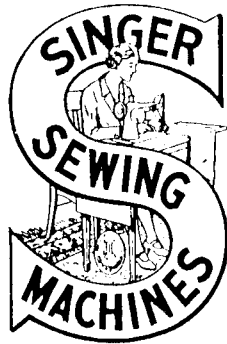


SINGER
111W141

LIST OF PARTS



MACHINE No. 111w141

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 case), 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.
- R. Marlized.
- X. Black Oxide.
- XC. Hardened and Black Oxide.
- Y. Blade Nickel only.

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

In this series

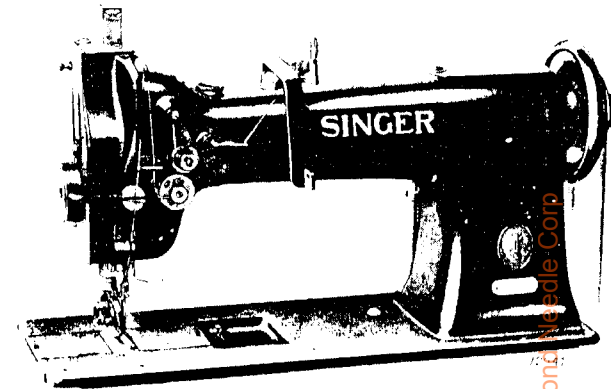
200001 to 201500 and 350001 to 351500 are Screw Numbers.
 201501 to 201800 and 351501 to 351800 are Nut Numbers.
 201801 to 202000 and 351801 to 352000 are Roller Numbers.
 202001 to 350000 are Numbers of Machine Parts.

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



MACHINE No. IIIwI4I

HIGH SPEED. DROP FEED. VERTICAL TRIMMER.
 BALL BEARING (no back) ROLLER PRESSER.
 KNEE LIFTER. SAFETY CLUTCH.
 For Heavy Leather Work.

No.	Plate	Name
*241426	----	Arm with 202135
221196	16594	" Cap
244071	----	" " Oil Wick
200278H	11321	" " Screw
202248	11321	" " " Washer
204235	11321	" Position Pin (2)
200004E	11321	" Screw (3)
202905	11321	" " Washer (3)
240427	16595	" Shaft with 200357E and 224392
240802	16594	" " Bushing (back) with 202244
202244	----	" " " " Oil Packing (wick)
200341C	11321	" " " " Set Screw
207090	16594	" " " (front) with 202244
202244	----	" " " " Oil Packing (wick)

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PARTS FOR MACHINE No. IIIwI4I

No.	Plate	Name
200502B	11321	Arm Shaft Bushing (front) Oil Packing Thumb Screw
200338C	11321	Arm Shaft Bushing (front) Set Screw
224103	16594	" " Connection Belt
224200	16594	" " " " Pulley with 200327C 200602E and two 202253
200602E	11321	Arm Shaft Connection Belt Pulley Position Screw
200327C	11321	Arm Shaft Connection Belt Pulley Set Screw
202253	11321	Arm Shaft Connection Belt Pulley Spring Flange
224138	16592	Arm Shaft Connection Belt Timing Collar with 200113F
200113F	16592	Arm Shaft Connection Belt Timing Collar Set Screw
224139	16592	Arm Shaft Connection Belt Timing Plate
200164B	16592	" " " " " " " Screw (2)
224392	-----	Arm Shaft Oil Packing (wick)
200357E	11321	" " " " Stop Screw
235096	16595	Balance Wheel (disc) (belt groove 2-1/2 in.diam.) with 200328C and 200335C
200328C	11321	Balance Wheel Position Screw
200335C	11321	" " Set Screw
*240218	-----	Bed
54897	16592	" Oil Cup
240003	16594	" Slide (back)
223811	16592	" " " Stop
223812	16592	" " " Spring
240004	16594	" " (front)
203208	16592	Bobbin
235769	16592	" Case Base with 202056, 203211 to 203213 and 203216
203211	16592	Bobbin Case Base Latch
*202056	-----	" " " " Pin
203212	16592	" " " " Plunger
203213	16592	" " " " Spring
235571	16592	" " Cap with 200594C, 200984C and 235771
224004	16592	Bobbin Case Opener
224005	16592	" " " Lever with 201349C, 201542C and 203101
201349C	16592	Bobbin Case Opener Lever Driving Screw Stud
201542C	16592	Bobbin Case Opener Lever Driving Screw Stud Nut
203101	-----	Bobbin Case Opener Lever Driving Screw Stud Oil Packing (wick)
223622	16592	Bobbin Case Opener Lever Hinge Stud with 202277

PARTS FOR MACHINE No. IIIwI4I

No.	Plate	Name
202277	-----	Bobbin Case Opener Lever Hinge Stud Oil Packing (wick)
200364C	16593	Bobbin Case Opener Lever Hinge Stud Set Screw
248251	16592	Bobbin Case Opener Lever Link
200118D	16593	" " " Screw
235771	16592	" " Tension Spring
200984C	16593	" " " " Regulating Screw
200594C	16593	" " " " Screw
203216	-----	" " Washer (cloth)
235772	-----	Bobbin Case complete, Nos. 235769 and 235770
237844	16595	Face Plate
202135	16593	" " Position Pin
200473B	16593	" " Thumb Screw
240037	16594	Feed Bar
240038	-----	" " 240037 with 224052, 225837 and 350197E
350393C	16593	Feed Bar Hinge Screw (driving)
201517E	16593	" " " " Nut
24047E	16593	" Dog
200106E	16593	" " Screw (2)
224106	16599	" Driving Connection with 200049D and 202277
201407C	16593	Feed Driving Connection Hinge Screw
201517E	16218	" " " " " Nut
206758	-----	" " " " " Oil Packing (wick)
202277	-----	Feed Driving Connection Oil Packing (wick)
200049D	16593	Feed Driving Connection Pinch Screw
202300	16594	" " Eccentric Regulating Bracket
224140	-----	" " " " " " " 202300 with 224200, two each 201408C and 201525E
201408C	16593	Feed Driving Eccentric Regulating Bracket Hinge Screw
201525E	16585	Feed Driving Eccentric Regulating Bracket Hinge Screw Nut
202301	16585	Feed Driving Eccentric Regulating Bracket Plunger
202595	16585	Feed Driving Eccentric Regulating Bracket Plunger Spring
200607C	16585	Feed Driving Eccentric Regulating Bracket Plunger Spring Stop Screw
201408C	16593	Feed Driving Eccentric Regulating Bracket Stop Screw
201525E	16585	Feed Driving Eccentric Regulating Bracket Stop Screw Nut
200429C	16585	Feed Driving Eccentric Regulating Screw

From the Library of Diamond Needle Corp

No.	Plate	Name
200383C	16585	Feed Driving Eccentric Regulating Screw Check Screw
223650	16595	Feed Driving Rock Shaft
240031	-----	" " " " 223650 with 201518E, 240038 and 350393C
224141	16593	Feed Driving Rock Shaft Crank with 200019E
200019E	16585	Feed Driving Rock Shaft Crank Pinch Screw
202625	16585	" " " " Stop Collar with two 200383C (2)
200383C	16585	Feed Driving Rock Shaft Stop Collar Set Screw
224154	16585	Feed Lifting Cam with 201220C
224052	16585	" " " Fork with 200173D and 223655
350197E	16585	Feed Lifting Cam Fork Screw
225837	16585	" " " " Washer
223655	-----	" " " Oiling Felt
200173D	16585	" " " " Screw
201220C	16585	" " " Set Screw
224142	16594	" Regulating Spindle with 202311, 202443 and 202619
*202311	-----	Feed Regulating Spindle Head
202443	16585	" " " " Pin
202619	16585	" " " " Position Pin
*240429	-----	Hook (sewing)
240430	16593	" 240429 with 202153F, 201376F, 203251, 248257 and two 200590H
240431	-----	Hook and Robbin Case complete, Nos. 235772 and 240430
224019	16585	Hook Bushing (lower) (bronze)
200364C	16593	" " " Set Screw
224020	16585	" " (upper) (bronze)
200446C	16585	" " " Position Screw
223867	16594	" Driving Gear (spiral) with 200362C and 201222C
201222C	16593	Hook Driving Gear Position Screw
200362C	16593	" " " Set Screw
240167	16593	" " Pinion (spiral) with 200382C and 201220C
201220C	16585	Hook Driving Pinion Position Screw
200382C	16593	" " " Set Screw
224022	16593	" " " Thrust Washer
240448	16595	" " Shaft
224111	16599	" " " Bushing (back) with 202244
202244	-----	Hook Driving Shaft Bushing Oil Packing (wick)
237529	16599	Hook Driving Shaft Bushing (front)
200327C	11321	" " " " Set Screw (2)

