Dec. 26, 1944. B. A. BOGGS 2,365,935

CLAMP

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FIG 1

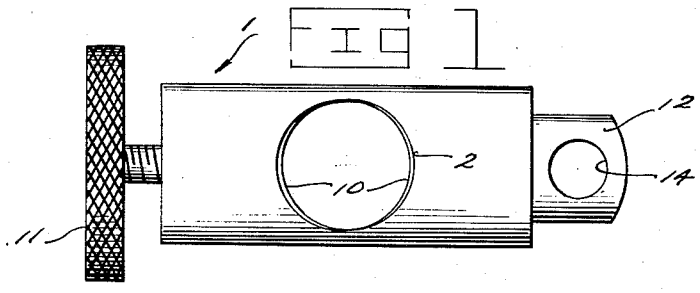


FIG 2

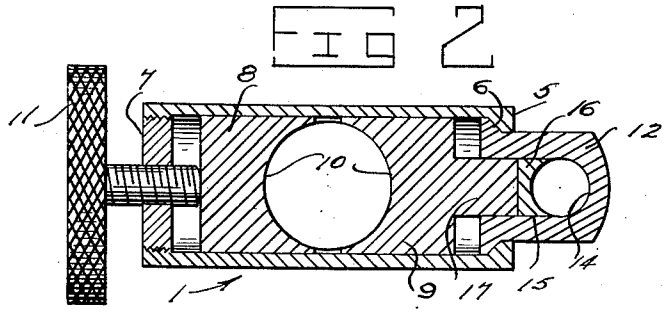
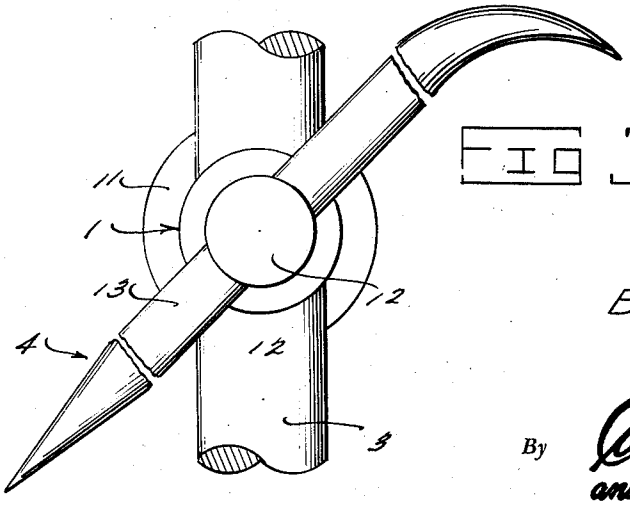


FIG 3



Inventor

BERYL A. BOGGS

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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Fig 4

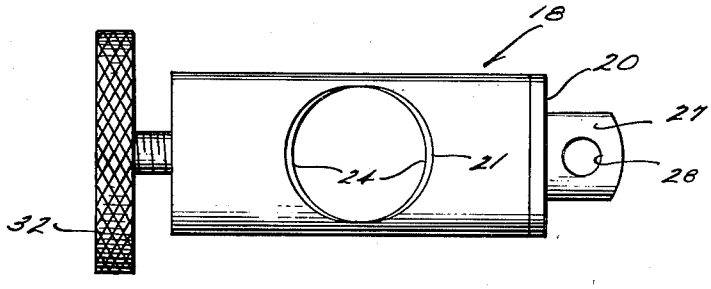


Fig 5

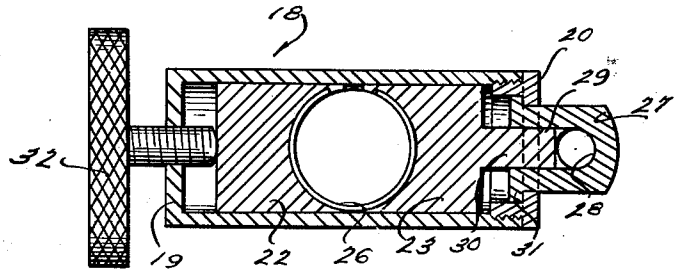


Fig 7

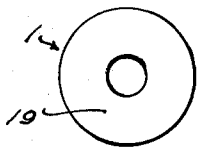


Fig 6

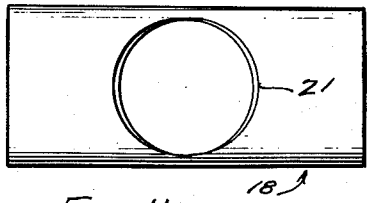


Fig 8



Fig 9

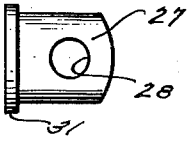


Fig 10

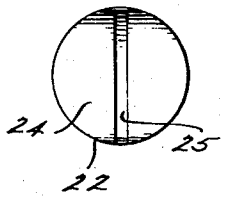
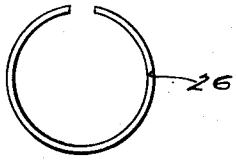


