

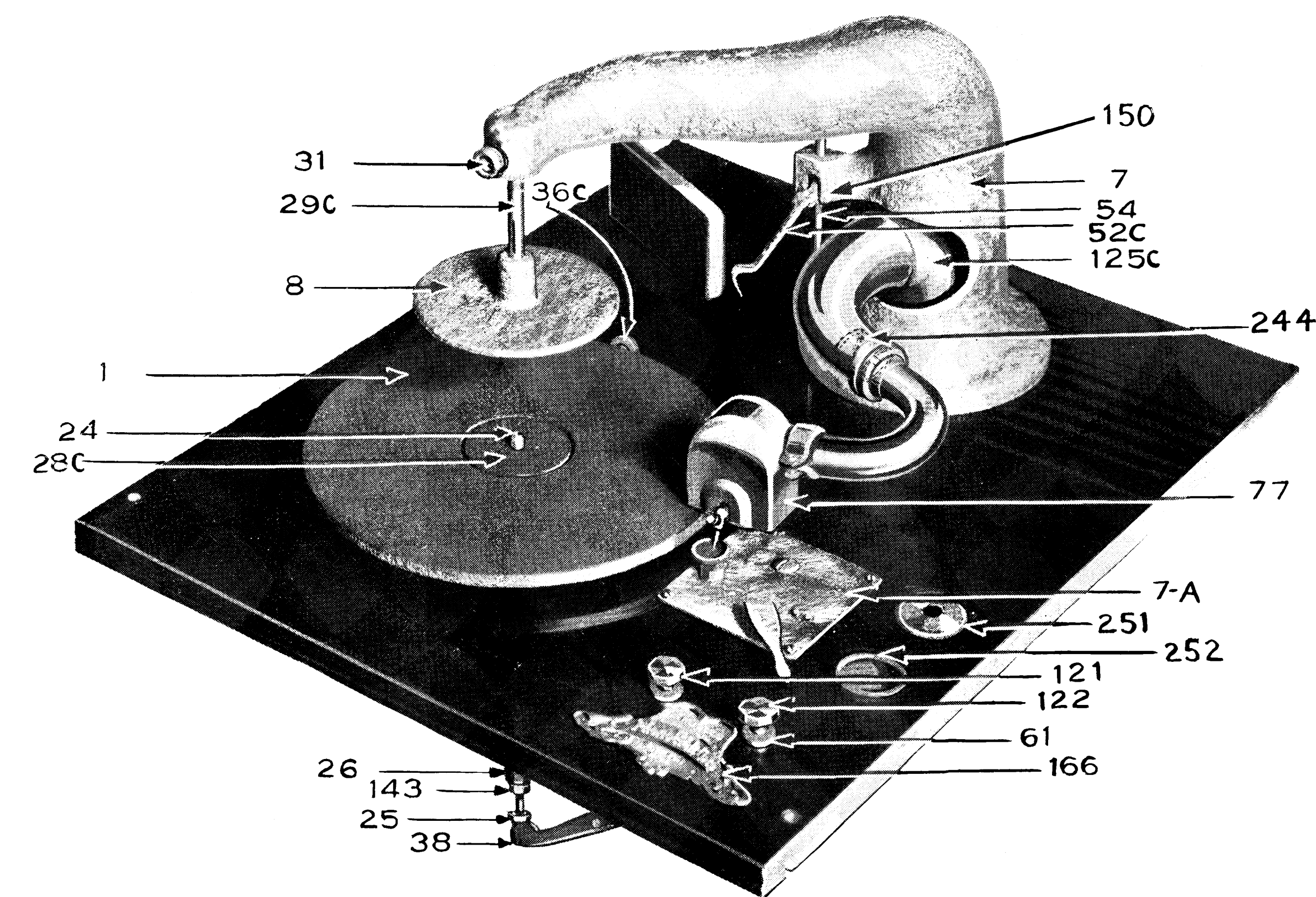


PLATE 1

PARTS LIST FOR SPARKS ENSEMBLE

1	Turn Table Assembly	35	Discard Stud
2-C	Body Spider Assembly	36-C	Discard Roller Assembly
3	Receiving Cam	38	Receiving Lever
4	Discard Cam	39	Throw-Out Lever
5	Engaging Cam	40	Adjusting Stud
6	Tone Arm Bearing	42	Clutch Stop Lever
7	Carrier Arm Assembly	43	Clutch Stop Spring
8	Record Guide	44	Tone Arm Lever
7-A	Switch Assembly	46	Tone Arm Adapter Stud
9-C	Motor Spider Assembly	47	Tone Arm Lever Spring
10	Tone Arm Adapter	49	Engaging Rod
12-C	Intermediate Gear Assembly	51	Engaging Control Spring
14-C	Cam Gear Assembly	52-C	Engaging Regulator Trip Assembly
16	Intermediate Stud	54	Engaging Regulator Rod
17	Clutch	56-C	Engaging Regulator Cable Assembly
18-C	Clutch Dog Base Assembly	57	Engaging Regulator Roller
20	Clutch Dog Stop	59-C	Speed Regulator Plate Assembly
21-C	Motor Shaft Assembly	61	Speed Regulator Bushing
22	Motor Shaft Bushing	62	Throw-Out Dog
23	Ball Race	63	Trunion for No. 57
24	Receiving Plate Stud	65	Reject Lever
25	Adjusting Stud	66	Reject Stud
26	Receiving Rod	70	Clutch Stop Trunion
28-C	Receiving Plate Assembly	71	Lever Trunion
29-C	Magazine Rod Assembly	72	Tone Arm Bearing Trunion
31	Magazine Hold Stud	73	Cotter Pin
32	Magazine Hold Stud Spring	75	Tone Arm Bearing Pin
33	Hold Out Lever	77	Pick Up
34	Discard Lever		

