

Part Catalogue No. 6192-4

June, 1926

For prices refer to Catalogue 10-A or apply to nearest District Office

PARTS OF **Westinghouse** **Type E-4 Oil Circuit-Breakers**

Manually and Electrically Operated
Automatic and Non-Automatic
Wall, Pipe or Cell Mounting

300 Amperes, 35,000 Volts
600 and 1200 Amperes, 25,000 Volts
2000 and 3000 Amperes, 15,000 Volts

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WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
East Pittsburgh, Pa.

Printed in U.S.A.

RECOMMENDED STOCK OF RENEWAL PARTS
For
Type E-4 Oil Circuit-Breakers

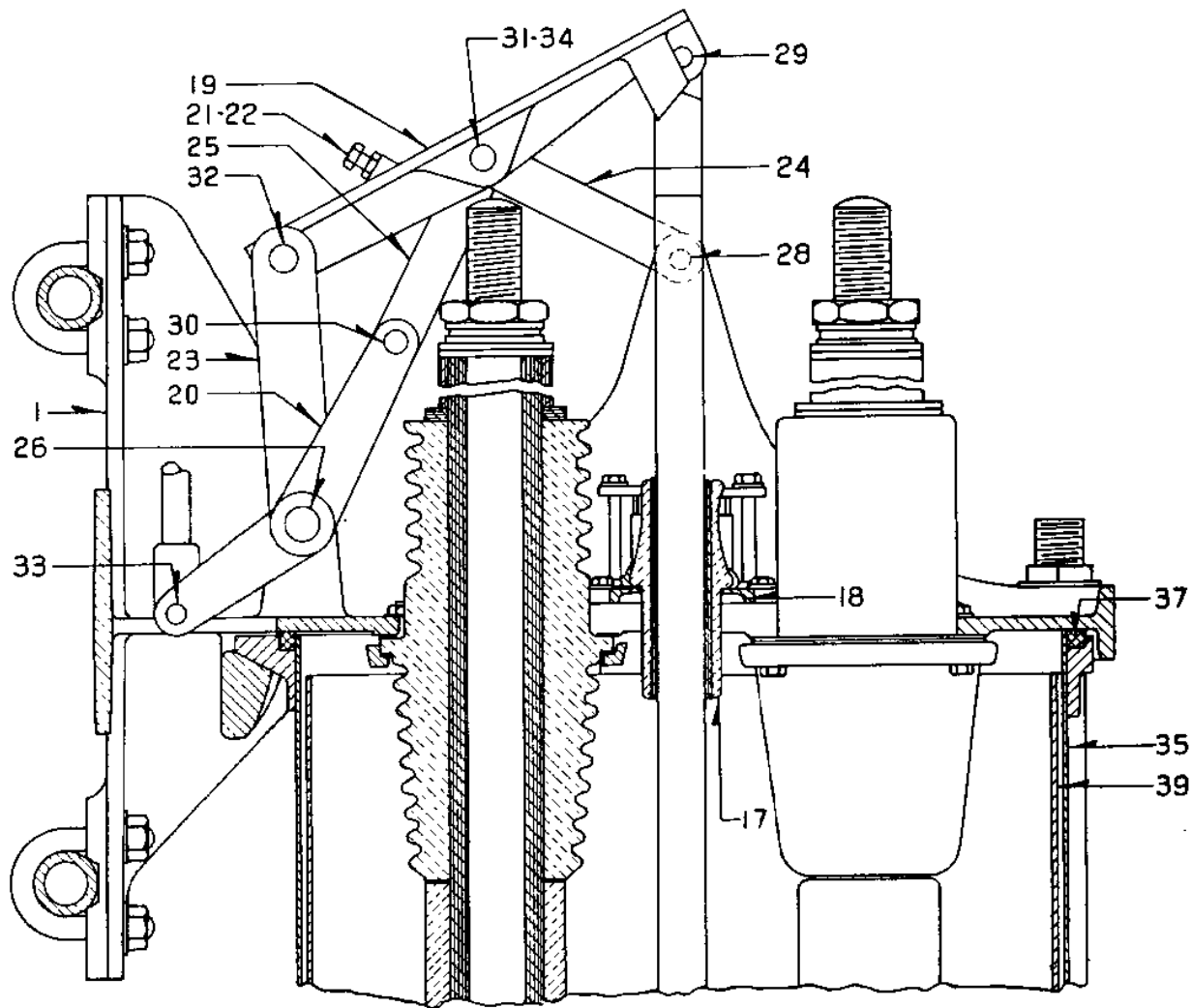
This list covers the minimum amount of Renewal Parts that should be carried in stock.

Number of three pole breakers in use up to and including.....			1.....	3.....	5
Name of Part	No. Per Pole	No. Per Breaker			
Breaker pole unit (specify rating when ordering)...	—.....	—.....	0.....	1.....	2
Stationary contact complete for 300 to 1200 Amps..	2.....	—.....	1.....	2.....	4
Stationary contact complete, rear, for 3000 Amps...	1.....	—.....	1.....	1.....	2
Stationary contact complete, front, for 300 Amps...	1.....	—.....	1.....	1.....	2
Porcelain insulator, large, for 300 to 2000 Amps...	2.....	—.....	2.....	4.....	6
Porcelain insulator, small, for 300 to 2000 Amps...	2.....	—.....	2.....	4.....	6
Porcelain insulator for 3000 Amps.....	2.....	—.....	2.....	4.....	6
Arcing screw for 300, 600 and 2000 Amps.....	2.....	—.....	6.....	18.....	30
Arcing screw for 1200 and 3000 Amps.....	4.....	—.....	12.....	36.....	60
Brush unit without arcing plunger or shunt for 300, 600 and 2000 Amps.....	1.....	—.....	1.....	2.....	3
Brush unit without arcing plunger or shunt for 1200 and 3000 Amps.....	2.....	—.....	2.....	4.....	6
Arcing plunger for 300 and 600 Amps.....	2.....	—.....	2.....	4.....	6
Arcing plunger for 1200 Amps.....	4.....	—.....	12.....	36.....	60
Arcing plunger for 2000 Amps.....	2.....	—.....	6.....	18.....	30
Arcing plunger for 3000 Amps.....	4.....	—.....	4.....	8.....	12
Arcing tip for 300 and 600 Amps.....	2.....	—.....	6.....	18.....	30
Arcing tip for 3000 Amps.....	4.....	—.....	12.....	36.....	60
Arcing plunger spring for 300, 600 and 2000 Amps..	2.....	—.....	2.....	4.....	6
Arcing plunger spring for 1200 and 3000 Amps.....	4.....	—.....	4.....	8.....	12
Shunt for 300, 600 and 2000 Amps.....	1.....	—.....	1.....	2.....	3
Shunt for 1200 and 3000 Amps.....	2.....	—.....	2.....	4.....	6
Lifting rod.....	1.....	—.....	1.....	2.....	3
Tank with lining.....	1.....	—.....	0.....	1.....	2
Leather bumper for closing lever.....	1.....	—.....	1.....	2.....	3
Leather washer for moving core of closing magnet..	—.....	1.....	1.....	1.....	2
Metal expander for leather washer for moving core of closing magnet.....	—.....	1.....	1.....	1.....	2
Leather washer for dash pot plunger rod.....	—.....	1.....	1.....	2.....	3
Metal expander for leather washer for dash pot plunger rod.....	—.....	1.....	1.....	2.....	3
Valve assembly for dash pot.....	—.....	1.....	1.....	2.....	3
Spring for valve.....	—.....	1.....	1.....	2.....	3
Signal switch complete.....	—.....	1.....	0.....	1.....	2
Trigger lever with spring.....	—.....	1.....	0.....	1.....	2
Roller for trigger.....	—.....	1.....	0.....	1.....	2

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MAIN ASSEMBLY



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
Parts for 300, 600, 1200 and 2000 Ampere Breakers

Ref. No.	Style No.	No. Per Breaker	Description
1	422162	3	Support frame for 300 and 600 amperes
1	422199	3	Support frame for 1200 and 2000 amperes
2*	178394	3	Bumper complete for 300 and 600 amperes
3*	301679	3	Bumper leather for 300 and 600 amperes
3*	422200	3	Bumper leather for 1200 and 2000 amperes
4*	178396	3	Bumper guide for 300 and 600 amperes
5*	301680	3	Bumper pin for 300 and 600 amperes
6*	301682	3	Bumper piston for 300 and 600 amperes
7*	178395	3	Bumper spring for 300 and 600 amperes
8*	.....	6	Fillister head iron machine screw, No. 10-32 x 1/2" (standard hardware), to fasten bumper to support frame for 300 and 600 amperes
9*	422171	3	Vent complete for 300 and 600 amperes
10†	323776	3	Vent for 1200 amperes
11†	415411	12	Vent baffle for 300 and 600 amperes
11†	323777	3	Vent baffle for 1200 and 2000 amperes
12*	422202	3	Vent bottom for 1200 amperes
13*	422229	3	Guide for lifting rod for 2000 amperes
13*	422173	3	Wrought iron pipe cylinder for 300 and 600 amperes
14*	422172	3	Vent cap for 300 and 600 amperes
14A*	.....	6	Fillister head iron machine screw, No. 14-24x1/2" (standard hardware), for vent bottom for 1200 amperes
15†	.....	3	Tap bolt, 1/2"x3 1/2" (standard hardware), to fasten baffles to cap for 300 and 600 amperes
15†	.....	6	Tap bolt, 3/8"x4" (standard hardware), to mount baffles and vent for 1200 and 2000 amperes
16†	2892	3	Washer for tap bolt for 300 and 600 amperes
16†	.....	6	Washer, 3/8" (standard hardware), for tap bolt for 1200 and 2000 amperes
17	422161	3	Insulated guide tube for 300 and 600 amperes
17	422198	3	Insulated guide tube for 1200 amperes
18	178840	3	Guide tube clamping flange for 300 and 600 and 1200 amperes
19	187092	3	Main lever for 300 and 600 amperes
19	422213	3	Main lever for 1200 amperes
19	422227	3	Main lever for 2000 amperes

*Not illustrated

†Not indicated

MAIN ASSEMBLY—Continued

Illustrated on Page 3

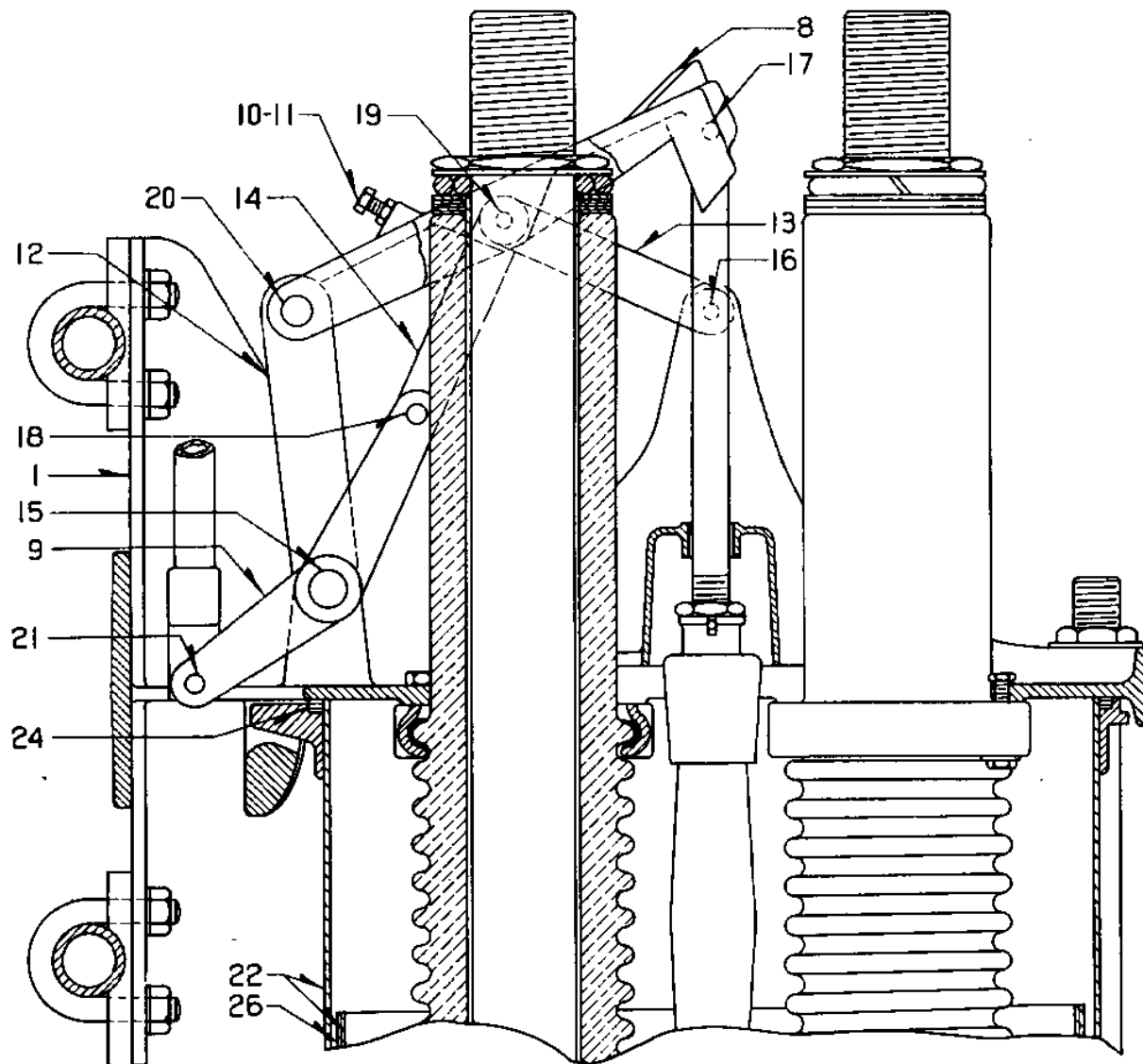
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Parts for 300, 600, 1200 and 2000 Ampere Breakers—Continued

Ref. No.	Style No.	No. Per Breaker	Description
20	187093	3	Toggle lever for 300 and 600 amperes
20	422214	3	Toggle lever for 1200 amperes
20	422228	3	Toggle lever for 2000 amperes
21	.....	6	Adjusting set screw, $\frac{3}{8}$ "x2 $\frac{1}{2}$ " (standard hardware), for main lever for 300 and 600 amperes
21	.....	6	Adjusting set screw, $\frac{3}{8}$ "x3" (standard hardware), for main lever for 1200 and 2000 amperes
22	.....	6	Hexagon lock nut, $\frac{3}{8}$ " (standard hardware), for set screw
23	184885	6	Rocker link for 300 and 600 amperes
23	422217	6	Rocker link for 1200 and 2000 amperes
24	184888	6	Guide link for 300 and 600 amperes
24	422216	6	Guide link for 1200 and 2000 amperes
25	186607	6	Toggle link for 300 and 600 amperes
25	422215	6	Toggle link for 1200 and 2000 amperes
26	201399	3	Pin to fasten rocker link and toggle lever to support frame for 300 and 600 amperes
26	422201	3	Pin to fasten rocker link and toggle lever to support frame for 1200 and 2000 amperes
27*	186955	6	Wrought iron pipe spacer, short, for 300 and 600 amperes
27*	189956	6	Wrought iron pipe spacer, long, for 300 and 600 amperes
28	65150	6	Pin to fasten guide link to support frame
29	83813	3	Pin to fasten main lever to moving contact rod end
30	63613	6	Pin to fasten toggle link to toggle lever for 300, 600, 1200 and 2000 amperes
31	63614	6	Pin to fasten toggle link and guide link to main lever
32	63634	6	Pin to fasten rocker link to main lever for 300 and 600 amperes
32	63633	6	Pin to fasten rocker link to main lever for 1200 and 2000 amperes
33	48946	3	Pin to fasten toggle lever to rod end for 300 and 600 amperes
33	63616	3	Pin to fasten toggle lever to rod end for 1200 and 2000 amperes
34	3300	12	Washer for Style No. 63634
35	422166	3	Tank complete
36*	422167	3	Tank without lining
37	.....	3	Flax packing, for tank 53 $\frac{1}{2}$ "x $\frac{3}{8}$ " square
38*	103701	3	Oil gauge
39	422168	3	Tank lining
40*	.....	3	Malleable iron street elbow, $\frac{3}{4}$ " (standard hardware), for tank
41*	.....	6	Pipe plug, $\frac{3}{4}$ " (standard hardware), for tank
42*	.....	6	Tap bolt, $\frac{5}{8}$ "x4" (standard hardware), to fasten tank to support frame for 300, 600, 1200 and 2000 amperes
43*	.....	6	Hexagon nut, $\frac{5}{8}$ " (standard hardware), for tap bolt
44*	.....	6	Wrought iron washer, $\frac{5}{8}$ " (standard hardware), for tap bolt
45*	73775	6	Foot for floor support
46*	.....	12	Malleable iron pipe nut, for floor support

*Not illustrated.