Fig 11



Inventor

BERYL A BOGGS

By Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

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UNITED STATES PATENT OFFICE

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CLAMP

Beryl A. Boggs, Portsmouth, Va.

Application January 21, 1944, Serial No. 519,234

3 Claims. (Cl. 248—229)

The present invention relates to new and useful improvements in clamps, particularly for surface gauges, although it will be understood, of course, that the device may be used for any other purpose for which it may be found adapted.

The primary object of the invention is to provide, in a manner as hereinafter set forth, a clamp of the character described comprising a novel construction and arrangement, whereby two or more members, such, for example, as the spindle and the scriber of a surface gauge may be expeditiously and firmly secured together in adjusted position relative to each other through the medium of a single thumb screw.

Another very important object of the invention is to provide a clamp of the aforementioned character which embodies a unique combination and arrangement of jaws for gripping the members.

Other objects of the invention are to provide a clamp of the character set forth which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact and which may be manufactured at low cost.

All of the foregoing, and still further objects and advantages of the invention, will become apparent from a study of the following specification, taken in connection with the accompanying drawings, wherein like characters of reference designate corresponding parts throughout the several views, and wherein:

Figure 1 is a plan view of a clamp constructed in accordance with the present invention.

Figure 2 is a view in horizontal section through the device.

Figure 3 is an end elevational view, showing the clamp in use.

Figure 4 is a plan view of another form of the device.

Figure 5 is a view in horizontal section through the modification.

Figure 6 is a detail view in plan of the tubular casing.

Figure 7 is a detail view in end elevation of the casing.

Figure 8 is a detail view in side elevation of the removable plug which is threadedly mounted in one end portion of the casing.

Figure 9 is a detail view of the scriber holder of the modification.

Figure 10 is a face view of one of the jaws.

Figure 11 is a detail view in side elevation of the jaw-opening spring.

Referring now to the drawings in detail, and to Figures 1, 2 and 3 thereof in particular, it will be seen that reference character 1 designates a tubular casing of suitable dimensions and material. The casing 1 has formed therein at an intermediate point diametrically opposite openings 2. The openings 2 are slightly elongated longitudinally. In the use of the device which has been illustrated, the openings 2 accommodate the spindle 3 of a gauge which is designated generally by reference character 4.

In one end portion, the tubular casing 1 is provided with an inturned, integral flange 5 which is formed to provide a substantially conical seat 6. Threadedly mounted in the other end portion of the casing 1 is a plug 7.

Opposed complemental jaws 8 and 9 are slidably mounted in the casing 1 for the reception of the spindle 3 therebetween. The jaws 8 and 9 comprise substantially semi-circular faces 10 for engagement with the spindle 3. A thumb screw 11 is threadedly mounted in the plug 7 and engaged with the jaw 8 for pressing same against the spindle 3.

Mounted in one end portion of the casing 1 and projecting longitudinally therefrom is a clamping member 12 for the scriber 13 of the instrument 4. The member 12 has formed therein a transverse opening 14 for the reception of the scriber 13. Extending longitudinally into the member 12 from the inner end thereof is a bore 15 which communicates with the opening 14. A jaw 16 is slidably mounted in the bore 15 for coaction with the member 12 for frictionally securing the scriber 13 in adjusted position. Projecting longitudinally from the jaw 9 is a lug or the like 17 which is slidable in the bore 15 and engaged with the jaw 16 for pressing said jaw 16 against the scriber 13.

It is thought that the manner in which the device is used will be readily apparent from a consideration of the foregoing. Briefly, the spindle 3 is inserted through the longitudinally elongated openings 2, said spindle passing between the jaws 8 and 9, and the scriber 13 is inserted in the opening 14 of the member 12. When the desired adjustments have been made, the thumb screw 11 is tightened. When this occurs, the spindle 3 is firmly clamped between the jaws 8 and 9 in the elongated openings 2 and the scriber 13 is secured in the member 12 by the jaw 16. That is, the thumb screw 11 presses the jaw 8 against the spindle 3 which, in turn, is pressed against the jaw 9. Then, the element 17 forces the jaw 16 against the scriber 13 which is pressed against the outer portion of the wall of the open-

ing 14. Of course, to adjust or remove the members 3 and 13, it is only necessary to back the thumb screw 11 off slightly.

