

TECHNICAL COMMUNICATION

24



7733
14''' 7734
7736
31.00 mm

RF 7733

dia. 31.00 mm

Chronograph movement, minute-re-
corder (30 or 45 m), 2 pushers, cam
mechanism, 18,000 vibrations per hour,
height 6.00 mm.



Fig. 1



Fig. 2

Derived calibers

RF 7734

Chronograph movement, minute-re-
corder (30 or 45 m), 2 pushers, cam
mechanism, 18,000 vibrations per hour,
date shown through an aperture in the
dial, height 6.65 mm.



Fig. 3

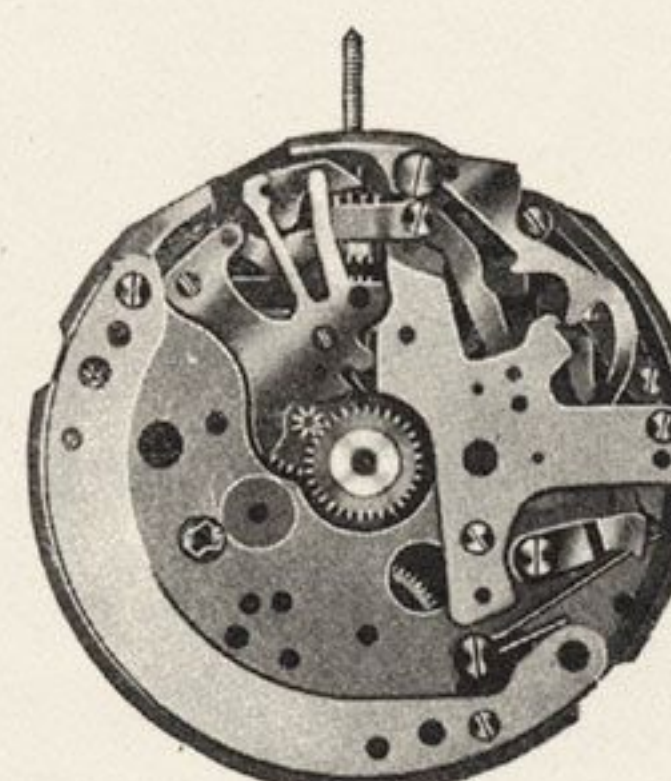


Fig. 4

RF 7736

Chronograph, recorders (30 m and
12 hours), 2 pushers, cam mechanism,
18,000 vibrations per hour, height
7.40 mm.



EBAUCHES SA
2001 NEUCHÂTEL SUISSE

1. Introduction

This technical communication is intended for watchmakers who wish to familiarize themselves with the method of repairing these chronograph calibers.

2. Dismantling the movement

- 2.1. Dismantling the hour-recorder mechanism of caliber 7736.
- 2.2. Dismantling the date-indicator mechanism of caliber 7734.
- 2.3. Dismantling the chronograph mechanism of calibers 7733, 7734 and 7736.

Important

Before starting the above operations, remove the hands and the dial. Let down the barrel; for this purpose, set the chronograph mechanism to the return-to-zero position and hold back the click with a small pointed tool or screw-driver (see fig. 5).

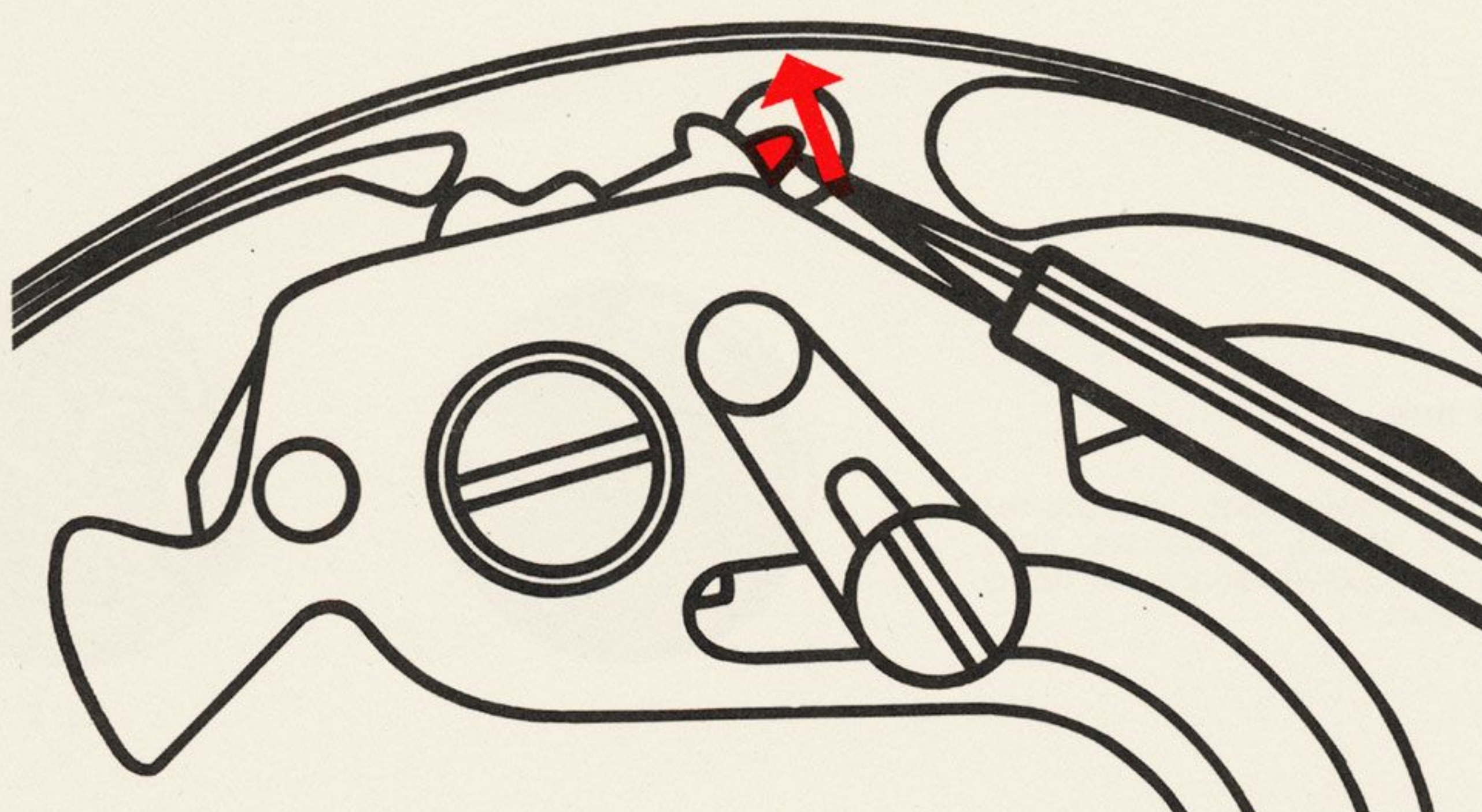


Fig. 5

2.1. Dismantling the hour-recorder mechanism of caliber 7736

- 2.1.1. Remove the hour wheel No. 255 and the cannon pinion No. 245.
- 2.1.2. Loosen and take out the screw No. 58710 of the driving-pinion friction spring; remove the driving-pinion friction spring No. 8710 and the winding-pinion guard No. 470.
- 2.1.3. Loosen and take out the hour-hammer screw No. 58680 and remove the hour hammer No. 8680.
- 2.1.4. Loosen and take out the screw No. 58690 of the hour-recorder stop lever and remove the hour-recorder stop lever No. 8690.
- 2.1.5. Loosen and take out the switch-lid screw No. 58641 and remove the switch lid No. 8641.
- 2.1.6. Loosen and take out the conveyor screw No. 58609 and remove the conveyor No. 8609.
- 2.1.7. Loosen the conveyor-spring screw No. 58720 and remove the conveyor spring No. 8720.
- 2.1.8. Remove the switch No. 8640.
- 2.1.9. Loosen and take out the 2 screws No. 58620 of the hour-recorder bridge and remove the hour-recorder bridge No. 8620, with the hour-recorder stop lever still in position.
- 2.1.10. Remove: the driving pinion No. 8630
the hour-recorder runner No. 8600.
For cleaning the movement, it is unnecessary to remove the dial rest No. 145.

2.2. Dismantling the date-indicator mechanism of caliber 7734

- 2.2.1. Remove the date-jumper spring No. 2575 (fig. 6).

