Dec. 15, 1942. S. BLUM 2,305,376

COMPOUND TOOL

Filed May 5, 1941

FIG. 1.

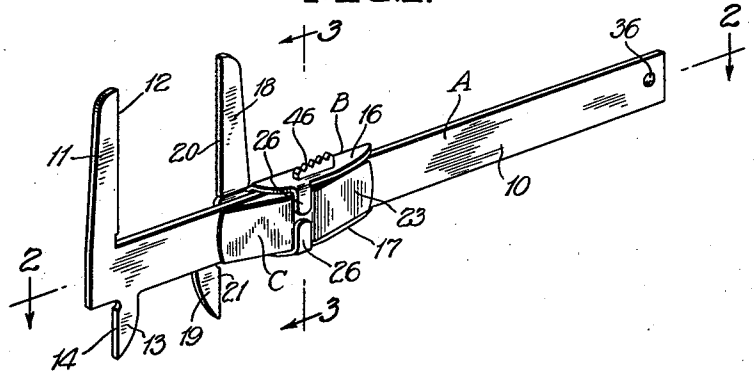


FIG. 2.

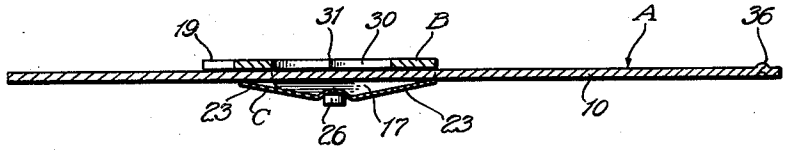


FIG. 3.

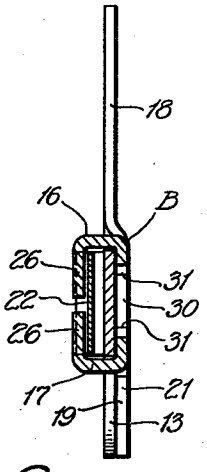


FIG. 4.

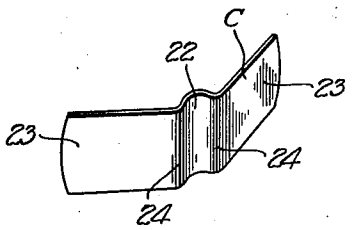


FIG. 5.

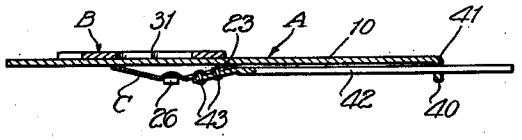
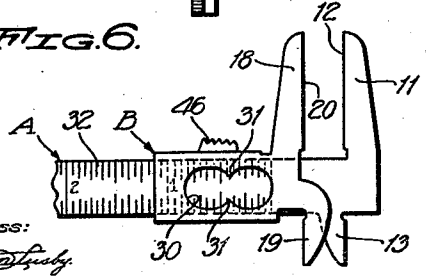


FIG. 6.



WITNESS:

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UNITED STATES PATENT OFFICE

2,305,376

COMPOUND TOOL

Sidney Blum, Brooklyn, N. Y.

Application May 5, 1941, Serial No. 391,901

1 Claim. (Cl. 33—143)

This invention relates to new and useful improvements in tools, and more particularly, it pertains to a tool of the caliper type.

It is one object of the invention to provide a pair of calipers of the compound type, that is, calipers which will be capable of determining both inside and outside dimensions.

It is a further object of the invention to provide a tool of the aforementioned character which will be cheap of manufacture and simple in assembly.

A still further object of the invention resides in a novel construction whereby the number of parts is materially reduced over all such devices with which I am familiar.

Other objects of the invention will appear as the nature thereof is better understood and reference will now be had to the accompanying drawing and the following specification setting forth a description thereof.

In the drawing:

Figure 1 is a perspective view of a device constructed in accordance with the present invention;

Figure 2 is a longitudinal sectional view taken substantially on the line 2—2 of Figure 1;

Figure 3 is a transverse sectional view taken substantially on the line 3—3 of Figure 1;

Figure 4 is a detail perspective view of the spring employed;

Figure 5 is a longitudinal sectional view illustrating a slightly modified form of the invention, and

Figure 6 is a view in elevation, partly broken away illustrating the opposite side of the tool to that illustrated in Figure 1.

