W. A. HOUCK.

COP MOUNTING.

APPLICATION FILED NOV. 7, 1919.

1,353,960. Patented Sept. 28, 1920.

Fig. 1.

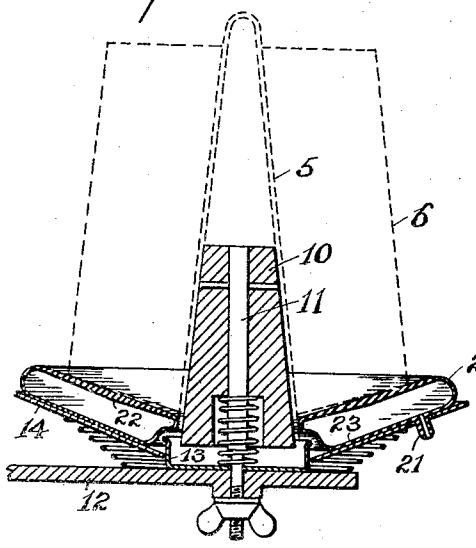


Fig. 2.

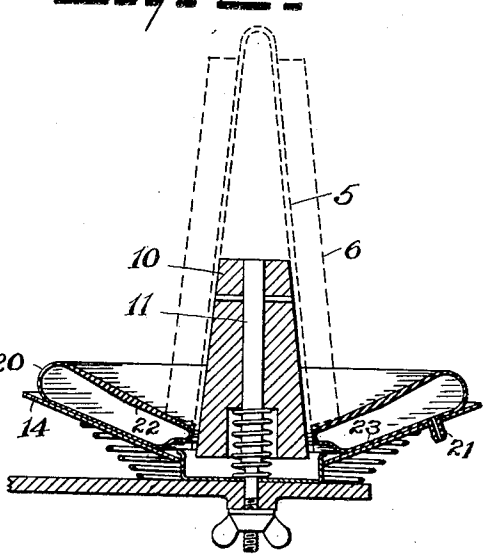


Fig. 3.

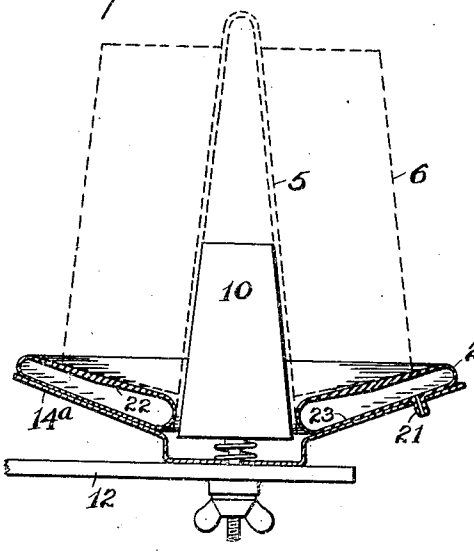
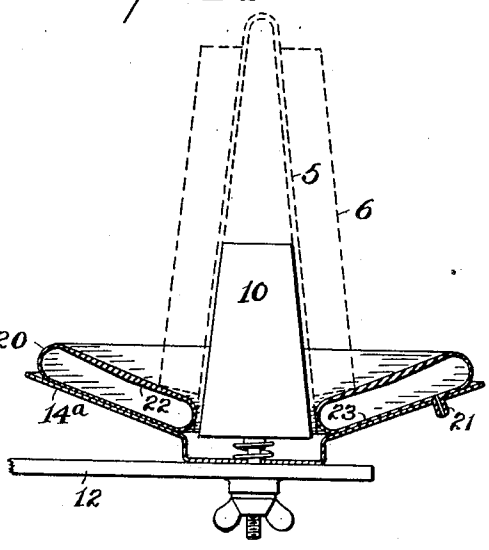


Fig. 4.



William A. Houck, INVENTOR

by W. G. & R. Mitchell

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM A. HOUCK, OF READING, PENNSYLVANIA.

COP-MOUNTING.