- 2.2.2. Loosen and take out the screw No. 52556/1 of the date-indicator driving-wheel and remove the date-indicator driving-wheel No. 2556/1.
- 2.2.3. Loosen the two screws No. 52535 of the date-indicator guard.
Remove:
the date-indicator guard No. 2535,
the date jumper No. 2576,
the date-indicator No. 2557,
the double-toothed hour wheel No. 2558,
the cannon pinion No. 245.
- 2.2.4. Loosen the three dial-rest screws No. 5145 and remove the dial rest No. 145.



Fig. 6

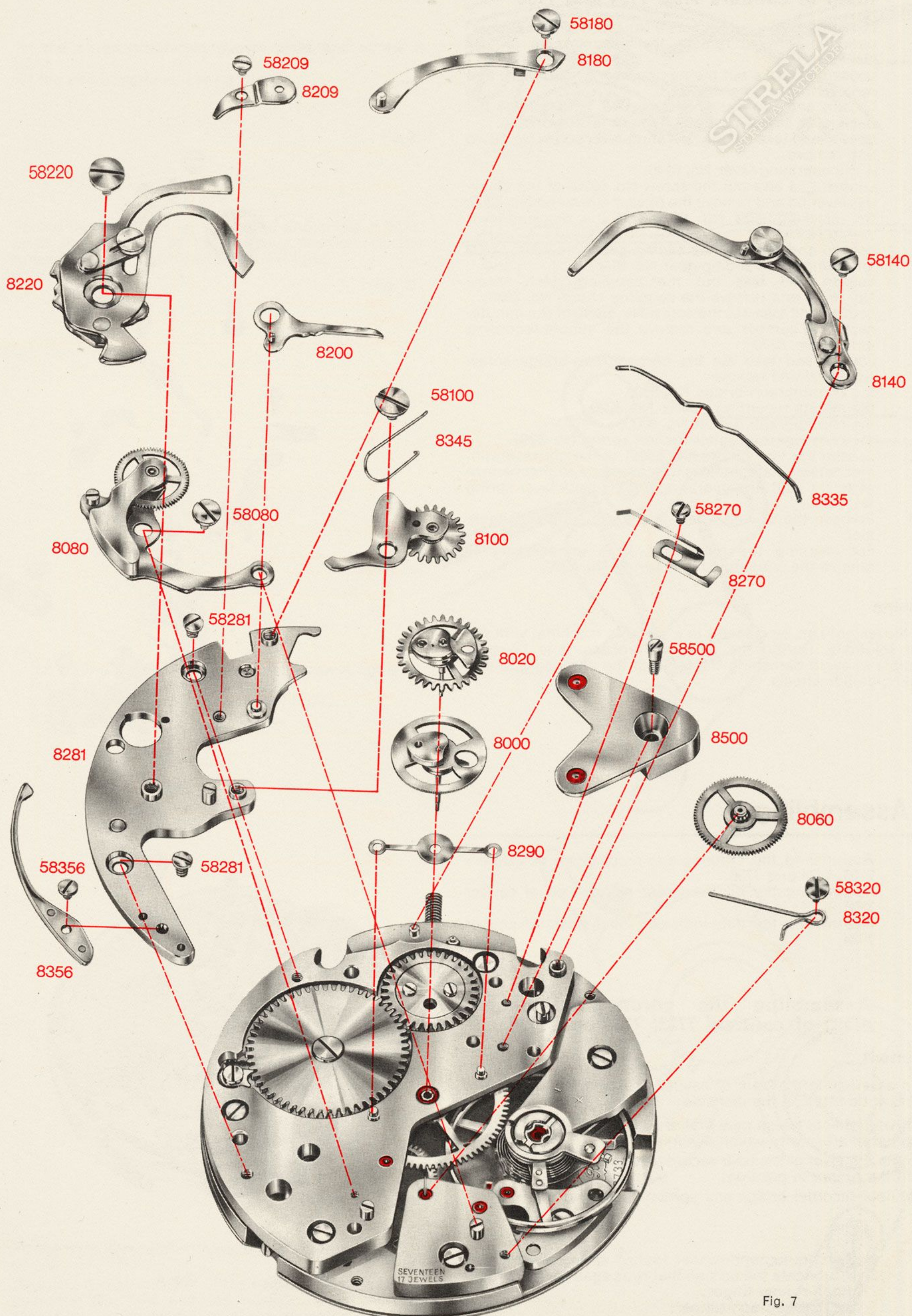


Fig. 7

2.3. Dismantling the chronograph mechanism of calibers 7733, 7734 and 7736

- 2.3.1. Loosen and take out the screw No. 58356 of the hammer-cam jumper and remove the hammer-cam jumper No. 8356.
- 2.3.2. Loosen and take out the hammer screw No. 58220 and remove the hammer No. 8220.
- 2.3.3. Loosen and take out the screw No. 58180 of the fly-back lever and remove the fly-back lever No. 8180.
- 2.3.4. Loosen and take out the operating-lever screw No. 58140 and remove:
 – the operating-lever No. 8140.
- 2.3.5. Loosen and take out the screw No. 58209 of the blocking-lever lid and remove the blocking-lever lid No. 8209, the blocking-lever No. 8200 and the blocking-lever spring No. 8345.
- 2.3.6. Loosen and take out the sliding-gear screw No. 58100 and remove the sliding-gear No. 8100.
- 2.3.7. Loosen and take out the coupling-clutch screw No. 58080 and remove the coupling-clutch No. 8080.
- 2.3.8. Loosen and take out the screw No. 58270 of the minute-recording jumper and remove the minute-recording jumper No. 8270.
- 2.3.9. Loosen and take out the chronograph-bridge screw No. 58500 and remove:
 the chronograph bridge No. 8500,
 the minute-recording runner No. 8020,
 the chronograph-runner No. 8000,
 the chronograph-runner friction spring No. 8290.
- 2.3.10. Loosen the two screws No. 58281 of the chronograph-mechanism plate; remove the chronograph-mechanism plate No. 8281, the operating and fly-back lever spring No. 8335.
- 2.3.11. Remove the driving-wheel No. 8060, using a suitable tool.
 For cleaning the movement, it is unnecessary to remove the coupling-clutch spring No. 8320.

Cleaning

This movement can be cleaned in a suitable machine, with the usual solutions. During the cleaning process, it is however advisable to avoid damaging the teeth of the chronograph and coupling-clutch wheels.

3. Assembling

- 3.1. Assembling the chronograph-mechanism of calibers 7733, 7734 and 7736.
- 3.2. Assembling the hour-recorder mechanism of caliber 7736.
- 3.3. Assembling the date-indicator mechanism of caliber 7734.

3.1. Assembling the chronograph-mechanism of calibers 7733, 7734 and 7736

Important

When assembling the train of caliber 7736, the following parts must first be fitted on the dial side:

the driving-pinion, taking care first of all to lubricate the portion of the barrel arbor with which it works;
 lubricate the pivot of the hour-recorder runner on the plate side and fit the runner in position;
 fit the hour-recorder bridge and tighten its two screws.

- 3.1.1. Fit:
 - the chronograph-runner friction spring, taking care to lubricate the portion that rubs against the chronograph-runner finger;
 - the chronograph-runner;
 - the minute-recording runner;
 - the chronograph bridge and screw it tight.

