



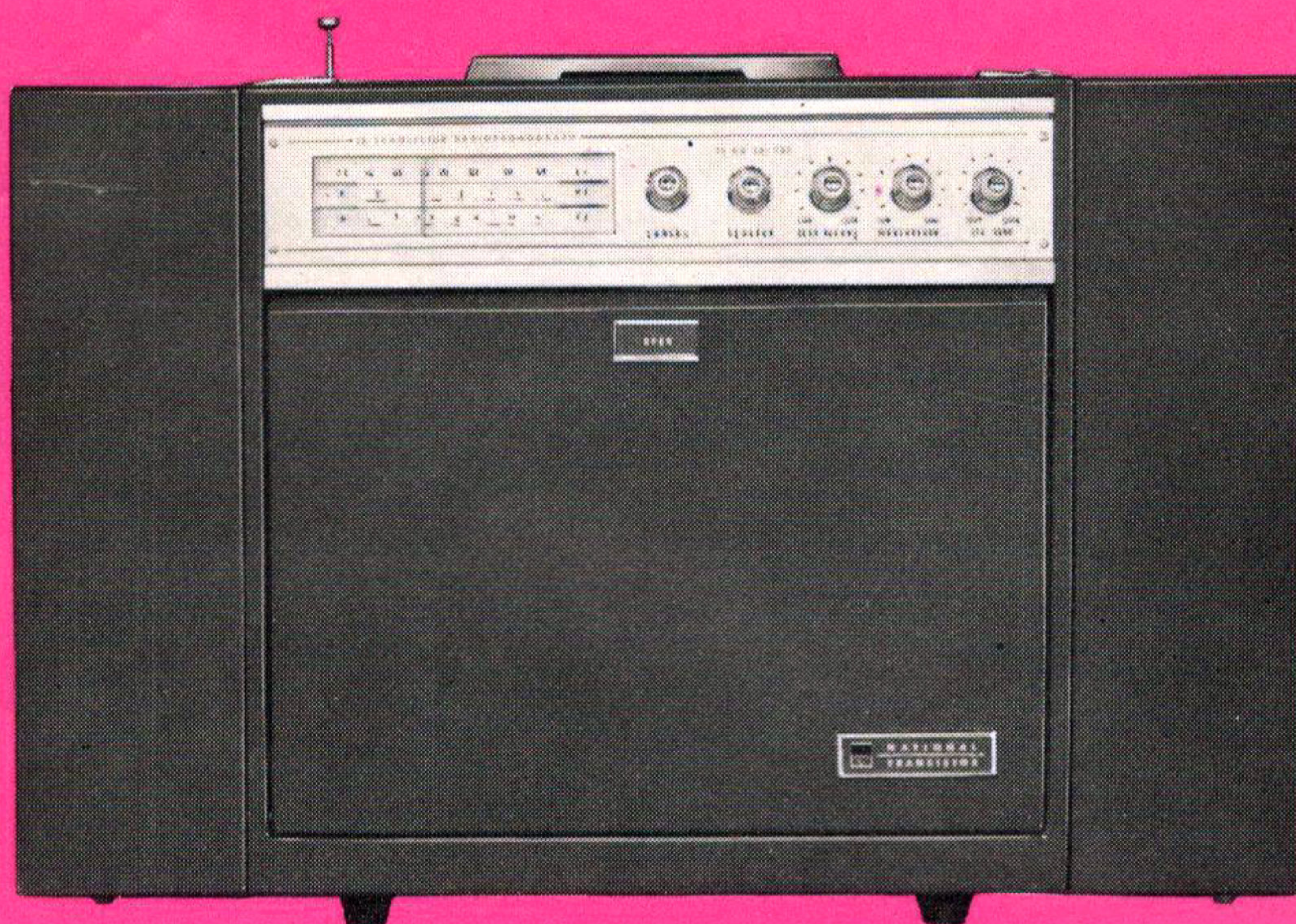
NATIONAL

AC-BATTERY POWERED

3-BAND 13-TRANSISTOR 3-DIODE PORTABLE RADIO-PHONOGRAPH

MODEL SG-825

INSTRUCTION BOOK



Before Playing Your Radio-Phonograph,
Please Read This Instruction Book Completely.

PREPARATION

Please follow the simple directions in this instruction book to take full advantage of all the capabilities and special features built into your NATIONAL portable Radio-Phonograph.

INSTALLING THE BATTERIES

- Open the battery cover by your fingers as indicated on battery cover. (Fig.1)
- Insert six NATIONAL "UM-1" ("D" size) flashlight batteries or equivalent. Observe correct polarity as indicated in battery compartment.
- NATIONAL "Hi-Top" batteries are recommended as these batteries have been designed to last twice as long as ordinary batteries.

