EBAUCHES S. A.

NEUCHATEL

SWITZERLAND

Edited and published by Ebauches S. A. (French, English, German, Italian, Spanish)

FABRIQUE D'EBAUCHES

A. SCHILD S. A., GRENCHEN

11½‴ 1361

26 mm

Lever movement, self-winding, with sweep second

Enlarged movement

TECHNICAL AND PRACTICAL COMMUNICATION FOR THE GUIDANCE OF WATCH REPAIRERS

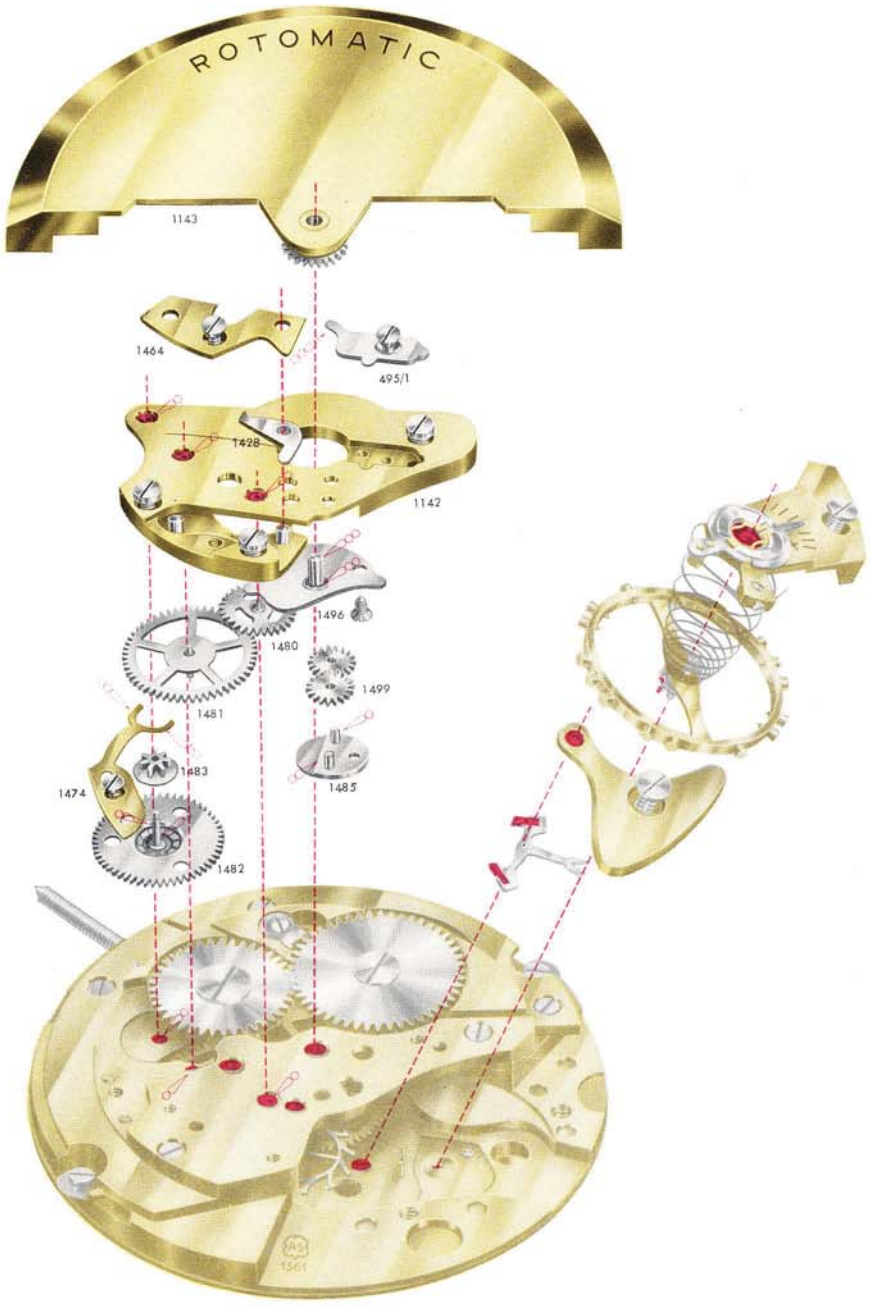
4

2nd edition

March 1953

Printed in Switzerland

AUTOMATIC WINDING DEVICE



= to be lubricated with fine oil.

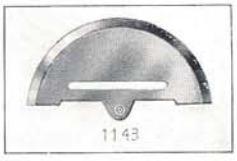
= to be lubricated with thick oil.

= to be lubricated with thick oil, underneath the part.