MAIN ASSEMBLY—Continued



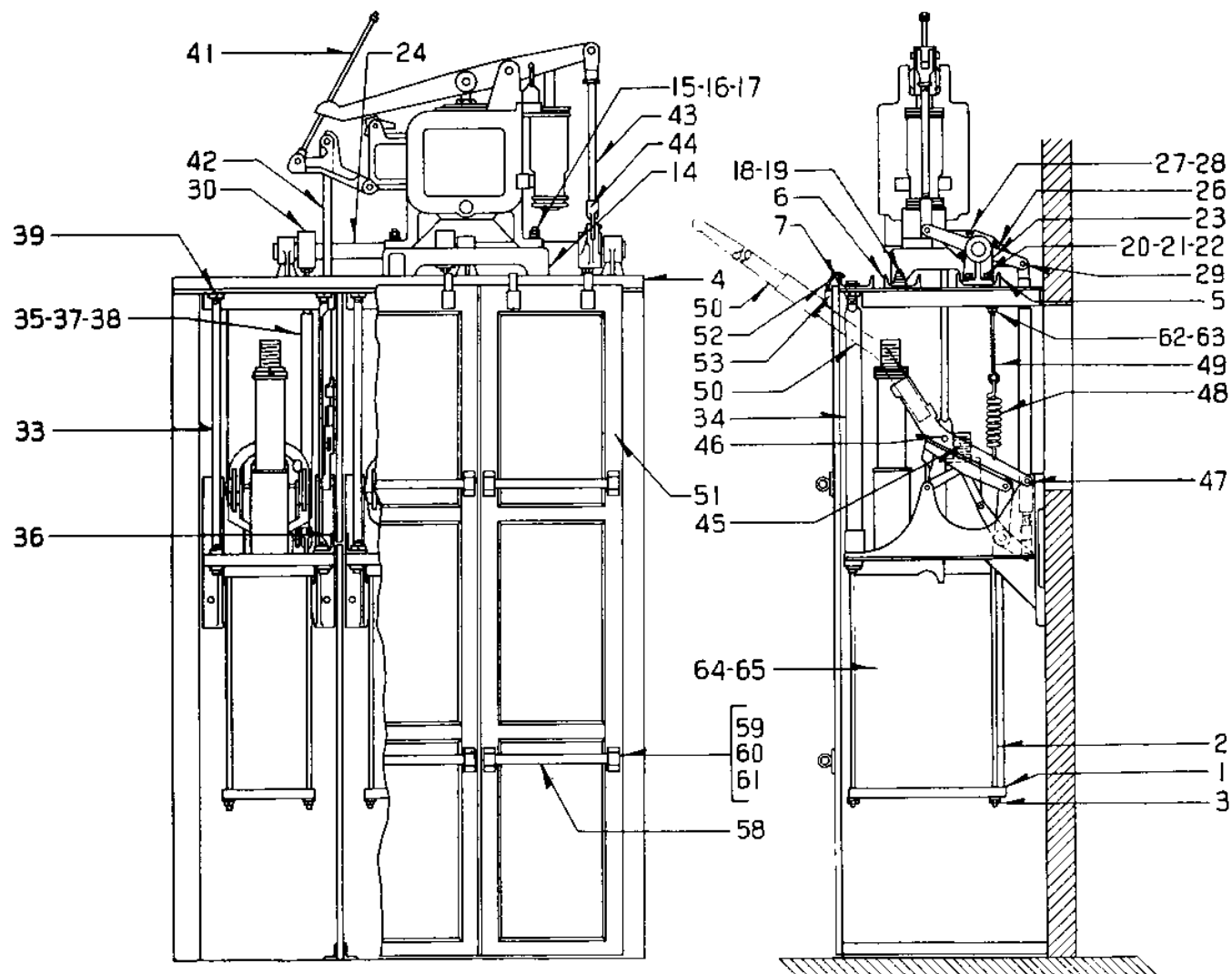
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Parts for 3000 Ampere Breakers Only

Ref. No.	Style No.	No. Per Breaker	Description
1	422199	3	Support frame for wall or pipe mounting only
1	422288	1	Support frame with hand closing lever for cell mounting only
1	422289	2	Support frame without hand closing lever for cell mounting only
2*	422200	3	Bumper leather
3*	323776	3	Vent
4*	422229	3	Guide for lifting rod
5*	323777	3	Vent baffle
6*	.....	6	Tap bolt, $\frac{3}{8}$ "-16x4" (standard hardware), to mount baffles and vent
7*	.....	6	Washer, $\frac{3}{8}$ " (standard hardware), for tap bolt
8	422248	3	Main lever
9	422282	3	Toggle lever for cell mounting only
9	422228	6	Toggle lever for wall or pipe mounting
10	.....	6	Adjusting set screw, $\frac{3}{8}$ "-16x2 $\frac{3}{4}$ " (standard hardware), for main lever
11	.....	6	Hexagon lock nut, $\frac{3}{8}$ "-16 (standard hardware), for set screw
12	422251	6	Rocker link
13	422250	6	Guide link
14	422249	6	Toggle link
15	422201	3	Pin to fasten rocker link and toggle lever to support frame
16	65150	6	Pin to fasten guide link to support frame
17	83813	3	Pin to fasten main lever to moving contact rod end
18	63613	6	Pin to fasten toggle link to toggle lever
19	63614	6	Pin to fasten toggle link and guide link to main lever
20	422281	3	Pin to fasten rocker link to main lever
21	105265	3	Pin to fasten toggle lever to rod end
22	422166	3	Tank complete with lining
23*	422167	3	Tank without lining
24	.....	3	Flax packing for tank, 53 $\frac{1}{2}$ "x3 $\frac{3}{8}$ " square
25*	103701	3	Oil gauge
26	422168	3	Tank lining
27*	.....	3	Malleable iron street elbow, $\frac{3}{4}$ " (standard hardware), for tank
28*	.....	6	Pipe plug, $\frac{3}{4}$ " (standard hardware), for tank
29*	73775	6	Foot for floor support
30*	.....	12	Malleable iron pipe nut, for floor support

*Not illustrated

MAIN ASSEMBLY—Continued



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Parts for 3000 Ampere 15,000 Volts Cell Mounting Only

Ref. No.	Style No.	No. Per. Breaker	Description
1	422285	1	Tank cradle
2	422284	4	Tie rod to fasten tank to support frame
3	.....	8	Hexagon iron nut, $\frac{5}{8}$ " (standard hardware), for tie rod
4	422290	1	Cell cover
5	422291	1	Channel iron support, rear
6	422292	1	Channel iron support, center
7	422293	1	Channel iron support, front
8*	422294	1	Slate base, left hand
9*	422295	1	Slate base, center
10*	422296	1	Slate base, right hand
11*	422297	4	Hard white felt gasket to fit between cover and base
12*	.....	4	Machine bolt, $\frac{1}{2}$ "x $3\frac{1}{4}$ " (standard hardware), to connect cover to base
13*	.....	4	Wrought iron washer, $\frac{1}{2}$ " (standard hardware), for machine bolt
14	422312	1	Mechanism bracket
15	.....	1	Machine bolt, 1 "x $3\frac{1}{2}$ " (standard hardware), to fasten mechanism frame to mechanism bracket
16	.....	1	Wrought iron washer, 1 " (standard hardware), for machine bolt
17	.....	1	Lock washer, 1 " (standard hardware), for machine bolt
18	.....	4	Machine bolt, $\frac{3}{4}$ "x $2\frac{1}{2}$ " (standard hardware), to fasten mechanism bracket to channel iron support
19	.....	4	Lock washer, $\frac{3}{4}$ " (standard hardware), for machine bolt
20	.....	12	Machine bolt, $\frac{1}{2}$ "x $2\frac{1}{4}$ " (standard hardware), to fasten bearing to channel iron support
21	.....	12	Wrought iron washer, $\frac{1}{2}$ " (standard hardware), for machine bolt

*Not illustrated

MAIN ASSEMBLY—Continued

Parts for 3000 Amperes 15,000 Volts Cell Mounting Only—Continued

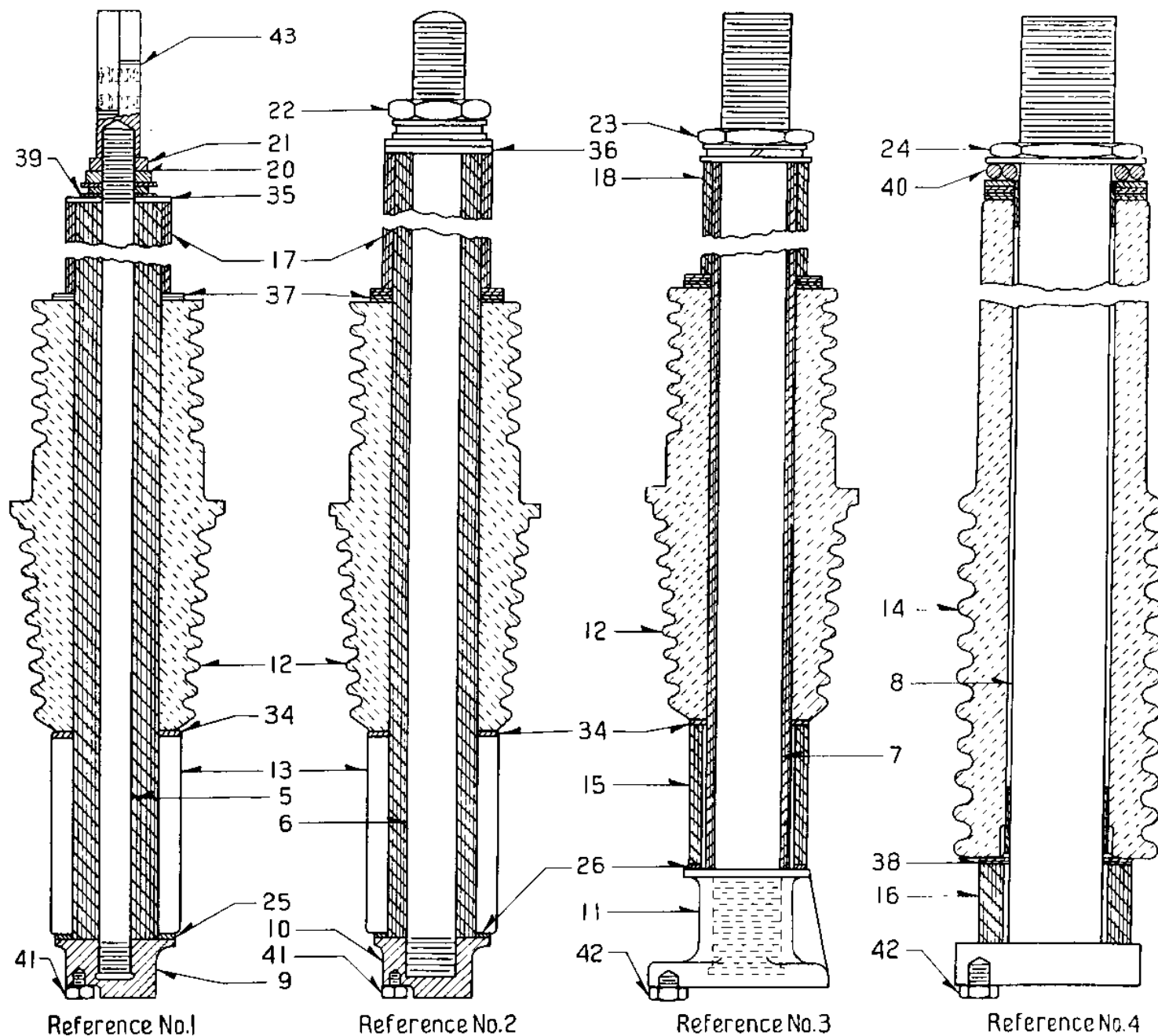
Illustrated on Page 6

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
22	.....	12	Lock washer, 1/2" (standard hardware), for machine bolt
23	277454	1	Bearing for main operating lever
24	422298	1	Main operating shaft
25*	41002	1	Key to fasten levers to shaft
26	422286	1	Double operating lever
27	.....	4	Machine bolt, 1/2"x4" (standard hardware), for lever
28	.....	4	Lock washer, 1/2" (standard hardware), for machine bolt
29	105265	4	Pin to fasten rod end to lever
30	422287	2	Single operating lever
31*	.....	8	Tap bolt, 1/2"x2 3/4" (standard hardware), for lever
32*	.....	8	Lock washer, 1/2" (standard hardware), for tap bolt
33	422299	5	Round tie rod
34	422300	1	Flat tie rod
35	422304	3	Operating rod connecting operating lever and pole unit mechanism
36	422305	4	Operating rod guide
37	422306	3	Operating rod and insulating tube
38	422307	3	Insulation tube
39	.....	24	Malleable iron pipe nut, 1" (standard hardware), for tie rod
40*	.....	5	Malleable iron pipe nut, 3/4" (standard hardware), for operating rod
41	422301	1	Operating rod connecting hand reset lever
42	422302	1	Operating rod connecting pole unit main lever and mechanism
43	422303	1	Operating rod connecting mechanism main lever and double operating lever
44	248949	7	Rod end for operating rod
45	422308	1	Closing lever socket
46	63613	1	Pin for closing lever socket
47	422310	1	Shoulder pin for closing lever socket
48	422311	1	Closing lever socket spring
49	422319	1	Hook for closing lever socket spring
50**	422309	1	Hand closing lever
51	422313	3	Door complete
52	422315	6	Hook for door
53	380006	6	Bracket for door hook
54*	.....	6	Tap bolt, 5/8"x2 1/2" (standard hardware), to fasten bracket to door
55*	.....	6	Round head iron stove bolt, 5/8"x1 3/4" (standard hardware), to fasten hook to bracket
56*	3272	18	Washer for tap bolts
57*	.....	18	Hexagon iron nut, 5/8" (standard hardware), for tap bolt
58	422314	6	Wooden handle for door
59	102390	12	Handle bracket
60	.....	12	Flat head iron wood screw, No. 17x7/8" (standard hardware), to fasten handle to bracket
61	.....	24	Round head iron wood screw, No. 10x1" (standard hardware), to fasten bracket to door
62	.....	2	Hexagon iron nut, 3/8" (standard hardware), for spring hook
63	.....	1	Wrought iron washer, 3/8" (standard hardware), for spring hook
64	422166	3	Tank complete
65	422167	3	Tank without lining
66*	.....	3	Flax packing, 4'-5 1/2"x3 3/8" for tank
67*	103701	3	Oil gauge
68*	422168	3	Tank lining
69*	.....	6	Street elbow, 3/4" (standard hardware), for tank
70*	.....	6	Pipe plug, 3/4" (standard hardware), for tank
71*	73775	6	Foot for floor support
72*	.....	12	Pipe nut, 1" (standard hardware), for floor support