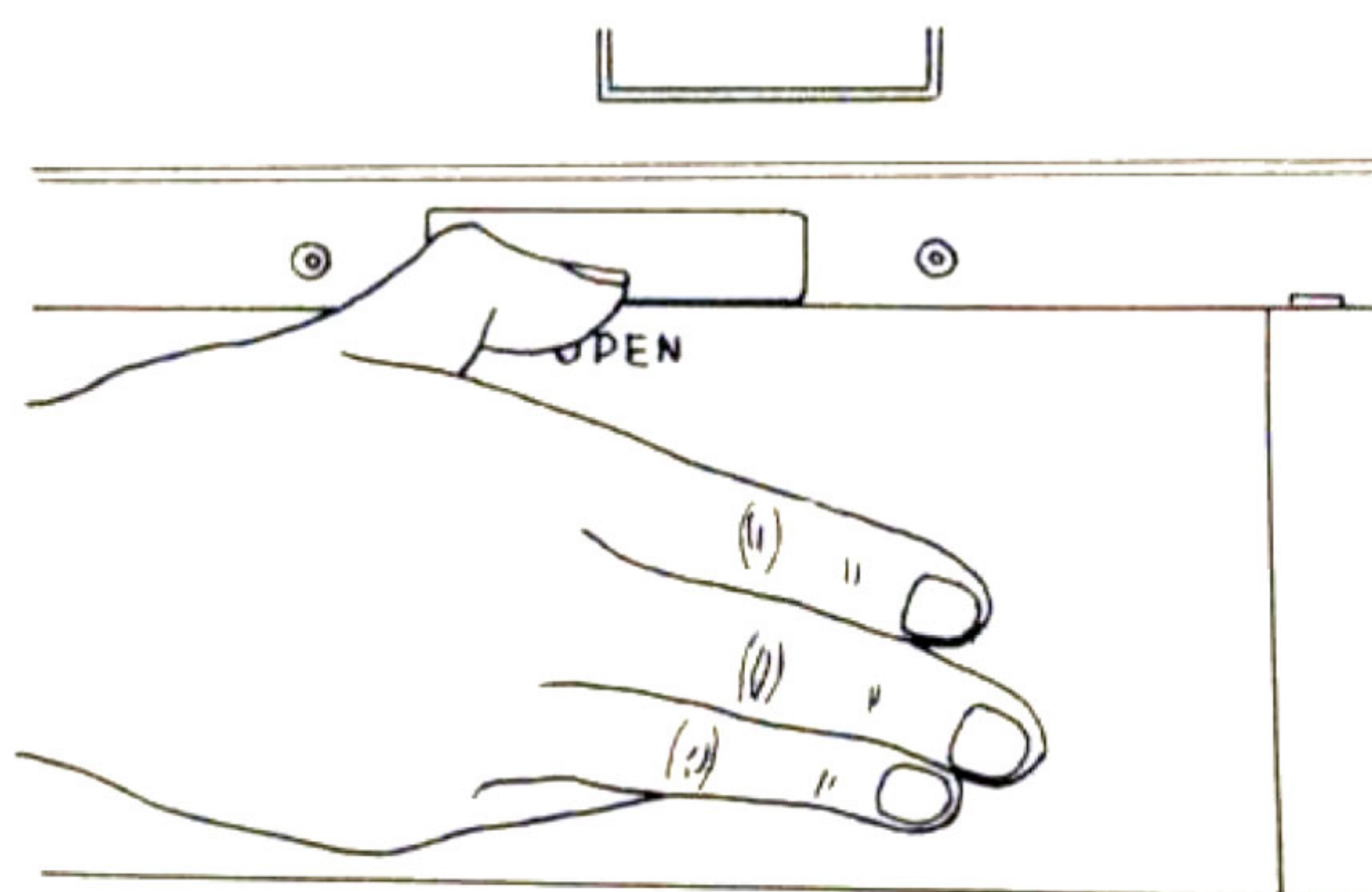


Fig. 1

AC OPERATION

- Voltage:
First of all make sure that your set is adjusted for the voltage in your house. The voltage to which it has been set at the factory can be seen through the hole of the rear panel. If necessary re-set the voltage adaptor (as shown in the figure 2) to the appropriate value. The settings include 110, 200, 225 and 250 V A.C.
See the indication plate. (Fig.2)
- Remove AC line cord compartment cover. (Fig.3)
- Fully extend the AC line cord and close compartment cover.
- Insert AC plug into a convenient AC power outlet. When using AC power, batteries are automatically disconnected.

