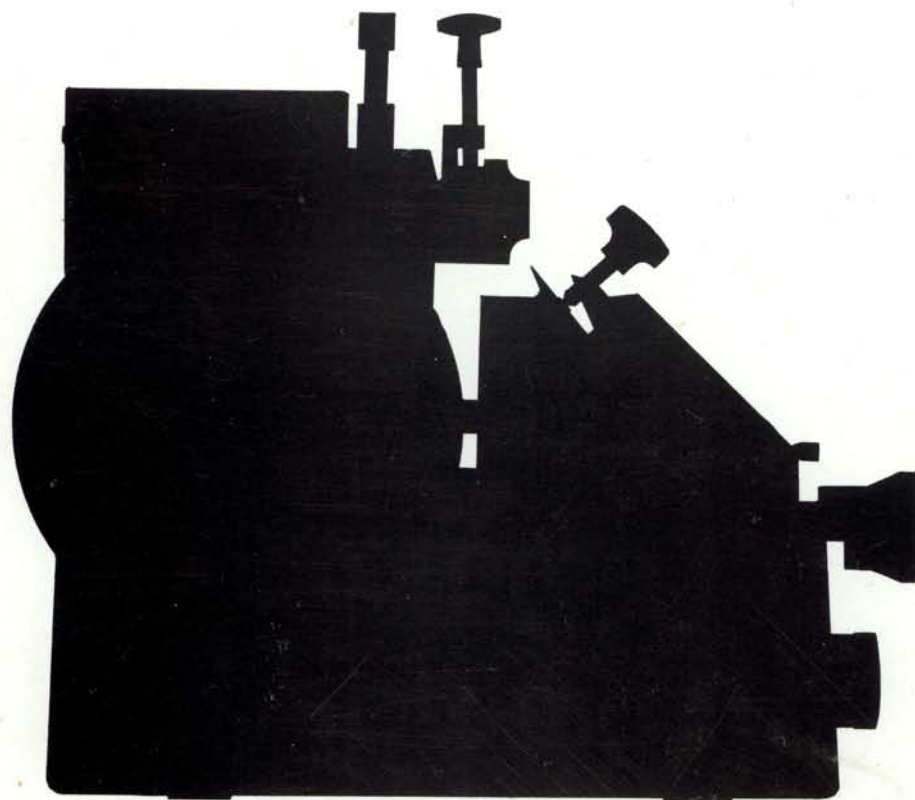


Rotary Microtome 1512



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Instructions



Rotary Microtome 1512



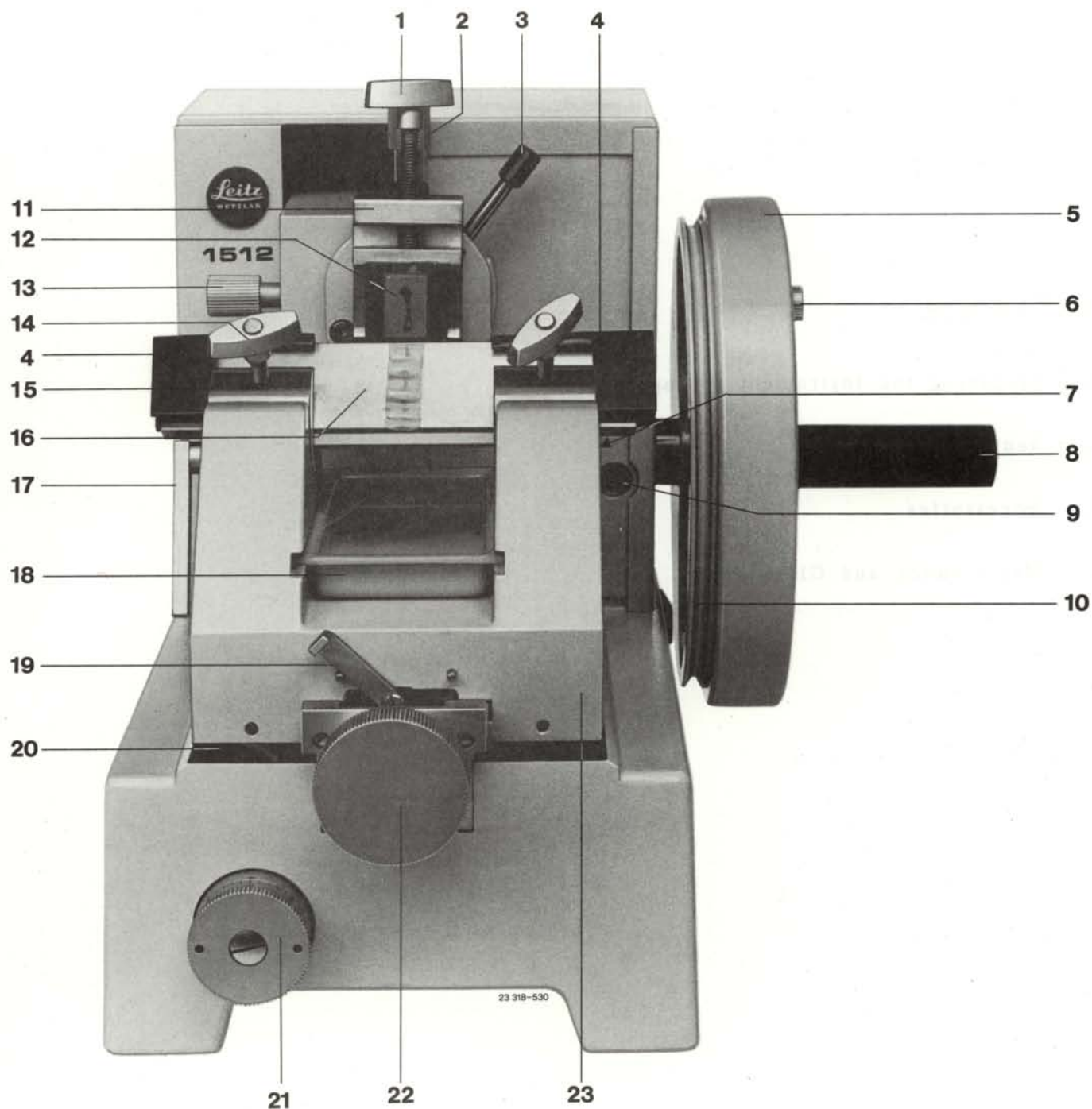
Instructions

C O N T E N T S

| | <u>Page</u> |
|---|-------------|
| 1. Preparing the instrument for operation | 3 |
| 2. Section Cutting | 3 |
| 3. Accessories | 4 |
| 4. Maintenance and Cleaning | 6 |

Fig. 1 Rotary Microtome 1512

- | | | | |
|----|---|----|---|
| 1 | Wing nut for fixing the object in the object clamp | 13 | Knurled screw for adjusting the object clamp in the x-axis |
| 2 | Knurled screw for adjusting the object in the y-axis | 14 | Wing nuts for fixing the knife and setting the angle of inclination |
| 3 | Clamping lever for the object clamp | 15 | Knife lamp |
| 4 | Knife guard | 16 | Microtome knife |
| 5 | Handwheel for moving the object | 17 | Lever for adjusting the angle of inclination |
| 6 | Screw for clamping the handwheel | 18 | Collecting trough |
| 7 | Scale for setting the angle of inclination (cf. Fig. 2) | 19 | Lever for clamping the knife block |
| 8 | Handgrip | 20 | Guide track of the knife block |
| 9 | Thread for coupling the Bowden cable of the automatic conveyor belt | 21 | Knurled wheel for section thickness setting (1-25 μ m) |
| 10 | Groove for the V belt of the motor drive | 22 | Knurled wheel for adjusting the knife block |
| 11 | Object clamp | 23 | Knife block |
| 12 | Object | | |



1. Preparing the instrument for operation

1.1 Unpacking the Microtome

Open the carton and remove the accessories lying on top. Remove all other packing material. Remove the microtome and the handwheel.