In the embodiment illustrated in Figures 4 to 11, inclusive, of the drawings, reference character 18 designates generally a tubular casing of suitable dimensions and material. The casing 18 is closed at one end, as at 19. Threadedly mounted in the other end portion of the casing 18 is a plug 20. Diametrically opposite openings 21 are provided at an intermediate point in the casing 18. The openings 21 are slightly elongated longitudinally. The openings 21 are for the reception of the spindle of a surface gauge or any other member to be secured.

Opposed coacting jaws 22 and 23 are slidably mounted in the tubular casing 18. The jaws 22 and 23 are adapted to receive therebetween and frictionally grip the aforementioned spindle or other member. The jaws 22 and 23 include substantially semi-circular faces 24 having grooves 25 therein. The grooves 25 are for the reception of a substantially C-shaped spring 26 which yieldingly urges the jaws 22 and 23 open.

Slidably mounted in the cap 20 and projecting longitudinally therethrough is a clamping member 27 for the scriber of a surface gauge or for any other member to be held. The member 27 has formed therein a transverse opening 28 for the reception of the aforementioned scriber. Extending longitudinally into the member 27 from the inner end thereof is a bore 29 which communicates with the opening 28. The bore 29 accommodates a jaw 30 on the jaw 23 for frictionally clamping the scriber in the member 27. The member 27 is provided, on its inner end, with a stop flange or shoulder 31 which is engageable in the plug 20.

Threadedly mounted in the closed end 19 of the tubular casing 18 is a thumb screw 32. The thumb screw 32 is engaged with the jaw 22 for pressing said jaw 22 against the spindle or other member to be held.

In use, when the thumb screw 32 is backed off, the jaws 22 and 23 are spread or opened by the spring 26. This facilitates insertion of the spindle in the openings 21, said spindle passing between the jaws 22 and 23, said spindle also passing through the spring 26. The scriber is then inserted in the opening 28 and the desired adjustments are made. The thumb screw 32 is then tightened for clamping the spindle between the jaws 22 and 23 and for clamping the scriber in the member 27 through the medium of the jaw 30.

It is believed that the many advantages of a clamp constructed in accordance with the present invention will be readily understood, and although preferred embodiments of the device are as illustrated and described, it is to be understood that other modifications and changes in the details of construction may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:

1. A clamp of the character described comprising an elongated casing having openings therein for the passage of an article to be held, a pair of jaws in the casing for receiving the article therebetween and engageable therewith, means for closing the jaws on the article, a member mounted in the casing and projecting therefrom, said member having an opening therein for the passage of another article to be held, said member further having a bore therein communicating with the casing and with the second-named opening, and means in the bore operable by one of the jaws for securing the second-named article in the opening of said member.

2. A clamp of the character described comprising a tubular casing, a clamping member mounted in one end portion of the casing and projecting longitudinally therefrom, the casing having aligned openings therein at an intermediate point for the reception of an article to be held, opposed coacting jaws in the casing for receiving the article therebetween and for frictionally gripping same, means for closing the jaws on the article, the member having an opening therein for the passage of another article to be held, said member further having a bore formed longitudinally therein communicating with the casing and with the second-named opening, a jaw slidable in the bore and engageable with the second-named article for retaining same in the member, and a lug on one of the first-named jaws operable in the bore and engageable with the second-named jaw for engaging same with the second-named article.

3. A clamp of the character described comprising a tubular casing, a plug threadedly mounted in one end portion of the casing, said casing having aligned openings therein at an intermediate point for the passage of an article to be held, opposed coacting jaws slidably mounted in the casing for receiving and gripping the article therebetween, said jaws including opposed faces having grooves therein, an opening spring for the jaws engaged in the grooves, a thumb screw threadedly mounted in the other end portion of the casing for closing the jaws, a clamping member slidably mounted in the plug and projecting longitudinally therefrom, said member having an opening therein for the passage of another article to be held and further having a longitudinal bore therein communicating with the casing and with the second-named opening, and a jaw on one of the first-named jaws slidable in the bore and engageable with the second-named article in the second-named opening for securing said second-named article in the member.

BERYL A. BOGGS.