pipe Compensator, with pins	5 34	2403
8	2-way Stand for Low Vertical Lazy Jack Pipe Compensator as shown	5 34	2403

For Assembled Views see Plate 210

PIPE COMPENSATORS

Details of Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
8a	2-way Stand for Low Vertical Lazy Jack Pipe Compensator, with pins	6 24	2.808
8b	1-way Stand for High Vertical Lazy Jack Pipe Compensator only	5 55	2.497
8c	1-way Stand for High Vertical Lazy Jack Pipe Compensator, with pins	6 66	2.997
8d	2-way Stand for High Vertical Lazy Jack Pipe Compensator only	6 33	2.848
8e	2-way Stand for High Vertical Lazy Jack Pipe Compensator, with pins	7 29	2.28
9	1-way Stand for Horizontal Lazy Jack Pipe Compensator, as shown	3 63	1.633
9a	1-way Stand for Horizontal Lazy Jack Pipe Compensator, with pins	4 50	2.025
10	2-way Stand for Horizontal Lazy Jack Pipe Compensator, as shown	3 87	1.741
10a	2-way Stand for Horizontal Lazy Jack Pipe Compensator, with pins	4 89	2.200
10b	2-way Stand for Separate Pin Horizontal Lazy Jack Compensator only	5 91	2.659
10c	2-way Stand for Separate Pin Horizontal Lazy Jack Compensator, with pins	7 29	3.32
11	11 $\frac{3}{4}$ " x 11 $\frac{3}{4}$ " Straight Compensating Arm, as shown.	1 71	1.769
12	9" x 9" " " " "	1 41	1.634
12a	14 $\frac{1}{2}$ " x 14 $\frac{1}{2}$ " " " " "	3 21	1.444
12b	18" x 18" " " " "	5 67	2.551
12c	24" x 24" " " " "	5 79	2.605
13	11" x 13 $\frac{3}{4}$ " Obtuse Angle Crank, 1-arm with offset, as shown	2 46	1.107

For Assembled Views see Plate 210

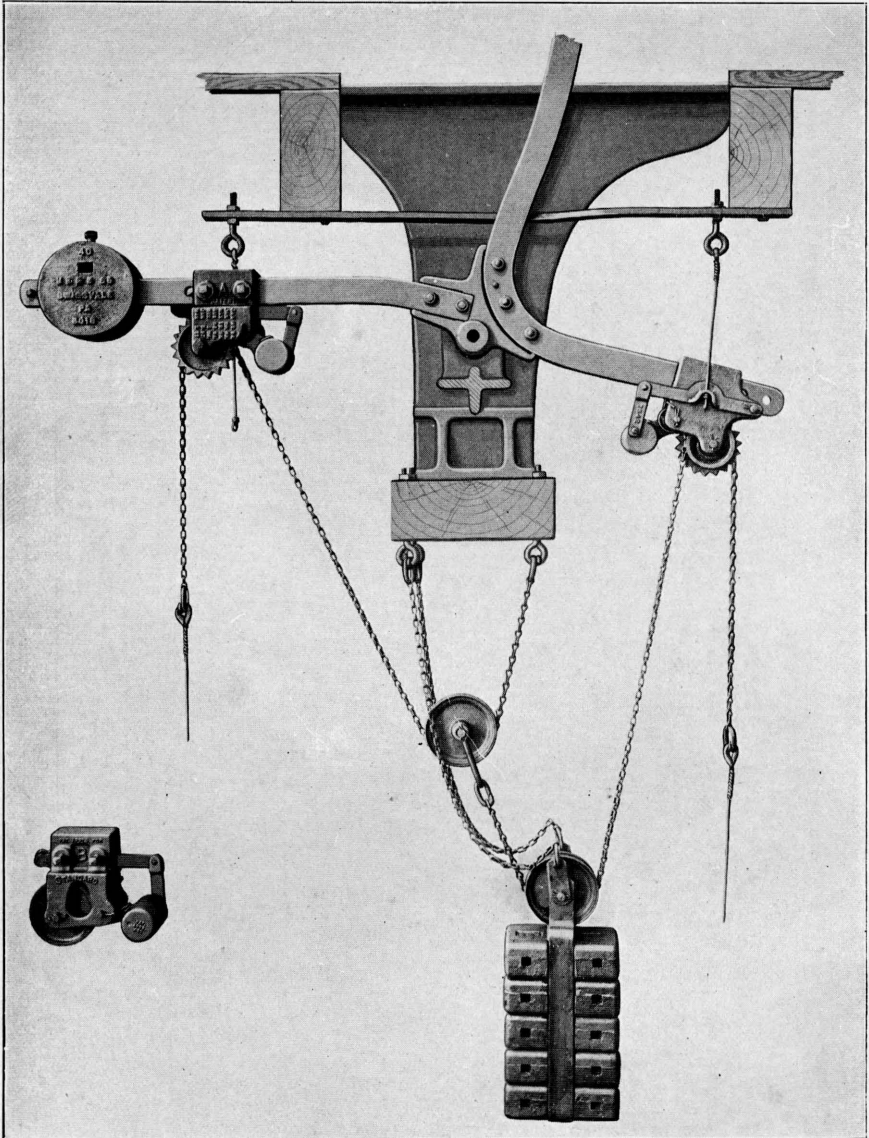
PIPE COMPENSATORS

Details of Horizontal and Vertical Designs of Straight Arm and Lazy Jack Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
14	11" x 11" Obtuse Angle Crank, 1-arm with offset, as shown.....	1 77	.796
15	11" x 11" Obtuse Angle Crank, as shown.....	1 62	.729
16	11" x 11" Acute Angle Crank, 1-arm with offset, as shown.....	1 77	.796
17	11" x 11" Acute Angle Crank, as shown.....	1 62	.729
18	11" x 13 3/4" Acute Angle Crank, 1 arm with offset, as shown.....	2 46	1.107
19	Wrot Connecting Link, as shown.....	2 22	.999
19a	Wrot Connecting Link, with pins and cotters.....	2 43	1.093
20	Pin 1 1/4" x 9/8" for No. 4, as shown.....	45	.202
21	" 1 1/4" x 8 3/4", " 8, ".....	36	.162
22	" 1 1/4" x 7 3/8", " 6, ".....	33	.148
23	" 1 1/4" x 6 1/8", " 7, ".....	27	.121
24	" 1 1/4" x 4 7/8", " 3, ".....	24	.108
25	" 1 1/4" x 4 3/8", " 5, ".....	24	.108
26	" 7/8" x 2 3/8", " 9, ".....	09	.04
27	" 1 1/4" x 4 1/8", for Nos. 1 and 9, as shown.....	27	.121
28	" 1 1/4" x 6 1/8", " 2 " 10, ".....	33	.148
29	Cotter 3/16" x 1 1/2", for No. 28, as shown.....	01	.004
30	" 1/4" x 1 3/4", " 28, ".....	01	.004
31	" 5/16" x 2", " 28, ".....	01	.004
32	" 1/4" x 3 3/4", " 28, ".....	01	.004
33	Washer 1 5/8 inch hole, 2 1/2 inch outside diameter, 1 1/2 inch thick, as shown.....	12	.054
34	Washer 1 5/8 inch hole, 2 1/4 inch outside diameter.....	02	.009
35	Washer 7/8" x 1 3/4", as shown.....	C2	.009

For Assembled Views see Plate 210



Wire Compensators—Models A and B

WIRE COMPENSATORS
Models A and B

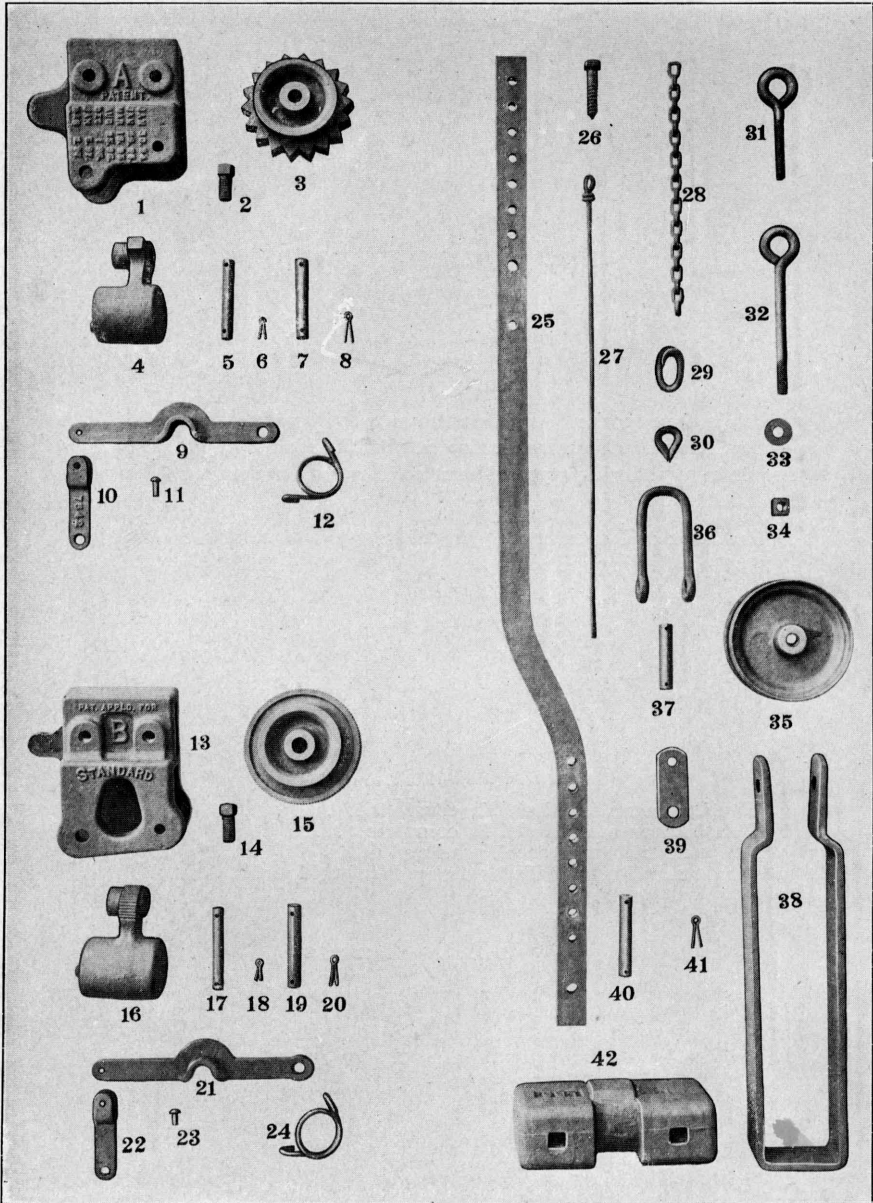
While the opposite illustration shows the Compensators applied to a lever of a Saxby and Farmer machine, yet both Models A and B are equally applicable to any standard type of interlocking machines arranged for vertical leadout.

The lever and counter weight (Plate 153, No. 2) shown are not included in the following combination.

ORDER BY PLATE AND NUMBER

No.		List Price
1	Wire Compensator, Model A, complete.....	49 89
2	Wire Compensator, Model B, complete.....	51 03
3	Escapement Frame, wheel, pawl and links, Model A .	7 14
4	Escapement Frame, wheel, pawl and links, Model B..	7 71

For Details see Plate 213



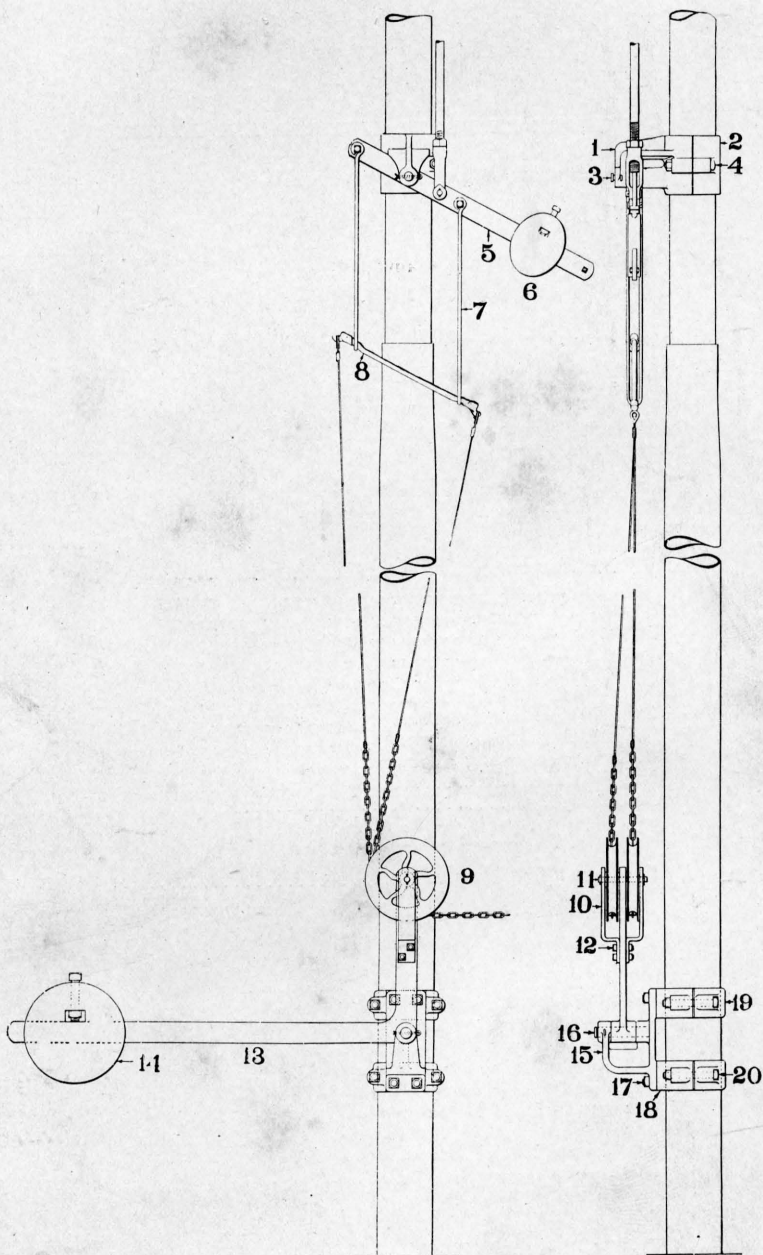
Wire Compensators—Models A and B
(Details)

WIRE COMPENSATORS
Models A and B

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

		List Price
Parts of Model A only		
No. 1	Model A, Escapement Frame only	I 71
2	$\frac{5}{8}$ " x $1\frac{1}{2}$ " Set Screw	09
3	Carbonized Iron Wheel	I 68
4	Carbonized Iron Pawl	I 38
5	$\frac{1}{2}$ " x $3\frac{3}{4}$ " C. R. Pin	06
6	$\frac{1}{8}$ " x 1" Cotter	01
7	$\frac{5}{8}$ " x $3\frac{3}{4}$ " C. R. Pin	09
8	$\frac{3}{8}$ " x $1\frac{1}{2}$ " Cotter	01
9	Mall. Iron Connecting Link, 7541	15
10	Mall. Iron Connecting Link, 7542	09
11	$\frac{1}{4}$ " x $\frac{3}{4}$ " B. H. Rivet	01
12	Brass Spring	51
Parts of Model B only		
13	Model B, Escapement Frame only	I 71
14	$\frac{5}{8}$ " x $1\frac{1}{2}$ " Set Screws	09
15	Carbonized Iron Wheel, 1205	2 10
16	Carbonized Iron Pawl	I 50
17	$\frac{1}{2}$ " x $3\frac{3}{4}$ " C. R. Pin	06
18	$\frac{1}{8}$ " x 1" Cotter	01
19	$\frac{5}{8}$ " x $3\frac{3}{4}$ " C. R. Pin	09
20	$\frac{3}{8}$ " x $1\frac{1}{2}$ " Cotter	01
21	Mall. Iron Connecting Link, 7541	15
22	Mall. Iron Connecting Link, 7642	09
23	$\frac{1}{4}$ " x $\frac{3}{4}$ " B. H. Rivet	01
24	Brass Spring	51
Parts Applicable to Models A or B		
25	Ceiling Bar, 4 feet long	I 89
26	$\frac{1}{2}$ " x $2\frac{1}{2}$ " Lag Screw	05
27	Steel Wire, per foot	01
28	Special Chain	15
29	Split Link	03
30	Wire Eye	03
31	$\frac{1}{2}$ inch Eye Bolt, 4 inches long	33
31a	$\frac{1}{2}$ inch Eye Bolt, 4 inches long, with one $\frac{1}{2}$ inch washer and two $\frac{1}{2}$ inch square nuts	39
32	$\frac{1}{2}$ inch Eye Bolt, 6 inches long	33
32a	$\frac{1}{2}$ inch Eye Bolt, 6 inches long, with one $\frac{1}{2}$ inch washer and two $\frac{1}{2}$ inch square nuts	39
33	$\frac{1}{2}$ inch Washer	01
34	$\frac{1}{2}$ inch Square Nut	03
35	Cast Wheel for Shackle	48
36	Shackle	54
36a	Shackle with pin, wheel and cotter	I 11
37	$\frac{5}{8}$ " x $3\frac{3}{4}$ " Pin, C. R.	09
38	W. I. Weight Frame	I 02
38a	W. I. Weight Frame, with pin, cotter and links	I 74
39	Link for Weight Frame	33
40	$\frac{5}{8}$ " x $3\frac{3}{4}$ " C. R. Pin	09
41	$\frac{3}{8}$ " x $1\frac{1}{2}$ " Cotter	01
42	25 Lb. Weight	I 98