1.2 Assembly

Place the handwheel on the shaft so that the pin enters the bore provided for it. Insert the washer and the Allen screw and tighten it with the Allen key (5 mm).

Loosen the three screws (2 at the back of the instrument) and remove the hood. Unscrew the transport anchorage of the object sledge with the Allen key (5 mm). Move the object sledge into the topmost position and remove transport anchorage. Lubricate the guide track of the object sledge (5.2)* and handwheel spindle (5.1) well with the slide-track oil (see also point 4). Replace the hood and secure it with the 3 screws.

2. Section Cutting

2.1 Preparation

- Move the clamping lever (1.19) to the right and push the knife block (1.23) to the front as far as it will go.
- For safety reasons immobilize the handwheel (1.5) with screw (1.6).
- Mount the object in the object clamp (1.11) and firmly tighten wing nut (1.1).
- Insert the microtome knife (1.16) in the knife clamps (1.15).
- Set the angle of inclination with lever (1.17) on scale (1.7) and fix the knife with wing nuts.
- Place the knife guard in position.
- Release the clamping screw (1.6)
- Bring the object to the level of the knife by about a quarter turn of the handwheel (1.5) and move the knife block (1.23) to a distance of only a few mm from the object (the object must not yet touch the knife!).
- Move the clamping lever (1.19) to the left.

- Release the clamping lever (1.3) and align the object to the knife with the knurled screws (1.2) and (1.13).
- Now tighten lever (1.3) firmly.

2.2 Trimming the object

It is not necessary to carry out whole rotations with the handwheel. Particularly with small objects it is better to move the handwheel only up and down through a short distance. When the object (1.12) is above the knife, the knurled wheel (1.22) is turned right through a small distance until a plane surface on the object has been cut.

NOTE:

The knife block (1.23) must not be adjusted with the knurled wheel (1.22) as long as the object is in the top position of the sledge when the automatic feed is in operation and a damage of the feed through the coarse adjustment (1.22) cannot be excluded.

Use the coarse adjustment (1.22) therefore only when the object sledge has been displaced through about one quarter turn in the direction of the knife (Fig. 1), or when the knurled wheel (1.21) for the section thickness setting is at "zero".

