

# **SINGER**

## **114W110**

# LIST OF PARTS



## MACHINE No. 114w110

THE SINGER MANUFACTURING COMPANY

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From the Library of Diamond Needle Corp

# Instructions for Ordering

In ordering from this list, use **ONLY** the **PART** number in the **FIRST** column.

The number stamped on a Sewing Machine Part is the number of the Single Part only, except when the part includes Set Screws, Clamping Screws, Studs and Rollers Spun on, Small Wires riveted, or Parts soldered together, etc., which it is necessary to furnish in combination.

Every combination of parts sent out has its specific number which, although not stamped on Parts (except in above cases) 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 and Plated.
- B. Polished and Plated.
- C. Hardened only.
- D. Polished only.
- E. Soft, not polished.
- F. Hardened and Polished.
- H. Blued.

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

In this series

- 200001 to 201500 are Screw Numbers.
- 201501 to 201800 are Nut Numbers.
- 201801 to 202000 are Roller Numbers.
- 202001 and upward are numbers of Machine Parts.

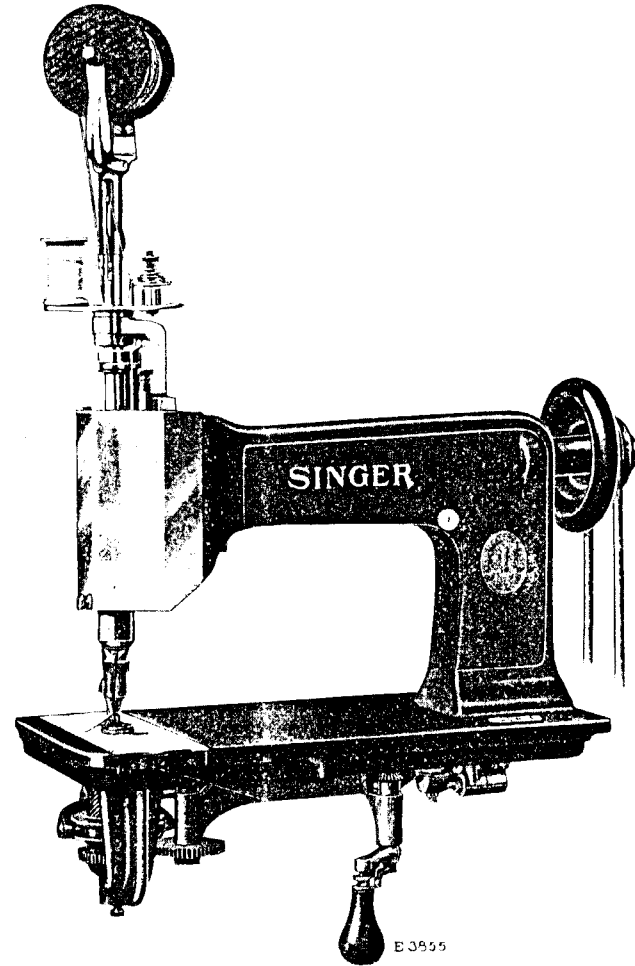
The figures in the second column refer only to the plate in which the illustration of the part is shown and are **NOT TO BE USED** in ordering.

Two or more numbers over a cut indicate that the difference between such parts is not visible in an illustration.

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

## LIST OF PARTS COMPLETE

FOR



From the library of: Diamond Needle Corp

E 3955

## MACHINE No. 114w110

UNIVERSAL FEED. LOCK STITCH

For Sewing Various Forms of Braid on Waists, Cloaks, Dresses, Suits, Uniforms, etc.

No.	Plate	Name
*231601	---	Arm with 201048n, 231608 and two 222404 .....

No.	Plate	Name
231602	12455	Arm Head .....
222404	12454	" " Position Pin .....
200011D	12454	" " Screw (2) .....
231706	12455	" " Sleeve .....
231829	12455	" " Bearing with two each 200355c, 231830 and four 200076D .....
231830	12455	Arm Head Sleeve Bearing Friction Gib .....
200355c	---	Arm Head Sleeve Bearing Friction Gib Adjusting Screw .....
200076D	12465	Arm Head Sleeve Bearing Friction Gib Screw .....
200024D	12454	Arm Head Sleeve Bearing Screw (2) .....
231605	12454	Arm Head Sleeve Bevel Gear with 200380c .....
200380c	12454	Arm Head Sleeve Bevel Gear Set Screw .....
231606	12454	Arm Head Sleeve Collar with two 201021c .....
201021c	12454	Arm Head Sleeve Collar Set Screw
202004	12454	" Position Pin (2) .....
200029c	12454	" Screw (4) .....
231607	12455	" Shaft .....
203244	12454	" " Collar with two 200393c
200393c	12454	" " " Set Screw .....
222412	12454	" " Driving Flange with 200098F and 201032F .....
201032F	12454	Arm Shaft Driving Flange Position Screw .....
200098F	12454	Arm Shaft Driving Flange Set Screw .....
231608	---	Arm Side Cover .....
201048E	12454	" " " Thumb Screw ...
*231815	---	Bed .....
231610	12456	" Plate (back) .....
210983	12454	" " " Position Pin .....
200577H	12454	" " " Screw .....
231611	12456	" " (front) .....
231612	12454	" " " Latch Plunger .....
231613	12454	" " " " " Spring
200362c	12454	" " " " " " Stop Screw .....
231619	12454	Braid Guide with 200391c, for stitching $\frac{1}{8}$ in. braid on edge ..
200391c	12454	Braid Guide Adjusting Screw .....
231714	12462	" " Carrier with 201665E, 231715 and two 201411D .....

No.	Plate	Name
231715	12454	Braid Guide Carrier Guide Block
201411D	12454	" " " " " Screw .....
231716	12454	Braid Guide Carrier Lifting Bell Crank .....
231717	12454	Braid Guide Carrier Lifting Bell Crank Hinge Stud (eccentric) ..
200346c	12454	Braid Guide Carrier Lifting Bell Crank Hinge Stud Set Screw ..
231718	12457	Braid Guide Carrier Lifting Con- nection .....
231826	12457	Braid Guide Carrier Lifting Con- nection Extension .....
231719	12457	Braid Guide Carrier Lifting Con- nection Guide Stud .....
200364c	12457	Braid Guide Carrier Lifting Con- nection Guide Stud Set Screw ..
201412c	12457	Braid Guide Carrier Lifting Screw Stud .....
231793	12457	Braid Guide Carrier Spring .....
350077D	12457	" " " Thumb Screw (pressure regulating) .....
201665E	12457	Braid Guide Locking Thumb Nut..
231704	12469	" Spool .....
231705	12456	" " Bracket with 200694F and two 200364c .....
200364c	12457	Braid Spool Bracket Set Screw ..
231834	12455	" " " Base Plate Ball Bearing with twelve 231835 ...
231835	---	Braid Spool Bracket Base Plate Ball Bearing Ball, $\frac{1}{4}$ in. diameter
231836	12455	Braid Spool Bracket Base Plate Ball Bearing Friction Washer (2)
231708	12457	Braid Spool Friction Spring .....
200479F	12457	" " " " Adjust- ing Thumb Screw .....
201215F	12457	Braid Spool Friction Spring Screw (2) .....
231853	12457	Braid Spool Spindle .....
222565	12456	Driving Pulley .....
222416	12458	" " Sleeve .....
200062D	12457	" " " Screw .....
231733	12458	Face Plate .....
200469D	12457	" " Screw .....
231734	12457	Feed Bell Crank with 201035F and 201864 .....
231828	12457	Feed Bell Crank Hinge Stud .....
200362c	12454	" " " " " Set Screw .....