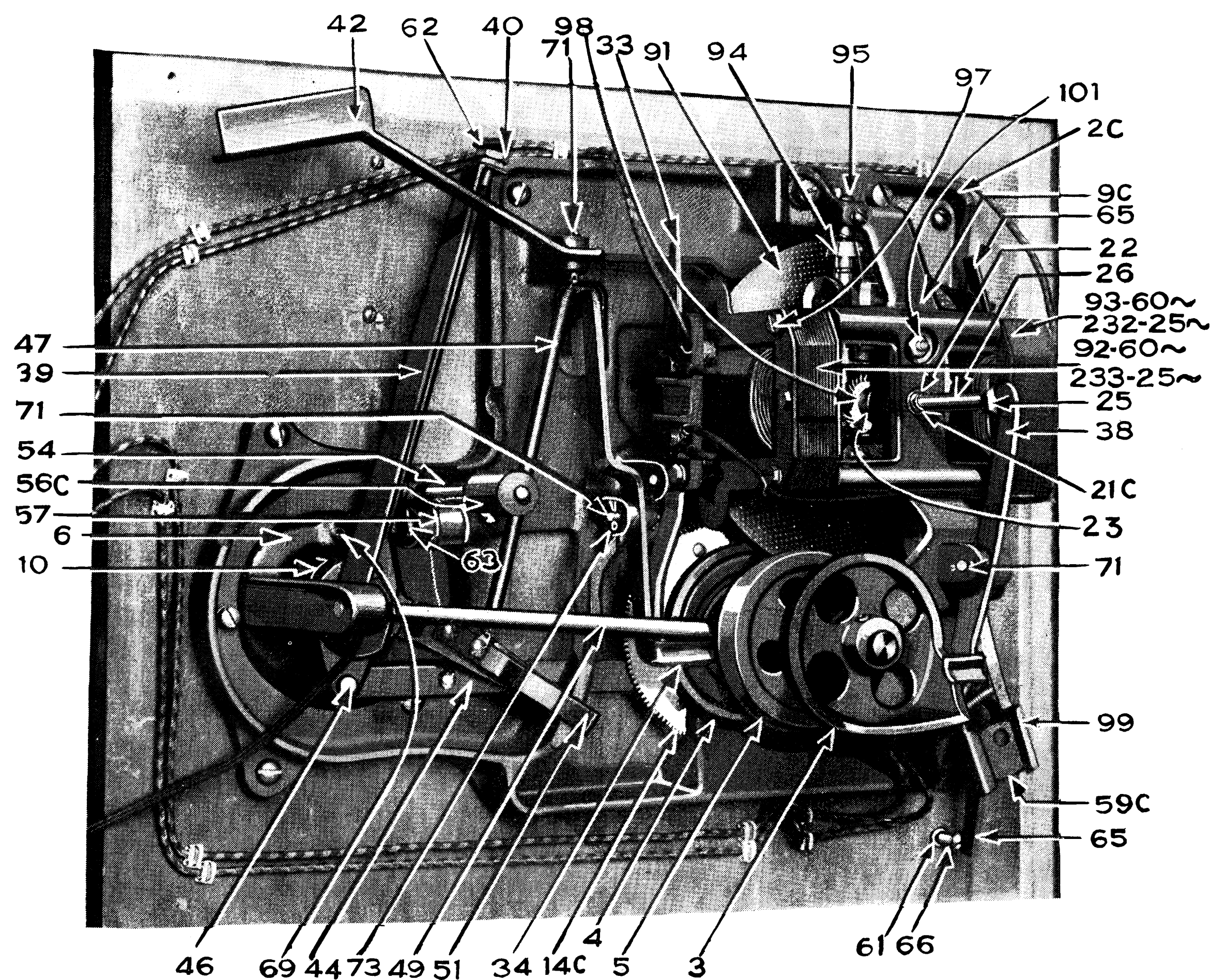


PLATE 2

NO. 1 GENERAL OPERATION OF PHONOCRAFT AUTOMATIC

After the completion of the record, needle moves into eccentric groove in center of the record. The first oscillation movement of the needle in the groove should trip lever No. 42 (Plate 2) by means of dog No. 62, which causes clutch stop No. 20 (Plate 3) to back away from dog No. 18-C, allowing it to drop and engage in clutch No. 17, which starts the machine through its regular changing revolution. Cam No. 4 (Plate 2) acts on lever No. 33, which in turn acts on lever No. 42, holding it up and keeping clutch stop No. 20 (Plate 3) back so that No. 18-C will remain in contact with clutch. As soon as change revolution starts, cam No. 5 (Plate 2) causes needle to raise from record by means of engaging rod No. 49 acting through tone arm bearing No. 6, on which tone arm No. 125-C (Plate 3) is fastened by means of adapter No. 10. Then pin in cam gear No. 14-C (Plate 3) engages at the back of slot in tone arm lever No. 44, causing pickup to swing back and away from record. Then throwout cam No. 4 (Plate 2) causes discard lever No. 34 to raise, engaging discard roller No. 36-C (Plate 1) with the bottom of record, raising record high enough to clear stud No. 24. One side of the record rests on roller No. 