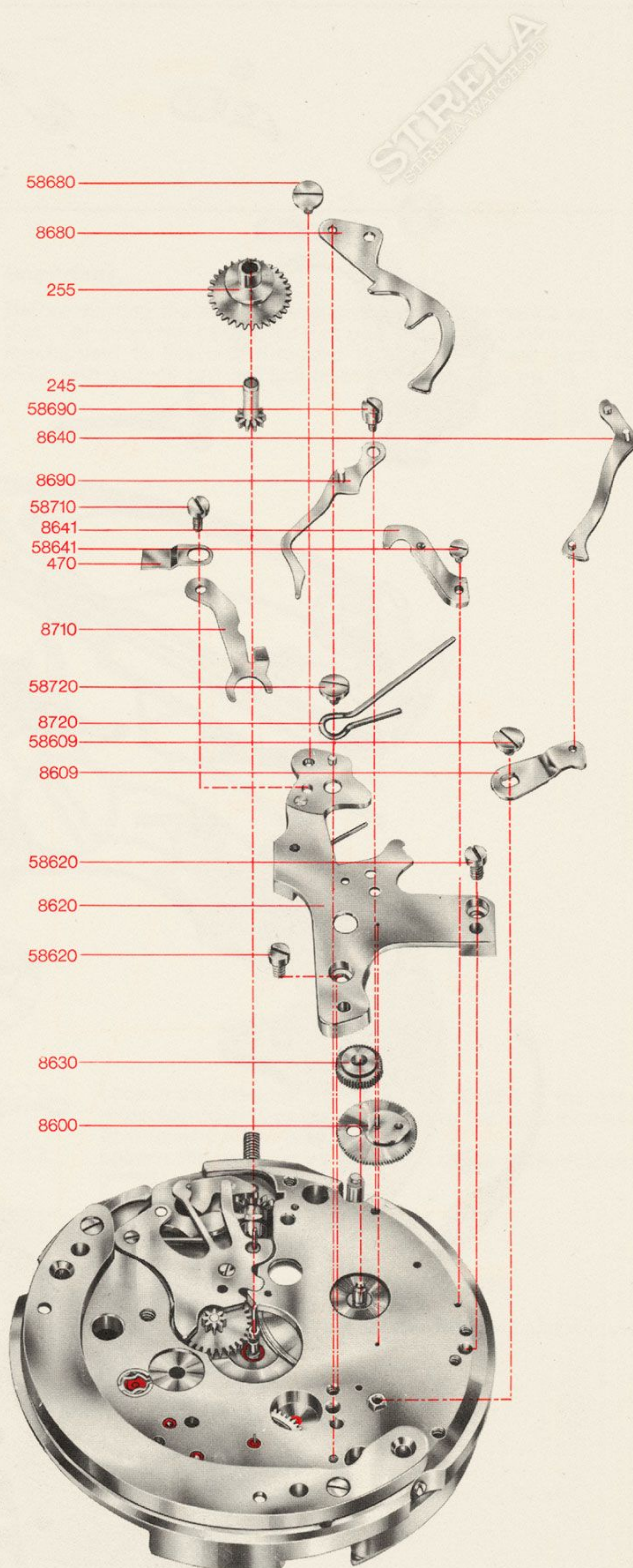


Fig. 8

- 3.1.2. Fit the chronograph-mechanism plate and screw it tight.
3.1.3. Fit the operating-lever spring (fig. 9).

Fig. 9



- 3.1.4. Fit the fly-back lever on to its stud and screw it tight.
3.1.5. With the reverser in the working position, fit the operating-lever (fig. 10) and screw it tight.

Fig. 10

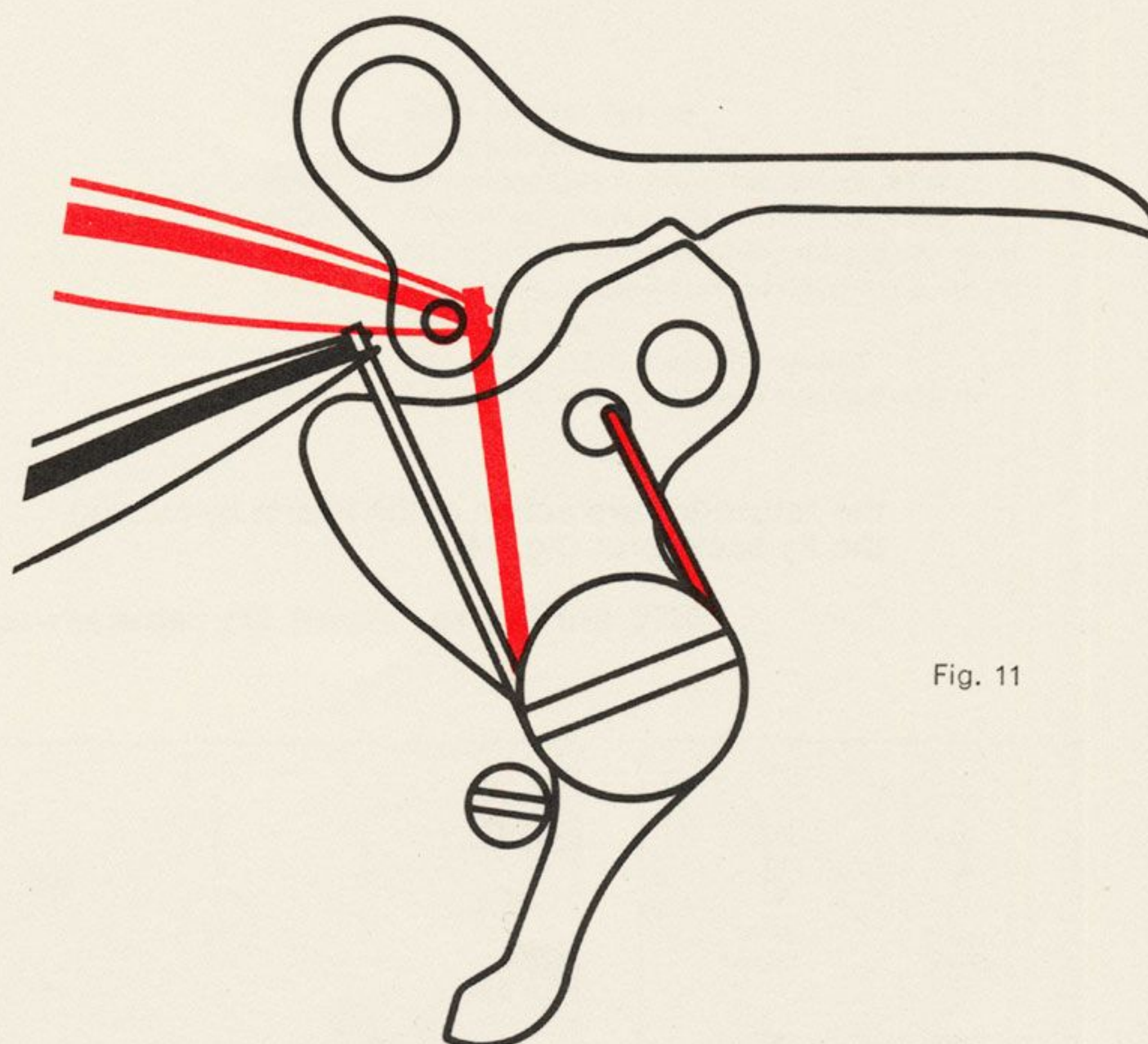
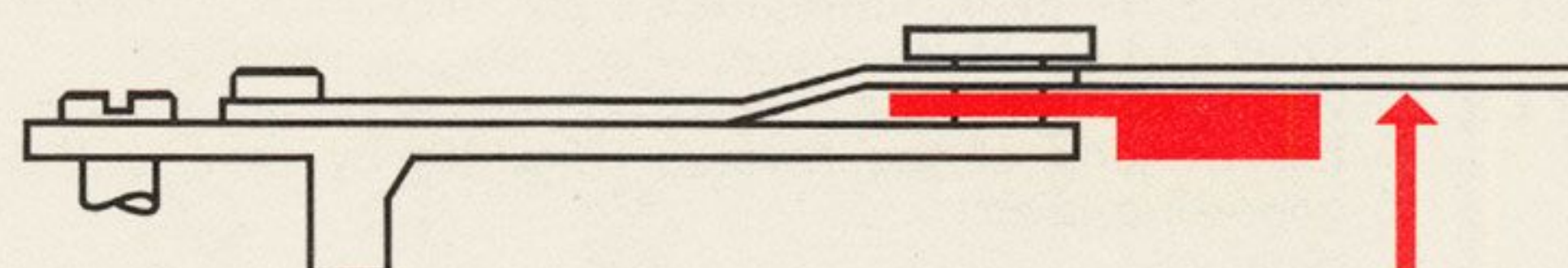


Fig. 11

- 3.1.6. Fit:
– the sliding gear on to its stud and screw it tight;
– the blocking-lever on to its stud;
– the blocking-lever lid and screw it tight;
– the blocking-lever spring (fig. 11).

