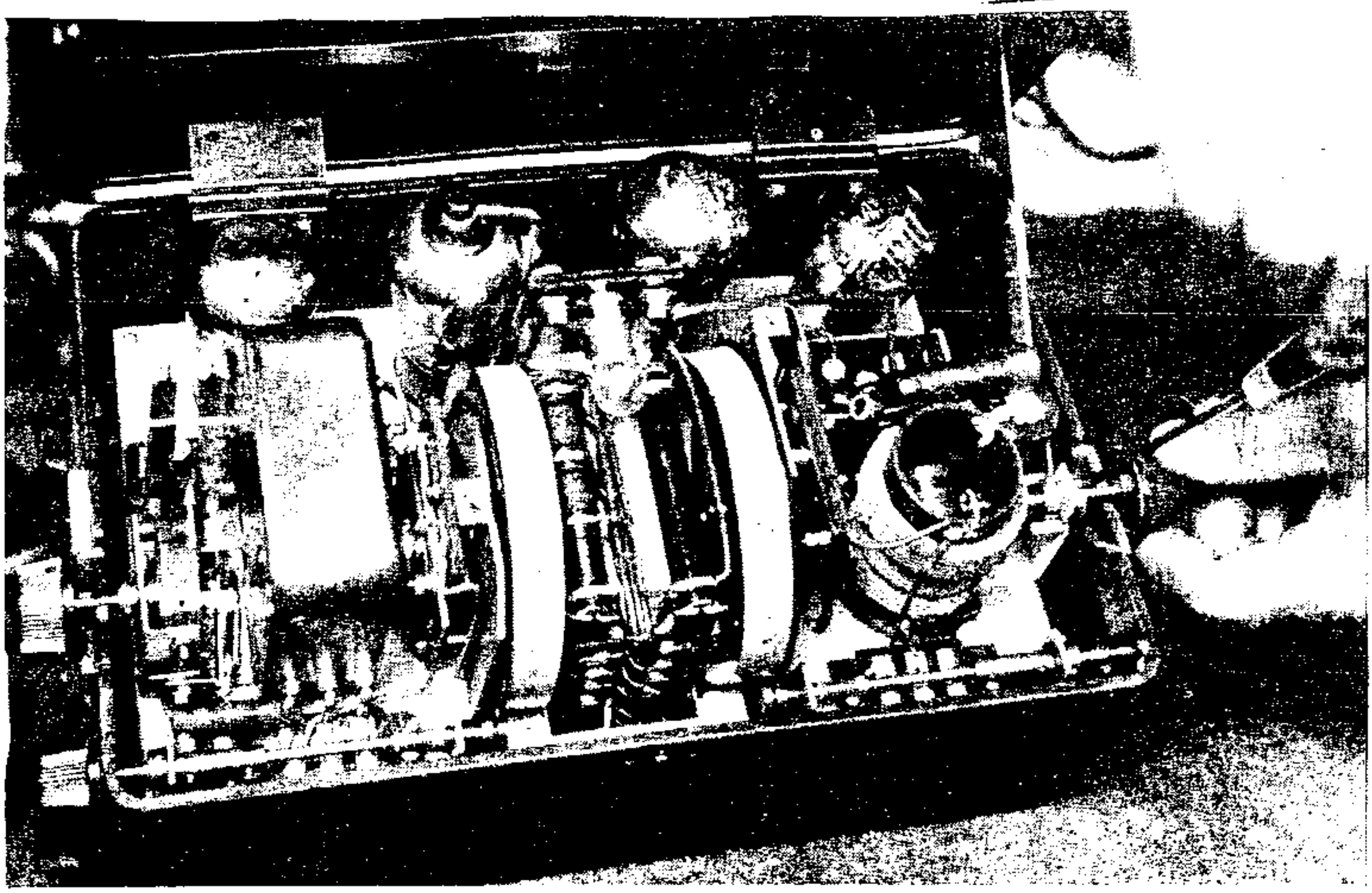

Fig. 21.—How to Remove the Knob of the Philips Type 2531 Receiver.

The approximate values for the circuit resistances on the following page will be found useful.

These resistance values should be taken under the same condition as mentioned under Type 830A.