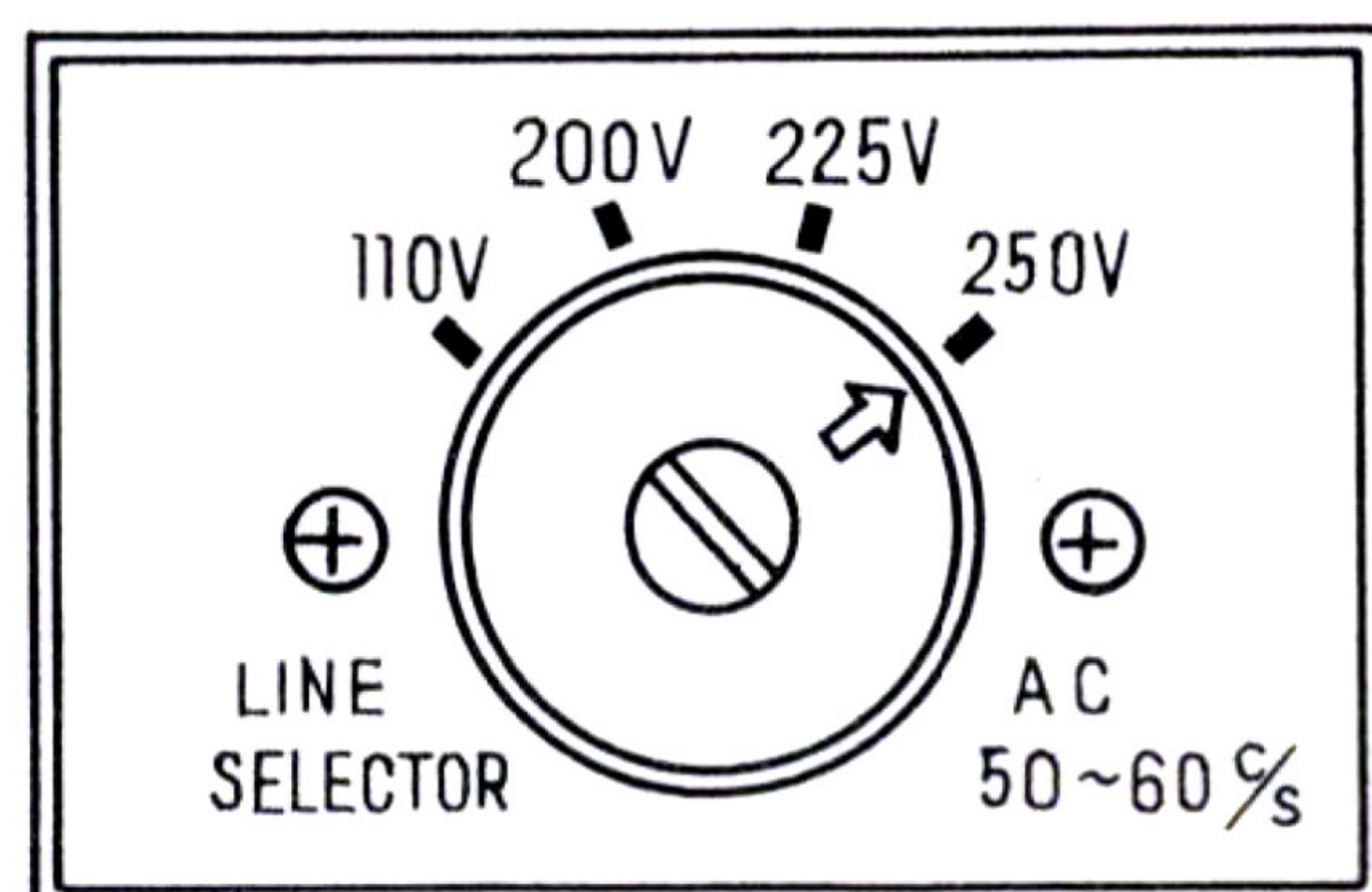


Fig. 2

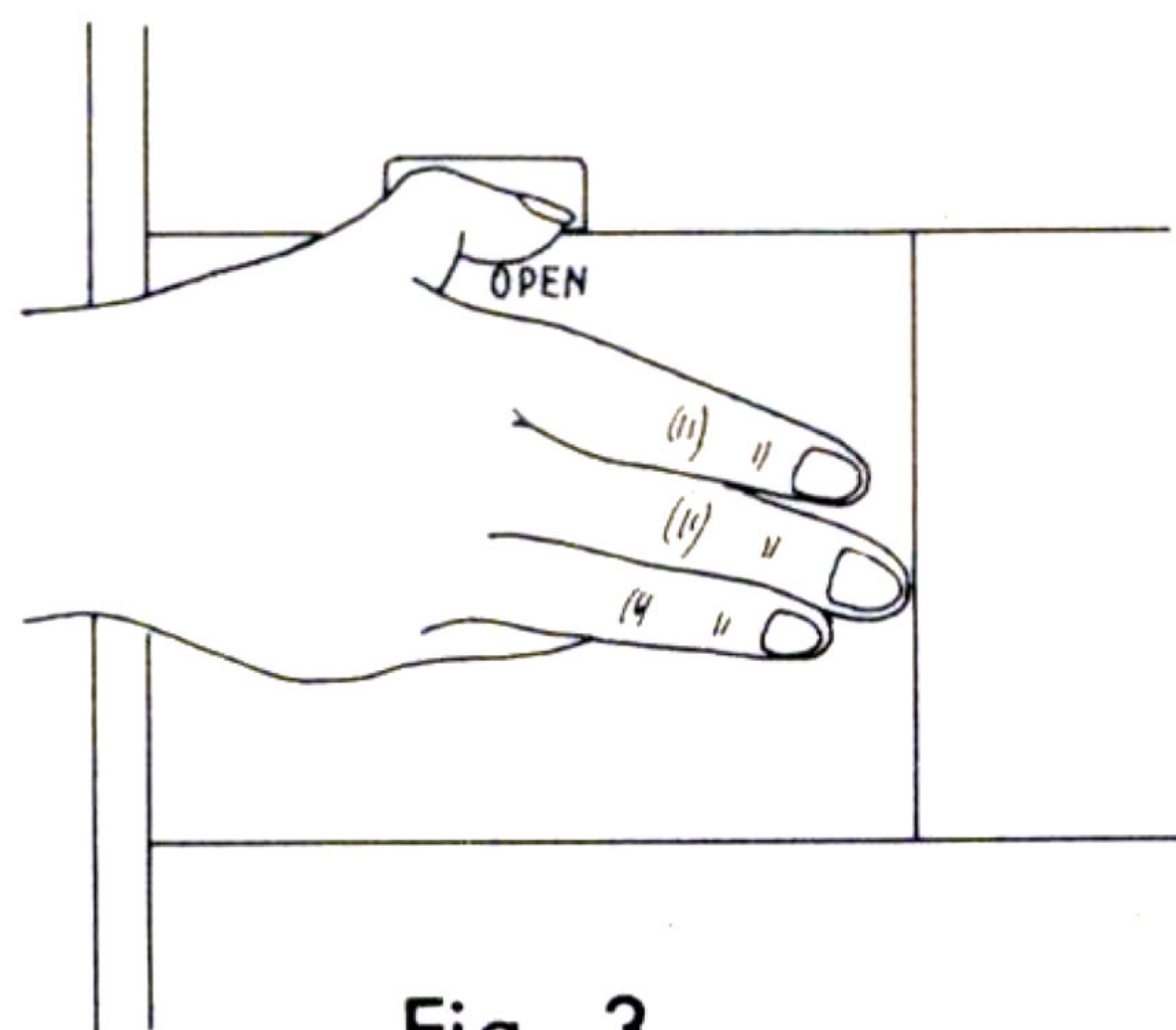


Fig. 3

TO SET THE SPEAKER CABINETS

- The speaker cabinets swing forward and may be removed if desired.

HELPFUL HINTS

- The Record changer mechanism is well lubricated before leaving the factory: however, after prolonged use, it is advisable to relubricate certain parts, as follows:
Remove the turntable
Remove circlip and carefully lift turntable off its bearing.
A medium grease should be applied to the following points.
Jockey Arm Pivot. Gear teeth, bearing and cam track.
A light oil should be applied at the following points. The Pick-up Hinge Pivots. The pickup raising spindle bearings.
turntable bearing. Jockey pulley spindle. Take care not to get oil on the rubber jockey pulley tyre or the inside of the turntable rim.
- Battery drain is dependent upon the volume level.
When the set is played at lower volume, the batteries will last longer. Battery life will be extended by playing the set for a few hours at a time, rather than many continuous hours.