*Not illustrated
**Usually one per station

STATIONARY CONTACTS AND DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	422163	6	Stationary contact complete for 300 amperes 35,000 volts
1	422184	6	Stationary contact complete for 600 amperes 25,000 volts
2	422209	6	Stationary contact complete for 1200 amperes 25,000 volts
3	422239	6	Stationary contact complete for 2000 amperes 15,000 volts
4	422260	3	Stationary contact complete, front, for 3000 ampere 15,000 volts
4	422278	3	Stationary contact complete, rear, for 3000 ampere 15,000 volts
5	422164	6	Contact foot, rod and insulating tube for 300 ampere 35,000 volts
5	422185	6	Contact foot, rod and insulating tube for 600 ampere 25,000 volts
6	422208	6	Contact foot, rod and insulating tube for 1200 ampere 25,000 volts
7	422240	6	Contact foot, rod and insulating tube for 2000 ampere 15,000 volts
8	422265	3	Stationary contact stud, front, for 3000 amperes 15,000 volts
8	422279	3	Stationary contact stud, rear, for 3000 amperes 15,000 volts
9	189068	6	Contact foot for 300 amperes 35,000 volts
9	148260	6	Contact foot for 600 amperes 25,000 volts
10	422211	6	Contact foot for 1200 amperes 25,000 volts
11	422243	6	Contact foot for 2000 amperes 15,000 volts
12	61840	6	Porcelain insulator, large, for 300 amperes 35,000 volts, 600 and 1200 amperes 25,000 volts and 2000 amperes 15,000 volts
13	160764	6	Porcelain insulator, small, for 300 amperes 35,000 volts, 600 and 1200 amperes 25,000 volts and 2000 amperes 15,000 volts
14	58832	6	Porcelain insulator, for 3000 amperes 15,000 volts
15	422242	6	Micarta tube for bottom of porcelain for 2000 amperes 15,000 volts
16	422261	6	Micarta tube for bottom of porcelain for 3000 amperes 15,000 volts
17	201505	6	Micarta tube for top of porcelain for 300 amperes 35,000 volts, 600 and 1200 amperes 25,000 volts
18	422241	6	Micarta tube for top of porcelain for 2000 amperes 15,000 volts
19*	422262	3	Micarta tube for top of front porcelain for 3000 amperes 15,000 volts

*Not illustrated.

STATIONARY CONTACTS AND DETAILS—Continued

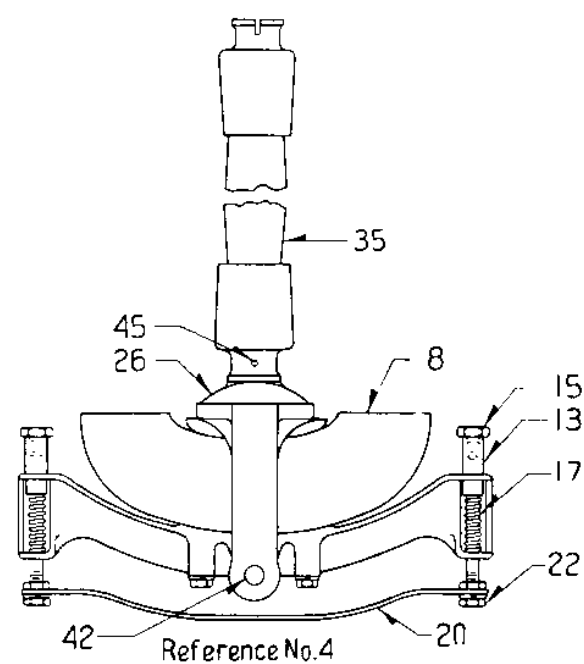
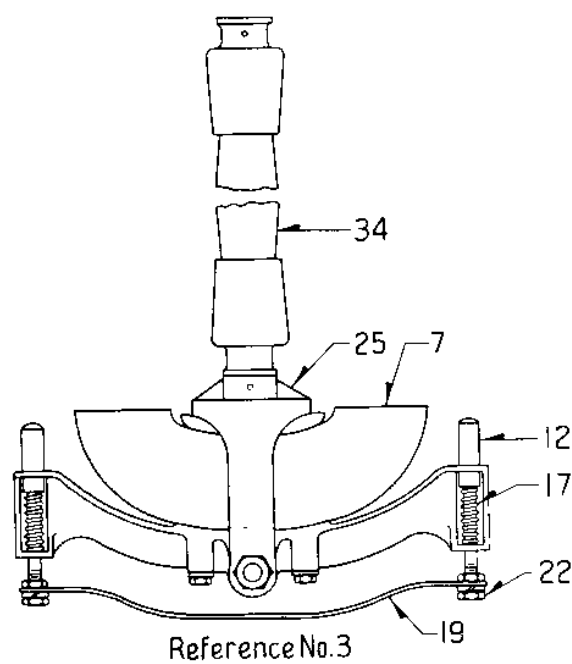
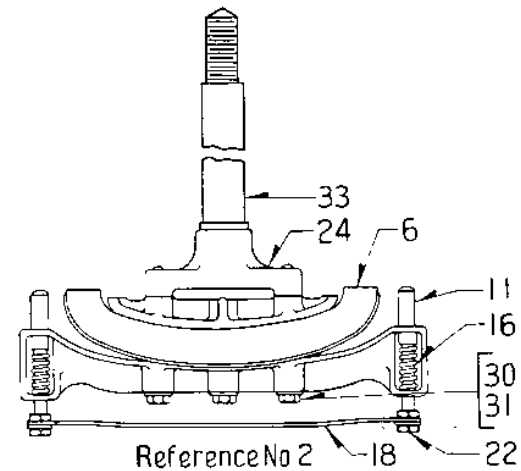
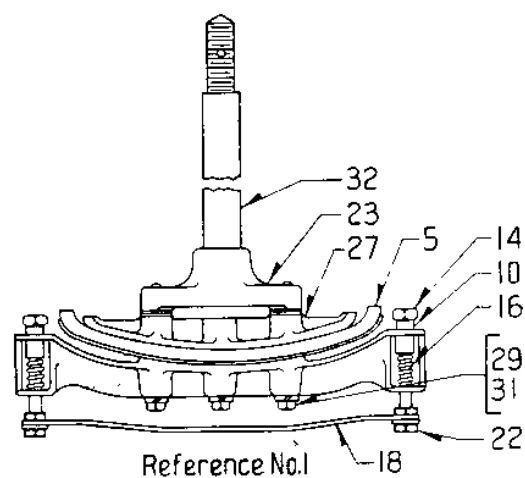
Illustrated on Page 8

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
20	211911	9	Check nut for contact for 300 amperes 35,000 volts
20	211911	6	Check nut for contact for 600 amperes 25,000 volts
21	7545	6	Check nut for contact for 600 amperes 25,000 volts
22	7547	6	Check nut for contact for 1200 amperes 25,000 volts
23	7550	6	Check nut for contact for 2000 amperes 15,000 volts
24	422266	6	Check nut for contact for 3000 amperes 15,000 volts
25	186003	6	Lead washer to fit between insulator and foot for 300 amperes 35,000 volts and 600 amperes 25,000 volts
26	422210	6	Fibre washer to fit between insulator and foot for 1200, 2500 and 2000 amperes 15,000 volts
27*	422270	12	Fibre washer for top of insulator for 3000 amperes 15,000 volts
28*	181709	6	Lead washer to fit between insulator and base for 300 amperes 35,000 volts and 600 amperes 25,000 volts
29*	210543	6	Fibre washer to fit between insulator and base for 1200 amperes 25,000 volts and 2000 amperes 15,000 volts
30*	422264	12	Fibre washer to fit between insulator and base for 3000 amperes 15,000 volts
31*	181710	6	Lead washer to fit between insulator and support ring for 300 amperes 35,000 volts and 600 amperes 25,000 volts
32*	211852	6	Fibre washer to fit between insulator and support ring for 1200 amperes 25,000 volts and 2000 amperes 15,000 volts
33*	422263	6	Fibre washer to fit between insulator and support ring for 3000 amperes 15,000 volts
34	181033	30	Fibre washer to fit between insulators for 300 amperes 35,000 volts and 600 amperes 25,000 volts
34	181033	6	Fibre washer to fit between insulators for 1200 amperes 25,000 volts
34	181033	12	Fibre washer to fit between insulators for 2000 amperes 15,000 volts
35	193359	18	Fibre washer to fit between micarta tube and brass washer for 300 amperes 35,000 volts and 600 amperes 25,000 volts
36	201510	12	Fibre washer to fit between micarta tube and brass washer for 1200 amperes 25,000 volts
37	384871	12	Fibre washer to fit between micarta tube and insulator for 300 amperes 35,000 volts, 600 and 1200 amperes 25,000 volts and 2000 amperes 15,000 volts
38	422270	6	Fibre washer to fit between micarta tube and insulator for 3000 amperes 15,000 volts
39	182827	12	Brass washer to fit between nut and fibre washer for 300 amperes 35,000 volts and 600 amperes 25,000 volts
40	422269	6	Spring washer, bottom, for 3000 amperes 15,000 volts
41	170101	6	Arcing screw for 300 amperes 35,000 volts and 600 amperes 25,000 volts
41	170101	12	Arcing screw for 1200 amperes 25,000 volts
42	219971	6	Arcing screw for 2000 amperes 15,000 volts
42	219971	12	Arcing screw for 3000 amperes 15,000 volts
43	415001	6	Terminal connector for 300 amperes 35,000 volts
43	422182	6	Terminal connector for 600 amperes 25,000 volts
44*	422165	6	Insulator clamp flange for 300 amperes 35,000 volts and 600 amperes 25,000 volts
44*	422203	6	Insulator clamp flange for 1200 amperes 25,000 volts and 2000 amperes 15,000 volts
44*	422253	6	Insulator clamp flange for 3000 amperes 15,000 volts
45*	.....	24	Tap bolt, 1/4"x1 1/4" (standard hardware), to fasten clamp ring to support frame for 300 ampere 35,000 volts and 600 amperes 25,000 volts
46*	.....	24	Tap bolt, 3/8"x2" (standard hardware), to fasten clamp ring to support frame for 1200 amperes 25,000 volts and 2000 amperes 15,000 volts
47*	.....	24	Tap bolt, 3/8"x2 5/8" (standard hardware), to fasten clamp ring to support frame for 3000 amperes 15,000 volts
48*	.....	24	Positive lock washer, 1/4" (standard hardware), for tap bolt for 300 amperes 35,000 volts and 600 amperes 25,000 volts
49*	.....	24	Positive lock washer, 3/8" (standard hardware), for tap bolt for 1200 amperes 25,000 volts, 2000 amperes 15,000 volts and 3000 amperes 15,000 volts
50*	.....	24	Hexagon nut, 3/4" (standard hardware), for tap bolt, for 300 amperes 35,000 volts and 600 amperes 25,000 volts
51*	.....	24	Hexagon nut, 3/8" (standard hardware), for tap bolt, for 1200 amperes 25,000 volts, 2000 amperes 15,000 volts and 3000 amperes 15,000 volts
52*	211850	6	Spring washer for contact for 1200 amperes 25,000 volts
53*	201341	6	Spring washer for contact for 2000 amperes 15,000 volts
54*	422268	6	Spring washer for contact, top, for 3000 amperes 15,000 volts
55*	422212	12	Brass washer, to fit on both sides of spring washer for 1200 amperes 25,000 volts
56*	422244	12	Brass washer, to fit on both sides of spring washer for 2000 amperes 15,000 volts
57*	422267	12	Brass washer, to fit on both sides of spring washer for 3000 amperes 15,000 volts
58*	.....	12	Machine bolt, 1/2"x2 3/4" (standard hardware), for clamping ring halves for 3000 amperes 15,000 volts
59*	.....	12	Lock washer, 1/2" (standard hardware), for tap bolt for 3000 amperes 15,000 volts

*Not illustrated

MOVING CONTACTS AND DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	422169	3	Moving contact complete for 300 amperes 35,000 volts
1	422183	3	Moving contact complete for 600 amperes 25,000 volts
2	422206	3	Moving contact complete for 1200 amperes 25,000 volts
3	422233	3	Moving contact complete for 2000 amperes 15,000 volts
4	422255	3	Moving contact complete for 3000 amperes 15,000 volts
5	270751	3	Brush unit with plungers for 300 amperes 35,000 volts
5	270752	3	Brush unit with plungers for 600 amperes 25,000 volts
6	270752	6	Brush unit with plungers for 1200 amperes 25,000 volts
7	422234	3	Brush unit with plungers for 2000 amperes 15,000 volts
8	422316	6	Brush unit with plungers for 3000 amperes 15,000 volts
9*	182050	3	Brush unit without plungers for 300 amperes 35,000 volts
9*	174687	3	Brush unit without plungers for 600 amperes 25,000 volts
9*	174687	6	Brush unit without plungers for 1200 amperes 25,000 volts
9*	422317	3	Brush unit without plungers for 2000 amperes 15,000 volts
9*	422318	6	Brush unit without plungers for 3000 amperes 15,000 volts
10	205895	6	Arcing plunger for 300 amperes 35,000 volts
10	205579	6	Arcing plunger for 600 amperes 25,000 volts
11	174679	12	Arcing plunger for 1200 amperes 25,000 volts
12	193685	6	Arcing plunger for 2000 amperes 15,000 volts
13	205578	12	Arcing plunger for 3000 amperes 15,000 volts
14	188440	6	Arcing tip for 300 amperes 35,000 volts and 600 amperes 25,000 volts