No.	Plate	Name
201864	12457	Feed Bell Crank Roller .....
201035F	12457	" " " " Screw ....
231735	12457	" Lever .....
231736	12459	" " Bracket with 200125F..
231737	12459	" " " Guide .....
231738	12459	" " " " Bearing ...
231739	—	" " " " " 231738 with 231737, 231740 and two 200581H .....
200072C	12459	Feed Lever Bracket Guide Bearing Screw (2) .....
231740	12459	Feed Lever Bracket Guide Cap
200581H	12459	" " " " " " Screw .....
200125F	12459	Feed Lever Bracket Set Screw ..
200680C	12459	" " Hinge Screw Stud ...
222426	12459	" Recovering Spring (left) ...
222427	12459	" " " (right) ...
201051D	12459	" " " Screw (2) ..
231839	12459	" Regulating Collar with 200692F
200692F	12459	" " " Screw Stud
*231741	—	" Rotating Pinion .....
*231742	—	" " " Bevel Gear ..
231744	12459	" " " " " Stud (eccentric) .....
200337C	12459	Feed Rotating Pinion Bevel Gear Stud Set Screw .....
231810	12459	Feed Rotating Pinion Position Pin
231743	12459	Feed Rotating Pinion and Bevel Gear complete, Nos. 231741, 231742 and 231810 .....
231745	12458	Feed Rotating Shaft .....
231807	12459	" " " Gear (front) ..
231831	12459	" " " " " Po- sition Pin .....
222428	12459	Feed Rotating Shaft Gear (rear) with 200119F .....
200119F	12459	Feed Rotating Shaft Gear (rear) Set Screw .....
231746	12458	Feed Slide Bar .....
231838	12458	" " Block (feed regulating)
231748	12458	Needle Bar with 200389C .....
231749	12460	" " Guide Block with two 200380C .....
200380C	12454	Needle Bar Guide Block Set Screw
231750	12460	" " Operating Collar .....
200100D	12460	" " " " " Screw (2) .....

No.	Plate	Name
231751	12458	Needle Bar Operating Slide .....
231817	12460	" Driving Cam with 231753 ..
201942	12460	" " " Roller .....
231753	12460	" " " Stud ...
200389C	12460	" Set Screw .....
231754	12460	Presser Foot with 222529 .....
222473	12460	" " Clamp with 201053F..
201053F	12460	" " " Thumb Screw..
231760	12458	" " Lever .....
231761	12458	" " " Swivel .....
201191F	12460	" " " " Hinge Screw (2) .....
201185D	12460	Presser Foot Lever Swivel Stop Screw .....
231762	12460	Presser Foot Lifter with 201074C..
201074C	12460	" " " Position Screw
231763	12460	" " " Stop Pin .....
231764	12460	" " " " Spring
231765	12460	" " Lifting Lever .....
222529	12460	" " Shoe (rubber) .....
231766	12462	" " Slide Bar .....
200047D	12460	" " " " Adjusting Screw .....
222582	12462	Presser Foot Slide Bar Guide ....
200364C	12457	" " " " " Set Screw .....
222584	12460	Presser Foot Slide Bar Spring
231827	12460	" " " " " " Plunger .....
222586	12460	Presser Foot Slide Bar Spring Stop
200145H	12460	" " " " " " " Screw .....
350078D	12460	Presser Foot Slide Bar Thumb Screw (pressure regulating) ...
231767	12461	Presser Foot Slide Bell Crank ....
231809	12461	" " " " " Hinge Stud .....
200378C	12461	Presser Foot Slide Bell Crank Hinge Stud Set Screw .....
*231768	—	Shuttle .....
231837	12461	" Bobbin .....
231703	—	" " Friction Spring .....
200594C	—	" " " " Screw..
231769	12462	" Carrier with 200167E, 200366C, 231776 and 231791 .....
231770	12462	Shuttle Carrier Bracket with two 200362C .....
222404	12454	Shuttle Carrier Bracket Position Pin (2) .....

No.	Plate	Name
201058E	12461	Shuttle Carrier Bracket Screw (2)
222447	---	" " Driving Bevel Gear
222597	12461	" " " " "
		222447 with 201052c .....
201052c	12461	Shuttle Carrier Driving Bevel Gear Set Screw .....
231771	12462	Shuttle Carrier Driving Gear with two 200374c .....
200374c	12461	Shuttle Carrier Driving Gear Set Screw .....
231772	12461	Shuttle Carrier Driving Gear Shaft
231773	12462	" " Gear with two 200335c
231774	12462	" " " Plate .....
200089D	12461	" " " Screw (3)
200335c	12461	" " " Set Screw .....
231775	12461	" " Stud .....
200362c	12454	" " " Set Screw .....
231776	12461	" " Thread Loop Guide
200366c	12461	" " " " " "
		Set Screw .....
231777	12462	Shuttle Driver .....
231778	12462	" Driving Connection with 200055D and 201671E .....
231779	12461	Shuttle Driving Connection Crank with 200374c .....
40025	12461	Shuttle Driving Connection Crank Position Pin .....
200374c	12461	Shuttle Driving Connection Crank Set Screw .....
350083c	12461	Shuttle Driving Connection Hinge Screw Stud (eccentric) .....
201518E	12461	Shuttle Driving Connection Hinge Screw Stud Nut .....
200055D	12461	Shuttle Driving Connection Pinch Screw .....
201671E	12461	Shuttle Driving Connection Pinch Screw Lock Nut .....
231781	12461	Shuttle Driving Eccentric .....
222526	12461	" " " Position Pin
231782	12464	" " Fork with 200363c and two 201422E .....
40025	12461	Shuttle Driving Fork Position Pin
201827	12463	" " " Roller .....
201422E	12463	" " " " Screw Stud .....
200363c	12463	Shuttle Driving Fork Set Screw ..
231783	12463	" " Gear (spiral) with two 350069c .....

No.	Plate	Name
231808	12463	Shuttle Driving Gear Nut (spiral)
200577U	12454	" " " " Screw
350069c	12463	" " " Set Screw ..
231785	12464	" " Ring with 231808 and two 200577U .....
231786	12464	Shuttle Driving Shaft .....
231816	12463	" " " Bushing (2).
200362c	12454	" " " " Set Screw (2) .....
231788	12463	Shuttle Latch .....
*202056	---	" " Pin .....
231789	12463	" " Plunger .....
231790	12463	" " Spring .....
350121E	---	" " Stop Screw ...
*231791	---	" Race .....
200167E	12463	" " Screw .....
231792	12463	Shuttle complete, Nos. 202056, 203216, 231703, 231768, 231788 to 231790, 350121E and two 200594c
203216	---	Shuttle Washer (cloth) .....
201414D	12463	Spool Screw Stud .....
222487	12463	Starting Trip Lever with 201054c..
231794	12464	" " " (intermediate)
201033D	12463	" " " "
		Hinge Screw Stud .....
222488	12463	Starting Trip Lever Block .....
201054c	12463	" " " " Screw Stud .....
201035E	12457	Starting Trip Lever Hinge Screw..
222490	12463	" " " Rod .....
231795	12464	" " " Slide .....
222492	12463	" " " " Cap .....
200110D	12463	" " " " Screw
222493	12463	" " " " Spring ...
222428	12459	Stitch Rotating Gear with 200119E (7) .....
200119E	12459	Stitch Rotating Gear Set Screw..
231796	12464	" " " Shaft (hori- zontal) .....
231797	12463	Stitch Rotating Gear Shaft (inter- mediate) .....
231798	12464	Stitch Rotating Gear Shaft (verti- cal) .....
231811	12463	Stitch Rotating Gear Shaft (verti- cal) Collar .....
231799	12466	Stitch Rotating Gear Shaft Bracket
205510	12463	" " " " "
		Position Pin (2) .....
201058E	12461	Stitch Rotating Gear Shaft Bracket Screw (3) .....

