

Form 18436  
March, 1930  
Printed in U. S. A.

# LIST OF PARTS



MACHINES  
Nos. 29K51, 29K53, 29K55  
and 29K56

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\*\* A TRADE-MARK OF

THE SINGER MANUFACTURING COMPANY

## INSTRUCTIONS FOR OILING

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To ensure easy running and prevent unnecessary wear of the parts which are in movable contact, the machine requires oiling and when in continuous use, "TYPE B" or "TYPE D" OIL, sold only by Singer Sewing Machine Company, should be applied at least twice each day to all oil holes marked "OIL".

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# INSTRUCTIONS FOR ORDERING

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In ordering from this list, use **ONLY** the part **NUMBER** in the **FIRST** column.

The number stamped on a Sewing Machine part is in every case the number of the single part only.

Every combination of parts sent out as such has its specific number, which, although not stamped on the parts, must be used when ordering the combination.

Each number always indicates the **SAME PART** in whatever list it appears, or for whatever machine.

The letters after some of the numbers indicate the style of finish only, as follows:

- A—Hardened, Polished, Nickel Plated and Buffed
- B—Polished, Nickel Plated and Buffed
- C—Hardened Only
- D—Polished Only
- E—Soft, Not Polished
- F—Hardened and Polished
- H—Blued
- J—Nickel Plated Only
- K—Hardened and Nickel Plated
- L—Brass Plated
- M—Oxidized
- N—Japanned, Dull
- P—Japanned, Bright
- R—Merlized
- T—Copper Plated
- T. A.—Hardened, Polished, Copper and Nickel Plated and Buffed
- T. B.—Copper and Nickel Plated and Polished
- T. J.—Copper and Nickel Plated Only
- T. K.—Hardened, Copper and Nickel Plated
- T. M.—Copper Plated and Oxidized
- T. L.—Copper and Brass Plated
- U—Zinc Plated
- V—Silver Plated
- W—Polished and Nickel Plated
- Z—Chromium Plated
- Z. B.—Polished, Nickel Plated, Buffed and Chromium Plated
- Z. J.—Nickel and Chromium Plated

These letters **MUST BE USED** when they appear in the list; and **AFTER** the number as in the list.

In this series:

- 1 to 1500 and 50001 to 51500 are Screw Numbers
- 1501 to 1800 and 51501 to 51800 are Nut Numbers
- 1801 to 2000 and 51801 to 52000 are Roller Numbers
- 2001 to 50000 and 52001 and upward are numbers of Machine Parts

The figures in the second column refer only to the plates, illustrating the parts, and are **NOT TO BE USED** in ordering.

Parts marked with an asterisk (\*) are furnished only when repairs are made at factory.

# **LIST OF PARTS COMPLETE FOR**



## **MACHINE No. 29K51 ON STAND No. 25278**

(List Price of the Machine does not include stand).

12 $\frac{1}{4}$  INCHES FROM NEEDLE TO BASE OF ARM. UNIVERSAL 'UPPER FEED. OSCILLATING HORIZONTAL SHUTTLE, THE ASSEMBLY OF WHICH IS DETACHABLE AND INTERCHANGEABLE. HELICAL PRESSER FOOT SPRING. CONVENIENT AND POSITIVE ADJUSTMENT OF PRESSER FOOT LIFT. ECCENTRIC ADJUSTMENT FOR SHUTTLE TIMING. SIDE WHEEL. FOR BOOT AND SHOE REPAIRING, SLIPPER WORK, ETC. WIDTH OF LOWER ARM AT ITS END 1 $\frac{1}{8}$  INCHES, DEPTH  $\frac{7}{8}$  INCH.

NO.	PLATE	NAME
*82051	—	Arm with 4449.....

NO.	PLATE	NAME
118E	1485	Arm Base Screw.....
4288	1475	" Side Cover (back).....
286D	1485	" " " Thumb Screw.....
81865	1473	Balance Wheel with two 434c.....
81866	1477	" " Handle (wood).....
SS 135D	1485	" " " Spindle.....
1519D	1486	" " " " Nut....
82120	—	Balance Wheel complete, Nos. SS 135D, 1519D, 81865 and 81866.....
82052	1477	Balance Wheel Hub.....
SS 45E	1485	" " " Screw.....
434C	1485	" " Set Screw.....
82008	1482	" " Shaft.....
81869	1481	" " " Gear.....
11663	1483	" " " " Pin.....
82121	—	Balance Wheel Hub complete, Nos. 11663, 81869, 82008 and 82052.....
8659	1481	Check Lever.....
8554	1483	" " Joint Pin.....
8555	1481	" " Spring.....
207F	1485	" " " Screw.....
14026	1483	" " " Steady Pin.....
SS 337F	1485	" " Thread Take-up Adjusting Screw.....
NN 66D	1486	Check Lever Thread Take-up Adjusting Screw Thumb Nut.....
82007	1482	Feeding Foot.....
NOTE: No. 82007 is sent with this Machine unless otherwise specified on order.		
8557	1482	Feeding Foot (narrow fork) fine.....
8558	1482	" " " " coarse....
8666	1482	" " (for waxed thread).....
193F	1485	" " Screw.....
8559	1479	Feed Motion Bell Crank Lever.....
194E	1485	" " " " " Joint Screw.....
81861	1477	Feed Motion Cam Wheel with RR 18 and 81868.....
11663	1483	Feed Motion Cam Wheel Pin.....
82053	1474	" " Ring Slide Bar with 1816..
1816	1486	" " " " " Roller and Stud.....
8675	1475	Foot Bar.....
8564	1479	" " Revolving Joint.....
82054	1479	" " " " Bearing.....

NO.	PLATE	NAME
82055	—	Foot Bar Revolving Joint Bearing 82054 with 8564 and 8571.....
8569	1483	Foot Bar Revolving Joint Hinge Pin...
82056	1479	" " " " Slide Rod
1513J	1486	" " " " " "
		Lock Nut.....
8571	1479	Foot Bar Revolving Joint Washer.....
82057	1474	Foot Bar Revolving Joint complete, Nos. 82055, 82056 and two 1513J.....
82058	1474	Head of Machine.....
128D	1485	" Binding Screw.....
8573	1474	" Revolving Bush.....
8574	1483	" " " Friction Spring
207F	1485	" " " " " "
		Screw.....
8575	1483	Head Revolving Bush Friction Spring Pin.....
82012	1474	Head Revolving Bush Handle.....
152F	1485	" " " " Screw...
282D	1485	" " " Stop ThumbScrew
8577	1481	" " " SupportingWasher
211D	1485	" " " " "
		Screw.....
82059	1475	Lifter.....
66F	1485	" Hinge Screw.....
*82060	—	Lower Arm and Bed.....
8582	1483	" " " " Steady Pin.....
8655	1475	Needle Bar.....
81858	1482	" " Clamp with 237F.....
SS 50F	1485	" " " Screw.....
237F	1485	" " Needle Clamping Screw...
8656	1482	" " Thread Tension Spring.....
SS 133D	1485	" " " " " Screw
81857	—	Needle Bar complete, Nos. SS 50F, 8655, 8656, 81858 and two SS 133D.....
8661	1476	Needle Bar Cam and Pulley Wheel with 361c.....
3012	1483	Needle Bar Cam and Pulley Wheel Pin
361c	1485	" " " " " " Set
		Screw.....
81859	1473	Needle Bar Driving Lever with 1801 and 14026.....
1801	1486	Needle Bar Driving Lever Cam Roller and Stud.....
8586	1481	Needle Bar Driving Lever Joint Pin....
81860	1479	" " Piston Joint.....
8589	1483	" " " " Pin.....

NO.	PLATE	NAME
82013	266	Needle Plate (fine and medium needle holes).....
82014	266	Needle Plate (medium needle holes)....
82015	266	" " (fine and medium needle holes).....
82016	948	Needle Plate (medium and coarse needle holes).....

NOTE: No. 82016 is sent with this Machine unless another Needle Plate is specified on order.

84D	1485	Needle Plate Bearing Screw.....
82061	1483	" " Catch.....
82063	1483	" " " Pin.....
82141	1810	" " " Spring.....
8670	1475	Oil Cup with 8597 and 8695.....
8695	1483	" " Oil Pad (cloth).....
327D	1485	" " Screw.....
8597	1483	" " Spring.....
82144	1810	Pinion Cover Plate.....
393E	1485	" " " Screw.....
82133	1810	Rack.....
82143	1810	" and Pinion Box.....
82147	—	Rack and Pinion Box complete, Nos. SS 468E, 82068 to 82070, 82133, 82143, 82144, two each 393E, 82071 and 82072
82066	1483	Rack and Pinion Box Position Pin.....
1177E	1485	" " " " Screw.....
82010	1473	Shaft.....
4449	1474	" Bushing.....
8604	1482	Shuttle Bobbin.....
*8654	1482	" Body.....
662D	1485	" Tension Regulating Screw.....
8611	1482	" " Spring.....
8603	—	Shuttle complete, Nos. 662D, 8604, 8611 and 8654.....

NOTE: No. 8603 is sent with this Machine unless otherwise specified on order.

81876	1482	Shuttle Tension Spring.....
81964	—	Shuttle complete, Nos. 662D, 8604, 8654 and 81876.....
82068	1482	Shuttle Carrier with 241D and 8610....
82069	1478	" " Driving Pinion.....
82070	1478	" " " " Bushing
SS 468E	1485	" " " " Screw..
82071	1478	" " Following Pinion.....
82072	1478	" " " " Stud..



NO.	PLATE	NAME
8610	1482	Shuttle Carrier Spring.....
241D	1485	" " " Screw.....
82073	1474	Shuttle Driving Cam with SS 235c.....
82122	—	" " " and Gear, Nos. 81872 and 82073.....
81872	1481	Shuttle Driving Cam Gear.....
3012	1483	" " " " Pin.....
SS 235c	1485	" " " " Set Screw...
1808	1486	" " " Roller and Stud..
82142	1809	" " " Lever with 1808.....
7D	1485	" " " Bearing Screw...
82075	1482	" " " Connecting End (front).....
82076	1482	Shuttle Driving Lever Connecting End (back).....
8645	1483	Shuttle Driving Lever Connecting End Pin (front).....
14026	1483	Shuttle Driving Lever Connecting End Pin (back).....
82077	1475	Shuttle Driving Lever Connecting Rod
89E	1485	" " " " "
		Hinge Screw.....
82078	—	Shuttle Driving Lever Connecting Rod complete, Nos. 8645, 14026 and 82075 to 82077.....
1381K	1485	Shuttle Driving Lever Eccentric Stud
1520R	1486	" " " " "
		Nut.....
8601	1483	Spool Pin.....
8615	1483	Stitch Regulator.....
8616	1483	" " " Gib.....
291D	1485	" " " Thumb Screw.....
668D	1481	Tension (top) Adjusting Stud.....
1560D	1486	" " " " Thumb Nut.....
8617	1479	Tension (top) Cup (release).....
8618	1481	" " " Disc.....
84113	1481	" " " Washer (leather)...
8619	1481	" " " Spring.....
413D	1485	" (side) Adjusting Stud.....
1560D	1486	" " " " Thumb Nut.....
2102	1481	Tension (side) Disc.....
2103	1481	" " " Spring.....
82116	1483	" " " Thread Guide Pin.....
8620	1483	Thread Eyelet (head of arm).....
207F	1485	" " " Screw.....