No.	Plate	Name
265314	16599	Hook Driving Shaft Lock Ratchet with 200354C and 200362C
200354C	16593	Hook Driving Shaft Lock Ratchet Position Screw
200362C	16593	Hook Driving Shaft Lock Ratchet Set Screw
240213	16596	" " " " Stud
248423	16596	" " " " Cotter Pin
240214	16596	" " " " Socket
248425	16596	" " " " Spring
240215	-----	Hook Driving Shaft Lock Stud complete, Nos. 240213, 240214, 248423 and 248425
203251	16596	Hook Gib
201376F	16596	" " Hinge Screw
201253F	16596	" " Screw
223850	-----	" Saddle with 200009E
224024	16599	" " 223850 with 200364C, 200446C, 224019 and 224020
223691	16599	Hook Saddle Bearing
200435C	11321	" " " Set Screw
240018	16595	" " Oil Guard
240019	-----	" " " " Felt
200160D	16596	" " " " Screw (2)
200009E	16596	" " Pinch Screw
200006E	16596	" " Screw
225585	16596	" " " Washer
240433	-----	Hook Saddle complete, Nos. 200118D, 200364C, 223622, 224004, 224005, 224022, 224024, 240167, 240431 and 248251
248257	16596	Hook Washer
200590H	16596	" " Screw
237837	16595	Knee Lifter Connection Lever
200262H	11623	" " " " Hinge Screw
223684	16602	" " " " Lifting Rod with 202302
202302	16585	Knee Lifter Connection Lever Lifting Rod Cotter Pin
206628	16596	Knee Lifter Connection Lever Lifting Rod Spring
227227	16596	Knee Lifter Connection Lever Lifting Rod Spring Collar with 200113F
200113F	16592	Knee Lifter Connection Lever Lifting Rod Spring Collar Set Screw
248293	16595	Knee Lifter Lifting Lever
200262H	11623	" " " " Hinge Screw
207805	16596	Knife
240434	16599	" Bar
248295	16596	" " Angle Extension
200126D	16596	" " " " Screw (2)
240435	16599	" " Driving Eccentric with 200382C and 200437C

No.	Plate	Name
248279	16599	Knife Bar Driving Eccentric Fork with 200382C and 201464C
201464C	16597	Knife Bar Driving Eccentric Fork Position Screw
200382C	16593	Knife Bar Driving Eccentric Fork Set Screw
200437C	16597	Knife Bar Driving Eccentric Fork Position Screw
200382C	16593	Knife Bar Driving Eccentric Set Screw
202891	16599	" " " Shaft Crank with 200694F and 201525E
200694F	16596	Knife Bar Driving Shaft Crank Screw Stud
201525E	16585	" " " " " " " " Nut
237808	16596	Knife Bar Guide Block (2)
200011D	16596	" " " " Screw (4)
237829	16596	" " Lifting Spring
234044	16597	" " " " Plunger
202895	16597	" Holder
200898D	16596	" " Screw (2)
202897	16597	" " Switch-in Handle
200076D	16597	" Screw (2)
240436	16595	" Switch-out Handle
200973H	16597	" " " Hinge Screw
202900	16597	" " " Spring
240437	16602	Needle Bar with 200175H, 200420F and 240438
235871	16597	Needle Bar Bushing (lower)
235872	16597	" " " (upper)
200341C	11321	" " " Set Screw
202552	16597	" " Connecting Link
264718	16597	" " " " Oil Guard
200161D	16597	" " " " " Screw
202333	16597	" " " " Stud with 202254
202254	-----	Needle Bar Connecting Link Stud Oil Packing (wick)
200374C	16596	Needle Bar Connecting Link Stud Set Screw
200383C	16585	" " " " " " " "
223688	16598	" " " Stud with 200072C and 202330
202330	-----	Needle Bar Connecting Stud Oil Packing (wick)
200072C	16598	Needle Bar Connecting Stud Pinch Screw
202692	16602	" " Crank with 200335C, 200374C, 200383C, 200428C and 202333
203172	16597	Needle Bar Crank Friction Washer
200428C	16597	" " " Position Screw
200335C	11321	" " " Set Screw
240438	16598	" " Thread Guide

No.	Plate	Name
200175H	16598	Needle Bar Thread Guide Screw
200420F	16598	" Set Screw
207072	16598	Presser Bar Bushing (2)
200352C	16598	" " " Set Screw (2)
202671	11623	" " Lifter
200653C	11623	" " " Hinge Screw
207963	11623	" " Lifting Releasing Lever Bracket
200975F	11623	Presser Bar Lifting Releasing Lever Bracket Guide Screw
206608	11623	Presser Bar Lifting Releasing Lever Bracket Spring
237820	16598	Presser Bar Position Guide
202338	16598	" " " " Lever with 200086F
200086F	16218	Presser Bar Position Guide Lever Pinch Screw
200352C	16598	Presser Bar Position Guide Set Screw
237836	16595	" " Spring (flat)
210949	16218	" " " Bracket with 200086C
200086C	16218	" " " " Pinch Screw
200538C	11623	" " " Regulating Screw
200948F	11623	" " " Support Screw
351839	16598	Roller Presser 1-1/4 in. diam., 3/16 in. face (fine) with 1528J, 1766C, 50553C and twenty-four 16232
241916	16598	Roller Presser Arm
233807	16598	" " " Bracket
235088	16598	" " " " Position Collar with 200362C
200117F	16598	Roller Presser Arm Bracket Position Collar Position Screw
200362C	16593	Roller Presser Arm Bracket Position Collar Set Screw
202558	16598	Roller Presser Arm Bracket Spring
202559	16598	" " " " " Stop
200141F	16218	" " " " " Screw
200096D	16598	" " " Screw
16232	16598	" " Ball, 3/32 in. diameter
1766C	16598	" " " Cone
202557	16602	" " Bar
50553C	16598	" " Hinge Screw
1528J	16598	" " " Nut
241917	16598	" " Pawl
241918	16598	" " " Spring
241922	16598	Roller Presser (no back) complete, Nos. 241916 to 241918 and 351839
241942	-----	Roller Presser and Bar complete, Nos. 200096D, 200117F, 202557 to 202559, 233807, 235088, 241922 and two 200141F

From the library of Harrop Needle Corp.

No.	Plate	Name
265032	16218	Safety Clutch Hook Driving Shaft Position Collar with two 201254C
201254C	16218	Safety Clutch Hook Driving Shaft Position Collar Set Screw
265056	16218	Safety Clutch Locking Lever
265050	16218	" " " " Connecting Link
201483C	16600	Safety Clutch Locking Lever Hinge Screw
265035	16218	" " " " Spring
200962C	16218	" " " " Adjusting Screw
200059E	16600	Safety Clutch Locking Lever Spring Screw
265036	16602	" " Pulley with 200962C and 202253
202253	11321	Safety Clutch Pulley Spring Flange
265057	16218	" " Throw-in Latch
265052	16218	" " " " Pin
265051	16218	" " " " Spring
265040	-----	Safety Clutch complete, Nos. 200059E, 201483C, 265032, 265035, 265036, 265050 to 265052, 265056 and 265057
237762	16600	Take-up Lever
202399	16600	" " Driving Stud with 202277
202277	-----	" " " " Oil Packing (wick)
202400	16600	Take-up Lever Hinge Stud with 202423
202423	-----	" " " " Oil Packing (wick)
200363C	11623	" " " " Set Screw
240023	16600	Tension Bracket with 201224B and 236060
200159F	16578	" " Screw
240446	-----	Tension Bracket complete, Nos. 200978H, 201199F, 204271, 223438, 223703, 223704, 223706, 237174, 240023, two each 200309E, 201572B and 244048
244048	16600	Tension Disc
236060	16578	" " Position Pin
223703	16578	" Release Lever
236005	16600	" " " Rod
200309E	16578	" " " Screw
223704	16578	" " Plunger
204271	16578	" " Washer
223438	16578	" Spring
201224B	16578	" Stud
201572B	10886	" Thumb Nut
223706	16578	Thread Controller Disc
200978H	16218	" " " Screw
237174	16578	" " Spring
242117	16600	" " " Stop
200132E	16218	" " " Screw
201199F	16578	" " Stud with 204925

No.	Plate	Name
200061C	11623	Thread Controller Stud Set Screw
201572B	10886	" " " Thumb Nut
204925	16578	" " " Washer
202412	16578	" Guide
210985	16578	" " (upper)
200582H	16578	" " Screw (?)
241755	-----	" Lubricator Oil Pad (felt)
237845	16602	" " " " Holder
240439	16602	" " " " Retainer
241758	16602	" " " Reservoir
241759	-----	" " " Wick
350280F	16600	" " Screw
214238	16600	" " " Washer
237846	-----	Thread Lubricator complete, Nos. 214238, 237845, 240439, 241755, 241758, 241759 and 350280F
240034	16600	Thread Retainer
210956	16600	" " Bracket with 200397H
200592H	16578	" " " Screw (2)
200368H	16600	" " Set Screw
210993	16600	" " Sleeve
223844	16600	" " Spring
210957	16600	" " Stud
210958	16600	" " " Collar
200397H	16600	" " " Set Screw
210959	-----	Thread Retainer (lower) complete, Nos. 210956 to 210958, 210993 and 223844
240441	16601	Thread Plate, 50 needle hole, for needle sizes 14 and 15, with 200178D, 200582H, 211416 and 211424, trim opposite the needle and .060 and .085 in. to right of seam
211424	16601	Throat Plate Knife Follower
200587D	16601	" " " " Screw
211416	16601	" " " " Spring
200178D	16601	" " " " Screw
691F	16601	" " " Screw (2)