36-C, the opposite side on turn-table No. 1 (Plate 1), which, in revolving, causes the record to be discarded in the draw. The cam No. 3 (Plate 2) causes receiving stud No. 24 (Plate 1) to raise, acting through receiving lever No. 38 (Plate 2) and receiving rod No. 26, causing the stud No. 24 to trip trigger in 29-C (Plate 1), causing record to be received on Plate 28-C, which is lowered to turn-table No. 1. If a 12" record is received, it causes engaging regulator trigger No. 52-C (Plate 1) to trip, releasing engaging rod No. 54, allowing weight and cable No. 52-C (Plate 1) to trip, releasing engaging rod No. 54, allowing weight and cable No. 56-C (Plate 2) to bring a side pressure on tone arm lever No. 44 (Plate 3) moving it to left, which causes pin on cam gear 14-C to engage in long notch. 14-C revolving in a clock-wise direction causes pickup to swing to the left and engage needle in the proper place on the 12" record. If a 10" record is received, engaging regulator trip 52-C (Plate 1) will not be disturbed and friction plate in cam gear No. 14-C (Plate 3) will cause tone arm lever No. 44 to move to the right and engage in short notch on pin in 14-C. This will cause pickup to move to the left and engage needle in the proper place on a 10" record. The proper place for the needle to engage on