- When volume level begins to lower or turntable speed is uneven, it is advisable to replace the batteries before they are completely discharged.
Replace all the batteries at the same time.
- Should the set not be in use for a long time, remove batteries to prevent damage due to battery leakage.
- The set should not be subjected to extreme temperatures, transistor characteristics are affected by heat.
- Do not expose the set to direct sunlight, keep free from sand and moisture.
- To keep the Cabinet clean, wipe off dust and stain with a soft cloth moistened with a mild soap and water solution.
NEVER USE A SOLUTION CONTAINING BENZOL OR PETROLEUM.

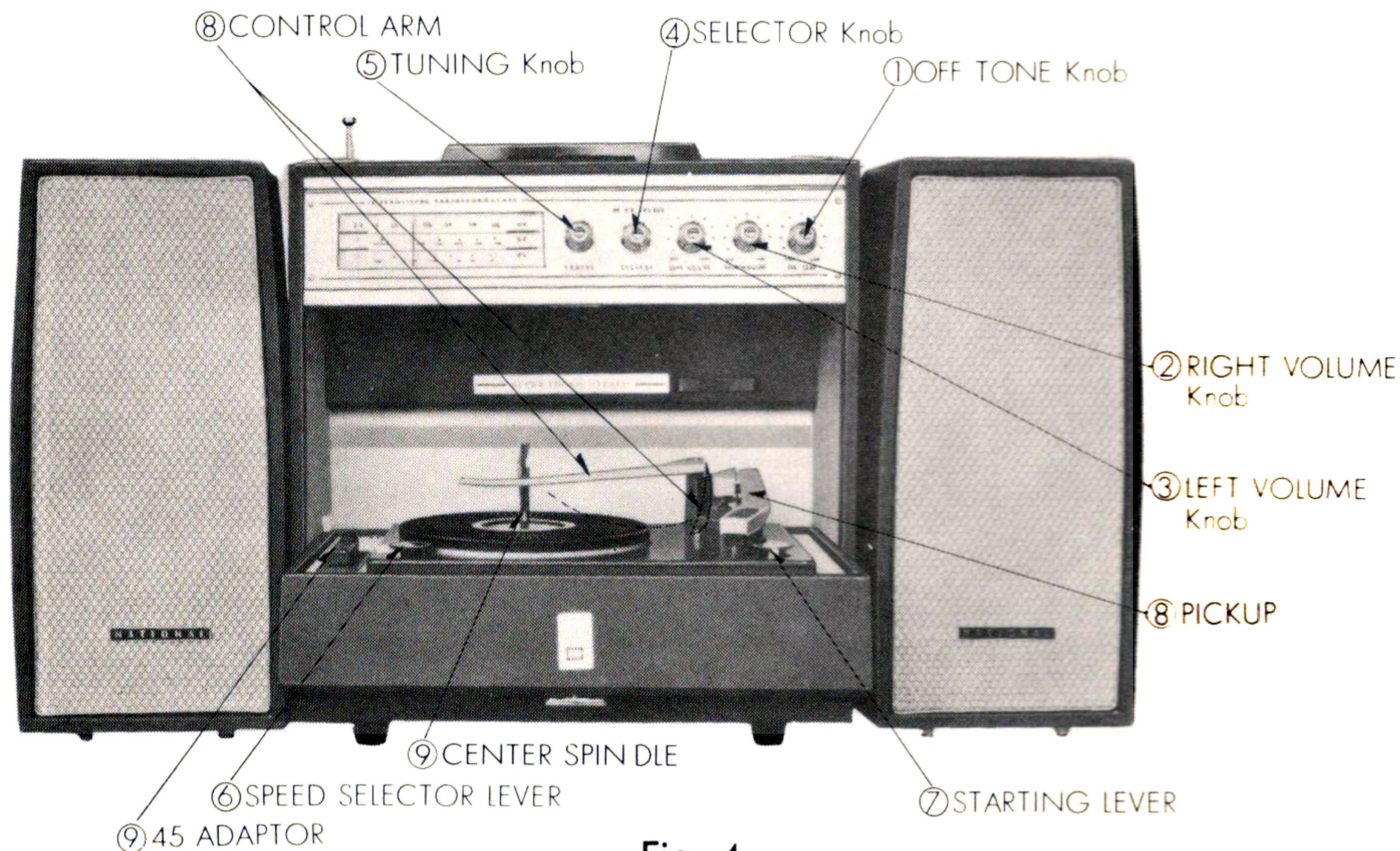


Fig. 4

RADIO OPERATION

MW RECEPTION

- Turn OFF TONE Knob (1) clockwise to switch unit ON.
- Turn the SELECTOR Knob (4) to MW.
- Select your desired station with the TUNING Knob (5).
- The highly sensitive built-in Ferrite Antenna is directional.
To improve reception of weak stations, rotate the set until the loudest signal is obtained.
- Adjust the sound level and tone with the VOLUME Knobs (2,3) and OFF TONE Knob (1).

