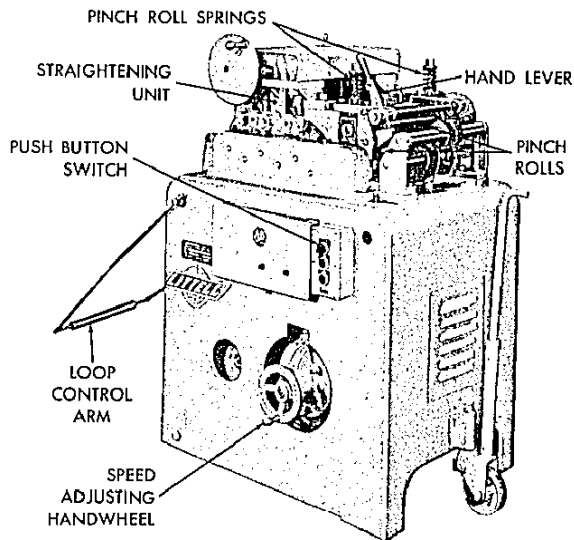


PARTS LIST AND OPERATING INSTRUCTIONS FOR NUMBER 4 SERIES VARIABLE SPEED STRAIGHTENING MACHINE



OPERATING INSTRUCTIONS

ELECTRICAL CONNECTIONS

Check motor furnished with machine for operating voltage. Connect to power source of proper voltage and electrically ground machine before putting into operation. See wiring diagram furnished with machine.

ELECTRICAL CONTROLS

The machine is equipped with a magnetic starter and a three unit control station. The three unit control station consists of a selector type switch arranged for manual or automatic operation and two push button switches for forward or reverse "jogging" when the selector switch is in the "HAND" or manual position only. (When selector switch is in the "AUTO" or automatic position, machine will operate only in forward direction.)

For manual operation or "jogging", turn selector switch counterclockwise to "HAND" position and press "FORWARD" or "REVERSE" button, as required. Machine will operate only as long as either button is depressed.

For automatic operation, turn selector switch clockwise to "AUTO" position. The machine will run continuously unless the loop control arm is in the extreme down position.

LUBRICATION

Before placing machine into operation, check all parts for proper lubrication. Lubrication requirements are as follows:

- Reeves Moto - Drive Unit. Lubricate in accordance with manufacturer's recommendations as shown on unit.
- Straightener Unit. Lubricate all operating parts daily in accordance with instructions shown on lubrication plate mounted on side of machine.
- Straightener Unit Gear Train. Lubricate gear train at least once a week with standard AGMA Lubricant #8.

FEEDING DIRECTION

The machine, as normally shipped, is arranged for right to left direction of operation. Machines can be arranged for left to right direction of operation on special order only.

STRAIGHTENER UNIT ADJUSTMENT

The upper straightener rolls must be individually adjusted for the thickness, width, and temper of the material to be straightened. Higher settings are required for thicker and softer materials; lower for thinner and harder materials. Individual adjustment of the upper rolls is accomplished by moving the slip gear handle toward center of machine, thus unmeshing the slip gears, and then setting each roll with the handwheel provided. The first or incoming upper roll should be set lower than the remaining rolls so as to give a slight up curve to the material. Each remaining upper roll is then adjusted to a higher setting than the preceding roll to bend the material back to the desired straightness. It may be necessary to experiment with different settings to find the best for your material. Once found, record the settings indicated on the dials for the specific material being straightened.

After adjustments are made, remesh slip gears by moving slip gear handle to front of machine so that the straightener head can be raised or lowered as a unit without disturbing the relative adjustment between the upper rolls.

PINCH ROLL ADJUSTMENT

The pinch roll springs must be drawn down to exert sufficient pressure to push the material through the straightener rolls without slippage. Adjust springs evenly to assure straight tracking of the material through the rolls and to avoid creeping to either side. Springs must not be drawn down solid at any time.

SPEED ADJUSTMENT

To prevent running out of material or frequent starting and stopping of straightener, set speed of straightener at speed of using equipment. Calculate approximate feeding speed of the using equipment (strokes per minute x feed length). With straightener running, and loop control arm just above off position, adjust speed adjusting handwheel on Moto - Drive Unit to speed at which stock is being used.