Referring to the drawing by reference character, a tool constructed in accordance with the present invention comprises two members A and B. The member A comprises a shank portion 10, upon one end of which there is an extension 11 projecting laterally from one of the side edges of the shank 10. Projecting laterally in the opposite direction to the extension 12 and from the opposite edge of the shank 10 there is an extension 13.

The extension 11 has a straight edge 12, while the extension 13 has a straight edge 14. By reference to Figure 1 it will be noted that these straight edges are oppositely disposed, the purpose of which will be hereinafter specifically described.

The member B is in the form of a slide which is adapted for sliding movement upon the shank 10. This slide member B is substantially channel-shaped in cross section having side flanges 16 and 17 which embrace the side edges of the shank 10 of the member A. Projecting from one side of the member B there is an extension 18, and projecting laterally from the opposite side and in the opposite direction there is an extension 19. The extension 18 has a straight edge 20 which is oppositely disposed with respect to the straight edge 12 of the extension 11. The extension 19 has a straight edge 21 which is oppositely disposed with respect to the straight edge 14 of the extension 13.

From the foregoing it will be apparent that the two extensions 11 and 18 with their respective straight edges 12 and 20 provide what is commonly termed an outside calipers while the extensions 13 and 19 with their respective straight edges 14 and 21 provide what is commonly termed an inside calipers.

In order that the instrument may be employed as both outside and inside calipers, the member B is slidably mounted upon the shank 10 of the member A and means is provided for adjustably holding the slide member B in the various positions to which it may be adjusted along the shank of the member A.

The means for retaining the slide member B in its adjusted position consists of a spring C. This spring C is bent to provide a recessed portion 22 intermediate of its ends and the wing extensions 23 of the spring are bent along the lines 24 to provide a device which is substantially V-shaped.

The spring C is of a width substantially equal to the width of the shank of the member A and is adapted to fit between the side walls 16 and 17 of the slide member B.

The spring C is retained in position in the slide member B and held under tension therein by lugs or the like 26. These lugs 26 are integral extensions of the side flanges 16 and 17 of the slide member B and are adapted to be bent over the spring C to position in the recessed portion 22 thereof.

By this construction, it will be obvious that the lugs 26 perform two functions, namely, first, they retain the spring C in position and retain the same under such tension as may be required to produce sufficient friction to permit of relative sliding movement between the member A and the slide B and yet, retain the slide B in adjusted position upon the shank 10 of the member A.

The bottom wall of the slide B is preferably cut out as indicated by the reference numeral 30. The opposite side edges of the cut out por-

tion 30 may be provided with pointers 31, of which there are preferably two, and these pointers 31 coincide with a scale or calibrations upon the face 32 of the shank 10 of the member A.

By this construction it will be apparent that as the slide B is moved along the shank A to take either an inside or outside caliper reading the dimension of the measurement being readily ascertained by reading the position of the pointers 31 relative to the scale or calibrations 32 upon the shank 10 of the member A.

In order to prevent accidental displacement of the slide B relatively to the shank 10 of the member A, the shank 10 is provided with a slight indentation or the like 36, upon that end opposite to the extensions 11 and 13.

In Figure 5 there is a slightly modified form of the invention in which the free end of the shank 10 of the member A is provided with a right angular extension 40, which in turn is perforated as at 41 to receive a rod 42. At its inner end rod 42 may be attached by rivets or other suitable means 43 to one of the wing extensions 23 of the spring C.

This construction provides a depth gauge in addition to outside and inside calipers.

In both forms of the invention, a thumb piece 46 is provided on the outer face of one of the side flanges of the guide member B in order that the movement of the slide member B along the shank 10 may be easily accomplished.

From the foregoing it will be apparent that the present invention provides a tool of the aforementioned character in which the objects have been accomplished, and while the invention has been illustrated in its preferred form, it is to be understood that it is not to be limited to the specific construction herein illustrated, and that it might be carried out in other forms without departing from the spirit thereof.

Having thus described the invention, what I claim is:

In an instrument of the type described, a shank, a slide member slidably mounted upon the shank member, side flanges projecting from the slide member for embracing engagement with the shank member, an inwardly turned integral lug projecting from each of the side flanges of the slide member and overlying one face of the shank member in spaced relation thereto, and a spring interposed between said inwardly turned integral lugs and the slide member with its free ends in engagement with the shank member to retain the slide member against free movement relatively to the shank member.

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