*) (5.2) = Fig. 5, number 2

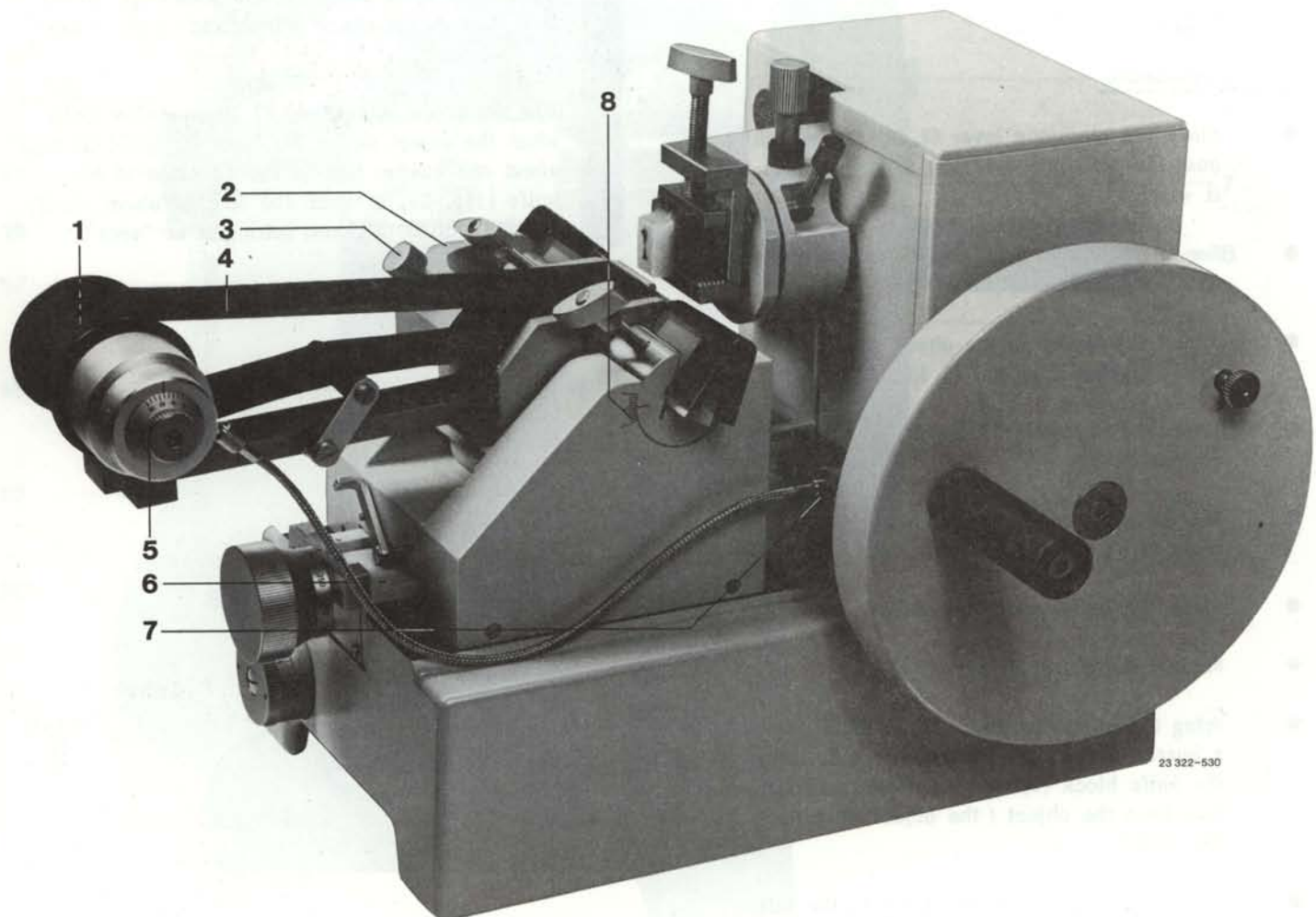
3. Accessories

3.1 Automatic conveyor belt

The automatic conveyor belt (2.4) is attached to the left of the knife block (1.23) with the wing nut (2.2). The alignment of the conveyor belt to the microtome knife is carried out with screw (2.3). The coupling piece (2.7) of the Bowden cable (2.6) is screwed into the threaded bush of the microtome. With each turn of the hand-wheel (1.5) the conveyor belt (2.4) is wound on through the distance set on the knurled knob (2.5) (the rate of the band movement depends on the size of the microtome sections).

Fig. 2 Rotary microtome with automatic conveyor belt

- 1 Knob for turning the conveyor belt by hand
- 2 Wing nut for fixing the automatic conveyor belt to the knife block
- 3 Knurled screw for aligning the automatic conveyor belt to the microtome knife
- 4 Automatic conveyor belt
- 5 Knurled knob for setting the belt speed
- 6 Bowden cable of the automatic conveyor belt
- 7 Coupling piece of the automatic conveyor belt
- 8 Scale for setting the angle of inclination