Wire Compensator—Model C

WIRE COMPENSATOR
Model C

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
A	Wire Compensator, complete for 1-arm iron pipe post signal, with stand, clamps, compensating lever, two 10 inch wheels, one 100 pound balance weight, one 1-way balance lever stand, clamps, lever and weight, one disengaging lever, two 24 inch links.	45 75	
Aa	As above, for wooden post signal.	39 98	20.587 17.991
B	Wire Compensator, complete for 2-arm iron pipe post signal, with stand, clamps, 2 compensating levers, four 10 inch wheels, two 100 pound balance weights, one 2-way balance lever stand, clamps, levers and weights, two disengaging levers, four 24 inch links.	81 63	36.733
Ba	As above, for wooden post signal.	75 80	34.11
C	Wire Compensator, for 1-arm iron pipe post signal, with stand, clamps, lever, wheels and 100 pound weight, disengaging lever and 24 inch links, no balance lever included.	38 19	17.185
Ca	As above, for wooden post signal.	34 80	15.66
D	Wire Compensator for 2-arm iron pipe post signal, with stand, clamps, lever, wheels and 100 pound weights, disengaging levers and 24 inch links, no balance levers included.	70 05	35.23
Da	As above, for wooden post only.	66 29	31.181
I	1-way Balance Lever Stand only	2 49	1.121
1a	" " " " with pin and cotter	2 70	1.213
1b	" " " " " cotter, rear clamp and bolts	4 00	1.80
1c	1-way Balance Lever Stand, complete with pin, cotter, rear clamp, bolts, balance lever and 14 lb. weight.	7 56	3.402
1d	2-way Balance Lever Stand only	2 85	1.283
1e	" " " " with pin and cotter	3 09	1.391
1f	" " " " " cotter, rear clamp and bolts	4 38	1.993
1g	2 way Balance Lever Stand, complete with pin, cotter, rear clamp, bolts, balance levers and 14 lb. weights	11 58	5.211
2	Rear Clamp for No. 1.	98	.441
3	Pin and cotter for 1-way Balance Lever Stand.	19	.76
3a	Pin and cotter for 2-way Balance Lever Stand.	25	.813
4	Bolt and nut $\frac{3}{4}$ " x 6", for clamping Nos. 1 and 2 to pole	18	.890
5	Balance Lever, with bolt and nut.	2 31	1.040

WIRE COMPENSATOR
Model C

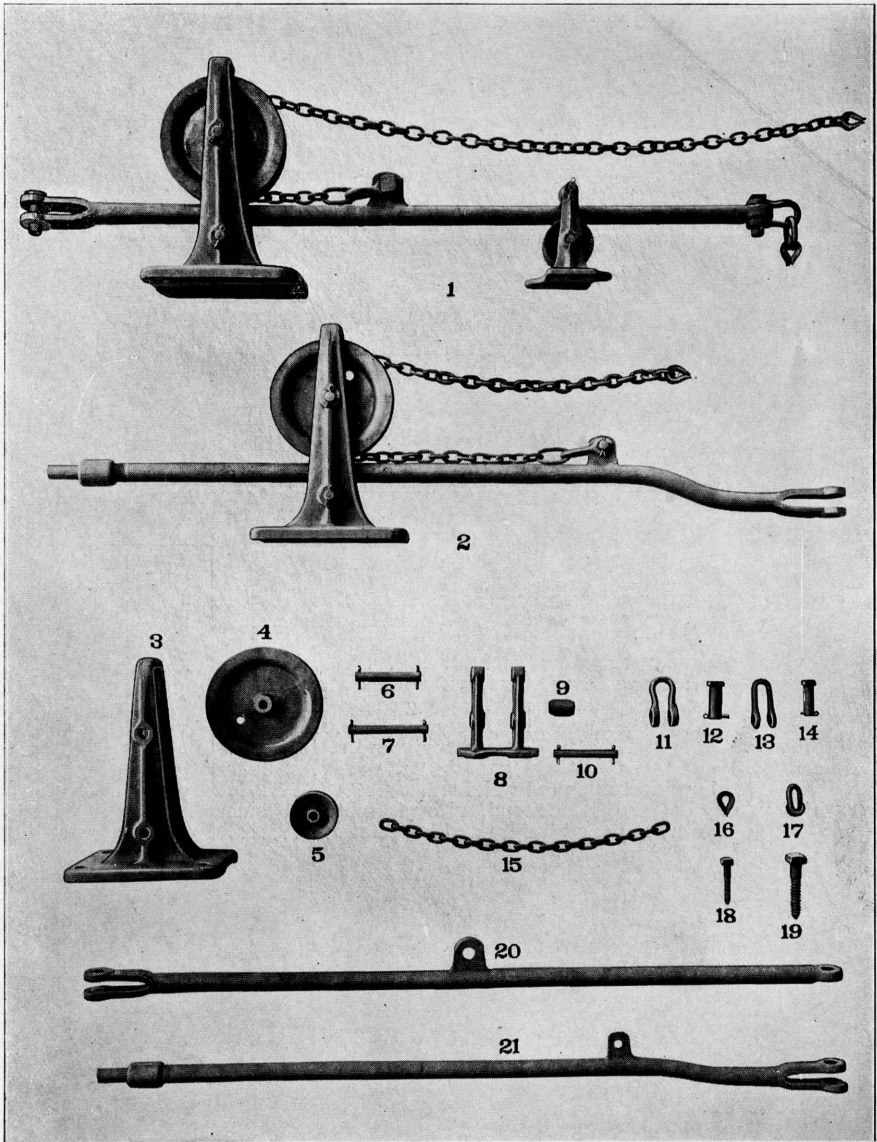
ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
6	14 pound Weight, with bolt and nut for No. 5.....	I 29	5.81
7	24 inch Shackle only	87	3.97
7a	24 inch Shackle, with pin and cotter	99	4.46
8	Disengaging Lever, with malleable hooks.....	I 44	6.48
9	10 inch Wheel for No. 13.....	60	2.70
10	Right or Left Hand Wheel Support	90	4.05
10a	Right or Left Hand Wheel Support, with bolts and nuts (2-12).....	I 02	8.19
11	Pin 5/8" x 6", with cotters for wheels.....	08	0.36
12	Bolt 1/2" x 2", square head and nut, for fastening No. 10 to No. 13.....	06	0.27
13	Compensating Lever only	16 65	7.483
13a	Compensating Lever, with wheel supports, bolts, pin and cotters.....	18 66	8.387
13b	Compensating Lever, with wheel supports, bolts, wheels, pin and cotter.....	19 86	9.937
14	100 pound Weight, with bolt and nut complete.....	8 16	3.678
15	1-way Compensating Lever Stand only	2 37	1.167
15a	" " " " with pin and cotter.....	2 68	1.206
15b	" " " " " " cotter and bolts for fastening to clamps (1-16, 4-17).....	3 16	1.399
15c	1-way Compensating Lever Stand, complete with compensating lever, wheels, pins, cotters, bolts and 100 pound weights, no clamps.....	3I 18	14.031
15d	2-way Compensating Lever Stand only	2 67	1.207
15e	" " " " with pin and cotter.....	3 10	1.395
15f	" " " " " " cotter and bolts for fastening to clamps (1-16a, 4-17).....	3 58	1.611
15g	2-way Compensating Lever Stand, complete with compensating levers, wheels, pins, cotters, bolts and 100 pound weights, no clamps.....	59 62	26.897
16	Pin 1 1/4" x 6" with cotter, for 1-way Compensating Lever Stand	3I	1.4
16a	Pin 1 1/4" x 9" with cotter, for 2-way Compensating Lever Stand	43	1.94
17	Bolt 3/4" x 2" with nut, for fastening No. 15 to No. 18.....	12	0.54
18	Front Clamp for No. 15.....	84	3.78
19	Rear Clamp for No. 15.....	63	2.84
19a	Front and Rear Clamp with bolts (1-18, 1-19, 2-20)....	I 83	5.94
20	Bolt 3/4" x 6" with nut, for clamping No. 18 and No. 19 to post	18	0.81

**WIRE COMPENSATOR
Model C**

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
2I	1-way Balance Lever Stand only	1 92	874
2Ia	“ “ “ “ with pin and cotter	2 10	955
2Ib	“ “ “ “ “ cotter, balance lever and 14 pound weights	5 70	2565
2Ic	1-way Balance Lever Stand, with pin, cotter, balance lever, 14 pound weight and lag screws	6 06	2727
2Id	2-way Balance Lever Stand only	2 07	939
2Ie	“ “ “ “ with pin and cotter	2 31	1040
2If	“ “ “ “ “ cotter, balance lever and 14 pound weight	9 53	4389
2Ig	2-way Balance Lever Stand, with pin, cotter, balance lever, 14 pound weight and lag screws	9 89	4457



Special Lugs and Attachments for changing from Pipe to Wire Connections

**SPECIAL LUGS AND ATTACHMENTS FOR CHANGING
FROM PIPE TO WIRE CONNECTIONS**

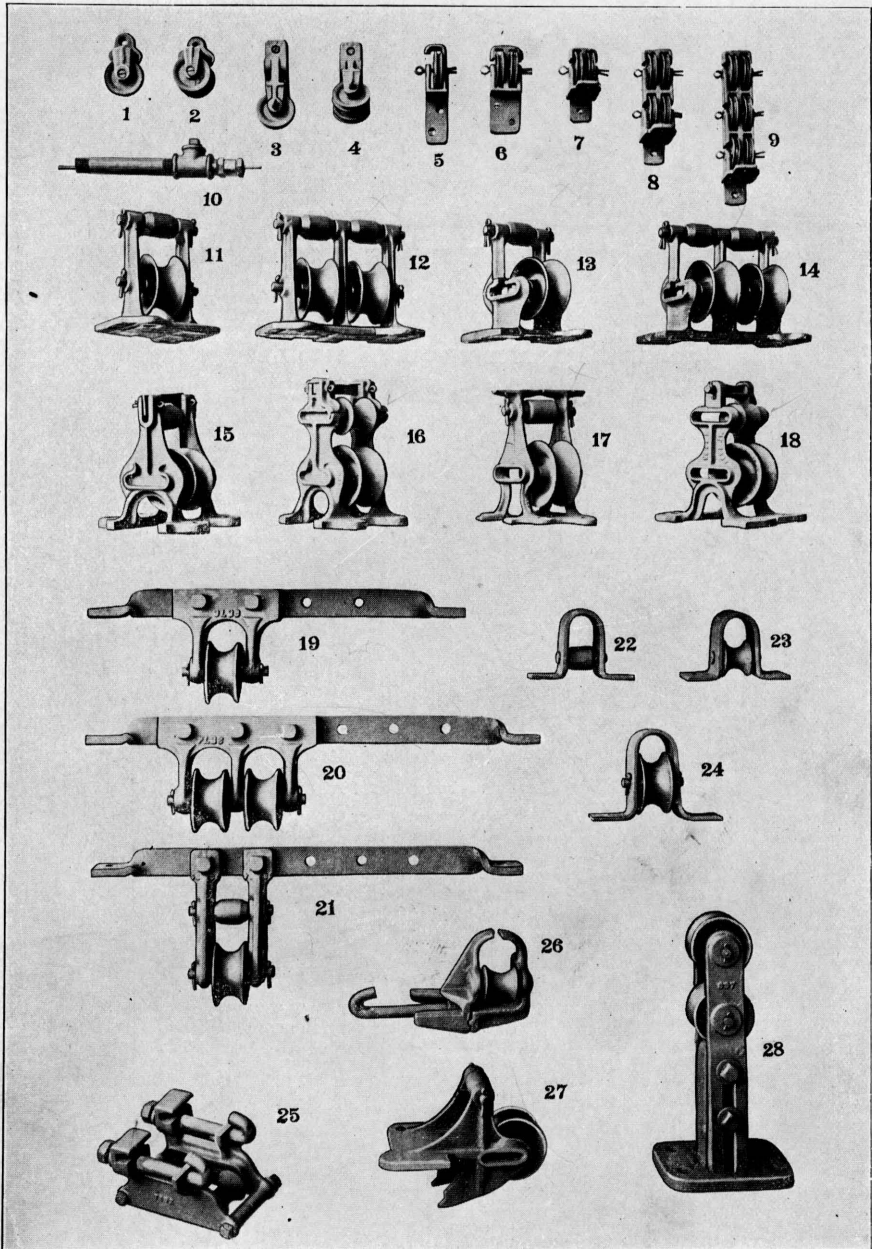
ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
I	1-way Special Lug and attachments for Signal Connection, having 8 ft. 6 inch straight rod, jaw pin and cotter at one end and eye at the other end. Complete with pipe carrier, chain, wire eyes, split links, shackles, pins, cotters and lag screws.....	11 00
Ia	1-way as above, with pipe carriers, shackles, pins, cotters and lag screws only	10 00
Ib	2-way as above, complete with pipe carriers, shackles, pins, cotters and lag screws	19 23
Ic	2-way as above, with pipe carriers, shackles, pins, cotters and lag screws only	17 25
Id	1-way Special Lug and attachments for Draw Bridge Connection, having straight rod with tang at one end and eye at the other end. Complete with pipe carrier, chain, wire eyes, split links, pins, cotter and lag screws	11 34
Ie	1-way as above, with pipe carriers, shackles, pins, cotters and lag screws only	9 72
If	2-way as above, complete with pipe carrier, chain, wire eyes, split links, shackles, pins, cotters and lag screws	20 00
Ig	2-way as above, with pipe carriers, shackles, pins, cotters and lag screws only	16 62
2	1-way Special Lug and attachments for Selector Connection, having 4 ft. rod with offset, with chain, wire eyes, split links, shackles, pins, cotters and lag screws	8 55

**SPECIAL LUGS AND ATTACHMENTS FOR CHANGING
FROM PIPE TO WIRE CONNECTIONS**

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
2a	1-way as above, with shackles, pins, cotters and lag screws	7 59
3	1-way Wheel Stand only	2 16
3a	“ “ “ with pins and cotters	2 28
3b	“ “ “ “ “ cotters and wheels	2 88
3c	“ “ “ “ “ wheels and lag screws	3 24
3d	2-way Wheel Stand only	2 76
3e	“ “ “ with pins and cotters	2 91
3f	“ “ “ “ “ cotters and wheels	3 81
3g	“ “ “ “ “ wheels and lag screws	4 17
4	8-inch Wheel only for No. 3	36
5	Bottom Wheel for No. 3 and No. 8	09
6	Pins with cotters for top wheel of No. 3, 1-way	06
6a	“ “ “ “ “ “ 3, 2-way	09
7	“ “ “ “ bottom wheel of No. 3, 1-way	07
7a	“ “ “ “ “ 3 2-way	10
8	1-way Pipe Carrier Stand only	39
8a	“ “ “ “ with pins and cotters	45
8b	“ “ “ “ complete with pins cotters, top and bottom rollers	66
8c	Pipe Carrier Stand complete with pins, cotters, top and bottom rollers and lag screws	75



Pipe and Wire Carriers

PIPE AND WIRE CARRIERS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
1	Side Wire Carrier, 1-way.....	12 .0524
1a	“ “ “ “ with screws (1-15, 1-17, Pl. 217)	15 .068
2	“ “ “ “ 2-way.....	18 .081
2a	“ “ “ “ with screws (1-16, 1-17, Pl. 217)	21 .093-
3	Angle “ “ “ 1-way.....	21 .093-
3a	“ “ “ “ with screws (2-17, Pl. 217)	24 .108
4	“ “ “ “ 2-way.....	33 .149
4a	“ “ “ “ with screws (2-17, Pl. 217)	36 .162
5	Common Wire Carriers, 1-way.....	12 .054
5a	“ “ “ “ with screws (2-17, Pl. 217)	15 .068-
6	“ “ “ “ 2-way (wide lip).....	21 .093-
6a	“ “ “ “ with screws (2-17, Pl. 217)	24 .108-
7	“ “ “ “ 2-way (ordinary).....	21 .093-
7a	“ “ “ “ with screws (2-17, Pl. 217)	24 .108-
8	“ “ “ “ 4-way.....	36 .162
8a	“ “ “ “ with screws (2-17, Pl. 217)	39 .176
9	“ “ “ “ 6-way, 3-high.....	51 .23
9a	“ “ “ “ with screws (2-17, Pl. 217)	54 .243
9b	“ “ “ “ 2-high.....	45 .203
9c	“ “ “ “ with screws....	48 .216
9d	“ “ “ “ 8-way.....	60 .240
9e	“ “ “ “ with screws....	63 .284
10	Wrigley Stuffing Box for underground work (no pipe)	I 29 .581
11	Plain Pipe Carrier, 1-way, Model 1. (See page 65 for prices)	
12	Plain Pipe Carrier, 2-way, Model 1. (See page 65 for prices)	
13	Common Anti-friction Pipe Carrier, 1-way, Model 2. (See page 65 for prices)	
14	Common Anti-friction Pipe Carrier, 2-way, Model 2. (See page 65 for prices)	