*Not illustrated

MOVING CONTACTS AND DETAILS—Continued

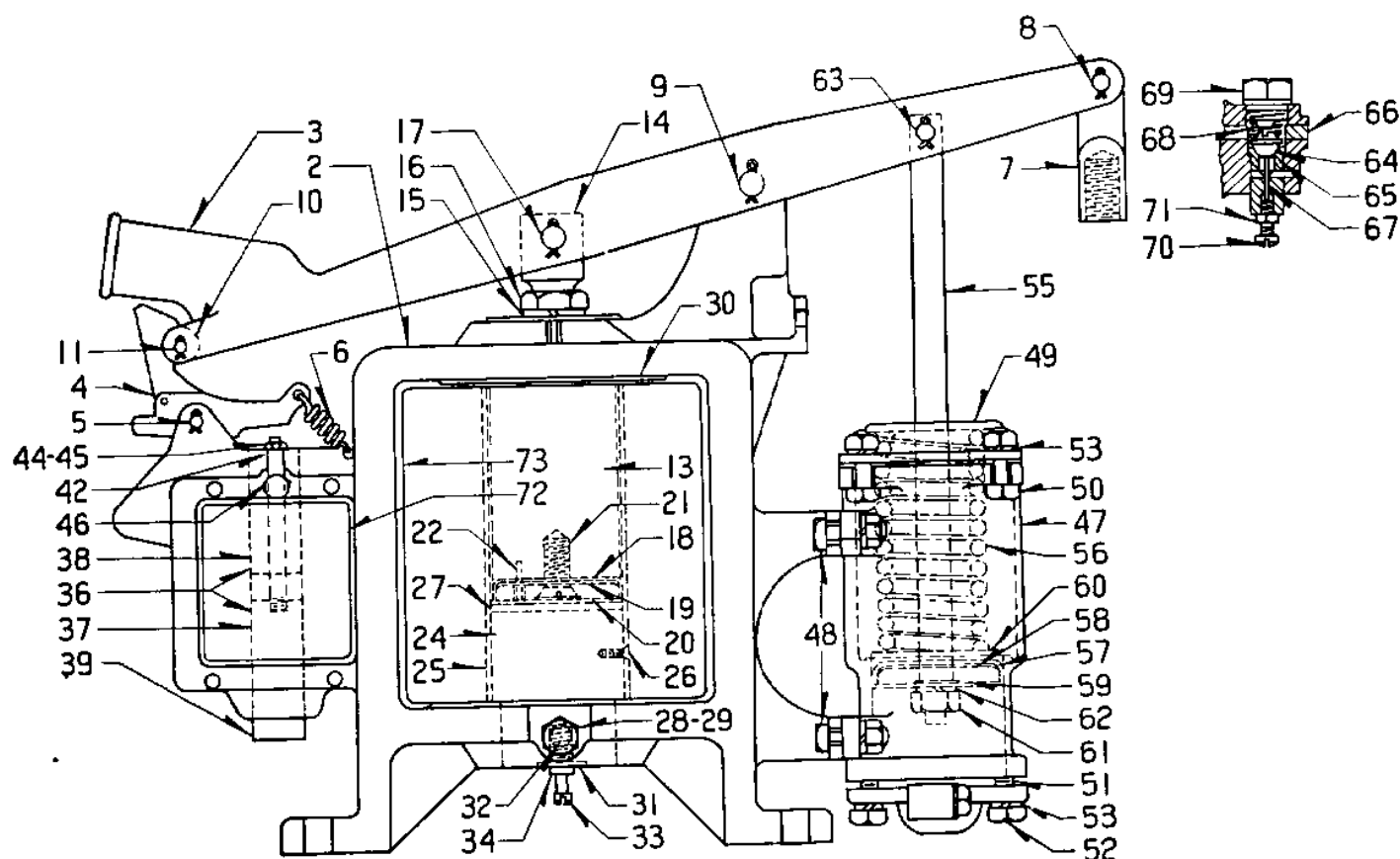
Illustrated on Page 10

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
15	219971	12	Arcing tip for 3000 amperes 15,000 volts
16	151217	6	Arcing plunger spring for 300 amperes 35,000 volts and 600 amperes 25,000 volts
16	151217	12	Arcing plunger spring for 1200 amperes 25,000 volts
17	422236	6	Arcing plunger spring for 2000 amperes 15,000 volts
17	422236	12	Arcing plunger spring for 3000 amperes 15,000 volts
18	179543	3	Shunt complete for 300 amperes 35,000 volts and 600 amperes 25,000 volts
18	179543	6	Shunt complete for 1200 amperes 25,000 volts
19	422235	3	Shunt complete for 2000 amperes 15,000 volts
20	422235	6	Shunt complete for 3000 amperes 15,000 volts
21*	201519	6	Shunt locking clip for 300 amperes 35,000 volts and 600 amperes 25,000 volts
22	75206	12	Nut to fasten shunt to plunger for 300 amperes 35,000 volts, 600 amperes 25,000 volts and 2000 amperes 15,000 volts
22	75206	24	Nut to fasten shunt to plunger for 1200 amperes 25,000 volts and 3000 amperes 15,000 volts
23	187090	3	Stick end for 300 amperes 35,000 volts and 600 amperes 25,000 volts
24	207061	3	Stick end for 1200 amperes 25,000 volts
25	422230	3	Stick end for 2000 amperes 15,000 volts
26	422258	3	Stick end for 3000 amperes 15,000 volts
27	178397	24	Spacers to fit between brush and stick end for 300 amperes 35,000 volts and 600 amperes 25,000 volts
28*	178397	60	Spacers to fit between brush and stick end for 1200 amperes 25,000 volts
29	.....	6	Tap bolt, $\frac{3}{8}$ "x $3\frac{3}{4}$ " (standard hardware), to fasten brush to stick end for 300 amperes 35,000 volts
29	.....	6	Tap bolt, $\frac{3}{8}$ "x $4\frac{3}{4}$ " (standard hardware), to fasten brush to stick end for 600 amperes 25,000 volts
30	.....	12	Tap bolt, $\frac{3}{8}$ "x $4\frac{3}{4}$ " (standard hardware), to fasten brush to stick end for 1200 amperes 25,000 volts
31	.....	6	Lock washer, $\frac{3}{8}$ " (standard hardware), for tap bolt for 300 amperes 35,000 volts and 600 amperes 25,000 volts
31	.....	12	Lock washer, $\frac{3}{8}$ " (standard hardware), for tap bolt, for 1200 amperes 25,000 volts
32	422170	3	Wooden lifting rod for 300 amperes 35,000 volts and 600 amperes 25,000 volts
33	422207	3	Wooden lifting rod for 1200 amperes 25,000 volts
34	422237	3	Strain rod complete for 2000 amperes 15,000 volts
35	422256	3	Strain rod complete for 3000 amperes 15,000 volts
36*	.....	3	Flat head iron wood screw, No. 14x $\frac{7}{8}$ " (standard hardware), to fasten rod in stick end for 3000 amperes 35,000 volts
37*	.....	3	Flat head iron wood screw, No. 12x $\frac{7}{8}$ " (standard hardware), to fasten rod in stick end for 600 amperes 25,000 volts
38*	.....	3	Flat head iron wood screw, No. 14x $1\frac{1}{4}$ " (standard hardware), to fasten rod in stick end for 1200 amperes 25,000 volts
39*	187091	3	Rod end for moving contact for 300 amperes 35,000 volts
39*	422204	3	Rod end for moving contact for 1200 amperes 25,000 volts
40*	188490	9	Rivet to fasten rod end to rod, for 300 amperes 35,000 volts and 600 amperes 25,000 volts
40*	422205	9	Rivet to fasten rod end to rod for 1200 amperes 25,000 volts
41*	193925	3	Pin for support frame and bumper for 300 amperes 35,000 volts and 600 amperes 25,000 volts
42	422232	3	Stud to connect stick end to strain rod for 2000 amperes 15,000 volts
42	421470	3	Stud to connect stick end to strain rod for 3000 amperes 15,000 volts
43*	26282	6	Adjusting headless set screw for 3000 amperes 15,000 volts
44*	422226	6	Pin to fasten strain rods to stud for 2000 amperes 15,000 volts
44*	422257	3	Pin to fasten strain rods to stud for 3000 amperes 15,000 volts
45	422231	3	Pin to prevent stick end from turning for 2000 amperes 15,000 volts
45	422259	3	Pin to prevent stick end from turning for 3000 amperes 15,000 volts
46*	63626	3	Pin to fasten brush to stick end for 2000 amperes 15,000 volts
46*	422271	3	Pin to fasten brush to stick end for 3000 amperes 15,000 volts
47*	422238	3	Steel lifting rod for 2000 amperes 15,000 volts
47*	422280	3	Steel lifting rod for 3000 amperes 15,000 volts
48*	.....	6	Lock washer, $\frac{3}{8}$ " (standard hardware), for arc plunger for 3000 amperes 15,000 volts
49*	.....	6	Lock nut, $\frac{5}{16}$ " (standard hardware), for set screw, for 3000 amperes 15,000 volts

*Not illustrated

ELECTRICAL OPERATING MECHANISM AND DETAILS



Reference No. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
For 600 to 2000 Ampere Breakers

Ref. No.	Style No.	No. Per Mechanism	Description
1	405132	..	Electrical operating mechanism complete
2	415438	1	Mechanism frame
3	415439	1	Main lever
4	273087	1	Trigger complete
5	109229	1	Pin, to fasten trigger to overload trip
6	140362	1	Spring, for trigger
7	248949	1	Rod end, for main lever
8	87679	1	Pin, to fasten rod end to main lever
9	276860	1	Pin, to fasten main lever to mechanism frame
10	271427	1	Steel roller, for main lever
11	63603	1	Pin, to fasten steel roller in main lever
12*	405588	1	Operating core complete
13	225439	1	Moving core only
14	253488	1	Eye bolt, for moving core
15	85635	1	Lock washer, for eye bolt
16	255993	1	Nut for eye bolt
17	63634	1	Pin, to fasten eye bolt to main lever
18	333085	1	Leather washer for closing moving core
19	189929	1	Expander for leather washer
20	271438	1	Follower for expander and leather washer
21	117211	1	Special flat head screw, to fasten leather, expander and follower to moving core
22	151006	1	Pin, to prevent leather, expander and follower from turning
23*	273334	1	Stationary core and brass sleeve complete
24	264230	1	Stationary core only
25	333083	1	Brass sleeve, for stationary core
26	.....	1	Flat head iron machine screw, No. 14-24x1/2" (standard hardware), to fasten brass sleeve to stationary core
27	.....	1	Flax packing 3/8" square x 13" long, for stationary core
28	.....	2	Tap bolt, 3/4"x3 1/2" (standard hardware), to fasten stationary core to mechanism frame
29	.....	2	Lock washer, 3/4" (standard hardware), for tap bolt
30	333086	3	Gasket, used between coil and frame
31	185454	1	Brass bushing, for valve
32	184519	1	Brass ball, for valve
33	277826	1	Brass adjusting screw, for valve
34	.....	1	Hexagon iron machine screw nut, No. 20-18 (standard hardware), for adjusting screw

*Not illustrated.

ELECTRICAL OPERATING MECHANISM AND DETAILS—Continued

Illustrated on Page 12

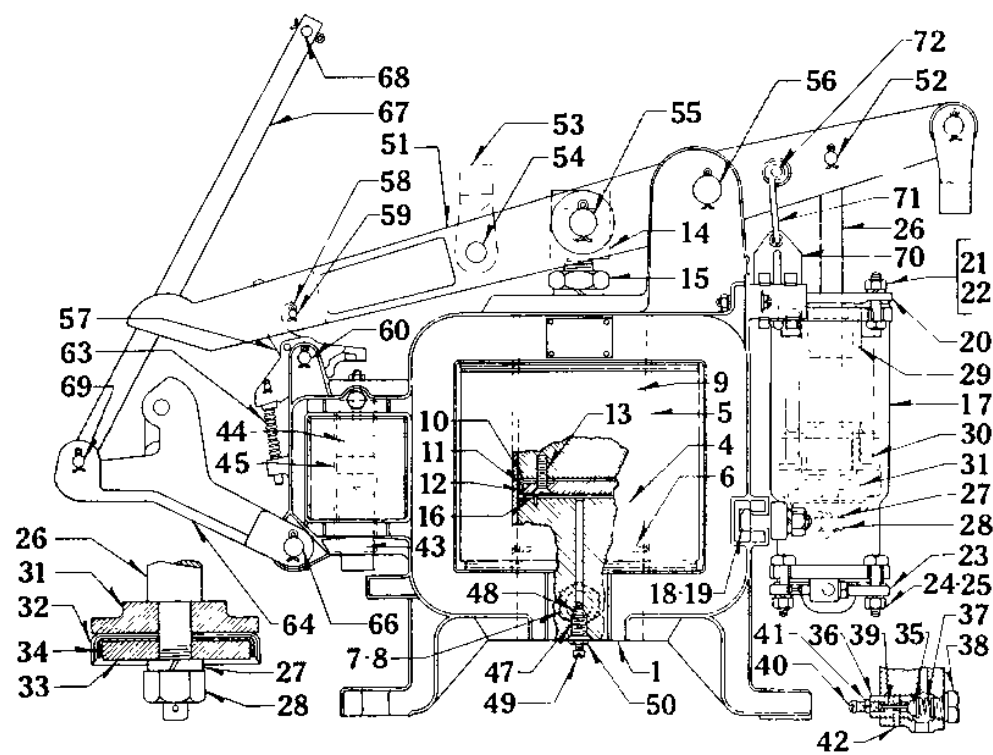
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION**For 600 to 2000 Ampere Breakers—Continued**