NO.	PLATE	NAME
82079	1479	Vibrating Presser Lifting Lever.....
41D	1485	" " " " Screw
82080	1479	" " " " Shaft
82132	—	" " " " "
		82080 with 82081 and 82117.....
82082	1481	Vibrating Presser Lifting Lever Shaft
		Adjusting Lever.....
515E	1485	Vibrating Presser Lifting Lever Shaft
		Adjusting Lever Clamping Screw....
8568	1483	Vibrating Presser Lifting Lever Shaft
		Adjusting Lever Clamping Screw Rivet
648J	1485	Vibrating Presser Lifting Lever Shaft
		Adjusting Lever Hinge Screw.....
82081	1481	Vibrating Presser Lifting Lever Shaft
		Lever with 454c.....
82117	1483	Vibrating Presser Lifting Lever Shaft
		Lever Pin.....
454c	1485	Vibrating Presser Lifting Lever Shaft
		Lever Screw.....
RR 18	1486	Vibrating Presser Roller.....
81868	1483	" " " Pin.....
82083	1475	" " Spring (light).....
82129	1477	" " " (heavy).....

NOTE: No. 82129 is supplied with this machine  
unless otherwise specified on order.

82130	1477	Vibrating Presser Spring Bar.....
NN 88D	1486	" " " " Adjusting
		Nut.....
82131	1478	Vibrating Presser Spring Bar Collar....
179E	1485	" " " " " Screw

**SINGER** Needles should be used  
in **SINGER** Machines  
These Needles and their Containers  
are marked with the  
Company's Trade Mark "**SIMANCO.\*\***" <sup>1</sup>

Needles in Containers marked  
"**FOR SINGER MACHINES**"  
are **NOT SINGER** made needles. <sup>2</sup>

## PARTS SPECIAL TO MACHINE No. 29k53

**FOR BOOT AND SHOE REPAIRING, SLIPPER WORK, ETC.  
WIDTH OF LOWER ARM AT ITS END 1 INCH, DEPTH  $\frac{1}{8}$   
INCH.**

This machine is the same as 29k51 with the  
following exceptions:

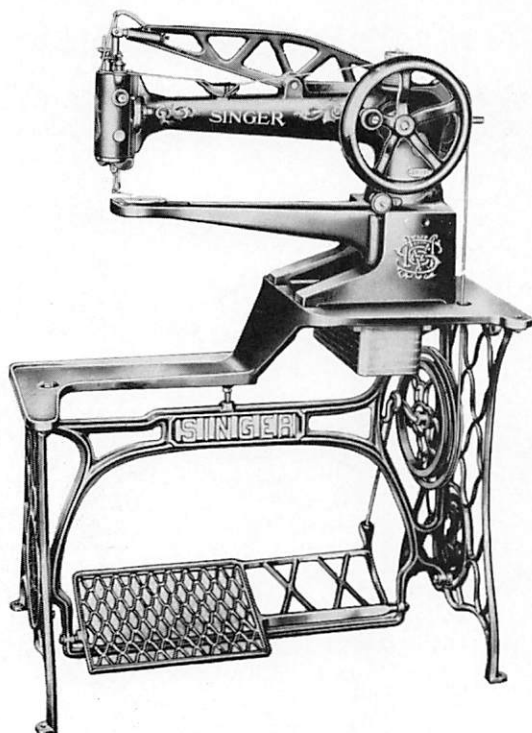
NO.	PLATE	NAME
*82094	—	Bed.....
*82095	—	Lower Arm (narrow).....
*82096	—	Lower Arm and Bed complete, Nos. 82094, 82095 and four 123E.....
123E	1485	Lower Arm and Bed Binding Screw....
82030	1475	Needle Bar.....
82031	—	Needle Bar complete, Nos. SS 50F, 8656, 81858, 82030 and two SS 133D.....
82032	948	Needle Plate (fine and medium needle holes).....
82033	948	Needle Plate (medium and coarse needle holes).....

NOTE: No. 82033 is sent with this machine unless  
another Needle Plate is specified on order.

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Company's Trade Mark "SIMANCO.\*\*\*" 1**

**Needles in Containers marked  
"FOR SINGER MACHINES"  
are NOT SINGER made needles. 2**

## PARTS SPECIAL TO



## MACHINE No. 29K55

ON STAND No. 94609

(List Price of the Machine does not include stand).

17½ INCHES FROM NEEDLE TO BASE OF ARM.

UNIVERSAL UPPER FEED. OSCILLATING HORIZONTAL SHUTTLE THE ASSEMBLY OF WHICH IS DETACHABLE AND INTERCHANGEABLE. HELICAL PRESSER FOOT SPRING. CONVENIENT AND POSITIVE ADJUSTMENT OF PRESSER FOOT LIFT. ECCENTRIC ADJUSTMENT FOR SHUTTLE TIMING. SIDE WHEEL. FOR BOOT AND SHOE REPAIRING, SLIPPER WORK, ETC. LARGE SHUTTLE. FOR WAXED THREAD. WIDTH OF LOWER ARM AT ITS END 1  $\frac{5}{32}$  INCHES, DEPTH 1  $\frac{3}{32}$  INCHES.

**This machine is the same as 29K51 with the following exceptions:**

NO.	PLATE	NAME
*82099	—	Arm with 4449.....
8666	1482	Feeding Foot.....

**NOTE:** No. 8666 is sent with this Machine unless another Feeding Foot is specified on order.

*82100	—	Lower Arm and Bed.....
81939	1475	Needle Bar.....
81940	—	Needle Bar complete, Nos. SS 50F, 8656, 81858, 81939 and two SS 133D.....
81941	1476	Needle Bar Cam and Pulley Wheel with 361C.....
81942	1473	Needle Bar Driving Lever with 1801 and 14026.....
81943	1481	Needle Bar Driving Lever Joint Pin....
82019	268	Needle Plate (fine and medium needle holes).....
82020	268	Needle Plate (medium and coarse needle holes).....

**NOTE:** No. 82020 is sent with this machine unless another Needle Plate is specified on order.

82101	1483	Needle Plate Catch.....
82146	1810	Pinion Cover Plate.....
82134	1810	Rack.....
82145	1810	" and Pinion Box.....
82148	—	Rack and Pinion Box complete, Nos. SS 468E, 82105 to 82107, 82134, 82145, 82146, two each 393E, 82108 and 82109
82011	1473	Shaft.....
82252	1482	Shuttle Bobbin.....
7868	1482	" " Retaining Spring.....
SS 133D	1485	" " " " Screw.
*81993	1482	" Body.....
82105	1482	" Carrier.....
82106	1478	" " Driving Pinion.....
82107	1478	" " " " Bushing
82108	1478	" " Following Pinion.....
82109	1478	" " " " Stud...
82110	1473	" Driving Lever Connecting Rod.
82111	—	Shuttle Driving Lever Connecting Rod complete, Nos. 8645, 14026, 82075, 82076 and 82110.....
SS 132D	1485	Shuttle Tension Regulating Screw.....
81994	1482	" " Spring.....

NO.	PLATE	NAME
81951	1482	Shuttle Thread Pull-off.....
404D	1485	" " " Screw.....
81952	—	Shuttle complete, Nos. SS 132D, SS 133D, 404D, 7868, 81951, 81993, 81994 and 82552.....
80548	1481	Tension (side) Spring (for darning ten- sion or waxed thread).....

## PARTS SPECIAL TO MACHINE No. 29K56

**FOR BOOT AND SHOE REPAIRING, SLIPPER WORK, ETC. FOR  
WAXED THREAD. WIDTH OF LOWER ARM AT ITS END  
1  $\frac{3}{32}$  INCHES, DEPTH  $\frac{1}{8}$  INCH. FOR STITCHING IN SMALL  
PLACES.**

This machine is the same as 29K51 with the  
following exceptions:

NO.	PLATE	NAME
*82099	—	Arm with 4449.....
*82112	—	Lower Arm and Bed.....
81941	1476	Needle Bar Cam and Pulley Wheel with 361c.....
81942	1473	Needle Bar Driving Lever with 1801 and 14026.....
81943	1481	Needle Bar Driving Lever Joint Pin....
82011	1473	Shaft.....
82128	1473	Shuttle Driving Lever Connecting Rod.
82127	—	Shuttle Driving Lever Connecting Rod complete, Nos. 8645, 14026, 82075, 82076 and 82128.....

## ACCESSORIES

### ACCESSORIES SUPPLIED WITH 29K51 AND 29K53 MACHINES

NO.	PLATE	NAME
—	—	Instruction Book.....
128E	1485	Machine Screw (for fastening machine to stand).....
SS 130E	1485	Machine Screw (for fastening machine to power table).....
87345	1810	Machine Screw Washer for SS 130.....
90530	1810	" " " " 128.....
29x4	—	Needle (two each, size 19, 21 and 22)...
8590	1475	Needle Bar Threading Wire.....

NO.	PLATE	NAME
36569	—	Oiler with 36571.....
36571	—	" Spout, 1¾ in. long.....
25537	—	Screw Driver (machine).....
120378	—	" " (shuttle tension).....
8604	1482	Shuttle Bobbin.....

## ACCESSORIES

### ACCESSORIES SUPPLIED WITH 29K55 MACHINE.

These are the same as for 29K51 Machine with the following exceptions:

NO.	PLATE	NAME
137E	1485	Machine Screw (for fastening machine to stand).....
SS 418E	1485	Machine Screw (for fastening machine to power table).....
82833	1810	Machine Screw Washer for SS 418.....
82552	1482	Shuttle Bobbin.....