For Details see Plate 217

PIPE AND WIRE CARRIERS

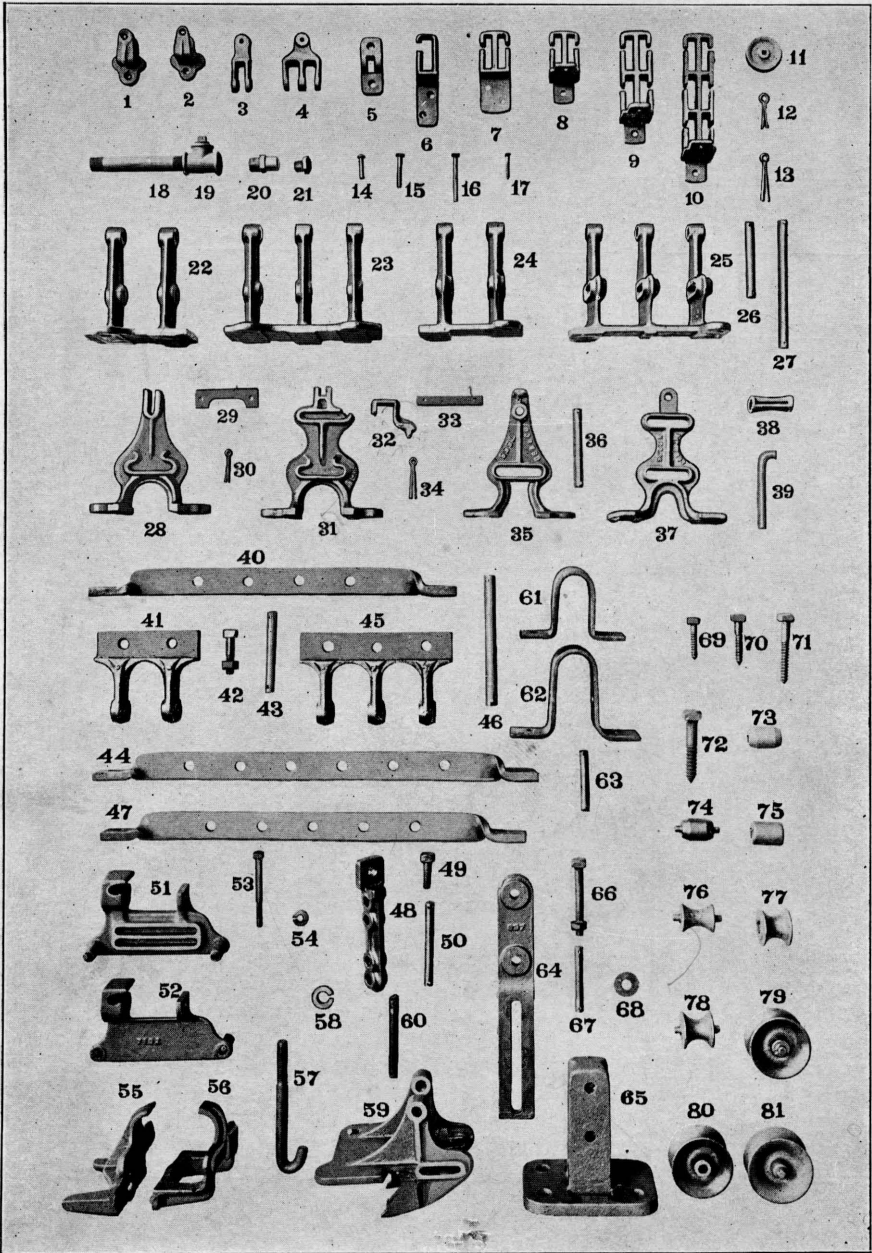
ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
15	Universal Pipe Carrier, 1-way, Model 3. (See page 65 for prices)		
16	Double Anti-friction Pipe Carrier, 1-way, Model 4. (See page 65 for prices)		
17	Universal Pipe Carrier, 1-way, Model 5, Mall. Iron. (See page 65 for prices)		
18	Double Anti-friction Pipe Carrier, 1-way, Model 6. (See page 65 for prices)		
19	Transverse Pipe Carrier, 1-way, Model 7. (See page 65 for prices)		
20	Transverse Pipe Carrier, 2-way, Model 7. (See page 65 for prices)		
21	Transverse Pipe Carrier, 1-way, Model 8. (See page 65 for prices)		
22	Special Wrought Pipe Carrier, Model 12	33	449
22a	“ “ “ “ with screws	40	18
23	“ “ “ “ Model 13	39	176
23a	“ “ “ “ with screws	45	203
24	“ “ “ “ Model 14	39	176
24a	“ “ “ “ with screws	45	203
25	Transverse Pipe Carrier, for clamping to rail, Model 9	I 38	627
26	Rail Clip Pipe Carrier, Model 10	78	351
27	Special 1-way Pipe Carriers, for fastening to ties, Model 11	72	318
27a	Special 1-way Pipe Carriers, for fastening to ties, Model 11, with screws	78	351
27b	Special 2-way Pipe Carriers, for fastening to ties, Model 11	I 14	573
27c	Special 2-way Pipe Carriers, for fastening to ties, Model 11, with screws	I 23	534
28	Adjustable Pipe Guide, Model 15	2 28	6076
28a	Adjustable Pipe Guide, Model 15, with four 3/4" x 4" lag screws	2 64	1.88

For Details see Plate 217

PIPE CARRIERS

NUMBER OF WAYS	CATALOG No. 11 and 12 MODEL 1		CATALOG No. 13 and 14 MODEL 2		CATALOG No. 15 MODEL 3		CATALOG No. 16 MODEL 4		CATALOG No. 17 MODEL 5		CATALOG No. 18 MODEL 6		CATALOG No. 19 and 20 MODEL 7		CATALOG No. 21 MODEL 8	
	Without Screws	With Screws	Without Screws	With Screws	Without Screws	With Screws	Without Screws	With Screws	Without Screws	With Screws	Without Screws	With Screws	Without Screws	With Screws	Without Screws	With Screws
	SAME PRICES AS MODEL NO. 1															
1	66	75			54	66	81	93	72	80	75	84	1 86	1 98	1 95	2 07
2	1 02	1 14			96	1 14	1 32	1 50	1 17	1 29	1 20	1 32	2 22	2 34	2 37	2 49
3	1 41	1 59			1 38	1 62	1 83	2 07	1 62	1 78	1 62	1 80	2 55	2 67	2 85	2 97
4	1 74	1 98			1 80	2 10	2 34	2 67	2 07	2 27	2 07	2 28	3 00	3 12	3 33	3 45
5	2 13	2 37			2 22	2 58	2 85	3 21	2 52	2 76	2 55	2 79	3 33	3 45		
6	2 49	2 79			2 64	3 06	3 36	3 78	2 97	3 25	3 00	3 27				
7	2 85	3 21			3 06	3 54	3 87	4 35	3 42	3 74	3 42	3 78				
8	3 24	3 60			3 48	4 02	4 38	4 92	3 87	4 23	3 87	4 26				
9	3 60	4 02			3 90	4 50	4 89	5 49	4 32	4 72	4 32	4 74				
10	3 96	4 44			4 32	4 98	5 40	6 06	4 77	5 21	4 77	5 25				
11	4 32	4 83			4 74	5 46	5 91	6 63	5 22	5 70	5 22	5 73				
12	4 71	5 25			5 16	5 94	6 42	7 20	5 67	6 19	5 67	6 21				
13	5 07	5 67			5 58	6 42	6 93	7 77	6 12	6 68	6 12	6 63				
14	5 43	6 06			6 00	6 90	7 44	8 34	6 57	7 17	6 57	7 20				
15	5 82	6 48			6 42	7 38	7 95	8 91	7 02	7 66	7 02	7 68				
16	6 18	6 90			6 84	7 86	8 46	9 48	7 47	8 15	7 44	8 16				
17	6 54	7 29			7 26	8 34	8 97	10 05	7 92	8 64	7 89	8 67				
18	6 90	7 71			7 68	8 82	9 48	10 62	8 37	9 13	8 34	9 15				
19	7 29	8 13			8 10	9 30	9 99	11 19	8 82	9 62	8 79	9 63				
20	7 65	8 55			8 52	9 78	10 50	11 76	9 27	10 11	9 24	10 14				
21	8 01	8 94			8 94	10 26	11 01	12 33	9 72	10 60	9 69	10 62				
22	8 37	9 36			9 36	10 74	11 52	12 90	10 17	11 09	10 14	11 10				
23	8 76	9 78			9 78	11 22	12 03	13 47	10 62	11 58	10 56	11 58				
24	9 12	10 17			10 20	11 70	12 54	14 04	11 07	12 07	11 01	12 09				
25	9 48	10 59			10 62	12 18	13 05	14 61	11 52	12 56	11 46	12 57				
26	9 84	11 01			11 04	12 66	13 56	15 18	11 97	13 05	11 91	13 05				
27	10 23	11 40			11 46	13 14	14 07	15 75	12 42	13 54	12 36	13 56				
28	10 59	11 79			11 88	13 62	14 58	16 32	12 87	14 03	12 81	14 04				
29	10 95	12 24			12 30	14 10	15 09	16 89	13 32	14 52	13 26	14 52				
30	11 31	12 63			12 72	14 58	15 60	17 46	13 77	15 01	13 68	15 03				



Pipe and Wire Carriers
(Details)

PIPE AND WIRE CARRIERS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	Stand for 1-way Side Wire Carrier (M. I.)	06	.027
2	" " 2-way " " " "	09	.041
3	" " 1-way Angle " " "	06	.027
4	" " 2-way " " "	06	.027
5	Base for 1 or 2-way Angle Wire Carrier	06	.027
6	Stand for 1-way Common Wire Carrier	06	.027
7	" " 2-way " " "	09	.041
8	" " 2-way " " "	09	.041
9	" " 4-way " " "	.15	.062
10	" " 6-way " " " 3-high	21	.095
10a	" " 6-way " " " 2-high	21	.095
10b	" " 8-way " " " 2-high	33	.149
11	Wheel for Wire Carriers	03	.014
12	Cotter $\frac{1}{4}$ " x $1\frac{1}{2}$ "	01	.005
13	" $\frac{1}{4}$ " x $2\frac{1}{2}$ "	01	.005
13a	" $\frac{1}{4}$ " x 3"	01	.005
13b	" $\frac{1}{4}$ " x $3\frac{3}{4}$ "	02	.009
14	Rivet $\frac{3}{16}$ " x $1\frac{1}{8}$ ", for joining No. 3 and No. 4 to No. 5	01	.005
15	Wood Screws No. 15, $1\frac{1}{2}$ inch } Serving as shaft for	01	.005
16	" " " 14, $2\frac{1}{2}$ " } wheel in Nos. 1 and 2	01	.005
17	" " " 14, $3\frac{1}{4}$ inch, for fastening Wire Carriers to foundations	01	.005
18	$\frac{1}{2}$ inch Galvanized Pipe, per foot, for Wrigley Stuffing Box		
19	$\frac{1}{2}$ inch Tee and Plug, for Nos. 18 and 20	24	.108
20	Wrigley Stuffing Box	63	.284
21	Wrigley Stuffing Box Plug	42	.189
22	Stand for 1-way Plain Pipe Carrier, Model No. 1	39	.176
23	" " 2-way " " " " " " " " I	57	.257
23a	" " 5-way " " " " " " " " I II		.30
24	" " 1-way A. F. " " " " " " " " 39		.176
25	" " 2-way " " " " " " " " 57		.257
25a	" " 5-way " " " " " " " " I II		.50

For Assembled Views see Plate 216

PIPE AND WIRE CARRIERS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
26	Shaft for 1-way Pipe Carrier	06	.027
27	Shaft for 2-way Pipe Carrier	06	.027
27a	For each 1-way increase, add	01	.005
28	Stand for Universal Pipe Carrier, Model No. 3	18	.081
29	Brace for Universal Pipe Carrier, Model No. 3	06	.027
30	Cotter, $\frac{3}{16}$ " x $1\frac{1}{2}$ "	01	.005
31	Stand for Dbl. A. F. Pipe Carrier, Model No. 4	27	.122
32	Top Piece for A. F. Pipe Carrier, Model No. 4	03	.014
33	Brace for A. F. Pipe Carrier, Model No. 4	03	.014
34	Cotter, $\frac{3}{16}$ " x 2", for joining Nos. 31, 32 and 33	01	.005
35	Stand for Pipe Carrier, Model No. 5	24	.108
36	Pin and Cotters for Model No. 5, 1-way	06	.027
36a	Pin and Cotters for Model No. 5, 2-way	06	.027
36b	For each 1-way increase, add	01	.005
37	Stand for Pipe Carrier, Model No. 6	24	.108
38	Ferrule for Pipe Carrier, Model No. 6	03	.014
39	Pin and Cotter for Pipe Carrier, Model No. 6, 1-way ..	06	.027
39a	For each 1-way increase, up to and including 4-way, add	01	.005
39b	Pin and Nut for 5-way Pipe Carrier, Model No. 6	12	.054
39c	For each 1-way increase, add	01	.005
40	Support for Transverse Pipe Carrier, 3-way, Model No. 7	I 20	.54
41	Stand for Transverse Pipe Carrier, 1-way, Model No. 7	39	.176
42	Bolt and Nut, $\frac{1}{2}$ " x 2", for fastening No. 41 or No. 45 to No. 44 or No. 47	06	.027
43	Shaft, 1-way, for No. 41	06	.027
44	Support for Transverse Pipe Carrier, 5-way, Model No. 7	I 29	.581
45	Stand for Transverse Pipe Carrier, 2-way, Model No. 7	57	.257
46	Shaft with Cotters, 2-way, for No. 45	06	.027
47	Support for Transverse Pipe Carrier, 5-way, Model No. 8	I 29	.581
48	Stand for Transverse Pipe Carrier, 5-way, Model No. 8	21	.095
49	Bolt and Nut, $\frac{1}{2}$ " x $1\frac{1}{2}$ ", for fastening No. 48 to No. 47	06	.027
50	Shaft with Cotters, 1-way, for No. 48	06	.027
50a	For each 1-way increase, add	01	.005