No.	Plate	Name
222498	12466	Stitch Rotating Hand Lever with 200084F .....
222503	—	Stitch Rotating Hand Lever 222498 with 201035F, 222487, 222488 and 222501 .....
222499	—	Stitch Rotating Hand Lever Handle (wood) .....
222500	—	Stitch Rotating Hand Lever Handle Sleeve .....
222501	12466	Stitch Rotating Hand Lever Handle Sleeve 222500 with 206134 and 222499 .....
206134	12463	Stitch Rotating Hand Lever Handle Sleeve Washer .....
200084F	12463	Stitch Rotating Hand Lever Set Screw .....
222504	12463	Stitch Rotating Hand Lever Shaft 222447 — " " " " " Gear .....
222596	12463	Stitch Rotating Hand Lever Shaft Gear 222447 with 200119F .....
200119F	12459	Stitch Rotating Hand Lever Shaft Gear Set Screw .....
222539	12466	Stop Bracket .....
222540	12465	" " Interlocking Rod .....
222507	12465	" " " " Spring .....
222541	12465	" " " " Stop Block .....
200076b	12465	Stop Bracket Interlocking Rod Stop Block Screw .....
222538	12465	Stop Bracket Position Pin (2) ....
201058E	12461	" " Screw (2) .....
231802	—	Stop Bracket complete, Nos. 200076b, 200110b, 201216c, 201863, 222492, 222493, 222507, 222539 to 222541, 222594 and 231795 .....
231800	12465	Stop Cam with 231801 .....
231801	12465	" " Driving Stud .....
222594	12465	" " Locking Lever with 201055F .....
201216c	12465	Stop Cam Locking Lever Hinge Screw .....
201863	12465	Stop Cam Roller .....
201055F	12465	" " " Screw Stud .....
222511	12465	" " Spring .....
203244	12454	" " " Collar with two 200393c .....
200393c	12454	Stop Cam Spring Collar Set Screw
231707	12466	Tension Base Plate with 200364c, 201340c and 231710 .....

No.	Plate	Name
201340c	12465	Tension Base Plate Position Screw
200364c	12457	" " " Set Screw ....
235386	12465	" Disc .....
231823	12465	" Release Plunger .....
204270	12465	" Spring .....
201280c	12465	" Stud .....
231824	12465	" " Socket .....
201518E	12461	" " " Nut .....
201572B	10881	" " Thumb Nut .....
235443	12465	" Washer .....
231804	12465	Thread Controller Spring .....
235391	12465	" " " Adjusting Collar .....
231710	12465	Thread Guide .....
231840	—	" Take-up Lever .....
200694F	12465	" " " Hinge Screw
231713	12466	" " " Operating Sleeve with 201188c .....
201188c	12465	Thread Take-up Lever Operating Sleeve Set Screw .....
201944	12465	Thread Take-up Lever Roller ....
350096c	12465	" " " " Screw Stud .....

## ACCESSORIES

No.	Plate	Name
231618	—	Braid Guide with 200391c, for stitching $\frac{3}{4}$ in. braid on edge ..
231621	—	Braid Guide with 200391c, for stitching $\frac{1}{2}$ in. braid on edge ..
231628	—	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{3}{4}$ in. wide. A thickness .....
231629	—	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{3}{4}$ in. wide. A thickness .....
231631	12454	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{1}{2}$ in. wide. C thickness .....
231639	—	Braid Guide with 200391c, for stitching round braid $\frac{1}{4}$ in. diameter .....
231640	—	Braid Guide with 200391c, for stitching round braid $\frac{3}{4}$ in. diameter .....
231644	—	Braid Guide with 200391c, for stitching round braid $\frac{3}{4}$ in. diameter .....
231814	12469	Braid Spool Winder Spindle .....
231813	—	“ Threader Wire .....
222529	12460	Presser Foot Shoe (rubber) (6) ..
231837	12461	Shuttle Bobbin (12) .....
*225482	—	“ “ Case Screw Driver Blade .....
*225483	—	Shuttle Bobbin Case Screw Driver Handle .....
225497	12469	Shuttle Bobbin Case Screw Driver complete, Nos. 225482 and 225483
222521	12469	Spool Winder Spindle Washer ...
222518	12469	Thread Knife .....
231812	—	Threader Wire .....
36553	12469	Tweezers .....
126 x 1	—	Needles, twelve, size 14 .....
201219c	12469	Bed Clamping Thumb Screw (2)
231704	12469	Braid Spool (6) .....
41564	12469	Machine Rest Pin (wood) .....
36578	12469	Oiler with 36579 .....
36579	12469	“ Spout, $3\frac{1}{2}$ in. long, with 120117
120117	—	“ “ Washer (leather) .....
*225484	—	Screw Driver Blade .....
*225485	—	“ “ Handle .....

No.	Plate	Name
225498	12469	Screw Driver complete (7 $\frac{1}{2}$ in. long), Nos. 225484 and 225485 ..

### BOBBIN WINDER

#### Swing Automatic, Right Hand

225453	12467	Frame with 202277 and 225438 ...
225454	12467	“ Hinge Pin .....
202277	—	“ Oil Packing (wick) .....
225438	12467	“ “ Well Cap .....
225455	12467	“ Spring .....
225456	12467	“ “ Plunger .....
202473	12468	Pulley with 200105c .....
200105c	12467	“ Set Screw .....
225384	12467	Spindle .....
225444	12467	Stop Latch .....
200056E	12467	“ “ Screw .....
225458	12467	“ “ Thumb Lever .....
225459	12467	“ “ “ “ Hinge Stud
225460	12467	“ “ “ “ Joint Stud
202478	12467	“ “ Trip Lever .....
200299H	12467	“ “ “ “ Hinge Screw
225461	10881	Tension Bracket with 201499B ...
200082D	10881	“ “ Screw .....
228026	12467	“ “ “ Washer .....
2102	10881	“ Disc .....
202407	10881	“ Spring .....
201499B	10881	“ Stud .....
201572B	10881	“ “ Thumb Nut .....
225462	10881	Bobbin Winder Tension Bracket complete, Nos. 201572B, 202407, 225461 and two 2102 .....
225433	12468	Bobbin Winder and Tension Bracket Base .....
225385	12468	Universal Bobbin Winder complete, Nos. 200056E, 200082D, 200299H, 202473, 202478, 225384, 225433, 225444, 225453 to 225456, 225458 to 225460, 225462, 228026 and two wood screws $\frac{3}{4}$ in., No. 13, R.H.B.



## BRAID GUIDES

### FOR STITCHING BRAID ON FLAT

Note: In ordering Braid Guides give letter which signifies thickness of braid, in addition to the number

A	up to $\frac{1}{16}$ inch	G	$\frac{3}{32}$ to $\frac{1}{4}$ inch
B	$\frac{1}{16}$ to $\frac{1}{8}$ inch	H	$\frac{1}{4}$ to $\frac{1}{2}$ inch
C	$\frac{1}{8}$ to $\frac{3}{16}$ inch	K	$\frac{1}{2}$ to $\frac{3}{4}$ inch
D	$\frac{3}{16}$ to $\frac{1}{4}$ inch	L	$\frac{3}{4}$ to $\frac{7}{8}$ inch
E	$\frac{1}{4}$ to $\frac{5}{16}$ inch	M	$\frac{7}{8}$ to $1\frac{1}{8}$ inch
F	$\frac{5}{16}$ to $\frac{3}{8}$ inch	N	$1\frac{1}{8}$ to $1\frac{3}{8}$ inch

No.	Plate	Name
231628	---	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{1}{16}$ in. wide. A to E thicknesses ..
231629	---	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{1}{8}$ in. wide. A to F thicknesses ..
231630	---	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{3}{16}$ in. wide. A to G thicknesses ..
231631	12454	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{1}{4}$ in. wide. A to H thicknesses ..
231632	---	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{5}{16}$ in. wide. A to K thicknesses ..
231633	---	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{3}{8}$ in. wide. A to L thicknesses ..
231635	---	Braid Guide with 200391c, for stitching braid flat, for braid $\frac{7}{8}$ in. wide. A to N thicknesses ..

