

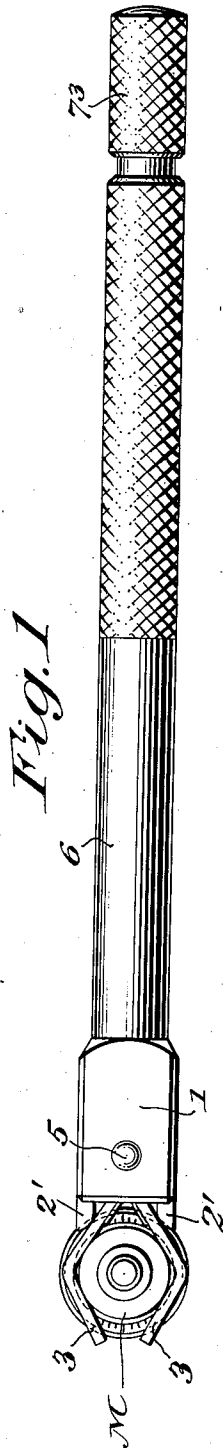
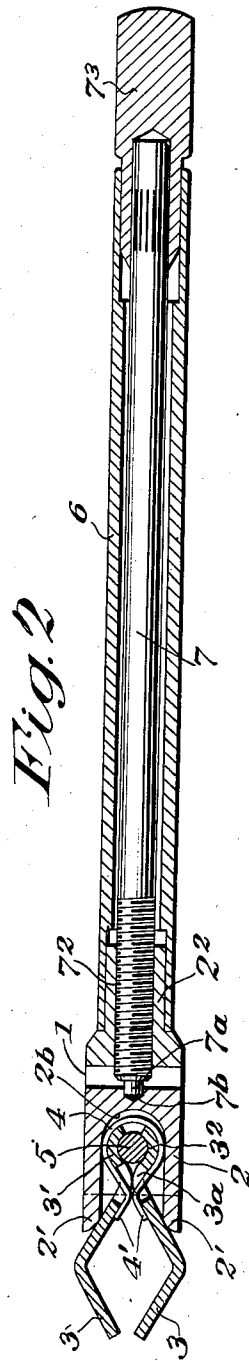
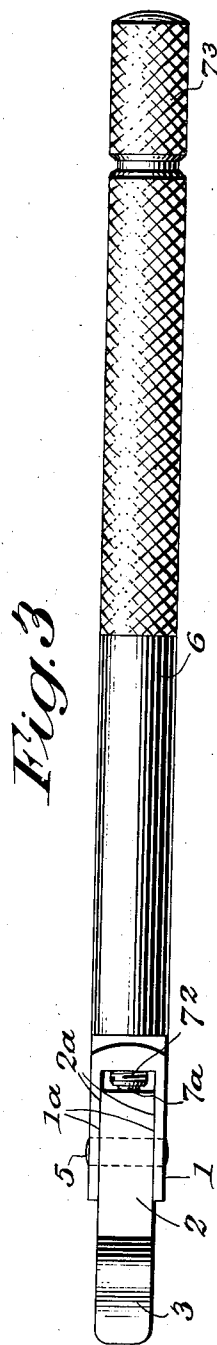
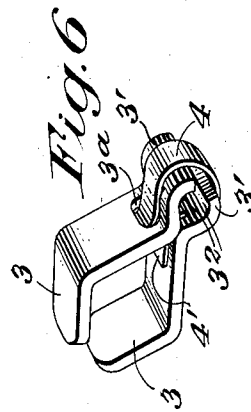
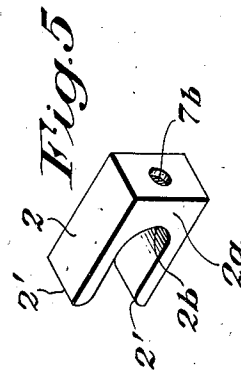
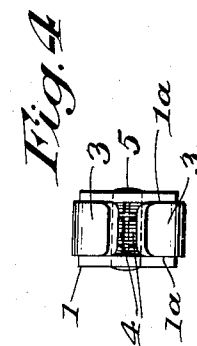
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2,199,223