For Assembled Views see Plate 216

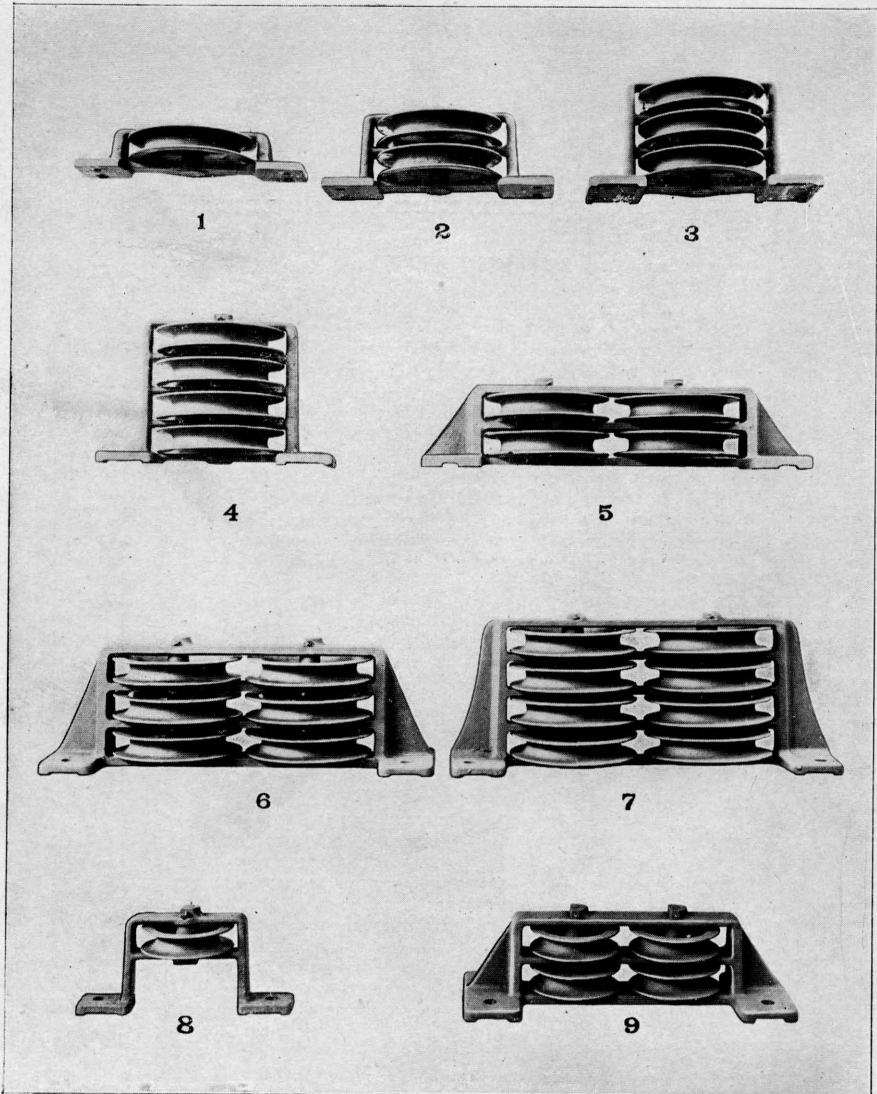
PIPE AND WIRE CARRIERS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
51	Stand (right) for Transverse Pipe Carrier, Model No. 9	36	162
52	Stand (left) for Transverse Pipe Carrier, Model No. 9	36	162
53	Bolt and Nut, $\frac{3}{8}$ " x 4", for fastening No. 51 and No. 52 together.	06	1027
54	Nut Lock, $\frac{3}{8}$ inch, for No. 53	02	009
55	Rail Piece for Rail Clip Pipe Carrier, Model No. 10	33	149
56	Outside Piece for Rail Clip Pipe Carrier, Model No. 10	27	122
57	Hook Bolt and Nut, for clamping Nos. 55 and 56 to rail	12	054
58	Nut Lock, $\frac{3}{8}$ inch, for No. 57	03	014
59	Stand for 1-way Pipe Carrier, Model No. 11	39	176
59a	Stand for 2-way Pipe Carrier, Model No. 11	57	257
60	Shaft and Cotters for No. 61 or 62	06	027
61	Stand (low) for Pipe Carrier, Models 12 and 13	24	108
62	Stand (high) for Pipe Carrier, Model No. 14	27	122
63	Shaft and Cotters, 1-way, for No. 61 and No. 62	06	027
64	Adjustable Side Piece for Model No. 15	39	176
65	Base for Pipe Carrier, Model No. 15	I 08	486
66	Bolt and Nut, $\frac{1}{2}$ " x $3\frac{3}{4}$ ", for joining Nos. 64 and 65	06	027
67	Shaft and Cotters for Model No. 15	03	014
68	Washer, $\frac{1}{2}$ inch, for No. 66	01	005
69	Lag Screw, $\frac{3}{8}$ " x $2\frac{1}{2}$ "	03	014
70	" " $\frac{1}{2}$ " x $2\frac{1}{2}$ "	03	014
71	" " $\frac{1}{2}$ " x $3\frac{1}{4}$ "	03	014
72	" " $\frac{3}{8}$ " x $3\frac{1}{2}$ "	06	027
73	Top Roller for Nos. 22, 23, 24, 25, 48, 59 and 61	03	014
74	" " " No. 28	06	027
75	" " " 35	03	014
76	" " " 37	06	027
77	Roller for No. 61	06	027
78	Bottom Roller for Nos. 51, 52, 55, 56, 61	06	027
79	" " " 24, 25, 28, 31, 37, 59	12	054
80	" " " 22, 23, 41, 45, 48, 62, 64	12	054
81	" " " for No. 37	15	068
81a	" " " for No. 35 (M. I.)	18	081

For Assembled Views see Plate 216



Chain Wheels—Standard Types

CHAIN WHEELS
Standard Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	1-way 8 inch Horizontal Chain Wheel	1 32	.594
1a	1-way 8 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	1 68	.756
2	2-way 8 inch Horizontal Chain Wheel	2 13	1.059
2a	2-way 8 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	2 49	1.121
3	3-way 8 inch Horizontal Chain Wheel	2 85	1.283
3a	3-way 8 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	3 18	1.431
4	4-way 8 inch Horizontal Chain Wheel	3 51	1.58
4a	4-way 8 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	3 87	1.742
4b	5-way 8 inch Horizontal Chain Wheel	4 23	1.904
4c	5-way 8 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	4 59	2.066
4d	6-way 8 inch Horizontal Chain Wheel	4 95	2.228
4e	6-way 8 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	5 31	2.39
5	4-way 2 High 8 inch Horizontal Wheel	4 71	2.12
5a	4-way 2 High 8 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	5 07	2.282
5b	6-way 2 High 8 inch Horizontal Wheel	6 96	3.132
5c	6-way 2 High 8 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	7 32	3.294
5d	8-way 2 High 8 inch Horizontal Wheel	9 69	4.361
5e	8-way 2 High 8 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	10 05	4.523
6	6-way 3 High 8 inch Horizontal Wheel	6 18	2.781
6a	6-way 3 High 8 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	6 54	2.943
7	8-way 4 High 8 inch Horizontal Wheel	8 04	3.618
7a	8-way 4 High 8 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	8 40	3.78
8	1-way 6 inch Horizontal Wheel, for use with Dwarf Signal	1 14	.513
8a	1-way 6 inch Horizontal Wheel, for use with Dwarf Signal, with two $\frac{3}{4}$ " x 4" Lag Screws	1 32	.654
9	4-way 2 High 5 or 6 inch Horizontal Wheel	3 99	1.796
9a	4-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws	4 32	1.944
9b	6-way 2 High 5 or 6 inch Horizontal Wheel	5 23	2.363

For Details see Plate 219

CHAIN WHEELS
Standard Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
9c	6-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	5 61	2.575
9d	8-way 2 High 5 or 6 inch Horizontal Wheel.....	6 99	3.146
9e	8-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	7 35	3.308
9f	10-way 2 High 5 or 6 inch Horizontal Wheel.....	8 58	3.861
9g	10-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	8 94	4.073
9h	12-way 2 High 5 or 6 inch Horizontal Wheel.....	10 32	4.644
9i	12-way 1 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	10 68	4.806
9j	14-way 2 High 5 or 6 inch Horizontal Wheel.....	12 12	5.456
9k	14-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	12 48	5.616
9l	16-way 2 High 5 or 6 inch Horizontal Wheel.....	13 89	6.257
9m	16-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	14 25	6.875
9n	18-way 2 High 5 or 6 inch Horizontal Wheel.....	15 66	7.047
9o	18-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	16 02	7.209
9p	20-way 2 High 5 or 6 inch Horizontal Wheel.....	17 43	7.840
9q	20-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	17 79	8.008
9r	22-way 2 High 5 or 6 inch Horizontal Wheel.....	19 20	8.744
9s	22-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	19 56	8.802
9t	24-way 2 High 5 or 6 inch Horizontal Wheel.....	20 97	10.437

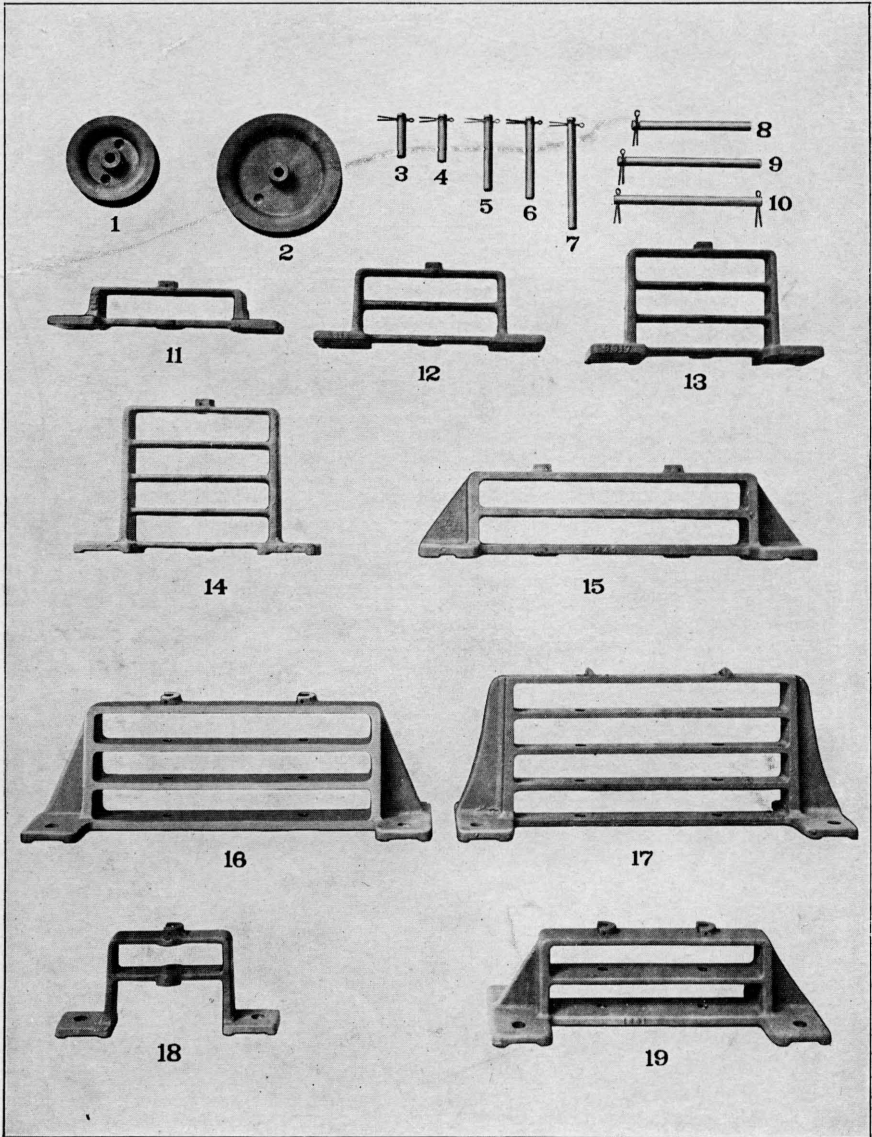
For Details see Plate 219

CHAIN WHEELS
Standard Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
gu	24-way 2 High 5 or 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	21 33	10.015
io	1-way 6 inch Horizontal Chain Wheel.....	1 20	.54
ioa	1-way 6 inch Horizontal Chain Wheel, with two $\frac{3}{4}$ " x 4" Lag Screws.....	1 38	.621
iob	1-way 6 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	1 56	.702
ioc	2-way 6 inch Horizontal Chain Wheel.....	1 74	.783
iod	2-way 6 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	2 10	.945
ioe	3-way 6 inch Horizontal Chain Wheel.....	2 22	.999
iof	3-way 6 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	2 58	1.161
iog	4-way 6 inch Horizontal Chain Wheel.....	2 73	1.229
ioh	4-way 6 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	3 09	1.391
ioi	5-way 6 inch Horizontal Chain Wheel.....	3 33	1.499
ioj	5-way 6 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	3 66	1.647
iok	6-way 6 inch Horizontal Chain Wheel.....	3 87	1.742
iol	6-way 6 inch Horizontal Chain Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	4 23	1.904
ii	6-way 3 High 6 inch Horizontal Wheel.....	4 95	2.228
ii a	6-way 3 High 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	5 31	2.39
ii b	9-way 3 High 6 inch Horizontal Wheel.....	6 96	3.132
ii c	9-way 3 High 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	7 32	3.294
ii d	12-way 3 High 6 inch Horizontal Wheel.....	8 76	3.492
ii e	12-way 3 High 6 inch Horizontal Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	9 12	4.104

For Details see Plate 219



Chain Wheels—Standard Types
(Details)

CHAIN WHEELS
Standard Types

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
1	5 inch or 6 inch Wheel.....	24	.108
2	8 inch Wheel.....	36	.162
3	Pin and Cotter for No. 11.....	12	.054
4	" " " " 18.....	12	.054
5	" " " " 12.....	12	.054
6	" " " " 15 and 19.....	12	.054
7	" " " " 13.....	15	.068
8	" " " " 16.....	15	.068
9	" " " " 14.....	15	.068
10	" " " " 17.....	15	.068
11	Stand for 1-way 8 inch Horizontal Wheel.....	72	.318
11a	" " " " " with pin and cotter.....	81	.365
12	" " 2-way " " " " " with pin and cotter.....	I 14	.573
12a	" " " " " " " " " with pin and cotter.....	I 26	.569
13	" " 3-way " " " " " with pin and cotter.....	I 41	.633
13a	" " " " " " " " " with pin and cotter.....	I 53	.689
14	" " 4-way " " " " " with pin and cotter.....	I 65	.743
14a	" " " " " " " " " with pin and cotter.....	I 83	.894
14b	" " 5-way " " " " " with pin and cotter.....	I 95	.878
14c	" " " " " " " " " with pin and cotter.....	2 19	.986
14d	" " 6-way " " " " " with pin and cotter.....	2 22	.999
14e	" " " " " " " " " with pin and cotter.....	2 43	1.094
14f	" " 1-way 6 inch " " " " " with pin and cotter.....	72	.318
14g	" " " " " " " " " with pin and cotter.....	84	.398
14h	" " 2-way " " " " " with pin and cotter.....	99	.446
14i	" " " " " " " " " with pin and cotter.....	I 08	.486
14j	" " 3-way " " " " " with pin and cotter.....	I 17	.529
14k	" " " " " " " " " with pin and cotter.....	I 29	.551

For Assembled Views see Plate 218

CHAIN WHEELS
Standard Types

•DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
14l	Stand for 4-way 6 inch Horizontal Wheel.....	I 35	.608
14m	“ “ “ “ “ “ with pin and cotter.....	I 50	.675-
14n	“ “ 5-way “ “ “ “ with pin and cotter.....	I 53	.689
14o	“ “ “ “ “ “ with pin and cotter.....	I 71	.770
14p	“ “ 6-way “ “ “ “ with pin and cotter.....	I 74	.883
14q	“ “ “ “ “ “ with pin and cotter.....	I 95	.878
15	Stand for 4-way (2 high) 8 inch Horizontal Wheel	2 82	1.269
15a	Stand for 4-way (2 high) 8 inch Horizontal Wheel, with pin and cotter.....	3 12	1.504
15b	Stand for 6-way (2 high) 8 inch Horizontal Wheel	3 96	1.882
15c	Stand for 6-way (2 high) 8 inch Horizontal Wheel, with pin and cotter.....	4 53	2.039
15d	Stand for 8-way (2 high) 8 inch Horizontal Wheel	5 67	2.532
15e	Stand for 8-way (2 high) 8 inch Horizontal Wheel, with pin and cotter.....	6 60	2.970
16	Stand for 6-way (3 high) 8 inch Horizontal Wheel	3 48	1.866
16a	Stand for 6-way (3 high) 8 inch Horizontal Wheel, with pins and cotters.....	3 84	1.727
16b	Stand for 6-way (3 high) 6 inch Horizontal Wheel	3 24	1.458
16c	Stand for 6-way (3 high) 6 inch Horizontal Wheel, with pin and cotter.....	3 69	1.661
16d	Stand for 9-way (3 high) 6 inch Horizontal Wheel	4 23	1.914
16e	Stand for 9-way (3 high) 6 inch Horizontal Wheel, with pin and cotters.....	4 89	2.261
16f	Stand for 12-way (3 high) 6 inch Horizontal Wheel	5 01	2.254
16g	Stand for 12-way (3 high) 6 inch Horizontal Wheel, with pin and cotter.....	5 88	2.646
17	Stand for 8-way (4 high) 8 inch Horizontal Wheel	4 47	2.012
17a	Stand for 8-way (4 high) 8 inch Horizontal Wheel, with pin and cotters.....	4 92	2.214
18	Stand for 1-way (Special) 6 inch Horizontal Wheel	72	1.374
18a	Stand for 1-way (Special) 6 inch Horizontal Wheel, with pins and cotters.....	81	1.365-

For Assembled Views see Plate 218

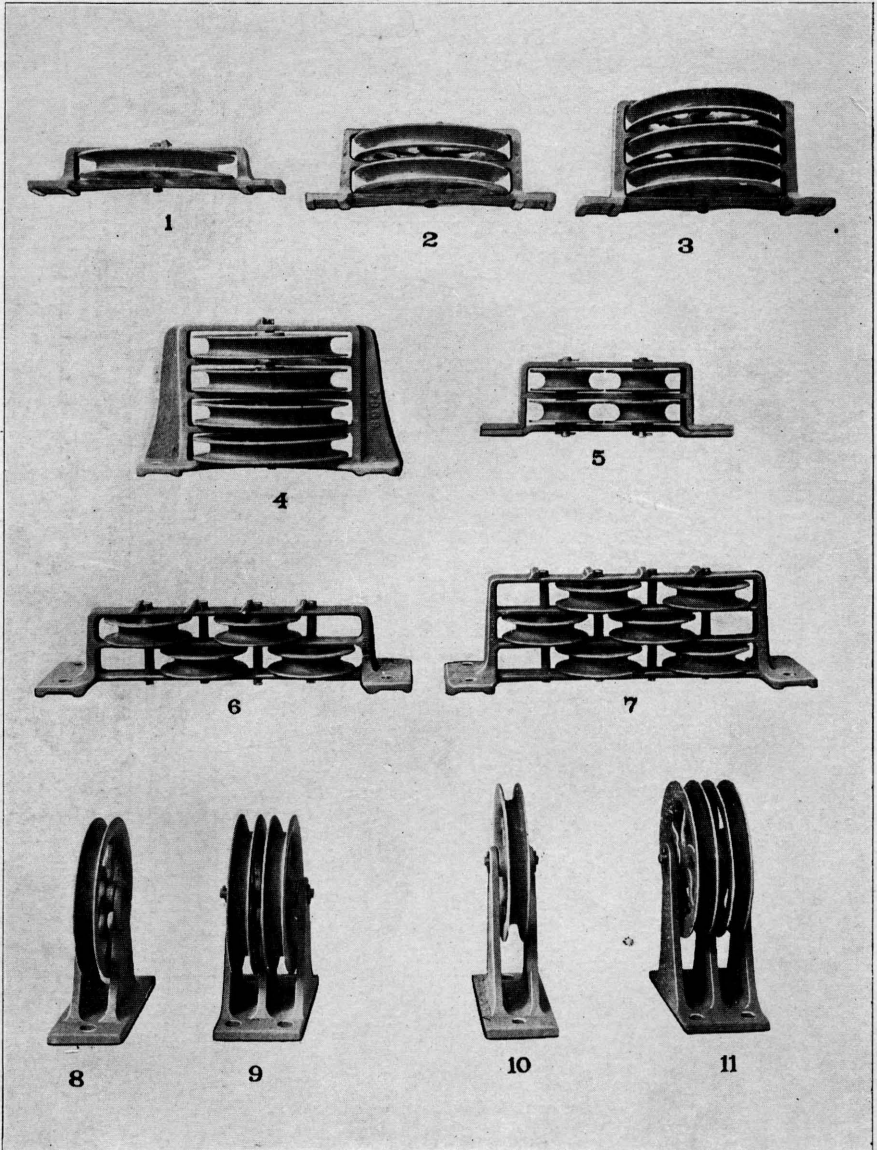
CHAIN WHEELS
Standard Types

DETAILS.