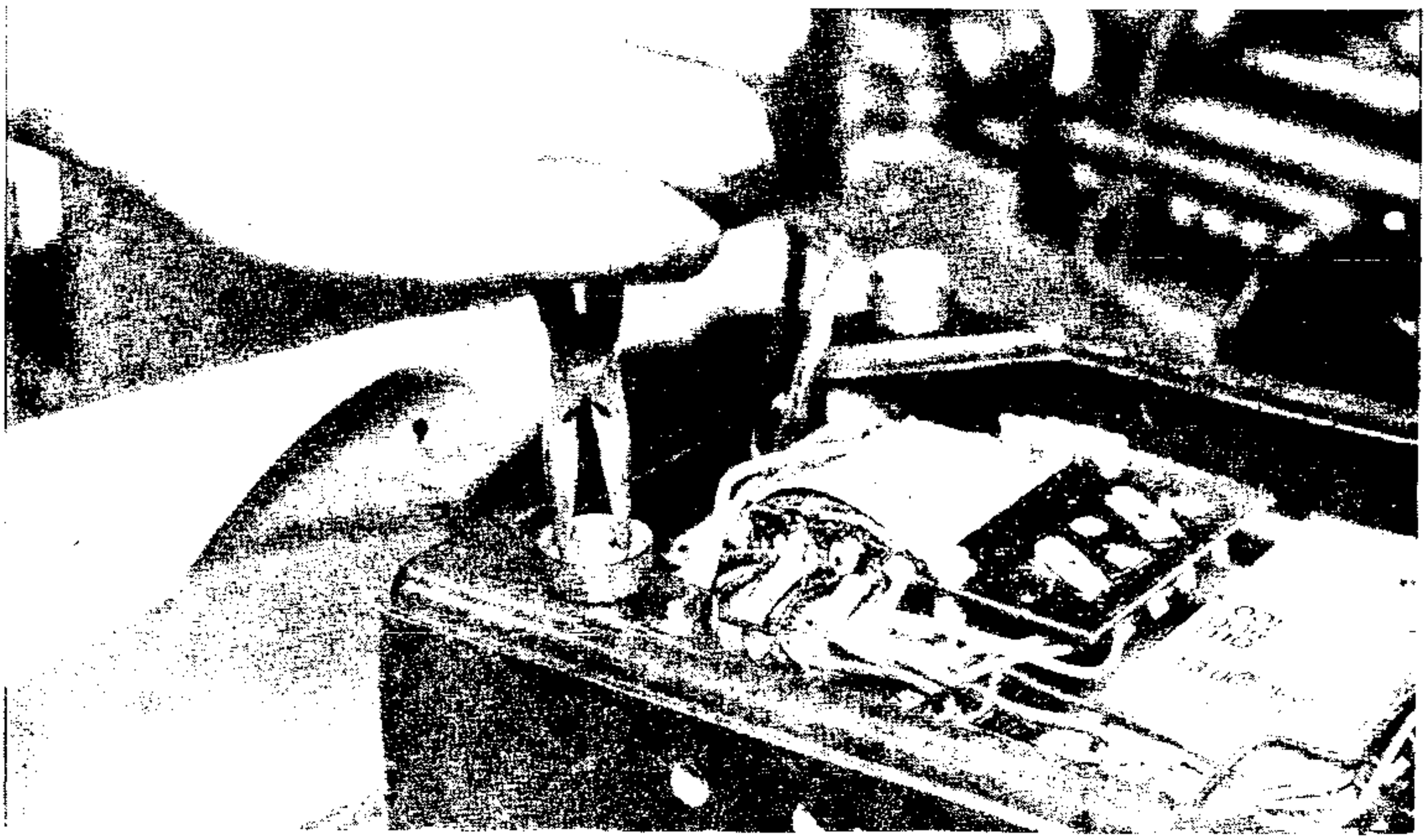

Fig. 22.—How to Remove the Seals.

