No. 686,533. Patented Nov. 12, 1901.

H. C. PRUCE.

KNOB ATTACHMENT.

(Application filed July 18, 1901.)

(No Model.)

Fig. 1.

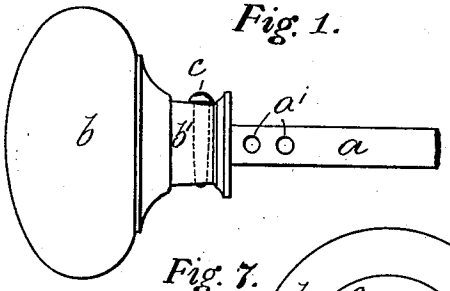


Fig. 2.

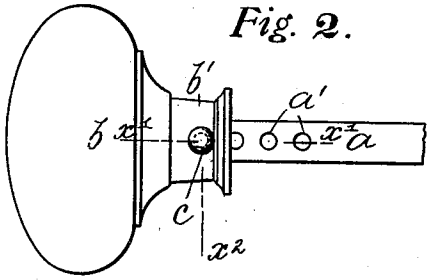


Fig. 7.

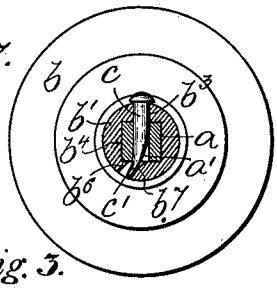


Fig. 4.

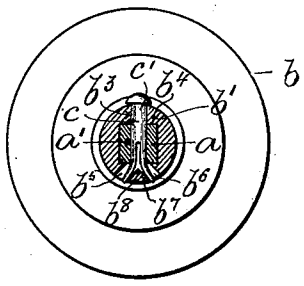


Fig. 3.

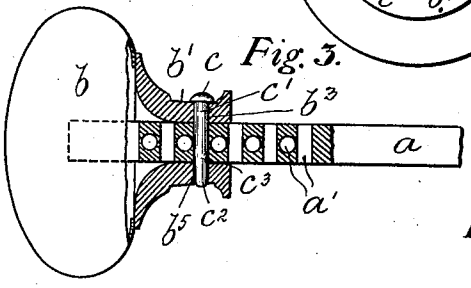


Fig. 6.

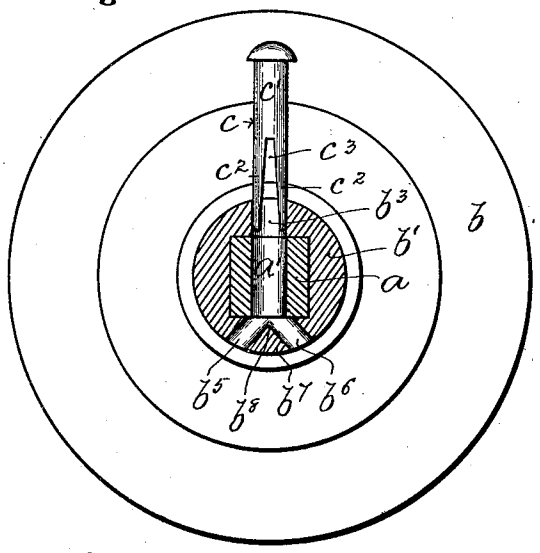
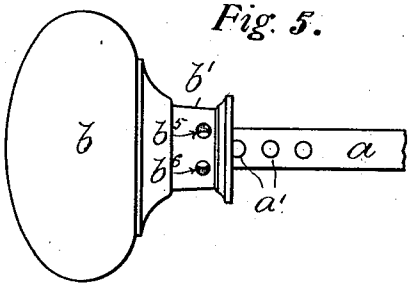


Fig. 5.



WITNESSES

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KNOB ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 686,533, dated November 12, 1901.

Application filed July 18, 1901. Serial No. 68,835. (No model.)

To all whom it may concern:

Be it known that I, HENRY CLARKE PRUCE, merchant and manufacturer, of the firm of Alfred Brown & Co., a subject of the King of Great Britain, residing in Smallbrook street, Birmingham, England, have invented certain new and useful Improvements in Knob Attachments, of which the following is a specification.

This invention relates to means for securing knobs, handles, turns, and the like to the spindles of door furniture and the like, and has for its object principally to provide a simple and self-fastening connection between the said parts.