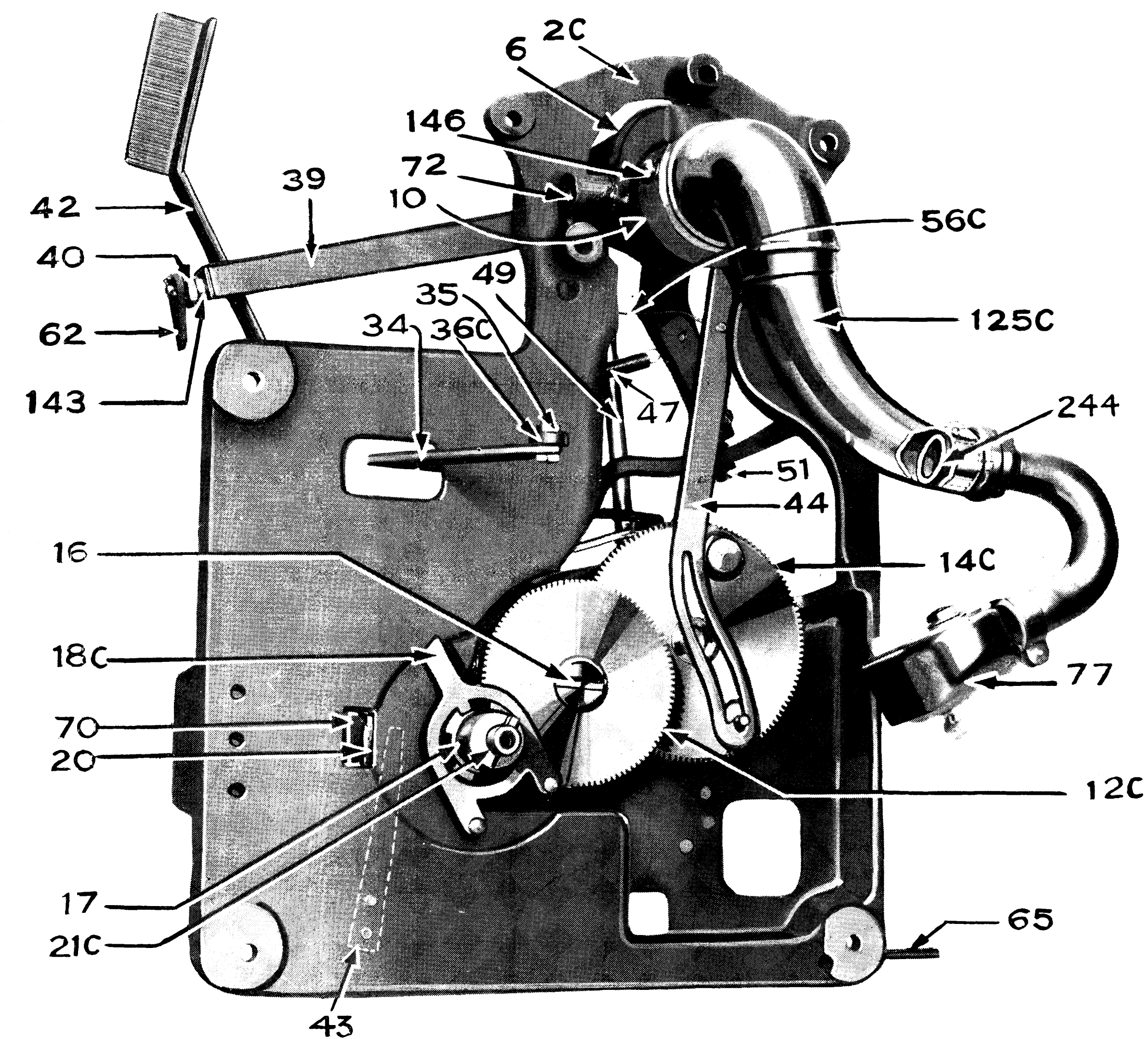


PLATE 3

81	1/8" Steel Ball	101	Stud Governor Lever
91	Armature	125-C	Tone Arm Assembly
92	Field Coil Back 60 cycle	143	10-32 Hex Nut
93	Field Coil Front 60 cycle	146	10-32x1/4 R. H. Screw
94	Governor	166	Name Plate 60 ohm
95	Governor Bearing	232	Field Coil (Front) 25 cycle
97	Mounting Screw	233	Field Coil (Rear) 25 cycle
98	Worm Gear	244	Tone Arm Adjusting Bushing
99	Governor Lever	251	Needle Box Cover
100	Tension Washer	252	Needle Box

PANEL ASSEMBLY FOR SPARKS ENSEMBLE

58	Control Panel	88	Plate for No. 89
86	Modulator Bracket	168	No. 5 x 1/2 L. R. H. Screw
227	Pin 1/16 x 7/16	87	Cable (Drive)
161	Screw No. 10 -32 x 3/16	133	Panel Board
148	Lockwasher No. 10	165	Wood Screws No. 9 x 5 16
84	Modulator Radio	90	Escutcheon
85	Modulator Record	153	Escutcheon Pins
121	Modulator Knob	135	Escutcheon Radio and Record
140	Pulley	139	Modulator Stud
142-C	Pulley Drive	138	Modulator Bushing
209	No. 6 - 1/2 R. H. Screw	193	Nut Round
89	Switch Double Throw		

records is on the smooth part about 1/8" from the outside edge. When pickup moves down to engage needle on record, then the engaging control spring No. 51 (Plate 2) is released from drag surface and allows tone arm 125-C (Plate 3) to swing free; then spring No. 47 (Plate 2) will cause the needle to move toward the center into the playing groove and piece starts to reproduce, after which the revolution of the mechanism is completed, stopping when one complete revolution of cam gear No. 14-C is made. At this point holdout lever No. 33 is released by cam No. 4, which releases clutch stop lever No. 42, allowing clutch stop No. 20 (Plate 3) to move to the right and disengage clutch dog No. 18-C from clutch No. 17.