### FOR STITCHING BRAID ON EDGE

231618	---	Braid Guide with 200391c, for stitching $\frac{1}{16}$ in. braid on edge ..
231619	12454	Braid Guide with 200391c, for stitching $\frac{1}{8}$ in. braid on edge ..
231620	---	Braid Guide with 200391c, for stitching $\frac{3}{16}$ in. braid on edge ..
231621	---	Braid Guide with 200391c, for stitching $\frac{1}{4}$ in. braid on edge ..

No.	Plate	Name
231622	---	Braid Guide with 200391c, for stitching $\frac{1}{4}$ in. braid on edge ..

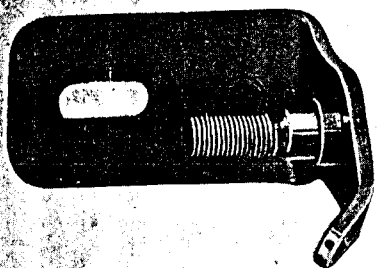
### FOR STITCHING ROUND BRAID

231639	---	Braid Guide with 200391c, for stitching round braid $\frac{1}{16}$ in. diameter ..
231640	---	Braid Guide with 200391c, for stitching round braid $\frac{1}{8}$ in. diameter ..
231641	12454	Braid Guide with 200391c, for stitching round braid $\frac{3}{16}$ in. diameter ..
231643	---	Braid Guide with 200391c, for stitching round braid $\frac{1}{4}$ in. diameter ..
231644	---	Braid Guide with 200391c, for stitching round braid $\frac{5}{16}$ in. diameter ..
231645	---	Braid Guide with 200391c, for stitching round braid $\frac{3}{8}$ in. diameter ..

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PLATE 10881—FULL SIZE

225461



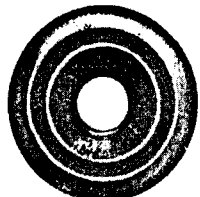
200082



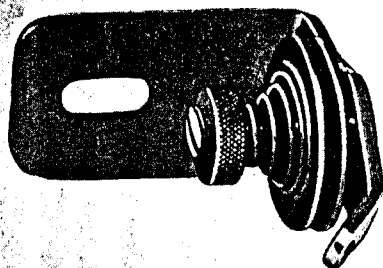
202104



2102



225462



202407



201499



201572



PLATE 12454—FULL SIZE

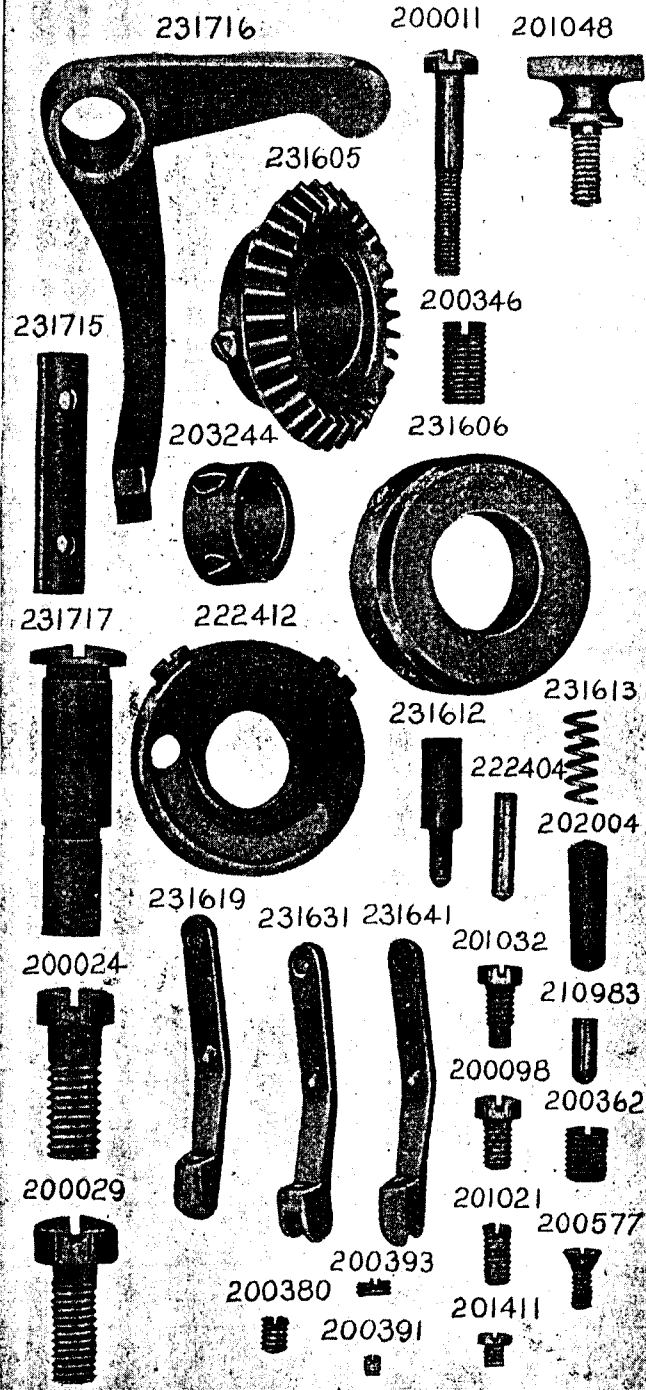
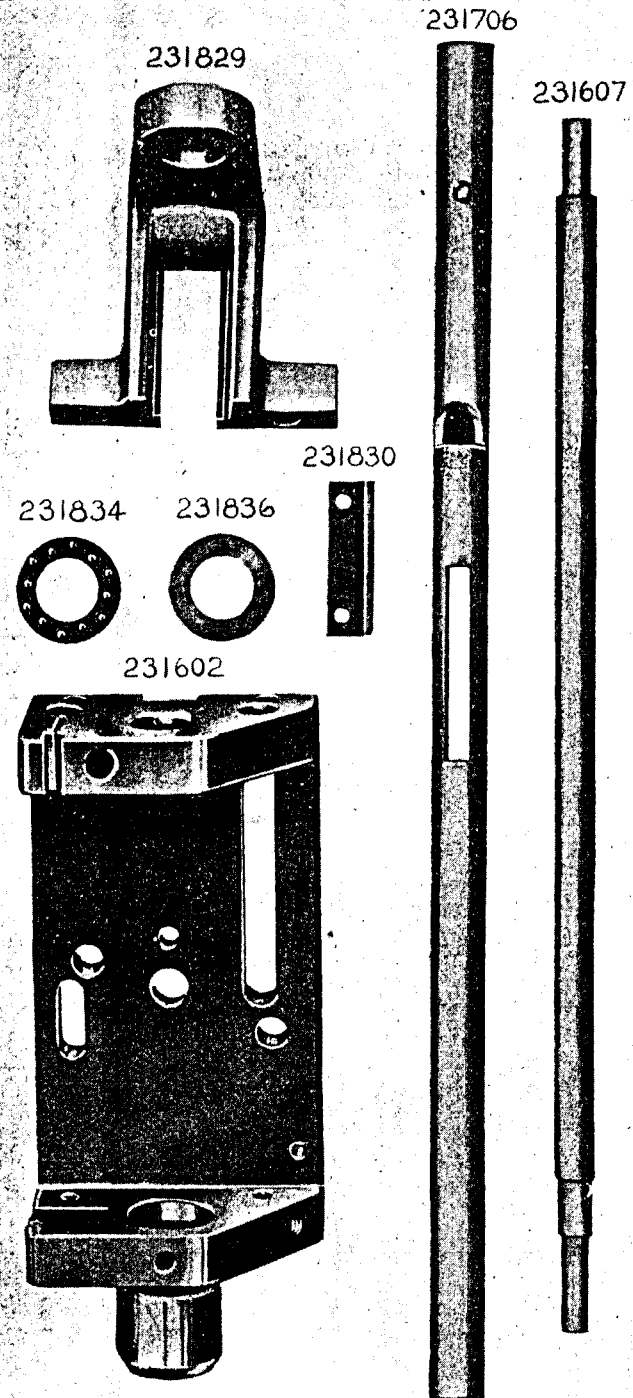