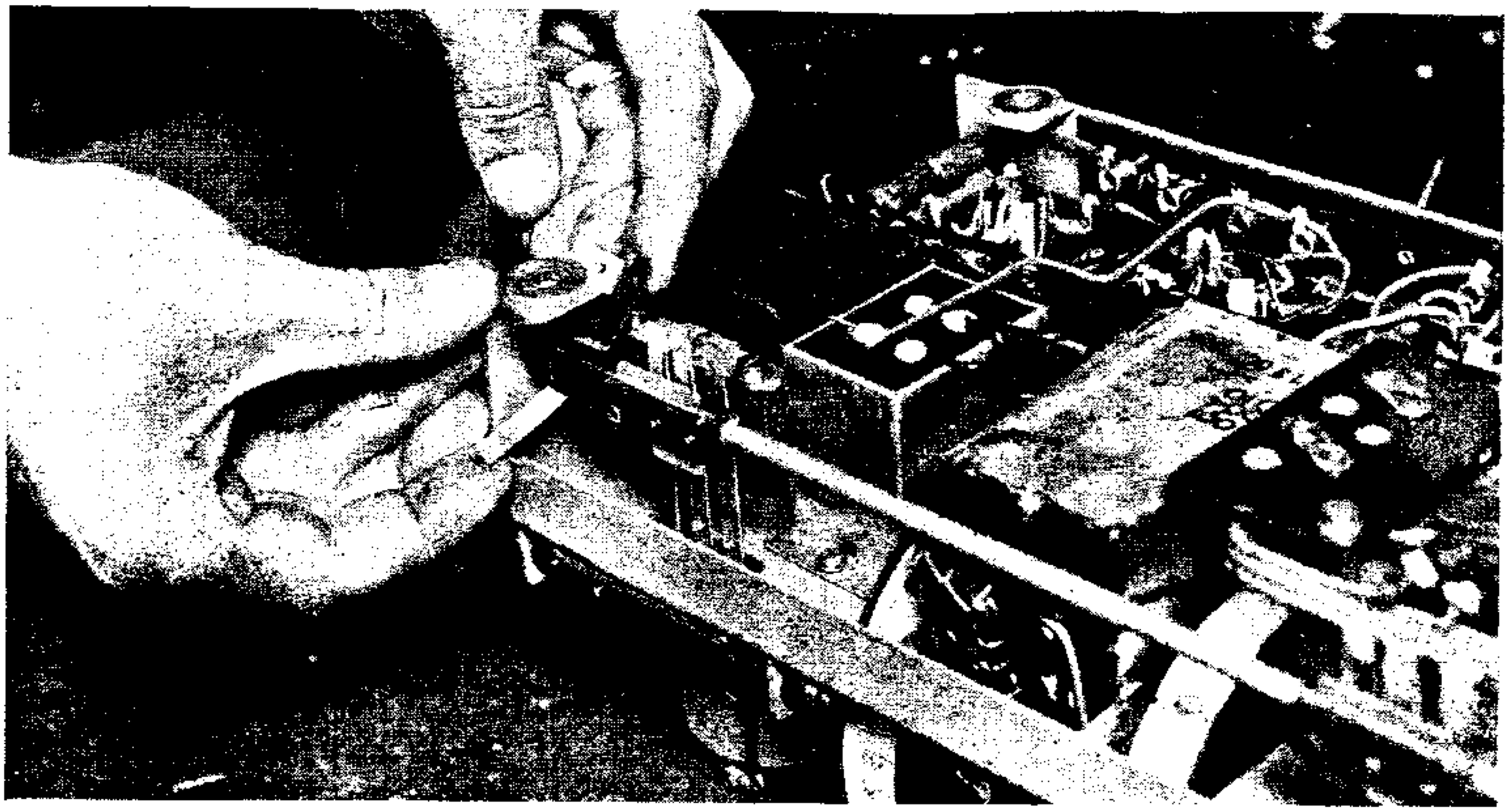

Fig. 23.—Fitting a New Wavechange Switch Spring

Filament of 1821 valve to			
Plate of first S4VB	.	18,000	ohms
Screening grid of S4VB	.	35,000	,,
Plate of second S4VB	.	20,000	,,
Screening grid of S4VB	.	40,000	,,
Plate of detector 244V	.	60,000	,,
,, first L.F. 244V	.	52,000	,,
,, second L.F. 24A	.	1,000	,,
Auxiliary grid L.F. 24A	.	16,000	,,
Primary of mains transformer: Across wall plug and switch made	Varies with tapping	30	,, approx.

Screening grid of first S4VB to chassis	.	35,000	ohms
Grid of first S4VB to chassis	.	1·0	megohm
Screening grid of second S4VB to chassis	.	45,000	ohms
Grid of second S4VB to chassis	.	1·0	megohm
Grid of detector 244 V to chassis	.	0·2	,,
,, first L.F. 244V to chassis	.	1·0	,,
,, 2nd L.F. 24A to chassis	.	0·2	,,

If it is found necessary to remove the chassis, it can be done in the following way.

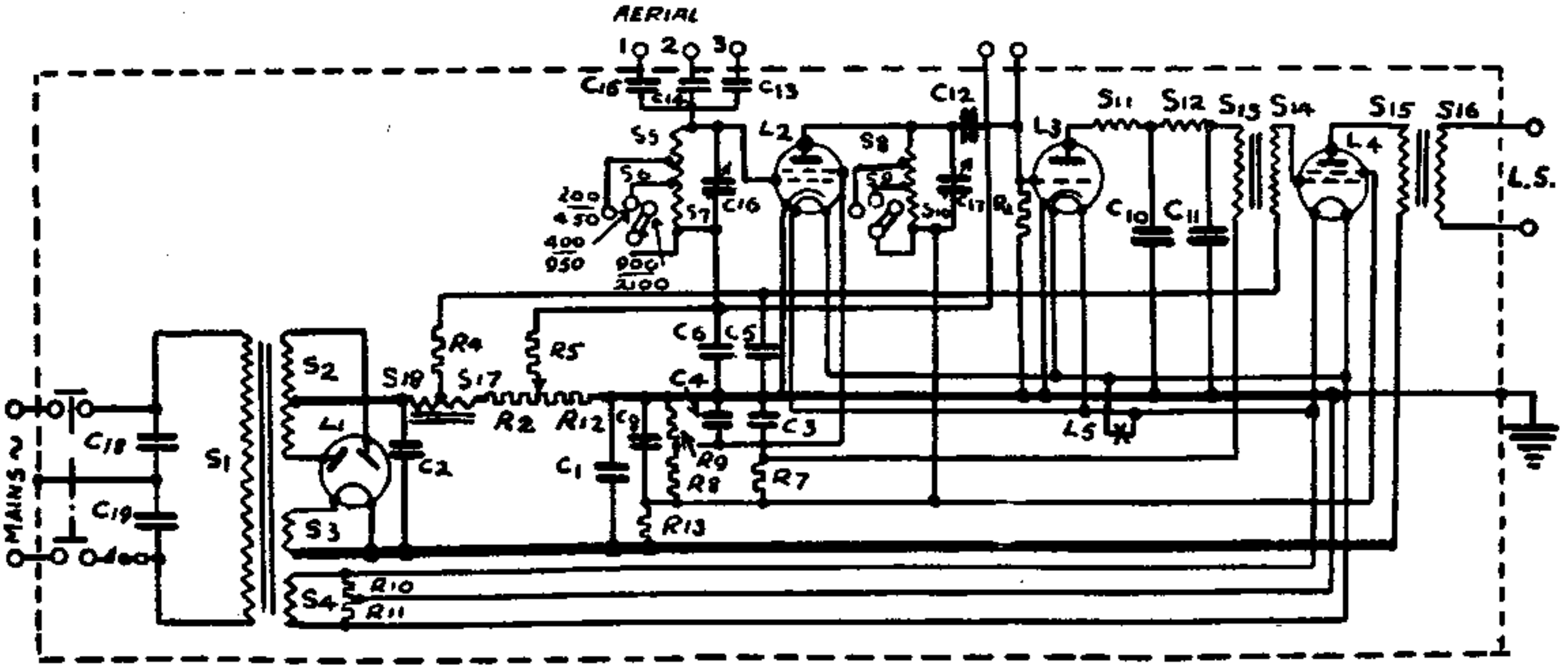

Fig. 24.—Theoretical Circuit Diagram of Philips Type 2531 Receiver.

Condensers.—C1 = 2 μF, C2 = 4 μF, C3 = 2 μF, C4 = 1 μF, C5 = 1 μF, C6 = 1 μF, C8 = 1 μF, C10 = 1,600 μμF, C11 = 500 μμF, C12 = 160 μμF, C13 = 280 μμF, C14 = 65 μμF, C15 = 17 μμF, C16 = 830 μμF, C17 = 550 μμF, C18 = 500 μμF, C19 = 500 μμF.

