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W. H. MAXSON

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METHOD OF MAKING WARP BOBBINS

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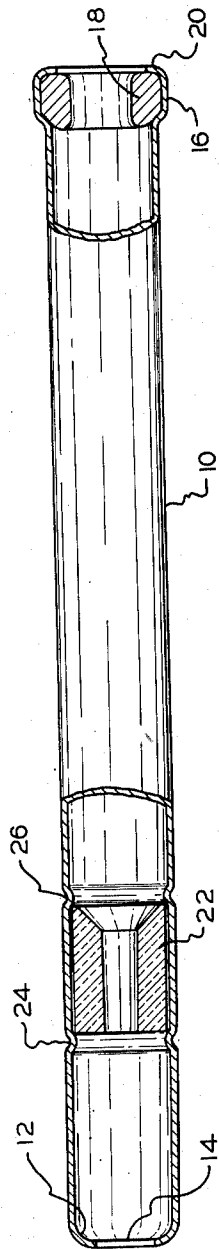


FIG. I-

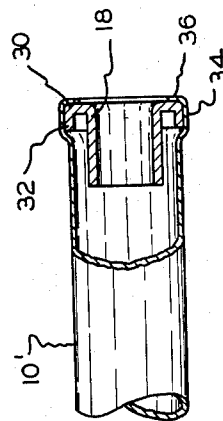


FIG. II-

Inventor

WILLIAM H. MAXSON

By *Bearman & Pate*
Attorneys

UNITED STATES PATENT OFFICE

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METHOD OF MAKING WARP BOBBINS

William H. Maxsen, Jackson, Mich.

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1 Claim. (Cl. 29—170)

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The present invention relates to warp bobbins and the method of making the same.

While metal bobbins with inserted bearings have heretofore been proposed in the patented art, the all wooden bobbin has continued to be used by the textile industry substantially to the exclusion of any other form. This has been the case notwithstanding the tendency for the wooden bobbin to warp, the difficulty of obtaining the proper wood, and the necessity of the bobbin running concentric upon its spindle.

According to the present invention, the bobbin is fabricated from a tubing, preferably aluminum, shaped to the desired contour, spaced bearings are then inserted and secured in position and one or more of the bearings may be reamed on the taper after assembly to provide a very fine driving fit with the spindle.

The object of the present invention is to provide an improved method of manufacturing warp bobbins wherein the resulting article of manufacture is characterized by the concentric relationship between the outer surface upon which the warp is wound and the inserted, preferably reamed in position, bearing spindles.

In the drawings,

Fig. I is a vertical cross-sectional view of a bobbin constructed according to the present invention, and

Fig. II is a fragmentary vertical section of one end of the bobbin showing a modified form of the inserted bearing.

As shown in Fig. I, the warp bobbin 10 is preferably fabricated from a cut length of metallic tubing, as for example, aluminum tubing. The rounded nose 12 is formed at one end of the tubing leaving an opening 14. At the opposite end, the tubing is first flared out at 16 to receive the inserted bearing or bushing 18 and is thereafter staked at 20 to rigidly hold the bearing 18 in position.

Prior to the insertion of the bearing 18, the bearing or bushing 22 is inserted within the tubing with a relatively slight friction fit and forced to the position shown in Fig. I where it is held in position by the rolled-in grooves 24 and 26 at opposite ends of the bearing 22.

With the pre-formed bearings 18 and 22 rigidly

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supported in spaced relation within the tubing, one or both of the bearings may be reamed on the taper to assure a fine driving fit on the spindle yet at the same time will enable the operator to readily remove the bobbin without sticking or binding.

In Fig. II is shown a slightly modified form of the invention in which the bearing 18 of Fig. I is shown in the form of a stamping 28, which may be fabricated from brass or other suitable sheets, with a radial web 30 and an axial flange 32. The bearing 28 is held in the flared portion 34 of the tubing 10' by turning over the edge 36 by a rolling or staking operation.

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

The method of making a warp bobbin comprising steps of cutting thin wall metal tubing to length to provide a blank, said blank being of uniform cross-sectional size and configuration from end to end, nosing in one end of said blank while flaring the opposite end, inserting a pre-formed bearing from the flared end of said blank to a point adjacent said nosed in end with said bearing having a sliding fit with the interior wall of the blank, inserting a second pre-formed bearing into said flared end to position the same within the confines thereof, and deforming the exterior surface of said blank at the ends of said bearings to hold the same in position within said blank and reaming at least one of said bearings to provide a fine driving fit to complete the bobbin assembly.

WILLIAM H. MAXSON.

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