NO. 2 DISCARD ADJUSTMENT

When record finishes reproducing and the needle is in the eccentric groove and oscillates from right to left without tripping, the dog No. 62 (Plate 3) is probably adjusted too high. This adjustment can be raised or lowered as desired by loosening nut No. 143 (Plate 3), turning stud No. 40 until the proper adjustment is effected, then retighten nut No. 143.

NO. 3 NEEDLE ENGAGING ADJUSTMENT, SIDEWAYS

If needle does not engage on record in the proper place, which is about 1/8" from the outside edge, move right or left by means of the adjustment clamp where pickup attaches to tone arm. If the required amount of movement can not be obtained in this manner, it will be necessary to remove the carrier arm No. 7 (Plate 1) by removing three screws directly under its base. Then loosen the three screws No. 146 (Plate 3) and revolve tone arm No. 125-C in the adapter No. 10 until the required position is obtained. Then tighten screws No. 146 and replace carrier arm No. 7. CAUTION: In revolving tone arm No. 125-C in the adapter No. 10, hold adapter No. 10 stationary and be sure that no other parts are damaged.

NO. 4 NEEDLE ENGAGING ADJUSTMENT, UP AND DOWN

If needle does not raise high enough above the record when returning, the adjustment bushing in No. 244 (Plate 3) can be adjusted by loosening screw and moving pickup No. 77 back to its extreme position, then forward as far as required and retighten screw. If sufficient movement can not be obtained in this manner, loosen 1/4 - 20 Allen set screws in cam No. 5 (Plate 2) and raise or lower until the desired position of needle is obtained and retighten set screws. If this manner of adjustment is employed, care must be taken that drag spring No. 51 (Plate 2) is properly adjusted so that clearance of at least 1/32" between the drag spring and the drag surface is effected when tone arm is in the playing position.

NO. 5 RECEIVING RECORD ADJUSTMENT

If record is not received from magazine rod 29-C (Plate 1) properly, be sure that the trigger in 29-C engages in the exact center of receiving stud No. 24. If this is not the case, revolve magazine rod No. 24-C completely around and note if trigger stays in the same position in regard to stud No. 24 during the entire revolution. If trigger forms a circle in its revolution, it means that the magazine rod has probably been bent, otherwise adjust them so that they come center to center by means of the three screws under the base of carrier arm No. 7 (Plate 1). If these two centers coincide and records do not feed down properly, adjust adjusting stud No. 25 (Plate 2), which is in the end of the receiving rod No. 26. This should be adjusted in such a manner that the trigger in the end of magazine rod No. 29-C travels upwards to its farthest possible position. NOTE: Be sure that trigger in No. 29-C operates freely and drops to its lower position by its own weight. It is advisable to put a drop of real light oil in the groove if trigger sticks.

NO. 6 DRAG SPRING ADJUSTMENT

When needle is in the playing position, tone arm No. 125-C should be released from drag, caused by engaging control spring No. 51 riding on drag surface and tonearm should swing from right to left freely. At all times when needle is not in the playing position, drag spring No. 51 should be in contact with drag surface, and tone arm No. 125-C should not swing freely. At the time that needle moves down on record the drag spring is released. When needle raises from record, drag spring becomes engaged, on drag surface.

If this action is not as described, engaging control spring No. 51 (Plate 2) should be adjusted to conform with this outline. When the drag spring is in the released position, there should be about 1/32" clearance between it and the drag surface. This can be adjusted by means of a screw which is in the end of adapter No. 10 (Plate 2) and acts against spring No. 51. In extreme cases where this adjustment can not be effected, it is sometimes necessary to remove spring and bend the end so it will drag on the drag surface in the proper way. In case it is necessary to remove drag spring, be sure that the end where the two fastening screws go through has plenty of angle in it, so that a large initial tension is effected when spring is away from drag surface.