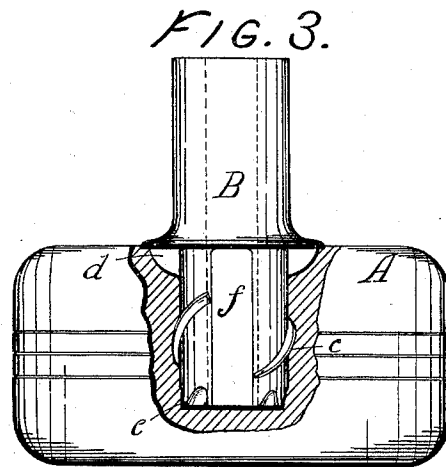
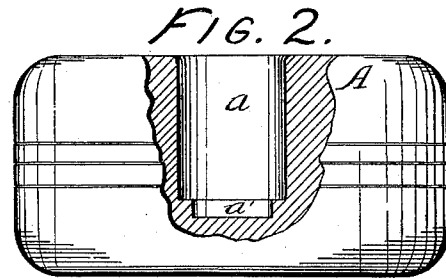
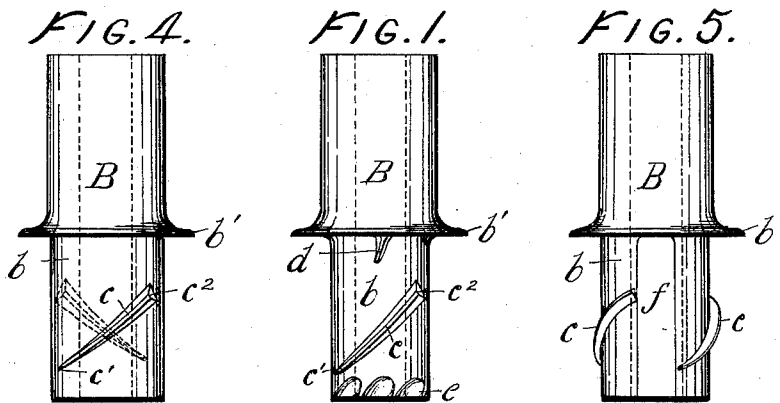


(No Model.)

J. TRICKEL.
DOOR KNOB.

No. 448,737.

Patented Mar. 24, 1891.



Witnesses

Ed. A. Kelly
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UNITED STATES PATENT OFFICE.

JOSEPH TRICKEL, OF READING, PENNSYLVANIA.

DOOR-KNOB.

SPECIFICATION forming part of Letters Patent No. 448,737, dated March 24, 1891.

Application filed October 10, 1890. Serial No. 387,673. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH TRICKEL, a citizen of the United States, residing at Reading, in the county of Berks, State of Pennsylvania, have invented certain Improvements in Door-Knobs, of which the following is a specification.

This invention relates to the manufacture of articles such as door-knobs, and more particularly to means for securing knobs of wood or similar material to their metal shanks. The usual means of accomplishing this has involved the screw-threading of the shank and the socketed knob. The screwing of the shank into the socket is a comparatively slow operation, and even when accomplished is unsatisfactory unless positive means are provided for preventing its subsequent loosening.

The object of my invention is to enable the shank to be pressed into the socketed knob and yet render it practically impossible to withdraw it.

The accompanying drawings, in connection with the following description and claims, fully reveal the invention.

Figure 1 shows my improved knob-shank and neck before securing it to the knob, which latter is shown, partly in section, in Fig. 2. Fig. 3 is a sectional view of the knob after the shank has been pressed into it, the shank being turned one-quarter around from its position in Fig. 1. Fig. 4 shows the shank in its simplest form, being provided with the spiral rib only. Fig. 5 shows another modified form.

The knob A is preferably of wood, though any other material sufficiently yielding may be used. As shown in Fig. 2, this is bored so as to form a socket of two diameters a and a' .

The neck B of the knob and the shank portion b are preferably cast in one piece, as shown, a shoulder b' being formed at their junction. The shank portion b is substantially cylindrical in form and of a diameter adapted to fit the socket a of the knob snugly. As shown in Fig. 4, the shank is merely provided with two spiral ribs c , arranged at an angle of, say, forty-five degrees (more or less) to the axis, and extending, perhaps, one-quarter or one-third of the way around, though this may evidently vary considerably. The lower end c' of these ribs, which are some distance above the base of the shank, are pointed

so as to readily enter the wood, and the upper ends c^2 are more blunt and stop some distance below the shoulder b' . In securing this shank to the knob the latter is merely placed under a press, which forces the shank at one movement into it as far as the shoulder b' . The effect of the spiral ribs is, however, that as their points c' enter the wood the vertical movement of the shank is converted into a twisting or winding movement, which continues until stopped by the shoulder b' being firmly seated against the knob. It is evident that it cannot then be withdrawn, except by reversing this spiral movement. This, however, is not easily done, inasmuch as the elasticity of the wood, as well as its natural shrinkage, causes it to close above the rib, so as to render it almost impossible for the blunt end c^2 to move backward, and the shank is thus firmly held. It is not necessary, however, that the spiral rib alone should be depended upon, and the attachment of the parts may be easily made more positively rigid. In Fig. 5 I have shown the shank b provided, in addition to the spiral ribs c , with one or more flat faces f . The purpose of these is to render it still more difficult to withdraw the shank from the knob by reversing the winding movement. The elasticity and shrinkage of the wood both tend to close it against these flat faces, thus distorting the socket from its true cylindrical form and preventing the turning of the shank therein. In Figs. 1, 2, and 3 still other means are provided to insure a rigid connection without increasing the cost or the simplicity of the operation. Extending downward from the shoulder b' are lugs d and the entering end e of the shank is notched so as to form cutting-edges. As the shank is pressed into the knob the winding motion imparted to it by the spiral ribs continues unimpeded until the lugs d strike the face of the knob or the notched end e reaches the reduced portion a' of the socket, or both, when the continued pressure upon the shank drives it home against the shoulder b' , embedding the lugs d and notched end e , and so effectually choking the passage as to positively bar a reverse movement. As already explained, the natural elasticity and shrinkage tends to quickly fill up any spaces in the wood, and this tendency may be readily in-

creased, if desired, by wetting it. Practically, however, this is entirely unnecessary, the connection being perfectly solid and satisfactory without so doing.

5 What I claim is—

1. The herein-described knob-shank for socketed knobs of wood or equivalent material, said shank being mainly cylindrical in form and provided with a spiral rib or ribs *c* and one or more flat faces *f*, substantially as set forth.

2. The herein-described knob-shank for socketed knobs of wood or equivalent material, said shank being mainly cylindrical in form and provided with a spiral rib or ribs *c* and one or more lugs *d* at the junction of said knob-shank with its neck, substantially as and for the purpose set forth.

3. The combination, with a knob of wood or equivalent material having a socket with

reduced portion *a'*, of a cylindrical knob-shank provided with a spiral rib or ribs *c* and a notched or serrated end *e* to engage said reduced portion of the socket, substantially as and for the purpose set forth.

4. The combination, with a knob of wood or equivalent material having a socket with reduced portion *a'*, of a cylindrical knob-shank provided with a spiral rib or ribs *c*, one or more lugs *d* at the junction of said knob-shank with its neck, and a notched or serrated end *e* to engage said reduced portion of the socket, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH TRICKEL.

Witnesses:

W. G. STEWART,
THOS. J. DOTTS.