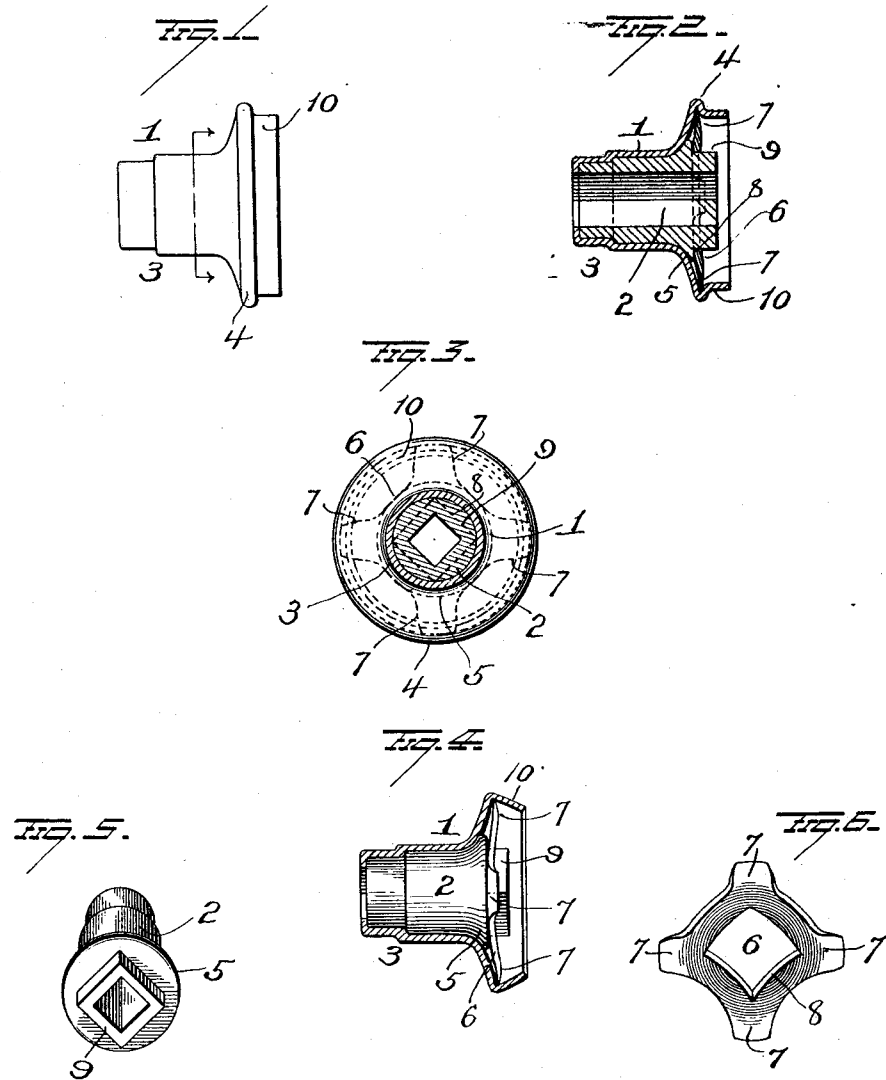


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 KNOB SHANK AND HOLDER.  
 APPLICATION FILED DEC. 17, 1912.

1,062,933.

Patented May 27, 1913.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

HENRY R. STADTMILLER, OF STAMFORD, CONNECTICUT, ASSIGNOR TO THE YALE & TOWNE MANUFACTURING COMPANY, OF STAMFORD, CONNECTICUT.

## KNOB SHANK AND HOLDER.

1,062,933.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed December 17, 1912. Serial No. 737,357.

*To all whom it may concern:*

Be it known that I, HENRY ROEMMER STADTMILLER, of Stamford, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Knob Shanks and Holders; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in knob shank and holder, and it consists in an outer shell or casing made of metal struck up into shape, and an inner member adapted to receive the knob spindle and form an internal brace and reinforce for the external member, the internal and external member being secured together by a spider or frame bearing against one end of the inner member and secured at its edges to the outer member.