LOOP CONTROL ARM

The loop control arm maintains a constant loop of material between the straightening machine and the using equipment. If the loop of stock exceeds normal operating depth, the loop control arm drops, thus shutting off the straightening machine motor. As excess stock is used up by the using equipment, the loop control arm raises and starts the straightening machine which then resumes feeding of stock to the using equipment. This function is accomplished by the use of an adjustable cam, located within the base of the machine, which actuates an "ON-OFF" limit switch.

In addition, a "NO-LOOP" limit switch is supplied on the straightening machine to protect the using equipment in the event that insufficient stock is available from the straightener. This switch, actuated by an adjustable cam located within the base of the machine, instantly stops the using equipment whenever a "no-loop" condition exists. This switch must be connected to the using equipment during installation.

Both cams can be easily adjusted on location to meet specific operating conditions. To adjust, rotate cams on shaft until desired results are obtained.

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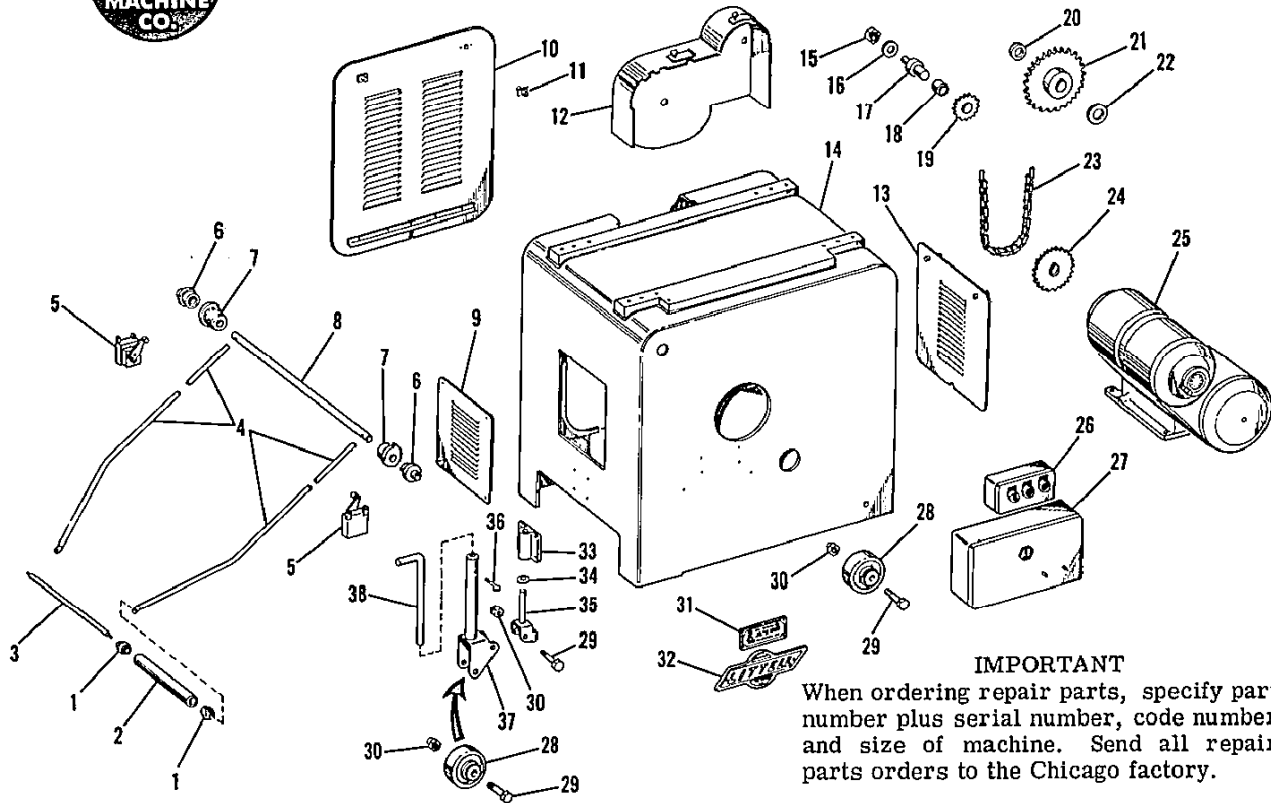
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CHICAGO 13, ILLINOIS

