No. 779,826. PATENTED JAN. 10, 1905.

J. F. WILLIAMS.

BOBBIN.

APPLICATION FILED APR. 4, 1904.

Fig. 1.

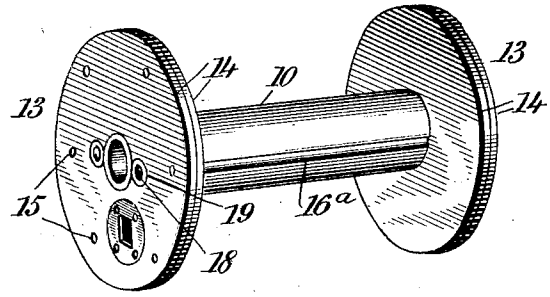

Fig. 2.

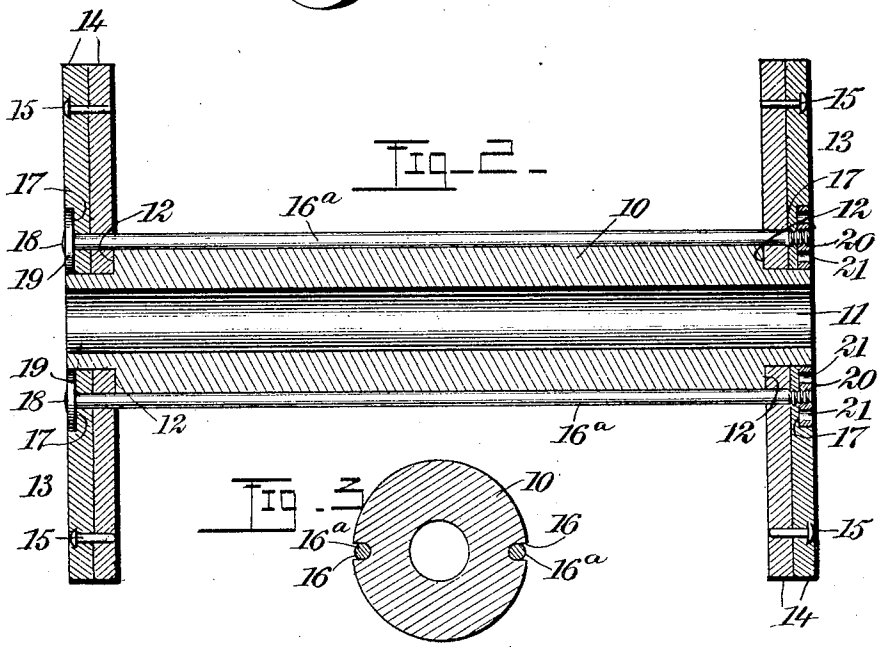

Fig. 3.

Fig. 4.

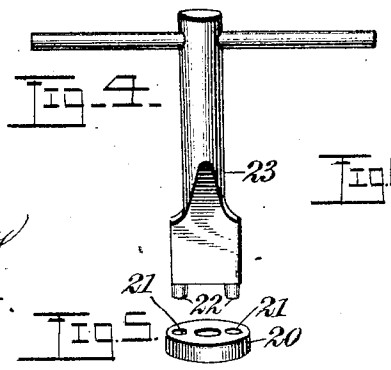

Fig. 5.

Fig. 6.

WITNESSES:

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No. 779,826. Patented January 10, 1905.

UNITED STATES PATENT OFFICE.

JOHN FREEMAN WILLIAMS, OF CHARLESTON, SOUTH CAROLINA.

BOBBIN.

SPECIFICATION forming part of Letters Patent No. 779,826, dated January 10, 1905.

Application filed April 4, 1904. Serial No. 201,442.

To all whom it may concern:

Be it known that I, JOHN FREEMAN WILLIAMS, a citizen of the United States, and a resident of Charleston, in the county of Charleston and State of South Carolina, have invented a new and Improved Bobbin, of which the following is a full, clear, and exact description.

My invention relates to bobbins, it being particularly applicable to large sizes or those put to heavy use. Its principal objects are to provide a secure and effective fastening for the parts of such devices.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of one embodiment of the invention. Fig. 2 is an enlarged central longitudinal section therethrough. Fig. 3 is a transverse section through the shank. Fig. 4 shows a form of wrench employed. Fig. 5 is a perspective view of a nut in connection with which the wrench shown in Fig. 4 is used, and Fig. 6 shows another form of wrench adapted for use in a brace.

10 designates a shank or body portion, preferably of cylindrical form and usually of wood, through which is shown a central bore 11. The ends of this shank are preferably cut away to form annular shoulders 12, with which contact opposite heads 13 13. These heads are here shown as compound, each being made up of a plurality of layers 14 of wood or the like, which, as here illustrated, are secured together by nails 15.

The shank 10 may be grooved at 16, in the present instance upon opposite sides, and in these grooves lie bolts or connecting members 16ª. In each head 13 are pairs of openings 17 17, which may be brought into alinement with the ends of the grooves, and through these openings the bolts pass. About each of the head-openings is formed a countersink, those in one of the heads receiving the heads of the bolts, which are here shown as formed by upsetting the ends of the rods at 18 over washers 19. The opposite threaded ends of the bolts coact with nuts 20, seated in the countersinks in the other bobbin-head. The countersinks, bolt-heads, and nuts are of such dimensions that the two last-named are flush with the outer surfaces of the heads. The nuts are preferably circular and may be provided with openings or recesses 21 to receive projections 22 upon a wrench or similar tool 23. Instead of a hand-wrench one such as is shown at 24 may be used, this being adapted for insertion in a brace to permit the securing of a greater leverage.

In assembling the parts of the bobbin the heads are placed upon the ends of the shank with their openings in alinement with the grooves therein. The rods are now passed through the openings and grooves with the heads occupying the countersinks at one end and the nuts those at the other end. These nuts are then turned into place to draw the elements together with the desired tension. If any part of the bobbin becomes broken, it is a very easy matter to remove it without injuring the companion elements and as readily reassemble the device. It will be evident that the structure will be extremely strong and not liable to be weakened or broken in manufacturing, as is the case when nail or screw fastenings are employed. Moreover, this method of fastening increases the life of the bobbin, and it takes less of a mechanic's time in constructing or repairing. As all parts of the bolts are flush with the surfaces of the elements in which they lie, there will be no projections to catch the material which is wound upon the bobbin or with which it may otherwise contact.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A bobbin comprising a shank having longitudinal grooves and being provided at each end with a shoulder, heads coacting with the shoulders and having openings in alinement with the grooves, said openings being surrounded by cylindrical countersinks, bolts extending through the head-openings and

grooves and having a head fitting in one of the countersinks and contacting with the side walls thereof and threaded ends extending into the opposite countersinks, and nuts provided with wrench-openings and coacting with the threads and closely fitting the countersinks.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN FREEMAN WILLIAMS.

Witnesses:
FREDERICK W. ZOBEL,
WILLIAM R. ZOBEL.