My invention further consists in the parts and combination of parts and in the details of construction as will be more fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improvement; Fig. 2 is a view in longitudinal section; Fig. 3 is a view in transverse section; Fig. 4 is a view in longitudinal section taken through the parts after assembling, and before the spider is clamped in place; Fig. 5 is a view in perspective of the inner member and Fig. 6 is a similar view of the spider.

1 represents the external shell or casing made of brass, bronze or other suitable metal, and 2 is inner member preferably made of iron or steel so as to impart the necessary strength and rigidity to the structure. The outer shell or member 1 is cylindrical at one end 3, and enlarged at the opposite end 4 to which the knob is attached, and the inner member 2 is shaped to fit the cylindrical end and form in effect a closely fitting core for the latter, so that said end is solidly supported against all crushing strains. This inner member 2 is preferably made of steel and is cylindrical in shape throughout the greater portion of its length and is flared as at 5, near its inner end, the flaring portion forming a support for the outer member 1, at the point where the latter begins its enlargement from the cylindrical portion, and also forming a seat for the spider 6, which latter is preferably dish

shaped and consists of a body having a plurality of fingers 7 projecting therefrom. The spider is preferably made of steel, and its body is provided with an angular opening 8 adapted to receive the angular end 9 of the inner member 2. The width of the spider 6 from the extremes of the diametrically opposite fingers 7 thereof, is approximately equal the internal diameter of the flange 10 at the outer edge of the enlarged portion of the shell or casing 1, and when the parts are thus placed, the flange 10 is forced down over the ends of the spider and positively locks the same against displacement and also against rotation.

In assembling the parts, the spider is held by a follower while the surrounding metal or flange of the outer shell or casing is being turned over, and on the second or subsequent operation, the spider, which as before stated is dish shaped and preferably made of steel, is held down under increased pressure, so that the ends of the fingers of the spider bite or are forced into the metal of the shell or casing and absolutely prevent any rotation of the spider. Another important function of the spider is that being dish shaped, and being made of metal which has some spring in it, the fact that it is forced down and held at the rim, imparts a constant pressure outward against the core. This not only holds the core against longitudinal displacement, but what is very important in use, it takes up any rattle, which would be annoying.

The inner member has an angular bore lengthwise through same for the passage of one end of the knob spindle to which the knob is secured. The knob head may be secured to the enlarged end of the holder in any desired manner.

It is evident that many slight changes might be resorted to in the relative arrangement of parts shown and described without departing from the spirit and scope of my invention. Hence I would have it understood that I do not wish to confine myself to the exact construction and arrangement of parts shown and described, but

Having fully described my invention what I claim as new and desire to secure by Letters-Patent, is:—

1. A knob shank and holder consisting of an outer shell, an inner core and a frame independent of the shell and core and hav-

ing a central detachable engagement with the core, the peripheral edge of the frame being clamped to the shell.

2. A knob shank and holder consisting of  
5 an outer shell or casing having a cylindrical section and a flaring end, an inner member approximately fitting the cylindrical portion of the shell, and a frame independent of the shell and inner member and having a  
10 central detachable engagement with the latter for locking the same against rotation and supporting it against endwise displacement, the outer edge of said frame being locked in place by bending the metal of the outer  
15 flaring end of the shell around the outer edge of the frame.

3. A knob shank and holder consisting of an outer shell of wrought metal struck up into shape, and an inner core of harder  
20 metal, one end of said core being angular in cross section, and a frame having an opening to receive the angular end of the core, the said frame being held in place by the overlapping of the surrounding shell.

25 4. A knob shank and holder comprising a shell or casing having a cylindrical portion

and a flaring end, a metal core approximately filling said cylindrical portion, and a dish shaped spring metal frame or spider engaging one end of said core and provided  
30 with a series of radially projecting fingers adapted to engage the inner face of the flaring end of the shell and be locked to the latter by bending the outer edge of the flaring end down over said fingers. 35

5. A knob shank and holder consisting of an outer shell and inner core, a spring metal spider engaging the inner end of the core and held in place by the overlapping of the surrounding metal of the shell, the periphery of said spider being forced forwardly  
40 and so held by the shell whereby it bears with a yielding pressure against the end of the core.

In testimony whereof, I have signed this  
45 specification in the presence of two subscribing witnesses.

HENRY R. STADTMILLER.

Witnesses:

SCHUYLER MERRITT,  
EDITH M. CROZIER.