Form No. 723 Rev. 1969



NUMBER 4 SERIES STRAIGHTENING MACHINE



PARTS LIST

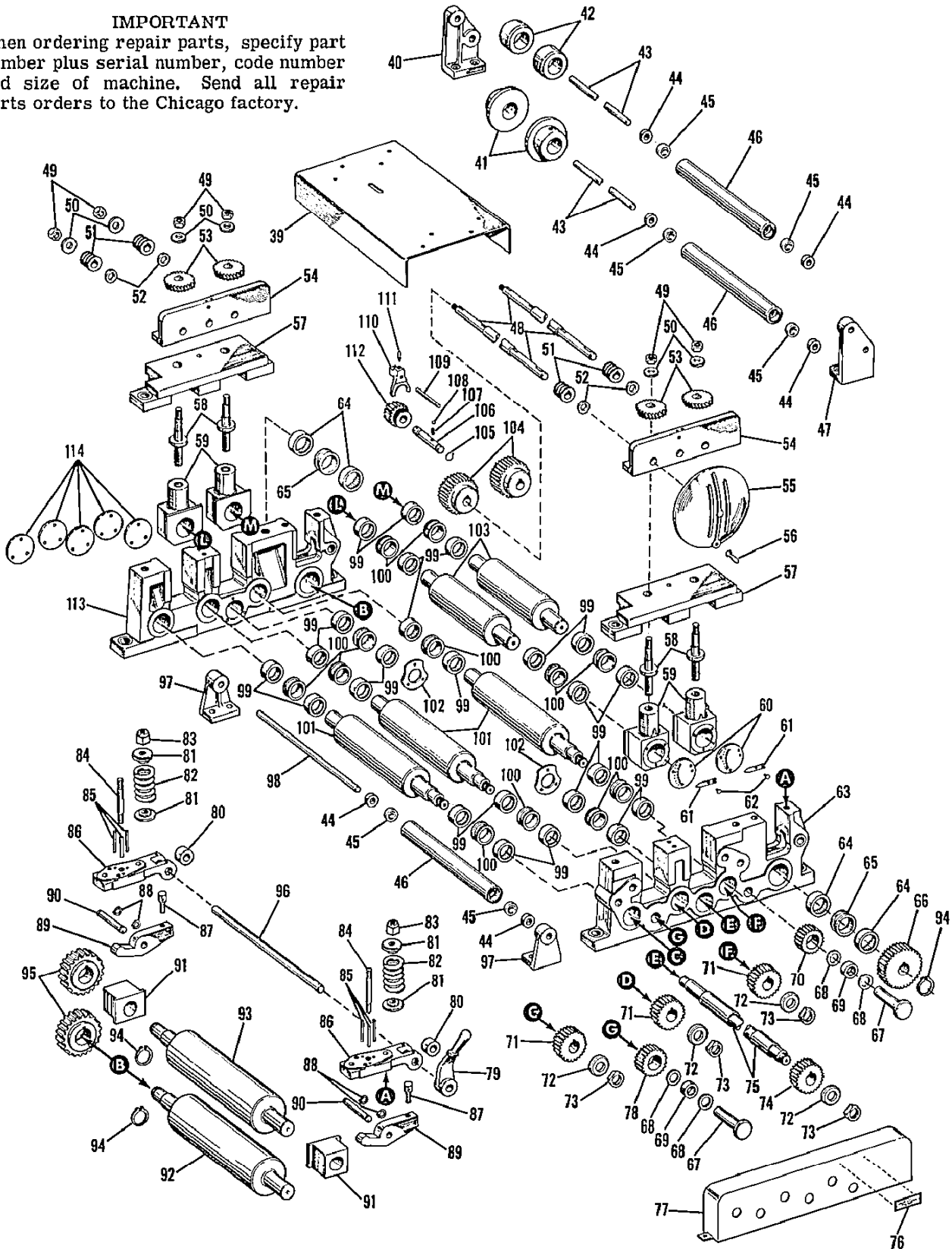
INDEX NO.	DESCRIPTION	PART NUMBER	INDEX NO.	DESCRIPTION	PART NUMBER
1	Ball Bearing	23--90167	23	Roller Chain	24--90920
2	Roller*	23--33584	24	Drive Sprocket	99--91350
3	Roller Shaft*	23--33560	25	Moto-Drive Unit	Reeves
4	Control Arm	23B-33547	26	3 Unit Control Station (#412-5PD)	94--90540
5	Limit Switch	93--90567	26	3 Unit Control Station (#412-7PDL)	94--90541
6	Ball Bearing	23--90169	27	Magnetic Starter (#412-5PD)	92--90501
7	Cam	23A-33658	27	Magnetic Starter (#412-7PDL)	92--90502
8	Cam Shaft*	23--33621	28	Caster Wheel Assembly	23A-23651
9	Cover Plate (End)	24--24768	29	Hex. Head Cap Screw	5/8-11 x 3-1/2"
10	Cover Plate (Back) (#412-5PD)	26--24767	30	Elastic Stop Nut	5/8-11
10	Cover Plate (Back) (#412-7PDL)	26--22770	31	Speed Indicator Plate	24A-17572
11	Adjustable Pawl Fastener	24--90415	32	Serial Plate	24B-34003
12	Gear and Sprocket Guard	-----	33	Steering Wheel Bracket	23A-33656
13	Louver Plate (#412-5PD)	24A-33771	34	Finished Washer	23--34594
13	Louver Plate (#412-7PDL)	24A-33820	35	Steering Wheel Pivot	23B-33607
14	Base (#412-5PD)*	24C-40142	36	Thumb Screw	5/16-18 x 1-1/2"
14	Base (#412-7PDL)*	24C-40643	37	Steering Wheel Post	23B-33546
15	Hex. Nut	7/8-14	38	Steering Wheel Handle	23A-33608
16	Steel Washer	14--34590			
17	Idler Pin	24A-15808			
18	Bushing	24--90311			
19	Idler Sprocket	24A-33766			
20	Collar	14--90441			
21	Driven Sprocket	99--91349			
22	Brass Washer	24--23478			

