

(No Model.)

I. M. WILLIE.
BUSHING.

No. 501,982.

Patented July 25, 1893.

Fig. 1.

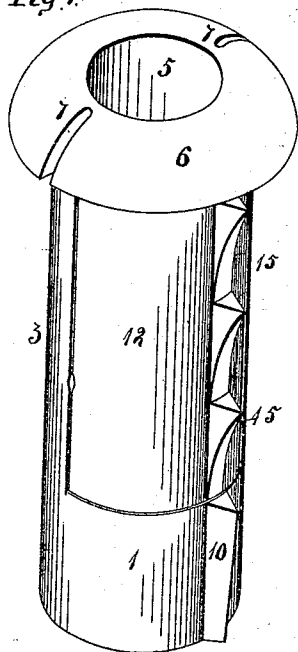


Fig. 2.

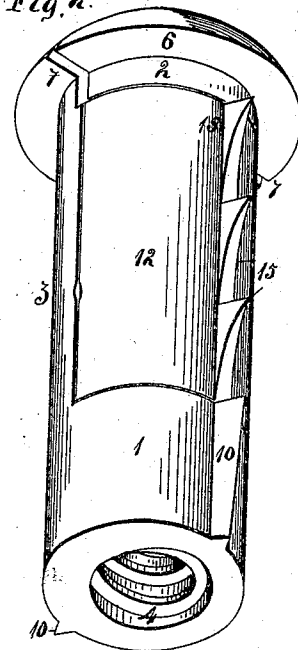


Fig. 3.

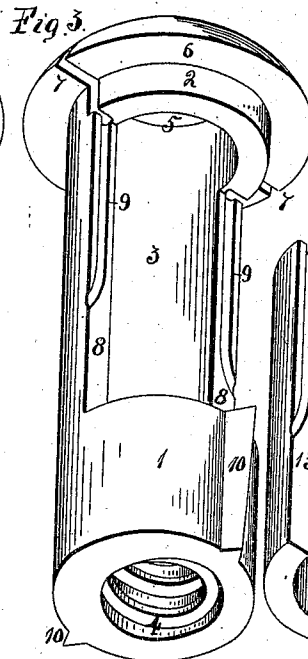


Fig. 4.

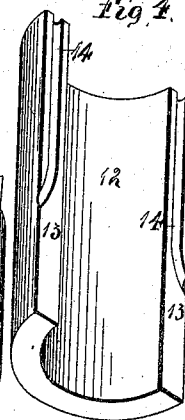


Fig. 5.

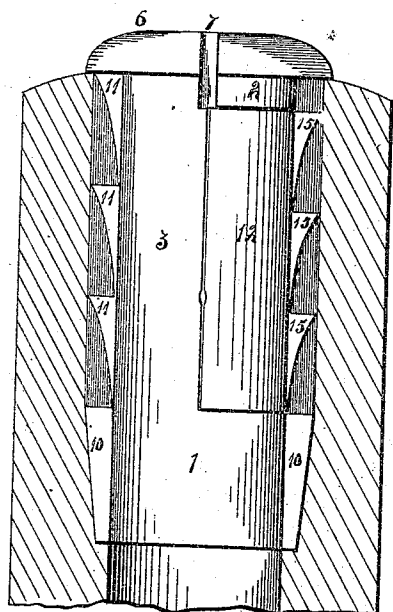


Fig. 7.

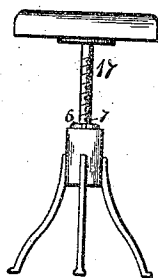
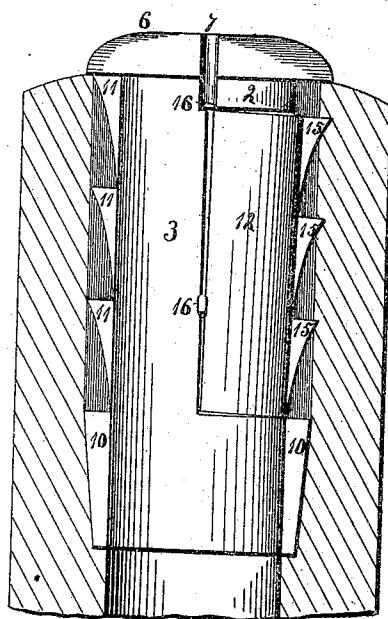


Fig. 6.



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BUSHING.

SPECIFICATION forming part of Letters Patent No. 501,982, dated July 25, 1893.

Application filed February 14, 1893. Serial No. 462,345. (No model.)

To all whom it may concern:

Be it known that I, ISAAC M. WILLIE, a citizen of the United States, residing at Freeport, in the county of Stephenson and State of Illinois, have invented certain new and useful Improvements in Means for Securing Bushings in Place, of which the following is a specification.

The object of this invention is to secure a bushing in position against withdrawal, consisting in having a portion of its shell removable, and provided with teeth, said removable portion capable of being forced from the main portion in order to embed its teeth in the wood of the support.