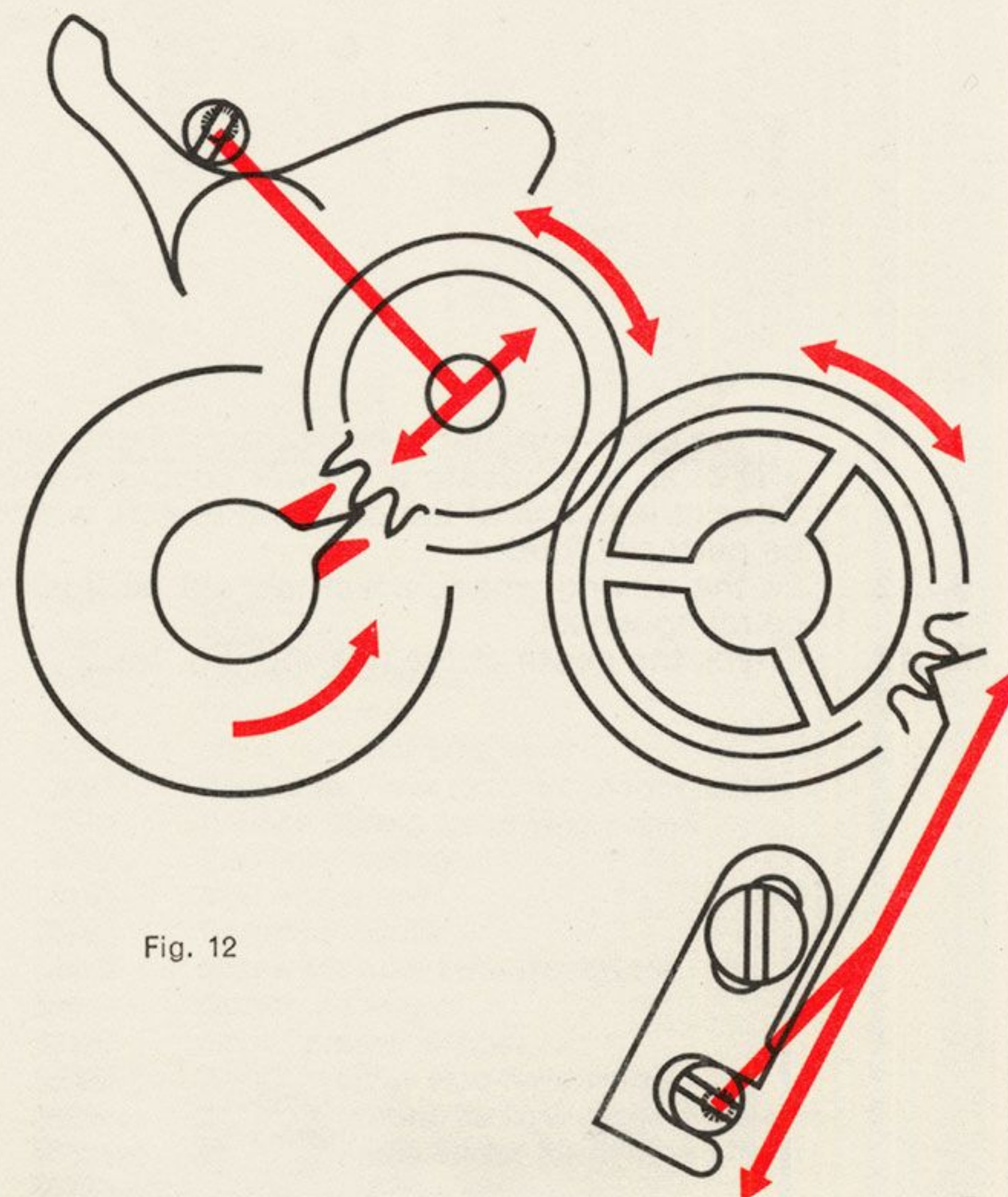


Fig. 12

- 3.1.7. Fit the minute-recording jumper and screw it tight.
3.1.8. Check:
Regulate the penetration of the finger by means of the eccentric No. 8406 and the position of the minute-recording jumper by means of the eccentric No. 8407 (fig. 12).
(In the case of caliber 7736, fit the detent No. 8660).

- 3.1.9. Fit the hammer, lubricate its pivoting-point, screw it tight and check its shake, which should be slight.
3.1.10. Fit the hammer-cam jumper and screw it tight. Check: the working of the reverser (fig. 13) by moving the operating-lever;

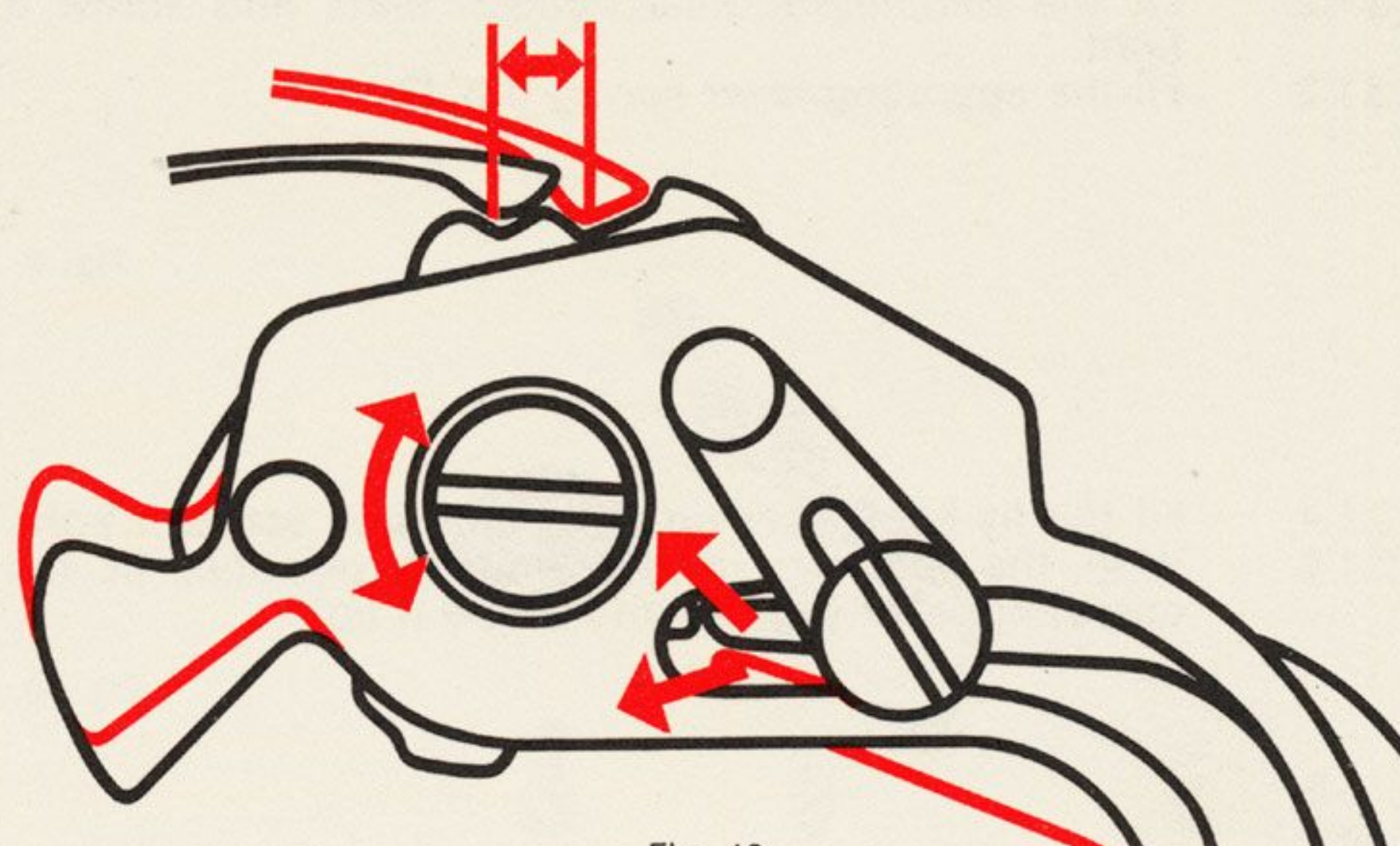


Fig. 13

the return-to-zero action of the hearts by moving the fly-back lever (fig. 14).

