(No Model.)

J. H. WELLS.

BOBBIN.

No. 412,686. Patented Oct. 8, 1889.

Fig. 1.

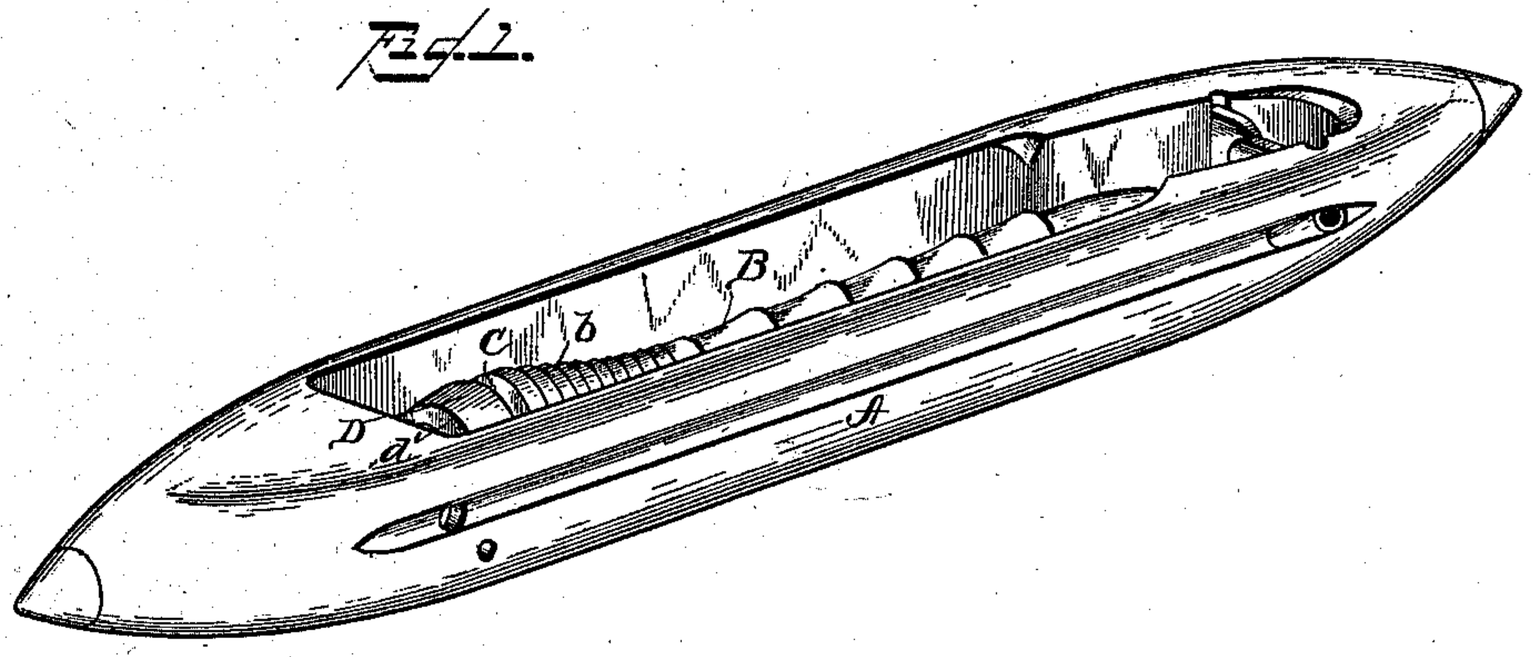


Fig. 2.

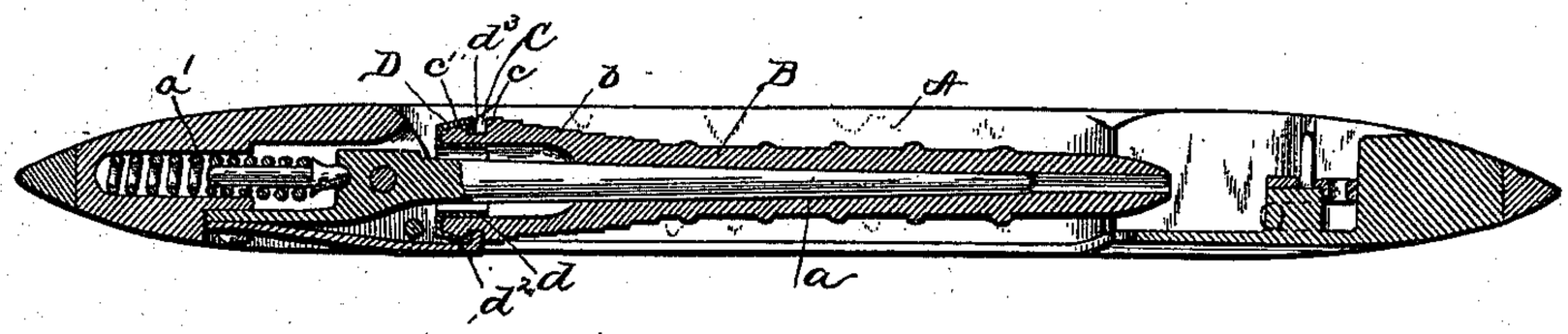
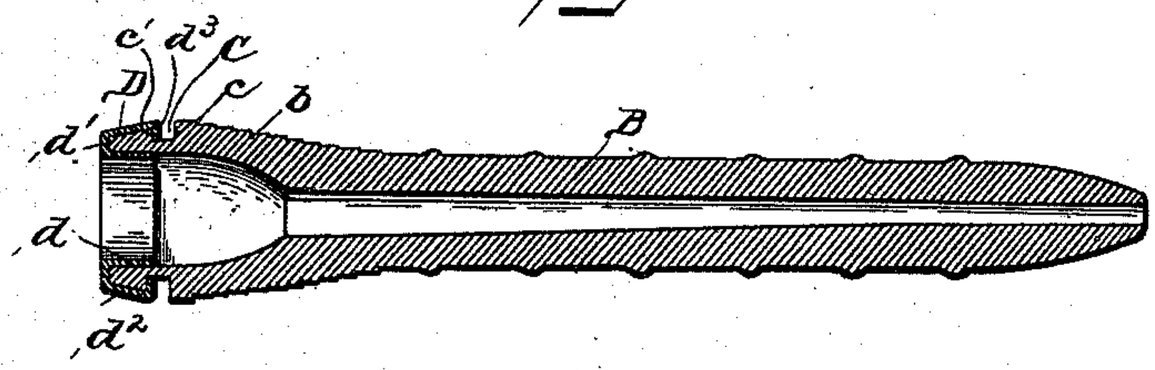