*Specify width of Straightener when ordering.



NUMBER 4 SERIES STRAIGHTENING MACHINE 5 STRAIGHTENER ROLLS 3-1/8" DIAMETER

IMPORTANT
When ordering repair parts, specify part number plus serial number, code number and size of machine. Send all repair parts orders to the Chicago factory.



**NUMBER 4 SERIES STRAIGHTENING MACHINE
5 STRAIGHTENER ROLLS 3-1/8" DIAMETER**

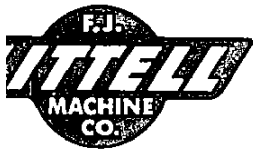


PARTS LIST

INDEX NO.	DESCRIPTION	PART NO. #412-5PD
39	Straightener Top Guard*	24--31249
40	L. H. Guide Roll Bracket	24A-13156
41	Stock Guide	24A-33731
42	Guide Roll Collar	15A-32699
43	Pivot Shaft*	12--31608
44	Shaft Collar	23A-34720
45	Bearing	23--90250
46	Guide Roll*	51--36005
47	R. H. Guide Roll Bracket	24A-13155
48	Adjusting Screw Shaft*	24--33824
49	Hex. Nut	5/8-11
50	Steel Washer	32--34584
51	Worm	25A-34034
52	Spacer	16A-32880
53	Worm Gear	25A-34033
54	Bearing Cap	25B-34041
55	Handwheel	24B-33992
56	Machine Handle	42--90424
57	Bearing Bracket	25B-34042
58	Adjusting Screw	16A-32878
59	Bearing Box	24A-33986
60	Indicator Dial Plate	24A-12311
61	Indicator Pointer	24A-12312
62	Pivot Pin	23--34759
63	R. H. Main Bearing	24B-33984
64	Roller Bearing	99--90102
65	Bearing Spacer	24A-33951
66	Straightener Drive Gear	24A-19852
67	Idler Pin	24A-33722
68	Bearing Spacer	24A-33727
69	Roller Bearing	99--90098
70	1st Idler Gear	24A-19849
71	Straightener Roll Gear	24A-19853
72	Steel Washer	24--30740
73	Hex. Jam Nut	1"-8
74	Power Idler Gear	24A-19851
75	Drive Shaft*	24--37701
76	Lubrication Plate	26A-20850
77	Gear Train Guard	24A-17590