In the accompanying drawings, Figure 1, is an isometrical representation of the bushing as seen from the top. Fig. 2, is an isometrical representation of the same as seen from the under side. Fig. 3, is an isometrical representation of the bushing as seen from its under side and in which the removable section has been displaced. Fig. 4, is an isometrical representation of the removable section. Fig. 5, is a vertical section through the wooden support showing the position of the parts when first placed in the support. Fig. 6, is a similar view to Fig. 5, but showing the teeth of the removable section forced into the wooden support. Fig. 7 shows the application of the bushing to a piano stool.

In the manufacture of piano stools and other similar articles, the bushing or socket employed, is generally held in place by an external screw, and when the screw-threaded shank is turned down with considerable force until the unthreaded portion comes in contact with the bushing, the parts will adhere with sufficient force that when the shank is run up the bushing will revolve with it, thereby removing it from its engagement with the wood work in which it is seated. My improvements are calculated to obviate this difficulty and in the drawings I have shown my improvements in connection with a piano stool, but may be used wherever a bushing of this construction may be employed, when it is seated in wood work.

The bushing is of cylindrical form and consists of the lower end 1, and the upper end 2, joined by a semi cylindrical shank 3. The

lower end is provided with an internal screw thread 4, and the upper end has a central opening 5, of greater diameter than the internal diameter of the lower end. The upper end has a flange 6, projecting beyond the face of the shank portion, and has two radial openings 7. The faces 8, of the shank portion are provided with grooves 9, their upper ends coinciding with the radial openings 7 of the top portion. The lower ends of these grooves turn outward cutting through the periphery of the shank. The lower portion on opposite sides is provided with projections 10, having their outer edges sharpened. The central portion of the shank on its convex surface is provided with a series of projections 11, in line with one of the projections 10, having their upper ends sharpened. There is a removable section 12, is of semi-cylindrical form and fits within the space between the lower end 1, and upper end 2, and has its edges 13, provided with grooves 14, coinciding with the grooves 9, of the shank when it is placed in position, and when thus placed in position forms a complete cylinder in connection with the semi cylindrical shank portion. This removable section is provided with projections 15, having their ends sharpened.

In placing the bushing in position in the wood-work, a hole is bored through the wood-work of a diameter about the size of the outside diameter of the main portion of the bushing. The removable portion 12, is placed in position between the ends 1, and 2. The lower end of the bushing is placed over the opening in the wood-work, and the bushing is then pressed or driven into the opening, the prongs 10, on the lower end of the bushing cutting into the wood and forming passage for the remaining projections 11, and 15. After the bushing is in position as shown at Fig. 5, a nail 16, is inserted through the radial opening 7, into the groove formed by the groove 9, of the shank and the groove 14, of the removable portion and driven downward, causing the movable portion to separate from the main portion thereby forcing the prongs of the movable portion into the wood of the support, and the point of the nail when being driven along the groove will protrude beyond the face of the bushing and enter the wood as

shown at Fig. 6. The projections 11, of the semi cylindrical portion 3, in connection with the projections 15, of the removable portion prevent any rotary movement of the bushing, 5 and the projections 15, entering the wood prevent the withdrawal of the bushing. When the bushing is first placed in position in its wooden support it may be necessary to use a nail in one of the grooves, and after use the 10 bushing may become loosened when a nail driven in the other groove will tighten the parts.

When the bushing is employed in a piano stool, the screw 17, is of such size to pass 15 through the opening 5, in its upper portion, and turns into the threads 4, of the lower portion and the cut away portion or removable section does not interfere with the working of the screw.

20 I claim as my invention--

1. A bushing consisting of a main section and a movable section, and means forming a part of the bushing for separating the sections after the bushing is in position in the wood 25 work.

2. A bushing consisting of a main section and a movable section provided with pointed projections, and means forming a part of the bushing for forcing the projections into 30 the wood support by separating the sections after the bushing is in position in the wood work.

3. A bushing consisting of a main section and a movable section, each provided with 35 grooves in their meeting faces, and means forming a part of the bushing for separating the sections by being driven along the grooves

after the bushing is in position in the wood work.

4. A bushing consisting of a main section 40 and a movable section each provided with projections, also with grooves in their meeting faces, and means forming a part of the bushing for separating the sections by being driven along the grooves after the bushing is in po- 45 sition in the wood work.

5. A bushing consisting of a main section its ends of cylindrical form, a portion of its length being of semi cylindrical form, a mov- 50 able section of semi-cylindrical form filling the cut away portion and provided with projections.

6. A bushing consisting of a main section its ends of cylindrical form, the center portion of its length being of semi-cylindrical form, 55 a movable section of semi-cylindrical form filling the cut away portion and provided with projections.

7. A bushing consisting of a main section its ends of cylindrical form, the center portion 60 of its length being of semi-cylindrical form, a movable section of semi-cylindrical form filling the cut away portion and provided with projections, the head end of the main section slotted and the meeting faces of the sections 65 longitudinally grooved and means forming a part of the bushing for separating the movable section by being driven along the grooves, when the bushing is in position in the wood- work.

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Witnesses:

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