Jan. 24, 1933. E. H. FISHER 1,895,156

LABORATORY CLAMP

Filed July 16, 1932

Fig. 1.

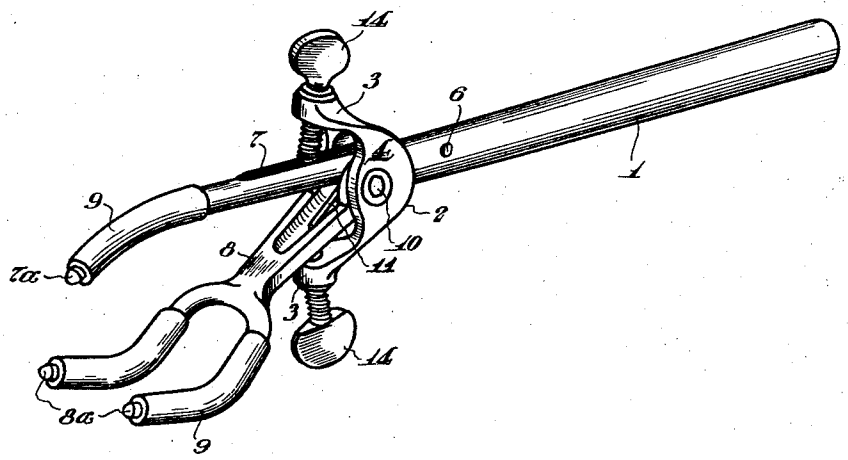
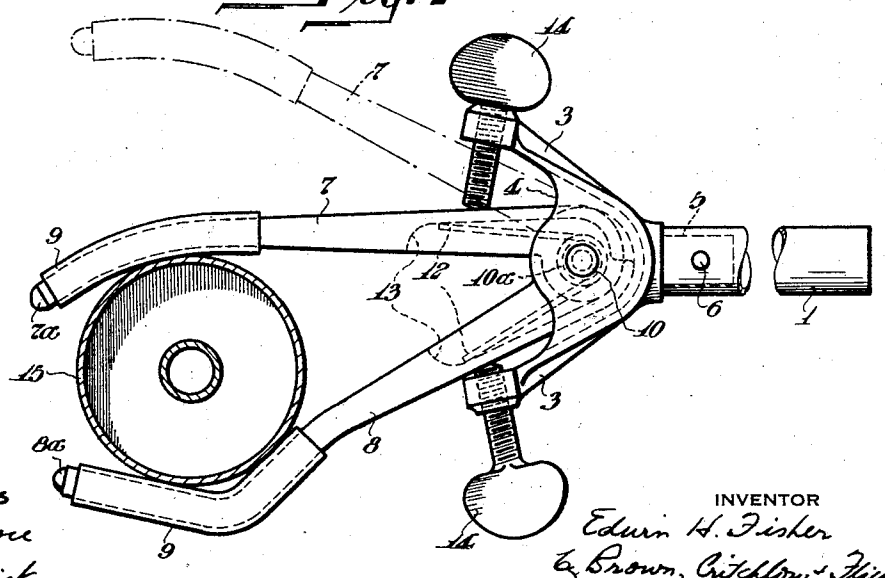


Fig. 2



WITNESSES

A. B. Wallace

F. B. Flick.

INVENTOR

Edwin H. Fisher

by Brown, Critchlow & Flick

his attorneys

Patented Jan. 24, 1933 1,895,156

UNITED STATES PATENT OFFICE

EDWIN H. FISHER, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO FISHER SCIENTIFIC COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA

LABORATORY CLAMP

Application filed July 16, 1932. Serial No. 622,836.

This invention relates to laboratory clamps for supporting condensers and other cylindrical objects, as well as articles of irregular shape.

In the setting up and use of laboratory apparatus, it is often desirable to move a piece of apparatus, such as a condenser, held in a condenser clamp, laterally of the clamp handle without shifting the position of the entire clamp on its support, e. g. a ring stand, for instance to position the article concentrically of another piece of apparatus. However, the laboratory condenser clamps previously available have been provided with a stationary and a movable jaw, so that such adjustment of the condenser has not been possible, and this construction has rendered difficult the concentric supporting of apparatus of different diameters.

It is among the objects of this invention to provide a laboratory clamp having jaws which are independently adjustable toward and away from each other and are capable of supporting a condenser, or the like, at selective points between the extreme outer positions of the jaws without changing the position of the clamp with respect to its support, which is positive in operation, easily and quickly adjustable, simple in construction, strong, durable, and of general utility for supporting a wide variety of apparatus varying both in size and shape.

The preferred embodiment of the invention is shown in the accompanying drawing as applied to an extension type clamp, Fig. 1 being a perspective view, and Fig. 2 an enlarged side view showing the jaws gripping a condenser of the Liebig type.

