Dec. 30, 1924. 1,520,702

J. E. DURHAM, JR

METHOD OF MAKING THUMBSCREWS AND CAPS

Filed Feb. 19, 1924

Fig. 1.

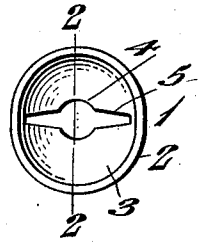


Fig. 2.

ON LINE 2-2 FIG. 1.

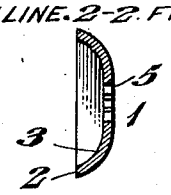


Fig. 3.

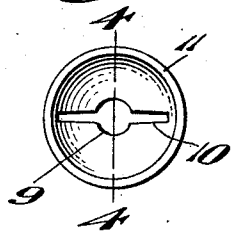


Fig. 4.

ON LINE 4-4 FIG. 3.

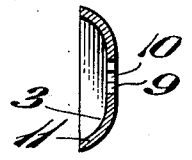


Fig. 5.

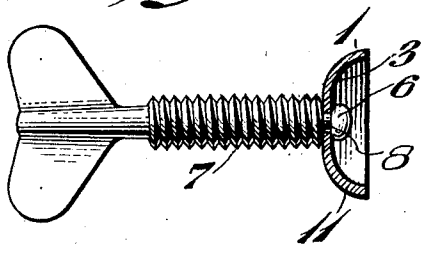
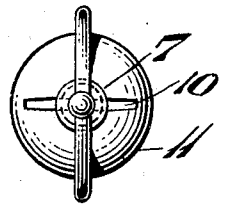


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH EDWARD DURHAM, JR., OF ALLENTOWN, PENNSYLVANIA, ASSIGNOR TO BONNEY FORGE & TOOL WORKS, OF ALLENTOWN, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

METHOD OF MAKING THUMBSCREWS AND CAPS.

Application filed February 19, 1924. Serial No. 693,912.

To all whom it may concern:

Be it known that I, JOSEPH E. DURHAM, Jr., a citizen of the United States, residing at Allentown, in the county of Lehigh and State of Pennsylvania, have invented a certain new and useful Method of Making Thumbscrews and Caps, of which the following is a specification.

This invention generally stated relates to a thumb screw and has more especial relation to a combined cap and swivel therefor.

The invention consists of the novel construction hereinafter described and finally claimed.

The nature, characteristic features and scope of the invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, and in which:

Fig. 1, is a face view of a cap embodying the invention, showing the position of parts to receive a thumb-screw ball.

Fig. 2, is a section taken upon line 2—2 of Fig. 1.

Fig. 3, is a view similar to Fig. 1, with the cap parts as positioned after insertion of thumb-screw ball.

Fig. 4, is a view taken upon the line 4—4 of Fig. 3.

Fig. 5, is a view of a thumb-screw embodying the invention, and

Fig. 6, is an end view of Fig. 5.

For the purpose of illustrating my invention I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

Referring to the drawings:

In carrying out my invention I first produce by any suitable pressing, stamping or punching means, a cap 1, which is of a slightly oval shape, as to its periphery 2, and has a concave surface 3 in which is formed the central hole 4, and the oppositely or diametrically located slots 5 whose walls converge outwardly as seen in Figure 1.

The hole 4 is sufficiently spread as seen in Figure 1, so that the rounded ball end 6 of the thumb screw 7 can be inserted therethrough, said ball being connected to the screw 7 by the neck 8. After the insertion of the ball into the hole 4, the cap 1 is then compressed by any suitable mechanism, so that the diameter of the hole 4 is reduced and the walls of the slots are brought closer together, the hole being now approximately a true circle, as seen at 9 in Figure 3, and the slots appearing as seen at 10 in said figure with their walls nearly parallel, the cap in its compressed condition after having been assembled with respect to the thumb screw being indicated as 11. In the completed device as seen in Figures 5 and 6, the slot of the cap is closed upon the neck 8 of the ball and thus there is formed a unitary structure, wherein the cap is swivelled upon the screw neck and acts to protect the screw from marring material upon which it is clamped, said cap acting as a swivel. The cap is readily formed up out of thin sheet metal by any suitable pressing or stamping operation, and a unitary structure is produced by my novel method comprising the cap and swivel which is inexpensive to assemble, practical in its application and can be made in large quantities at a minimum of expense, and will be durable and efficient when in use. The above described device is applicable for numerous uses particularly where it is desired to clamp together parts to highly polished wood. By the above described arrangement of parts the cap prevents the screw from coming in contact with the wood surface to mar the same because the cap rests upon the wood surface and acts as a swivel connection for the moving screw.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is;

1. The method of making a thumb screw and cap, which consists in forming a cap having an enlarged hole and oppositely located slots, whose walls converge outwardly, next inserting the rounded ball end of a thumb screw having a neck in juxtaposi-

tion to said ball through said hole, whereby said cap is swiveled on said neck, and forms a unitary structure therewith.

2. The method of making a thumb screw and a cap which consists in forming a concaved cap having an oval periphery and an enlarged hole and oppositely extending slots whose walls converge outwardly, next inserting the rounded ball end of a thumb screw having a neck in juxtaposition to said ball through said cap and lastly pressing said periphery into substantially the contour of a circle and closing said hole and slots around said neck whereby said cap is swiveled on said neck, and forms a unitary structure therewith.

JOSEPH EDWARD DURHAM, JR.

Witnesses:

JESSIE M. STRAUB,

OLIVER W. FREY.