## ACCESSORIES

### ACCESSORIES SUPPLIED WITH 29K56 MACHINE.

These are the same as for 29K51 Machine with the following exceptions:

NO.	PLATE	NAME
137E	1485	Machine Screw (for fastening machine to stand).....
SS 418E	1485	Machine Screw (for fastening machine to power table).....
82833	1810	Machine Screw Washer for SS 418.....

## MACHINE BASES FOR POWER TABLES

NO.	PLATE	NAME
82125	1476	Machine Base, for 29K51 and 29K53 Machines.....
82113	—	Machine Base, for 29K55 and 29K56 Machines.....
141E	1485	Machine Base Screw (for fastening base to machine for 82125).....
137E	1485	Machine Base Screw (for fastening base to machine for 82113).....
—	—	Machine Base Wood Screw 1 in. No. 12 for fastening base to power table....

These bases are only supplied when specified on order and are charged extra.

## BOBBIN WINDERS

### BOBBIN WINDER FOR 29K51, 29K53 AND 29K56 MACHINES

NO.	PLATE	NAME
8684	1484	Eccentric.....
SS 469D	1485	" Thumb Screw.....
82086	1484	Frame.....
128D	1485	" Screw.....
8651	1484	Spindle.....
81965	—	" 8651 with 8371.....
8371	1484	" Pulley.....
2460	1484	" " Rubber Ring.....
82087	1484	Bobbin Winder complete, Nos. 128D, SS 469D, 2460, 8684, 81965 and 82086

## BOBBIN WINDER

### FOR 29K55 MACHINE

NO.	PLATE	NAME
8684	1484	Eccentric.....
SS 469D	1485	" Thumb Screw.....
82086	1484	Frame.....
128D	1485	" Screw.....
82088	1484	Spindle.....
82089	—	" 82088 with 8371.....
8371	1484	" Pulley.....
2460	1484	" " Rubber Ring.....
82090	1484	Bobbin Winder complete, Nos. 128D, SS 469D, 2460, 8684, 82086 and 82089

## SINGERLIGHT

### SINGERLIGHTS ARE SUPPLIED LESS LAMPS, AND THESE SHOULD BE ORDERED SEPARATELY

NO.	PLATE	NAME
*97340	—	Singerlight Bracket (adjustable).....
97353	—	" " 97340 with 191815..
50319R	—	" " Screw.....
NN 92R	—	" " " Nut.....
2807	—	" " " " Washer.
97367	—	" Supporting Bracket.....
SS 56D	—	" " " Screw...
97368	—	Singerlight Supporting Bracket complete, Nos. SS 56D, NN 92R, 2807, 50319R and 97367.....



## SINGERLIGHT

19

NO.	PLATE	NAME
190744	—	Singerlight Lamp.....

In ordering it is necessary to state the exact  
voltage required.

*191789	—	Singerlight Nipple.....
*190743	—	“ “ Bushing.....
*191815	—	“ “ Position Pin.....
*191786	—	“ “ Washer (felt) $\frac{5}{8}$ in..
*191785	—	“ “ “ “ $\frac{1}{2}$ in..
*191082	—	“ “ “ (steel).....
191962	—	Singerlight Toggle Socket complete, Nos. 50564J, 191375, 191381 and 191963 to 191965.....
*191375	—	Singerlight Toggle Socket Base complete, Nos. 191376 and 191377.....
191377	—	Singerlight Toggle Socket Base Hub....
*191381	—	“ “ “ “ Insula- tion.....
*191376	—	Singerlight Toggle Socket Base Shell....
50564J	—	“ “ “ “ Set Screw
191965	—	Singerlight Toggle Socket Internal Fit- ting complete.....
*191963	—	Singerlight Toggle Socket Shell.....
*191964	—	“ “ “ “ Insulation
190745	—	“ Shade.....
97369	—	Singerlight (less cable and lamp), Nos. 97353, 97368, 190743, 190745, 191082, 191785, 191789, 191962 and two 191786
97354	—	Singerlight Twin Cable, 9 feet long....
93083	—	“ “ “ Plug, Nos. 93084 and 93085, for lamp socket.....
93084	—	Singerlight Twin Cable Plug Body.....
93085	—	“ “ “ “ Cover.....
97370	—	Singerlight (less lamp) with connection for lamp socket, complete, Nos. 93083, 97354 and 97369.....

## OBSOLETE PARTS

NO.	PLATE	NAME
82062	1483	Needle Plate Catch Spring.....
82064	1478	Pinion Cover Plate for 82119.....
82067	1478	Rack for 82119.....
82065	1478	“ and Pinion Box for 82119.....

NO.	PLATE	NAME
82119	—	Rack and Pinion Box complete, Nos. SS 468E, 82064, 82065, 82067 to 82070, two each 393E, 82071 and 82072, for 29K51, 29K53 and 29K56 Machines..
82139	—	Pinion Cover Plate for 82135.....
82137	—	Rack and Pinion Box for 82135.....
82135	—	Rack and Pinion Box complete, Nos. SS 468E, 82068 to 82070, 82133, 82137, 82139, two each 393E, 82071 and 82072, for 29K51, 29K53 and 29K56 Machines
82102	1478	Pinion Cover Plate for 82126.....
82104	1478	Rack for 82126.....
82103	1478	" and Pinion Box for 82126.....
82126	—	Rack and Pinion Box complete, Nos. SS 468E, 82102 to 82107, two each 393E, 82108 and 82109, for 29K55 Machine.....
82140	—	Pinion Cover Plate for 82136.....
82138	—	Rack and Pinion Box for 82136.....
82136	—	Rack and Pinion Box complete, Nos. SS 468E, 82105 to 82107, 82134, 82138, 82140, two each 393E, 82108 and 82109, for 29K55 Machine.....
82074	1474	Shuttle Driving Lever with 1808.....
82084	1475	Vibrating Presser Spring Bar.....
82085	1478	" " " " Collar....

**SINGER Needles should be used  
in SINGER Machines  
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are marked with the  
Company's Trade Mark "SIMANCO.\*\*" 1**

**Needles in Containers marked  
"FOR SINGER MACHINES"  
are NOT SINGER made needles. 2**

## NUMERICAL LIST OF PARTS

NO.	PLATE	NAME
7D	1485	Shuttle Driving Lever Bearing Screw...
RR 18D	1486	Vibrating Presser Roller for 81861.....
41D	1485	" " Lifting Lever Screw...
SS 45E	1485	Balance Wheel Hub Screw.....
SS 50F	1485	Needle Bar Clamp Screw for 81857, 81940 and 82031.....
SS 56D	—	Singerlight Supporting Bracket Screw for 97368.....
66F	1485	Lifter Hinge Screw.....
NN 66D	1486	Check Lever Thread Take-up Adjusting Screw Thumb Nut.....
84D	1485	Needle Plate Bearing Screw.....
NN 88D	1486	Vibrating Presser Spring Bar Adjusting Nut.....
89E	1485	Shuttle Driving Lever Connecting Rod Hinge Screw.....
NN 92R	—	Singerlight Bracket Screw Nut for 97368
118E	1485	Arm Base Screw.....
123E	1485	Lower Arm and Bed Binding Screw for 82096.....
128D	1485	Bobbin Winder Frame Screw for 82087 and 82090.....
128D	1485	Head Binding Screw.....
128E	1485	Machine Screw (for fastening machine to stand) for 29K51 and 29K53 Ma- chines.....
SS 130E	1485	Machine Screw (for fastening machine to power table) for 29K51 and 29K53 Machines.....
SS 132D	1485	Shuttle Tension Regulating Screw for 81952.....
SS 133D	1485	Needle Bar Thread Tension Spring Screw for 81857, 81940 and 82031.....
SS 133D	1485	Shuttle Bobbin Retaining Spring Screw for 81952.....
SS 135D	1485	Balance Wheel Handle Spindle for 82120
137E	1485	Machine Base Screw (for fastening base to machine) for 29K55 and 29K56 Machines.....
137E	1485	Machine Screw (for fastening machine to stand) for 29K55 and 29K56 Ma- chines.....

NO.	PLATE	NAME
141E	1485	Machine Base Screw (for fastening base to machine) for 29K51 and 29K53 Machines.....
152F	1485	Head Revolving Bush Handle Screw....
179E	1485	Vibrating Presser Spring Bar Collar Screw.....
193F	1485	Feeding Foot Screw.....
194E	1485	Feed Motion Bell Crank Lever Joint Screw.....
207F	1485	Check Lever Spring Screw.....
207F	1485	Head Revolving Bush Friction Spring Screw.....
207F	1485	Thread Eyelet Screw.....
211D	1485	Head Revolving Bush Supporting Washer Screw.....
SS 235C	1485	Shuttle Driving Cam Gear Set Screw for 82073.....
237F	1485	Needle Bar Needle Clamping Screw for 81858.....
241D	1485	Shuttle Carrier Spring Screw for 82068..
282D	1485	Head Revolving Bush Stop Thumb Screw
286D	1485	Arm Side Cover Thumb Screw.....
291D	1485	Stitch Regulator Thumb Screw.....
327D	1485	Oil Cup Screw.....
SS 337F	1485	Check Lever Thread Take-up Adjusting Screw.....
361C	1485	Needle Bar Cam and Pulley Wheel Set Screw for 8661 and 81941.....
393E	1485	Pinion Cover Plate Screw for 82119, 82126, 82135, 82136, 82147 and 82148
404D	1485	Shuttle Thread Pull-off Screw for 81952.
413D	1485	Tension (side) Adjusting Stud.....
SS 418E	1485	Machine Screw (for fastening machine to power table) for 29K55 and 29K56 Machines.....
434C	1485	Balance Wheel Set Screw for 81865....
454C	1485	Vibrating Presser Lifting Lever Shaft Lever Screw for 82081.....
SS 468E	1485	Shuttle Carrier Driving Pinion Screw for 82119, 82126, 82135, 82136, 82147 and 82148.....
SS 469D	1485	Bobbin Winder Eccentric Thumb Screw for 82087 and 82090.....
515E	1485	Vibrating Presser Lifting Lever Shaft Adjusting Lever Clamping Screw.....
648J	1485	Vibrating Presser Lifting Lever Shaft Adjusting Lever Hinge Screw.....