SW₁ & SW₂ RECEPTION

- Turn the SELECTOR Knob (4) to SW₁ or SW₂.
- Fully extend the Telescopic Whip Antenna.
- All other controls are in the same manner as described in MW.
- Tune carefully because SW₁-SW₂ tuning is normally more critical.

■ Manual operation

Lift the control arm fully and swing to the right. Place the record on the turntable and replace the control arm to its operating position.

To remove records

Lift the control arm fully, swing to the right.

To start, move the starting lever to MAN/ON position. Place Stylus in position on record, the record will now play and when completed, the pickup arm will return to the rest and the unit will switch off in the normal manner, and lift records gently off the center spindle.

Stopping

The record changer may be stopped at any time by moving the starting lever to the "OFF" position. If the record changer is stopped during the "change cycle" it must be allowed to complete that cycle before attempting to lift the control arm or remove the records.

- Adjust for best volume level and tone with VOLUME Knobs (2,3) and OFF TONE Knob (1).

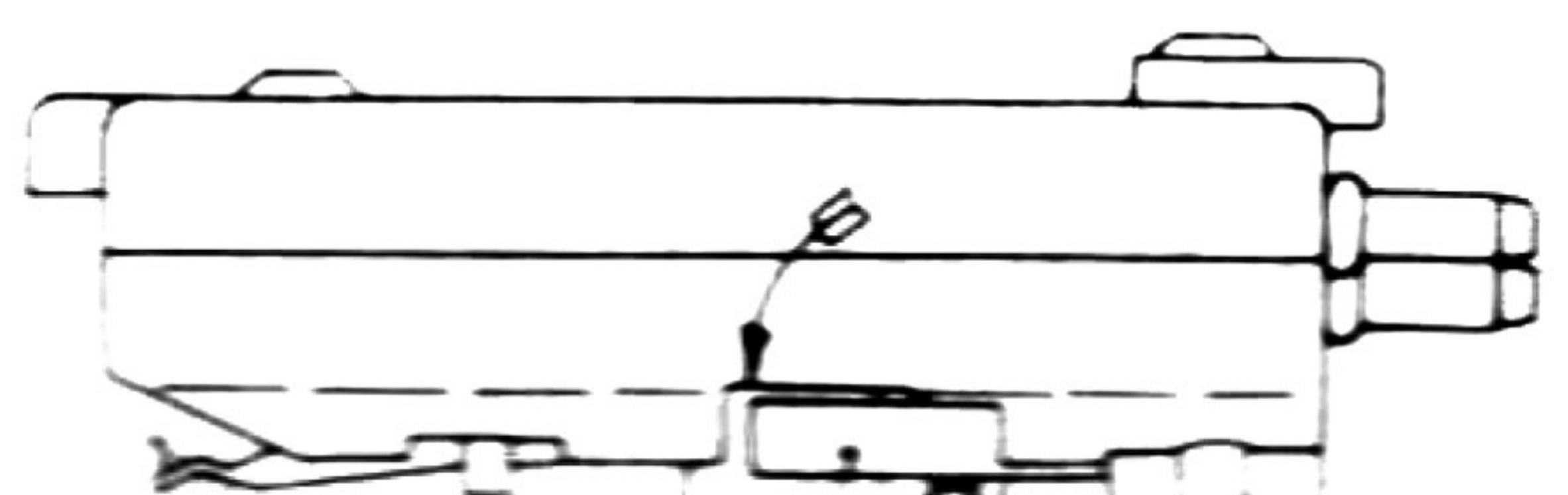
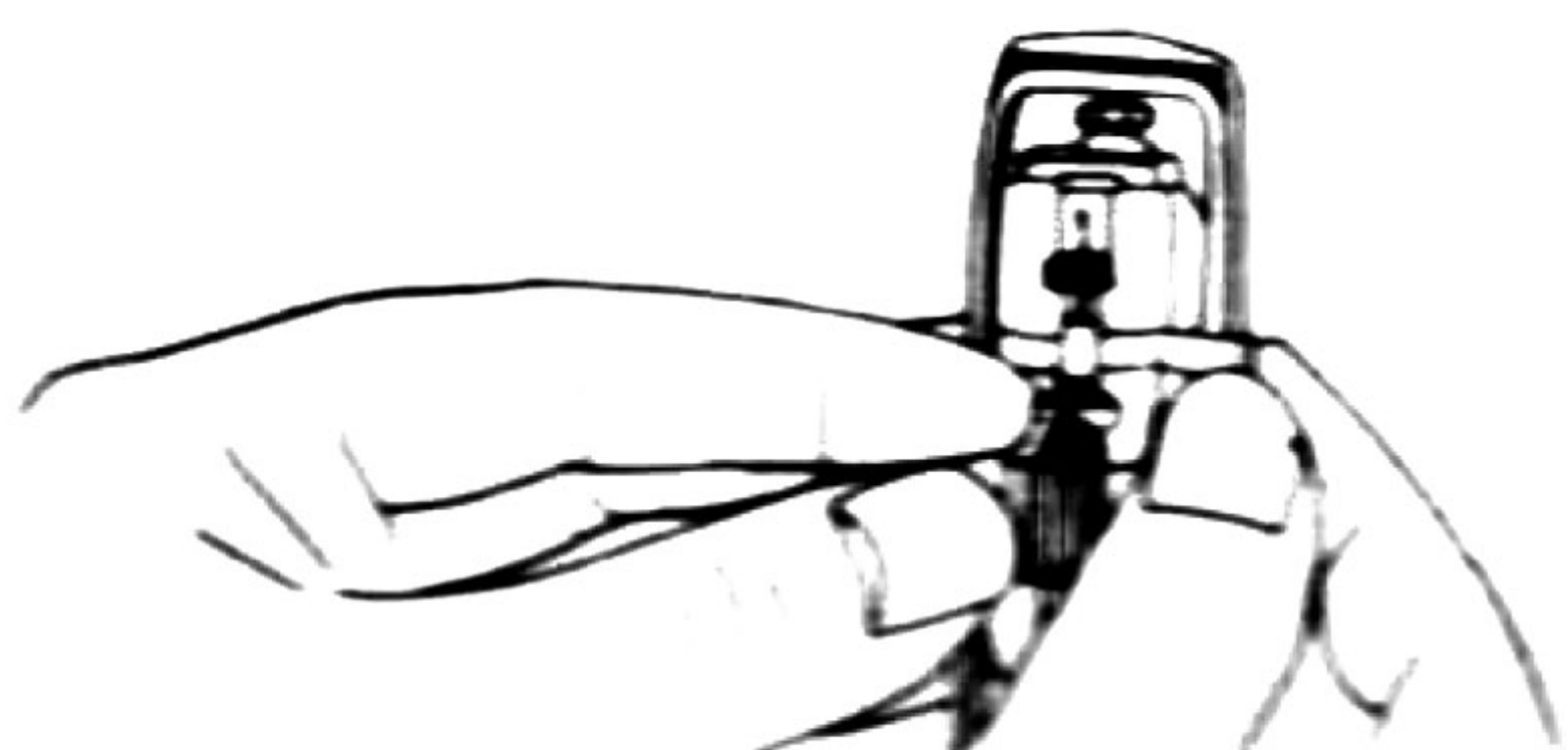
- To use the 45 r.p.m. adaptor. Use the 45 adaptor for playing 45 r.p.m. record. Point arrow on adaptor to front of changer. Press on to spindle. Twisting slightly to left and right until it locks in place on the turntable.