ACCESSORIES

No.	Plate	Name
200861D	16601	Bed Slide (back) Locking Thumb Screw
203208	16592	Bobbin (5)
*225482	-----	" Case Screw Driver Blade
*225483	-----	" " " " Handle
225497	14334	Bobbin Case Screws Driver complete, Nos. 225482 and 225483
207805	16596	Knife (3)
128 x 22	-----	Needles, six, size 20 (Narrow Reverse Twist)
4822	16601	Roller Presser Hinge Screw Nut Wrench
224121	-----	Drip Pan, 20 in. long, with four 1 in. wire nails
12361	14334	Machine Hinge Connection (2)
41400	14334	" Rest Pin (wood)
120342	14334	Oiler (copper plated) with 120343
120343	14334	" Spout, 3-1/2 in. long
*225484	-----	Screw Driver Blade
*225485	-----	" " Handle
225498	14334	Screw Driver complete, (7-1/4 in. long), Nos. 225484 and 225485
225554	14334	Wrench (steel)

BOBBIN WINDER

(SWINGING AUTOMATIC, RIGHT HAND)

225453	10886	Frame with 202277 and 225438
225454	10886	" Hinge Pin
202277	-----	" Oil Packing (wick)
225438	10886	" " Well Cap
225455	10886	" Spring
225456	10886	" " Plunger
202473	10885	Pulley with 200380C
200380C	10886	" Set Screw
225381	10886	Spindle
225444	10886	Stop Latch
200056E	10886	" " Screw
225458	10886	" " Thumb Lever
225459	10886	" " " " Hinge Stud
225459	10886	" " " " Joint Stud
202478	10886	" " Trip Lever
200299H	10886	" " " " Hinge Screw
225461	10886	Tension Bracket with 201499B
200082D	10886	" " Screw

ACCESSORIES

No.	Plate	Name
228026	10886	Tension Bracket Screw Washer
2102	10886	" Disc
202407	10886	" Spring
201499B	10886	" Stud
201572B	10886	" " Thumb Nut
225462	-----	Bobbin Winder Tension Bracket complete, Nos. 201572B, 202407, 225461 and two 2102
225433	10885	Bobbin Winder and Tension Bracket Base
225382	10885	Universal Robbin Winder complete, Nos. 200056E, 200082D, 200299H, 202473, 202478, 225381, 225433, 225444, 225453 to 225456, 225458, 225462, 228026, two each 225459 and wood screws 3/4 in., Nos. 12, R.H.B.

KNEE LIFTER

228294	15911	Rock Lever with two 356C
228295	15911	" " Bracket with 356C and four wood screws 7/8 in., No. 12
228299	-----	Rock Lever Bracket 228295 with 228294 and 228297
228296	15911	Rock Lever Extension with 200529C
356C	15911	" " " Set Screw
228297	15911	" " Hinge Pin
356C	15911	" " " Set Screw
228284	15911	" " Knee Plate with 356C
202455	15911	" " " " Arm
356C	15911	" " " " Set Screw
356C	15911	" " " " Set Screw
227728	15911	" " Rod with 227729
*227729	-----	" " " Cap
200529C	15911	" " " Set Screw
228298	15911	Knee Lifter complete, Nos. 202455, 227728, 228284, 228296 and 228299

(Other Knee Lifter parts are listed with parts of machine head)

FOOT LIFTER

PARTS REQUIRED TO CHANGE MACHINE FROM KNEE LIFTER TO FOOT LIFTER.

No.	Plate	Name
223733	16602	Foot Lifter Lifting Lever Extension
200082D	10886	" " " " " Screw
227561	16578	" " " " Spring
200835D	16601	" " " " " Stop Screw

FOOT LIFTER

227952	15352	Foot Lifter Lever with 227954
227678	15352	" " " Chain, 48 in. long, with 202784
227954	16601	Foot Lifter Lever Chain Hook (lower)
202784	16578	" " " " " (upper)
225016	16601	" " " Hinge Pin
227953	15352	" " " Stand with two wood screws 1 in., No. 12
227955	15352	Foot Lifter Lever complete, Nos. 225016, 227678, 227952 and 227953

KNIFE HONE

259366	16595	Base with two 260772
259369	-----	" 259366 with 674D, 721D, 259274 to 259277, 350373J, 350412C and 350413C
259270	16602	Knife Hone
259271	16601	" " Clamp
215057	16601	" " " Position Pin
350412C	16601	" " " Screw
200466B	16601	" " " Thumb Screw
259272	16595	" " " Holder with two 215057
259273	-----	" " " 259272 with 259270, two each 200466B and 259271
259274	16601	Knife Hone Holder Guide
259275	16602	" " " " Collar
721D	16601	" " " " " Set Screw
259276	16602	" " " " " Yoke
674D	16601	" " " " " Hinge Screw
259277	16601	Knife Hone Holder Guide Collar Yoke Hinge Screw Bushing

No.	Plate	Name
350413C	16601	Knife Hone Holder Guide Collar Yoke Hinge Screw Bushing Set Screw
350373J	16601	Knife Hone Holder Guide Thumb Set Screw
260772	16601	" Position Pin
259367	-----	Honing Device (for trimming knives with pilot) complete, Nos. 259273 and 259369

Genuine Singer Needles should be used
in Singer Machines.
These Needles and their Containers
are marked with the
Company's Trade Mark "SIMANCO."

Needles in Containers marked
"For Singer Machines"
are not Singer made needles. 2

PLATE 10835—ONE-FOURTH SIZE

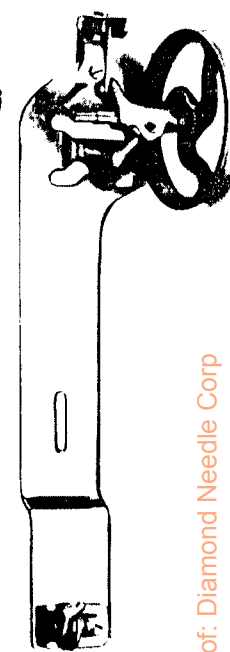
225433



202473



225382



Genuine 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

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PLATE 10886 - FULL SIZE

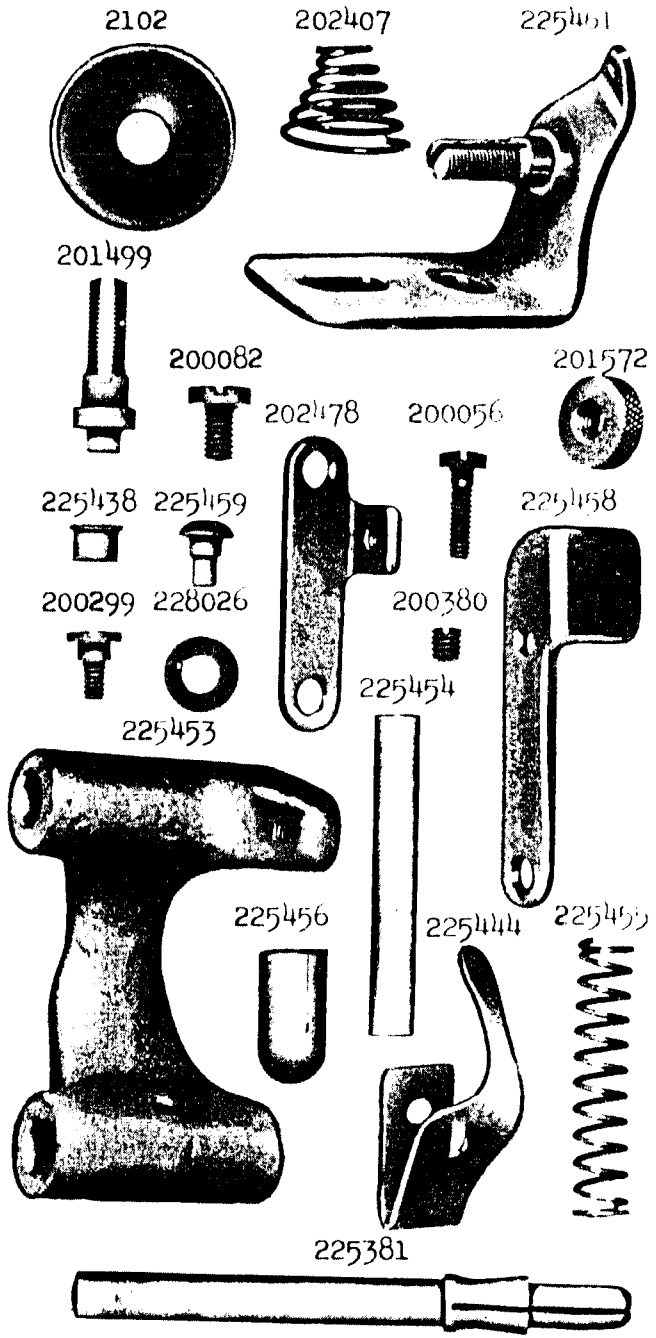
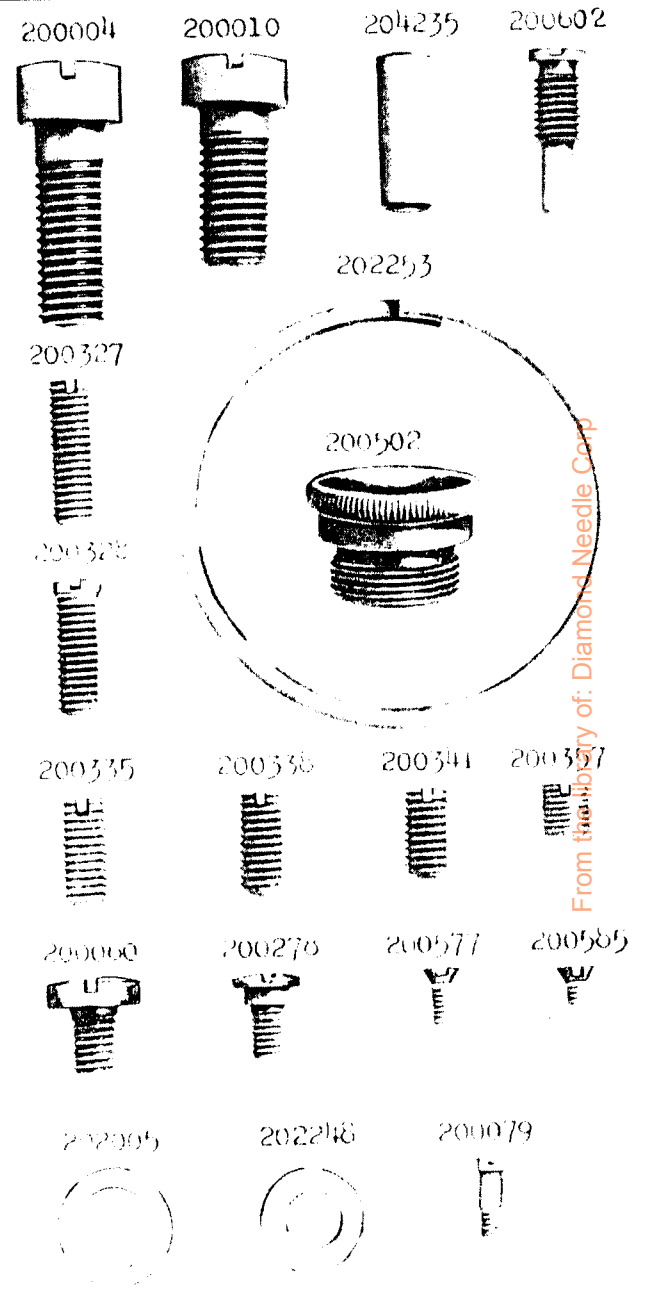


