(No Model.)

C. M. BURGESS.

KNOB SHANK.

No. 444,557. Patented Jan. 13, 1891.

Fig. 1.

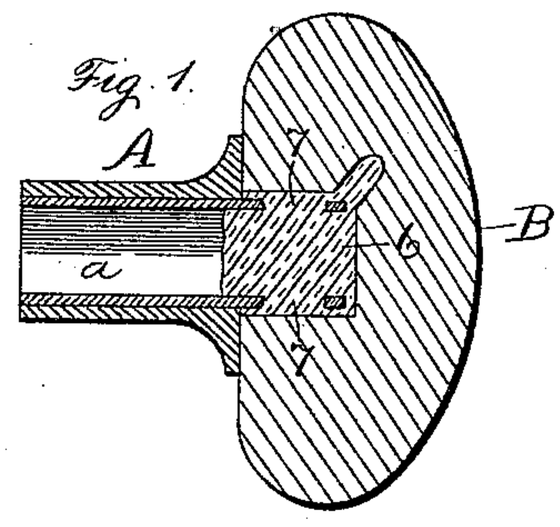


Fig. 2.

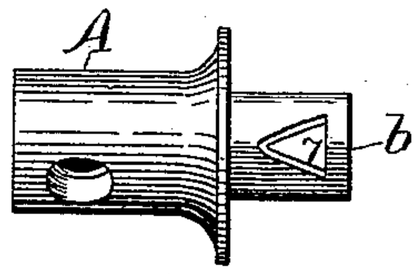


Fig. 3.

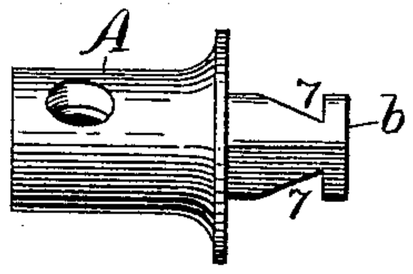


Fig. 4.

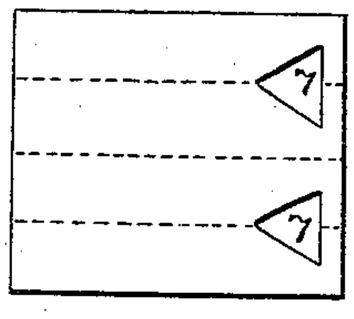
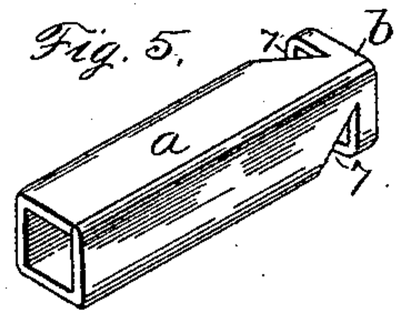


Fig. 5.



Witnesses.
John Edwards Jr.
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Inventor,
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Atty.

UNITED STATES PATENT OFFICE.

CHARLES M. BURGESS, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO THE RUSSELL & ERWIN MANUFACTURING COMPANY, OF SAME PLACE.

KNOB-SHANK.

SPECIFICATION forming part of Letters Patent No. 444,557, dated January 13, 1891.

Application filed September 17, 1890. Serial No. 365,276. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. BURGESS, a citizen of the United States, residing at New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Knob-Shanks, of which the following is a specification.

My invention relates to improvements in knob-shanks; and the main object of my improvements is economy of production by avoiding the employment of a core or chill that requires to be removed from the interior of the shank.

In the accompanying drawings, Figure 1 is a longitudinal section of my knob-shank with knob attached. Figs. 2 and 3 are side elevations of the shank as viewed from different sides. Fig. 4 is a plan view of the blank for the tube that forms the spindle-socket and butt, and Fig. 5 is a perspective view of said tube.

The body of the shaft A is of cast metal of an ordinary form; but, instead of forming the spindle-socket *a* on a steel chill or core, I form the same of a sheet-metal tube of a length long enough to form also the butt *b*, by which to secure the shank to the knob B by running in material 6, the same as the butts of other shanks are secured to knobs. I also form in the butt *b* suitable holes, as at 7 7, for the soft metal to run through in securing to the knob, and I prefer to form said holes at the corners, as shown. These holes can be punched in the blank, as shown in Fig. 4, and the blank bent and rolled into a square tube by bending along the broken lines, (shown in Fig. 4,) thereby changing said blank from that form into the form shown in Fig. 5. If desired, the blank may be punched or swaged at one or more points along its body or on different sides to form slight swells or projections on the outside of the tube, Fig. 5, for better securing the tube and shank together in casting. The blank and the tube made therefrom I prefer to make a little longer than the combined finished knob-shank and butt, so that both ends of the tube may project beyond both ends of the print in the mold for casting the shank A. The pattern for the shank should be of the desired form, with a projection at each end of the same size and shape as the tube that forms the spindle-socket and butt. After withdrawing the pattern the tube 5 is placed in the mold with its ends resting in the prints formed by the aforesaid projections at the ends of the pattern, in the ordinary manner of setting a core in core-prints within a mold. The knob shank is then cast around the tube, and thereby firmly secured thereto, and, inasmuch as the tube is of the proper form and size for a spindle-socket, there is no sand or other core to remove from within the knob-shank. So much of the tube as projects from the flangeless end or front end of the shank may then be cut off.

I am aware of a prior patent for a sheet-metal knob-shank consisting of a square sheet-metal tube with a separately-formed sheet-metal collar for forming the flange of the knob-shank, and the same is hereby disclaimed.

I claim as my invention—

The herein-described knob-shank, consisting of the internal tube and the metal knob-shank A, cast around said tube, the front portion forming the spindle-socket within said cast-metal shank, while its rear portion projects therefrom and forms the butt *b* for the subsequent attachment of a knob, substantially as described, and for the purpose specified.

CHARLES M. BURGESS.

Witnesses:

T. S. BISHOP,

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