ORDER BY PLATE, NUMBER AND LETTER

No.						List Price	
19	Stand for 4-way (5 or 6 inch)	L. O. Wheel				2 52	1.134
19a	" " " " " "	" " " " " "			with pins and cotters	2 76	1.242
19b	" " 6-way	" " " " " "			with pins and cotters	3 09	1.391
19c	" " " " " "	" " " " " "			with pins and cotters	3 45	1.553
19d	" " 8-way	" " " " " "			with pins and cotters	4 14	1.870
19e	" " " " " "	" " " " " "			with pins and cotters	4 62	2.079
19f	" " 10-way	" " " " " "			with pins and cotters	5 04	2.268
19g	" " " " " "	" " " " " "			with pins and cotters	5 67	2.552
19h	" " 12-way	" " " " " "			with pin and cotter	6 03	2.714
19i	" " " " " "	" " " " " "			with pin and cotter	6 78	3.051
19j	" " 14-way	" " " " " "			with pin and cotter	7 02	3.159
19k	" " " " " "	" " " " " "			with pins and cotters	7 89	3.557
19l	" " 16-way	" " " " " "			with pins and cotters	8 01	3.605
19m	" " " " " "	" " " " " "			with pins and cotters	9 00	4.050
19n	" " 18-way	" " " " " "			with pins and cotters	9 00	4.050
19o	" " " " " "	" " " " " "			with pins and cotters	10 11	4.550
19p	" " 20-way	" " " " " "			with pins and cotters	9 99	4.496
19q	" " " " " "	" " " " " "			with pins and cotters	11 22	5.049
19r	" " 22-way	" " " " " "			with pin and cotter	10 98	4.941
19s	" " " " " "	" " " " " "			with pin and cotter	12 33	5.549
19t	" " 24-way	" " " " " "			with pins and cotters	11 97	5.489
19u	" " " " " "	" " " " " "			with pins and cotters	13 77	6.197

For Assembled Views see Plate 218



Chain Wheels

CHAIN WHEELS

ORDER BY PLATE, NUMBER AND LETTER

No.						List Price	
1	1-way	10 inch	Horizontal	Chain Wheel	.....	1 65	1.743
1a	1-way	10 inch	Horizontal	Chain Wheel, with four	.....	2 01	1.905
		$\frac{3}{4}$ " x 4"	Lag Screws	.....	.....	2 55	1.148
2	2-way	10 inch	Horizontal	Chain Wheel	.....	2 91	1.310
2a	2-way	10 inch	Horizontal	Chain Wheel, with four	.....	3 54	1.543
		$\frac{3}{4}$ " x 4"	Lag Screws	.....	.....	3 90	1.755
3	3-way	10 inch	Horizontal	Chain Wheel	.....	5 04	2.268
3a	3-way	10 inch	Horizontal	Chain Wheel, with four	.....	5 40	2.430
		$\frac{3}{4}$ " x 4"	Lag Screws	.....	.....	6 30	2.650
4	4-way	10 inch	Horizontal	Chain Wheel	.....	6 66	2.997
4a	4-way	10 inch	Horizontal	Chain Wheel, with four	.....	8 76	3.950
		$\frac{3}{4}$ " x 4"	Lag Screws	.....	.....	10 95	5.025
4b	5-way	10 inch	Horizontal	Chain Wheel	.....	12 30	5.535
4c	5-way	10 inch	Horizontal	Chain Wheel, with four	.....	13 44	6.098
		$\frac{3}{4}$ " x 4"	Lag Screws	.....	.....	14 61	6.525
5	1-way	1 High 5 inch	Wrot	Frame Leadout Wheel	.....	9 72	4.325
5a	2-way	"	"	"	.....	12 21	5.493
5b	3-way	"	"	"	.....	14 04	6.318
5c	4-way	"	"	"	.....	15 84	7.128
5d	5-way	"	"	"	.....	18 18	8.181
5e	2-way	"	"	"	.....	11 01	4.955
5f	4-way	"	"	"	.....	16 56	6.62
5g	6-way	"	"	"	.....	19 32	7.75
5h	8-way	"	"	"	.....	18 09	8.69
5i	10-way	"	"	"	.....	12 00	8.14
5j	3-way	"	"	"	.....	16 77	7.55
5k	6-way	"	"	"	.....	19 53	8.788
5l	9-way	"	"	"	.....	22 20	9.99
5m	12-way	"	"	"	.....	25 05	11.272
5n	15-way	"	"	"	.....	12 78	5.737
5o	4-way	"	"	"	.....	
5p	8-way	"	"	"	.....	
5q	12-way	"	"	"	.....	
5r	16-way	"	"	"	.....	
5s	20-way	"	"	"	.....	
5t	5-way	"	"	"	.....	

For Details see Plate 221

CHAIN WHEELS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price	
5u	10-way 2 High 5 inch Wrot Frame Leadout Wheel . . .	17 82	<i>8.019</i>
5v	15-way 3 " " " " " " " . . .	21 00	<i>9.45</i>
5w	20-way 4 " " " " " " " . . .	24 36	<i>10.962</i>
5x	25-way 5 " " " " " " " . . .	27 60	<i>12.42</i>
5y	6-way 1 " " " " " " " . . .	15 18	<i>6.831</i>
5z	12-way 2 " " " " " " " . . .	19 89	<i>8.90</i>
5aa	18-way 3 " " " " " " " . . .	23 67	<i>10.551</i>
5bb	24-way 4 " " " " " " " . . .	27 54	<i>12.293</i>
5cc	7-way 1 " " " " " " " . . .	17 10	<i>7.620</i>
5dd	14-way 2 " " " " " " " . . .	21 72	
5ee	21-way 3 " " " " " " " . . .	25 50	
5ff	28-way 4 " " " " " " " . . .	29 34	
5gg	8-way 1 " " " " " " " . . .	20 16	
5hh	16-way 2 " " " " " " " . . .	25 26	
5ii	24-way 3 " " " " " " " . . .	29 67	
5jj	32-way 4 " " " " " " " . . .	31 17	
5kk	9-way 1 " " " " " " " . . .	21 21	
5ll	18-way 2 " " " " " " " . . .	26 82	
5mm	10-way 1 " " " " " " " . . .	22 35	
5nn	20-way 2 " " " " " " " . . .	28 80	
5oo	11-way 1 " " " " " " " . . .	23 49	
5pp	22-way 2 " " " " " " " . . .	30 36	
5qq	12-way 1 " " " " " " " . . .	25 14	
5rr	24-way 2 " " " " " " " . . .	32 40	
5ss	13-way 1 " " " " " " " . . .	26 28	
5tt	26-way 2 " " " " " " " . . .	34 17	
5uu	4-way 1 " " " " " " " . . .	27 30	
5vv	28-way 2 " " " " " " " . . .	36 00	
5ww	15-way 1 " " " " " " " . . .	28 74	
5xx	30-way 2 " " " " " " " . . .	38 16	
5yy	16-way 1 " " " " " " " . . .	30 09	
5zz	32-way 2 " " " " " " " . . .	40 02	
NOTE: Lag Screws extra for 5 inch Wrot Frame Leadout Wheels, each		09	

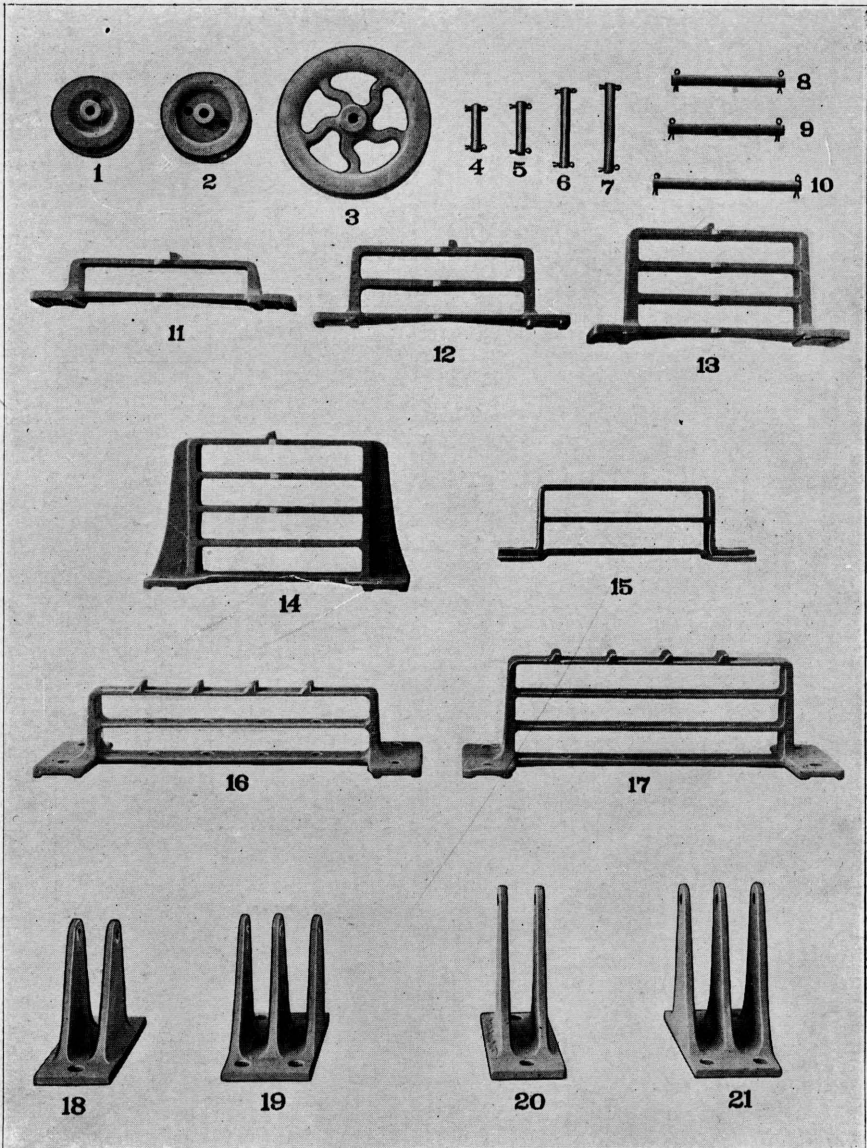
For Details see Plate 221

CHAIN WHEELS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
6	4-way 6 inch Box Wheel, 2 Tiers.....	3 72
6a	“ “ “ “ “ with four 3/4" x 4" Lag Screws.....	4 05
7	6-way “ “ “ “ 3 Tiers.....	4 83
7a	“ “ “ “ “ with four 3/4" x 4" Lag Screws.....	5 19
7b	8-way “ “ “ “ 4 Tiers.....	6 33
7c	“ “ “ “ “ with four 3/4" x 4" Lag Screws.....	6 69
8	1-way No. 1, 10 inch Vertical Wheel.....	2 01
8a	“ “ “ “ “ with four 3/4" x 4" Lag Screws...	2 37
8b	“ “ “ “ “ with two 3/4" x 4" Lag Screws...	2 19
9	2-way “ “ “ “ “	2 97
9a	“ “ “ “ “ with four 3/4" x 4" Lag Screws...	3 33
10	1-way No. 2 “ “ “ “	2 19
10a	“ “ “ “ “ with four 3/4" x 4" Lag Screws....	2 55
11	2-way No. 2 “ “ “ “ “	3 09
11a	“ “ “ 2 “ “ “ with four 3/4" x 4" Lag Screws ..	3 45

For Details see Plate 221



Chain Wheels
(Details)

CHAIN WHEELS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No		List Price
1	5 inch Wheel	33
2	6 " "	33
3	10 " "	63
4	Pin and Cotter for No. 11	06
5	" " " " 18 and No. 20	06
6	" " " " 12, No. 15 and No. 16.	06
7	" " " " 19 and No. 21	09
8	" " " " 17	09
9	" " " " 13	09
10	" " " " 14	09
11	1-way 10 inch Horizontal Wheel Stand	81
11a	" " " " " " with pin and cotter	93
12	2-way " " " " " "	1 08
12a	" " " " " " with pin and cotter	1 14
13	3-way " " " " " "	1 47
13a	" " " " " " with pin and cotter	1 59
14	4-way " " " " " "	2 28
14a	" " " " " " with pin and cotter	2 40
15	1-way Wrot Stand for L. O. Wheel	8 25
15a	1-way Wrot Stand for L. O. Wheel, with pin and cotters	8 34
15b	2-way Wrot Stand (2 high) for L.O. Wheel	10 02
15c	" " " " " " with pin and cotters	10 14
15d	3-way " " " (3 high) " "	10 92
15e	" " " " " " with pins and cotters	11 10
15f	4-way " " " (4 high) " "	11 67
15g	" " " " " " with pin and cotters	1 85
15h	5-way " " " (5 high) " "	12 42
15i	" " " " " " with pin and cotters	12 63
15j	2-way " " " (1 high) " "	8 67
15k	" " " " " " with pin and cotters	8 79

For Assembled Views see Plate 220

CHAIN WHEELS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.							List Price
15l	4-way	Wrot	Stand	(2 high)	for	L. O. Wheel	10 38
15m	"	"	"	"	"	"	with pin and cotters
15n	6-way	"	"	(3 high)	"	"	10 65
15o	"	"	"	"	"	"	with pin and cotters
15p	8-way	"	"	(4 high)	"	"	11 37
15q	"	"	"	"	"	"	with pin and cotters
15r	10-way	"	"	(5 high)	"	"	11 67
15s	"	"	"	"	"	"	with pin and cotters
15t	3-way	"	"	(1 high)	"	"	12 36
15u	"	"	"	"	"	"	with pin and cotters
15v	6-way	"	"	(2 high)	"	"	12 69
15w	"	"	"	"	"	"	with pin and cotters
15x	9-way	"	"	(3 high)	"	"	13 83
15y	"	"	"	"	"	"	with pin and cotters
15z	12-way	"	"	(4 high)	"	"	14 22
15aa	"	"	"	"	"	"	with pin and cotters
15bb	15-way	"	"	(5 high)	"	"	9 60
15cc	"	"	"	"	"	"	with pin and cotters
15dd	4-way	"	"	(1 high)	"	"	14 22
15ee	"	"	"	"	"	"	with pin and cotters
15ff	8-way	"	"	(2 high)	"	"	15 15
15ff	"	"	"	"	"	"	with pin and cotters
15gg	12-way	"	"	(3 high)	"	"	15 75
15hh	"	"	"	"	"	"	with pin and cotters
15ii	16-way	"	"	(4 high)	"	"	9 96
15jj	"	"	"	"	"	"	with pin and cotters
15kk	20-way	"	"	(5 high)	"	"	10 41
15ll	"	"	"	"	"	"	with pin and cotters