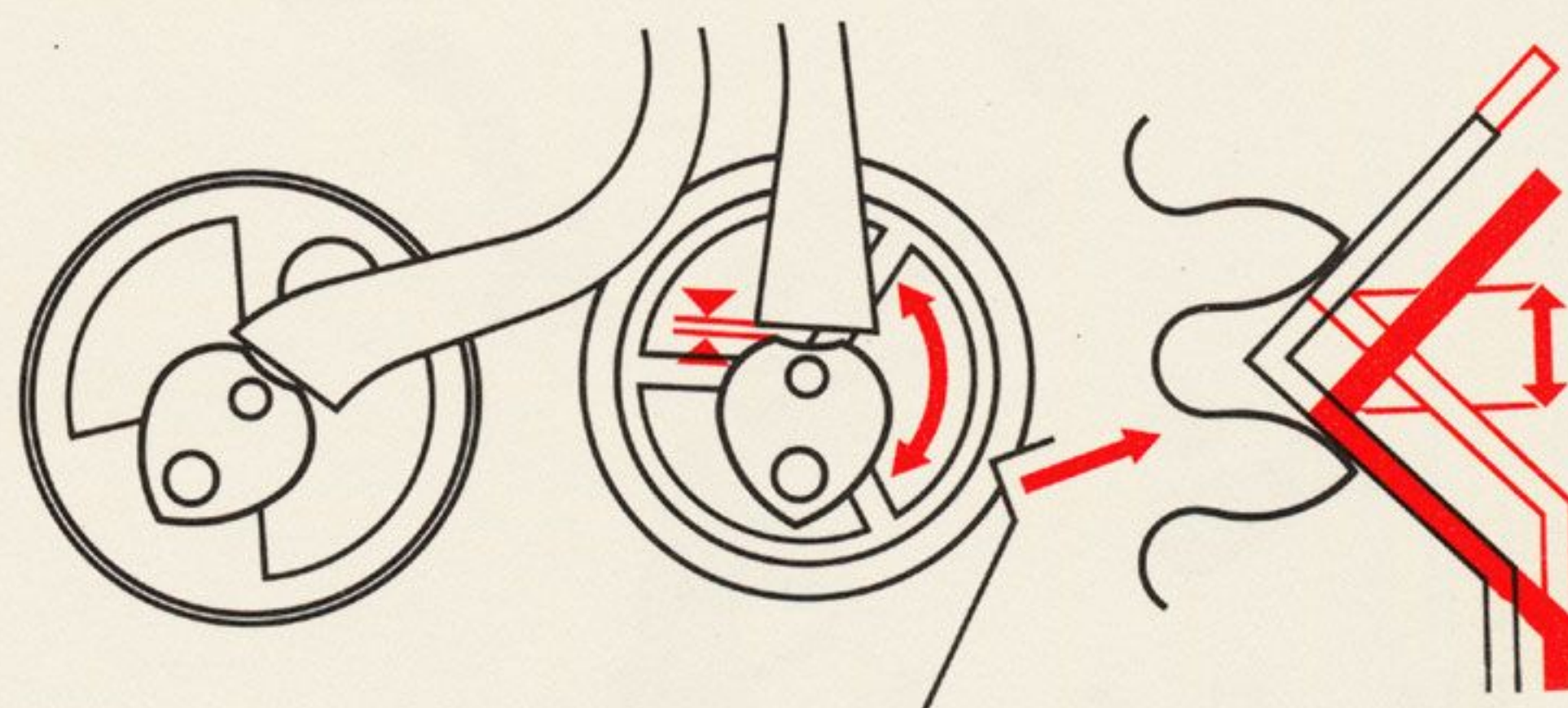


Fig. 14

- 3.1.11. Fit the coupling-clutch and screw it tight, taking care first of all to lubricate the lower coupling-wheel pivot. Check the action of the coupling-clutch, which should be perfectly free.
3.1.12. Fit the driving-wheel, which should be flush with the coupling-wheel.
3.1.13. Check the depth of the gearing (fig. 15).

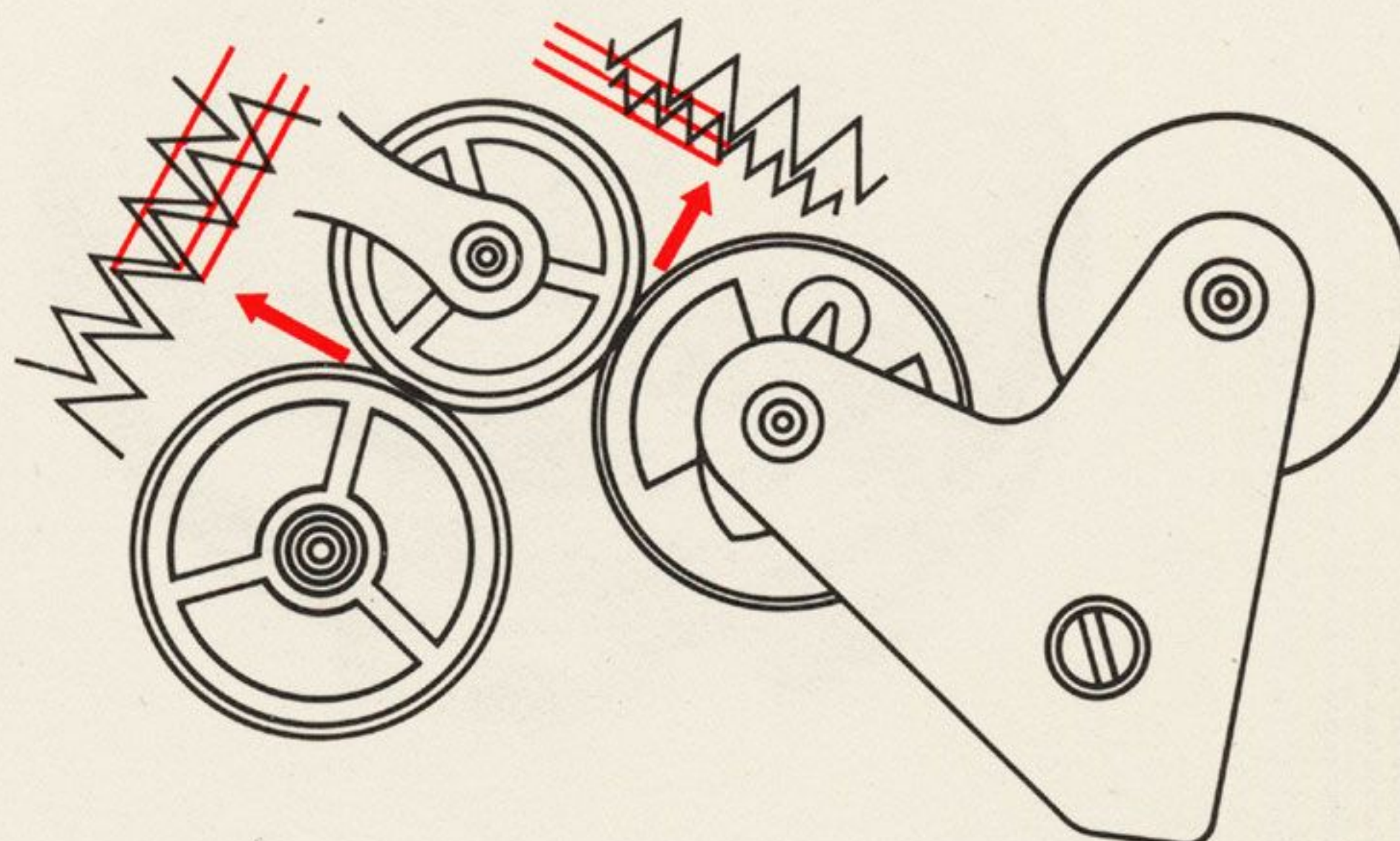
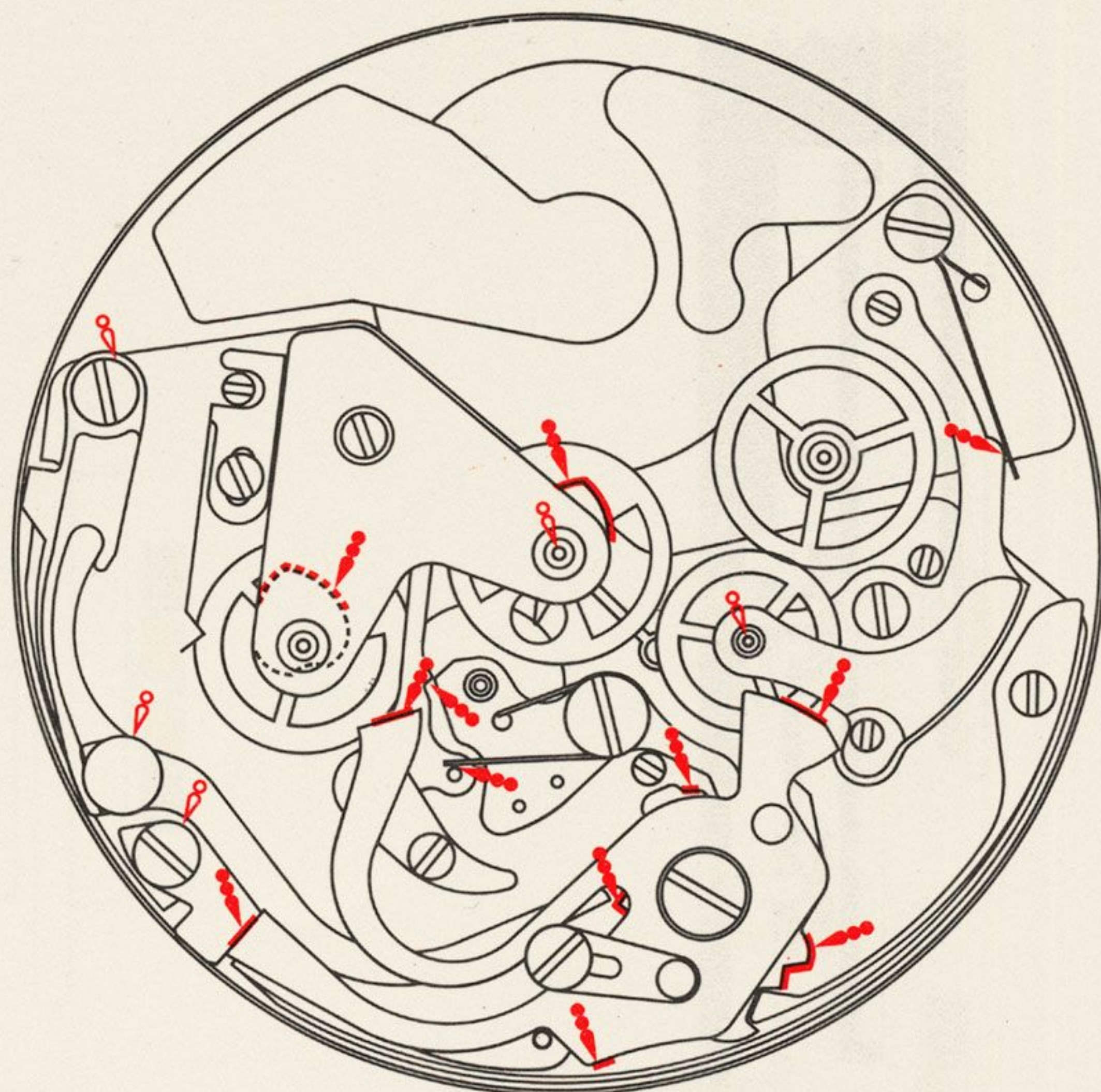