NO.	PLATE	NAME
662D	1485	Shuttle Tension Regulating Screw for 8603 and 81964.....
668D	1481	Tension (top) Adjusting Stud.....
1177E	1485	Rack and Pinion Box Screw.....
1381K	1485	Shuttle Driving Lever Eccentric Stud...
1513J	1486	Foot Bar Revolving Joint Slide Rod Lock Nut for 82057.....
1519D	1486	Balance Wheel Handle Spindle Nut for 82120 .....
1520R	1486	Shuttle Driving Lever Eccentric Stud Nut.....
1560D	1486	Tension (side) Adjusting Stud Thumb Nut.....
1560D	1486	Tension (top) Adjusting Stud Thumb Nut.....
1801	1486	Needle Bar Driving Lever Cam Roller and Stud for 81859 and 81942.....
1808	1486	Shuttle Driving Cam Roller and Stud for 82074 and 82142.....
1816	1486	Feed Motion Ring Slide Bar Roller and Stud for 82053.....
2102	1481	Tension (side) Disc.....
2103	1481	Tension (side) Spring for 29K51, 29K53 and 29K56 Machines.....
2460	1484	Bobbin Winder Spindle Pulley Rubber Ring for 82087 and 82090.....
2807	—	Singerlight Bracket Screw Nut Washer for 97368.....
3012	1483	Needle Bar Cam and Pulley Wheel Pin.
3012	1483	Shuttle Driving Cam Gear Pin.....
4288	1475	Arm Side Cover (back).....
4449	1474	Shaft Bushing for 82051 and 82099.....
7868	1482	Shuttle Bobbin Retaining Spring for 81952.....
8371	1484	Bobbin Winder Spindle Pulley for 81965 and 82089.....
8554	1483	Check Lever Joint Pin.....
8555	1481	“ “ Spring.....
8557	1482	Feeding Foot (narrow fork) fine, for 29K51, 29K53 and 29K56 Machines..
8558	1482	Feeding Foot (narrow fork) coarse, for 29K51, 29K53 and 29K56 Machines..
8559	1479	Feed Motion Bell Crank Lever.....
8564	1479	Foot Bar Revolving Joint for 82055....
8568	1483	Vibrating Presser Lifting Lever Shaft Adjusting Lever Clamping Screw Rivet

## NUMERICAL LIST OF PARTS

NO.	PLATE	NAME
8569	1483	Foot Bar Revolving Joint Hinge Pin....
8571	1479	" " " Washer for 82055.....
8573	1474	Head Revolving Bush.....
8574	1483	" " " Friction Spring
8575	1483	" " " " "
		Pin.....
8577	1481	Head Revolving Bush Supporting Washer
8582	1483	Lower Arm and Bed Steady Pin.....
8586	1481	Needle Bar Driving Lever Joint Pin for 29K51 and 29K53 Machines.....
8589	1483	Needle Bar Piston Joint Pin.....
8590	1475	" " Threading Wire.....
8597	1483	Oil Cup Spring for 8670.....
8601	1483	Spool Pin.....
8603	—	Shuttle complete, Nos. 662b, 8604, 8611 and 8654, for 29K51, 29K53 and 29K56 Machines.....
8604	1482	Shuttle Bobbin for 8603 and 81964.....
8610	1482	" Carrier Spring for 82068.....
8611	1482	" Tension Spring for 8603.....
8615	1483	Stitch Regulator.....
8616	1483	" " Gib.....
8617	1479	Tension (top) Cup (release).....
8618	1481	" " Disc.....
8619	1481	" " Spring.....
8620	1483	Thread Eyelet (head of arm).....
8645	1483	Shuttle Driving Lever Connecting End Pin (front) for 82078, 82111 and 82127
8651	1484	Bobbin Winder Spindle for 81965.....
*8654	1482	Shuttle Body for 8603 and 81964.....
8655	1475	Needle Bar for 81857.....
8656	1482	" " Thread Tension Spring for 81857, 81940 and 82031.....
8659	1481	Check Lever.....
8661	1476	Needle Bar Cam and Pulley Wheel with 361c, for 29K51 and 29K53 Machines.
8666	1482	Feeding Foot, for waxed thread.....
8670	1475	Oil Cup with 8597 and 8695.....
8675	1475	Foot Bar.....
8684	1484	Bobbin Winder Eccentric for 82087 and 82090.....
8695	1483	Oil Cup Oil Pad (cloth) for 8670.....
11663	1483	Balance Wheel Shaft Gear Pin for 82121
11663	1483	Feed Motion Cam Wheel Pin.....
14026	1483	Check Lever Spring Steady Pin for 81859 and 81942.....

NO.	PLATE	NAME
14026	1483	Shuttle Driving Lever Connecting End Pin (back) for 82078, 82111 and 82127
25537	—	Screw Driver, machine (Accessories) . . .
36569	—	Oiler with 36571 (Accessories) . . . . .
36571	—	Oiler Spout, 1 $\frac{3}{4}$ in. long, for 36569 (Ac- cessories) . . . . .
50319R	—	Singerlight Bracket Screw for 97368 . . .
50564J	—	" Toggle Socket Base Set Screw for 191962 . . . . .
80548	1481	Tension (side) Spring for 29K55 Machine
81857	—	Needle Bar complete, Nos. SS 50F, 8655, 8656, 81858 and two SS 133D, for 29K51 and 29K56 Machines . . . . .
81858	1482	Needle Bar Clamp with 237F, for 81857, 81940 and 82031 . . . . .
81859	1473	Needle Bar Driving Lever with 1801 and 14026, for 29K51 and 29K53 Machines
81860	1479	Needle Bar Piston Joint . . . . .
81861	1477	Feed Motion Cam Wheel with RR 18 and 81868 . . . . .
81865	1473	Balance Wheel with two 434c, for 82120
81866	1477	" " Handle (wood) for 82120
81868	1483	Vibrating Presser Roller Pin for 81861 . .
81869	1481	Balance Wheel Shaft Gear for 82121 . . .
81872	1481	Shuttle Driving Cam Gear for 82122 . . .
81876	1482	" Tension Spring for 81964 . . . . .
81939	1475	Needle Bar for 81940 . . . . .
81940	—	Needle Bar complete, Nos. SS 50F, 8656, 81858, 81939 and two SS 133D for 29K55 Machine . . . . .
81941	1476	Needle Bar Cam and Pulley Wheel with 361c, for 29K55 and 29K56 Machines .
81942	1473	Needle Bar Driving Lever with 1801 and 14026, for 29K55 and 29K56 Machines
81943	1481	Needle Bar Driving Lever Joint Pin for 29K55 and 29K56 Machines . . . . .
81951	1482	Shuttle Thread Pull-off for 81952 . . . . .
81952	—	Shuttle complete, Nos. SS 132D, SS 133D, 404D, 7868, 81951, 81993, 81994 and 82552, for 29K55 Machine . . . . .
81964	—	Shuttle complete, Nos. 662D, 8604, 8654 and 81876 for 29K51, 29K53 and 29K56 Machines . . . . .
81965	—	Bobbin Winder Spindle 8651 with 8371, for 82087 . . . . .
*81993	1482	Shuttle Body for 81952 . . . . .
81994	1482	" Tension Spring for 81952 . . . . .

## NUMERICAL LIST OF PARTS

NO.	PLATE	NAME
82007	1482	Feeding Foot for 29K51, 29K53 and 29K56 Machines.....
82008	1482	Balance Wheel Shaft for 82121.....
82010	1473	Shaft for 29K51 and 29K53 Machines..
82011	1473	“ “ 29K55 and 29K56 Machines..
82012	1474	Head Revolving Bush Handle.....
82013	266	Needle Plate (fine and medium needle holes) for 29K51 and 29K56 Machines
82014	266	Needle Plate (medium needle holes) for 29K51 and 29K56 Machines.....
82015	266	Needle Plate (fine and medium needle holes) for 29K51 and 29K56 Machines
82016	948	Needle Plate (medium and coarse needle holes) for 29K51 and 29K56 Machines
82019	268	Needle Plate (fine and medium needle holes) for 29K55 Machine.....
82020	268	Needle Plate (medium and coarse needle holes) for 29K55 Machine.....
82030	1475	Needle Bar for 82031.....
82031	—	Needle Bar complete, Nos. SS 50F, 8656, 81858, 82030 and two SS 133d, for 29K53 Machine.....
82032	948	Needle Plate (fine and medium needle holes) for 29K53 Machine.....
82033	948	Needle Plate (medium and coarse needle holes) for 29K53 Machine.....
*82051	—	Arm with 4449, for 29K51 and 29K53 Machines.....
82052	1477	Balance Wheel Hub for 82121.....
82053	1474	Feed Motion Ring Slide Bar with 1816.
82054	1479	Foot Bar Revolving Joint Bearing for 82055.....
82055	—	Foot Bar Revolving Joint Bearing 82054 with 8564 and 8571, for 82057.....
82056	1479	Foot Bar Revolving Joint Slide Rod for 82057.....
82057	1474	Foot Bar Revolving Joint complete, Nos. 82055, 82056 and two 1513r.....
82058	1474	Head of Machine.....
82059	1475	Lifter.....
*82060	—	Lower Arm and Bed for 29K51 Machine
82061	1483	Needle Plate Catch for 29K51, 29K53 and 29K56 Machines.....
82062	1483	Needle Plate Catch Spring, obsolete, use 82141.....
82063	1483	Needle Plate Catch Pin.....