Resistances.—R1 = 1 MΩ, R2 = 220 Ω, R4 = 0·1 MΩ, R5 = 0·1 MΩ, R7 = 15,000 Ω, R8 = 28,500 Ω, R9 = 33,500 Ω, R10 = 120 Ω, R11 = 120 Ω, R12 = 35 Ω, R13 = 2,200 Ω.

Note Carefully

Before the chassis is taken out, turn the variable tuning condenser to the minimum position and observe the position of the two scales, *i.e.*, A5 :—

(1) Remove the valves.

(2) Remove the knobs by releasing the grub screws.

(3) Remove the four screws on the under side of the chassis.

It is very important that the chassis is held with care when making repairs, and we recommend that some method of supporting the chassis (see Fig. 8, 830A), so that the coil boxes are not damaged or roughly handled while tests and repairs are being made, otherwise the selective qualities of the instrument may be impaired.

It will also ensure that short circuits are not accidentally made to the interior wires.

(4) Disconnect the loud speaker leads and note the colours of each lead to ensure that they are reconnected correctly.

(5) The chassis can now be withdrawn from the cabinet.

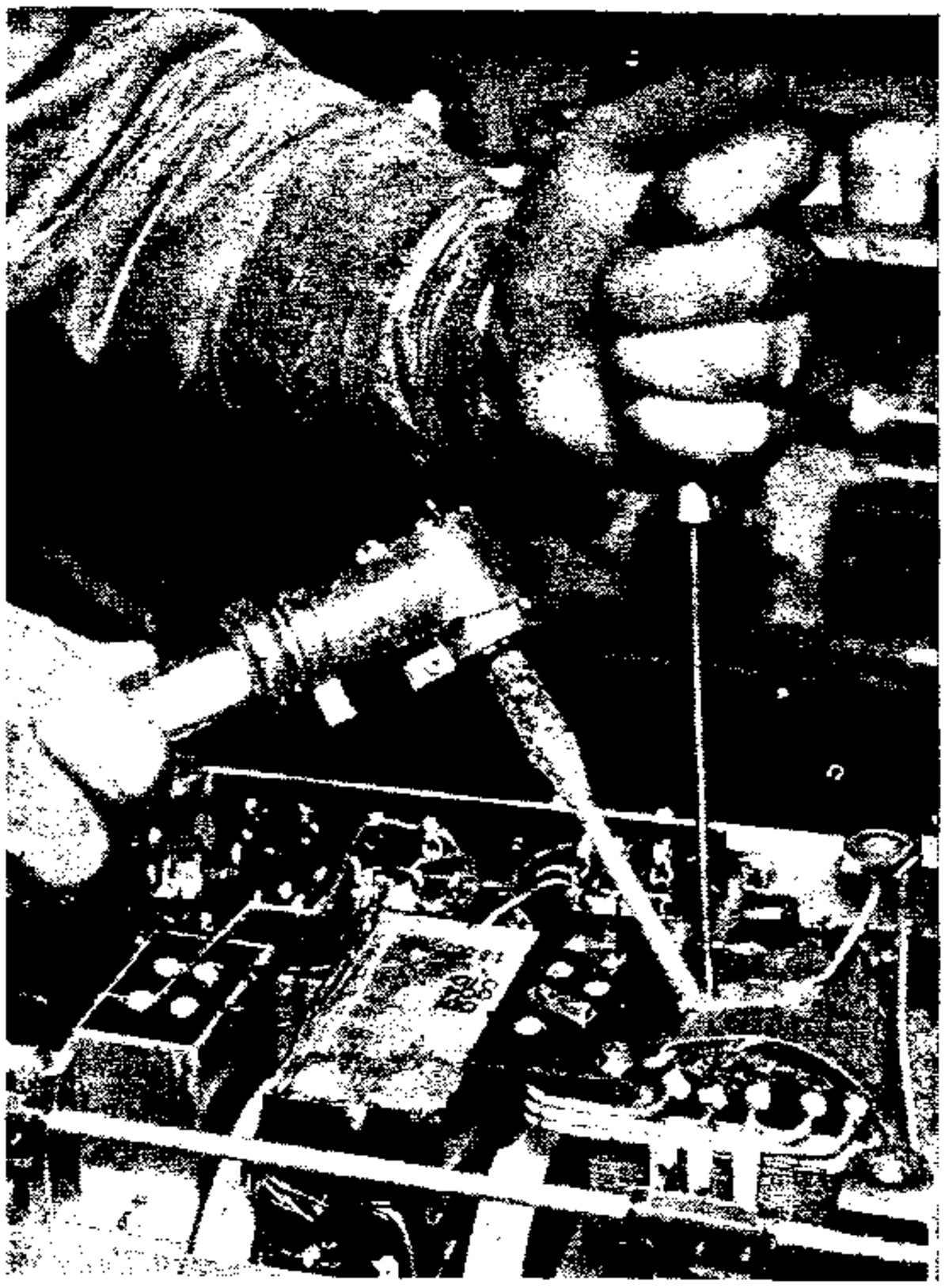

Fig. 25.—Repairing the Strip Type of Fuse.