Fig. 15

3.1.14. Lubricate (fig. 16).

Fig. 16



3.2. Assembling the hour-recorder mechanism of caliber 7736

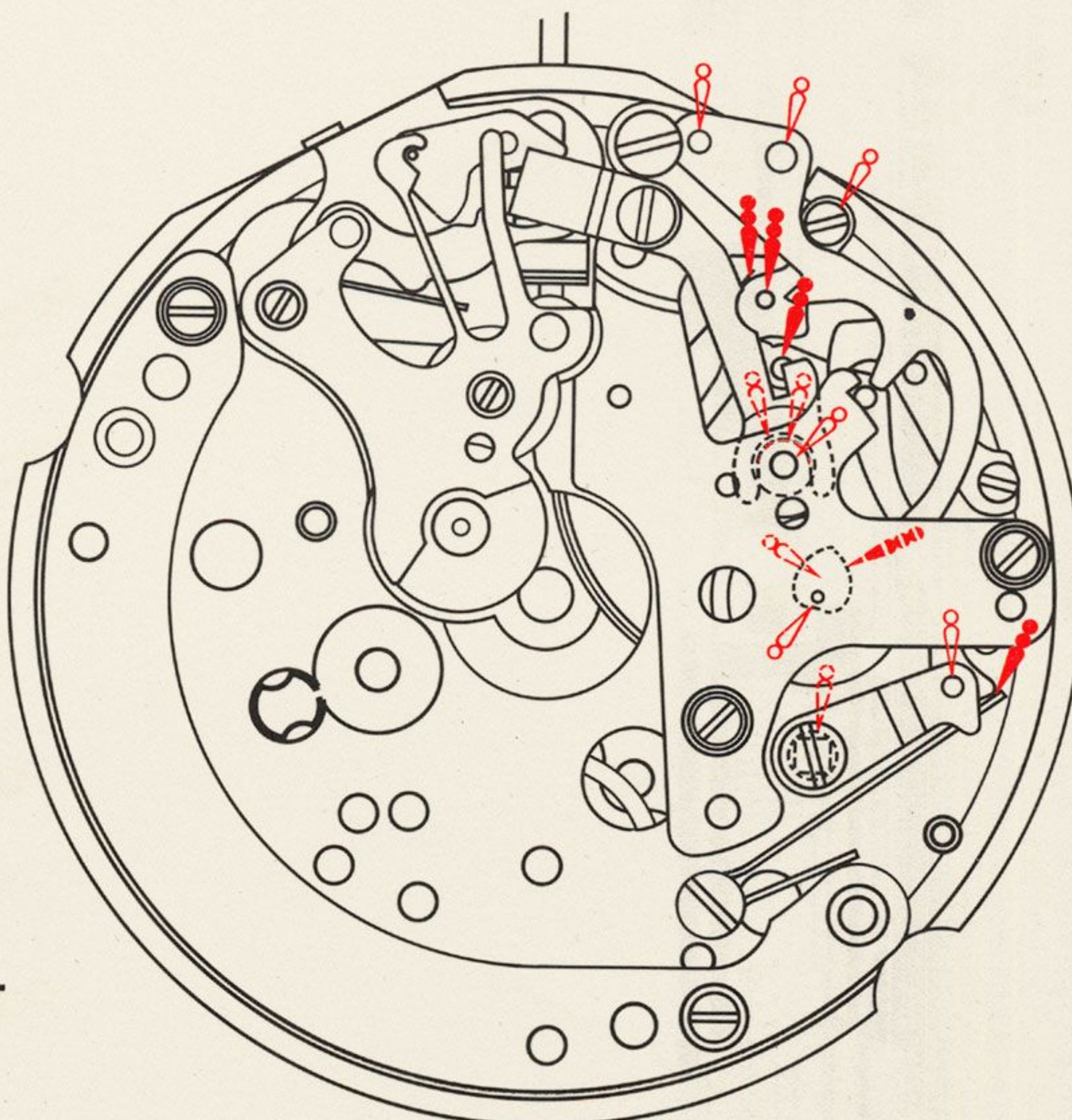
- 3.2.1. Fit the hour-recorder stop lever and screw it tight.
- 3.2.2. Fit the switch underneath the hour-recorder bridge.
- 3.2.3. Fit the conveyor on to the detent arbor and on to the switch stud and screw it tight.
- 3.2.4. Fit the switch lid and screw it tight.
- 3.2.5. Fit the conveyor spring and screw it tight.
- 3.2.6. Fit:

the driving-pinion friction spring, the winding-pinion guard; then screw the whole assembly tight.

Make sure that the parts work correctly.

- 3.2.7. Fit the hammer on to its stud and tighten its screw.
- 3.2.8. Fit the cannon pinion (lubricating the center-wheel arbor) and the hour wheel.
- 3.2.9. Lubricate (fig. 17).