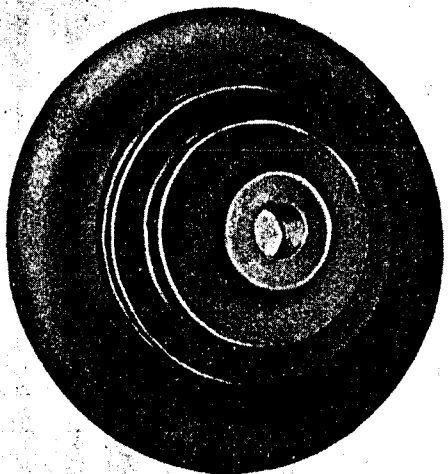
PLATE 12455—ONE-HALF SIZE



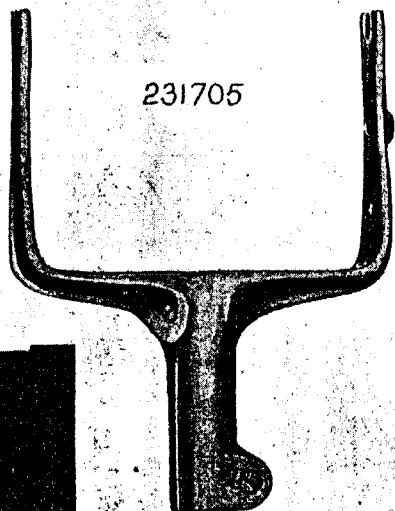
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PLATE 12456—ONE-HALF SIZE

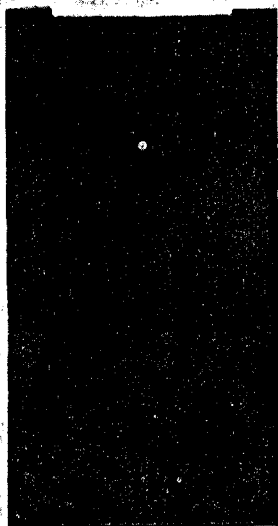
222565



231705



231611



231610

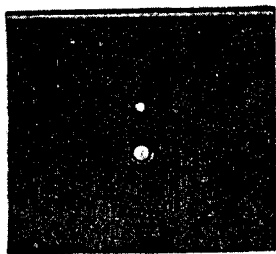
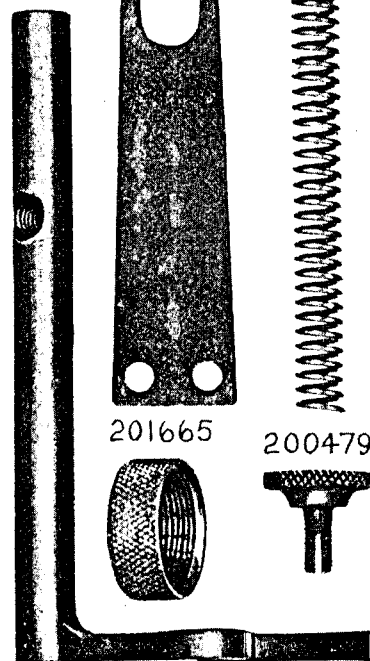


PLATE 12457—FULL SIZE

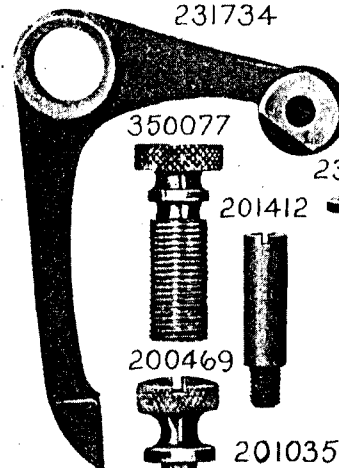
231718 231708 231793 231853 231826



200479



231734



350077

201412

231828

231735

200469

201035

200062

201864

201215

231719



200364



PLATE 12458—ONE-HALF SIZE

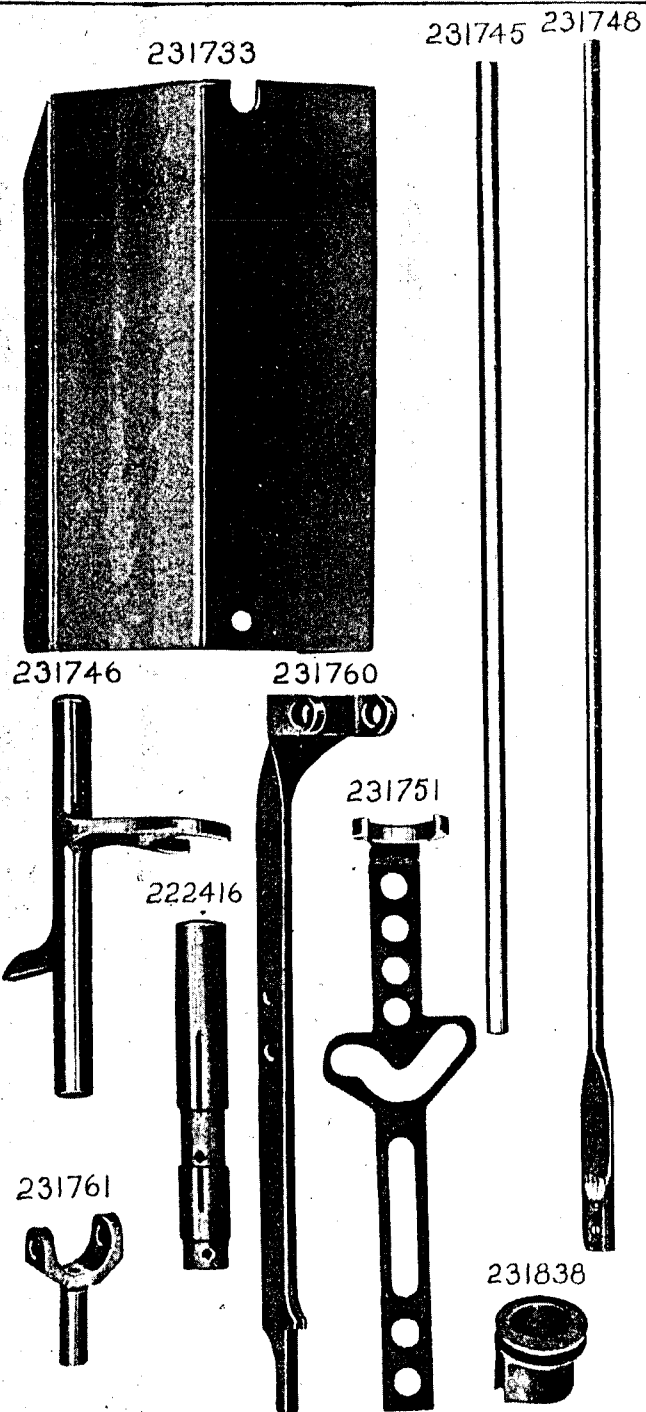
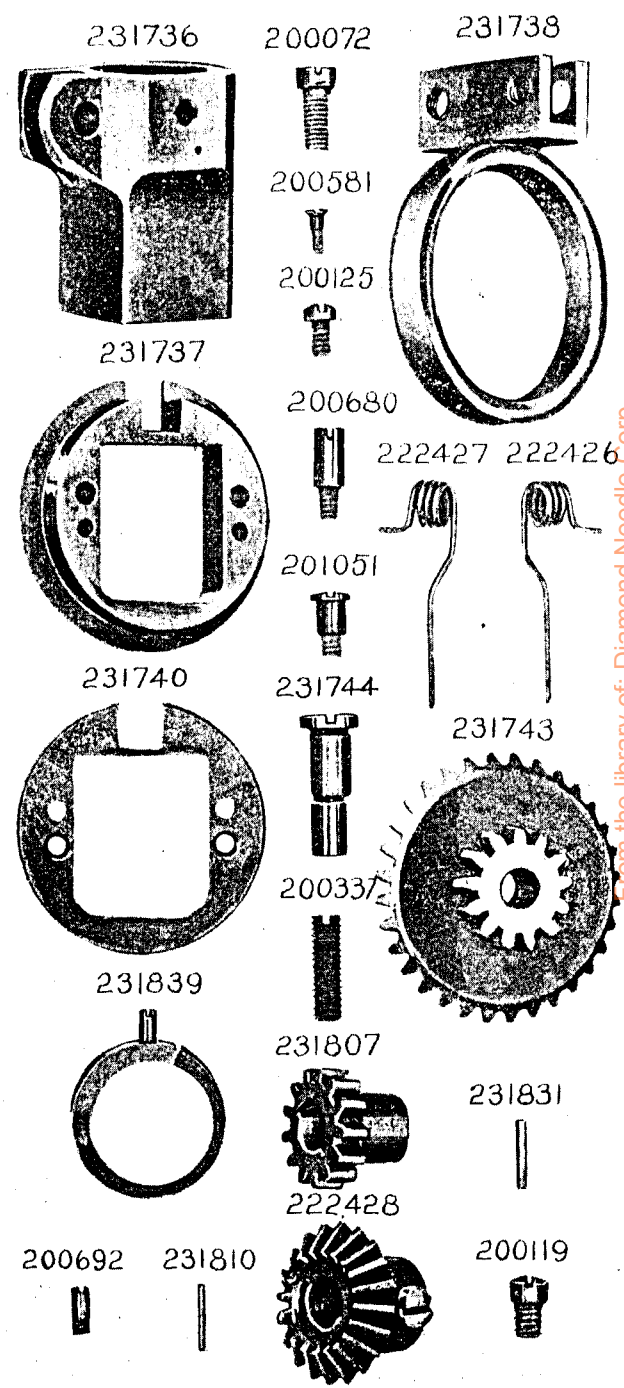