# NUMERICAL LIST OF PARTS

27

NO.	PLATE	NAME
82064	1478	Pinion Cover Plate for 82119, obsolete, superseded by 82139.....
82065	1478	Rack and Pinion Box for 82119, obsolete, superseded by 82137.....
82066	1483	Rack and Pinion Box Position Pin.....
82067	1478	Rack for 82119, obsolete, superseded by 82133.....
82068	1482	Shuttle Carrier with 241b and 8610, for 82119, 82135 and 82147.....
82069	1478	Shuttle Carrier Driving Pinion for 82119, 82135 and 82147.....
82070	1478	Shuttle Carrier Driving Pinion Bushing for 82119, 82135 and 82147.....
82071	1478	Shuttle Carrier Following Pinion for 82119, 82135 and 82147.....
82072	1478	Shuttle Carrier Following Pinion Stud for 82119, 82135 and 82147.....
82073	1474	Shuttle Driving Cam with SS 235c, for 82122.....
82074	1474	Shuttle Driving Lever with 1808, obsolete, use 82142.....
82075	1482	Shuttle Driving Lever Connecting End (front) for 82078, 82111 and 82127...
82076	1482	Shuttle Driving Lever Connecting End (back) for 82078, 82111 and 82127....
82077	1475	Shuttle Driving Lever Connecting Rod for 82078.....
82078	—	Shuttle Driving Lever Connecting Rod complete, Nos. 8645, 14026 and 82075 to 82077, for 29K51 and 29K53 Machines.....
82079	1479	Vibrating Presser Lifting Lever.....
82080	1479	" " " " Shaft for 82132.....
82081	1481	Vibrating Presser Lifting Lever Shaft Lever with 454c, for 82132.....
82082	1481	Vibrating Presser Lifting Lever Shaft Adjusting Lever.....
82083	1475	Vibrating Presser Spring (light).....
82084	1475	" " " " Bar, obsolete..
82085	1478	" " " " Collar, obsolete.....
82086	1484	Bobbin Winder Frame for 82087 and 82090.....
82087	1484	Bobbin Winder complete, Nos. 128b, SS 469b, 2460, 8684, 81965 and 82086 for 29K51, 29K53 and 29K56 Machines

## NUMERICAL LIST OF PARTS

NO.	PLATE	NAME
82088	1484	Bobbin Winder Spindle for 82089.....
82089	—	“ “ “ 82088 with 8371 for 82090.....
82090	1484	Bobbin Winder complete, Nos. 128D, SS 469D, 2460, 8684, 82086 and 82089, for 29K55 Machine.....
*82094	—	Bed for 82096.....
*82095	—	Lower Arm (narrow) for 82096.....
*82096	—	Lower Arm and Bed complete, Nos. 82094, 82095 and four 123E, for 29K53 Machine.....
*82099	—	Arm with 4449, for 29K55 and 29K56 Machines.....
*82100	—	Lower Arm and Bed for 29K55 Machine
82101	1483	Needle Plate Catch for 29K55 Machine.
82102	1478	Pinion Cover Plate for 82126, obsolete, superseded by 82140.....
82103	1478	Rack and Pinion Box for 82126, obsolete, superseded by 82138.....
82104	1478	Rack for 82126, obsolete, superseded by 82134.....
82105	1482	Shuttle Carrier for 82126, 82136 and 82148.....
82106	1478	Shuttle Carrier Driving Pinion for 82126, 82136 and 82148.....
82107	1478	Shuttle Carrier Driving Pinion Bushing for 82126, 82136 and 82148.....
82108	1478	Shuttle Carrier Following Pinion for 82126, 82136 and 82148.....
82109	1478	Shuttle Carrier Following Pinion Stud for 82126, 82136 and 82148.....
82110	1473	Shuttle Driving Lever Connecting Rod for 82111.....
82111	—	Shuttle Driving Lever Connecting Rod complete, Nos. 8645, 14026, 82075, 82076 and 82110 for 29K55 Machine.
*82112	—	Lower Arm and Bed for 29K56 Machine
82113	—	Machine Base (for power table) for 29K55 and 29K56 Machines.....
82116	1483	Tension (side) Thread Guide Pin.....
82117	1483	Vibrating Presser Lifting Lever Shaft Lever Pin for 82132.....
82119	—	Rack and Pinion Box complete, Nos. SS 468E, 82064, 82065, 82067 to 82070, two each 393E, 82071 and 82072, for 29K51, 29K53 and 29K56 Machines, obsolete, superseded by 82135.....

# NUMERICAL LIST OF PARTS

29

NO.	PLATE	NAME
82120	—	Balance Wheel complete, Nos. SS 135D, 1519D, 81865 and 81866.....
82121	—	Balance Wheel Hub complete, Nos. 11663, 81869, 82008 and 82052.....
82122	—	Shuttle Driving Cam and Gear, Nos. 81872 and 82073.....
82125	1476	Machine Base (for power table) for 29K51 and 29K53 Machines.....
82126	—	Rack and Pinion Box complete, Nos. SS 468E, 82102 to 82107, two each 393E, 82108 and 82109, for 29K55 Machine, obsolete, superseded by 82136
82127	—	Shuttle Driving Lever Connecting Rod complete, Nos. 8645, 14026, 82075, 82076 and 82128, for 29K56 Machine.
82128	1473	Shuttle Driving Lever Connecting Rod for 82127.....
82129	1477	Vibrating Presser Spring (heavy).....
82130	1477	" " " Bar.....
82131	1478	" " " Collar....
82132	—	Vibrating Presser Lifting Lever Shaft 82080 with 82081 and 82117.....
82133	1810	Rack for 82135 and 82147.....
82134	1810	" " 82136 and 82148.....
82135	—	Rack and Pinion Box complete, Nos. SS 468E, 82068 to 82070, 82133, 82137, 82139, two each 393E, 82071 and 82072, for 29K51, 29K53 and 29K56 Machines, obsolete, use 82147.....
82136	—	Rack and Pinion Box complete, Nos. SS 468E, 82105 to 82107, 82134, 82138, 82140, two each 393E, 82108 and 82109, for 29K55 Machine, obsolete, use 82148
82137	—	Rack and Pinion Box for 82135, obsolete, superseded by 82143.....
82138	—	Rack and Pinion Box for 82136, obsolete, superseded by 82145.....
82139	—	Pinion Cover Plate for 82135, obsolete, superseded by 82144.....
82140	—	Pinion Cover Plate for 82136, obsolete, superseded by 82146.....
82141	1810	Needle Plate Catch Spring.....
82142	1809	Shuttle Driving Lever with 1808.....
82143	1810	Rack and Pinion Box for 82147.....
82144	1810	Pinion Cover Plate for 82147.....
82145	1810	Rack and Pinion Box for 82148.....
82146	1810	Pinion Cover Plate for 82148.....

## NUMERICAL LIST OF PARTS

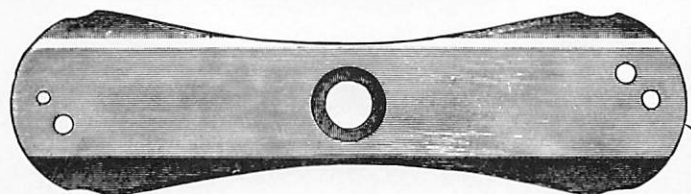
NO.	PLATE	NAME
82147	—	Rack and Pinion Box complete, Nos. SS 468E, 82068 to 82070, 82133, 82143, 82144, two each 393E, 82071 and 82072, for 29K51, 29K53 and 29K56 Machines
82148	—	Rack and Pinion Box complete, Nos. SS 468E, 82105 to 82107, 82134, 82145, 82146, two each 393E, 82108 and 82109, for 29K55 Machine.....
82552	1482	Shuttle Bobbin for 81952.....
82833	1810	Machine Screw Washer (for use with SS 418) for 29K55 and 29K56 Machines
84113	1481	Tension (top) Disc Washer (leather)....
87345	1810	Machine Screw Washer (for use with SS 130) for 29K51 and 29K53 Machines
90530	1810	Machine Screw Washer (for use with 128) for 29K51 and 29K53 Machines.....
93083	—	Singerlight Twin Cable Plug, Nos. 93084 and 93085, for Lamp Socket, for 97370
93084	—	Singerlight Twin Cable Plug Body for 93083.....
93085	—	Singerlight Twin Cable Plug Cover for 93083.....
*97340	—	Singerlight Bracket (adjustable) for 97353
97353	—	“ “ 97340 with 191815, for 97369.....
97354	—	Singerlight Twin Cable, 9 feet long, for 97370.....
97367	—	Singerlight Supporting Bracket for 97368
97368	—	Singerlight Supporting Bracket complete, Nos. SS 56D, NN 92R, 2807, 50319R and 97367, for 97369.....
97369	—	Singerlight (less cable and lamp), Nos. 97353, 97368, 190743, 190745, 191082, 191785, 191789, 191962 and two 191786, for 97370.....
97370	—	Singerlight (less lamp) with connection for lamp socket, complete, Nos. 93083, 97354 and 97369.....
120378	—	Screw Driver (shuttle tension) Accessories.....
*190743	—	Singerlight Nipple Bushing for 97369...
190744	—	“ Lamp.....
In ordering it is necessary to state the exact voltage required.		
190745	—	Singerlight Shade for 97369.....

NO.	PLATE	NAME
*191082	—	Singerlight Nipple Washer (steel) for 97369.....
*191375	—	Singerlight Toggle Socket Base complete, Nos. 191376 and 191377, for 191962..
*191376	—	Singerlight Toggle Socket Base Shell for 191375.....
*191377	—	Singerlight Toggle Socket Base Hub for 191375.....
*191381	—	Singerlight Toggle Socket Base Insulation for 191962.....
*191785	—	Singerlight Nipple Washer (felt) ½ in., for 97369.....
*191786	—	Singerlight Nipple Washer (felt) ⅝ in., for 97369.....
*191789	—	Singerlight Nipple for 97369.....
*191815	—	" " Position Pin for 97353
191962	—	Singerlight Toggle Socket complete, Nos. 50564J, 191375, 191381 and 191963 to 191965, for 97369.....
*191963	—	Singerlight Toggle Socket Shell for 191962
*191964	—	" " " " Insulation for 191962.....
191965	—	Singerlight Toggle Socket Internal Fitting complete, for 191962.....