AUTOMATIC SWITCH

In phono operation, when the pickup replace pickup rest, the set power supply is offed automatically.

TO REPLACE STYLUS

- Replacement should be made after 40-50 hours of use for playing. (The optional EPS-13TTSD diamond stylus will give 1000 hours of service.)
- To remove worn out Stylus twist the turnover arm slightly in order to lift the front end clear of the Cartridge body and ease it forward from underneath the turnover spring.
- Do the reverse when you replace the stylus with a new stylus.



PHONO OPERATION

- Turn SELECTOR Knob (4) to PH.
- Set the SPEED SELECTOR Lever (6) to the required speed as indicated on your record. Select the correct stylus. (Fig.5,6)
- Unclip the Pickup Arm.
Grasp the Control Arm at the rear, swing to the left .(Fig. 7)

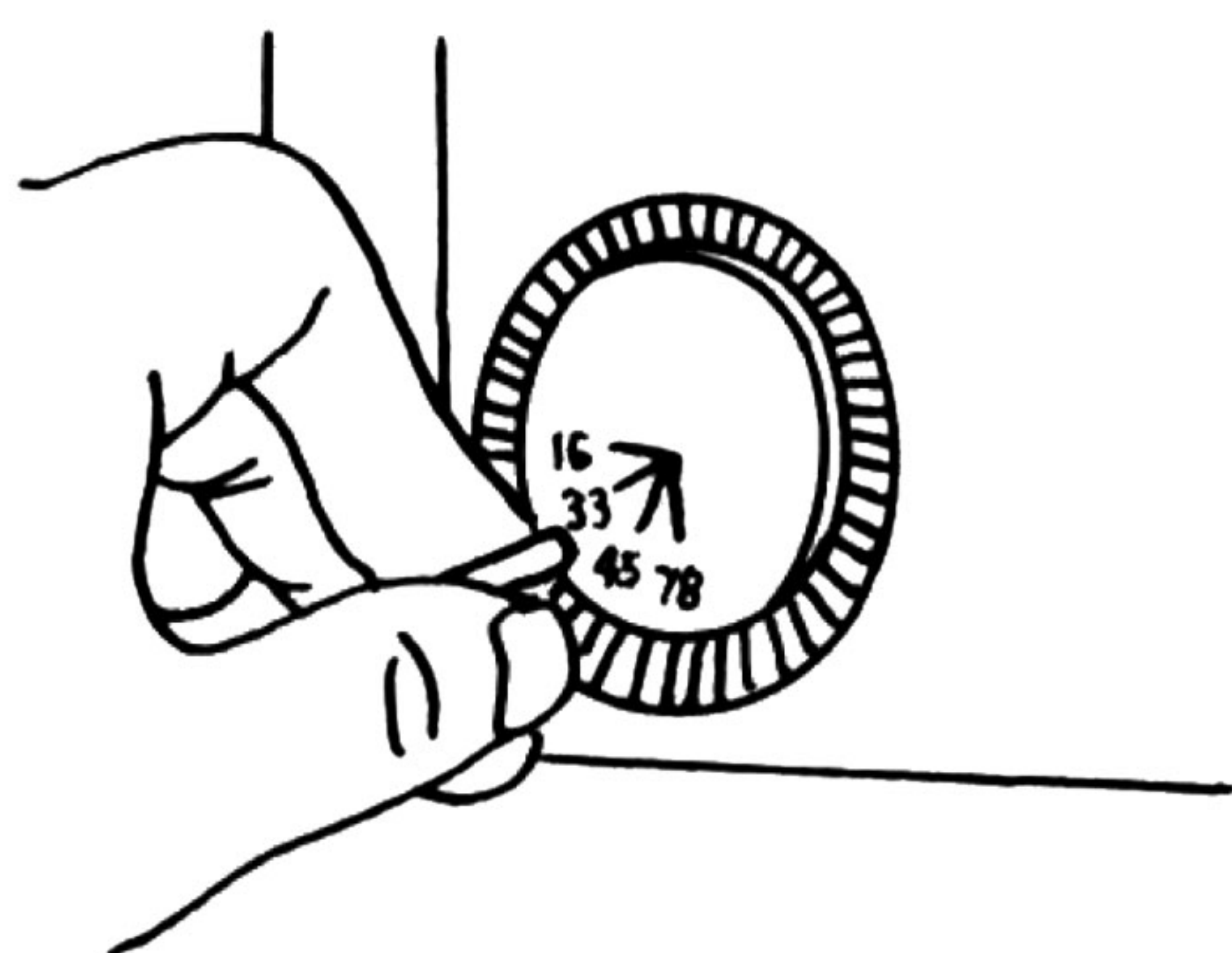
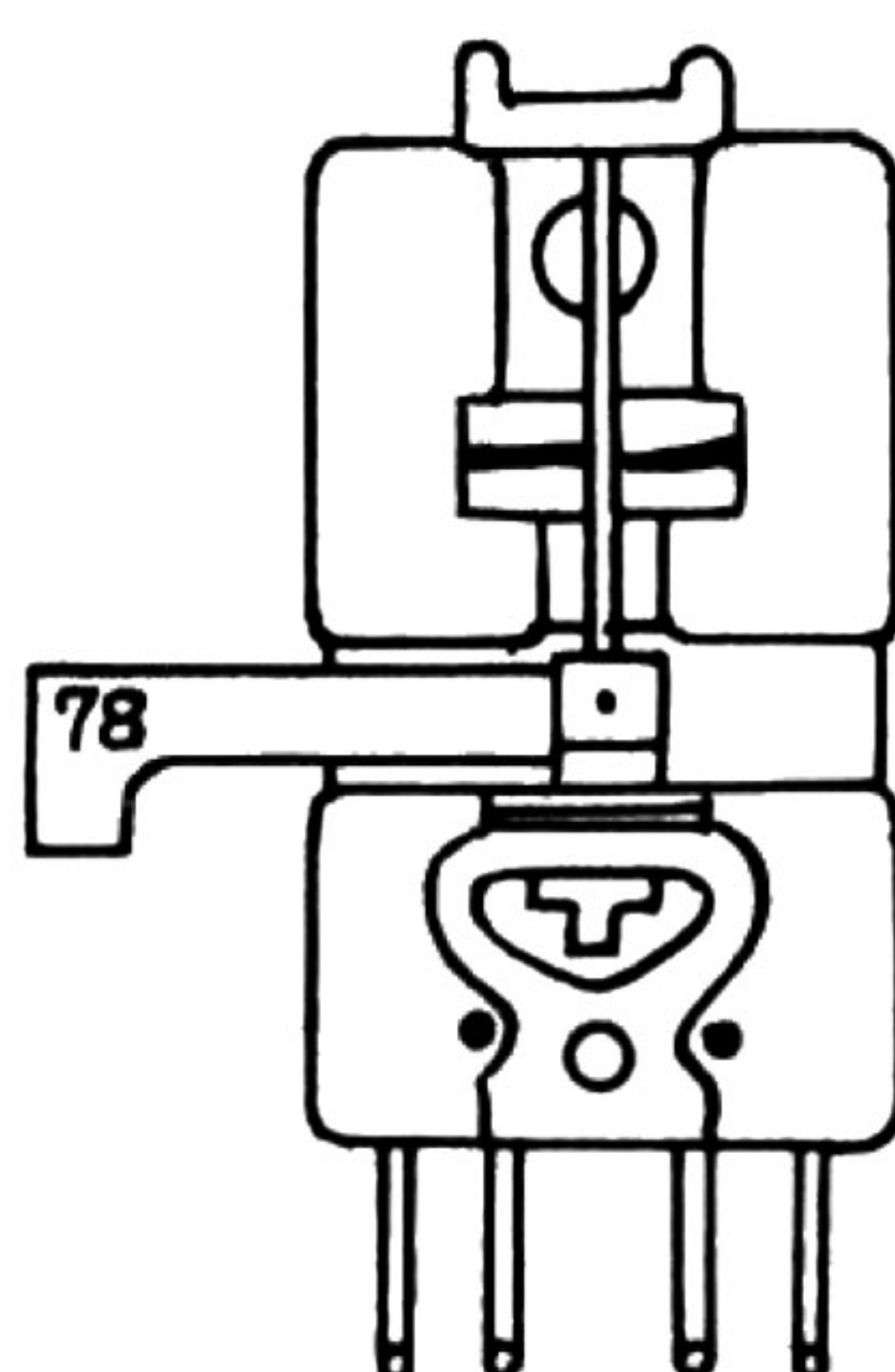
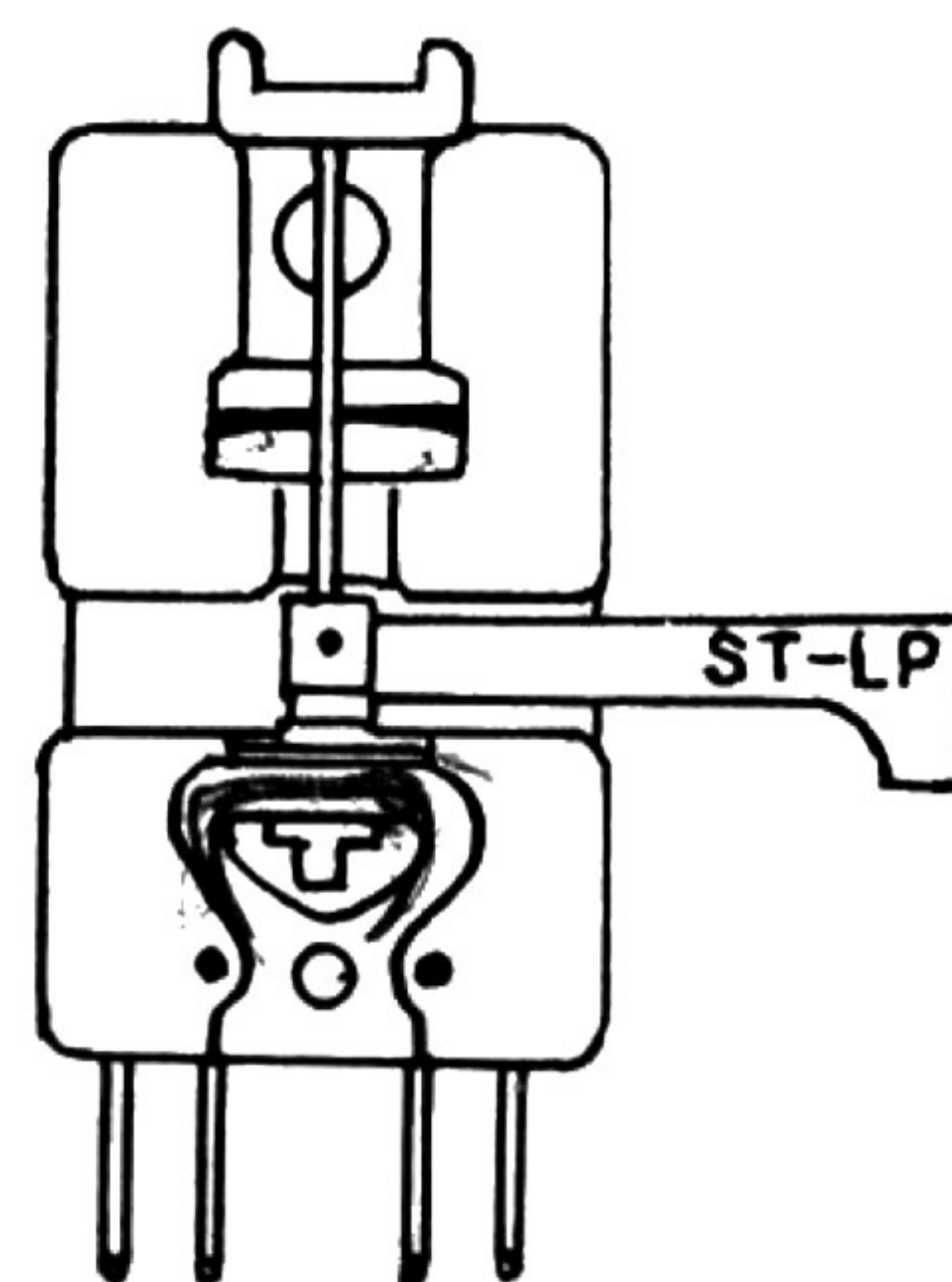


Fig. 5



ST-LP for Long Playing



78 for Standard Playing

Fig. 6

■ Automatic operation

Grasp the Control Arm at the rear, lift it fully and swing to the right. Place up to a maximum of 6 records, which must be of the same speed and have the same type of groove (Standard or Long Playing) on the Center Spindle. The first record being located carefully on the ledge of the Center Spindle and held there while the remaining records are loaded. Swing the Control Arm back to the center and lower it gently on to the records.

