C. A. Shaw.

Bobbin.

No. 40,952. Patented Dec. 15, 1863.

Fig. 1

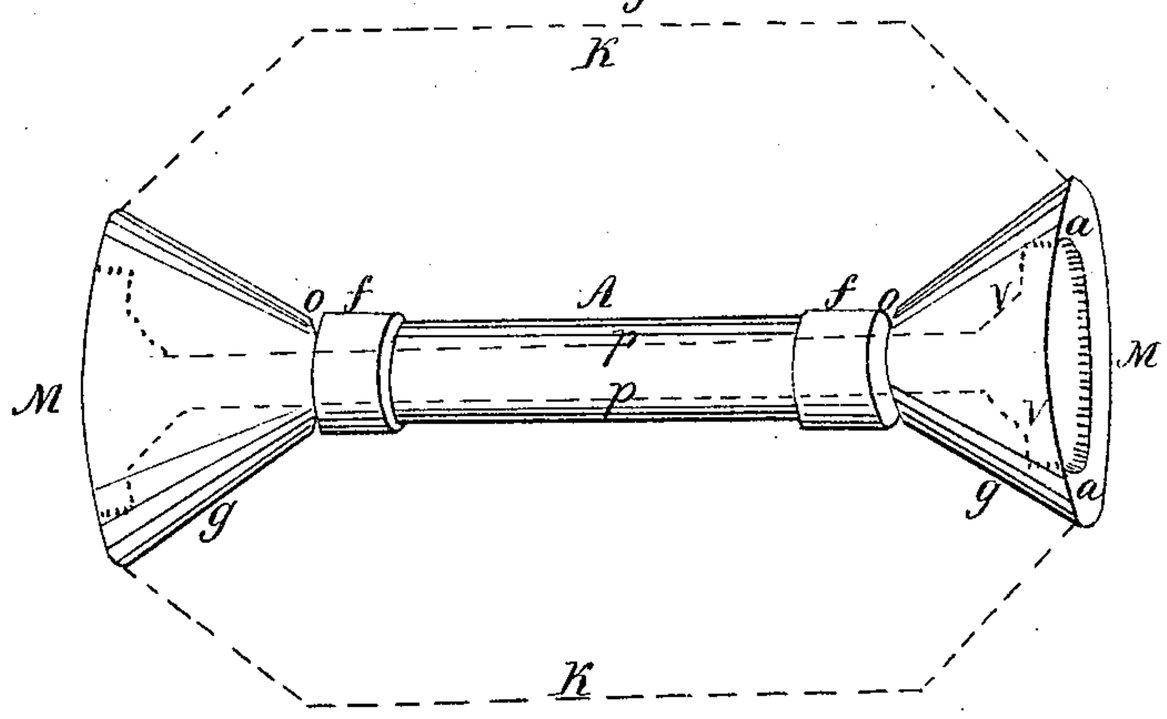


Fig. 5

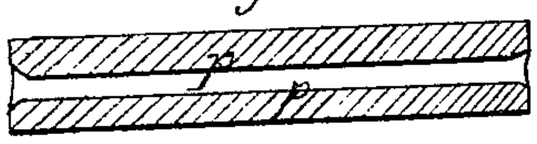


Fig. 2

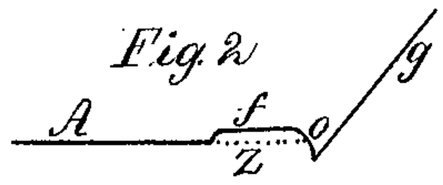


Fig. 3

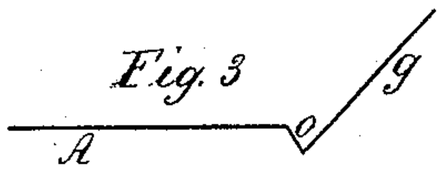


Fig. 4

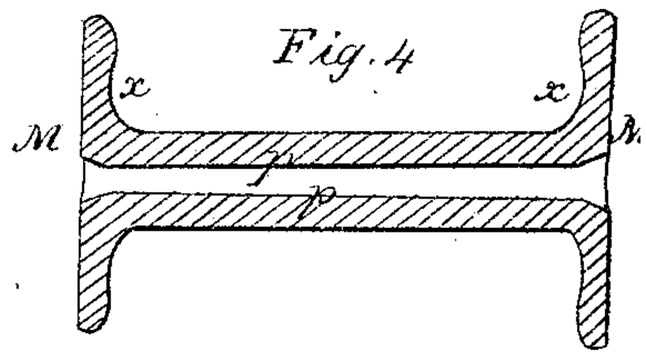
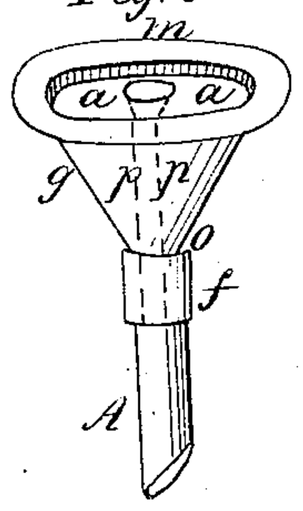


Fig. 6



Witnesses
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Inventor
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UNITED STATES PATENT OFFICE.