INDEX NO.	DESCRIPTION	PART NO. #412-5PD
78	2nd Idler Gear	24A-19848
79	Hand Lever	14--32386
80	Eccentric Cam	13A-31786
81	Spring Washer	15A-32609
82	Main Bearing Spring	15A-32485
83	Elastic Jam Nut	33--90022
84	Spring Stud	15--32486
85	Spring Pin	14A-32097
86	Main Bearing Cap	24B-34005
87	Adjuster Lifter Button	24A-33908
88	Retaining Ring	14--90923
89	Lifter Lever	24B-33907
90	Fulcrum Pin	14A-32343
91	Upper Roll Box Assembly	14--32456
92	Lower Feed Roll Assembly*	24--29677
93	Upper Feed Roll Assembly*	24--29544
94	Retaining Ring	14--90061
95	Long Tooth Gear	24A-33734
96	Lifter Shaft*	14--32125
97	Guide Roll Bracket	24A-33987
98	Pivot Shaft*	12--31609
99	Roller Bearing	43--90100
100	Bearing Spacer	24A-33950
101	Lower Straightener Roll*	24--30638
102	Cover Plate	24A-33751
103	Upper Straightener Roll*	24--30650
104	Spur Gear	24A-19969
105	Retaining Ring	33--90011
106	Slip Gear Shaft	24A-12310
107	Detent Spring	13--31778
108	Steel Detent Ball	1/4" dia.
109	Shifter Yoke Slide Bar	24A-33793
110	Slip Gear Shifter Yoke	24A-33993
111	Machine Handle	24--90423
112	Slip Gear	24A-19970
113	L. H. Main Bearing	24B-33985
114	Cover Plate	24A-33730

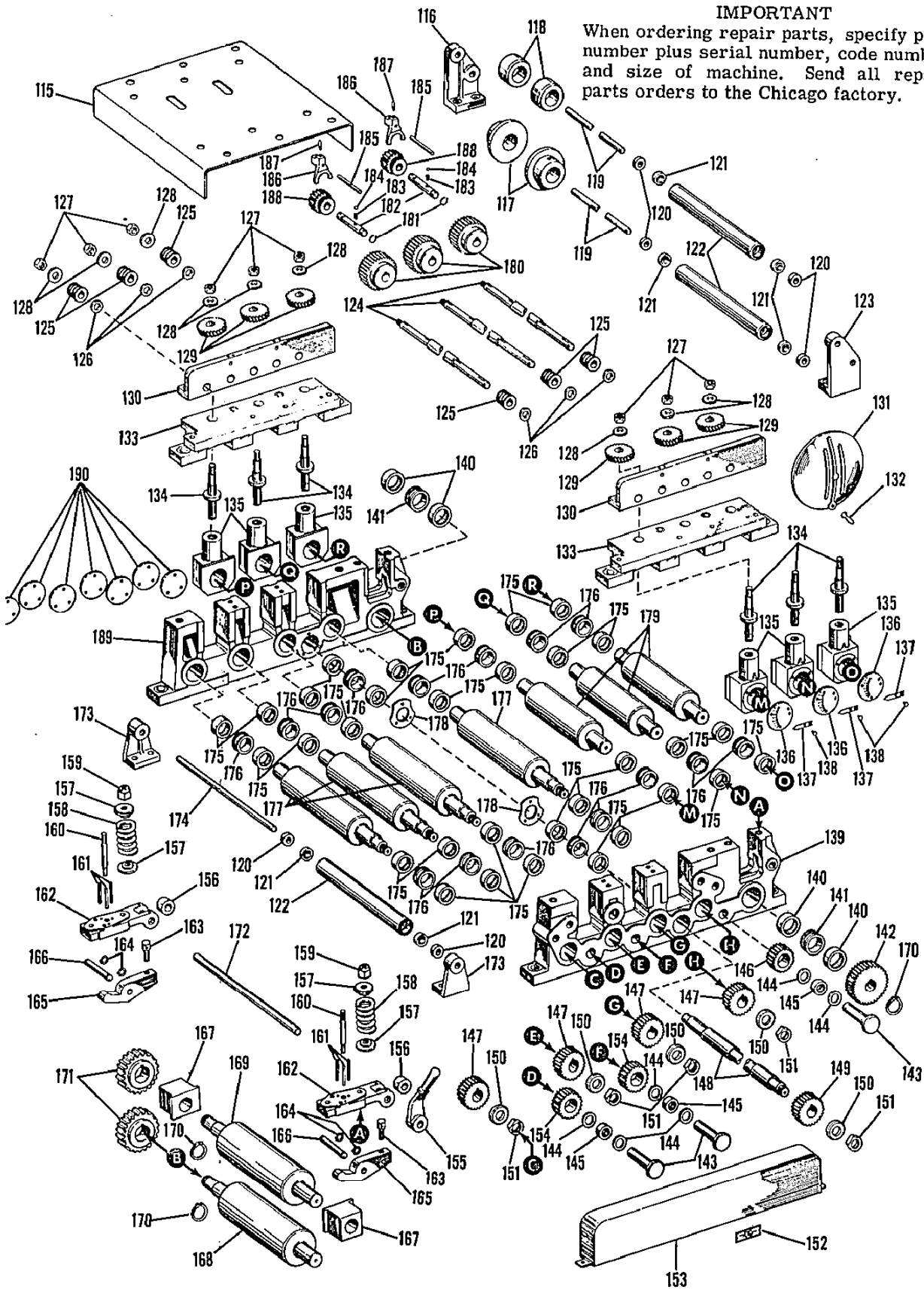
*Specify width of Straightener when ordering.