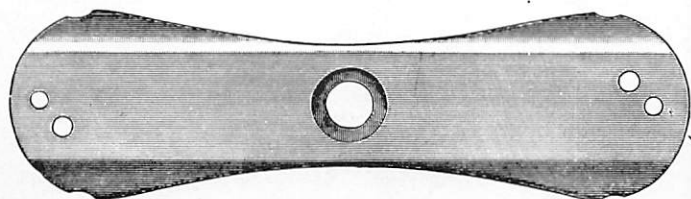
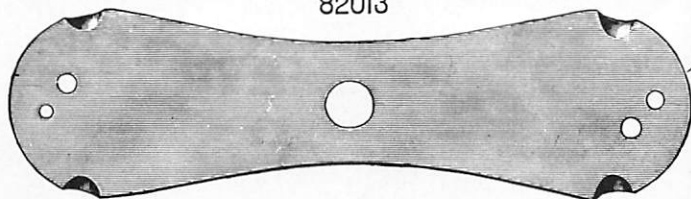
**SINGER** Needles should be used  
in **SINGER** Machines  
These Needles and their Containers  
are marked with the  
Company's Trade Mark "**SIMANCO.**"\*\*" 1

Needles in Containers marked  
"**FOR SINGER MACHINES**"  
are **NOT SINGER** made needles. 2

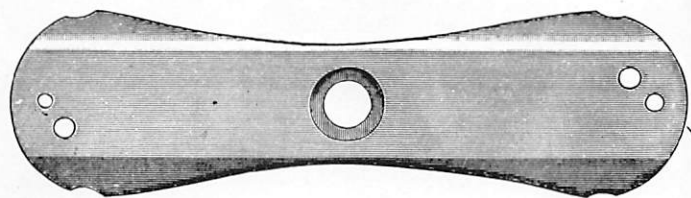
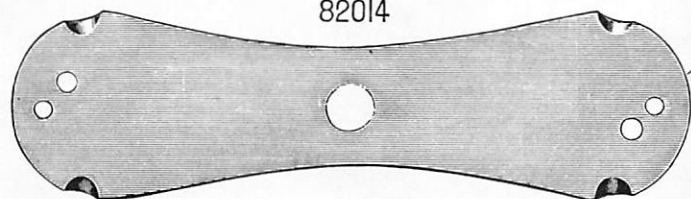
PLATE 266—FULL SIZE



82013



82014



82015

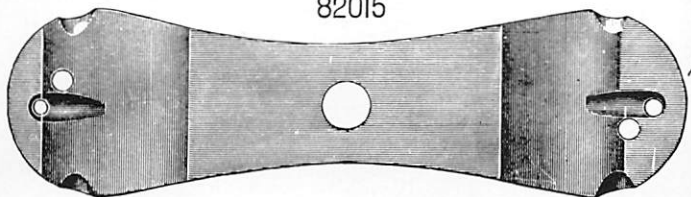
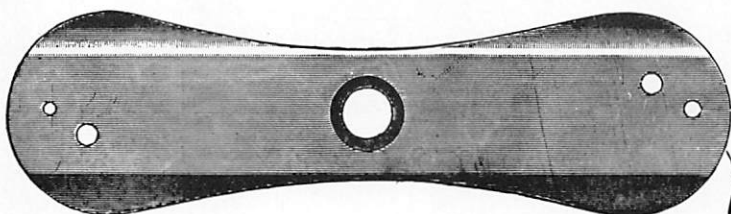
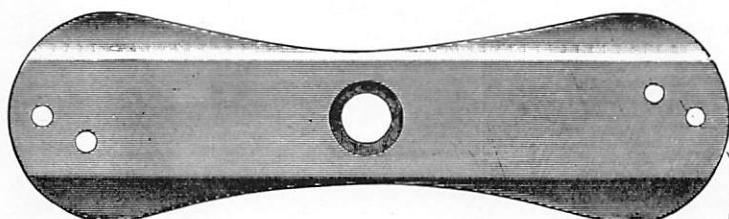
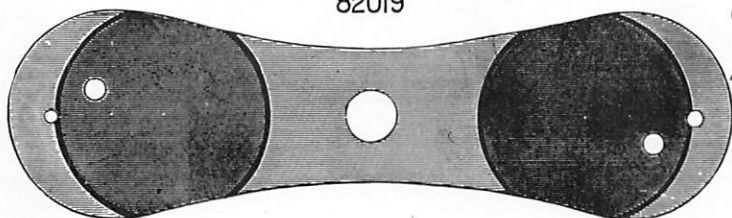


PLATE 268—FULL SIZE



82019



82020

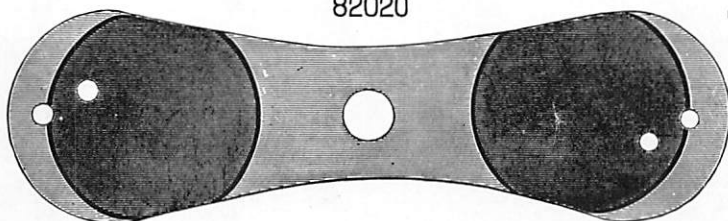
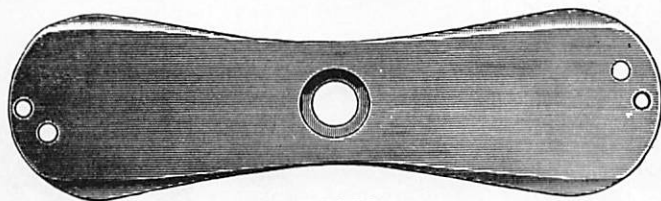
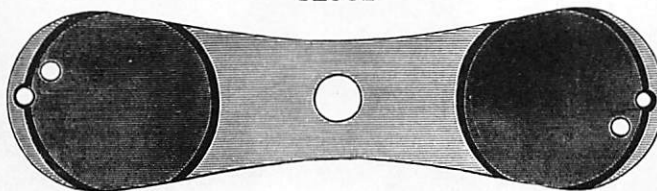




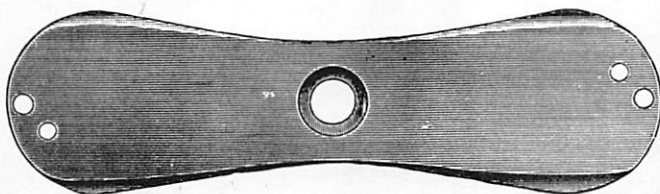
PLATE 948—FULL SIZE



82032



82033



82016

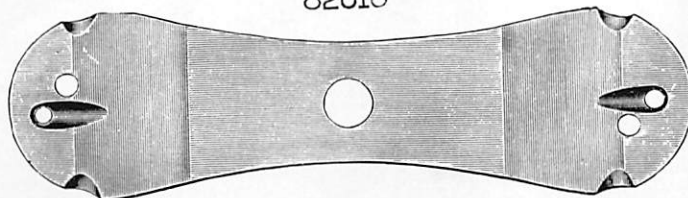
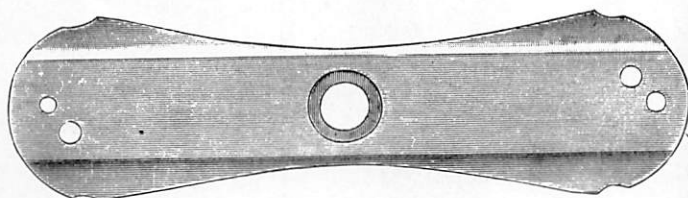
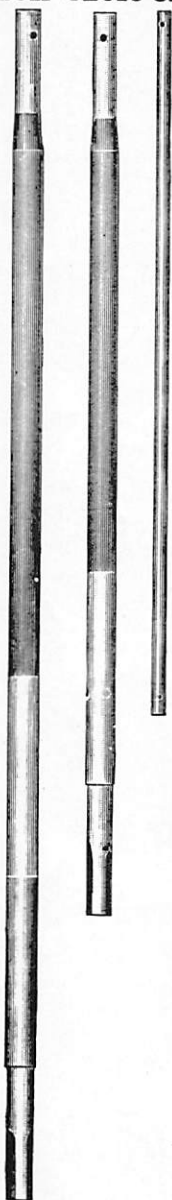


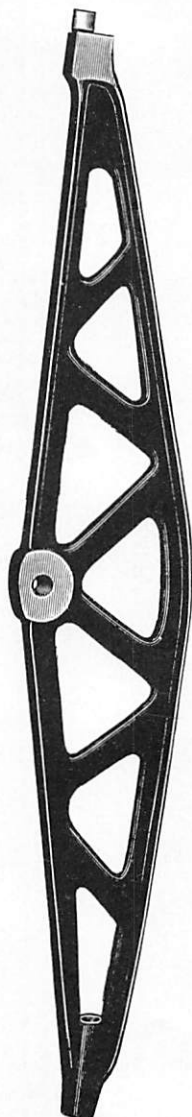


PLATE 1473—ONE-FOURTH SIZE

82011 82010 82110



81942



81865



82128



81859

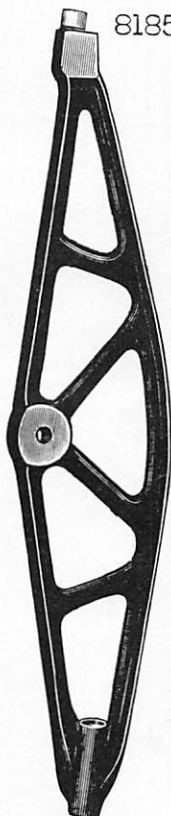
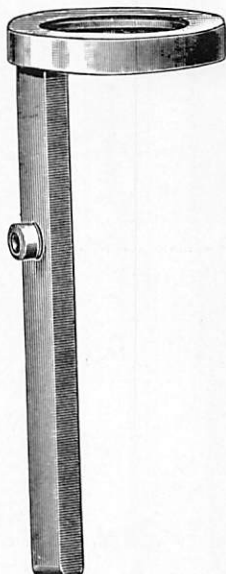


PLATE 1474—ONE-HALF SIZE

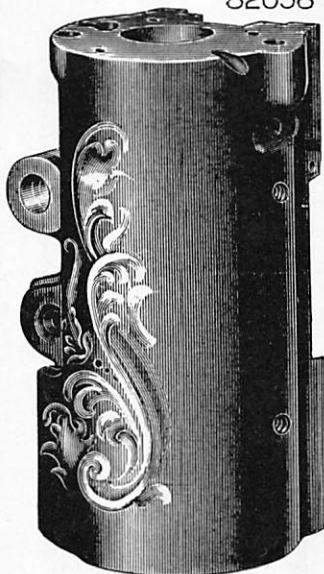
82074



82053



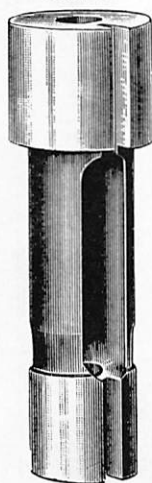
82058



82012



8573



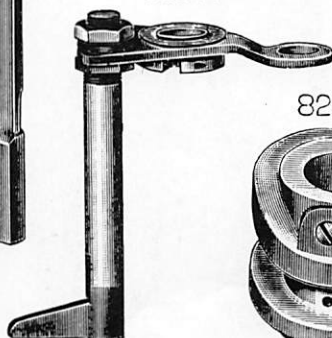
4449



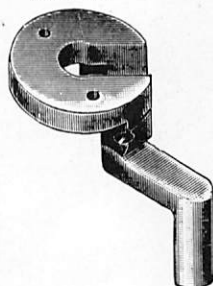
82123



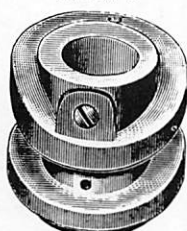
82057



82115



82073



# PLATE 1475—ONE-HALF SIZE

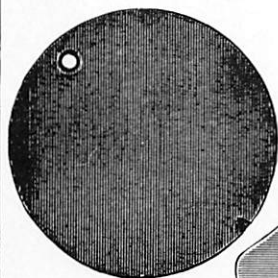
8655 81887 81939 82030 8675 81883 82077 82084 8590