Ref. No.	Style No.	No. Per Mechanism	Description
35*	198929	1	Spring, for valve
36	184889	1	Shunt trip core complete
37	333125	1	Moving core
38	333124	1	Stationary core
39	333123	1	Brass sleeve, for stationary core
40*	.....	2	Flat head iron machine screw, No. 10-32x $\frac{3}{8}$ " (standard hardware), to fasten brass sleeve to stationary core
41*	385286	1	Moving core and stud
42	193688	1	Stud, for moving core or trip rod
43*	141901	1	Rivet, for trip rod
44	40646	1	Washer, for trip rod
45	46870	1	Nut, for trip rod
46	.....	1	Tap bolt, $\frac{1}{2}$ "x $\frac{3}{4}$ " (standard hardware), for shunt trip core
47	250114	1	Dash pot cylinder
48	.....	3	Tap bolt, $\frac{1}{2}$ "x $\frac{3}{4}$ " (standard hardware), to fasten dash pot cylinder to mechanism frame
49	277560	1	Cover, for dash pot
50	.....	4	Tap bolt, $\frac{1}{2}$ "x $\frac{3}{4}$ " (standard hardware), to fasten cover on dash pot
51	230342	1	Cylinder head, for dash pot
52	.....	4	Tap bolt, $\frac{1}{2}$ "x $\frac{3}{4}$ " (standard hardware), to fasten cylinder head to cylinder
53	.....	12	Lock washer, $\frac{1}{2}$ " (standard hardware), for tap bolts
54*	122532	2	Gasket, used between cylinder head and cylinder
55	283043	1	Plunger rod, for dash pot
56	122525	1	Compression spring, for dash pot
56A*	277554	2	Spring holder
56B*	277557	2	Collar for plunger rod
56C*	277548	2	Pin for collar
57	112506	1	Leather, for dash pot plunger rod
58	187120	1	Expander, for leather
59	277547	1	Follower for expander and leather
60	272649	1	Washer, for plunger rod
61	.....	1	Hexagon nut, $\frac{3}{4}$ " (standard hardware), for plunger rod
62	.....	1	Lock washer, $\frac{3}{4}$ " (standard hardware), for plunger rod
63	117200	1	Pin, to fasten dash pot plunger rod to main lever
64	185236	1	Valve, for dash pot
65	214139	1	Bushing, for valve
66	275056	1	Brass plug, for valve
67	187761	1	Pin, for valve
68	198929	1	Spring, for valve
69	68776	1	Cap nut, for valve
70	.....	1	Fillister head iron machine screw, No. 10-32x $\frac{1}{2}$ " (standard hardware), used as adjusting screw
71	40662	1	Nut, for adjusting screw
72†	.....	1	Trip coil
73†	.....	1	Closing coil
74*	216071	1	Signal switch complete (for details see page 15)
75*	263046	1	Fullerboard shield between switch and frame
76*	.....	2	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware) to mount switch on frame
77*	.....	2	Lock washer, $\frac{1}{4}$ " (standard hardware) for screw
78*	7443	2	Iron washer for screw
79*	384891	1	Link to operate signal switch
80*	323744	1	Stud for operating lever and signal switch link
81*	3272	1	Iron washer for screw

*Not illustrated

†When ordering coils, give control voltage and complete name plate reading of breaker.

ELECTRICAL OPERATING MECHANISM DETAILS—Continued



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
For 3000 Ampere Breakers

Ref. No.	Style No.	No. Per Breaker	Description
1	435516	1	Magnet frame
2*	.....	3	Machine bolt, 1"-8x5" (standard hardware), to fasten magnet in box
3*	.....	3	Lock washer, 1" (standard hardware), for bolt
4	435515	1	Stationary core
5	435513	1	Guide tube
6	.....	2	Flat head iron machine screw, No. 14-24 x 5/8" (standard hardware), to fasten stationary core to tube
7	.....	2	Tap bolt, 1 1/4"-7x4" (standard hardware), to fasten core to magnet frame
8	.....	2	Lock washer, 1 1/4" (standard hardware), for bolt
9	435514	1	Moving core for closing magnet
10	383353	1	Leather for moving core
11	383354	1	Expander for leather
12	405776	1	Follower for expander
13	109277	3	Screw to fasten leather, expander and follower to moving core
14	405777	1	Eye bolt for moving core
15	117037	1	Nut for eye bolt
16	409962	1	Washer for core
17	277563	1	Dash pot cylinder
18	.....	3	Machine bolt, 5/8"-11x2 5/8" (standard hardware), to fasten dash pot to magnet frame
19	.....	3	Lock washer, 5/8" (standard hardware), for bolt
20	277553	1	Cylinder cover
21	.....	4	Machine bolt, 1/2"-13x2" (standard hardware), to fasten cover to dash pot
22	.....	4	Lock washer, 1/2" (standard hardware), for bolt
23	230342	1	Cylinder head
24	.....	4	Machine bolt, 1/2"-13x2 1/4" (standard hardware), to fasten head to dash pot
25	.....	4	Lock washer, 1/2" (standard hardware), for bolt
26	277564	1	Piston rod
27	.....	1	Lock washer, 3/4" (standard hardware), for piston rod
28	.....	1	Lock nut, 3/4"-10 (standard hardware), for piston rod
29	277556	1	Spring holder
30	185303	1	Spring
31	272649	1	Piston
32	112506	1	Leather for piston
33	277547	1	Follower for leather
34	187120	1	Expander for leather
35	185236	1	Valve
36	214139	1	Valve bushing
37	198929	1	Valve spring
38	68776	1	Cap nut, for valve

*Not illustrated

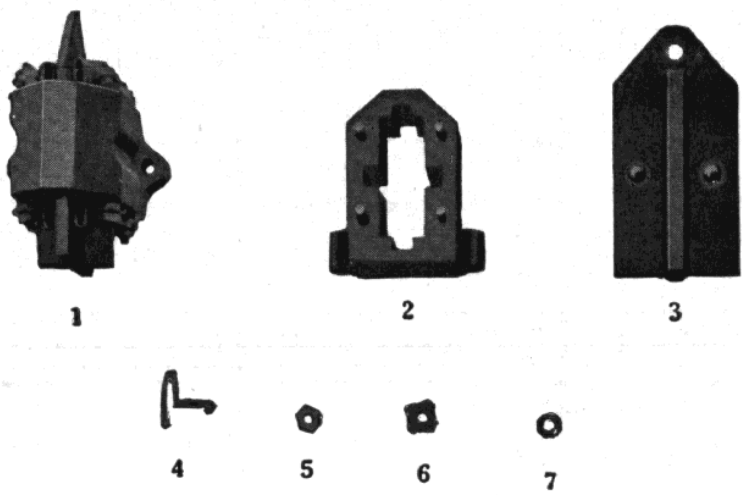
ELECTRICAL OPERATING MECHANISM DETAILS—Continued
For 3000 Ampere Breakers—Continued

Illustrated on Page 14

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
39	187761	1	Pin for valve
40	.....	1	Fillister head iron machine screw No. 10-32x $\frac{1}{2}$ " (standard hardware), to adjust pin
41	40662	1	Nut for screw
42	275056	1	Plug
43	333124	1	Stationary core, for tripping magnet
44	380008	1	Moving core complete with stud for tripping magnet
45	333123	1	Brass sleeve for core
46*	.....	2	Flat head iron machine screw, No. 10-32x $\frac{3}{8}$ " (standard hardware), to fasten stationary core to sleeve
47	185454	1	Ball screw valve
48	184519	1	Ball for valve
49	277826	1	Adjusting screw
50	.....	1	Hexagon nut, $\frac{5}{16}$ "-18 (standard hardware), for screw
51	432753	1	Main lever
52	117198	1	Connecting pin for main lever and dash pot plunger rod
53	248948	1	Rod end for lever
54	277562	1	Connecting pin for main lever and rod end
55	405785	1	Connecting pin for main lever and eye bolt for closing moving core
56	414788	1	Bearing pin for main lever and magnet frame
57	405772	1	Trigger and lever complete
58	277549	1	Trigger roller
59	405769	1	Bearing pin for trigger roller
60	63626	1	Bearing pin for trigger and magnet frame
61*	405780	1	Trigger guide rod
62*	405779	1	Rod end for trigger guide rod
63	396521	1	Spring for trigger
64	435525	1	Hand closing lever
65*	152460	1	Key for hand closing lever
66	379955	1	Bearing pin for closing lever and magnet frame
67	435531	1	Operating rod
68	405775	1	Pin for operating rod
69	299008	1	Hinge pin for operating rod and hand closing lever
70	216071	1	Signal switch complete (for details see below)
71	435535	1	Signal switch link
72	435534	1	Stud for link and main lever

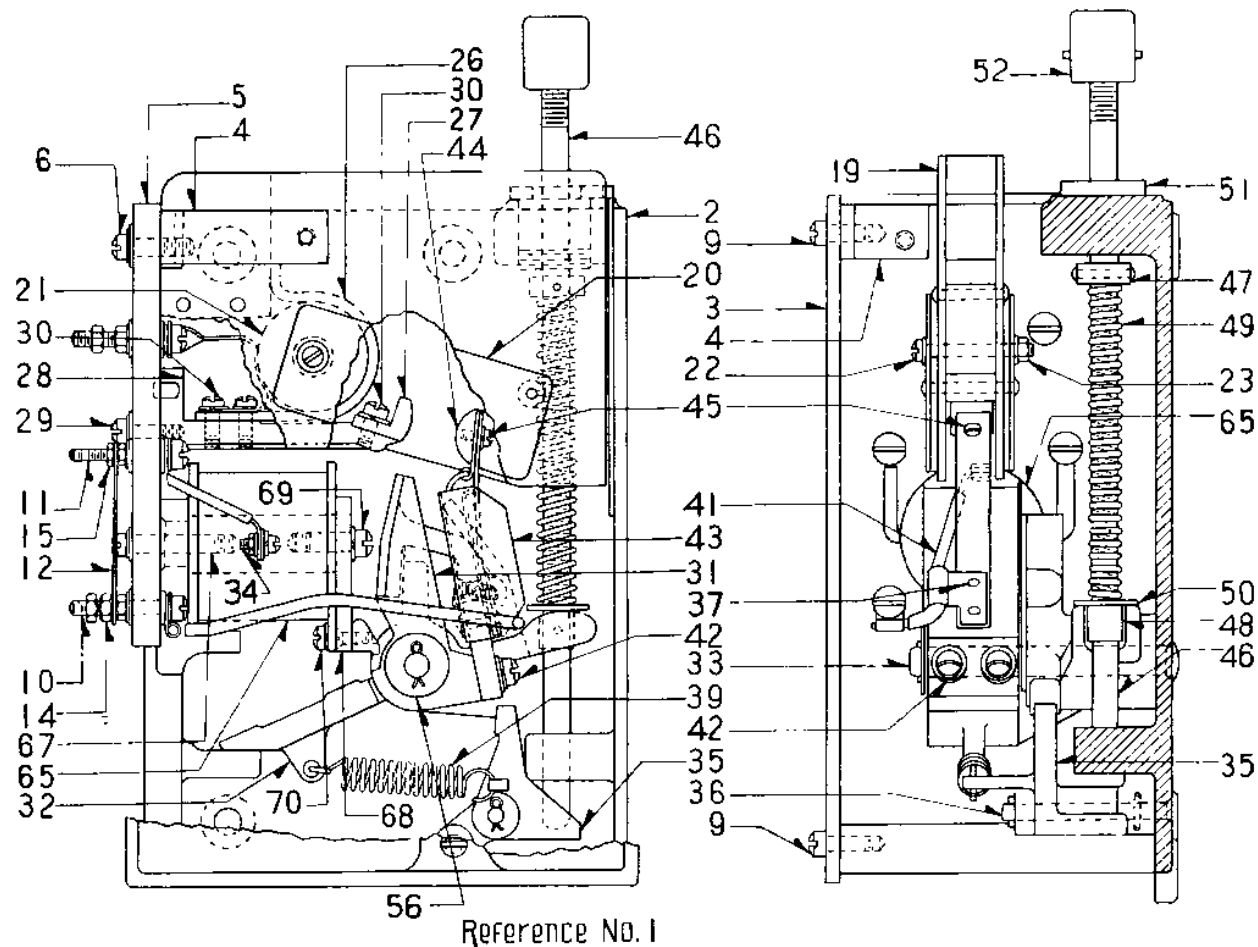
SIGNAL SWITCH AND DETAILS



1	216071	..	Signal switch complete
2	377723	1	Moulded composition switch body and studs
3	220996	1	Moulded composition plunger with contact pieces
4	220999	8	Phosphor bronze contact finger
5	40662	16	Hexagon brass contact nut
6	148425	8	Crimp washer, used with nut Ref. No. 5
7	.....	8	Lock washer, $\frac{1}{8}$ " (standard hardware), used with nut Ref. No. 5

*Not illustrated

CUT-OFF SWITCH AND DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Frame, Cover, Terminal Base and Details

Ref. No.	Style No.	No. Per Breaker	Description
1	277491	1	Cut-off switch complete
2	333519	1	Frame
3	333520	1	Cover
4	289919	1	Supporting bracket
5	333521	1	Terminal base
6	.....	2	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten cover support to terminal base
7*	7443	15	Iron washer for screw
8*	.....	10	Lock washer, $\frac{1}{4}$ " (standard hardware), for screw
9	.....	5	Fillister head iron machine screw, No. 14-24x $\frac{5}{8}$ " (standard hardware), to fasten cover to support and to frame
10	.....	2	Fillister head brass machine screw, No. 14-24x $1\frac{1}{4}$ " (standard hardware), used as a terminal stud
11	.....	2	Fillister head brass machine screw, No. 10-32x $1\frac{1}{4}$ " (standard hardware), used as a terminal stud
12	303949	1	Connection strap
13*	243981	2	Copper terminal
14	46868	5	Hexagon brass nut, to fasten connection strap and terminal on stud
15	40662	4	Hexagon brass nut, to fasten connection strap on terminal stud
16*	.....	8	Iron washer, $\frac{3}{16}$ " (standard hardware), for stud
17*	.....	6	Lock washer, $\frac{3}{16}$ " (standard hardware), for stud
18*	148425	6	Crimp washer

Arc Shield, Contact Tip and Details

19	333523	1	Arc shield with spacers and pole pieces
20	303944	2	Steel pole piece for arc shield
21	246392	1	Blowout coil
22	.....	1	Fillister head iron machine screw, No. 10-32x $1\frac{1}{2}$ " (standard hardware), to fasten blowout coil and pole pieces to arc shield
23	.....	1	Hexagon iron nut, for No. 10-32 machine screw
24*	.....	8	Lock washer (standard hardware), for No. 10-32 machine screw

*Not illustrated

CUT-OFF SWITCH AND DETAILS—Continued

Illustrated on Page 16

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Arc Shield, Contact Tip and Details—Continued