1,353,960. Specification of Letters Patent. Patented Sept. 28, 1920.

Application filed November 7, 1919. Serial No. 336,304.

To all whom it may concern:

Be it known that I, WILLIAM A. HOUCK, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Cop-Mountings, of which the following is a specification.

My invention relates to cop mountings for knitting machines or the like, and more particularly to thread controlling means therefor of the type set forth in Patent No. 1,169,539 issued to me Jan. 25, 1916; the objects of the invention being to provide an improved thread-controlling contact for the cop quill and for the cop edge as fully set forth in connection with the accompanying drawing, the novel features being specifically pointed out in the claims.

Figure 1 is a sectional elevation of a cop mounting embodying my present improvement in a construction generally similar to that of my prior patent referred to, showing a position of the thread controlling means relative to an approximately full cop indicated in dotted lines.

Fig. 2 is a similar view showing a different position corresponding with a nearly emptied cop as indicated.

Figs. 3 and 4 are similar views corresponding respectively to Figs. 1 and 2 but showing a fixed support for the facing.

The inner tube or quill 5 upon which the cop 6 is wound, fits upon a conical sleeve 10 on a spindle 11, which latter is shown adjustably secured to the base plate 12 in connection with a cylindrical cup 13 and a spring-pressed thread-supporting disk 14, as in my prior patent referred to. The purpose of this construction is to provide support for any sagging of the thread and to prevent the same from getting under the cop and interfering with proper operation.

My present invention provides improved means for effectively accomplishing this same purpose. To this end I employ a thread-supporting means comprising a resilient contact facing 20, forming a directly-yielding seating for the outer edge of the base of the cop which is adapted to follow-up said edge as the diameter of the latter is reduced by withdrawal of the thread; such follow-up action being independent of any bodily movement of the thread-supporting disk 14 shown in Figs. 1 and 2. This contact facing 20 is preferably a hollow rubber ring, of normally flat cross-section and having means 21 for inflating same, as indicated; the upper contact wall 22 thereof being shown of varying thickness so as to maintain an approximately flat surface. The inner diameter of this ring 20 is made lightly smaller than the bottom of the quill 5 so as to at all times snugly inclose the latter and in any case prevent sagging thread from getting under it; while the close contact of the cop edge, at all diameters, with the resilient facing 20, normally prevents such thread from getting under the cop at all.

The base wall 23 of this hollow facing ring 20, may be secured to the disk 14 by cement or otherwise so as to help maintain the approximately flat cross-sectional form indicated; and said disk and ring are preferably made of the dished form indicated as being helpful in insuring contact with the cop edge only at all diameters of the latter. The employment of this directly resilient facing ring in connection with a movable spring-pressed supporting disk 14 as indicated in Figs. 1 and 2, provided for cooperating follow-up action; but a fixed supporting disk as indicated at 14^a Figs. 4 and 5 may be used with very satisfactory results, and the specifically described construction may be otherwise modified within the invention as defined in the claims.

What I claim is:—

1. In combination with a base plate, a cop supporting device comprising a rigid cop-carrying portion and a concentric disk having a resilient cop-edge contacting facing.

2. In combination with a base plate, a cop supporting device comprising a rigid cop-carrying portion and a concentric annulus having a hollow resilient facing ring adapted to maintain contact with the receding cop-edge.

3. In combination with a base plate, a cop supporting device comprising a rigid cop-carrying portion and a concentric dished disk having a hollow resilient facing ring of normally flat cross-section.

4. In combination with a base plate, a cop

supporting device comprising a rigid cop-carrying portion and a concentric annulus having a hollow resilient facing ring adapted to snugly encircle the cop quill and to maintain contact with the receding cop edge.

5. In combination with a base plate, a fixed cop support, a spring-pressed thread-supporting disk movable thereon, and a cop-edge contacting facing on said disk adapted to snugly encircle the cop quill.

In testimony whereof I affix my signature.

WILLIAM A. HOUCK.