Figure 1 of the accompanying drawings represents a side elevation of a door-knob and spindle connected together in accordance with one form of my invention as applied to a spindle of the all-through-drilled pattern. Fig. 2 is a top side plan of the same. Fig. 3 is a part longitudinal vertical section of Fig. 2 upon the dotted line x'. Fig. 4 is a cross-section of Fig. 2 upon the dotted line x^2. Fig. 5 is an under side plan of Fig. 1, showing the reverse side of the knob and spindle to that represented in Fig. 2. Fig. 6 is a transverse section (upon an enlarged scale) of the knob and spindle, showing the pin in the act of being introduced into position. Fig. 7 is a transverse vertical section of the door-knob and spindle, showing the lower hole of the knob extending at an inclination from the axial line of the spindle.

The same letters of reference indicate corresponding parts in the several figures of the drawings.

In carrying out this form of my invention a series of all-through holes a' are drilled at short distances apart along an end or both ends of the spindle a, and I propose to provide the neck b' of the knob b to be attached with a three-way hole or three-branch passage—that is to say, the top side of the neck is pierced with a single hole b^3, running into the middle clearance b^4, which receives the spindle, while at the other and bottom side of the neck a pair of separated holes b^5 b^6 are made, which preferably diverge from the said center clearance and comprise between them a wedge-shaped or double-inclined piece of metal b^7, the point or apex b^8 of which comes (when the spindle is placed within the knob) coincident with one of the all-through holes in the said spindle. In conjunction with such a knob I propose to employ a split pin or a bifurcated-ended rivet c with the solid end c' of the same diameter as the top hole b^3 in the neck, while the sides c^2 of the branched end c^3 are designed to be separated and to take, respectively, into the diverging branches b^5 b^6 of the bottom hole, so that when the pin is driven first through the top hole in the neck and then through a coincident hole a' in the spindle the tips of the branches are spread or separated by impinging against the inclined sides of the wedge-piece b^7 and are made to pass, respectively, into the separated and inclined holes in the other side of the neck, whereby the said pin is prevented from again rising or being withdrawn once it has been forced fully home. This spreading of the forked end by the inclines formed by the two holes takes place automatically on the driving home of the peg, so that the connection of the parts can be effected without the aid of tools.

The tips of the split end may be chamfered on the inside, so as to form leads for facilitating the spreading, and instead of the branches of the bottom holes being straight they may be curved or of any other form that will spread or divert the ends of the pin out of the axial line of the all-through hole in the spindle.

Instead of having a double-branched hole in the bottom or under side of the neck I may have only a single obliquely-disposed hole and use a fastening-pin with a solid instead of a branched end. Such an arrangement is represented in transverse vertical section in Fig. 7, a being the spindle, and a' the all-through hole therein, (one or a series of which may be used as required,) and b is the knob, the neck b' of which has a single straight hole b^3 in the top and a single obliquely-disposed hole b^6 in the bottom, with the side b^7 thereof forming an inclined surface against which the solid tip end c' of a fastening-pin c impinges on being forced through the series of coinciding holes b^3 a' b^6 in the two parts a and b, and is thereby diverted or bent out of line with the spindle-hole a'. An efficient connection between the two parts is thus obtained without the use of tools and the pin is prevented from

again rising or being withdrawn from the holes into which it is passed.

The split or bifurcated pins or pegs may be made from wire or they may be like solid rivets with bifurcated ends or of any other form, as may be desired.

The application of my invention to cupboard-turns, drawer-knobs, and other articles differs in no essential respect from its application to the attachment of knobs to door-spindles, as herein described. The methods described are also applicable for securing the fixed knobs to spindles as well as attaching adjustable knobs, as herein described.

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

1. In a knob attachment, the combination with a spindle having one or more all-through holes, of a knob having a neck to receive the spindle, said neck provided with a vertically-extending top hole and a bottom hole extending at an inclination from the axial line of the spindle, a fastening-pin adapted to be driven through the said neck and spindle and adapted to have its lower end bent out of line with the spindle-hole by its impingement against the inclined walls of the bottom hole.

2. In a knob attachment; the combination with a spindle having one or more all-through holes, and a knob whose neck receives the spindle and is formed with top and bottom holes, the latter being double branched with the branches inclined or spread in opposite directions out of line with the axis of the spindle-hole; of a split-ended or bifurcated fastening-pin adapted to be driven through the said neck and spindle and for the sides of the split part to be spread or separated by impingement against the inclines of the double-branched hole in the neck, substantially as described and set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HENRY CLARKE PRUCE.

Witnesses:
HY. SKERRETT,
ARTHUR T. SADLER.