PLATE 11721 - FULL SIZE



From the library of: Diamond Needle Corp

PLATE 11623—FULL SIZE

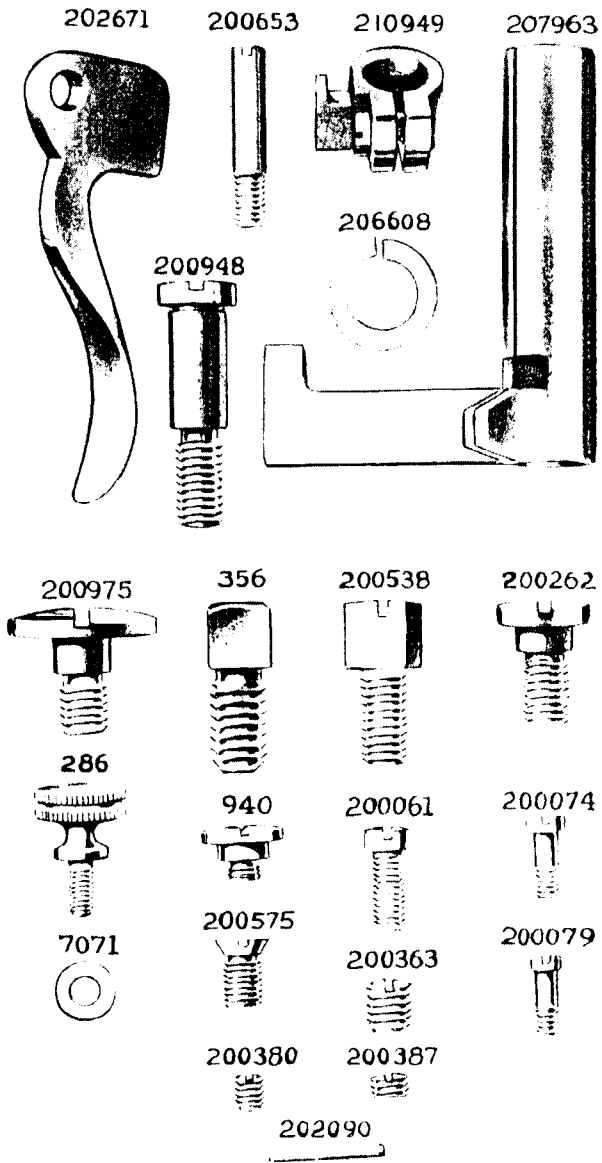
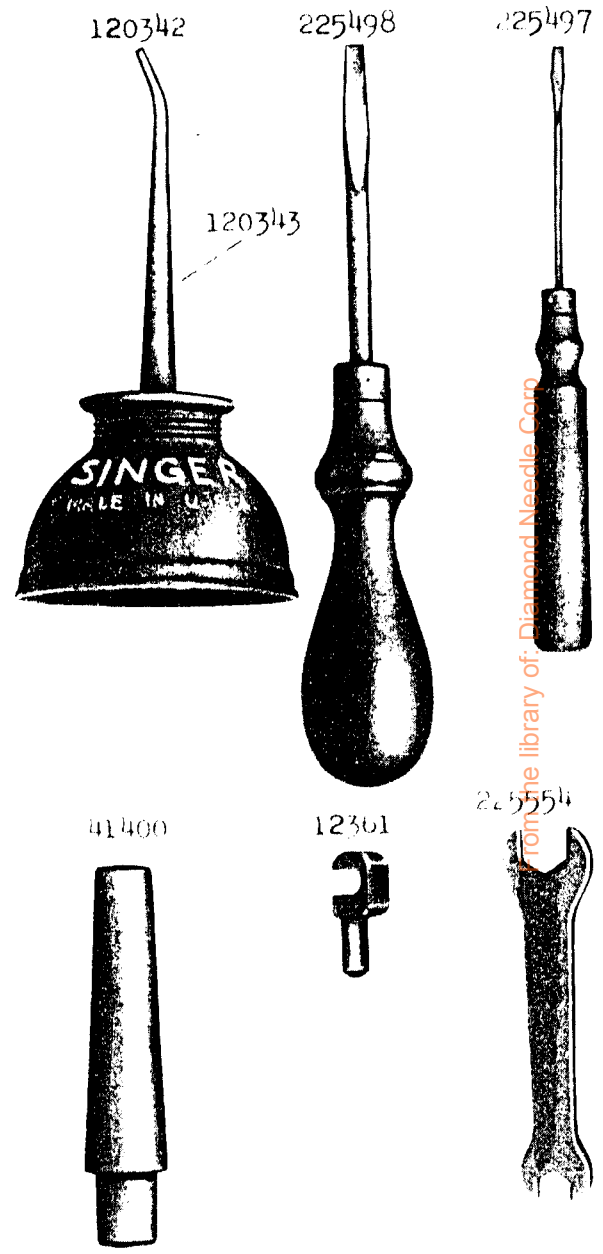


PLATE 14334 - ONE-HALF SIZE



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PLATE 15352 - ONE-FOURTH SIZE

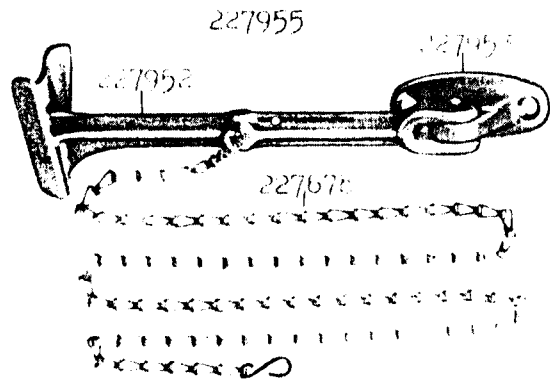
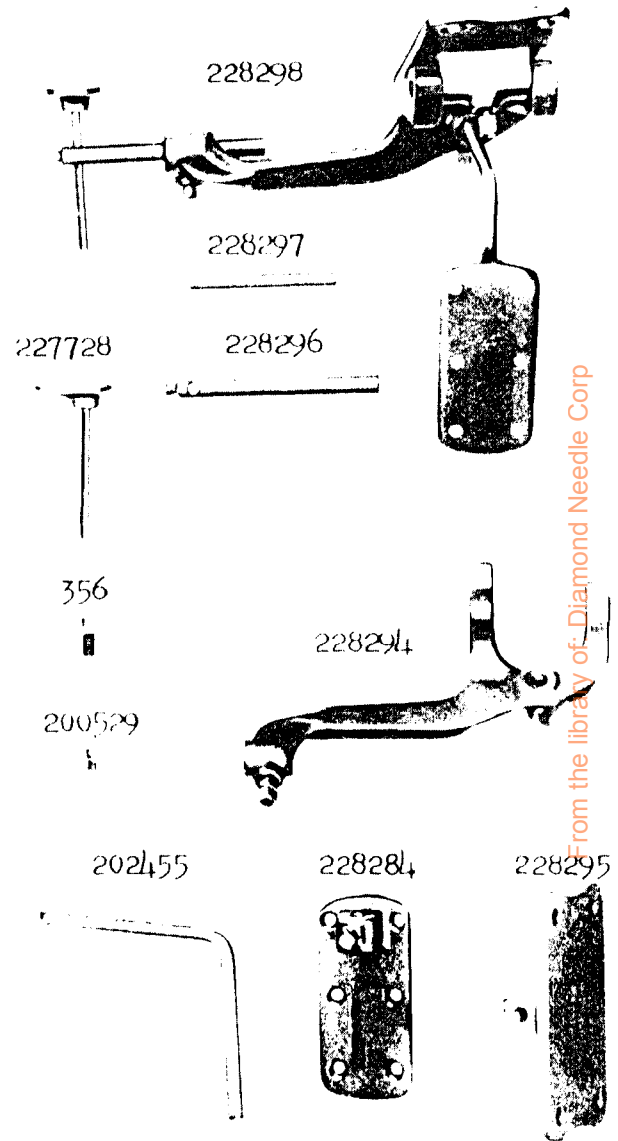