Interior of Chassis

Fig. 15 shows a view of the interior of the chassis. This is divided into three compartments, the left-hand side houses the mains transformer, which is in the top left-hand corner, with the spring fuse on the extreme left. The condenser box C1, C2, C3, C4, C12 and C46, which is fitted to the top of the chassis and a resistance bank carrying R12, R16, R15, R3, R1, R5 and R13. The mains choke, S5 and S6, and voltage tapping plate are fitted in the lower end of the compartment. The centre compartment houses the four ganged variable tuning condensers, together with the trimming and coupling condensers.

On no Account are these to be Altered

The wavechange switch is at the extreme right of the centre compartment.

The right-hand compartment contains the condenser box C5, C6, C7, C8, C9, C10, C11, C13, C14 and C44. This is fitted on top of the chassis. The resistance bank carrying R2, R6, R14, R20, R19, R9, R8, R21, R22, R4, R23, R10, R24 and R25, is on the extreme right.

Valve Table

The valve voltages and currents which can be measured, are given in the table on p. 691.

Faulty Movement of Shutter

Fig. 16 shows the method of slightly opening the shutter guide, if it is found that this tends to stick slightly on changing the wavelength.

Mains Transformer Fuse Replacement (see Fig. 17)

A copper strip projects from the windings of the mains transformer. The fuse link is connected between this strip and the spring. The primary current flows through this combination. When the windings heat up, a rise of temperature causes the heat to be readily conveyed through the strip to the small roller (which is soldered with "Woods" metal, melting at 96° C.) to the small metal part of the fuse link. The "Woods" metal will then melt and the link is broken apart,

Note Carefully

Before the chassis is taken out, turn the variable tuning condenser to the minimum position and observe the position of the two scales, *i.e.*, A5 :—

(1) Remove the valves.

(2) Remove the knobs by releasing the grub screws.

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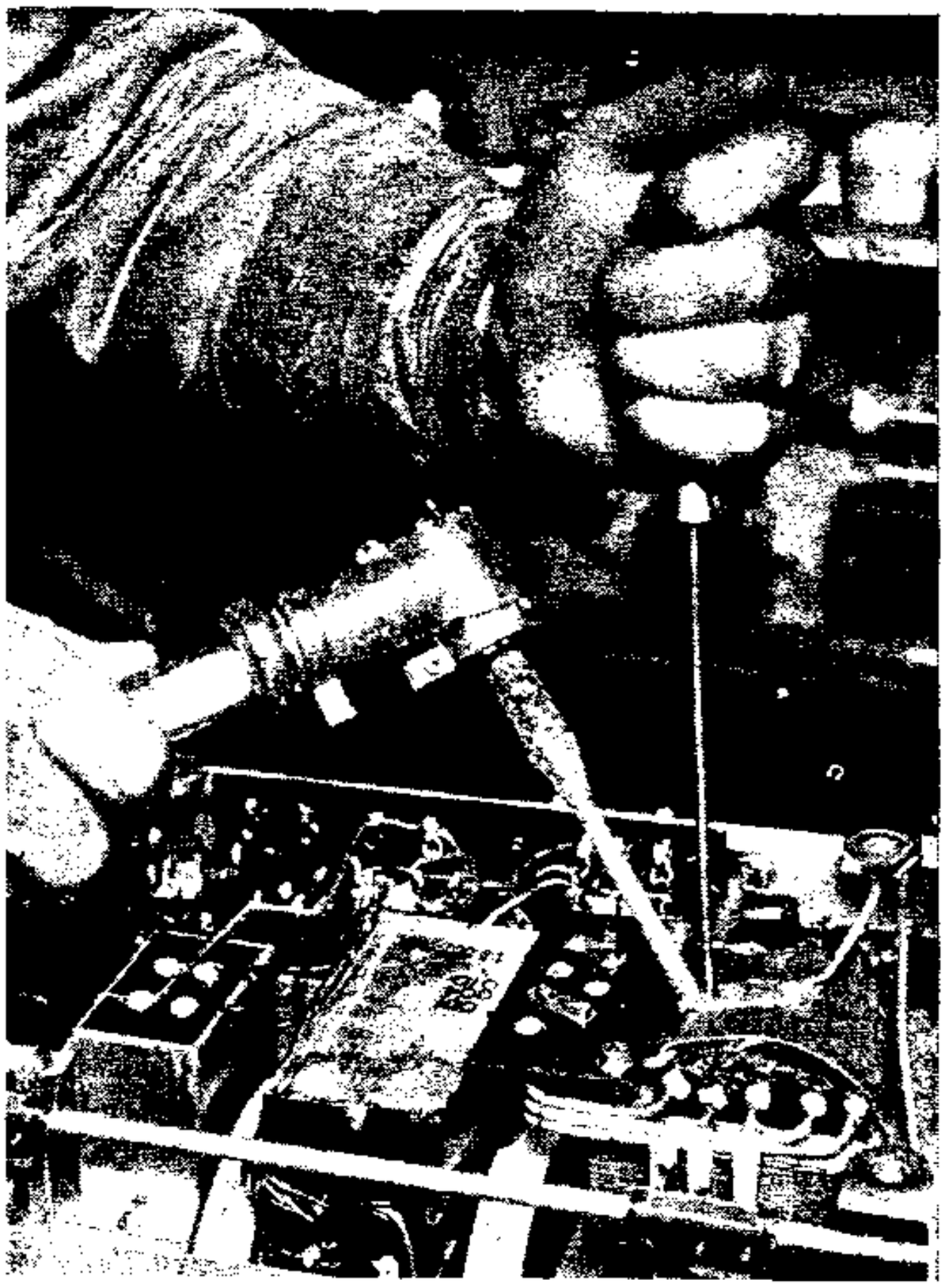

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On no Account are these to be Altered