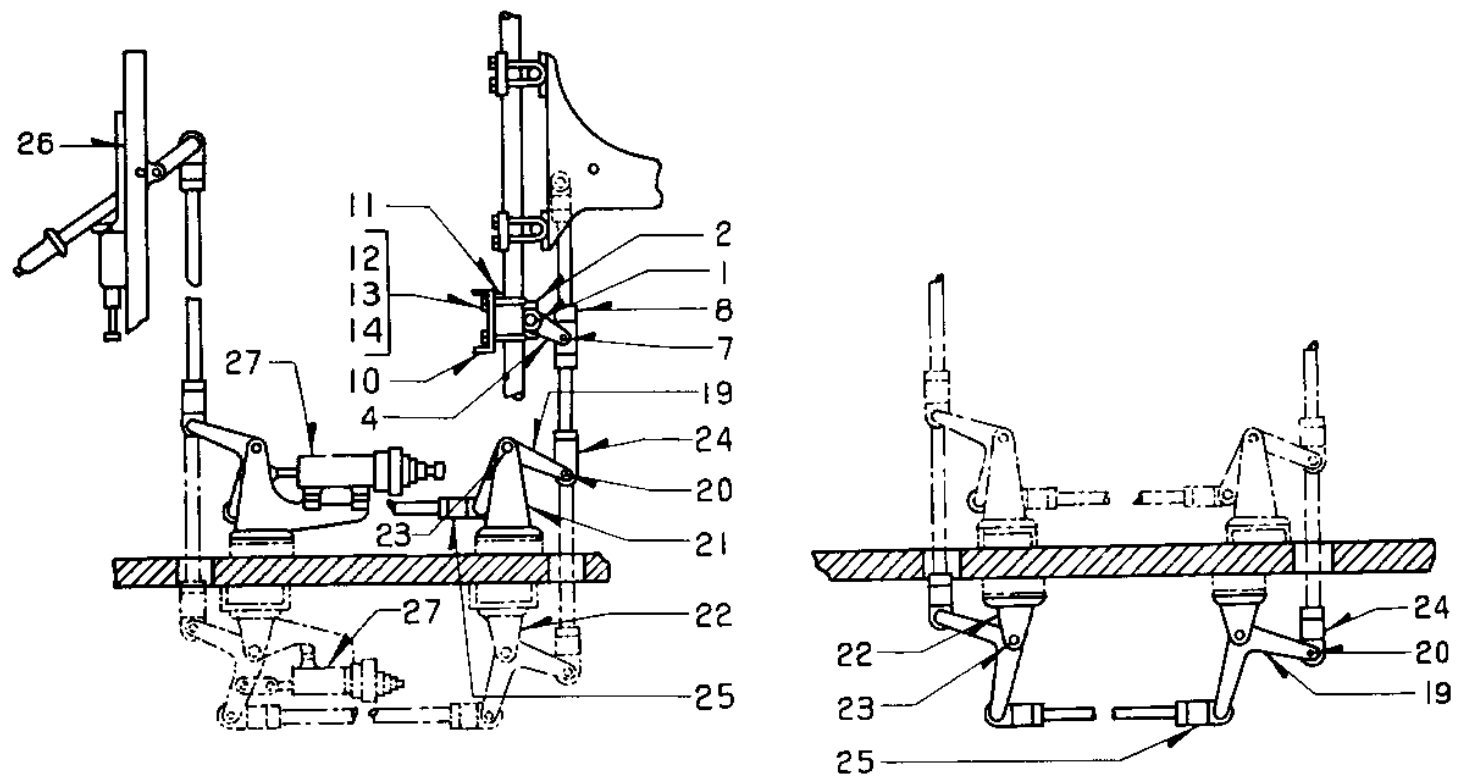
Ref. No.	Style No.	No. Per Breaker	Description
25*	246096	1	Blowout coil core
26	333524	1	Arcing horn
27	184665	1	Contact tip
28	301928	1	Contact support
29	.....	5	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten contact support to terminal base
30	.....	3	Fillister head brass machine screw, No. 10-32x $\frac{1}{2}$ " (standard hardware), to fasten arcing horn and contact tip to support

Armature, Trip Lever, Coil and Details

31	333525	1	Armature
32	333526	1	Trip lever
33	283044	1	Hinge pin, for armature and tripping lever
34	242860	2	Lead screw
35	282417	1	Tripping trigger
36	283045	1	Hinge pin, for tripping trigger
37	.....	2	Round head copper rivet, $\frac{1}{8}$ "x $\frac{5}{8}$ " (standard hardware), to fasten shunt clip
38*	283052	1	Compression spring
39	283053	1	Tension spring
40*	333527	1	Moving contact complete with block, shield, spring stop and clip
41	303948	1	Shunt with clips
42	.....	3	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten support to armature
43	333529	1	Arc shield
44	283048	1	Contact tip
45	.....	1	Fillister head brass machine screw, No. 10-32x $\frac{5}{16}$ " (standard hardware), to fasten contact tip and shunt to armature
46	283046	1	Trip rod
47	283049	1	Trip rod collar
48	283047	1	Trip rod spacer
49	283051	1	Compression spring
50	3428	1	Iron washer
51	301927	1	Hexagon brass nut
52	333531	1	Trip rod cap
53*	333530	1	Rivet to fasten collar on trip rod
54*	333532	1	Operating link
55*	2892	2	Iron washer for link
56	3427	2	Washer for pin Style No. 283044
57*	333533	1	Switch lever
58*	85531	2	Hinge pin, for link and switch lever
59*	87679	1	Hinge pin, for switch lever
61*	333534	1	Connection strap
62*	63628	1	Hinge pin, for bell crank and connection strap
63*	63619	1	Hinge pin, for switch lever and connection strap
64*	3428	2	Washer for pin Style No. 63628
65	241961	1	Cut-off switch coil
66*	283054	1	Cut-off switch core
67	.....	1	Fillister head iron machine screw, No. 14-24x1 $\frac{1}{4}$ " (standard hardware), to fasten coil core to terminal base
68	333535	1	Pole piece
69	.....	3	Fillister head iron machine screw, No. 14-24x $\frac{3}{4}$ " (standard hardware), to fasten pole piece to coil core
70	.....	1	Fillister head iron machine screw, No. 8-32x $\frac{1}{2}$ " (standard hardware), to fasten pole piece to trip coil washer
71*	125680	1	Lock washer for machine screw
72*	216071	1	Signal switch complete, for details see page 15
73*	333518	1	Operating link
74*	.....	1	Spring cotter, $\frac{1}{16}$ "x $\frac{3}{4}$ " (standard hardware), for link

*Not illustrated

OPERATING SHAFTS, BELL CRANKS AND DETAILS
For Hand Operated, Automatic or Non-Automatic, Pipe Mounted, Shaft and Bearings Pipe Mounted, Bell Cranks Above or Below Floor, 3 Pole



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Operating Shaft and Details for 300 and 600 Ampere Breakers

Ref. No.	Style No.	No. Per Breaker	Description
1	194574	1	Main operating shaft
2	185353	3	Bearing for shaft
3*	.....	9	Machine bolt, 1/2"-13x1 1/2" (standard hardware), to fasten bearing to channel iron support
4	185952	4	Lever for operating rod and breaker pull rod
5*	.....	8	Tap bolt, 3/8"-16x2 1/2" (standard hardware), for lever
6*	.....	8	Hexagon nut, 3/8"-16 (standard hardware), for bolt
7	65150	4	Connection pin for lever and rod end
8	72281	4	Adjustable rod end for breaker pull rod and operating rod
9*	84110	4	Key for lever and shaft
10	422177	1	Channel iron support for bearing
11	422176	2	Mounting clamp piece for channel iron support and pipe
12	176939	4	U-bolt to clamp channel iron support to pipe
13	.....	8	Hexagon iron nut, 1/2"-13 (standard hardware), for U-bolt
14	.....	8	Lock washer, 1/2" (standard hardware), for U-bolt

Operating Shaft and Details for 1200 Ampere Breakers

1	422221	1	Main operating shaft
2	422218	3	Bearing for shaft
3*	.....	6	Machine bolt, 1/2"-13x1 1/2" (standard hardware), to fasten bearing to channel iron support
4	422219	3	Lever for breaker pull rod
5*	.....	6	Tap bolt, 5/8"-11x2 1/2" (standard hardware), for lever
6*	.....	6	Lock washer, 1/2" (standard hardware), for tap bolts
7	85531	3	Connection pin for lever and pull rod
8	72281	4	Adjustable rod end for breaker pull rod and operating rod
9*	32128	4	Key for levers and shaft
10	422223	1	Channel iron support for bearing
11	422176	3	Mounting clamp piece for channel iron support and pipe
12	176939	6	U-bolt to clamp channel iron support to pipe
13	.....	12	Hexagon nut, 1/2" (standard hardware), for U-bolt
14	.....	12	Lock washer, 1/2" (standard hardware), for U-bolt
15*	422220	1	Lever for operating rod
16*	.....	4	Tap bolt, 1/2"-13x2 1/4" (standard hardware), for lever
17*	.....	4	Lock washer, 1/2" (standard hardware), for bolt
18*	63622	1	Connection pin for lever and operating rod

*Not illustrated.

OPERATING SHAFTS, BELL CRANKS AND DETAILS—Continued
For Hand-Operated, Automatic or Non-Automatic, Pipe Mounted, Shaft and
Bearings Pipe Mounted, Bell Cranks Above or Below Floor, 3-Pole

Illustrated on Page 18

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

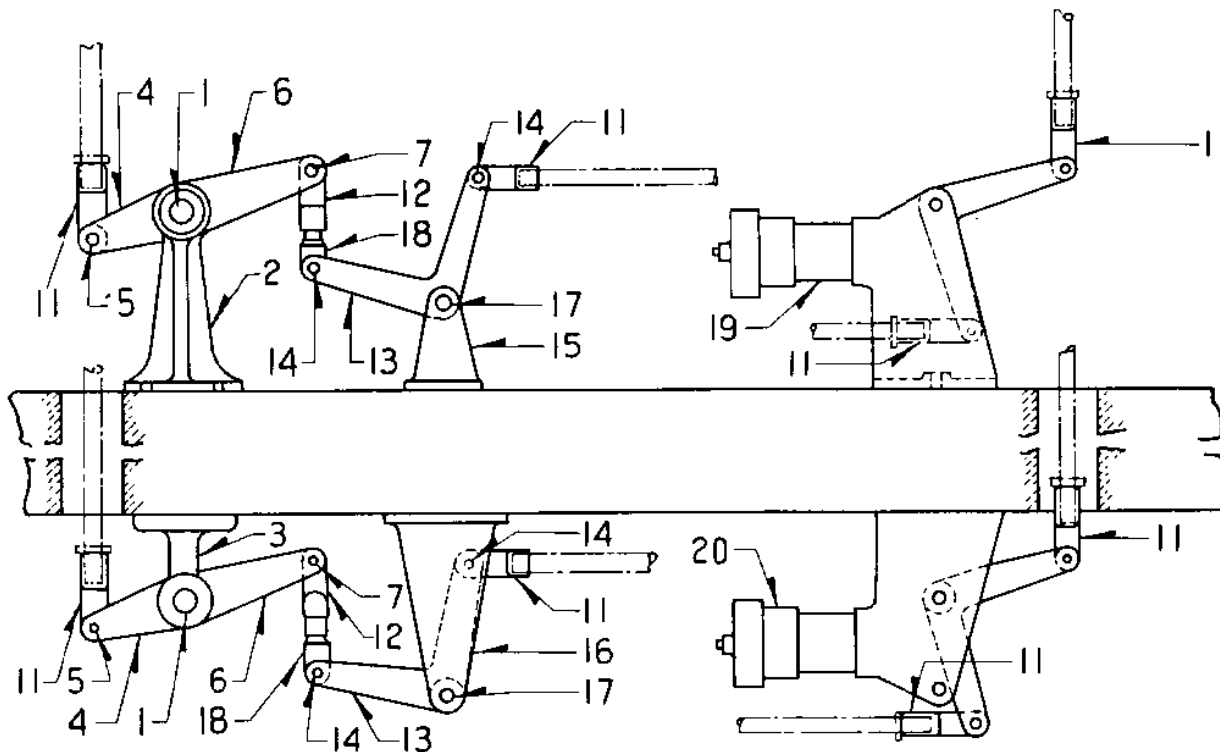
Bell Cranks and Details for 300, 600 and 1200 Ampere Automatic Breakers
Above and Below Floor Mountings

Ref. No.	Style No.	No. Per Breaker	Description
19	220359	1	Bell crank
20	83813	2	Connection pin for bell crank and rod end
21	272859	1	Bracket for bell crank above floor
22	272858	1	Bracket for bell cranks below floor
23	125685	1	Bearing pin for bell crank
24	83129	1	Non-adjustable rod end
25	72281	1	Adjustable rod end
26	208929	1	Cover plate (see page 23 for details)
27	210527	1	Accelerating device for above floor (see page 22 for details)
27	208925	1	Accelerating device for below floor (see page 22 for details)

Bell Cranks and Details for 300, 600 and 1200 Ampere Non-Automatic Breakers
Above and Below Floor Mountings

19	220359	2	Bell crank
20	83813	4	Connection pin for bell cranks and rod end
21	272859	2	Bracket for bell crank for above floor
22	272858	2	Bracket for bell crank for below floor
23	125685	2	Bearing pin for bell crank
24	83129	2	Non-adjustable rod end
25	72281	2	Adjustable rod end
26	255857	1	Cover plate (see page 23 for details)

For Hand or Electrically Operated, Automatic or Non-Automatic, Pipe or Wall
Mounted, Shaft Above or Below Floor, Bell Cranks and Bearings Above
or Below Floor, 3 Pole, 300, 600, 1200 Ampere Breakers



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	422181	1	Main operating shaft
2	422178	3	Bearing for shaft for above floor mounting
3	69779	3	Bearing for shaft for below floor mounting
4	185952	3	Lever for breaker pull rods
5	65150	3	Connection pin for lever and rod end
6	421991	1	Lever for bell crank connection
7	65150	1	Connection pin for lever and rod end