Fig. 3.



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BOBBIN.

SPECIFICATION forming part of Letters Patent No. 412,686, dated October 8, 1889.

Application filed April 5, 1889. Serial No. 306,072. (No model.)

To all whom it may concern:

Be it known that I, J. HENRY WELLS, a citizen of the United States, and a resident of Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Bobbins; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The invention relates to improvements in bobbins, the object being to prevent the shuttle-latch from stripping the base of the bobbin or wearing the shoulder of said base round or curved; and it consists in the construction and novel combination of parts hereinafter described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

Figure 1 of the drawings represents a perspective view of the shuttle having a bobbin embodying the invention attached to its spindle. Fig. 2 represents a central longitudinal section thereof. Fig. 3 represents a central longitudinal section of the bobbin detached.

Referring to the drawings by letter, A indicates a shuttle of ordinary construction, provided with the pivoted spindle *a* and the spring *a'*, acting on the heel of said spindle in the ordinary manner, the spindle and its actuating parts being no part of the present invention.

B designates the bobbin, that stands upon the spindle *a*, and has its base portion *b* enlarged in the usual manner. The said base portion has a circumferential groove C a suitable distance from the adjacent end of the bobbin. The upper and lower shoulders *c c'* respectively of the groove C are preferably at right angles to the axis of the bobbin. The lower shoulder *c'* does not stand out from the shank of the bobbin as far as the upper shoulder *c*, and is surrounded by the outer flange of the metal cap, hereinafter described. The reduced portion of the extreme outer end of the bobbin provides an annular depression for the flange of the cap, bringing the latter on a plane with the upper shoulder *c*. This construction is desirable, inasmuch as otherwise the flange of the cap would come above the plane of the outer surface of the bobbin and be apt to injure the "guides" or other parts of the machine which come in contact with the bobbins while spooling or spinning. It will also be noticed that the lower shoulder, which in part forms the circumferential groove, gradually tapers or bevels toward the extreme end, thereby presenting a construction which admits of the easy and ready engagement of the latch with the circumferential groove, the highest or inner end of this bevel or incline forming the lower shoulder, which, when the metallic cap is placed in position thereon, comes flush with the upper shoulder and forms an effective retaining means for the latch, being sufficiently higher than the extreme reduced end to form an effective stop or abutment. The inner end portion of the base of the bobbin may be cylindrical or slightly tapered, and the shoulder of groove C, while preferably rectangular, may be beveled or inclined, if desired.

D designates a metal cap fitting upon the base of the bobbin, an inner part *d* being flanged in the bore thereof and resting snugly against the side of the bore. The base portion *d'* of said cap fits closely against the base end of the bobbin, and the cap extends thence upward, forming a protective shield d^2 to said base portion, and has its edge d^3 spun tightly upon the lower shoulder *c'* of the groove C, the outer surface of said shield being flush with the outer surface of the upper shoulder *c* of said groove. The shuttle-latch engages in the groove C, and the spun-in edge d^3 of the cap prevents the latch from stripping the base of the bobbin below the groove and from rounding and wearing the lower shoulder *c'* of said groove. The said latch at its point fits in the rectangular groove C, and this prevents any longitudinal play of the bobbin.

Having described my invention, I claim—

The combination, with the bobbin B, having the enlarged base *b* and the circumferential groove in said base, said bobbin having its end from the lower shoulder of the groove reduced and beveled outwardly, of the metal cap D, having an inner flange *d* inserted in

the bore of the bobbin, a base d' against the end of the bobbin, an outer flange d^2 on the outer surface of the base, and a spun-in flange d^3, entering the groove C, binding on the shoulder c', and preventing the latch from rounding said shoulder or stripping the base, substantially as specified.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

J. HENRY WELLS.

Witnesses:

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