For Assembled Views see Plate 220

CHAIN WHEELS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.							List Price
15mm	5-way	Wrot	Stand	(1 high)	for L.O.	Wheel	10 23
15nn	"	"	"	"	"	" with pin and cotters	10 80
15oo	10-way	"	"	(2 high)	"	"	13 26
15pp	"	"	"	"	"	" with pin and cotters	13 92
15qq	15-way	"	"	(3 high)	"	"	14 31
15rr	"	"	"	"	"	" with pin and cotters	15 09
15ss	20-way	"	"	(4 high)	"	"	15 60
15tt	"	"	"	"	"	" with pin and cotters	16 50
15uu	25-way	"	"	(5 high)	"	"	16 80
15vv	"	"	"	"	"	" with pin and cotters	17 79
15ww	6-way	"	"	(1 high)	"	"	12 63
15xx	"	"	"	"	"	" with pin and cotters	13 29
15yy	12-way	"	"	(2 high)	"	"	14 37
15zz	"	"	"	"	"	" with pin and cotters	15 18
15-1	18-way	"	"	(3 high)	"	"	15 66
15-2	"	"	"	"	"	" with pin and cotters	16 62
15-3	24-way	"	"	(2 high)	"	"	17 07
15-4	"	"	"	"	"	" with pin and cotters	18 15
15-5	7-way	"	"	(1 high)	"	"	13 59
15-6	"	"	"	"	"	" with pin and cotters	14 34
15-7	14-way	"	"	(2 high)	"	"	15 33
15-8	"	"	"	"	"	" with pin and cotters	16 23
15-9	21-way	"	"	(3 high)	"	"	16 17
15-10	"	"	"	"	"	" with pin and cotters	17 25
15-11	28-way	"	"	(4 high)	"	"	17 82
15-12	"	"	"	"	"	" with pin and cotters	19 05
15-13	8-way	"	"	(1 high)	"	"	16 14
15-14	"	"	"	"	"	" with pin and cotters	17 01

For Assembled Views see Plate 220

CHAIN WHEELS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.							List Price
15-15	16-way	Wrot Stand	(2 high)	for L.O. Wheel	.....		17 94
15-16	"	"	"	"	"	with pin and cotters	18 99
15-17	24-way	"	"	(3 high)	"	.....	19 05
15-18	"	"	"	"	"	with pin and cotters	20 28
15-19	32-way	"	"	(4 high)	"	.....	20 22
15-20	"	"	"	"	"	with pin and cotters	21 63
15-21	9-way	"	"	(1 high)	"	.....	16 68
15-22	"	"	"	"	"	with pin and cotters	17 67
15-23	18-way	"	"	(2 high)	"	.....	18 51
15-24	"	"	"	"	"	with pin and cotters	19 68
15-25	10-way	"	"	(1 high)	"	.....	17 31
15-26	"	"	"	"	"	with pin and cotters	18 42
15-27	20-way	"	"	(2 high)	"	.....	19 38
15-28	"	"	"	"	"	with pin and cotters	20 94
15-29	11-way	"	"	(1 high)	"	.....	17 97
15-30	"	"	"	"	"	with pin and cotters	19 20
15-31	22-way	"	"	(2 high)	"	.....	19 98
15-32	"	"	"	"	"	with pins and cotters	21 72
15-33	12-way	"	"	(1 high)	"	.....	19 11
15-34	"	"	"	"	"	with pins and cotters	20 40
15-35	24-way	"	"	(2 high)	"	.....	21 12
15-36	"	"	"	"	"	with pins and cotters	22 98
15-37	13-way	"	"	(1 high)	"	.....	19 77
15-38	"	"	"	"	"	with pins and cotters	21 21
15-39	26-way	"	"	(2 high)	"	.....	21 96
15-40	"	"	"	"	"	with pin and cotters	24 00
15-41	14-way	"	"	(1 high)	"	.....	20 25
15-42	"	"	"	"	"	with pins and cotters	21 75

For Assembled Views see Plate 220

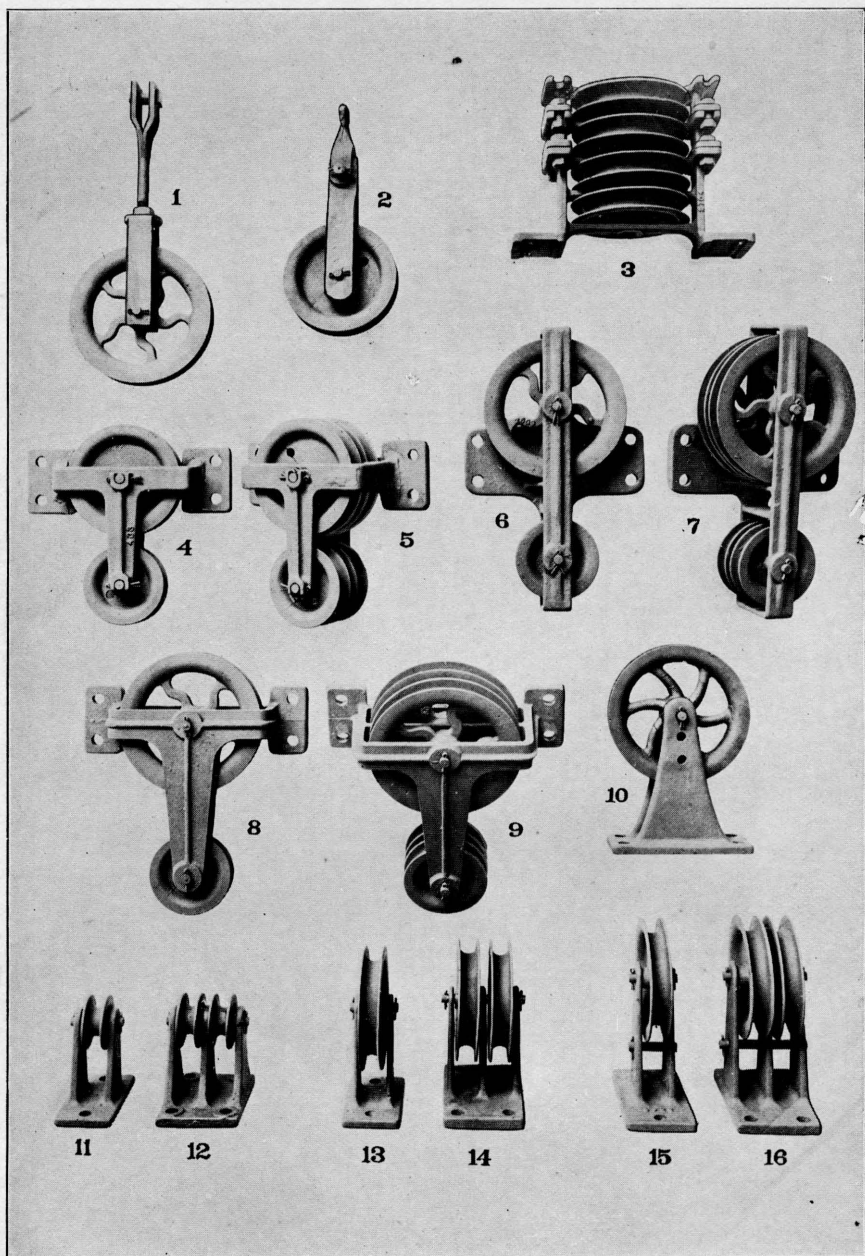
CHAIN WHEELS

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
15-43	28-way Wrot Stand (2 high) for L.O. Wheel.....	22 89
15-44	“ “ “ “ “ “ “ with pins and cotters.....	25 02
15-45	15-way “ “ (1 high) “ “	21 18
15-46	“ “ “ “ “ “ “ with pin and cotters.....	22 80
15-47	30-way “ “ (2 high) “ “	24 06
15-48	“ “ “ “ “ “ “ with pin and cotters.....	25 65
15-49	16-way “ “ (1 high) “ “	22 05
15-50	“ “ “ “ “ “ “ with pins and cotters.....	23 79
15-51	32-way “ “ (2 high) “ “	24 93
15-52	“ “ “ “ “ “ “ with pin and cotters.....	27 09
16	Stand for 4-way (2 tiers) 6 inch Box Wheel.....	2 34
16a	“ “ “ “ “ “ “ with pins and cotters.....	2 94
16b	“ “ 6-way “ “ “ “	2 85
16c	“ “ “ “ “ “ “ with pins and cotters.....	3 69
17	“ “ “ (3 tiers) “ “ “	2 85
17a	“ “ “ “ “ “ “ with pins and cotters.....	3 39
17b	“ “ 8-way (4 tiers) “ “ “	4 11
17c	“ “ “ “ “ “ “ with pins and cotters.....	4 83
18	Stand for 1-way No. 1, 10 inch Vertical Wheel.....	1 20
18a	Stand for 1-way No. 1, 10 inch Vertical Wheel, with pins and cotters.....	1 29
19	Stand for 2-way No. 1, 10 inch Vertical Wheel.....	1 50
19a	Stand for 2-way No. 1, 10 inch Vertical Wheel, with pins and cotters.....	1 65
20	Stand for 1-way No. 2, 10 inch Vertical Wheel.....	1 35
20a	Stand for 1-way No. 2, 10 inch Vertical Wheel, with pins and cotters.....	1 47
21	Stand for 2-way No. 2, 10 inch Vertical Wheel.....	1 62
21a	Stand for 2-way No. 2, 10 inch Vertical Wheel, with pins and cotters.....	1 77

For Assembled Views see Plate 220



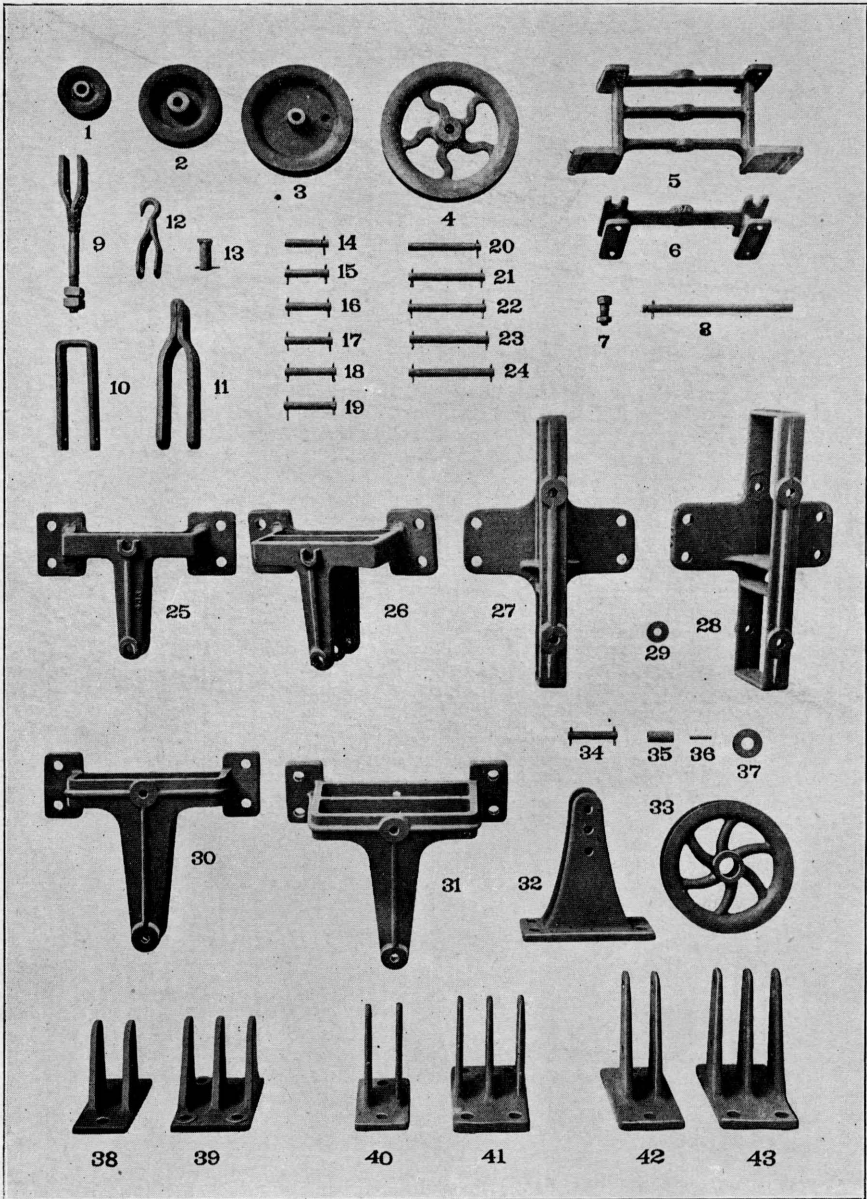
Chain Wheels—Special Types

CHAIN WHEELS—Special Types

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
1	10 inch Gain Stroke Wheel, complete.....	2 64
2	8 inch Shackle Wheel, with Shackle Hook.....	1 77
3	2-way Multiple Horizontal 8 inch Wheel.....	4 53
3a	2-way Multiple Horizontal 8 inch Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	4 89
3b	3-way Multiple Horizontal 8 inch Wheel.....	7 26
3c	3-way Multiple Horizontal 8 inch Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	7 62
3d	4-way Multiple Horizontal 8 inch Wheel.....	9 96
3e	4-way Multiple Horizontal 8 inch Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	10 32
4	1-way Signal Wheel (8 inch and 6 inch wheels)	2 28
4a	1-way Signal Wheel (8 inch and 6 inch wheels) with four $\frac{3}{4}$ " x 4" Lag Screws.....	2 64
5	2-way Signal Wheel (8 inch and 6 inch wheels)	4 02
5a	2-way Signal Wheel (8 inch and 6 inch wheels) with four $\frac{3}{4}$ " x 4" Lag Screws.....	4 55
6	1-way Signal Wheel (10 inch and 6 inch wheels)	3 21
6a	1-way Signal Wheel (10 inch and 6 inch wheels) with four $\frac{3}{4}$ " x 4" Lag Screws.....	3 57
7	2-way Signal Wheel (10 inch and 6 inch wheels)	4 35
7a	2-way Signal Wheel (10 inch and 6 inch wheels) with four $\frac{3}{4}$ " x 4" Lag Screws.....	4 71
8	1-way Signal Wheel (10 inch and 6 inch wheels)	2 73
8a	1-way Signal Wheel (10 inch and 6 inch wheels) with four $\frac{3}{4}$ " x 4" Lag Screws.....	3 06
9	2-way Signal Wheel (10 inch and 6 inch wheels)	3 90
9a	2-way Signal Wheel (10 inch and 6 inch wheels) with four $\frac{3}{4}$ " x 4" Lag Screws.....	4 26
10	1-way 10 inch Vertical Anti-friction Wheel.....	5 97
10a	1-way 10 inch Vertical Anti-friction Wheel, with four $\frac{3}{4}$ " x 4" Lag Screws.....	6 33
11	1-way 4 inch Vertical Wheel.....	1 05
11a	" " " " with four $\frac{3}{4}$ " x 4" Lag Screws.....	1 41
12	2-way " " " " " " " " " " " " " "	1 77
12a	" " " " " " with four $\frac{3}{4}$ " x 4" Lag Screws.....	2 13
13	1-way No. 1, 8 inch Vertical Wheel.....	1 23
13a	" " " " " " with two $\frac{3}{4}$ " x 4" Lag Screws.....	1 41
14	2-way " " " " " " " " " " " " " "	2 16
14a	" " " " " " with four $\frac{3}{4}$ " x 4" Lag Screws.....	2 52
15	1-way No. 2 " " " " " " " " " " " " " "	1 65
15a	" " " " " " with two $\frac{3}{4}$ " x 4" Lag Screws.....	1 83
16	2-way " " " " " " " " " " " " " "	2 46
16a	" " " " " " with four $\frac{3}{4}$ " x 4" Lag Screws.....	2 82
17	1-way 6 inch Vertical Wheel.....	1 23
17a	" " " " " " with two $\frac{3}{4}$ " x 4" Lag Screws.....	1 41
17b	2-way " " " " " " " " " " " " " "	1 65
17c	" " " " " " with four $\frac{3}{4}$ " x 4" Lag Screws.....	2 01

For Details see Plate 223



Chain Wheels—Special Types
(Details)