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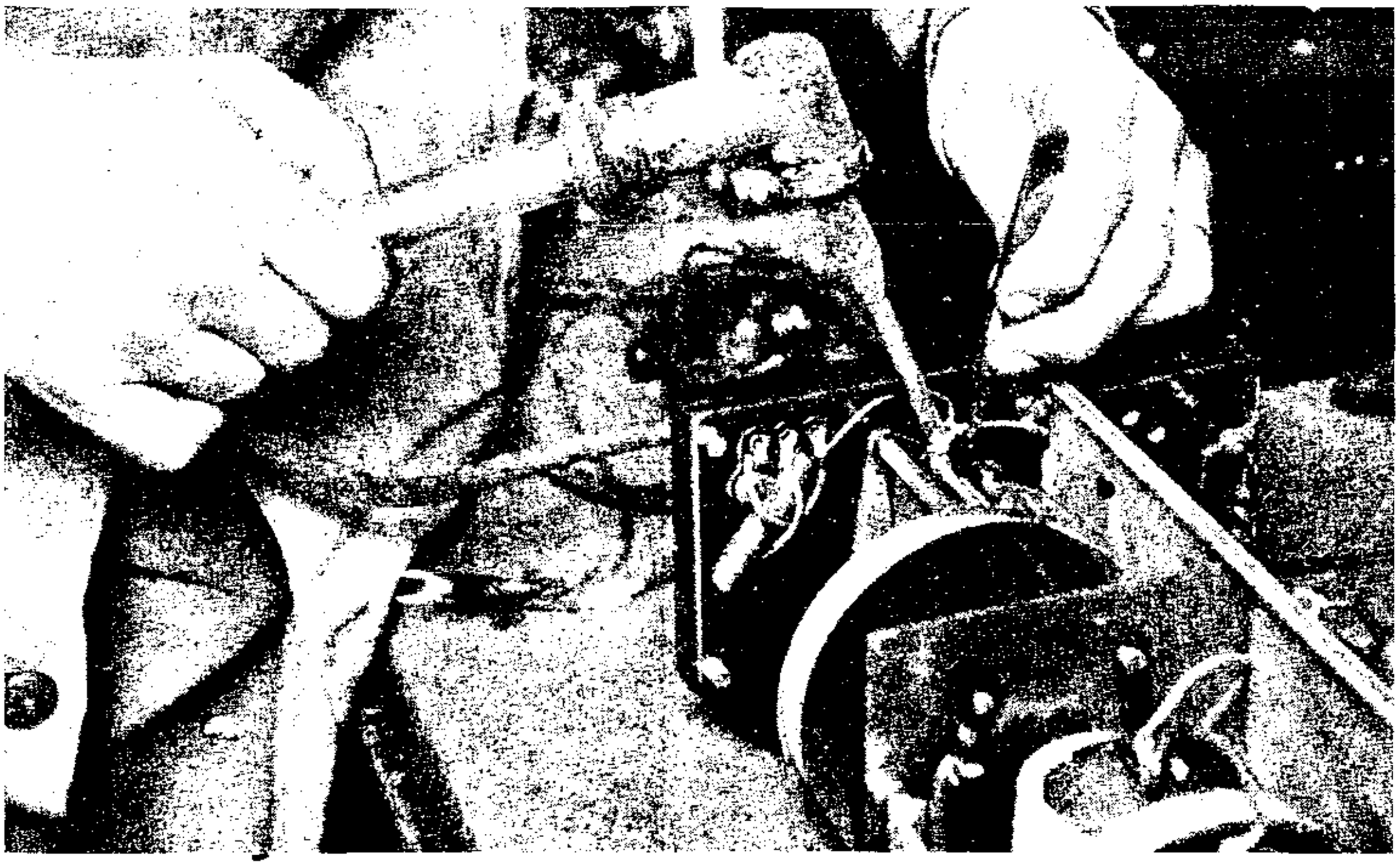

Fig. 26.—DISCONNECTING THE GRID LEAD TO ENABLE THE H.F. BLOCK TO BE WITHDRAWN.

thus interrupting the current. In order to make this part of the circuit good, it is only necessary to fit a new link and re-solder with the correct fuse metal.

When the new fuse has been fitted, always test the rectifying valve for electrode shorts, and also the insulation between H.T. positive and chassis before switching on the mains supply to the receiver.