PLATE 15911 - ONE-FOURTH SIZE



From the library of Diamond Needle Corp

PLATE 16218 - FULL SIZE

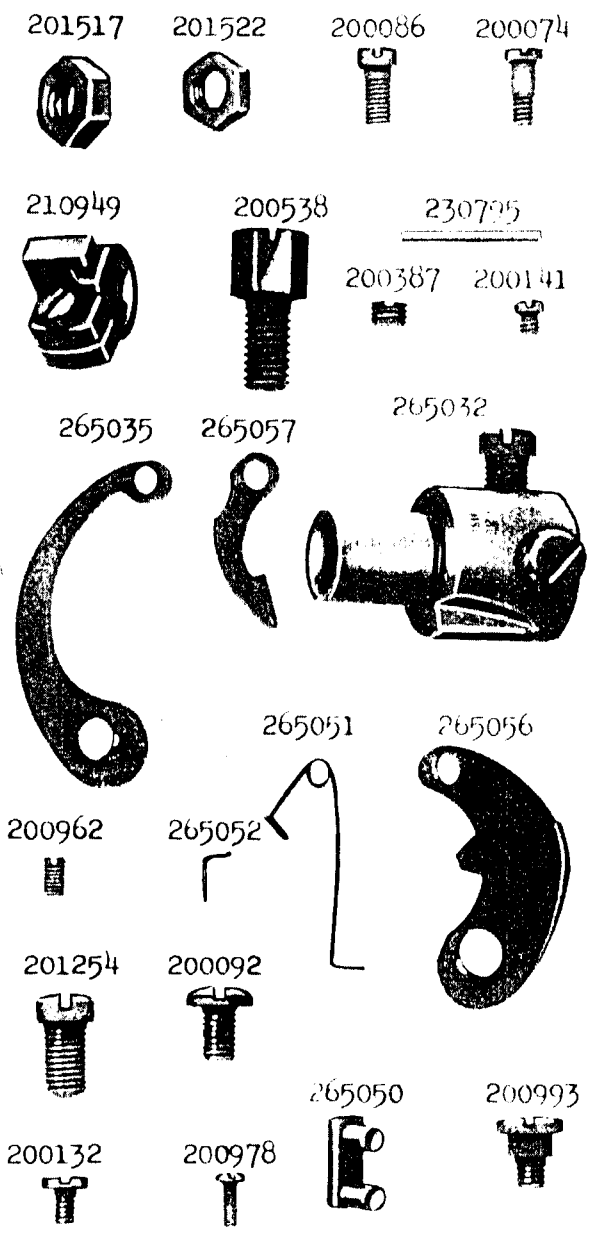
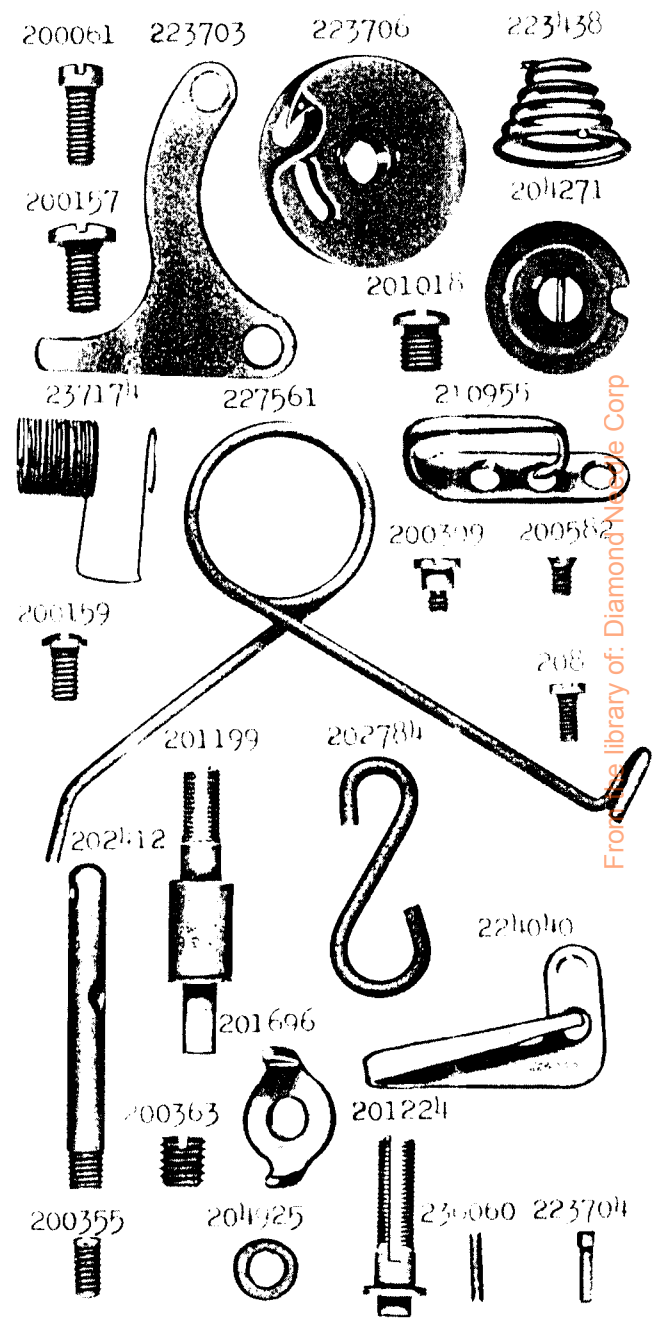


PLATE 16578 - FULL SIZE

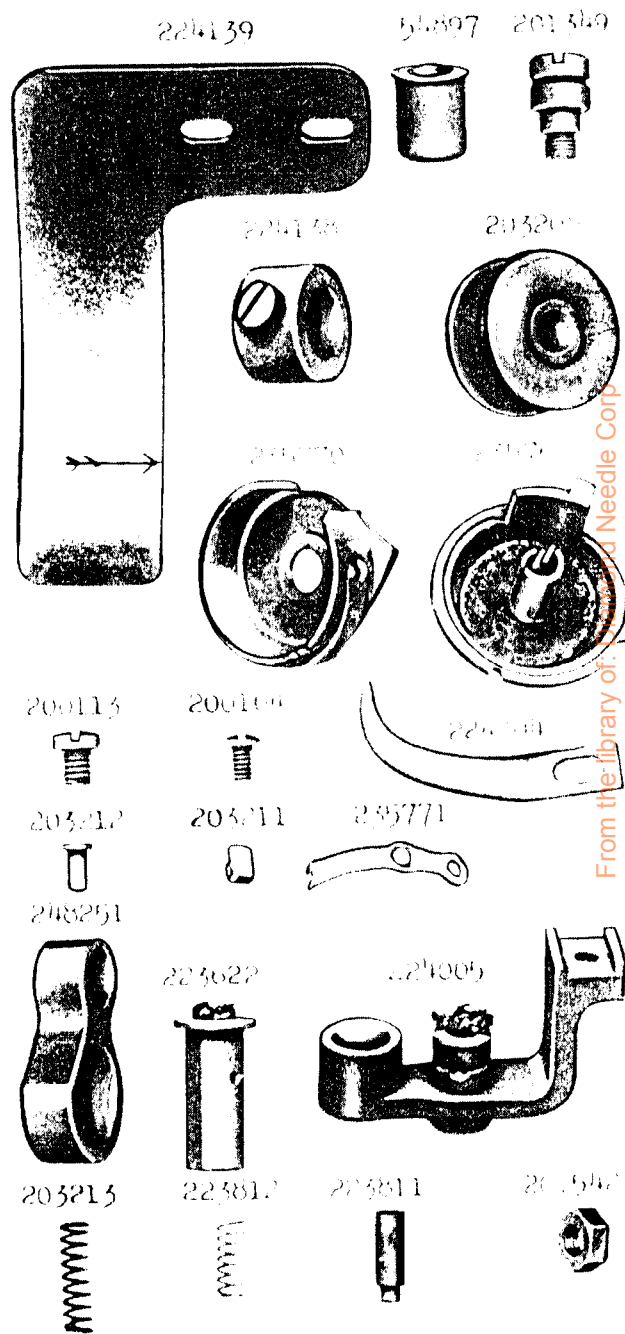


From the library of: Diamond Machine Corp

PLATE 16585 - FULL SIZE



PLATE 16592 - FULL SIZE



From the library of:  Needle Corp.