PLATE 12459—FULL SIZE



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PLATE 12460—FULL SIZE

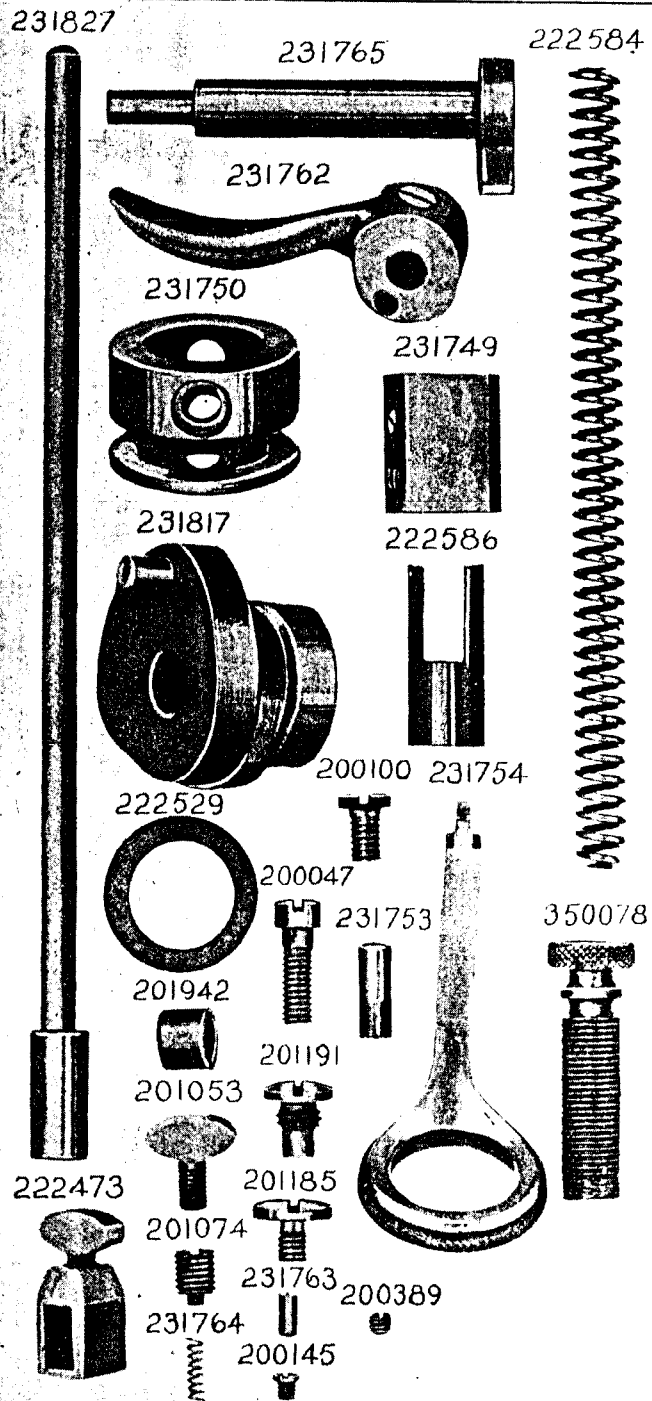
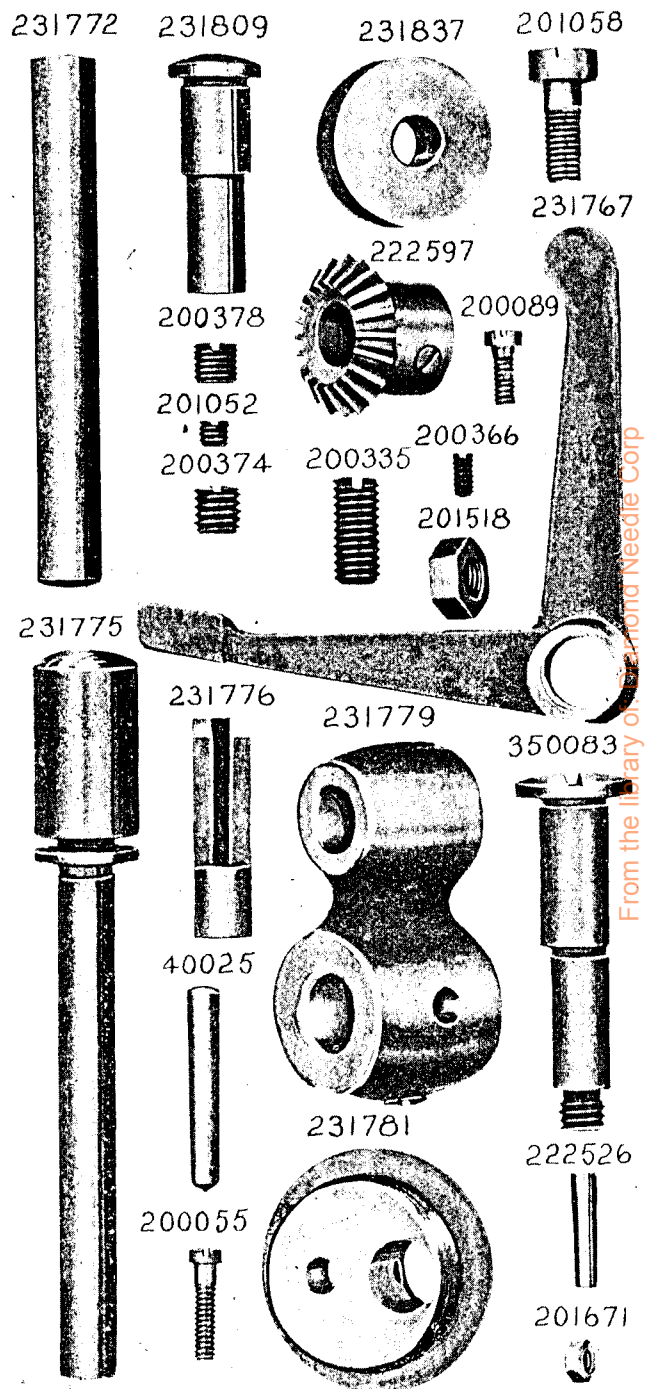