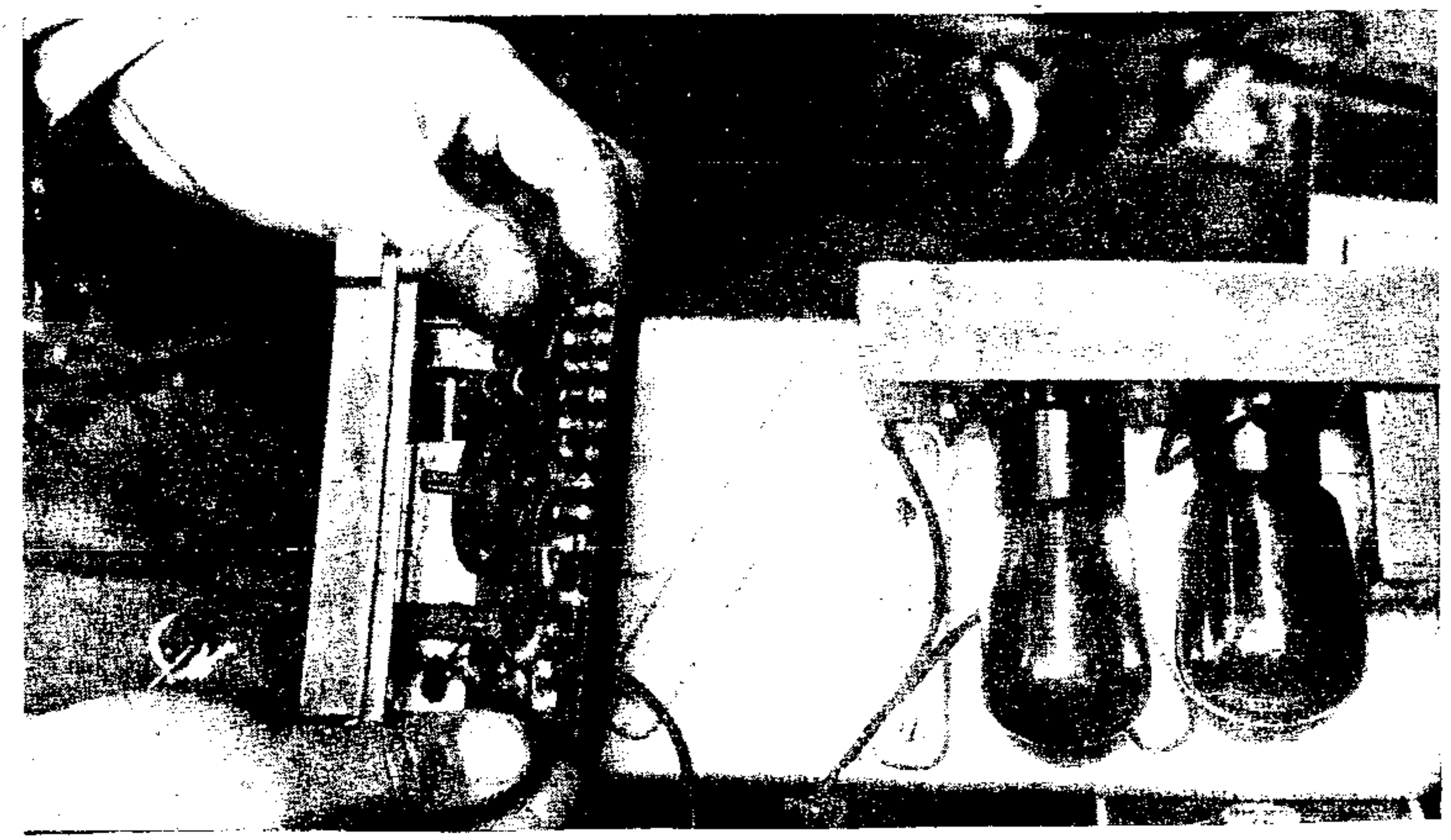

Fig. 27.—THE H.F. BLOCK PARTIALLY WITHDRAWN.