The clamp shown comprises a rigid extension arm 1 adapted to be supported in fixed position by a clamp holder of conventional form, not shown, adjustably positioned on a ring stand or similar support in the usual manner. If desired the arm may be provided with means for connecting it directly to ring stands, and the like, as will be understood by those skilled in the art. One end of arm 1 is provided with a bifurcated bracket 2 comprising legs 3 connected at the sides by integral webs 4. Preferably arm 1 is tubular, and the bracket is connected thereto by a stud 5, Fig. 2, integral with arms 3, which extend in V-fashion therefrom. As shown in Fig. 2, stud 5 is inserted into one end of the arm and is held in fixed position by a pin 6.

Bracket 2 carries a pair of jaws 7 and 8 movable independently toward and from each other. These jaws are of customary form, and are provided respectively with one and two curved gripping fingers 7*a* and 8*a*, over which lengths 9 of rubber tubing are slid. The jaws are carried on a pivot pin 10 mounted in webs 4, and extending through flanges 10*a* formed at the inner ends of the jaws. In order to permit the jaws to move independently, the flanges of one jaw fit within those of the other jaw, as shown in the drawing. As seen in the drawing, finger 7*a* is positioned between finger 8*a*, whereby slight pressure suffices to grip articles tightly, because the pressure of the single finger is exerted between, not opposite, the double fingers.

The jaws are constantly urged apart by a spring acting therebetween, for example by a spring 11 coiled around pivot pin 10 with its projecting ends 12 bearing in recesses 13 formed at the inner ends of the jaws. Means are provided also for adjusting the position of the jaws to vary their opening and to hold them in selected position. In the embodiment shown this takes the form of thumb screws 14 which move in threaded apertures formed in the outer ends of bracket legs 3. Spring 11 through its ends 12 continuously presses the arms against the inner ends of screws 14, which thus bear against the outer faces of the jaws.

It is important to note that as the ends of both jaws are pivoted in the bracket, the jaws are movable both relative to each other and to the arm. This constitutes an important advance over prior clamps of this type, in which one jaw is stationary, so that the axial position of a condenser or other object held in the clamp cannot be shifted by mere adjustment of the movable jaw. In the clamp provided by this invention either jaw may be adjusted independently of the other by turning the appropriate thumb screw in

or out. Thus either or both jaws may be moved to vary the jaw opening to accommodate objects of various sizes and shapes. But of greater importance is the ability to shift the axial position of the article held in the clamp, e. g. by turning one screw in or out, as the case may be, to bring its cooperating arm to the desired position, and then adjusting the other arm by means of its thumb screw. Thereby articles of different diameter may be concentrically supported. This may be seen from Fig. 2, in which a Liebig condenser 15 is held with jaw 8 in its outermost position. The condenser may be moved axially to any desired position between that shown in full lines and one corresponding to the outermost position of arm 7 by retracting the screw acting on arm 7 to permit spring 11 to move the jaw 5 to the dotted line position, arm 7 being then brought up by its screw to clamp the condenser. Accordingly it will be seen that with the clamp held in fixed position its jaw opening may be adjusted to shift the axial position of the condenser as need be between the outer positions of either jaw. This provides for a relatively wide range of shifting the condenser position laterally of the supporting arms, so that such adjustments may be made more easily than has been the case with prior clamps.

According to the provisions of the patent statutes, I have explained the principle and construction of my invention, and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A laboratory utility clamp comprising an arm, a pair of opposed jaws pivotally connected to one end of said arm, and means acting upon each of said jaws for selectively adjusting the position of each of said jaws relative to the other and to said arm.

2. A laboratory utility clamp comprising an arm, a pair of opposed article-gripping jaws pivotally connected to one end of said arm for independent movement, a spring disposed between the jaws to urge them apart, and a pair of adjusting screws connected to said arm and acting one on each of said jaws for independently moving the jaws with respect to one another and to said arm.

3. A laboratory utility clamp comprising a rigid arm, a bifurcated bracket connected to one end of said arm, a pair of article-gripping jaws pivotally connected at one end between the legs of said bracket for independent movement, a spring disposed between said jaws to constantly urge them apart, and a thumb screw disposed in each leg of said bracket with its inner end bearing against the outer face of the adjacent jaw for independent adjustment of the jaws with respect to the other jaw and said arm.

4. A laboratory utility clamp comprising a tubular arm, a bifurcated bracket provided with a base projection integral with the bracket legs and connected to one end of said arm, a pair of article-gripping jaws pivotally connected at one end between the legs of said bracket, a spring disposed between said jaws adjacent their pivoted ends constantly urging the jaws apart, and a thumb screw disposed in each leg of said bracket with its inner end bearing against the outer face of the adjacent jaw, whereby the jaws are independently adjustable with respect to each other and the arm and the central axis of the jaw opening is adjustable laterally of the longitudinal axis of the arm between the outermost positions of the jaws.

In testimony whereof, I sign my name.

EDWIN H. FISHER.