PLATE 12461—FULL SIZE



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PLATE 12462—ONE-HALF SIZE

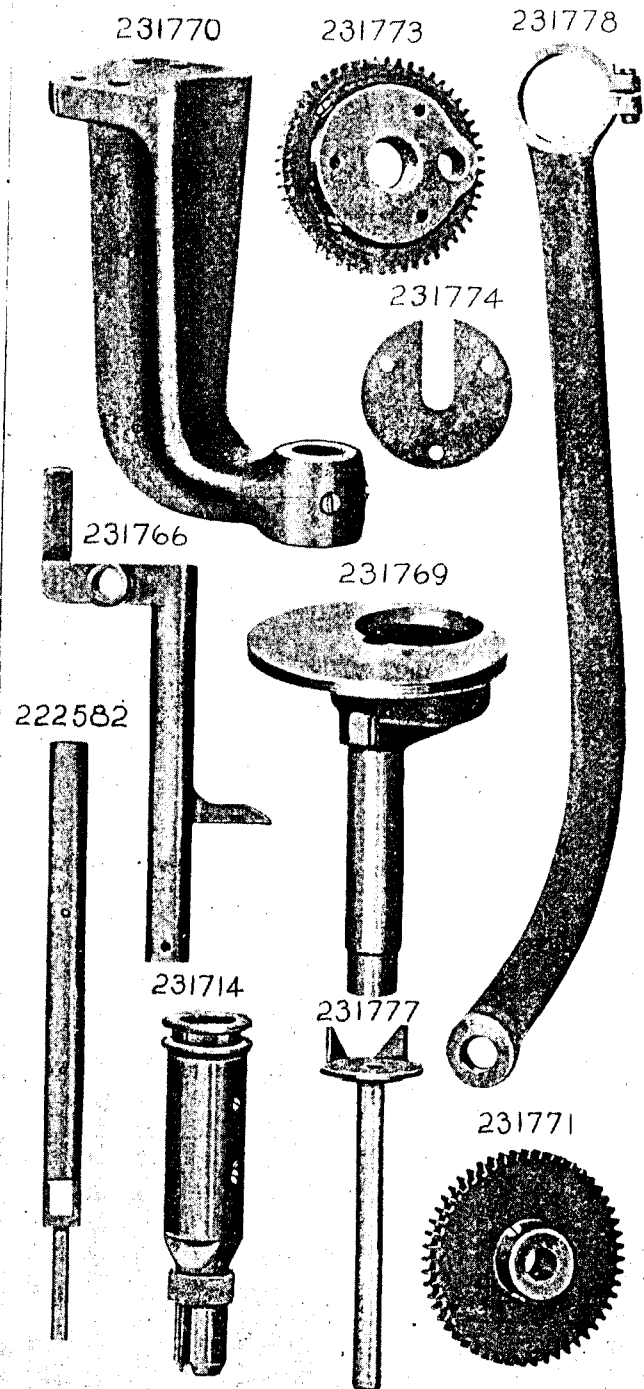


PLATE 12463—FULL SIZE

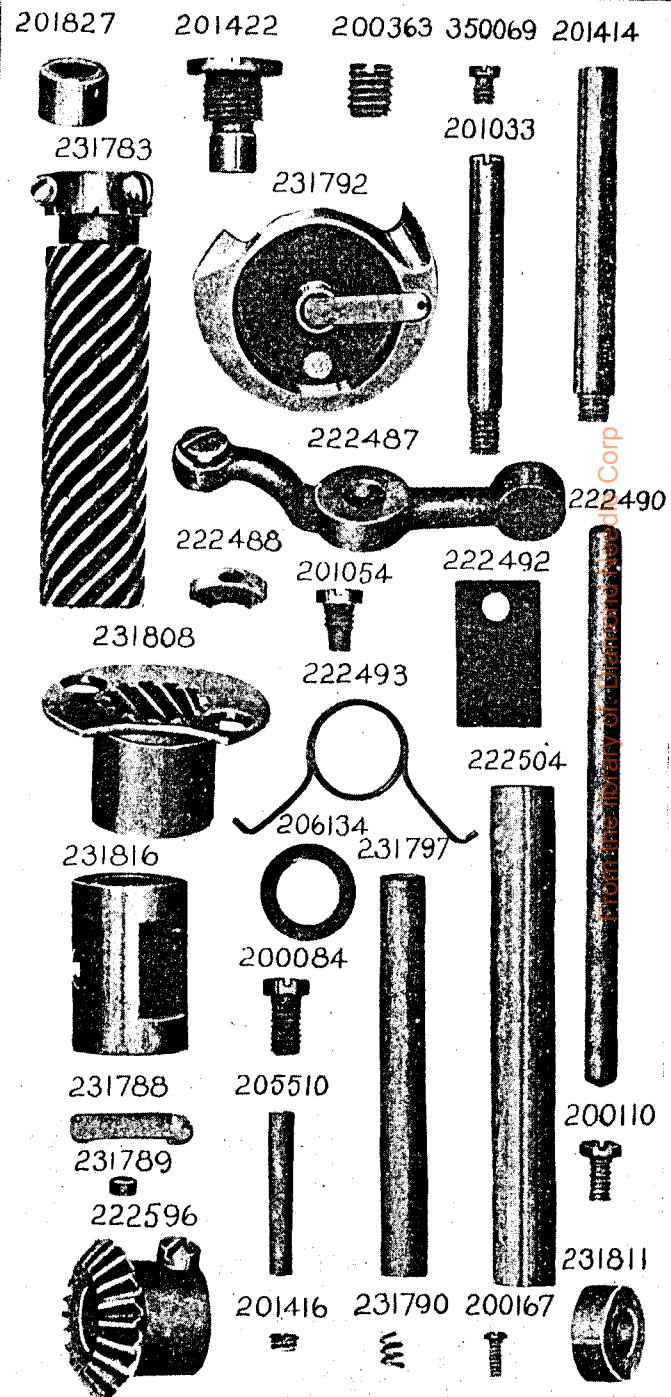


PLATE 12464—ONE-HALF SIZE

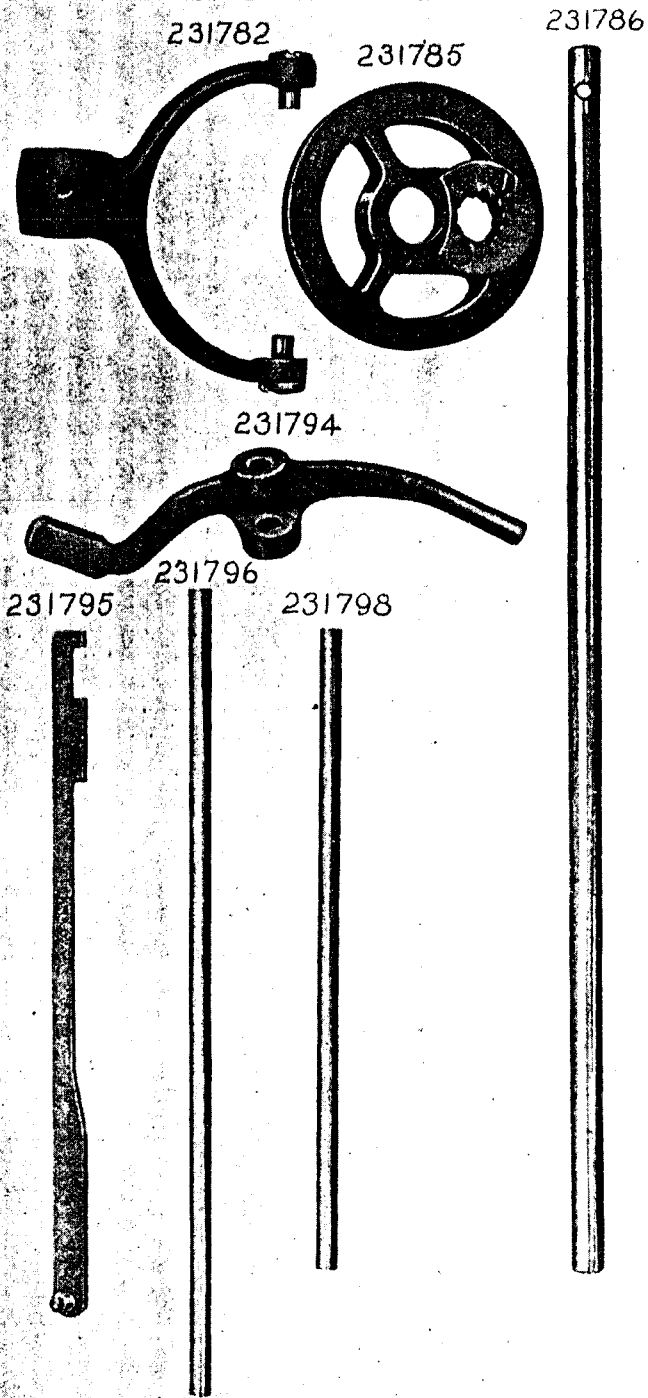


PLATE 12465—FULL SIZE

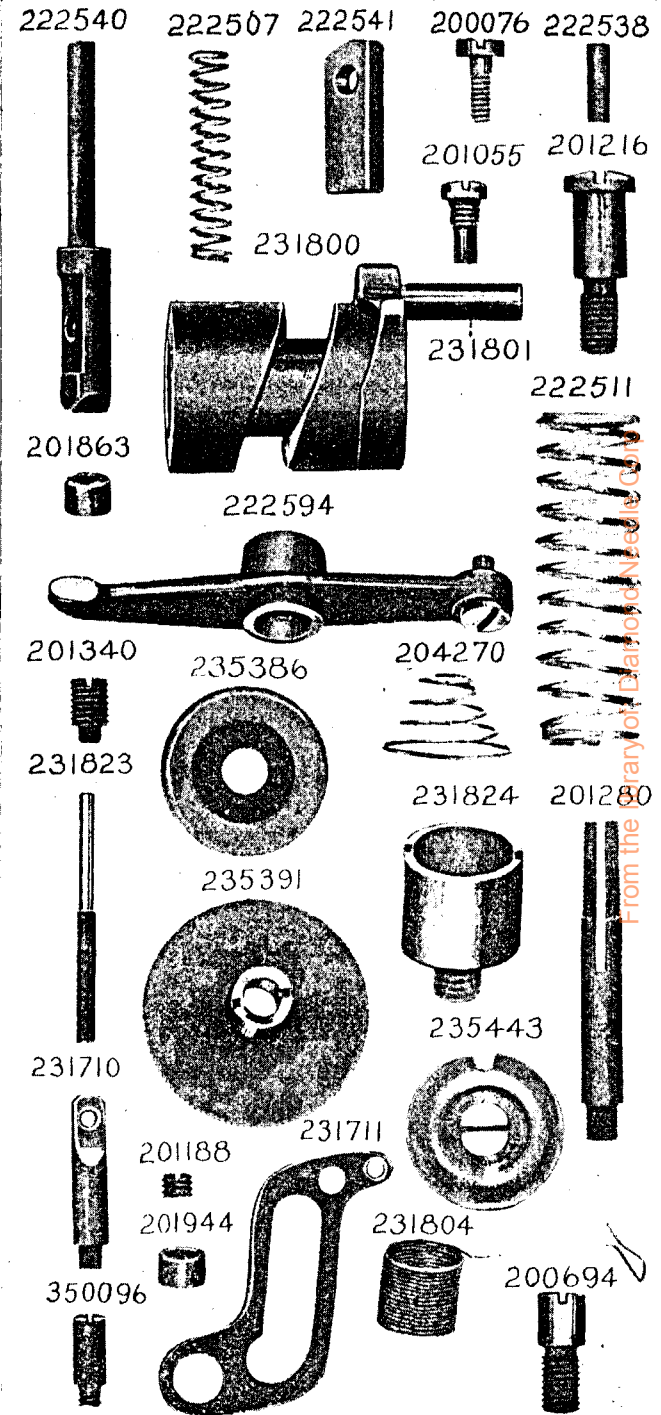


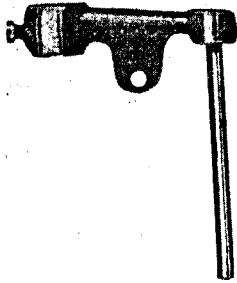


PLATE 12466—ONE-HALF SIZE

231799



222498



222501



222539



231713



231707

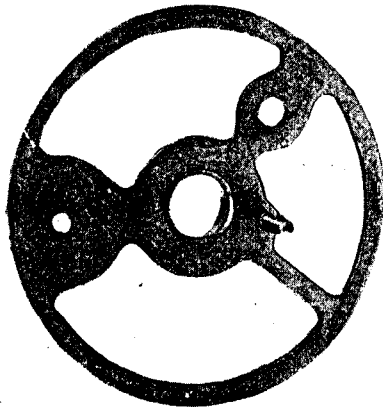
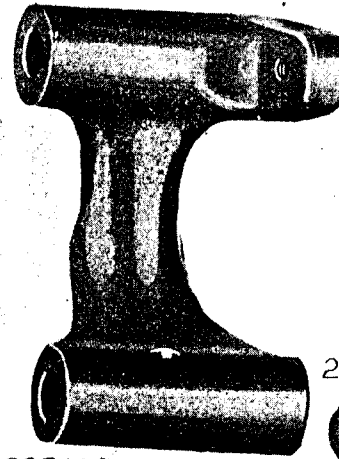
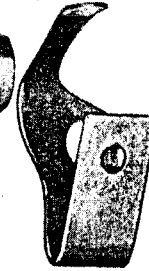