23 322-530

3.2 KRYOMAT® 1700

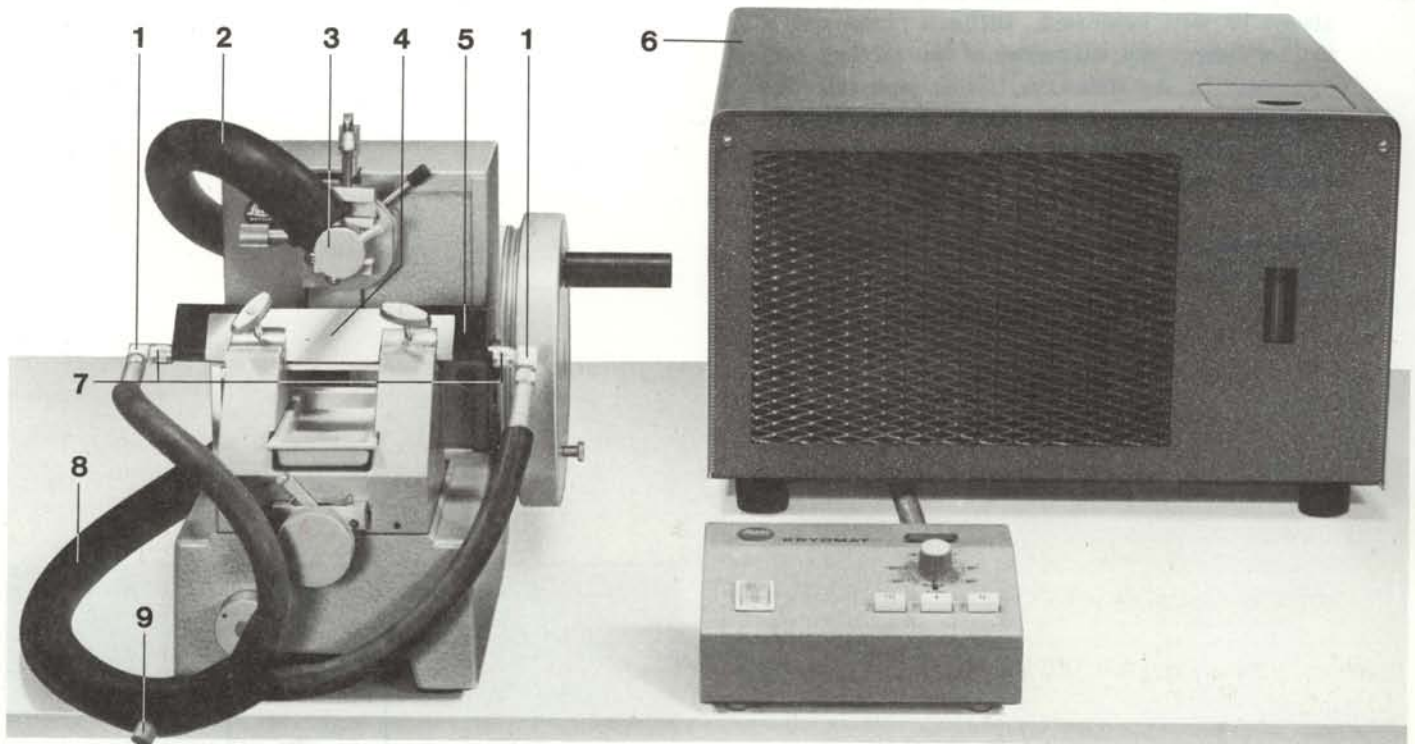
When the KRYOMAT 1700 electro-automatic cryostat is connected, the Rotary Microtome 1512 can also be used for the cutting of frozen sections. In addition to the KRYOMAT 1700 (3.6), a freezing chamber with a set of 5 object stages complete with connection tube (3.2), a microtome knife for flow cooling (3.4), two connecting nozzles (3.1) and the connecting tube (3.8) are required.

As shown in Fig. 3 the freezing chamber is mounted in the object clamp of the microtome. The associated ob-

ject stages are pushed onto the chamber and locked by a clockwise turn.

The connecting nozzles (3.1) attached to the connecting tube (3.8) are fixed to the two connecting pieces of the microtome knife and secured with the knurled screws (3.7).