CHARLES A. SHAW, OF BIDDEFORD, MAINE.

IMPROVEMENT IN BOBBINS.

Specification forming part of Letters Patent No. **40,952**, dated December 15, 1863.

To all whom it may concern:

Be it known that I, CHARLES A. SHAW, of the city of Biddeford, in the county of York and State of Maine, have invented a new and useful Improvement in Bobbins; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, of which—

Figure 1 is a perspective view of my improved bobbin. Fig. 2 is a sectional outline view of the same. Fig. 3 is a sectional outline view of the same. Fig. 4 is a transverse longitudinal view of a common bobbin for "warp." Fig. 5 is a transverse longitudinal view of a common bobbin for "roving." Fig. 6 is an end view of my improved bobbin.

Corresponding letters refer to corresponding parts.

The nature of my invention will be understood from the following description.

A common warp-bobbin, used in the manufacture of cotton, is made as shown in Fig. 4, having a hole (shown by the dotted lines *p p*) through the center, and ends *m m* nearly square on the outside and straight or slightly concaved, as at *x x*, on the inside. A common roving-bobbin is merely a straight cylinder, having a hole through the center, as shown by the dotted lines *p p*, Fig. 5, and entirely without ends corresponding to those found on the warp-bobbin shown in Fig. 4.

In Fig. 1, A is the body of my improved bobbin. *f* is a gage, guide, or boss, and *m m* the ends, which are made conical or cone-shaped, with the outside faces concaved, as shown by the dotted lines *x x*. There is a hole through the center, (shown by the dotted lines *p p*.) By making the ends conical, as shown in Fig. 1, a very much larger amount of thread or yarn can be run onto the bobbin, as it can be built up at right angles to the faces *g g* of the ends *m m*, to make the full bobbin assume the shape shown by the dotted lines *k k*, as cannot be done on the old bobbin. Smaller ends can also be used, and by concaving the outside faces of them, as shown by the dotted lines *v v*, the bobbin is permitted to "traverse" farther in the flier, and a longer bobbin can consequently be used.

At *o*, Fig. 1, there is a groove turned or cut into the body of the bobbin, between the boss or gage *f* and the end *m*. This groove is cut deep enough to pass below the level or plane of the body A, as is shown in Fig. 2, where the dotted line *z* represents the level of the body A. The object of this groove is to enable the "doffer" to fasten the end of the thread readily when "doffing" or taking the full bobbin from the frame.

In the use of the common bobbin, Fig. 4, when the thread begins to run on, a number of turns have to be taken around the body A before the end of the thread will fasten, and there is always great uncertainty in fastening it, and liability of breakage, as well as loss of time in starting up the frame. By the use of the groove *o* the doffer can immediately fasten the thread, the groove being V-shaped, so that each successive coil binds all the others firmly. The boss or gage *f* acts as a guide for the fingers in holding the bobbin to fasten the thread, and also forms one side or angle of the groove *o*, although the boss can be left off entirely and the groove cut below the surface of the body of the bobbin, as shown in Fig. 3.

In addition to the ends *m m* being countersunk or concaved at the extremities of the perforation or hole *p p*, they are also turned or cut out to about a quarter of an inch in depth, as at *a a*, Fig. 6, leaving a rim from one-eighth to one-quarter of an inch in width around the outside edge of the ends *m m*. The object of this is to enable the bobbin to fall down over or pass over a washer at the base of the spindle, and on which the bobbin stands when being filled, thus giving it still more traverse than the concaved or countersunk ends of the hole or perforation *p p* would give it.

Any practical spinner will readily see the great advantage of having the ends of the threads all securely fastened the first time in "starting up" the frame, and also the importance of being able to get on more thread, as well the advantage of having the bobbin traverse as far as possible in the flier.

I am aware that bobbins have been used having the faces of the ends sunk or cut out, as in Pearl's invention, already patented; also that bobbins having cone-shaped ends *m m g g* have been used, as in Hussey's patent of October 28, 1862; also that a groove, *o*, and bosses *f f* have been used, as in Saunders'

patent of August 25, 1863. I therefore claim none of these features, when they are separately and in themselves considered.

I claim—

A bobbin substantially such as described, combining in one and the same article the grooves *o o*, bosses *f f*, and conical or cone-shaped ends *m m g g;* and this I claim whether the said ends are cut out or sunk on their outside faces, in the manner described, or not.

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Witnesses:

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GEORGE H. ADAMS.