Note :

a) Oscillating weight 1143 is now made with a narrow opening in its surface : the old and new types are interchangeable.

b) The diameter of oscillating weight axle 1496 has been modified, as well as the oscillating weight pinion. This modification, which applies to the new series manufactured, is indicated by the letter " N " marked on the inside of the oscillating weight, and after the caliber number (1361, or those derived from it, viz. 1382, 1395, 1396, 1402). These two parts are not interchangeable with the former types, and when ordering repair parts through your jobber, you should indicate the letter " N " with the caliber number, if it is marked on the movement.



THE REPAIR OF THIS MOVEMENT IS SIMPLIFIED BY THE FACT THAT THE BARREL CAN BE REMOVED WITHOUT DISASSEMBLING THE AUTOMATIC WINDING DEVICE

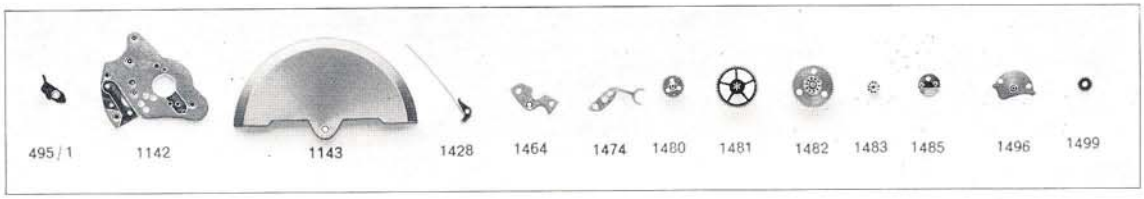
DISASSEMBLING :

1. Open case (see under CASING).
2. Remove screw 5495 of screw gib (fig. 1), then turn the movement to allow oscillating weight 1143 and screw gib 495/1 to drop.
3. Remove winding stem, take the movement out of the case, and remove hands and dial. Then replace winding stem.
4. Remove stop click lid 1464, then remove stop click 1428.
5. Release mainspring, if necessary, by pressing on click. Remove balance wheel and pallet fork.
6. Remove upper bridge 1142 of automatic device, after removing the 3 screws A, B and C (fig. 2) ; if necessary, remove oscillating weight axle 1496.
7. Remove (fig. 3) : winding-up wheel 1480, reduction gear 1481, reverser 1485 and its 2 connecting wheels 1499, Breguet spring 1474, driving gear 1482 of crown wheel and the Breguet pinion on its spindle.
8. Disassemble the watch movement proper and clean all its parts in the ordinary way ; check cleanness and wear of parts, oil all pivot holes and friction points, then reassemble the movement, check its running and remove balance wheel and pallet fork.

Mainspring : If the mainspring and brake spring are working normally, **they should not be removed from the barrel** (the brake spring should not slip until the mainspring has been wound 5-6 turns). On the other hand, if the mainspring or brake spring is damaged, it should be replaced by a spring of good quality and of the prescribed dimensions, viz.

Mainspring: breadth 1.45 mm., thickness 0.10 mm., length 265 mm.
Brake spring: breadth 1.35 mm., thickness 0.15 mm., length 32 mm.

Grease the entire inner circumference of the barrel. Fit brake spring, bending it as little as possible, then fit mainspring, oiling it in the ordinary way. Remember to check the slipping of the brake spring.



ASSEMBLING :

Lubrication A : Use fine oil to lubricate lower pivot holes of winding-up wheel 1480, reduction gear 1481, driving gear 1482 of crown wheel, and points of contact between the latter and Breguet pinion 1483. Use thick oil to lubricate the 2 pins of reverser 1485 (pivots of the 2 reverser connecting wheels 1499).

1. Fit driving gear 1482 of crown wheel with Breguet pinion 1483, then reverser 1485 with its 2 connecting wheels 1499. **Never lubricate lower pivot of reverser.**
2. Place in position reduction gear 1481 and winding-up wheel 1480, seat downwards, then screw on upper bridge 1142 of automatic device by means of the 3 screws A, B and C, after placing oscillating weight axle 1496 in position.
3. Screw on Breguet spring 1474, after having slightly lubricated with thick oil its points of contact with Breguet pinion 1483 (make sure that it exerts normal pressure on the Breguet pinion). Then replace stop click 1428 (make sure that its pressure is not excessive), and screw on stop click lid 1464. Replace pallet fork and balance wheel.

Lubrication B : Use fine oil to lubricate upper pivot holes of the 3 wheels (1480, 1481 and 1482); use thick oil to lubricate spindle and arm of oscillating weight axle 1496.

4. Fit dial and hands, and place movement in case.
5. Place oscillating weight 1143 in position and screw on screw gib 495/1, after having slightly lubricated with thick oil the part which comes into contact with the oscillating weight wheel.