PLATE 16593 - FULL SIZE

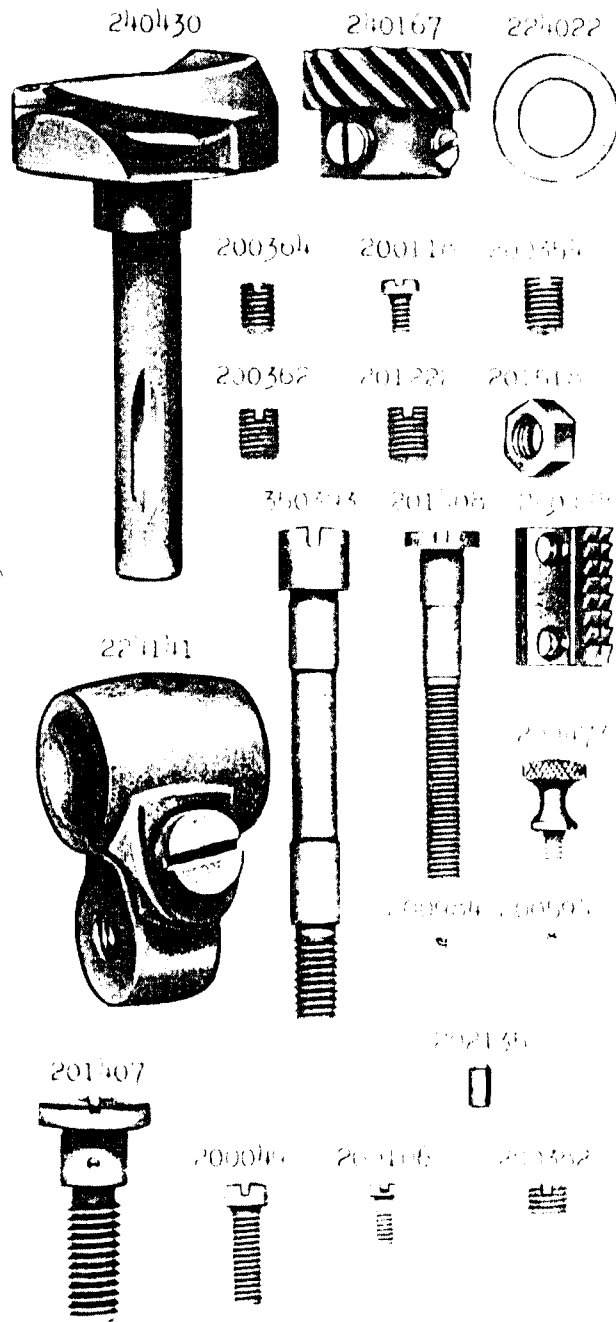
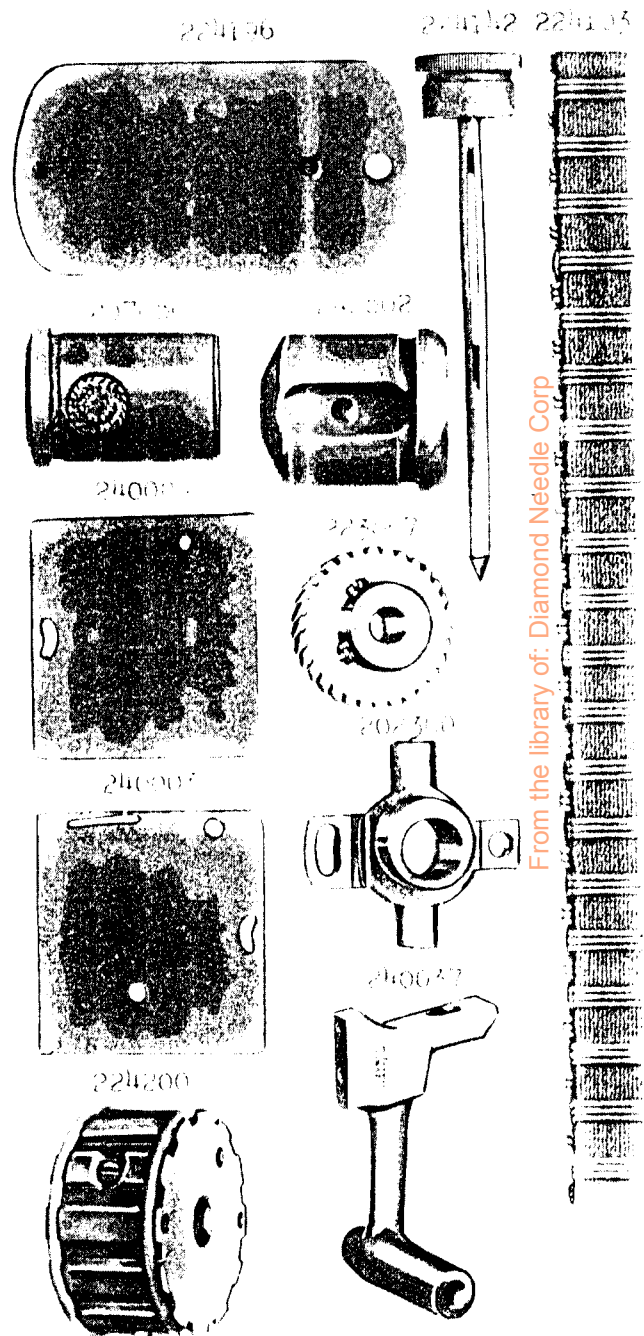