82083



4288

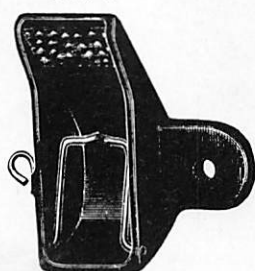


82091

82059



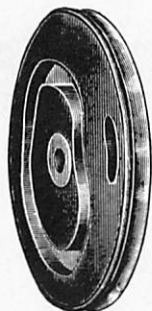
8670



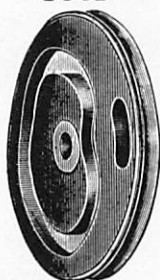


**PLATE 1476—ONE-FOURTH SIZE**

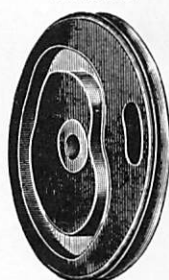
81941



8661



81890



82125

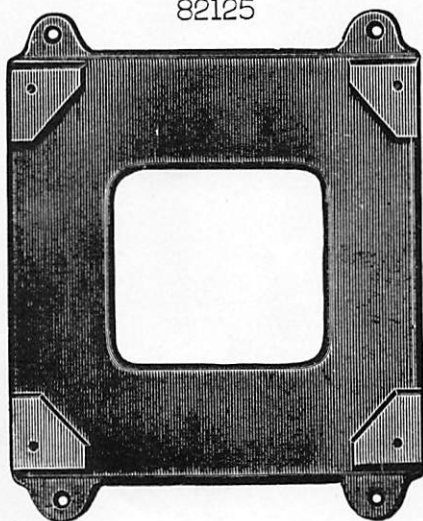
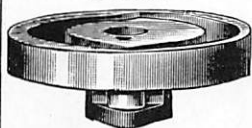
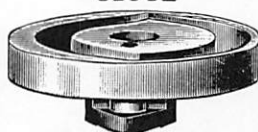