CHAIN WHEELS
Special Types

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
1	4 inch C. I. Wheel	15
2	6 inch " "	24
3	8 inch " "	36
3a	8 inch Mall. " (spoke)	I 32
4	10 inch C. I. " "	60
5	Mall. 2-way Stand for Multiple Wheel	I 50
6	Extension Top for Multiple Wheel	90
7	$\frac{1}{2}$ " x $1\frac{3}{8}$ " H. H. and N. Bolt	07
8	$\frac{5}{8}$ " x $6\frac{3}{8}$ " C. R. Pin	18
8a	$\frac{5}{8}$ " x $8\frac{3}{4}$ " " " } For No. 5	24
8b	$\frac{5}{8}$ " x $11\frac{7}{8}$ " " " }	30
9	Jaw with nuts for Gain Stroke Wheel	96
10	Shackle for Gain Stroke Wheel	78
11	Shackle for Shackle Wheel	45
12	Shackle Hook for Shackle Wheel	60
13	$\frac{7}{8}$ " x $2\frac{3}{8}$ " Pin and Cotter for No. 9 or No. 12	12
14	Pin and Cotter for No. 25	12
15	" " " " 10, 40 and 42	06
16	" " " " 11	06
17	" " " " 38	06
18	" " " " 30	06
19	" " " " 27	06
20	" " " " 26	12
21	" " " " 41 and 43	07

For Assembled Views see Plate 222

CHAIN WHEELS
Special Types

DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
22	Pin and Cotter for No 39.....	07
23	“ “ “ “ 31.....	09
24	“ “ “ “ 28.....	09
25	Stand for 1-way (6-8 inch) Signal Wheel.....	1 50
25a	“ “ “ “ “ “ with pin and cotters...	1 65
26	“ “ 2-way “ “ “	2 52
26a	“ “ “ “ “ “ with pin and cotters...	2 67
27	“ “ 1-way (6-10 inch) “ “	2 19
27a	“ “ “ “ “ “ with pin and cotters...	2 34
28	“ “ 2-way “ “ “	2 40
28a	“ “ “ “ “ “ with pin and cotters...	2 61
29	5/8 inch Washer	01
30	Stand for 1-way (6-10 inch) Signal Wheel	1 74
31	Stand for 1-way (6-10 inch) Signal Wheel, with pins and cotters	1 86
32	Stand for 1-way 10 inch Vertical Anti-friction Wheel.....	1 53
32a	Stand for 1-way 10 inch Vertical Anti-friction Wheel, with pin and cotter	1 59
33	10 inch Anti-friction Wheel	3 03

For Assembled Views see Plate 222

CHAIN WHEELS
Special Types

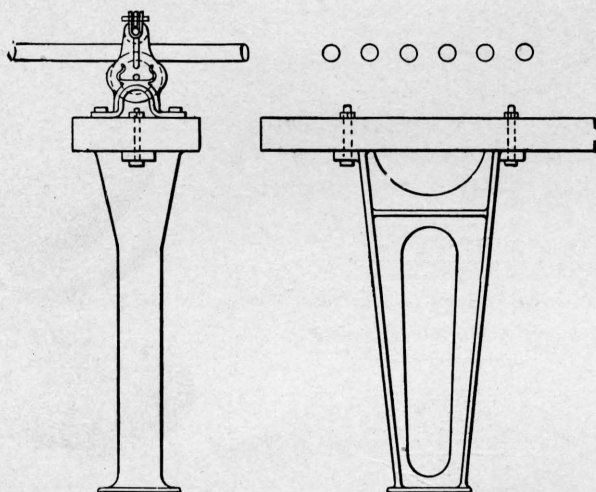
DETAILS

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
34	Pin and Cotter for No. 32.....	06
35	Sleeve for No. 34.....	93
36	Roller for Nos. 33 and 35.....	03
37	5/8 inch Washer.....	01
38	Stand for 1-way 6 inch Vertical Wheel.....	75
38a	“ “ “ “ “ “ with pin and cotter.....	87
39	“ “ 2-way “ “ “ “ with pin and cotter.....	87
39a	“ “ “ “ “ “ “ with pin and cotter.....	I 02
40	Stand for 1-way No. 1, 8 inch Vertical Wheel.....	81
40a	Stand for 1-way No. 1, 8 inch Vertical Wheel, with pin and cotter.....	90
41	Stand for 2-way No. 1, 8 inch Vertical Wheel.....	I 20
41a	Stand for 2-way No. 1, 8 inch Vertical Wheel, with pin and cotters.....	I 32
42	Stand for 1-way No. 2, 8 inch Vertical Wheel.....	99
42a	Stand for 1-way No. 2, 8 inch Vertical Wheel, with pin and cotters.....	I 14
43	Stand for 2-way No. 2, 8 inch Vertical Wheel.....	I 44
43a	Stand for 2-way No. 2 8 inch Vertical Wheel, with pin and cotter.....	I 56

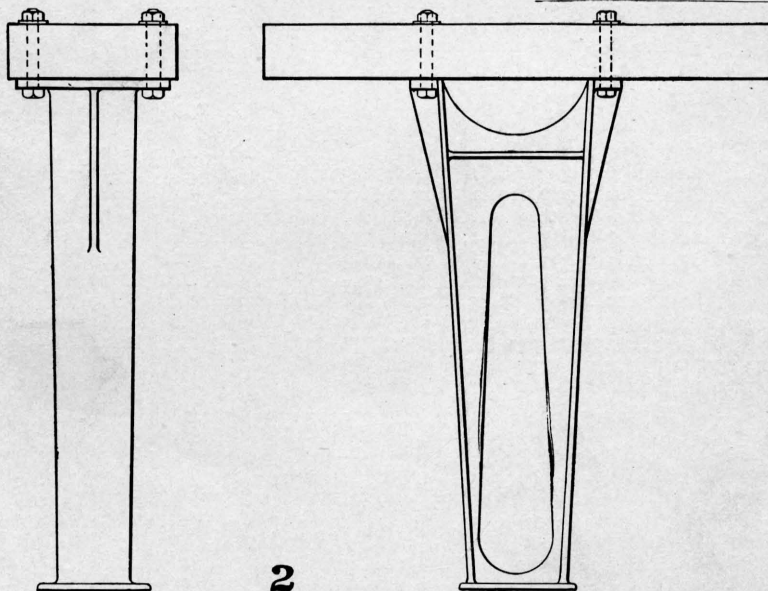
For Assembled Views see Plate 222

Plate 224



1

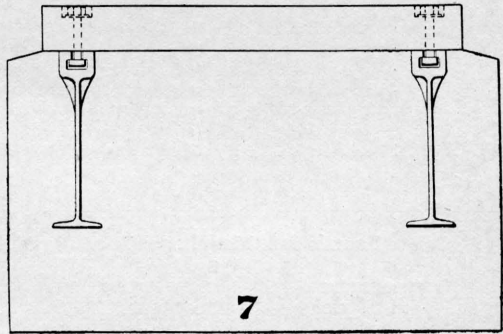
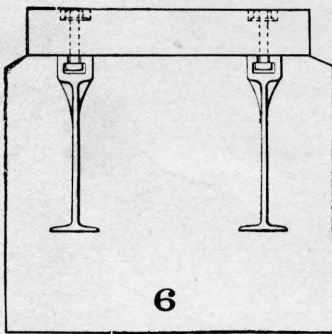
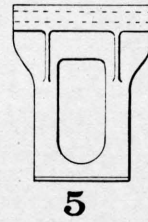
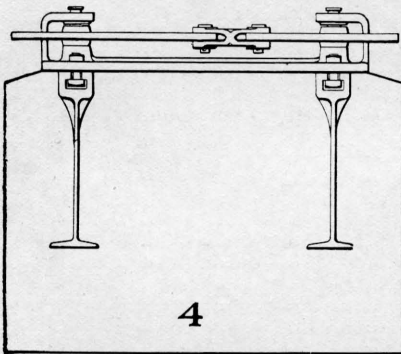
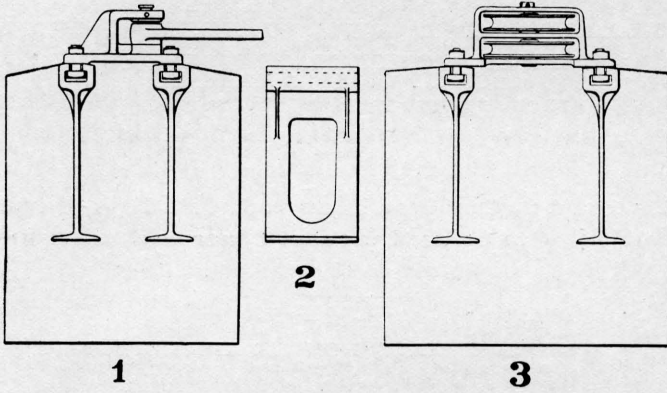
WAY	LENGTH OF TOP	NO. OF PIERS
1	1'- 3 1/4"	1
2	1'- 3 1/4"	1
3	1'- 3 1/4"	1
4	1'- 6"	1
5	1'- 8 3/4"	1
6	1'- 11 1/2"	1
7	2'- 2 1/4"	1
8	2'- 5"	1
9	2'- 7 3/4"	2
10	2'- 10 1/2"	2
11	3'- 1 1/4"	2
12	3'- 4"	2
13	3'- 6 3/4"	2
14	3'- 9 1/2"	2
15	4'- 0 1/4"	2
16	4'- 3"	2
17	4'- 5 3/4"	2
18	4'- 8 1/2"	2
19	4'- 11 1/4"	2
20	5'- 2"	2
21	5'- 4 3/4"	3
22	5'- 7 1/2"	3
23	5'- 10 1/4"	3
24	6'- 1"	3
25	6'- 3 3/4"	3
26	6'- 6 1/2"	3
27	6'- 9 1/4"	3
28	7'- 0"	3
29	7'- 2 3/4"	3
30	7'- 5 1/2"	3



2

	CRANK	WHEEL	COMPENSATOR	DWARF SIGNAL	SELECTOR
Length of Top.	2'-0"	2'-0"	3'-0"	5'-0"	5'-0"
No. of Piers...	1	1	1	1	1

Foundations for Pipe Carriers, Cranks, Wheels, Compensators, Dwarf Signals and Selectors



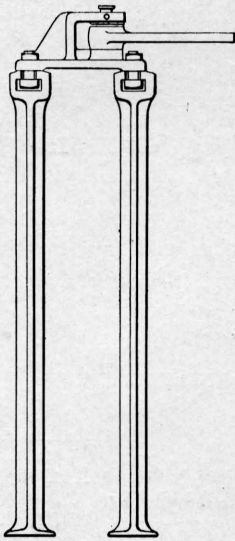
Foundations for Cranks, Wheels, Compensators, Dwarf Signals and Selectors

FOUNDATIONS FOR CRANKS, WHEELS, COMPENSATORS, DWARF SIGNALS AND SELECTORS

Models 3 and 4, Cast Iron Piers with and without Oak Tops, designed to be used with Concrete

ORDER BY PLATE, NUMBER AND LETTER

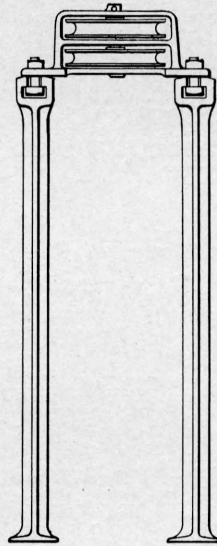
No.		List Price
1	Crank Foundation, 2 piers with bolts (no tops or concrete) Pat. No. 29.94	3 39
2	Iron Pier only Model 3 for Crank or Wheel Foundation Pat. No. 29.94	1 44
3	Wheel Foundation, 2 piers with bolts (no tops or concrete) Pat. No. 29.94	3 39
4	Compensator Foundation, 2 piers with bolts (no tops or concrete) Pat. No. 29.95	4 50
5	Pier only, Model 4, for Compensator, Dwarf Signal or Selector Foundation, Pat. No. 29.95	2 01
6	Crank Foundation, 2 piers with oak tops 4'' x 10'' x 2' long, and four $\frac{3}{4}$ '' x $4\frac{5}{8}$ '' bolts and nuts (Pat. No. 29.94)	4 11
6a	Wheel Foundation 2 piers with oak top 4'' x 10'' x 2' long and four $\frac{3}{4}$ '' x $4\frac{5}{8}$ '' bolts and nuts (Pat. No. 29.94)	4 11
6b	Wheel Foundation 2 piers with oak top 4'' x 10'' x 2'-6'' long, and four $\frac{3}{4}$ '' x $4\frac{5}{8}$ '' bolts and nuts (Pat. No. 29.94)	4 26
6c	Wheel Foundation, 2 piers with oak top 4'' x 10'' x 3' long, and four $\frac{3}{4}$ '' x $4\frac{5}{8}$ '' bolts and nuts (Pat. No. 29.94)	4 41
7	Compensator Foundation, 2 piers with oak top 4'' x 12'' x 3'-6'' long, and four $\frac{3}{4}$ '' x $4\frac{5}{8}$ '' bolts and nuts (Pat. No. 29.95)	5 94
7a	Dwarf Signal Foundation, 2 piers with oak top 4'' x 12'' x 5' long, and four $\frac{3}{4}$ '' x 4'' bolts and nuts (Pat. No. 29.95)	6 45
7b	Selector Foundation, 2 piers with oak top 4'' x 12'' x 6' long, and four $\frac{3}{4}$ '' x $4\frac{5}{8}$ '' bolts and nuts (Pat. No. 29.95)	6 80



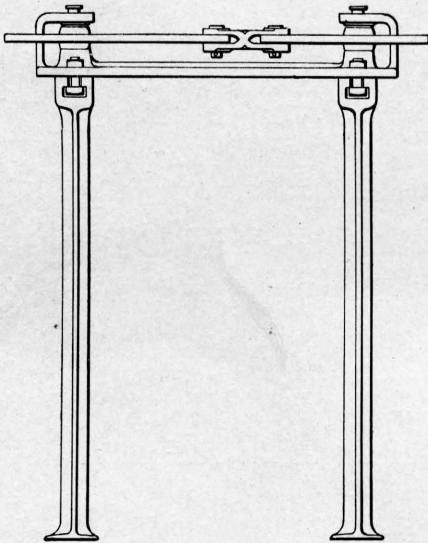
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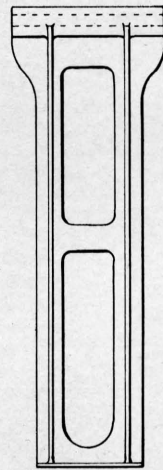
2



3



4



5

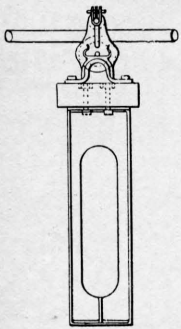
Foundations for Cranks, Wheels and Compensators

FOUNDATIONS FOR CRANKS, WHEELS AND COMPENSATORS

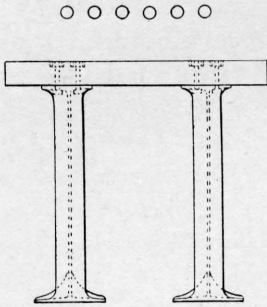
Cast Iron Piers, Models 5 and 6, without Oak Tops, designed to be used without Concrete

ORDER BY PLATE AND NUMBER

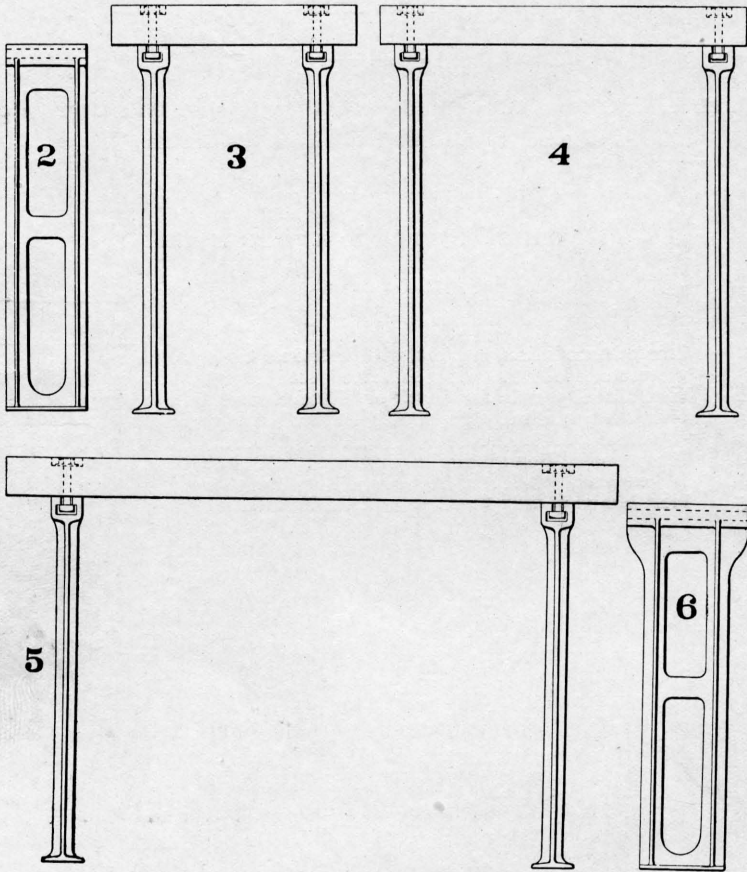
No.		List Price	
1	Crank Foundation, 2 piers with bolts, no top or concrete	7 19	
2	Pier, Model 5, only for Crank or Wheel Foundation ..	3 35	
3	Wheel Foundation, 2 piers with bolts, no top or concrete	7 19	
4	Compensator Foundation, 2 piers with bolts, no top or concrete	8 00	
5	Pier, Model 6, only for Compensator Foundation	3 76	



