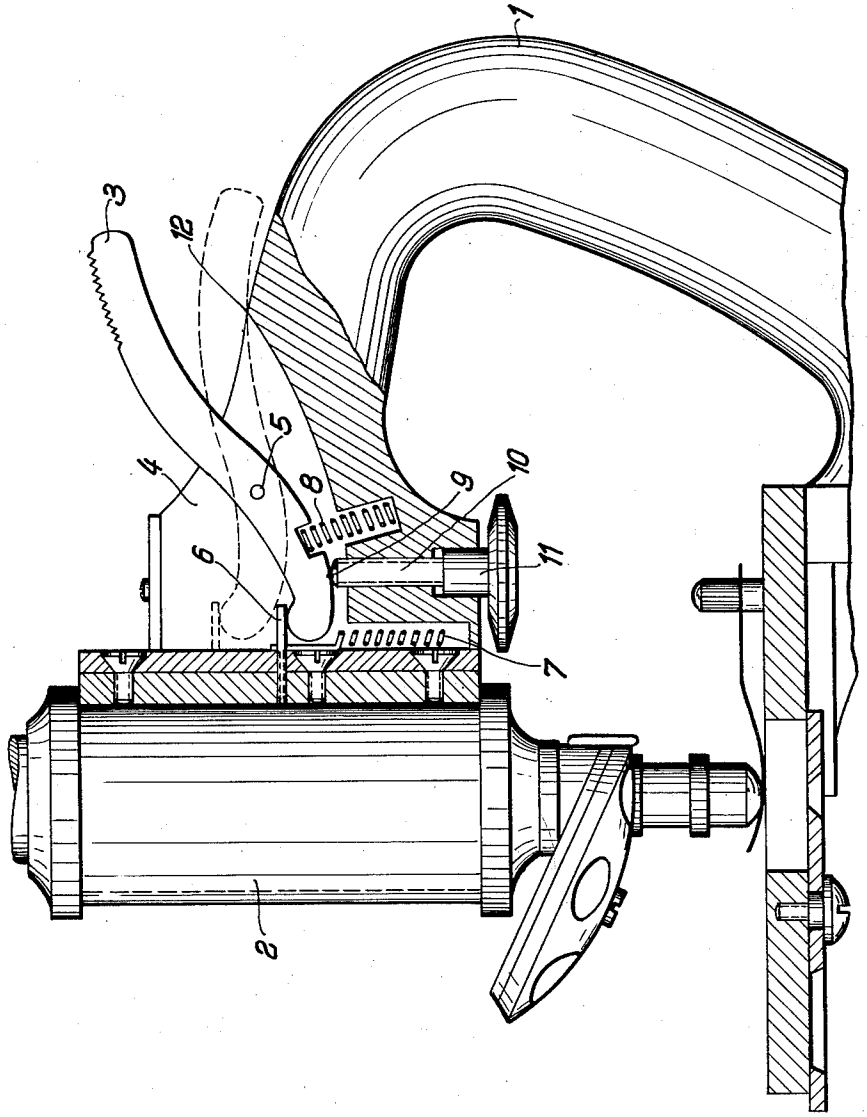
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MICROSCOPE TUBE MOVING MECHANISM

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Inventor:
Rolf Deutscher
by
Stevens, Davis, Miller & Mosher
his attorneys

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MICROSCOPE TUBE MOVING MECHANISM

Rolf Deutscher, Berlin-Wilmersdorf, Germany, assignor to Berliner Optische Werkstätten G. m. b. H., Berlin-Wilmersdorf, Germany, a German company

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4 Claims. (Cl. 88—39)

This invention relates to an improvement in the focusing of the tube on microscopes, such as was formerly effected by means of a pinion and rack.

According to the present invention, the focusing adjustment is simplified by the fact that a pivoted lever acting on the tube is provided for lifting and lowering the said tube. Preferably, the tube and the lever are under the action of tension and compression springs which produce a mass balance. A screw, formed with micro-thread, is provided which acts as a stop and as a means whereby fine focusing of the microscope may be effected. The pivoted arm is guided through a recess in the arm of the microscope.

The present invention will now be more particularly described with reference to the accompanying drawing, in which:

A microscope arm **1**, which supports the tube **2** for vertical movement in a manner known per se, carries a pivoted lever **3** which is mounted by means of a pin **5** in a recess **4** of the said microscope arm **1**. The pivoted lever **3** engages beneath a pin **6** or the like on the tube **2** and can move the latter upwardly under the tension of a spring. The downward movement is effected by a tension spring **7** and a compression spring **8** serves for balancing the forces on the lever **3**. The downward movement of the pivoted lever **3** is limited by a stop **9** which is formed by screws **10** which are formed with micro-threads and which can be moved by a knurled wheel **11** in the arm **1** and by means of which fine focusing of the microscope may be effected. The movement of the pivoted lever **3** in the upward direction may be limited by a stop **12**.

The construction according to the invention provides the result that when using relatively balanced objectives, upon bringing into use another (higher or lower) magnification, the subject to be examined is to be seen again immediately after engaging the turret mounting. It is no longer necessary to search for this image by adjustment of the customary coarse adjustment mechanism,

since the tube always remains at the same place after lifting by means of the pivoted lever **3**.

In this way, it is possible with series examinations for the preparation to be examined to be changed in a considerably shorter time. The disturbing wear on the toothed gearing such as is at present employed for the coarse adjustment can no longer become noticeable, since toothed gearing is not provided.

What I claim as my invention and desire to secure by Letters Patent of the United States is:

1. A microscope comprising a support, a tube carried by the support and slidable vertically thereon, abutment means extending laterally from the tube, a lever having a first end and a second end, means pivotally mounting the lever to the support intermediate the ends of the lever for pivotal movement of the lever about a horizontal axis, said first end of the lever engaging under the abutment means and said second end extending outwardly from the support for manual engagement in moving the first end of the lever upwardly to raise the tube, first spring means connected between the tube and the support to normally urge the tube downwardly, second spring means connected between the support and the lever intermediate the first end and the pivotal mounting means for normally urging the first end of the lever upwardly and a micro-threaded screw carried by the support beneath the lever and engaging the lever adjacent its first end and acting as a stop for said lever and acting through said lever as a fine adjustment.

2. A microscope as claimed in claim 1, wherein said first spring means includes a vertically disposed tension spring secured at one end to the abutment means and at its other end to the support.

3. A microscope as claimed in claim 2, wherein said second spring means includes a compression spring bearing between the lever and the support and cooperating with the tension spring to balance the forces on the lever.

4. A microscope as claimed in claim 1, wherein said support includes a horizontal arm carrying the tube at its outer end and having a recess in its upper portion in which the lever is pivoted.

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