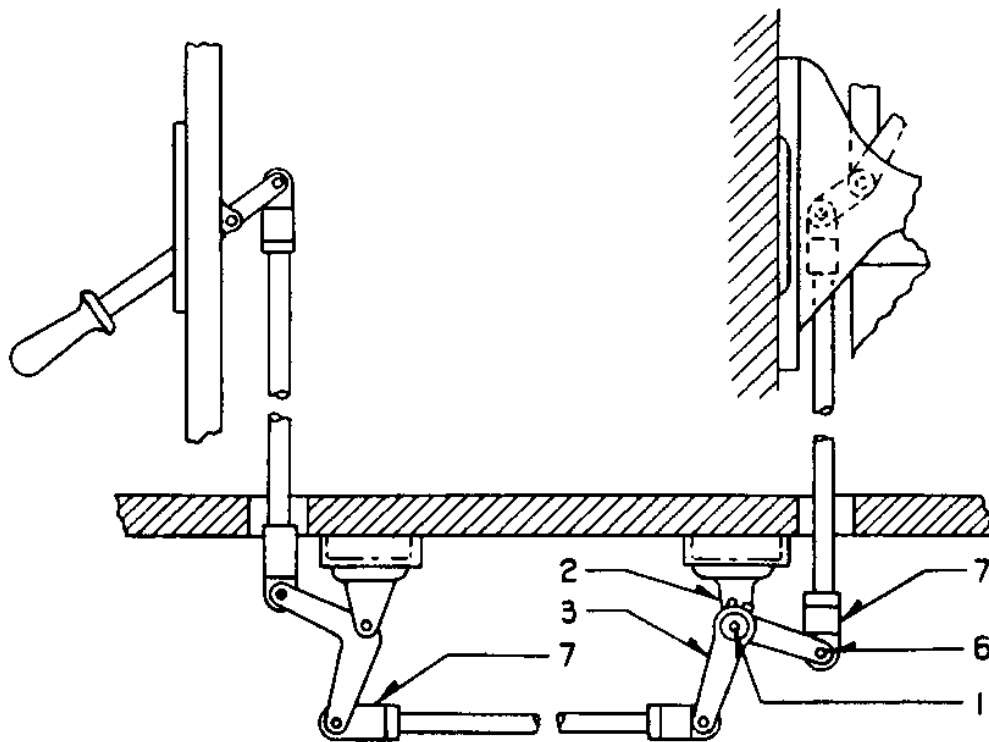
OPERATING SHAFTS, BELL CRANKS AND DETAILS—Continued
For Hand or Electrically Operated, Automatic or Non-Automatic, Shaft Above
or Below Floor, Bell Cranks and Bearings Above or Below Floor, 3 Pole,
300, 600 and 1200 Ampere Breakers

Illustrated on Page 19

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
8*	.....	8	Tap bolt, $\frac{3}{8}$ "-16x2 $\frac{1}{2}$ " (standard hardware), to clamp lever to shaft
9*	.....	8	Hexagon nut, $\frac{3}{8}$ "-16 (standard hardware), for bolt
10*	84110	4	Key for lever and shaft
11	72281	5	Adjustable rod end for breaker pull rods and operating rods
12	83129	1	Non-adjustable rod end for bell crank connection
13	220359	1	Bell crank
14	83813	1	Connection pin for bell crank and socket
15	272858	1	Bracket for bell crank for above floor mounting
16	272857	1	Bracket for bell crank for below floor mounting
17	125685	1	Bearing pin for bell crank
18	241492	1	Socket for bell crank and rod end
19	210527	1	Accelerating device for above floor mounting (see page 22 for details)
20	208925	1	Accelerating device for below floor mounting (see page 22 for details)

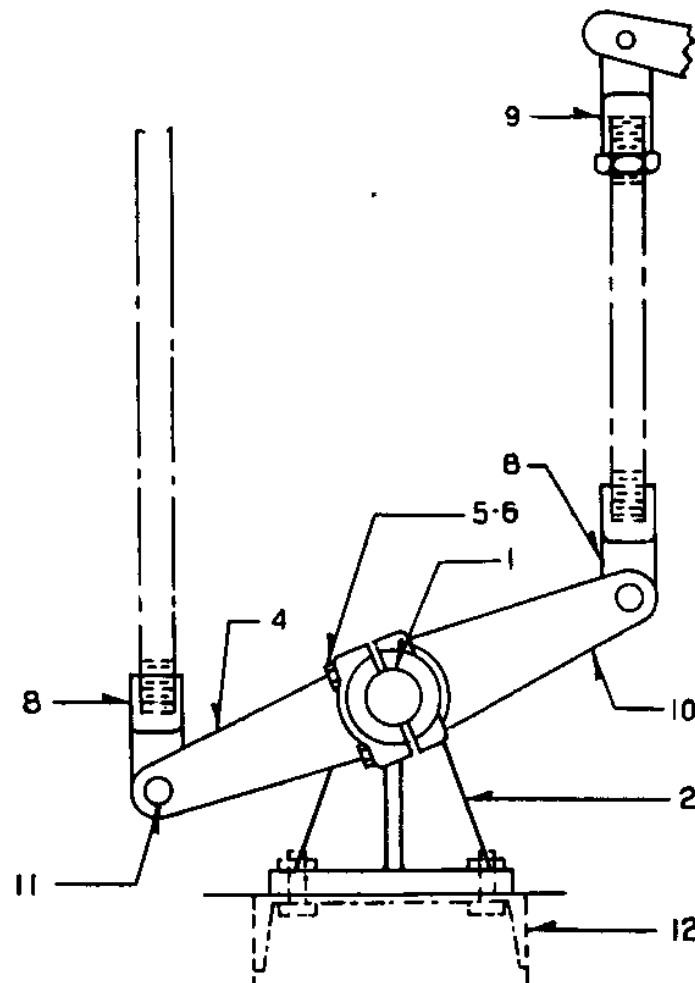
For Hand Operated, Non-Automatic, Remote Control, Wall Mounted,
300, 600 and 1200 Ampere Breakers, Below Floor



Ref. No.	Style No.	No. Per Breaker	Description
1	422180	1	Main operating shaft
2	69779	3	Main operating shaft bearing complete
3	185952	4	Main operating lever complete
4*	.....	8	Tap bolt, $\frac{3}{8}$ "-16x2 $\frac{1}{2}$ " (standard hardware), for lever
5*	.....	8	Hexagon nut, $\frac{3}{8}$ "-16 (standard hardware), for bolt
6	65150	4	Pin to connect rod end to lever
7	72281	4	Adjustable rod end
8*	84110	4	Key to fasten lever on shaft

*Not illustrated.

OPERATING SHAFT AND MOUNTING DETAILS



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION For 2000 Ampere Breakers Only

Remote Control Mechanism for Wall or Pipe Mounting Electrically Operated 3 Pole

Ref. No.	Style No.	No. Per Breaker	Description
1	422246	1	Operating shaft
2	422218	4	Bearing for shaft
3*	.....	8	Tap bolt, 1/2"-13x1 3/4" (standard hardware), for bearing
4	422245	3	Lever for breaker operating rods
5	.....	16	Tap bolt, 1/2"-13x2 1/2" (standard hardware), for lever
6	.....	16	Lock washer, 1/2" (standard hardware), for bolt
7*	32128	4	Key for lever and shaft
8	422254	4	Rod end for levers and operating rods
9	248948	1	Rod end for electrical mechanism lever
10	422245	1	Lever for electrical mechanism operating rod
11	63621	4	Connection pin for levers and rod ends
12	422276	1	Channel iron support

Parts for Pipe Mounting Only

13*	174078	12	U-bolt
14*	.....	24	Iron washer, 5/8" (standard hardware), for U-bolt
15*	.....	24	Hexagon nut, 5/8"-11 (standard hardware), for U-bolt

Remote Control Mechanism for Wall or Pipe Mounting, Electrically Operated 3000 Ampere, 3 Pole

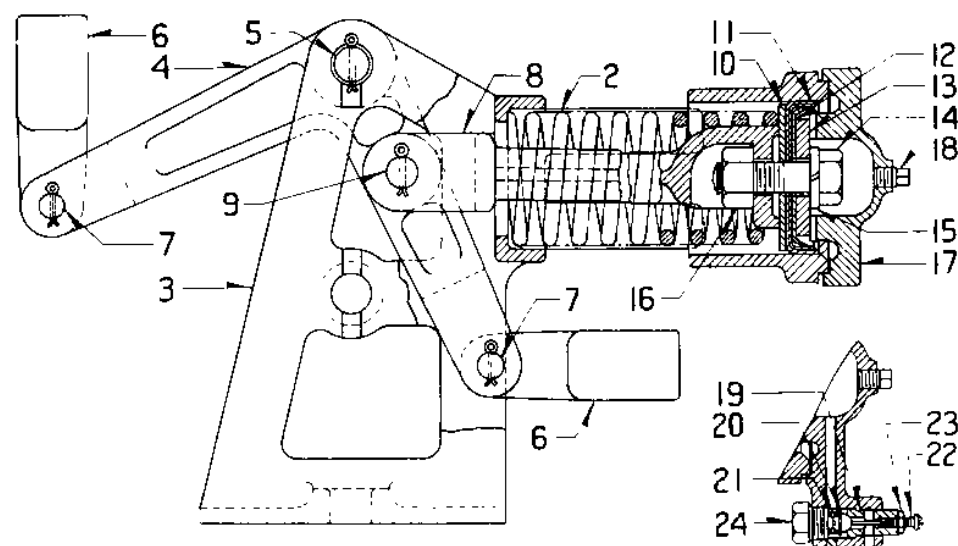
1	422275	1	Main operating shaft
2	422272	4	Bearing complete
3*	.....	16	Tap bolt, 1/2"-13x2 1/2" (standard hardware), for bearing
4	422273	3	Lever complete for breaker operating rods
5	.....	16	Tap bolt, 1/2"-13x2 3/4" (standard hardware), for lever
6	.....	16	Lock washer, 1/2" (standard hardware), for tap bolt
7*	41002	4	Key to fasten lever to shaft
8	422254	4	Rod end for levers for operating rods
9	248948	1	Rod end for electrical mechanism lever
10	422274	1	Lever complete for electrical mechanism operating rod
11	63621	4	Connection pin for levers and rod ends
12	422276	1	Channel iron support

Parts for Pipe Mounting Only

13*	174078	12	U-bolt
14*	.....	24	Wrought iron washer, 5/8" (standard hardware), for U-bolt
15*	.....	24	Hexagon nut, 5/8" (standard hardware), for U-bolt

*Not illustrated

ACCELERATING DEVICES AND DETAILS
For Hand Operated Breakers



REFERENCE NO. 1

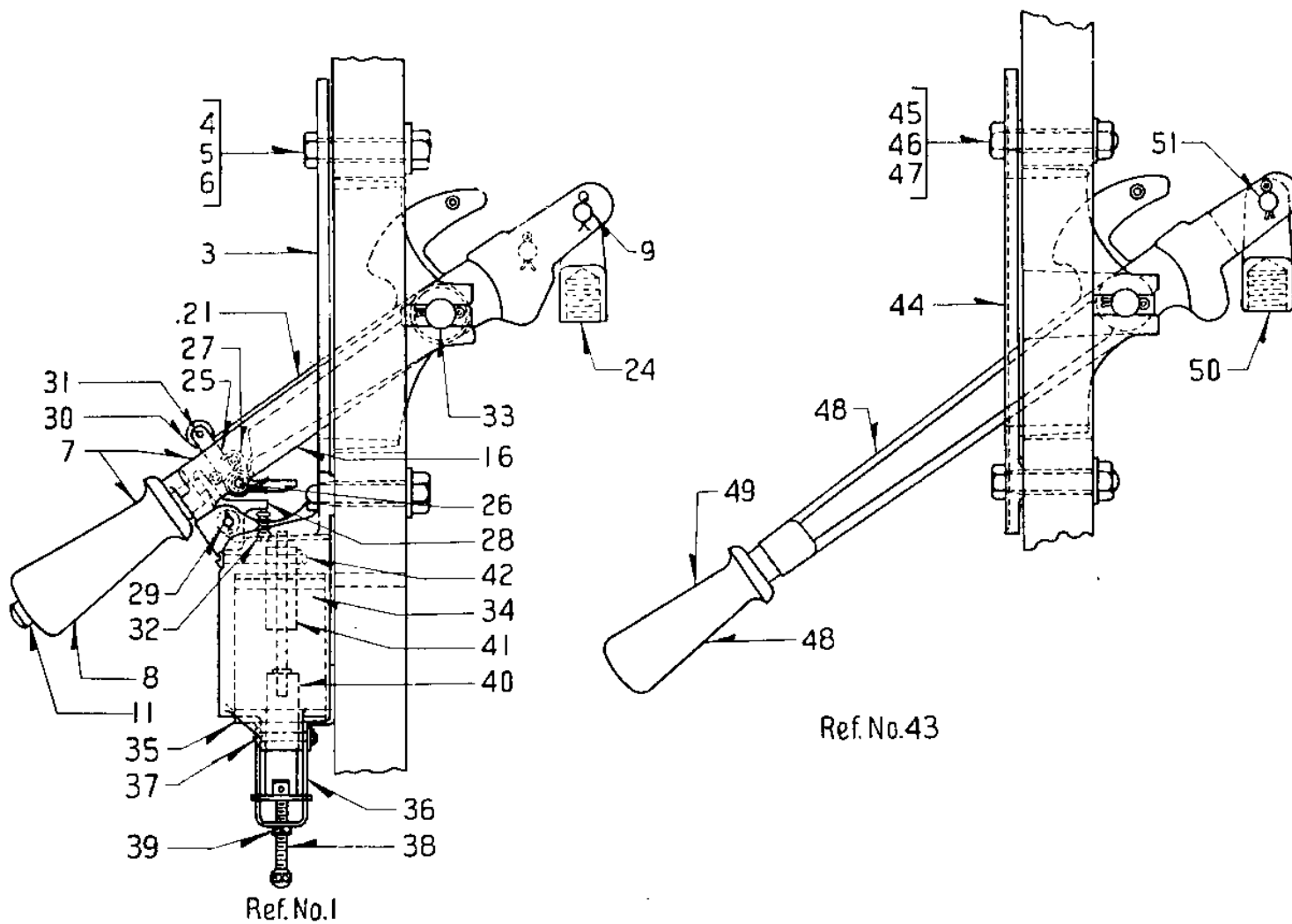
ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

Ref. No.	Style No.	No. Per Breaker	Description
1	210527	1	Accelerating device complete for above floor mounting
1	208925†	1	Accelerating device complete for below floor mounting
2	219335	1	Compression spring
3	220358	1	Cast iron bearing bracket
4	220359	1	Bell crank
5	88354	1	Bell crank shaft
6	72281	2	Rod end
7	83813	2	Rod end shaft
8	333489	1	Cast iron piston rod
9	63623	1	Cast iron piston rod shaft
10	220360	1	Spring seat washer
11	112502	1	Set of piston leathers
12	63710	1	Piston leather expander
13	189652	1	Piston follower
14	.....	1	Tap bolt, 5/8"x2" (standard hardware), to fasten piston leathers, expander and follower to piston rod
15	.....	1	Lock washer, 5/8" (standard hardware), for bolt
16	.....	1	Hexagon iron nut, 5/8"-11 (standard hardware), for bolt
17	186307	1	Cylinder head cover
18	.....	1	Pipe plug, 1/8" (standard hardware), for cylinder head cover
*	.....	4	Machine bolt, 3/8"x2 (standard hardware), for cylinder head cover
*	185750	1	Brass plug for cylinder head cover
*	113315	2	Paper gasket for cylinder head cover
19	214139	1	Brass valve bushing
20	185236	1	Brass valve and stem
21	198929	1	Valve spring
22	.....	1	Fillister head iron machine screw, No. 10-32x1/2" (standard hardware), for adjusting valve
23	40662	1	Nut for screw
24	68776	1	Valve cap nut

*Not illustrated

†Same as Style No. 210527 except crank mounted in lower hole of bracket.