1



WAY	LENGTH OF TOP	No. OF PIERS	WAY	LENGTH OF TOP	No. OF PIERS
1	1'- 0"	1	18	4'-10 ³ / ₄ "	3
2	1'- 2 ³ / ₄ "	1	19	5'-11 ¹ / ₂ "	3
3	1'- 5 ¹ / ₂ "	1	20	5'- 4 ¹ / ₄ "	3
4	1'- 8 ¹ / ₄ "	2	21	5'- 7"	3
5	1'-11"	2	22	5'- 9 ³ / ₄ "	3
6	2'- 1 ³ / ₄ "	2	23	6'- 0 ¹ / ₂ "	3
7	2'- 4 ¹ / ₂ "	2	24	6'- 3 ¹ / ₄ "	3
8	2'- 7 ¹ / ₄ "	2	25	6'- 6"	3
9	2'-10"	2	26	6'- 8 ³ / ₄ "	3
10	3'- 0 ³ / ₄ "	2	27	6'-11 ¹ / ₂ "	3
11	3'- 3 ¹ / ₂ "	2	28	7'- 2 ¹ / ₄ "	3
12	3'- 6 ¹ / ₄ "	2	29	7'- 5"	3
13	3'- 9"	2	30	7'- 7 ³ / ₄ "	4
14	3'-11 ³ / ₄ "	2			
15	4'- 2 ¹ / ₂ "	3			
16	4'- 5 ¹ / ₄ "	3			
17	4'- 8"	3			



Foundations for Pipe Carriers, Cranks, Wheels, Compensators. Dwarf Signals and Selectors

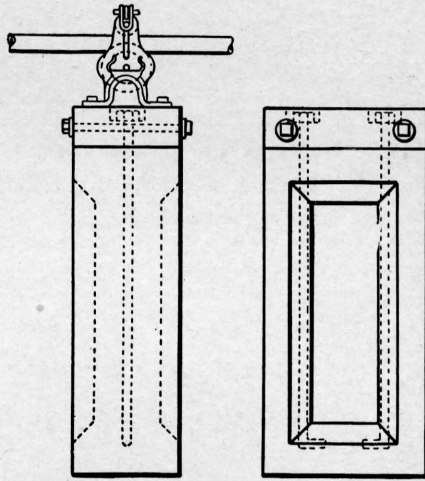
**FOUNDATIONS FOR PIPE CARRIERS, CRANKS,
WHEELS, COMPENSATORS, DWARF
SIGNALS AND SELECTORS**

**Cast Iron Piers, Models 5, 6 and 7, with Oak Tops, de-
signed to be used without Concrete**

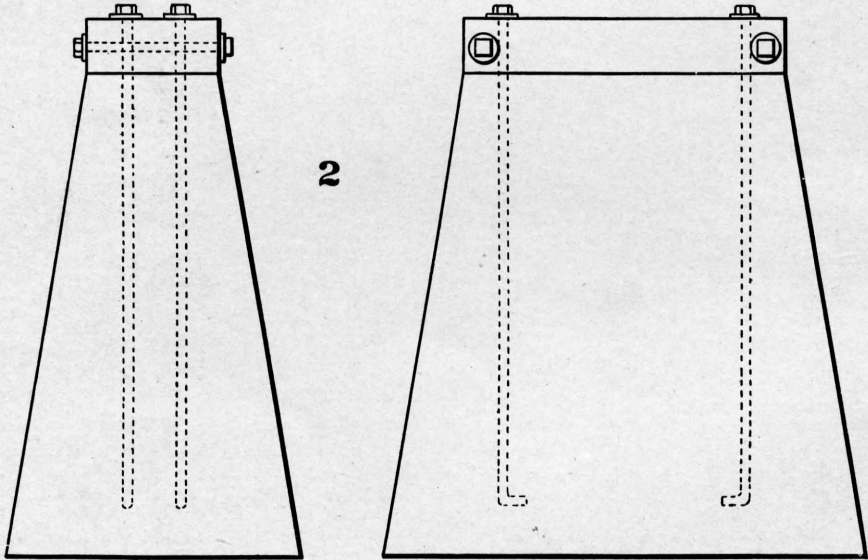
ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
1	1-way Pipe Carrier Foundations, Model 7, oak tops and bolts, Pat. 29.96	1 95
1a	2-way " " " " " " " "	2 01
1b	3-way " " " " " " " "	2 04
1c	4-way " " " " " " " "	3 81
1d	5-way " " " " " " " "	3 84
1e	6-way " " " " " " " "	3 84
1f	7-way " " " " " " " "	3 90
1g	8-way " " " " " " " "	3 93
1h	9-way " " " " " " " "	3 95
1i	10-way " " " " " " " "	3 99
1j	11-way " " " " " " " "	4 02
1k	12-way " " " " " " " "	4 05
1l	13-way " " " " " " " "	4 11
1m	14-way " " " " " " " "	5 88
1n	15-way " " " " " " " "	5 88
1o	16-way " " " " " " " "	5 91
1p	17-way " " " " " " " "	5 94
1q	18-way " " " " " " " "	5 97
1r	19-way " " " " " " " "	6 00
1s	20-way " " " " " " " "	6 06
1t	21-way " " " " " " " "	6 09
1u	22-way " " " " " " " "	6 12
1v	23-way " " " " " " " "	6 15
1w	24-way " " " " " " " "	6 18
1x	25-way " " " " " " " "	6 21
1y	26-way " " " " " " " "	6 27
1z	27-way " " " " " " " "	6 30
1aa	28-way " " " " " " " "	6 33
1bb	29-way " " " " " " " "	6 36
1cc	30-way " " " " " " " "	6 39
2	Pier only, Model 5 for Crank or Wheel Foundation.....	3 35
3	Crank or Wheel Foundation, 2 pieces, with oak top and bolts.....	8 88
4	Compensator " " " " " " " ".....	10 35
5	Dwarf Signals " " " " " " " ".....	9 60
5a	Selector " " " " " " " ".....	9 60
6	Pier only, Model 6, for Compensator, Dwarf Signal or Selector Founda- tion.....	3 76

WAY	LENGTH OF TOP	No. OF PIERS
1	1'-0''	1
2	1'-2 $\frac{3}{4}$ ''	1
3	1'-5 $\frac{1}{2}$ ''	1
4	1'-8 $\frac{1}{4}$ ''	1
5	2'-0''	2
6	2'-0''	2
7	2'-4 $\frac{1}{2}$ ''	2
8	2'-7 $\frac{1}{4}$ ''	2
9	2'-10''	2
10	3'-0 $\frac{3}{4}$ ''	2
11	3'-3 $\frac{1}{2}$ ''	2
12	3'-6 $\frac{1}{4}$ ''	2
13	3'-9''	2
14	3'-11 $\frac{3}{4}$ ''	2
15	4'-2 $\frac{1}{2}$ ''	2
16	4'-5 $\frac{1}{4}$ ''	2
17	4'-8''	3
18	4'-10 $\frac{3}{4}$ ''	3
19	5'-1 $\frac{1}{2}$ ''	3
20	5'-4 $\frac{1}{4}$ ''	3
21	5'-7''	3
22	5'-9 $\frac{3}{4}$ ''	3
23	6'-0 $\frac{1}{2}$ ''	3
24	6'-3 $\frac{1}{4}$ ''	3
25	6'-6''	3
26	6'-8 $\frac{3}{4}$ ''	3
27	6'-11 $\frac{1}{2}$ ''	3
28	7'-2 $\frac{1}{4}$ ''	3
29	7'-5''	3
30	7'-7 $\frac{3}{4}$ ''	3



1



2

Oak Tops and Hook Bolts for Pipe Carriers, Cranks, Wheels, Compensators, Dwarf Signals and Selectors

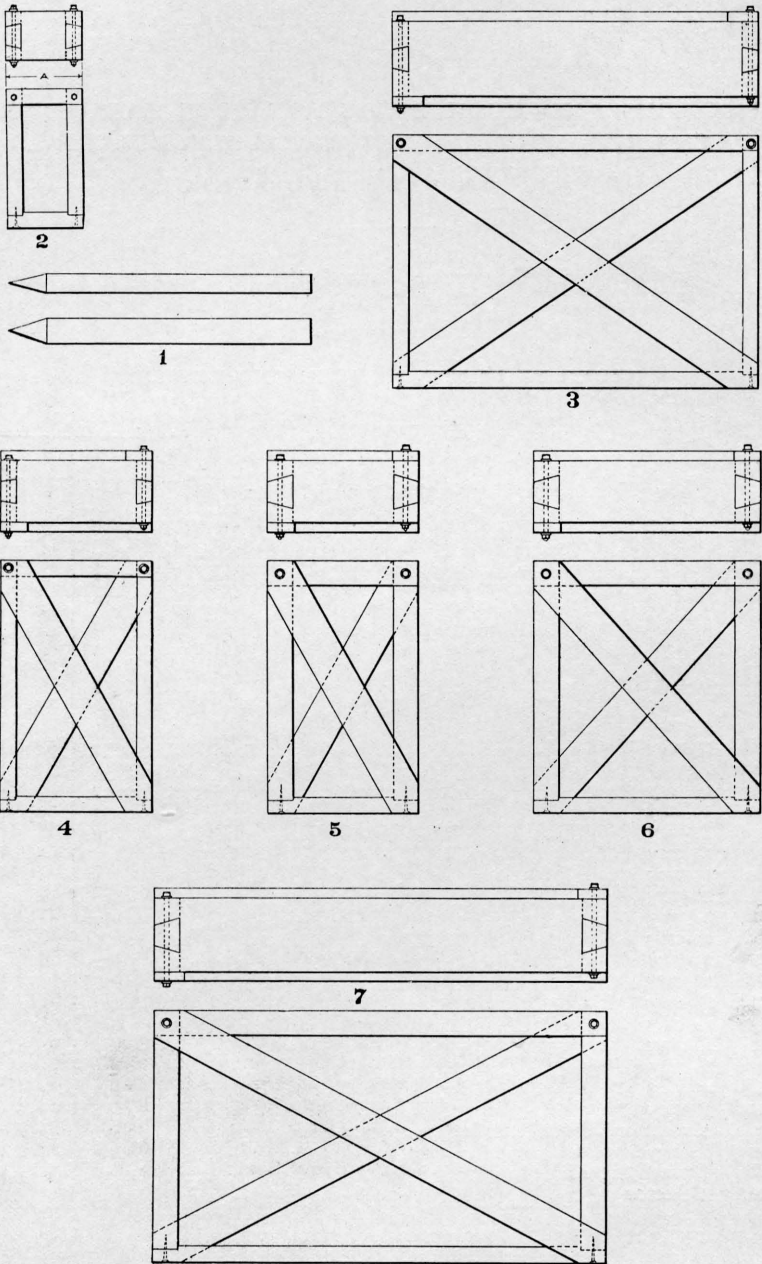
	CRANK	WHEEL	COMPENSATOR	DWARF SIGNAL	SELECTOR
Length of Top	2'-0''	2'-0''	3'-6''	5'-0''	5'-0''
No. of Piers	1	1	1	1	1

**OAK TOPS AND HOOK BOLTS FOR PIPE CARRIERS,
CRANKS, WHEELS, COMPENSATORS, DWARF
SIGNALS AND SELECTORS**

Concrete Foundations

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
I	1-way Pipe Carrier Foundation, top and bolts only	1 32
Ia	2-way " " " " " " " " " " " "	1 35
Ib	3-way " " " " " " " " " " " "	1 41
Ic	4-way " " " " " " " " " " " "	1 47
Id	5-way " " " " " " " " " " " "	2 13
Ie	6-way " " " " " " " " " " " "	2 19
If	7-way " " " " " " " " " " " "	2 25
Ig	8-way " " " " " " " " " " " "	2 31
Ih	9-way " " " " " " " " " " " "	2 31
Ii	10-way " " " " " " " " " " " "	2 37
Ij	11-way " " " " " " " " " " " "	2 43
Ik	12-way " " " " " " " " " " " "	2 49
Il	13-way " " " " " " " " " " " "	2 52
Im	14-way " " " " " " " " " " " "	2 58
In	15-way " " " " " " " " " " " "	2 67
Io	16-way " " " " " " " " " " " "	2 73
Ip	17-way " " " " " " " " " " " "	3 42
Iq	18-way " " " " " " " " " " " "	3 45
Ir	19-way " " " " " " " " " " " "	3 51
Is	20-way " " " " " " " " " " " "	3 57
It	21-way " " " " " " " " " " " "	3 63
Iu	22-way " " " " " " " " " " " "	3 66
Iv	23-way " " " " " " " " " " " "	3 72
Iw	24-way " " " " " " " " " " " "	3 78
Ix	25-way " " " " " " " " " " " "	3 84
Iy	26-way " " " " " " " " " " " "	3 87
Iz	27-way " " " " " " " " " " " "	3 93
iaa	28-way " " " " " " " " " " " "	3 99
ibb	29-way " " " " " " " " " " " "	4 05
icc	30-way " " " " " " " " " " " "	4 08
2	Crank or Wheel Foundation, tops and bolts only	3 33
2a	Compensator " " " " " " " " " " " "	3 87
2b	Dwarf Signal " " " " " " " " " " " "	4 38
2c	Selector " " " " " " " " " " " "	4 38



Wire Stakes and Oak Foundations for Pipe Carriers, Cranks, Wheels, Compensators, Dwarf Signals and Selectors

**WIRE STAKES AND OAK FOUNDATIONS FOR PIPE
CARRIERS, CRANKS, WHEELS, COMPENSATORS
DWARF SIGNALS AND SELECTORS**

ORDER BY PLATE, NUMBER AND LETTER

No.		List Price
1	Oak Stakes 3'' x 4'' x 4' long	39
2	1-way Pipe Carrier Foundation, 2½'' x 8'' oak 12'' long ..	1 20
2a	2-way " " " " " " 14¾'' " " " " " "	1 29
2b	3-way " " " " " " 17½'' " " " " " "	1 35
2c	4-way " " " " " " 20¼'' " " " " " "	1 41
2d	5-way " " " " " " 23'' " " " " " "	1 50
2e	6-way " " " " " " 25¾'' " " " " " "	1 56
2f	7-way " " " " " " 28½'' " " " " " "	1 65
2g	8-way " " " " " " 31¼'' " " " " " "	1 71
2h	9-way " " " " " " 34'' " " " " " "	1 77
2i	10-way " " " " " " 36¾'' " " " " " "	1 86
2j	11-way " " " " " " 39½'' " " " " " "	1 92
2k	12-way " " " " " " 42¼'' " " " " " "	1 98
2l	13-way " " " " " " 45'' " " " " " "	2 34
2m	14-way " " " " " " 47¾'' " " " " " "	2 40
2n	15-way " " " " " " 50½'' " " " " " "	2 49
2o	16-way " " " " " " 53¼'' " " " " " "	2 55
2p	17-way " " " " " " 56'' " " " " " "	2 61
2q	18-way " " " " " " 58¾'' " " " " " "	2 70
2r	19-way " " " " " " 61½'' " " " " " "	2 88
2s	20-way " " " " " " 64¼'' " " " " " "	2 97
2t	21-way " " " " " " 67'' " " " " " "	3 03
2u	22-way " " " " " " 69¾'' " " " " " "	3 09
2v	23-way " " " " " " 72½'' " " " " " "	3 18
2w	24-way " " " " " " 75¼'' " " " " " "	3 24
2x	25-way " " " " " " 78'' " " " " " "	3 30
2y	26-way " " " " " " 80¾'' " " " " " "	3 66
2z	27-way " " " " " " 83½'' " " " " " "	3 72
2aa	28-way " " " " " " 86¼'' " " " " " "	3 81
2bb	29-way " " " " " " 89'' " " " " " "	3 87
2cc	30-way " " " " " " 91¾'' " " " " " "	3 93
3	Dwarf Signal Foundation 2½'' x 12' oak, 3' long, 3'-4'' deep	3 90
3a	" " " " 2½'' x 12'' oak, 5' long, 3'-4'' deep	5 04
4	Wheel " " 2½'' x 10'' oak, 2' long, 3'-4'' deep	3 09
5	Crank " " 4'' x 10'' oak, 2' long, 3'-4'' deep	4 89
6	Compensator " " 4'' x 10'' oak, 3'-6'' long, 3'-4'' deep	5 22
7	Selector " " 4'' x 10'' oak, 6' long, 3'-4'' deep	7 92

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