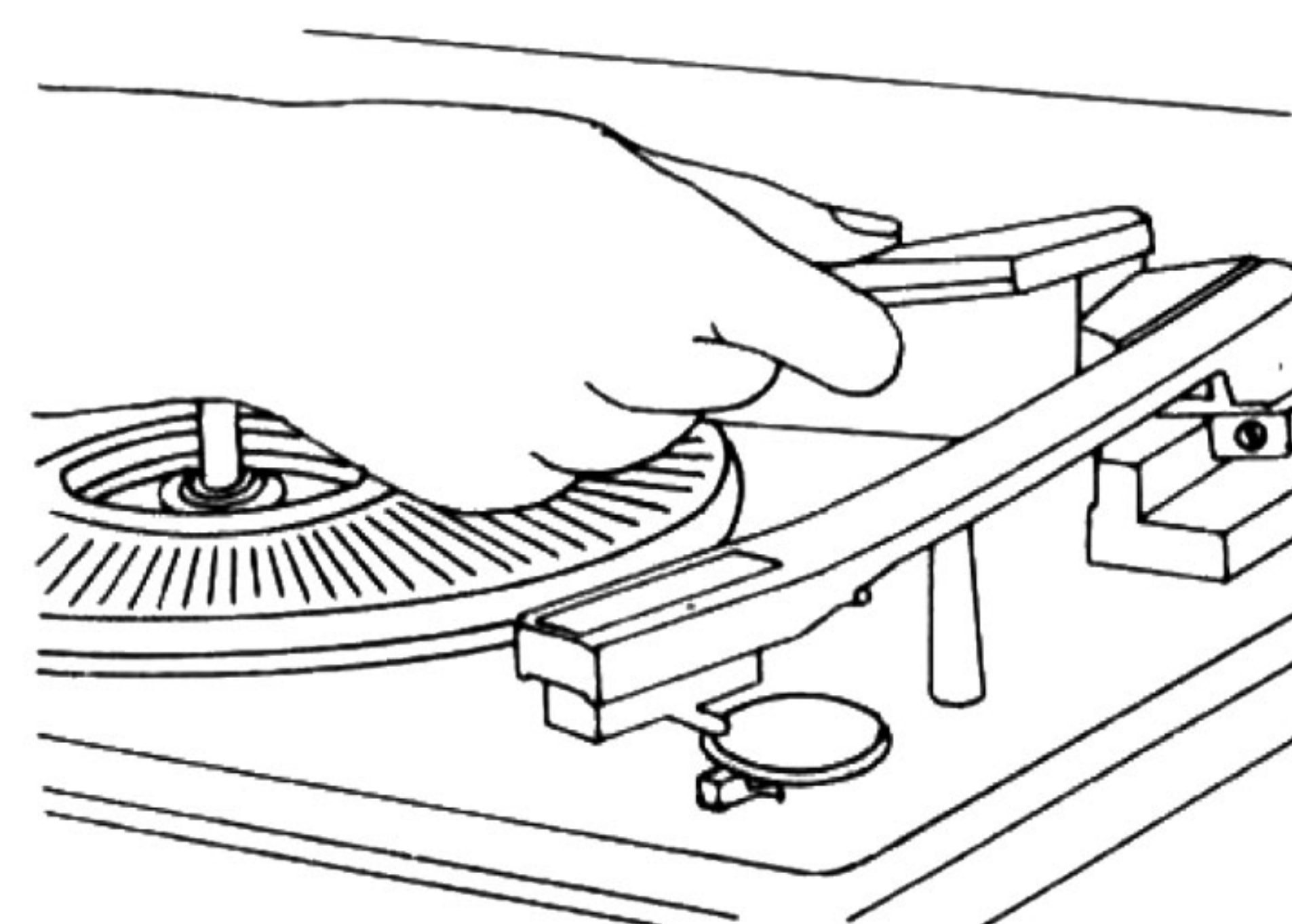


Fig. 7

Note:

Should the Control Arm be difficult to lift it means that the unit is not in the neutral condition. To correct this the Turntable should be rotated several times in a clockwise direction while the unit is in the horizontal position.

Starting

Move the Starting Lever fully to the right (REJ), hold there momentarily and release when turntable revolves. (Fig.8)

Rejecting

Move the Starting Lever fully to the right (REJ) and release. (Fig.8)