PLATE 12467—FULL SIZE

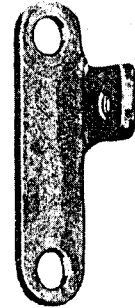
225453



225444



202478



228026



225458



225460



225454



200299



225438



200056



225459



200105



225456



225384



225455



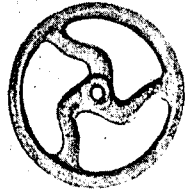
From the library of the University of Michigan

PLATE 12468—ONE-FOURTH SIZE

225433



202473



225385

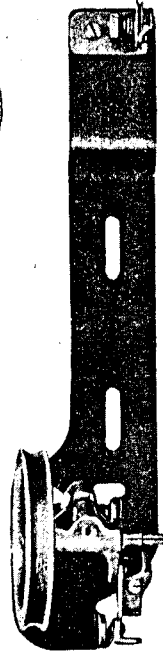


PLATE 12469—ONE-HALF SIZE

36578 225497 225498 222518

36579



41564



36553



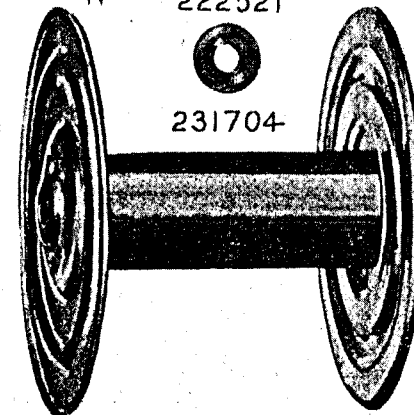
231814



222521



231704



201219



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