HANDLE FOR INSIDE MICROMETER OR THE LIKE

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UNITED STATES PATENT OFFICE

2,199,223

HANDLE FOR INSIDE MICROMETER OR
THE LIKE

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6 Claims. (Cl. 306—38)

My present invention relates to handles for supporting inside micrometers or like devices, and more particularly to such as have a cylindric exterior zone on the body or other portion.

In interior micrometer sets there has sometimes heretofore been included a handle capable of being affixed to some of its parts or substituted therefor, as in the case of knurled studs screwed into protective relation to some part, as for example, a scale carrying sleeve.

Such auxiliary handles are very satisfactory in interior micrometer or like sets, but according to my concept, time can be saved if the workman has available a quick-acting handle so that a micrometer can be engaged without changing its previous condition as to parts, or without disturbing any reading that may have been set up in a previous measurement.

While micrometers of different manufacture vary considerably in structure and design, they have according to my analysis a common cylindrical basis of comparison, and I am able to provide quick-acting handles capable of clamping an instrument of almost any make, even where sizes may vary, based on the diameters of cylindrical parts of such instruments.

This I accomplish by clamping such cylindrical parts radially by angular jaws disposable in tangential surface contact, the jaws being simple and their adjustment rapid.

As illustrative of my concept and the embodiments arising from it, I have shown in the accompanying drawing a handle in accordance with my invention. Throughout the specification and drawing like reference characters are employed to indicate corresponding parts, and in the drawing:

Fig. 1 is a view of a handle in accordance with my invention clamped to an indicated micrometer.

Fig. 2 is a longitudinal partially sectioned view of such a handle.

Fig. 3 is a longitudinal view of such a handle taken at right angles to that of Fig. 1.

Fig. 4 is a view of the jaw end of the handle.

Fig. 5 is a view of a jaw closer according to my invention, disassembled, and

Fig. 6 is a view of the jaws and jaw spring removed.

As indicated in the drawing, handles according to my invention preferably have a head 1 slidably mounting a jaw closer block 2 for a pair of opposed jaw members 3.

The jaw members 3 are preferably outwardly urged as by a spring consisting of a main bow

member 4 and oppositely angled terminals 4' which bear against the inner faces of the jaw members 3 and sustain them against the outer edge 2' of the wall of the block 2. The jaw members 3 are shown as oppositely angled in their jaw portions and as each having a cusp-like extension 3' having transverse bearings 3².

In practice, the jaw members 3 are made flat and have an aperture 3^a through which the terminals 4' of the bow portion 4 of the spring are passed. The bow portion 4 of the spring surrounds the cusp-like extension 3' of this assembly as is best seen in Fig. 6. This assembly is mounted in the closer block 2.

The assembly as shown in Fig. 2 is retained in the outward opening of the cavity of the jaw closer by the block pin 5 which passes through the side walls of the head 1. This pin also retains the block 2 with a slight longitudinal sliding motion under the influence of the screw adjustment.

The inner walls of the head 1 are flat as at 1^a and the block 2 has corresponding flat bearing faces as at 2^a. The bottom of the jaw receiving cavity of the block 2 is preferably rounded to afford a transverse cylindric portion 2^b encasing the pivot of the combined jaw and spring assembly. A hub 2² on the head 1 receives a tubular body 6 constituting the shank of the handle as a whole.

The inner end of the block 2 is provided with a free bearing 7^b for the outer point 7^a of the adjusting screw 7 which lies within the handle body 6 and is threaded through the head 1 as at 7². At its outer end the screw 7 carries exposed at the end of the hollow handle body 6, a knurled head 7³ for rotating the screw and adjusting the jaw closer block 2 in the head 1. The jaw and spring being loosely held on the pin 5, any advance of the screw 7 will press the block 2 against the rear inclines of the angled jaw members 3 so that they will be tightened on any micrometer barrel or like part M on which they may have been positioned. The effect of the tightening is perpendicularly to the inner contacting jaw faces, and the instrument part is gripped effectively on its cylindrical diameter to give a sure resultant hold in spite of variations in diameter.