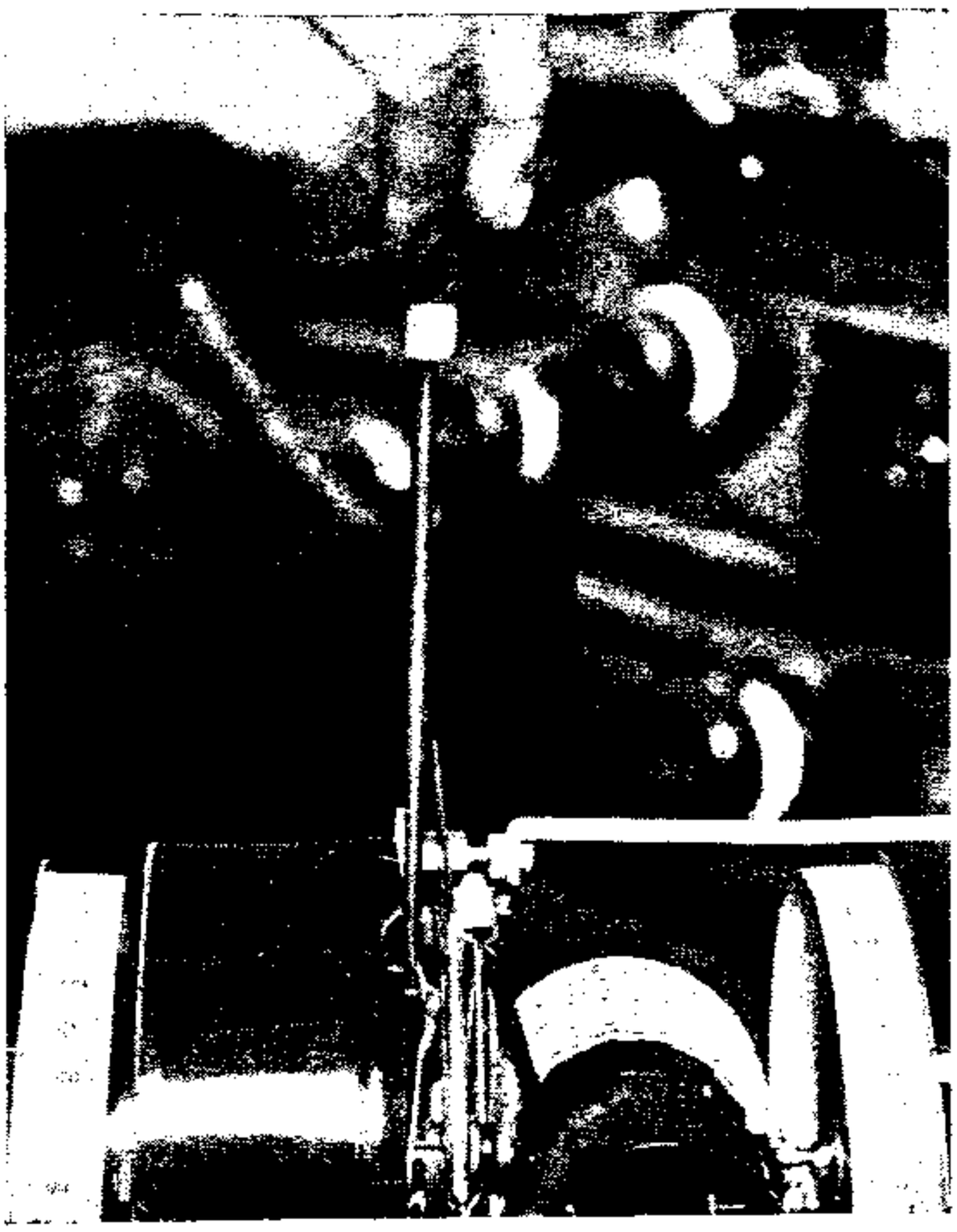

Fig. 28.—ADJUSTING THE WAVECHANGE SWITCH.

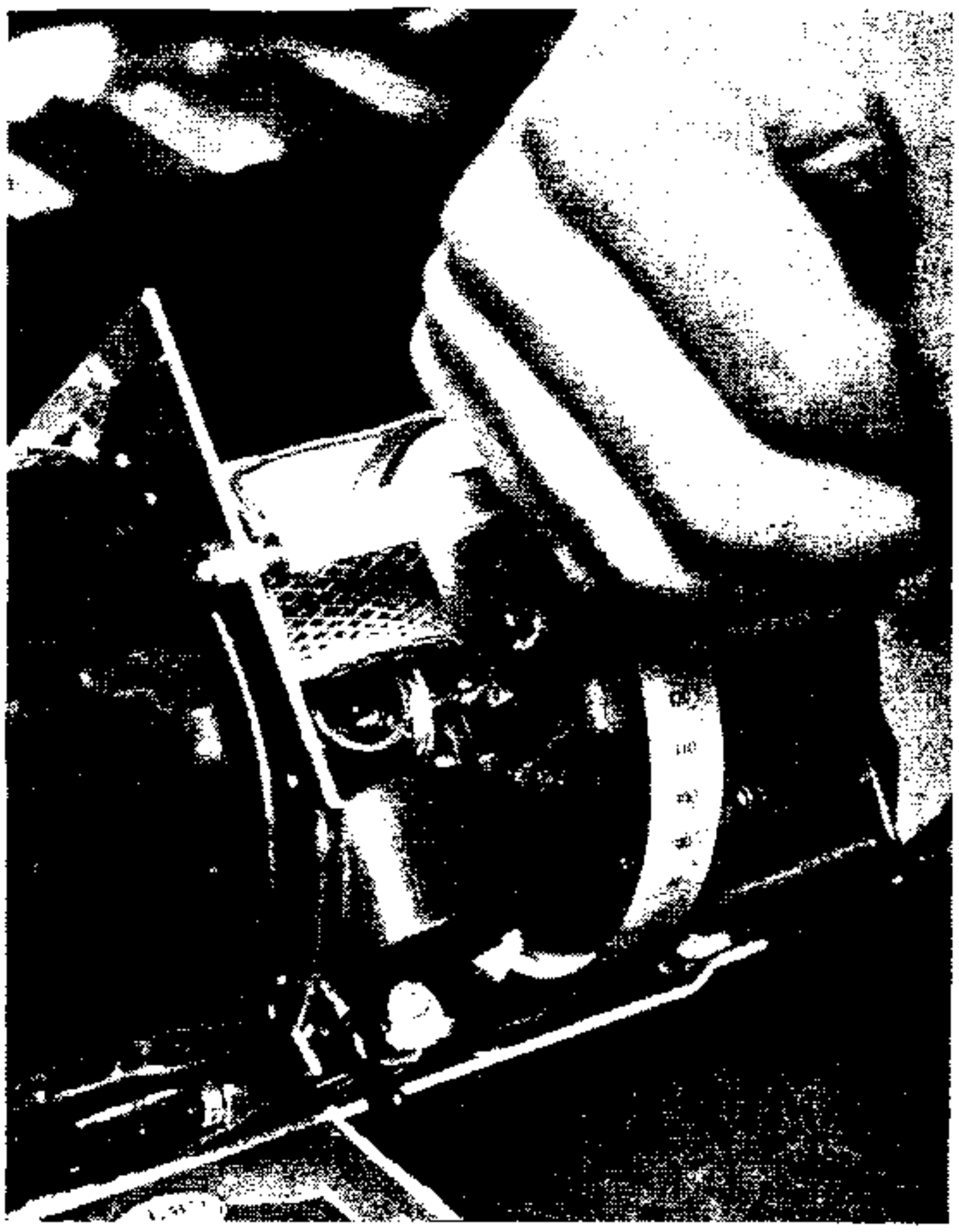

Fig. 29.—ADJUSTING THE REACTION CONTROL.

Replacement of a Faulty Resistance

The resistances are easily accessible, but care should be taken that the operation is done quickly so that the resistance is not damaged.

Replacing a Condenser Box

These units are fitted on top of the chassis. The wires should be resoldered with an iron having a long bit, and each wire should be noted to prevent errors when resoldering.

Changing the Voltage Range, and Adjustment to Wavechange Switch

See under Type 830A.

Refitting the Chassis

When the chassis is refitted, every care must be taken to ensure that the scales coincide with the hairline at the exact point which was indicated before the chassis was removed. The screws on the underside should be partly screwed home and finally secured when the scales are in the correct position.