

S. W. WARDWELL.  
 FILLING CARRIER OR BOBBIN.  
 APPLICATION FILED APR. 6, 1908.

919,502.

Patented Apr. 27, 1909.

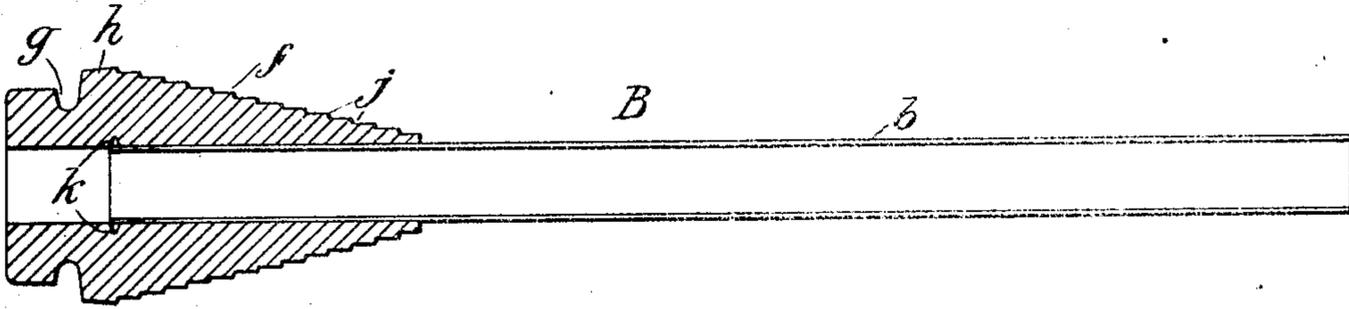


Fig. 1.

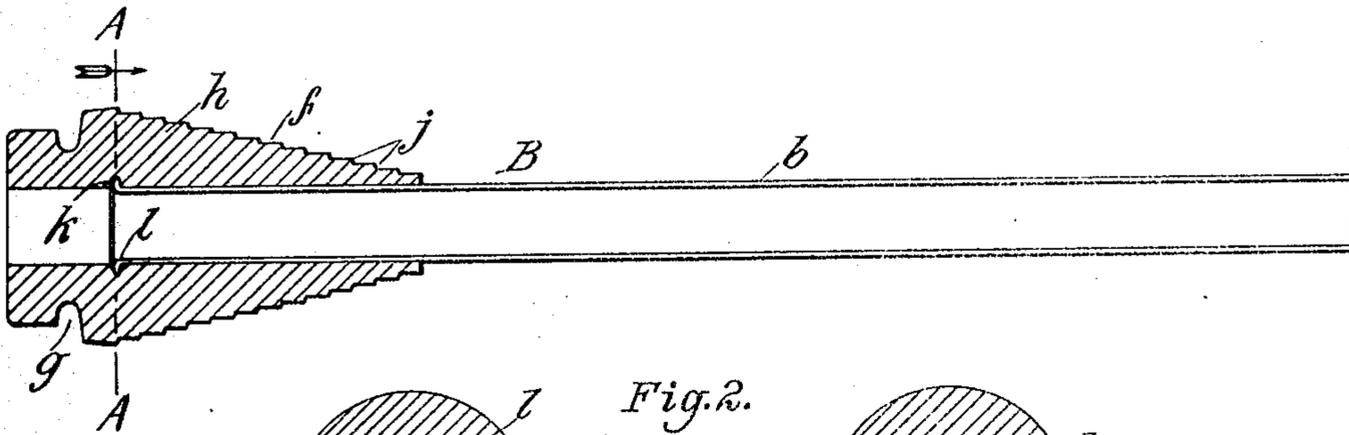


Fig. 2.

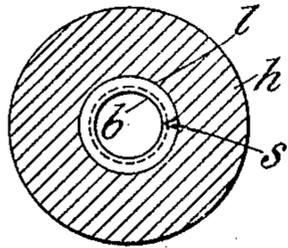


Fig. 4.

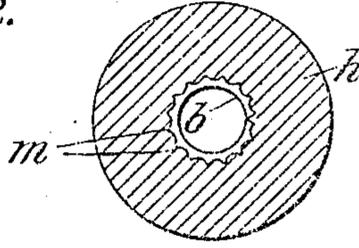


Fig. 5.

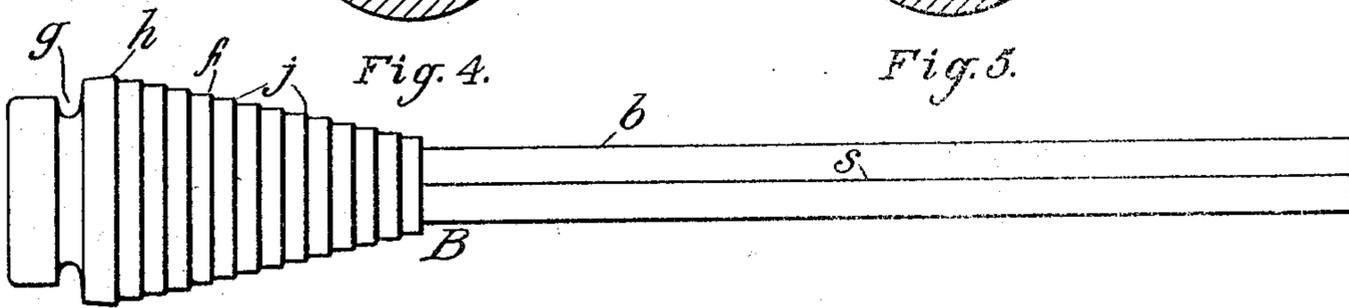


Fig. 3.