PLATE 1477—ONE-HALF SIZE

81861



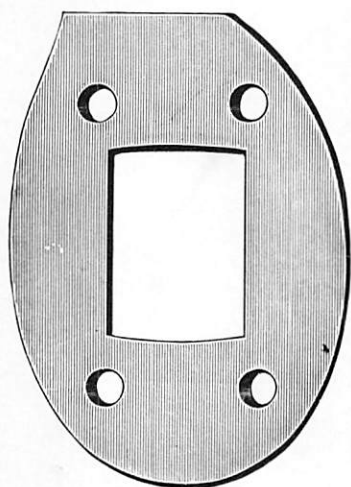
81882



82052



82093



81866

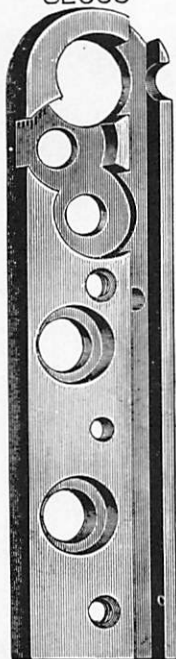


82129 82130

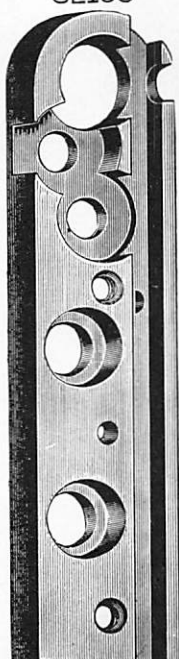


# PLATE 1478—FULL SIZE

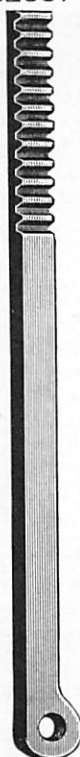
82065



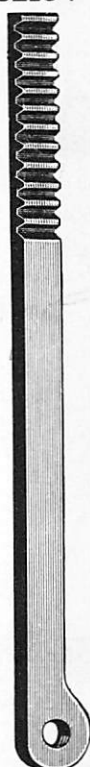
82103



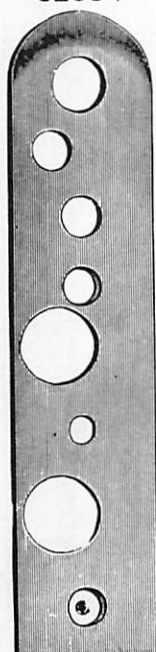
82067



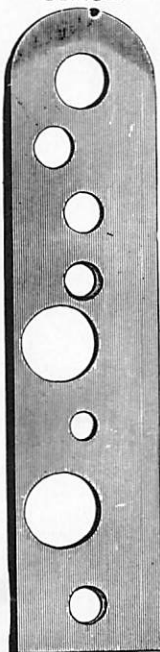
82104



82064



82102



82069



82106



82071



82108



82070



82107



82085



82109



82072



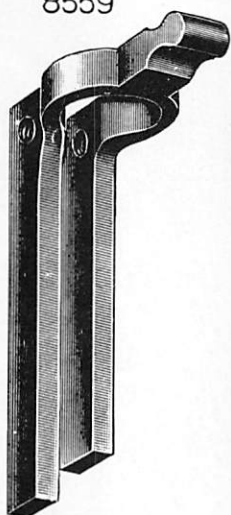
82131



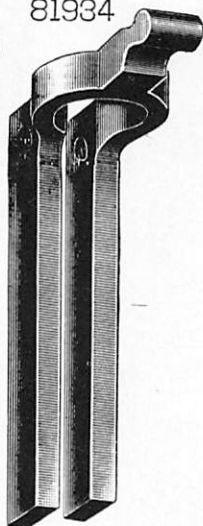


# PLATE 1479—FULL SIZE

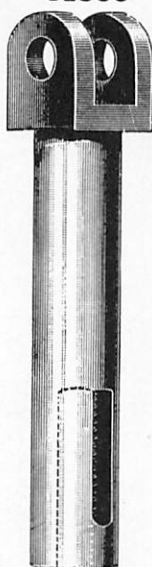
8559



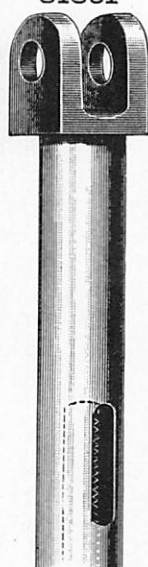
81934



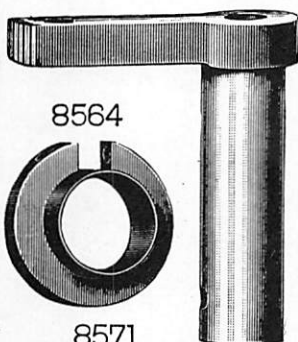
81860



81891



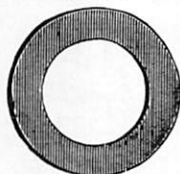
82080



8564



8571



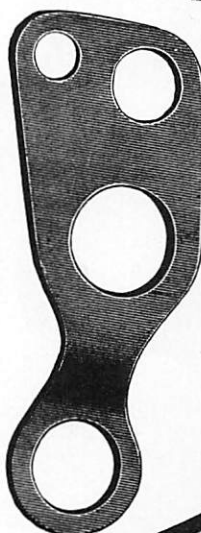
8617



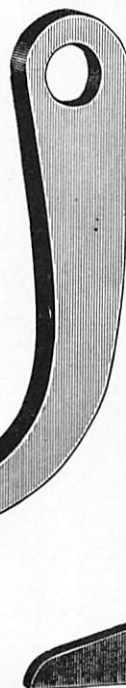
81929



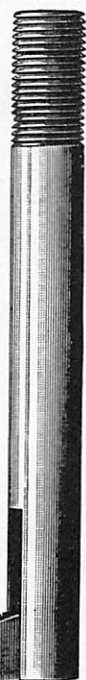
82054



82079



82056

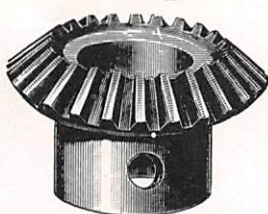


# PLATE 1481—FULL SIZE

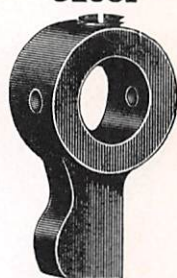
81869



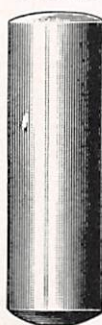
81872



82081



81943



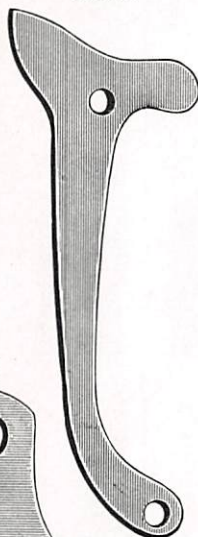
8586



668



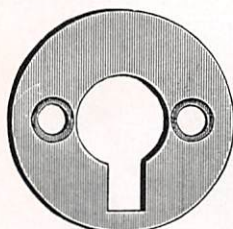
8659



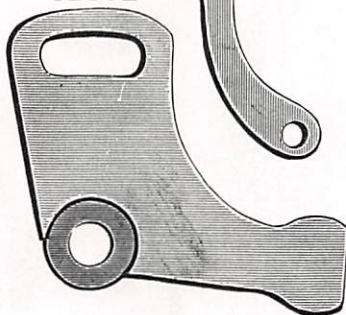
8555



8577



82082



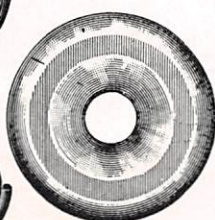
8619



2103



8618



2102



84113



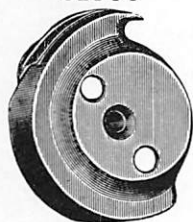
80548



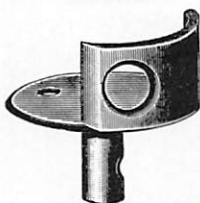


# PLATE 1482—FULL SIZE

81993



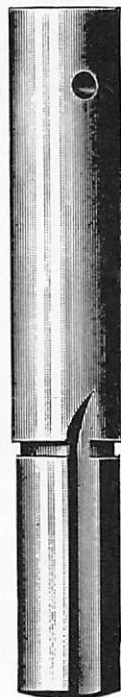
82105



8654



82008 ✓



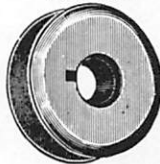
82068



8604



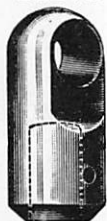
82552



82075



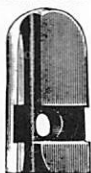
82076



81858



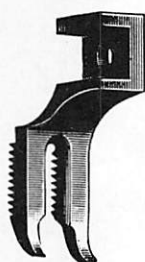
81888



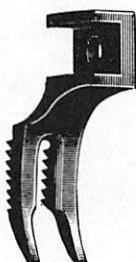
8656



8557



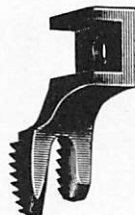
8558



8666



82007



82114



7868



81994



8610



8611



81876



81951



# PLATE 1483—FULL SIZE

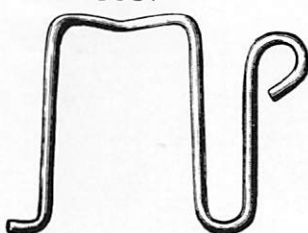
82061



82101



8597



8574



8615



8620



8589



8645



8569



8575



8601



8582



3012



82116



81868



11663



8554



8695



82117



82063



82066



8568



14026



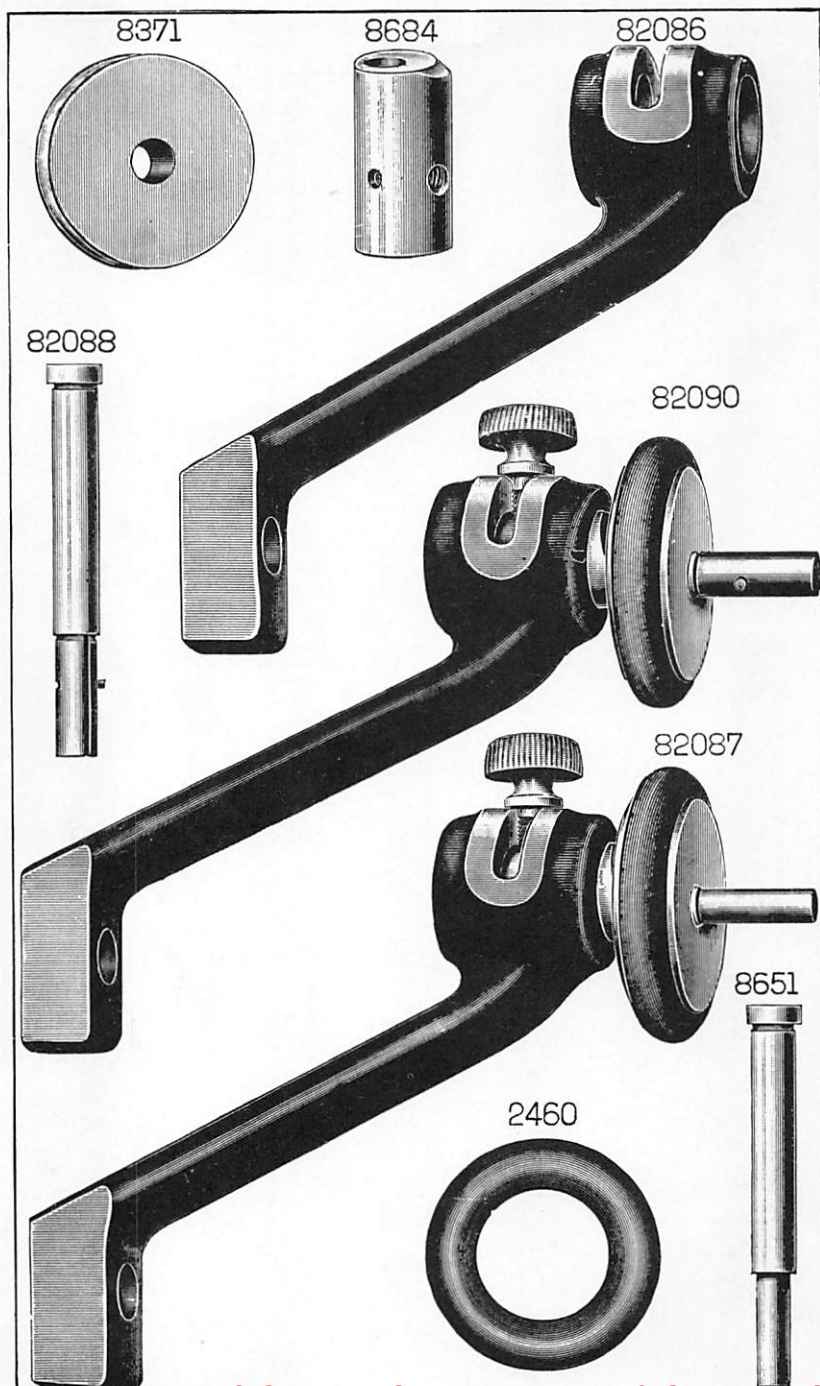
82062



8616

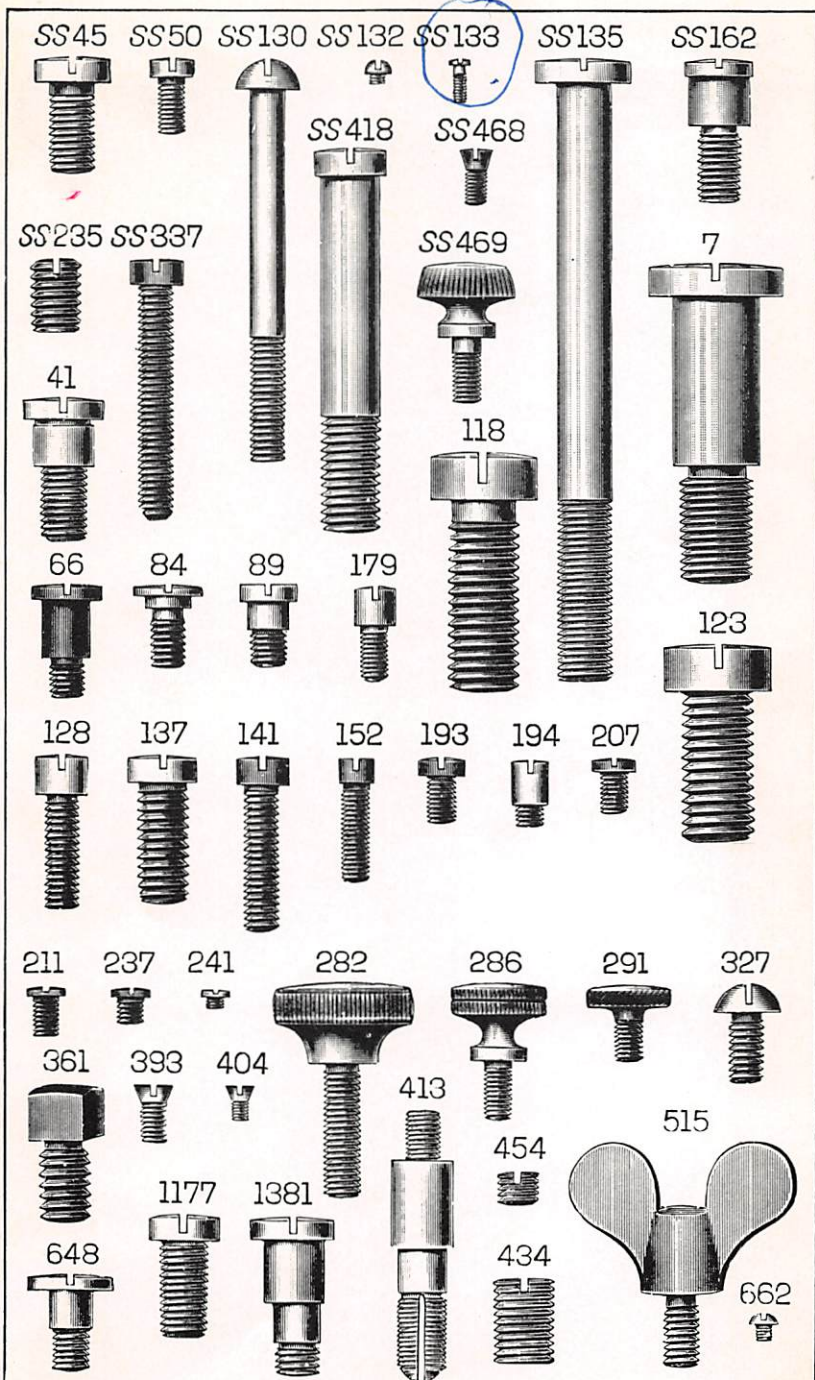


PLATE 1484—FULL SIZE





# PLATE 1485—FULL SIZE



# PLATE 1486—FULL SIZE

NW66



NW88



1513



1519



1520



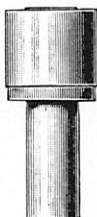
1560



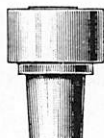
RR18



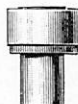
1801



1808



1816



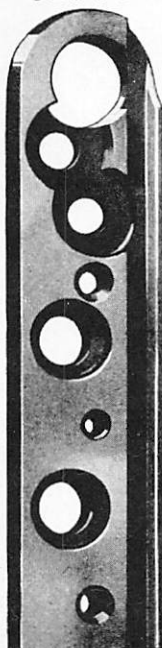
**PLATE 1809—ONE-HALF SIZE**

82142



PLATE 1810—FULL SIZE

82143



82145



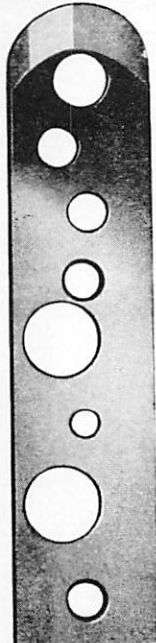
82133



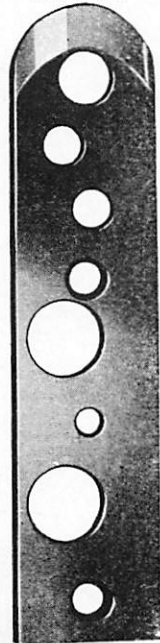
82134



82144



82146



748



82141



82833



87345 90530