PLATE 16594 - ONE-HALF SIZE



From the library of: Diamond Needle Corp

PLATE 16595 - ONE-FOURTH SIZE

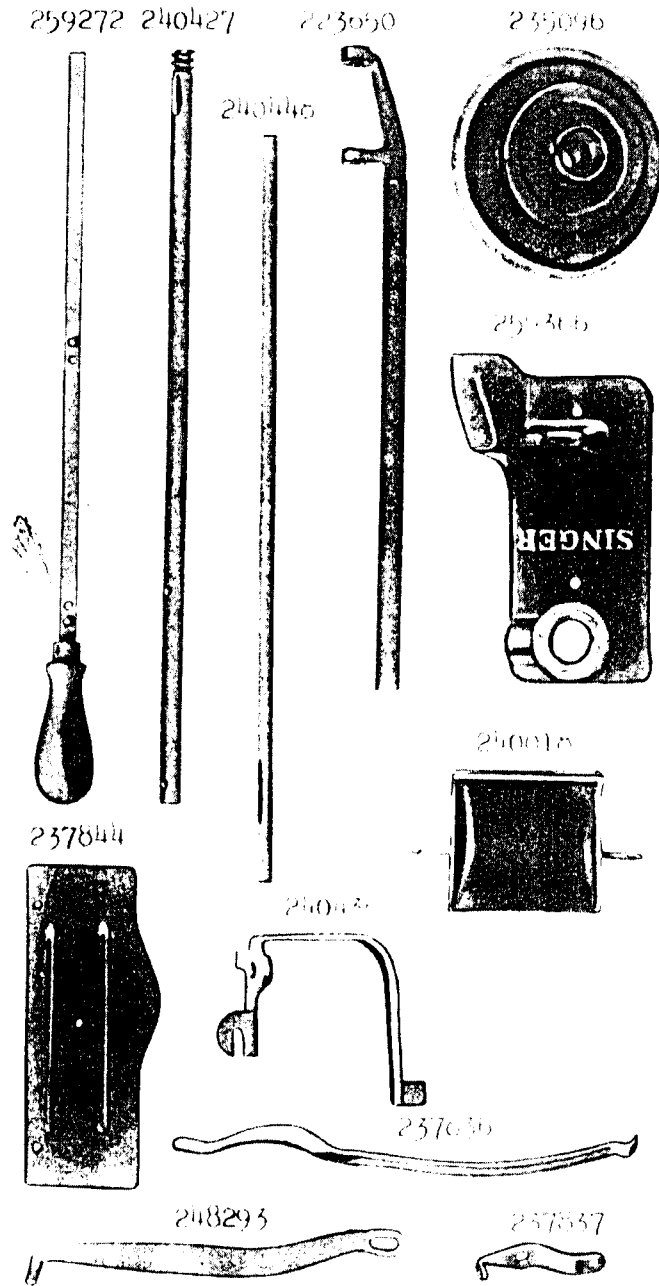


PLATE 16596 - FULL SIZE

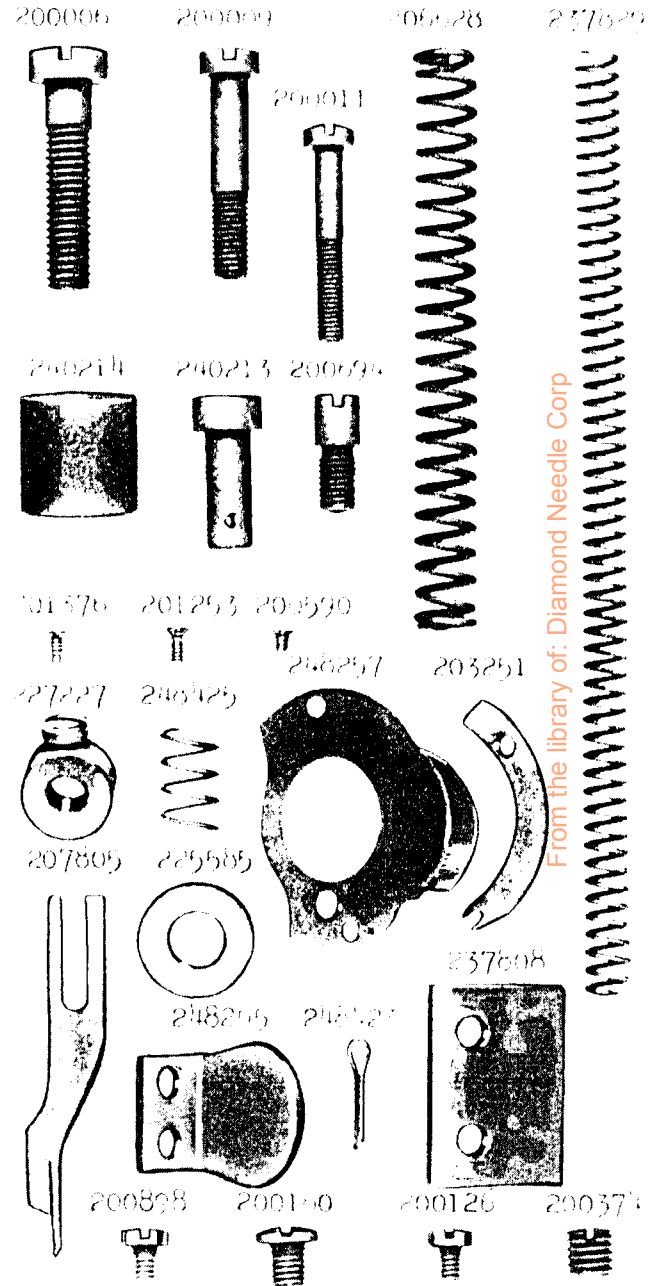


PLATE 16597 - FULL SIZE

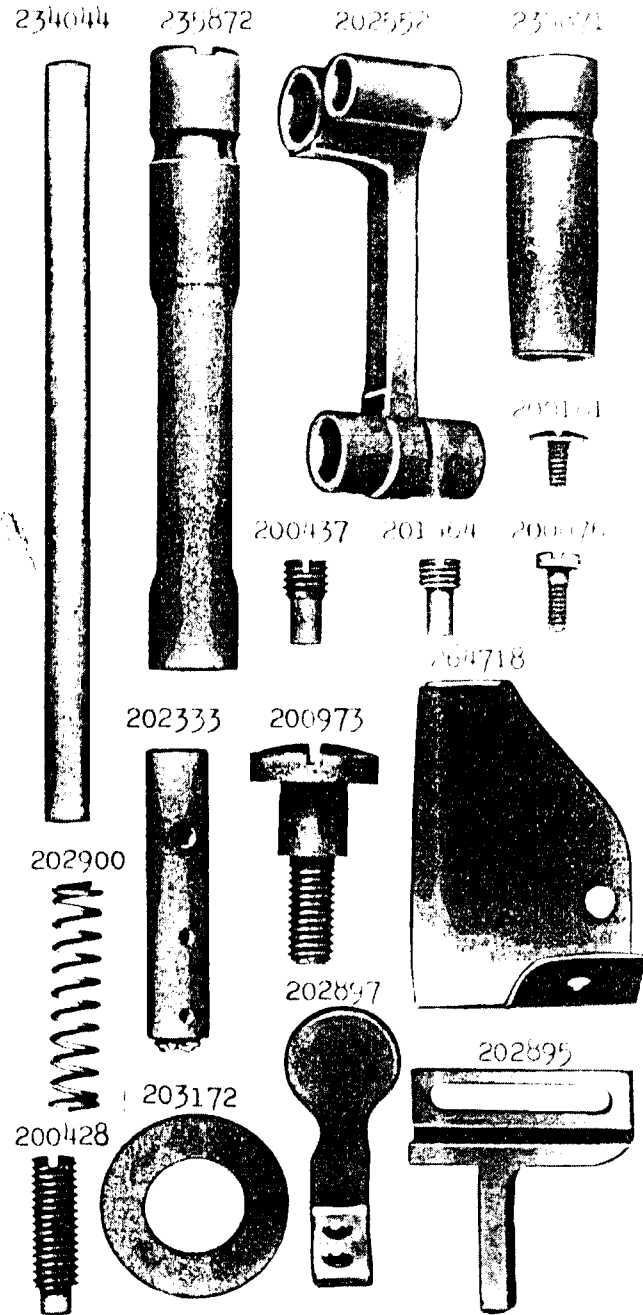
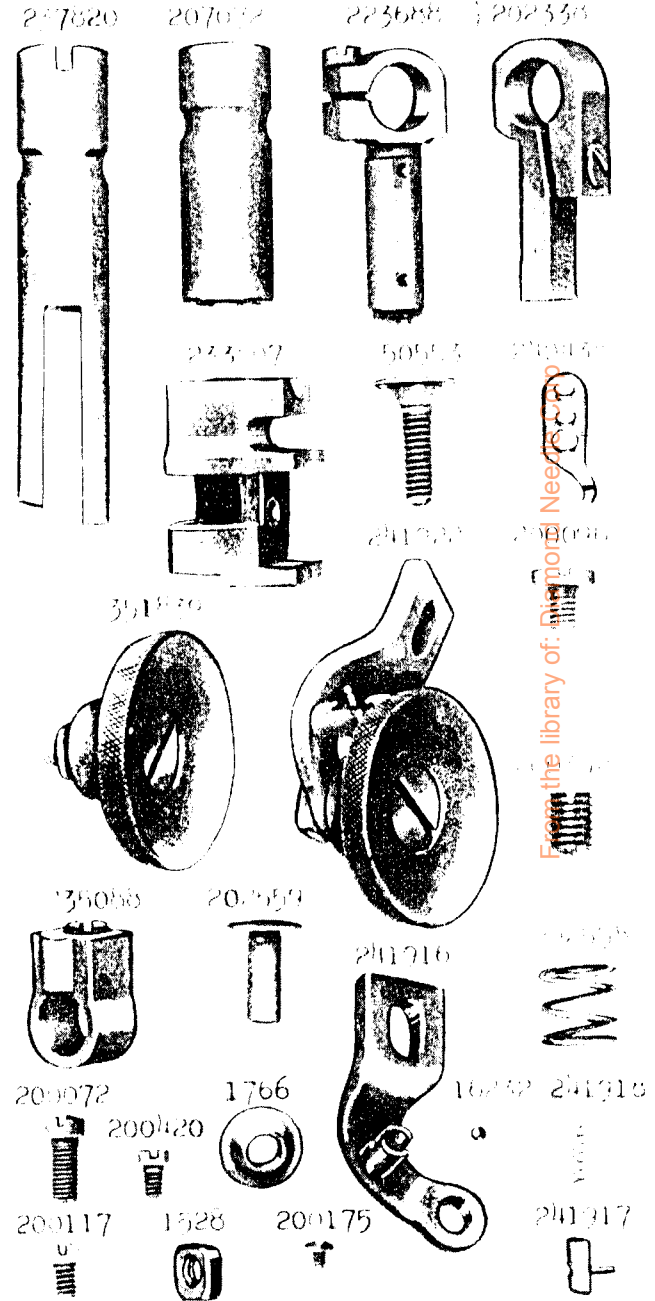