WITNESSES  
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# UNITED STATES PATENT OFFICE.

SIMON W. WARDWELL, OF PROVIDENCE, RHODE ISLAND.

## FILLING-CARRIER OR BOBBIN.

No. 919,502.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed April 6, 1908. Serial No. 425,568.

*To all whom it may concern:*

Be it known that I, SIMON W. WARDWELL, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Filling-Carriers or Bobbins, of which the following is a specification.

My invention relates to improvements in filling-carriers or bobbins for loom shuttles and the object of my improvement is to provide a bobbin that shall be more efficient and durable and proof against damage or destruction from hard usage.

The invention is fully described in the following specification, illustrated by the accompanying drawings, in which:—

Figure 1 is a longitudinal sectional view showing the method of assembling the two parts of the bobbin: Fig. 2, a similar view showing the method of fastening the two parts together: Fig. 3, a view of the finished bobbin: Figs. 4 and 5, cross sectional views on the line A—A of Fig. 2, showing details of construction.

My invention consists essentially of a bobbin B comprising a metal barrel or tube *b* on which is fastened a wooden or fiber butt or head *h*. The barrel *b* may be either a seamless tube; or, as shown in Fig. 3, a tube having a close but unjoined seam *s*. The head *h* is preferably of wood, or it might be made of fiber or other material capable of being turned up in the conventional form, with a tapered face *f* and an annular groove *g* at the butt end. The face *f* is shown provided with annular steps *j* or it might be grooved with annular serrations to prevent the yarn from slipping when the first courses of the yarn are wound on the conical surface of the head. The groove *g* is designed to receive the holding device of the shuttle, usually a spring jaw or clip; but it will be understood that the particular form of head shown and described is not essential to the present invention.

The head *h* is bored axially to fit the tube or barrel *b*, and I have devised an ingenious and novel method of securing the head on the barrel. As shown in Fig. 1, an annular groove *k* is turned in the bore of the head, preferably a short distance from the base end of the head where the latter is of greatest diameter, so that the head will not be weakened. The tube is forced into the head as far as the groove *k* and the end of the tube then spun or turned up by a suitable turning tool

to form a flange *l*, which enters and engages the groove, as shown in Figs. 2 and 4.

In Fig. 5 is shown another method of engaging the tube with the head, which consists of forming teeth or projections *m* on the end of the tube and turning these up into the head. In this case it is not necessary to turn a groove in the bore of the head, as the teeth, being sharp, will make indentations for themselves in the wood or fiber.

It is pointed out that the first described method of fastening the tube in the barrel is preferable because the end of the tube does not have to be cut or notched, and further, there will be less tendency to split the head when the latter is made of wood.

It will be seen that my invention provides for a light, yet strong structure capable of being manufactured at small cost and particularly durable to resist wear and hard usage. It has manifest advantages over the ordinary wooden bobbin for the following reasons: The ordinary bobbin, being made of wood, is susceptible to atmospheric conditions and liable to shrink, swell and warp. This often makes it unfit for use, as the bore will shrink to such an extent that it cannot be placed on the shuttle spindle without splitting its barrel. Also, when the barrel is warped it is liable to be split from forcing the spindle into it. Again, the barrel is apt to be splintered or split from hard usage, as the bobbins are often thrown from a distance into boxes or troughs. It is also well known that a common practice in the mill is to cut waste yarn off the bobbin by drawing a knife along the barrel. This practice, when continued, damages the bobbin by making cuts and splinters on the surface of the barrel. When the barrel is thus damaged or marred the yarn will not deliver from it without catching and breaking so there is more and more waste of yarn each time the bobbin is used. In my new bobbin all of these objections are removed because the barrel, being of metal, cannot split, splinter or chip and its bore remains straight and true and proof against distortion. The improved bobbin will stand the roughest usage and abuse and is practically indestructible.

Having now described the form and purpose of my invention and its particular features of improvement, without limiting myself to the precise construction shown, what I claim is:—

1. The combination in a bobbin with a

metal tube, of a butt bored to receive the tube and having an annular groove within the bore, with the end of the tube formed into a flange engaging the groove.

5 2. The combination in a bobbin with a wooden butt having an axial bore, and a metal tube extending part way into the bore and formed at its end with a flange indenting the material of the butt.

10 3. The combination in a bobbin with a butt of frusto-conical form, bored axially and having an annular groove within the bore,

located at a distance from the base end of the butt opposite the point of greatest diameter, and a metal tube secured in the butt by a flange engaging the annular groove in the bore.

In testimony whereof I affix my signature in presence of two witnesses.

SIMON W. WARDWELL.

Witnesses:

EVERETT C. LEWIS,  
WM. A. BOOTH.