To correct end-shake of oscillating weight, slightly bend point of screw gib 495/1.

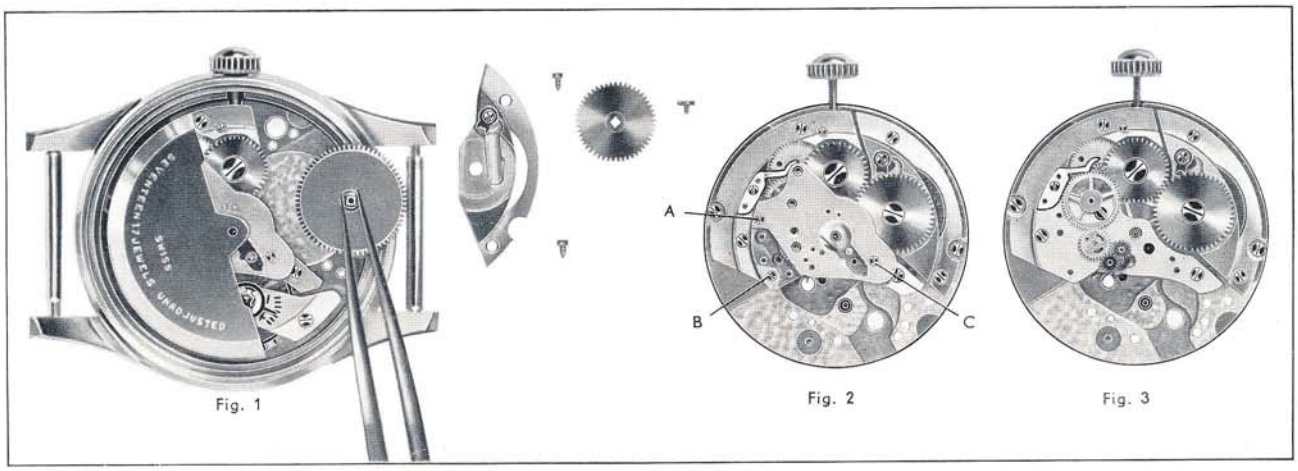


Fig. 1 Fig. 2 Fig. 3

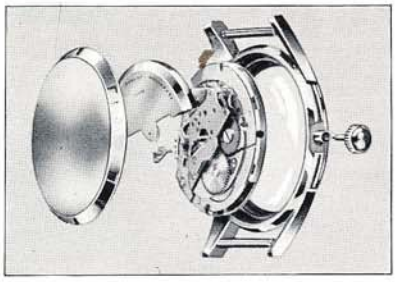


Fig. 4

Casing : Ordinary 3-piece cases give no trouble, but there are many different kinds of **waterproof cases,** of which those illustrated are among the most popular.

Fig. 4 shows a type of waterproof case of which the back opens to enable the movement to be taken out.

Fig. 5 shows a type of which the bezel is snapped on and is opened by a knife-blade inserted at the point indicated by the arrow; when the crown (with 2-piece winding stem) has been removed, the movement is taken out from the dial side.