NUMBER 4 SERIES STRAIGHTENING MACHINE 7 STRAIGHTENER ROLLS 3-1/8" DIAMETER

IMPORTANT

When ordering repair parts, specify part number plus serial number, code number and size of machine. Send all repair parts orders to the Chicago factory.



**NUMBER 4 SERIES STRAIGHTENING MACHINE
7 STRAIGHTENER ROLLS 3-1/8" DIAMETER**



PARTS LIST

INDEX NO.	DESCRIPTION	PART NO. #412-7PDL
115	Straightener Top Guard*	24--31362
116	L. H. Guide Roll Bracket	24A-13156
117	Stock Guide	24A-33731
118	Guide Roll Collar	15A-32699
119	Pivot Shaft*	12--31608
120	Shaft Collar	23A-34720
121	Bearing	23--90250
122	Guide Roll*	51--36005
123	R. H. Guide Roll Bracket	24A-13155
124	Adjusting Screw Shaft*	24--33824
125	Worm	25A-34034
126	Spacer	16A-32880
127	Hex. Nut	5/8"-1
128	Steel Washer	32--34584
129	Worm Gear	25A-34033
130	Bearing Cap	24B-33999
131	Handwheel	24B-33992
132	Machine Handle	42--90424
133	Bearing Bracket	24B-34000
134	Adjusting Screw	16A-32878
135	Bearing Box	24A-33986
136	Indicator Dial Plate	24A-12311
137	Indicator Pointer	24A-12312
138	Pivot Pin	23--34759
139	R. H. Main Bearing	24C-34006
140	Roller Bearing	99--90102
141	Bearing Spacer	24A-33951
142	Straightener Drive Gear	24A-19852
143	Idler Pin	24A-33722
144	Bearing Spacer	24A-33727
145	Roller Bearing	93--90098
146	1st Idler Gear	24A-19849
147	Straightener Roll Gear	24A-19853
148	Drive Shaft	24--37701
149	Power Idler Gear	24A-19851
150	Steel Washer	15--30740
151	Hex. Jam Nut	1"-8
152	Lubrication Plate	26A-20850
153	Gear Train Guard	24--31245

INDEX NO.	DESCRIPTION	PART NO. #412-7PDL
154	2nd Idler Gear	24A-19848
155	Hand Lever	14--32386
156	Eccentric Cam	13A-31786
157	Spring Washer	15A-32609
158	Main Bearing Spring	15A-32485
159	Elastic Jam Nut	33--90022
160	Spring Stud	15--32486
161	Spring Pin	14A-32097
162	Main Bearing Cap	24B-34005
163	Adjuster Lifter Button	24A-33908
164	Retainer Ring	14--90923
165	Lifter Lever	24B-33907
166	Fulcrum Pin	14A-32343
167	Upper Roll Box Assembly	14--32456
168	Lower Feed Roll Assembly*	24--29677
169	Upper Feed Roll Assembly*	24--29544
170	Ring	41--90061
171	Long Tooth Gear	24A-33734
172	Lifter Shaft*	14--32125
173	Guide Roll Bracket	24A-33987
174	Pivot Shaft*	12--31609
175	Roller Bearing	43--90100
176	Bearing Spacer	24A-33950
177	Lower Straightener Roll*	24--30638
178	Cover Plate	24A-33751
179	Upper Straightener Roll*	24--30650
180	Spur Gear	25A-19969
181	Retaining Ring	33--90011
182	Slip Gear Shaft	24A-12310
183	Detent Spring	13--31778
184	Steel Detent Ball	1/4" dia.
185	Shifter Yoke Slide Bar	24--33793
186	Slip Gear Shifter Yoke	24A-33993
187	Machine Handle	24--90423
188	Slip Gear	24A-19970
189	L. H. Main Bearing	24C-34007
190	Cover Plate	24A-33730

*Specify width of Straightener when ordering.

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