COVER PLATES, HANDLES, TRIPPING LEVERS AND DETAILS
For Automatic and Non-Automatic Breakers



ORDER PARTS BY STYLE NUMBER AND DESCRIPTION
For Automatic Breakers

Ref. No.	Style No.	No. Per Breaker	Description
1	208929	1	Cover plate complete with coil
2*	209835	1	Cover plate without coil
3	226547	1	Cover plate casting
4	.....	3	Tap bolt, 1/2"-13x3" (standard hardware), to mount cover plate
5	.....	3	Hexagon iron nut, 1/2"-13 (standard hardware), for bolt
6	2892	3	Washer for bolt
7	272568	1	Handle lever complete
8	94770	1	Handle grip complete
8	114187	1	Handle grip only
9	172132	1	Shaft to fasten rod end to handle lever
10*	114241	1	Stud for handle grip
11	75971	1	Push button
12*	193915	1	Push rod
13*	114185	1	Collar stop
14*	114186	1	Rivet for stop
15*	100500	1	Spring for push rod
16	276771	1	Side bar, right hand
17*	276772	1	Side bar, left hand
18*	193914	4	Rivet for side bar
19*	276773	1	Trigger block
20*	276774	1	Handle block
21	276777	1	Trip lever casting
22*	229312	1	Tip for trip lever
23*	.....	2	Flat head iron machine screw, No. 6-32x3/8" (standard hardware), to fasten tip to casting
24	83129	1	Rod end
25	276768	1	Latch
26	85760	1	Shaft for latch
27	72065	1	Spring for latch
28	282390	1	Handle lever trigger complete
28	377531	1	Handle lever trigger casting
29	97988	1	Shaft for handle lever trigger
30	226532	1	Roller for latch
31	63591	1	Shaft for roller

*Not illustrated

COVER PLATES, HANDLES, TRIPPING LEVERS AND DETAILS—Continued
For Automatic and Non-Automatic Breakers

Illustrated on Page 23

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

For Automatic Breakers—Continued

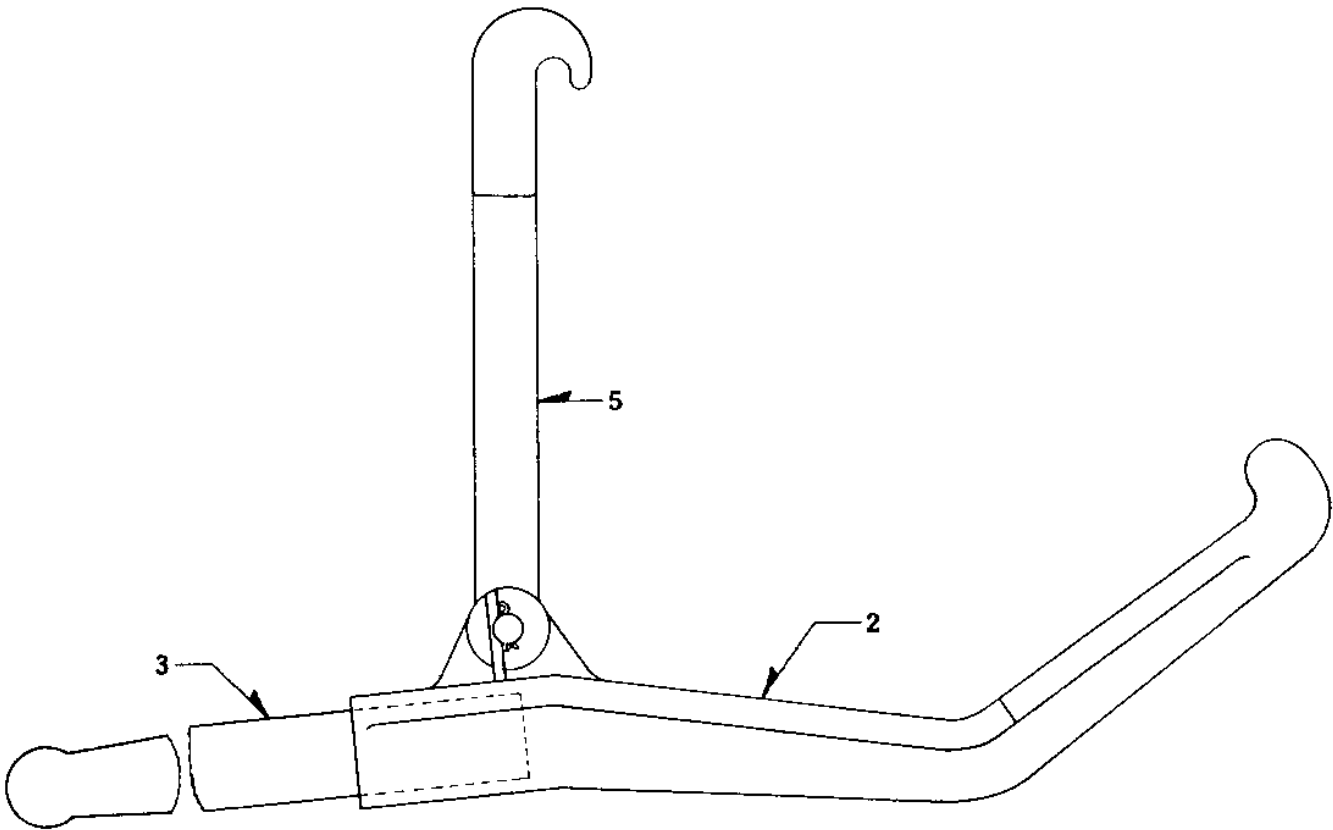
Ref. No.	Style No.	No. Per Breaker	Description
32	276775	1	Spring for trigger
33	215198	1	Shaft for trip lever
34	224185	2	Coil
35	88828	2	Bracket used as coil seat
36	219614	2	Moving core guide
37	.....	4	Round head stove bolt, $\frac{3}{16}$ " x $1\frac{1}{2}$ " (standard hardware), for moving core guide
38	88829	2	Adjusting screw
39	.....	2	Hexagon iron nut, No. 14-24 (standard hardware), for screw
40	126283	2	Moving core
41	214136	2	Stationary core
42	.....	4	Round head stove bolt, $\frac{3}{16}$ " x $2\frac{1}{4}$ " (standard hardware), for stationary core

For Non-Automatic Breakers

43	255857	1	Cover plate complete
44	215128	1	Cover plate casting
45	.....	3	Tap bolt, $\frac{1}{2}$ "-13x3" (standard hardware), to mount cover plate
46	.....	3	Hexagon iron nut, $\frac{1}{2}$ "-13 (standard hardware), for bolt
47	2892	3	Washer for screw
48	209763	1	Handle lever complete
48	240519	1	Handle lever casting
49	44927	1	Handle grip complete
50	83129	1	Rod end for handle lever
51	172132	1	Shaft to fasten rod end to handle lever

TANK LIFTER AND DETAILS

For 300, 600 and 1200 Ampere Breakers

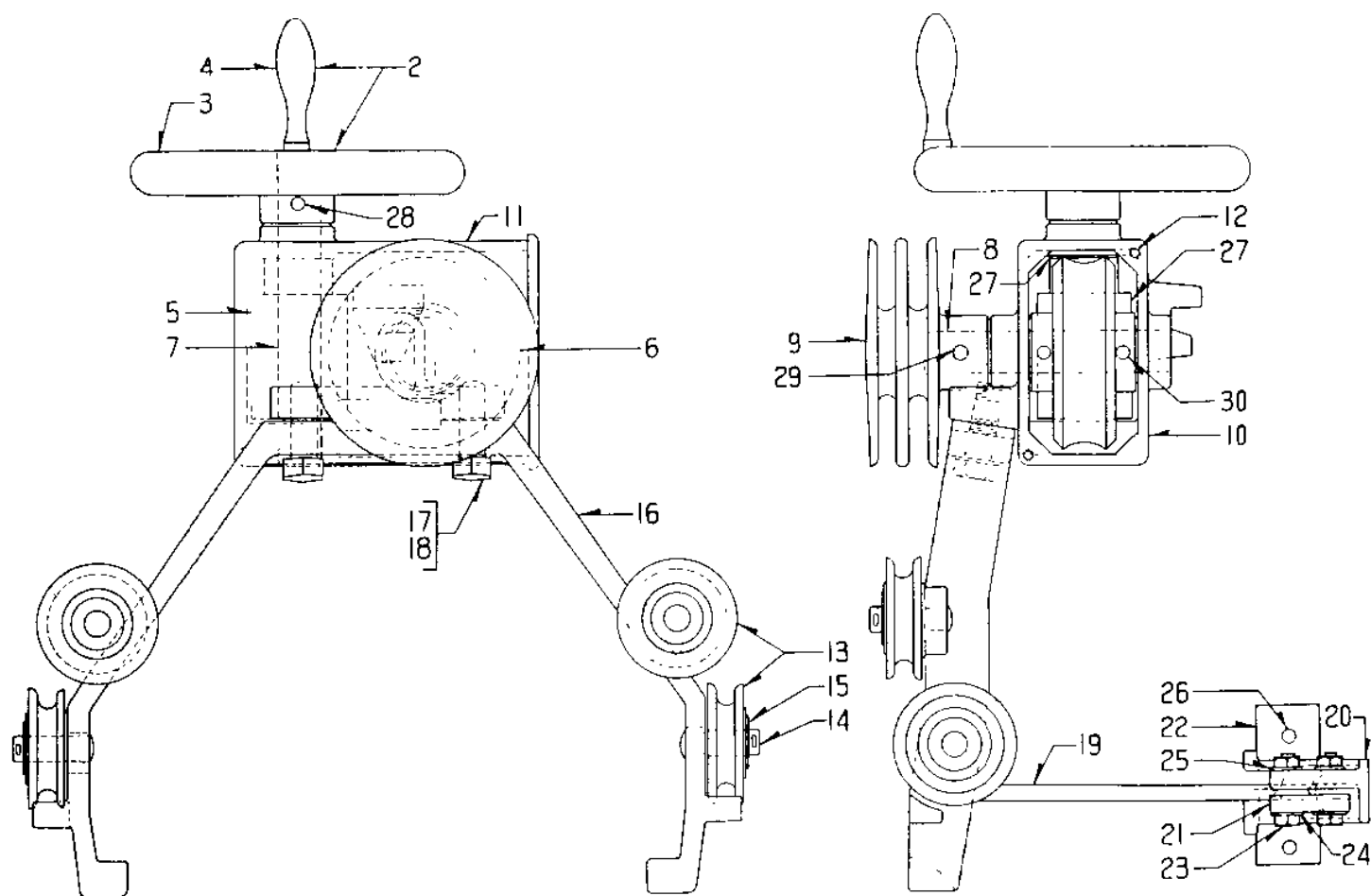


REFERENCE NO. 1

1	276437	1	Tank lifter complete
2	422174	1	Tank lifter casting
3	199488	1	Wooden handle
4*	63634	1	Pin to fasten handle in casting
5	422175	1	Tank lifter link

*Not illustrated

TANK LIFTER AND DETAILS—Continued



REFERENCE NO. 1

ORDER PARTS BY STYLE NUMBER AND DESCRIPTION

For 2000 and 3000 Ampere Breakers

Ref. No.	Style No.	No. Per Breaker	Description
1	273988	1	Tank lifter complete
2	422195	1	Hand wheel complete
3	422196	1	Hand wheel
4	422197	1	Handle for wheel
5	301710	1	Worm
6	301709	1	Worm wheel
7	422192	1	Shaft for worm and hand wheel
8	422193	1	Shaft for worm wheel and cable sheave
9	422189	1	Cable sheave
10	422188	1	Gear cover
11	422187	1	Gear case
12	.....	2	Fillister head iron machine screw, No. 14-24x $\frac{1}{2}$ " (standard hardware), to fasten cover to case
13	305858	4	Pulley for cable
14	299009	4	Shoulder pin for pulley
15	3429	4	Washer for shoulder pin
16	422194	1	Supporting arm
17	.....	2	Tap bolt, $\frac{5}{8}$ "-11x2" (standard hardware), to fasten support arm to worm case
18	.....	2	Lock washer, $\frac{5}{8}$ " (standard hardware), for tap bolt
19	.....	1	Single galvanized 7 wire steel cable $\frac{3}{8}$ "x12'6"
20	422190	2	Tank hook
21	422191	2	Clamp for hook
22	422186	2	Hook guide
23	.....	4	Machine bolt, $\frac{5}{16}$ "-18x1 $\frac{1}{2}$ " (standard hardware), to fasten hook and clamp together
24	3272	4	Washer for machine bolt
25	.....	4	Lock washer, $\frac{5}{16}$ " (standard hardware), for machine bolt
26	.....	10	Flat head iron rivet, $\frac{1}{4}$ "x1 $\frac{1}{4}$ " (standard hardware), to fasten hook guide and hook
27	180231	10	Spacing washer for vent
28	.....	2	Taper pin, No. 5x2" (standard hardware), to fasten hand wheel to shaft
29		1	Taper pin, No. 6x2" (standard hardware), to fasten cable sheave to shaft
30		2	Taper pin, No. 4x2" (standard hardware), to fasten worm wheel to shaft

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333533.....	17	422190.....	25	422255.....	10	422317.....	10
333534.....	17	422191.....	25	422256.....	11	422318.....	10
333535.....	17	422192.....	25	422257.....	11	422319.....	7
377531.....	23	422193.....	25	422258.....	11	432753.....	15
377723.....	15	422194.....	25	422259.....	11	435513.....	14
379955.....	15	422195.....	25	422260.....	8	435514.....	14
380006.....	7	422196.....	25	422261.....	8	435515.....	14
380008.....	15	422197.....	25	422262.....	8	435516.....	14
383353.....	14	422198.....	3	422263.....	9	435525.....	15
383354.....	14	422199.....	3-5	422264.....	9	435531.....	15
384871.....	9	422200.....	3-5	422265.....	8	435534.....	15
384891.....	13	422201.....	4-5	422266.....	9	435535.....	15
385286.....	13	422202.....	3	422267.....	9		
396521.....	15	422203.....	9	422268.....	9		
405132.....	12	422204.....	11	422269.....	9		
405588.....	12	422205.....	11	422270.....	9		
405769.....	15	422206.....	10	422271.....	11		
405772.....	15	422207.....	11	422272.....	21		
405775.....	15	422208.....	8	422273.....	21		
405776.....	14	422209.....	8	422274.....	21		
405777.....	14	422210.....	9	422275.....	21		
405779.....	15	422211.....	8	422276.....	21		
405780.....	15	422212.....	9	422278.....	8		
405785.....	15	422213.....	3	422279.....	8		