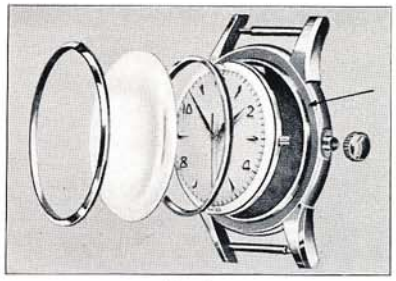


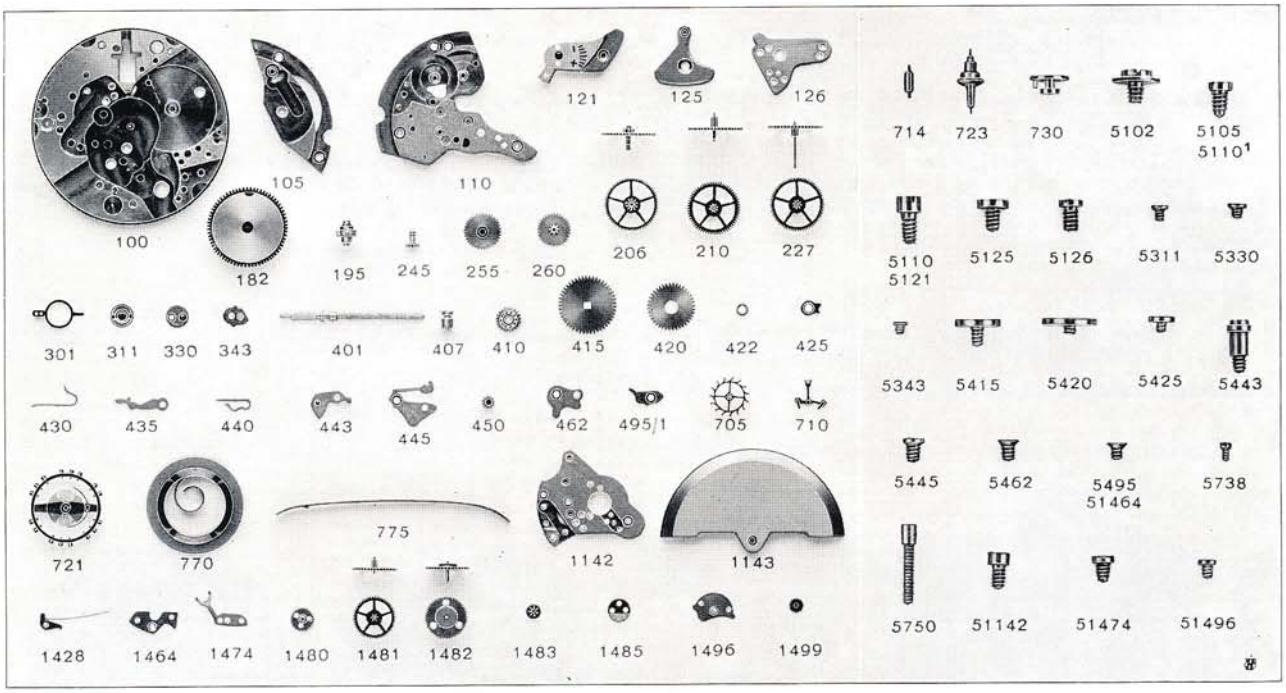
Fig. 5

When fitting a movement into a waterproof case, it is essential, in order to avoid excessive friction, to center the winding stem correctly in the tube.

Description and numbering of spare parts according to the " Technological Dictionary of Watch Parts ", 2nd edition.

100 Plate
105 Barrel bridge
110 Train wheel bridge
121 Balance cock for flat hairspring
125 Pallet cock
126 Center wheel cock
182 Barrel and cover (without arbor)
195 Barrel arbor
206 Center wheel and pinion (without cannon pinion)
210 Third wheel and pinion
227 Sweep second wheel and pinion
245 Cannon pinion with clam notch
255 Hour wheel
260 Minute wheel
301 Regulator for flat hairspring
311 Upper cap jewel, with end-piece, for balance
330 Lower cap jewel, with end-piece, for balance
343 Bearing plate, non-jewelled, for sweep second wheel
401 Winding stem
407 Clutch wheel
410 Winding pinion
415 Ratchet wheel
420 Crown wheel
422 Crown wheel ring
425 Click
430 Click spring
435 Yoke (clutch lever)
440 Yoke spring (set spring)
443 Setting lever (detent)
445 Setting lever spring (set bridge)
450 Setting wheel
462 Minute work cock
495/1 Screw gib
705 Escape wheel and pinion with straight pivots
710 Jewelled pallet fork and staff
714 Pallet staff
721 Balance with flat hairspring, regulated
723 Balance staff, pivoted
730 Roller
770 Mainspring
775 Brake spring
1142 Upper bridge for automatic device
1143 Oscillating weight
1428 Stop click
1464 Stop click lid
1474 Breguet spring
1480 Winding-up wheel
1481 Reduction gear (transmission wheel)
1482 Driving gear for crown wheel
1483 Breguet pinion
1485 Reverser
1496 Oscillating weight axle
1499 Reverser connecting wheel

5102 Case screw, special - 5105 Barrel bridge screw - 5110 Train wheel bridge screw (high head) - 5110¹ Train wheel bridge screw (low head) - 5121 Balance cock screw - 5125 Pallet cock screw - 5126 Center wheel cock screw - 5311 Upper end-piece screw - 5330 Lower end-piece screw - 5343 Screw for bearing plate of sweep second wheel - 5415 Ratchet wheel screw - 5420 Crown wheel screw - 5425 Click screw - 5443 Setting lever screw - 5445 Screw for setting lever spring - 5462 Minute work cock screw - 5495 Screw for screw gib - 5738 Hairspring stud screw - 5750 Dial screw - 51142 Screw for upper bridge of automatic device - 51464 Stop click lid screw - 51474 Screw for Breguet spring - 51496 Screw for oscillating weight axle.



When ordering parts for a shock-protecting device, make certain to specify its exact type. For further details of the description and numbering of spare parts, see the "Technological Dictionary of Watch Parts", 2nd edition, published by Ebauches S. A.

Order repair parts through your jobber, giving the numbers and designations, thus insuring prompt and efficient deliveries.

P. Attinger S. A., Neuchâtel