PLATE 16598 - FULL SIZE



From the library of: National Need

PLATE 16599 - ONE-HALF SIZE

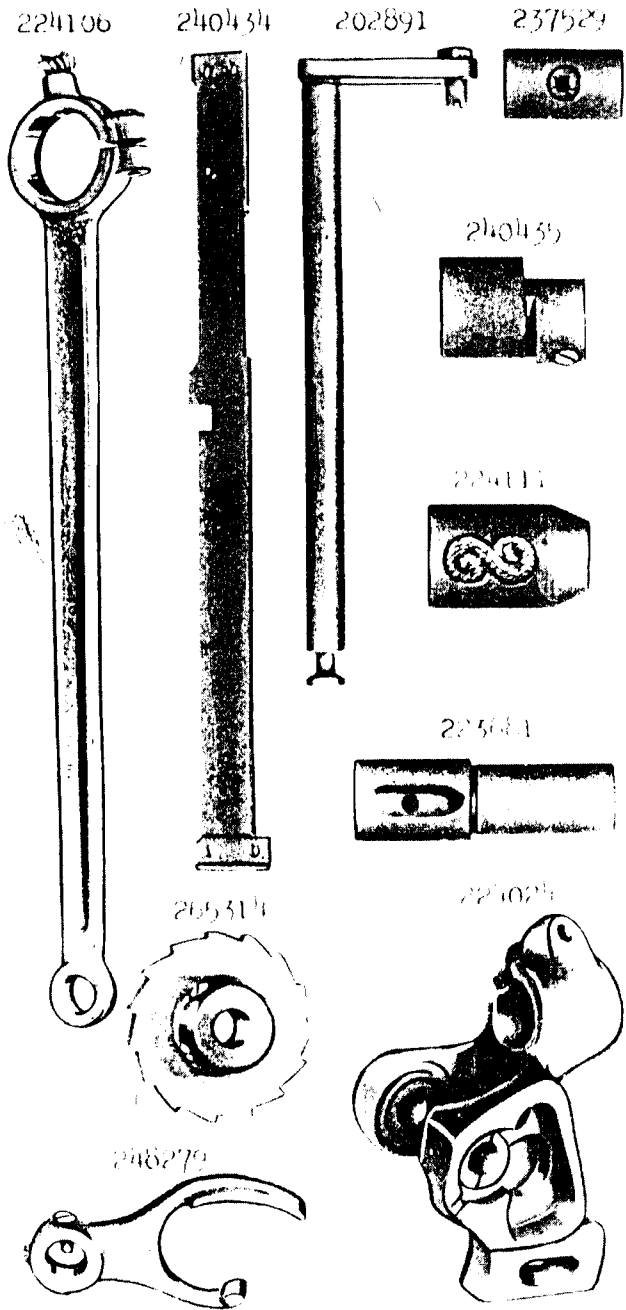


PLATE 16600 - FULL SIZE

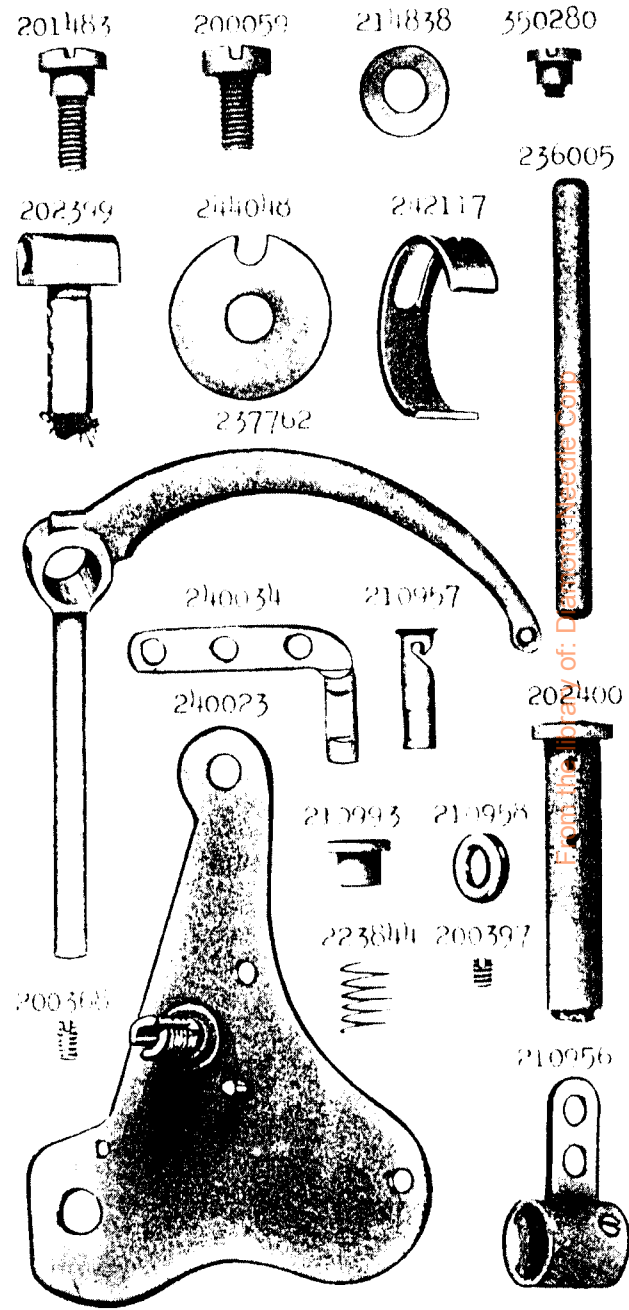


PLATE 16601 - FULL SIZE

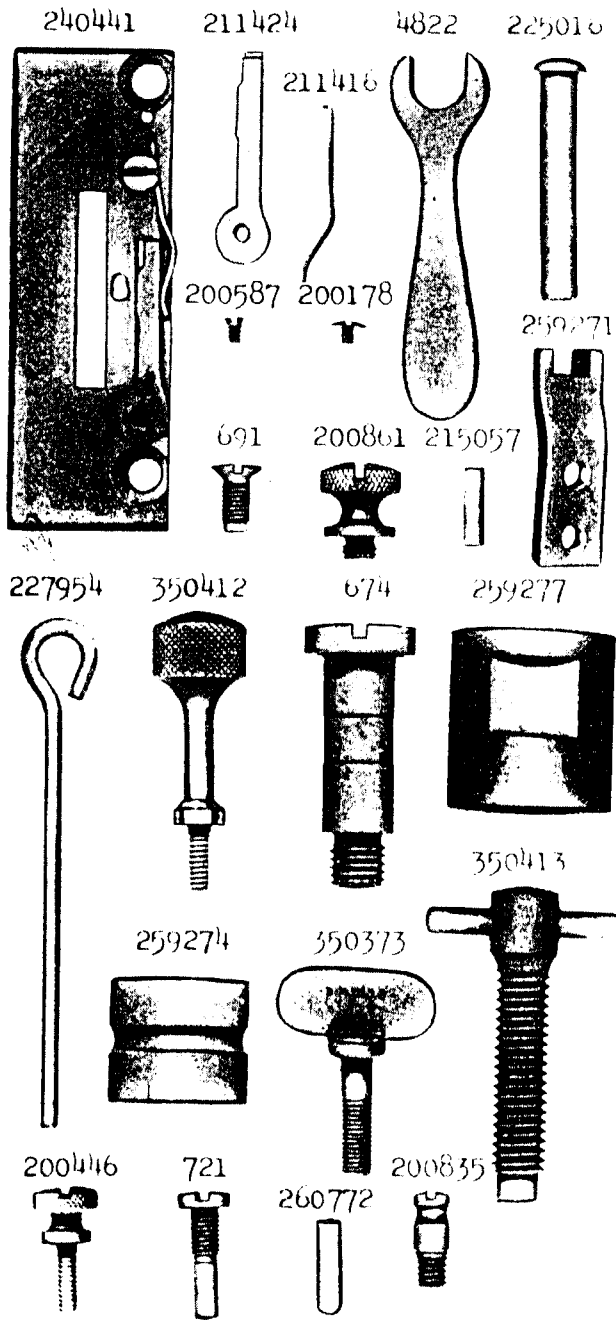
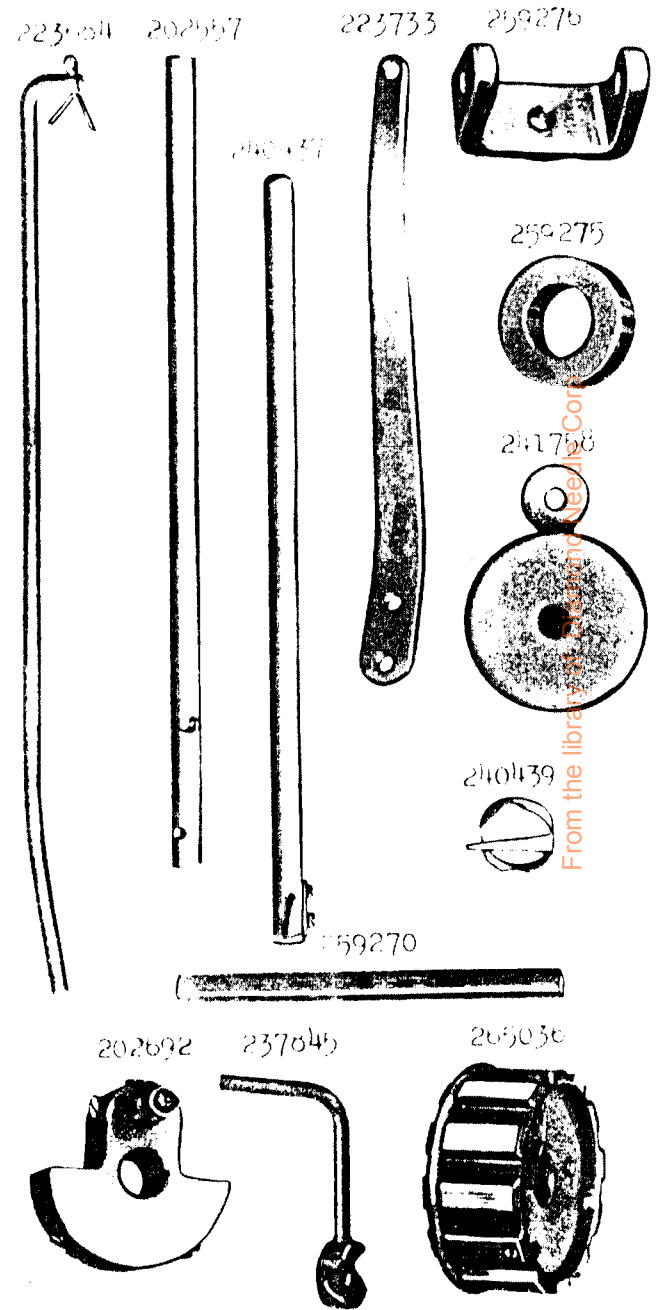


PLATE 16602 - ONE-HALF SIZE



From the library of the American Society of Mechanical Engineers