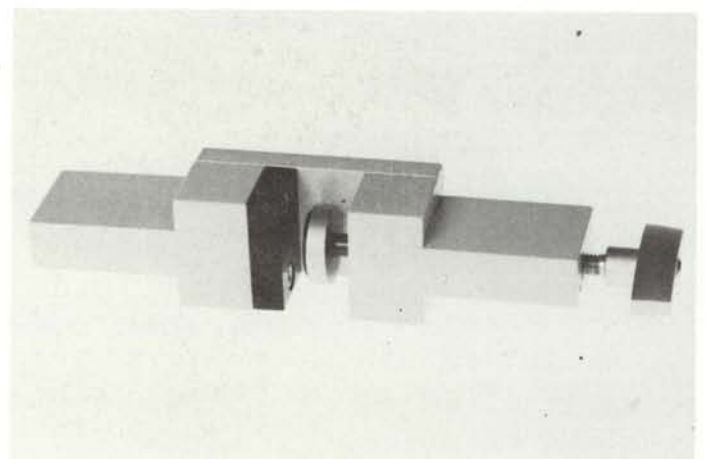
Details of the operation of the KRYOMAT 1700 will be found in the list N° 311, 530-037 R.



22 570-530

Fig. 3 KRYOMAT 1715

- 1 Connecting nozzles
- 2 Connecting tube for the KRYOMAT-freezing chamber with object stage
- 3 KRYOMAT-freezing chamber with object stage
- 4 Microtome knife
- 5 Knife guard
- 6 KRYOMAT 1700
- 7 Knurled screws for fixing the connecting nozzles to the flow meter
- 8 Connecting tube for the microtome knife
- 9 Tube clamp



23 647-530

Fig. 4 Glass knife holder

4. Maintenance and Cleaning

- 4.1 The guide tracks of the knife block (1,23) must be clean at all times. Only petrol should be used for cleaning, which must be carried out in front of and behind the knife block, i.e. the block must be repeatedly pushed forward and backward. This is the only guarantee that dirt and residual cuttings lodged under the knife block are removed.
- 4.2 After each cleaning operation the guide tracks of the knife block must be greased with vaseline (oil and other lubricants are not recommended).
- 4.3 The guide tracks of the object sledge (5.2) must always be well lubricated. Difficult movement of the handwheel and unevenness of the sections may be caused by dry slideways, which must therefore regularly (about once a week) be lubricated. For this purpose only the slide oil 601 (Code No. 530 200) must be used.
- 4.4 The guide tracks of the object sledge like those of the knifeblock may be cleaned with petrol.
- 4.5 For the lubrication of the handwheel spindle a few drops of the slide oil 601 should be applied at longer intervals (about once every three months) to the lubricating point provided (5.1)
- 4.6 When the microtome is not used it should be protected against dust by means of the hood.

After prolonged non-use, too, the slides of the microtome must be well lubricated before operation.

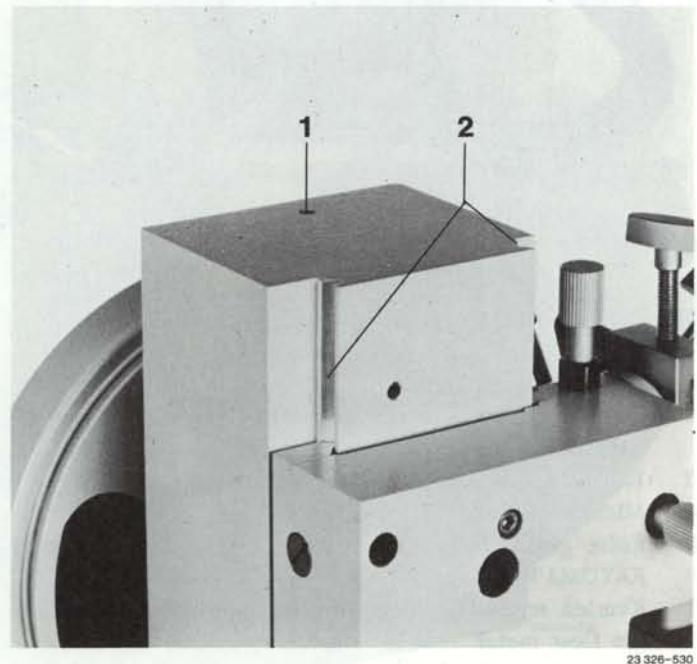


Fig. 5 Lubricating points

- 1 Lubricating point for the handwheel spindle
2 Lubricating points of the guide tracks of the object sledge

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