Fig. 17

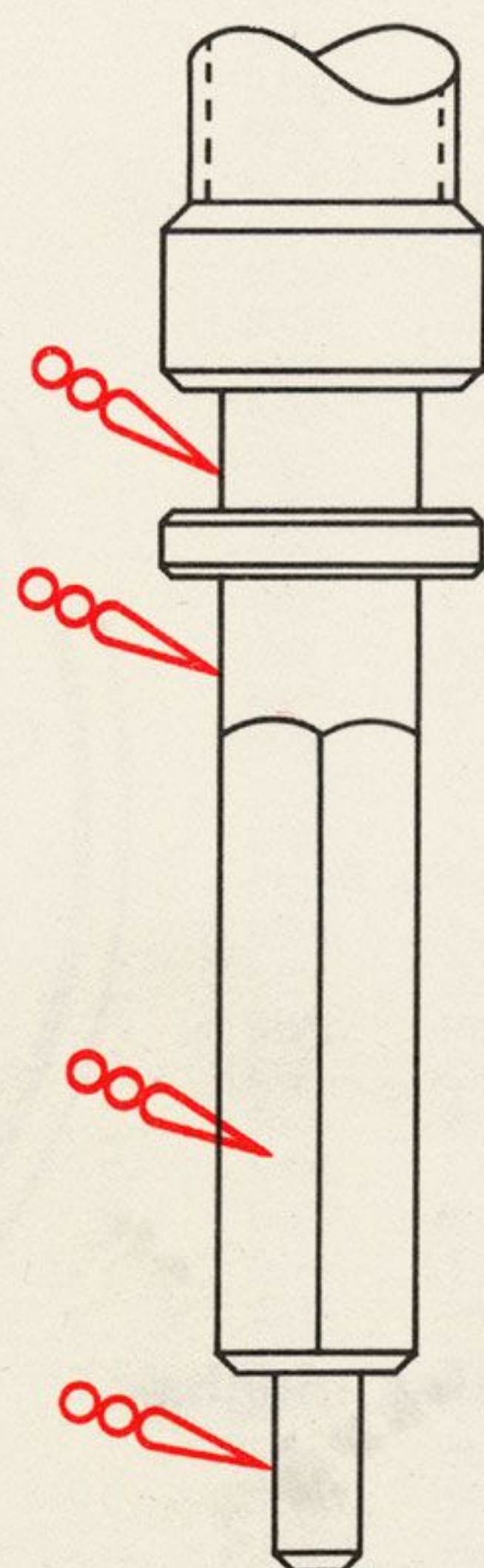
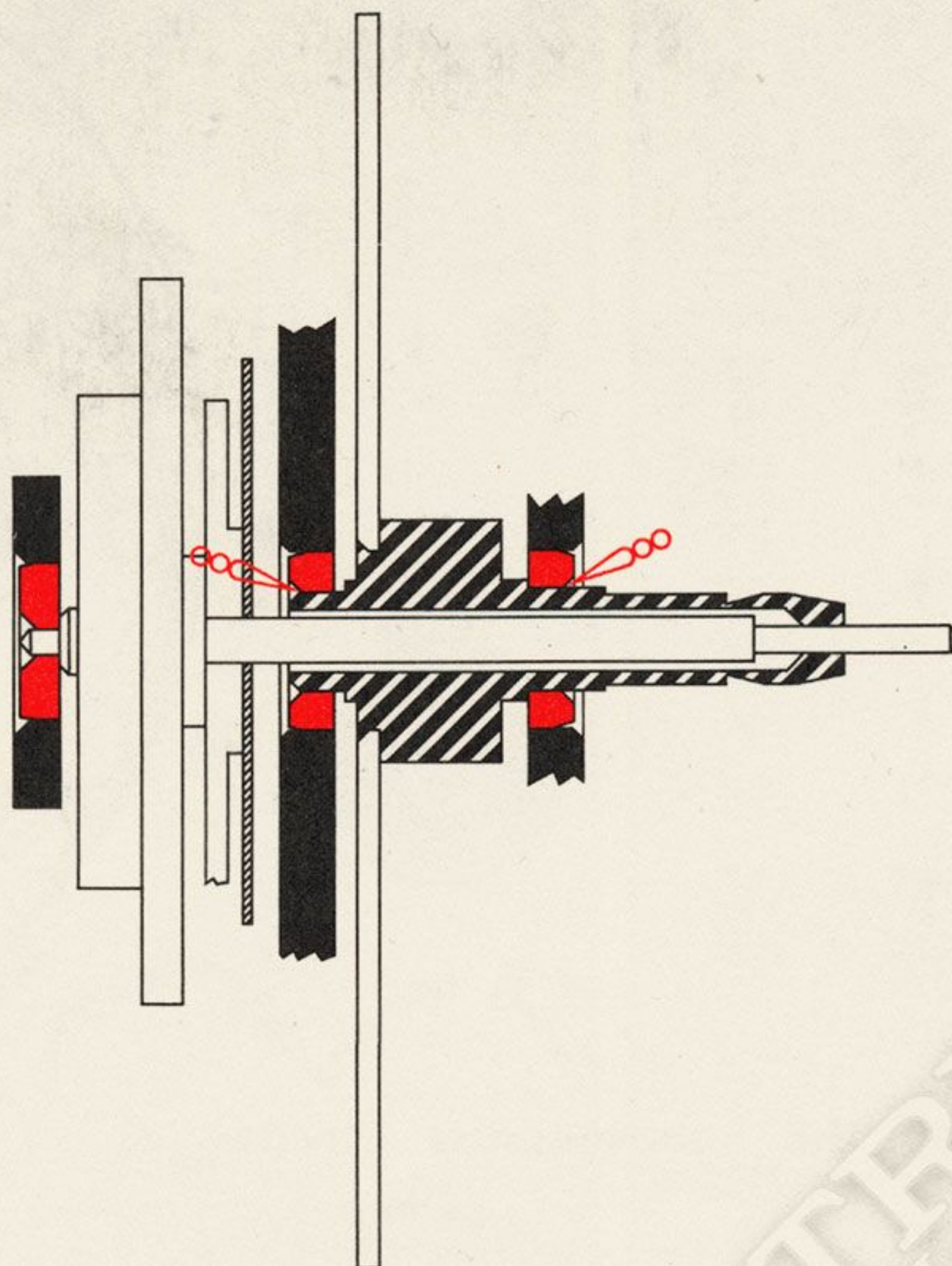
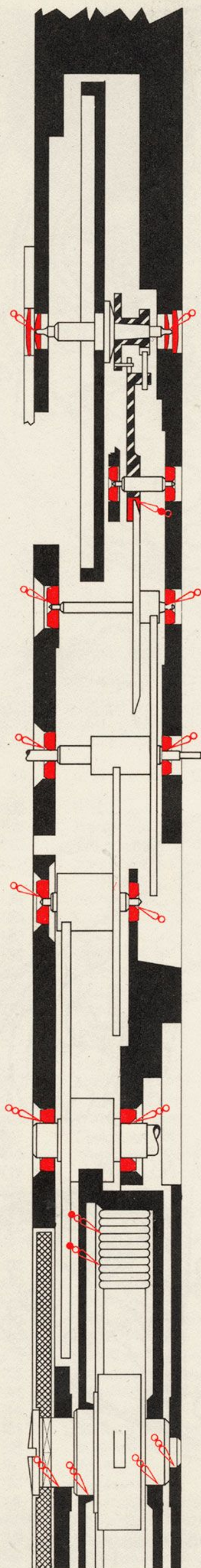







3.3. Assembling the date-indicator mechanism of caliber 7734

- 3.3.1. Fit:
 - the cannon pinion (making sure to lubricate the center-wheel pivot),
 - the hour wheel,
 - the dial rest and tighten its three screws,
 - the date-indicator,
 - the date-indicator driving-wheel and screw it tight,
 - the date jumper.