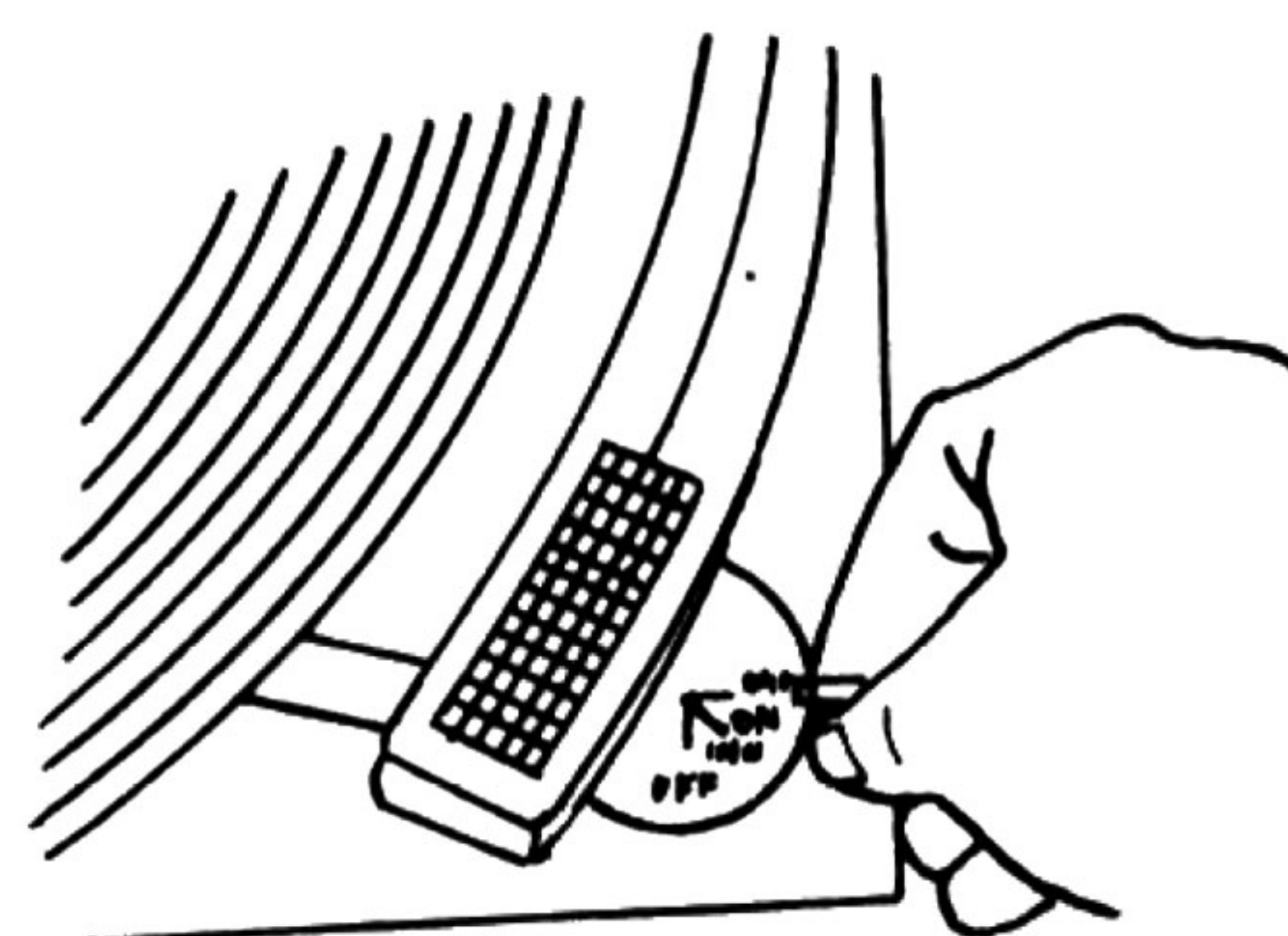


Fig. 8

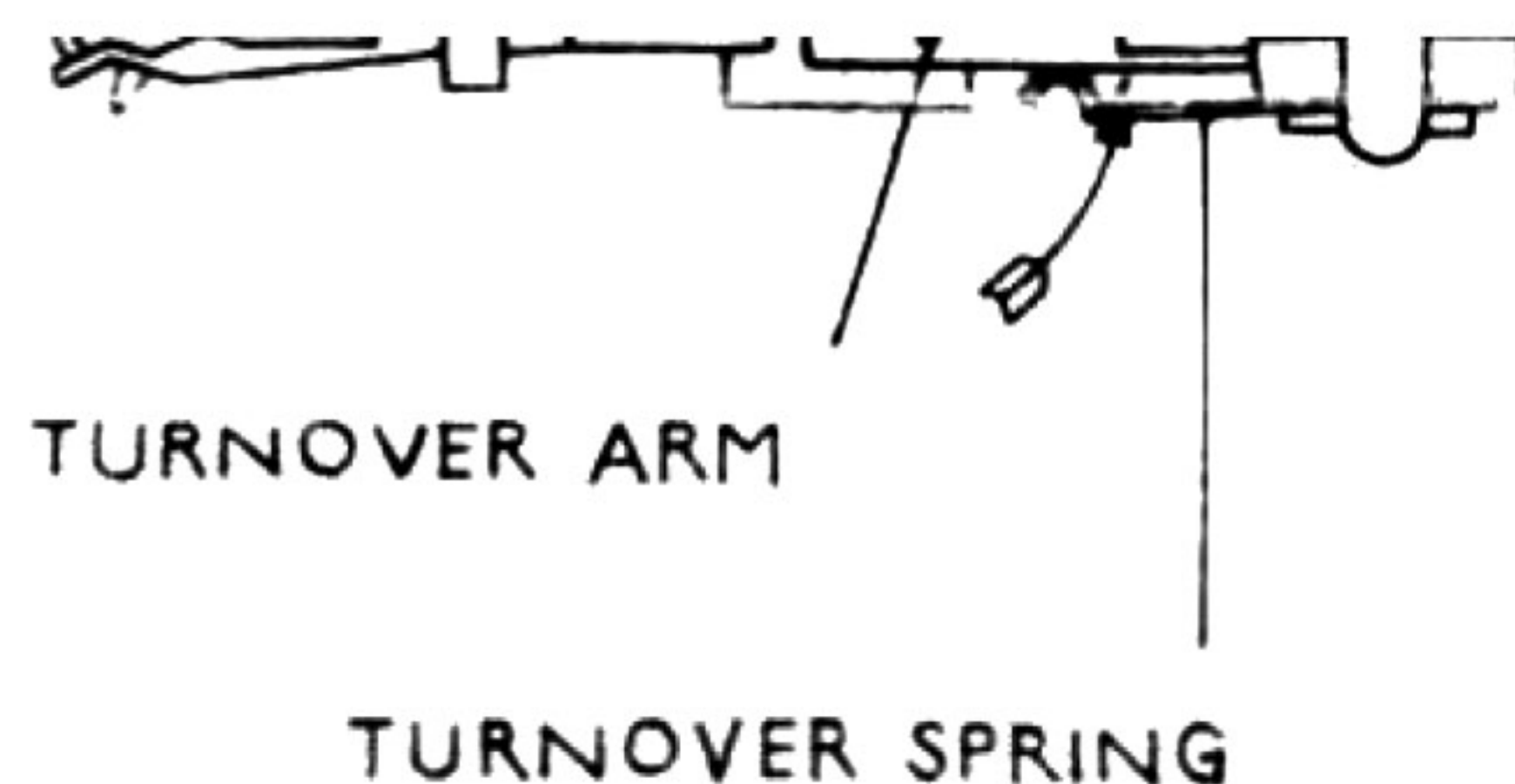


Fig. 9

- When replacing turntable push the jockey assembly (in pulley) towards the turntable center, this allows the turntable to drop in position without damaging the jockey pulley.
- No oil should be used on the magidisc record selector bearing.

CAUTIONS

- Never force the Pickup Arm. This unit is robust but due to the featherweight action of the pickup and the delicate balance required, any force will upset the adjustment.
- When playing new records a certain amount of fluff will gather on the Stylus point. This should be removed gently from time to time.
- Always remember to use the correct stylus on the pickup. If the wrong one is used, it may not be apparent from the music. However, the stylus itself may become damaged by continuous playing on the wrong point.
- After loading, always see that the magidisc record selector arm is BELOW the records, and not stuck in a vertical position.
- Some very old 78 r.p.m. records have no “run-in” groove on the outside edge. Such records can be played but it will be necessary to move the Pickup inwards to the first grooves manually AFTER it has descended of its own accord.

SPECIFICATIONS

Freq. Range:	MW 525—1605 KC (571—187 m)	Power Output:	1.2 W—1.2 W Undistorted
	SW ₁ 2.3 — 7 MC (130—42.9 m)		2 W—2 W Maximum
	SW ₂ 7— 22 MC (42.9—13.6 m)	Battery:	Six “D” size Flashlight Batteries
Intermediate Frequency:	455 KC		(NATIONAL UM-1 or Equivalent)
Transistors:	2SA70 (×1) Converter	Speakers:	Two 6” PM Dynamic Speakers
	2SA101 (×1) 1st IF. Amp.	Changer:	UA-50 DC Record Changer
	2SA101 (×1) 2nd IF. Amp.	Pickup:	Turnover type ceramic pickup
	2SB173 (×2) 1st AF. Amp.	Cartridge:	NATIONAL #EPC-35 TTA
	2SB173 (×2) 2nd AF. Amp.	Stylus:	NATIONAL # EPS-13 TT
	2SB175 (×2) 3rd AF. Amp.		or BSR ST-1
	2SB324 (×4) Power Output	Cabinet Dimensions:	640m/m (W)× 450m/m (H)× 184m/m (D)
Germanium Diode:	0A70 (×1) Det. & AGC.		25 ¼ ” (W)× 17 ¾ ” (H) × 7 ⅝ ” (D)
Silicon Diodes:	SW-0.5-01 (×2)	Net Weight:	12.2Kgs (27 lbs 2 ozs Without Batteries)
Thermistors:	ERT-DO5BZ850K (×4) AOC.		12.8Kgs (28 lbs 4 ozs with Batteries)
Sensitivity:	MW 100μV/m/50mW		
	SW ₁ 100μV/m/50mW		
	SW ₂ 10μV/50mW		

SPECIAL FEATURES

- | | |
|----|--|
| 1 | COMPLETELY PORTABLE-USE EVERYWHERE |
| 2 | DELUXE "WOODEN CABINET" AND VINYL LEATHER CASE |
| 3 | BRILLIANT AND CRISP TONE FROM POWERFUL two 6" SPEAKERS |
| 4 | EXCELLENT 3-SPEED DC RECORD CHANGER AND AUTOMATIC POWER OFF SWITCH |
| 5 | 3-BAND 13-TRANSISTOR RADIO-PHONOGRAPH |
| 6 | HIGH POWER 2W-2W OUT PUT |
| 7 | TELESCOPIC WHIP ANTENNA AND BUILT-IN FERRITE ANTENNA |
| 8 | AC-BATTERY POWERED BY HIGH EFFICIENCY RELAY |
| 9 | MOISTURE-PROOF CERAMIC CARTRIDGE |
| 10 | TURN-OVER STYLUS |

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.
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