Handles in accordance with my invention obtain firm holds on micrometer parts without obstructing the view of scale adjustments as they are made or read. Conversely, my handles may be instantly released from such micrometers so that they are immediately available for other or further measurements.

What I therefore claim and desire to secure by Letters Patent is:

1. In a handle for inside micrometers or the like, a hollow head, a block slidably disposed in said head and having a jaw receiving cavity opening outwardly longitudinally of said head, a pair of oppositely disposed angular jaw members supported in said cavity and each including a pivot cusp, a jaw spring between the cusp pivots and disposed to maintain the jaws in resiliently sustained separated relation and contacting the edges of the hollow head, block retaining means transversely of the head and pivotally supporting the opposed jaw cusps, and an adjusting screw having threaded engagement with said head and having a bearing point axially beyond its threaded engagement and freely engaging the block.

2. In a handle for inside micrometers or the like, a hollow head, a block slidably disposed in said head and having a jaw receiving cavity opening outwardly longitudinally of said head, a pair of oppositely disposed angular jaw members, each including a pair of pivot cusps, a jaw spring including a central bow portion and opposite angled external extensions disposed to maintain the jaws in resiliently sustained separated relation, block retaining means transversely of the head and pivotally supporting the opposed jaw cusps and retentively engaging the central bow portion fixed to said head, and an adjusting screw having threaded engagement with said head and having a bearing point axially beyond its threaded engagement, and freely engaging the block.

3. A handle as in claim 2 in which the jaw cusp bearings are apertured and the bow of the jaw spring disposed through the apertures with its ends against the inner faces of the opposite jaws.

4. In a handle for inside micrometers or the like, a hollow head, a block slidably disposed in said head and having a jaw receiving cavity opening outwardly longitudinally of said head, a pair of oppositely disposed angular jaw members each including a transversely grooved pivot cusp, a jaw spring including a central bow portion and opposite angled external extensions disposed to

maintain the jaws in resiliently sustained separated relation, a pin transversely of the head and pivotally supporting the grooved jaw cusps and retentively engaging the bow spring portion, and an adjusting screw having threaded engagement with said head and having a bearing point axially beyond its threaded engagement and freely engaging the block.

5. In a handle for inside micrometers or the like, a hollow head having longitudinally outwardly disposed jaw bearing edges, a block slidably disposed in said head and having a jaw receiving cavity opening outwardly longitudinally of said head, a pair of angular oppositely disposed jaw members each including a transverse pivot bearing, a jaw spring including a central bow portion and opposite ends disposed to maintain the jaws in resiliently sustained relation against the head cavity edge, a transverse pin through the head and supporting the opposed jaw bearings and retentively disposed to the central bow portion of the jaw spring, and an adjusting screw axially contacting with the slidable head block.

6. In a handle for inside micrometers or the like, a head having flat faced forwardly opening walls, a flat faced jaw closer block slidably disposed in said head and having a jaw receiving cavity, a pair of flat faced angular oppositely disposed jaw members each having a transverse pivot bearing, a jaw spring disposed to maintain the jaws in resiliently sustained relation against the edges of the head opening, a transverse pin through the head and supporting the opposed jaw bearings and retentively disposed to the central bow portion of the jaw spring, a tubular handle body fixed to said head, an adjusting screw having an axially free bearing in said handle body adjacent its outer end, and an adjusting head for the screw rotatively exposed at the handle end, said screw having threaded engagement with said handle head and having a bearing point axially beyond the threaded engagement and said closer block having a bearing for the adjusting screw point.

JAMES E. HASTINGS.