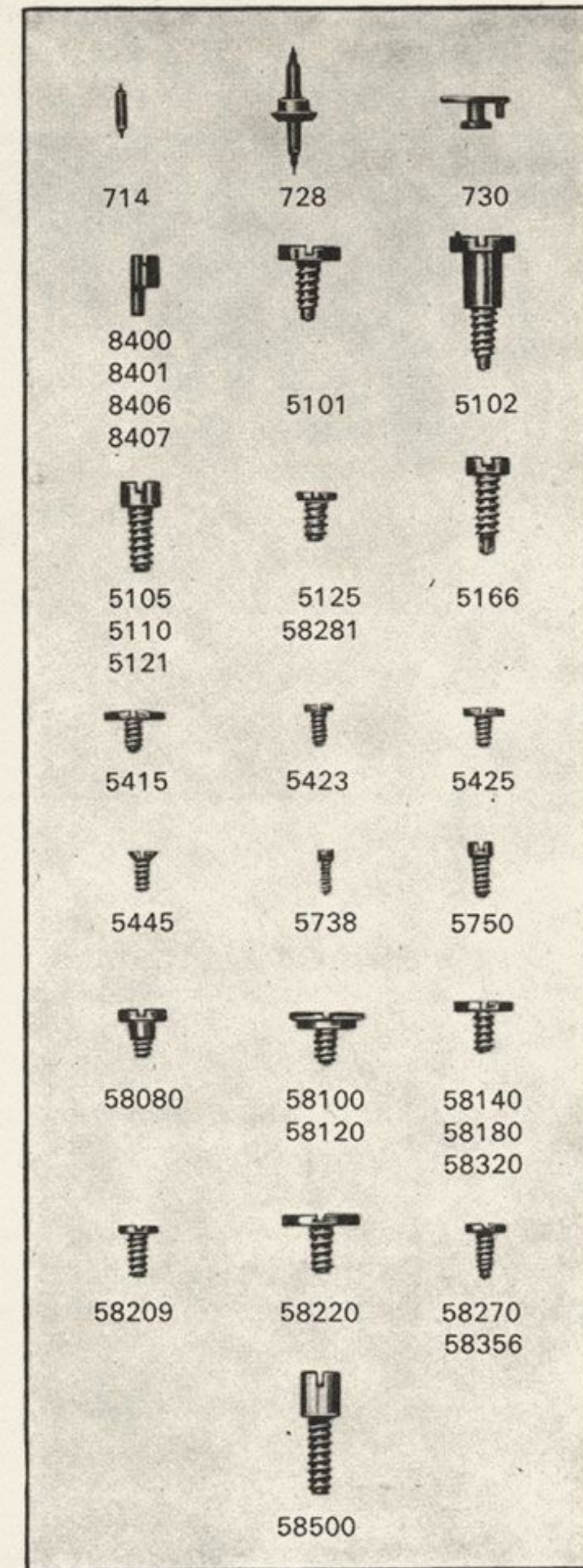
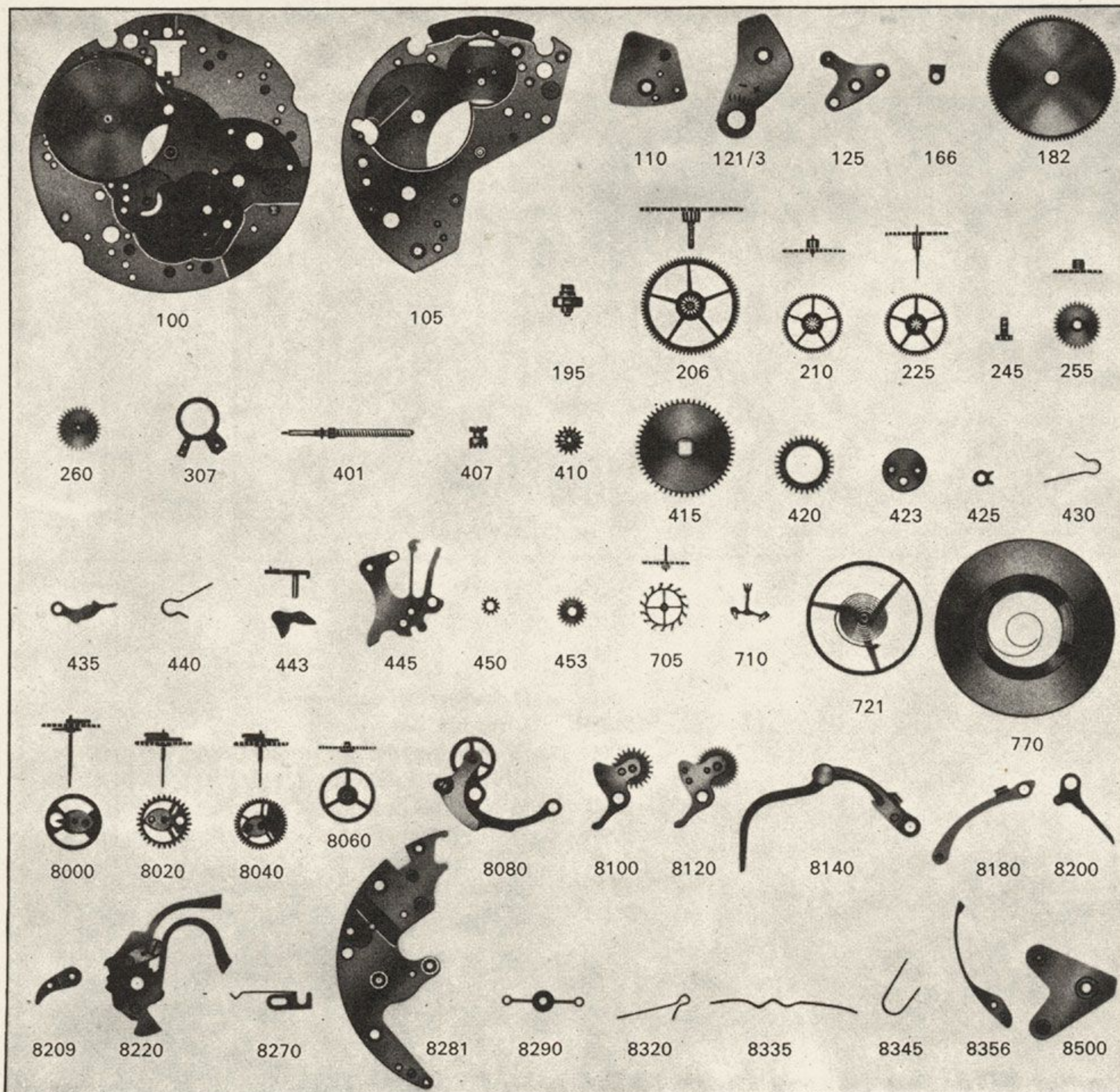
- 3.3.2. Fit the date-indicator guard and screw it tight.
- 3.3.3. Fit the date-jumper spring.
- 3.3.4. Check the working of the mechanism.

Lubrication plan



-  Fine oil
-  Thick oil or grease
-  Special grease for mainspring
-  Special oil for pallet stones
-  Special grease for mechanism

Components of basic caliber No. 7733



No. LIST OF MATERIALS

100	Plate	8120	Sliding gear, mounted, 45 m
105	Barrel bridge	8140	Operating lever, mounted
110	Train wheel bridge	8180	Fly-back lever
121/3	Balance cock for stud holder and for shock-protecting device, flat hairsp.	8200	Blocking lever
125	Pallet cock	8209	Blocking lever lid
166	Casing clamp	8220	Hammer mounted
182	Barrel and cover	8270	Minute-recording jumper
195	Barrel arbor	8281	Plate for chronograph mechanism
206	Center wheel	8290	Friction spring for chronograph runner
210	Third wheel	8320	Coupling clutch spring
225	Fourth wheel	8335	Operating and fly-back lever spring
245	Cannon pinion	8345	Blocking lever spring
255	Hour wheel	8356	Hammer cam jumper
260	Minute wheel	8400	Eccentric for pivoting of coupling clutch
307	Regulator with adjustable stud holder, for flat hairspring	8401	Banking eccentric for coupling clutch
401	Winding stem	8406	Finger-depth eccentric
407	Clutch wheel	8407	Eccentric for minute-recording jumper
410	Winding pinion	8500	Chronograph bridge
415	Ratchet wheel	5101	Case screw (short)
420	Crown wheel	5101	Case screw (long)
423	Crown wheel core	5102	Case screw, special
425	Click	5105	Barrel bridge screw
430	Click spring	5110	Train wheel bridge screw
435	Yoke	5121	Balance cock screw
440	Yoke spring	5125	Pallet cock screw
443	Setting lever	5166	Casing clamp screw
445	Setting lever spring	5415	Ratchet wheel screw
450	Setting wheel	5423	Screw for crown wheel core
453	Additional setting wheel	5425	Click screw
705	Escape wheel and pinion with straight pivots	5445	Screw for setting lever spring
710	Jewelled pallet fork and staff	5738	Hairspring stud screw
714	Pallet staff	5750	Dial screw
721	Balance with flat hairspring, regulated	58080	Coupling clutch screw
728	Balance staff for shock-protecting device	58100	Sliding gear screw, 30 m
730	Roller	58120	Sliding gear screw, 45 m
770	Mainspring	58140	Operating lever screw
8000	Chronograph runner, mounted, 30 m	58180	Fly-back lever screw
8000/3	Chronograph runner, mounted, 45 m	58209	Screw for blocking lever lid
8020	Minute-recording runner, mounted, 30 m	58220	Hammer screw
8040	Minute-recording runner, mounted, 45 m	58270	Minute-recording jumper screw
8060	Driving wheel	58281	Screw for plate of chronograph mechanism
8080	Coupling clutch, mounted	58320	Screw for coupling clutch spring
8100	Sliding gear, mounted, 30 m	58356	Screw for hammer cam jumper
		58500	Chronograph bridge screw