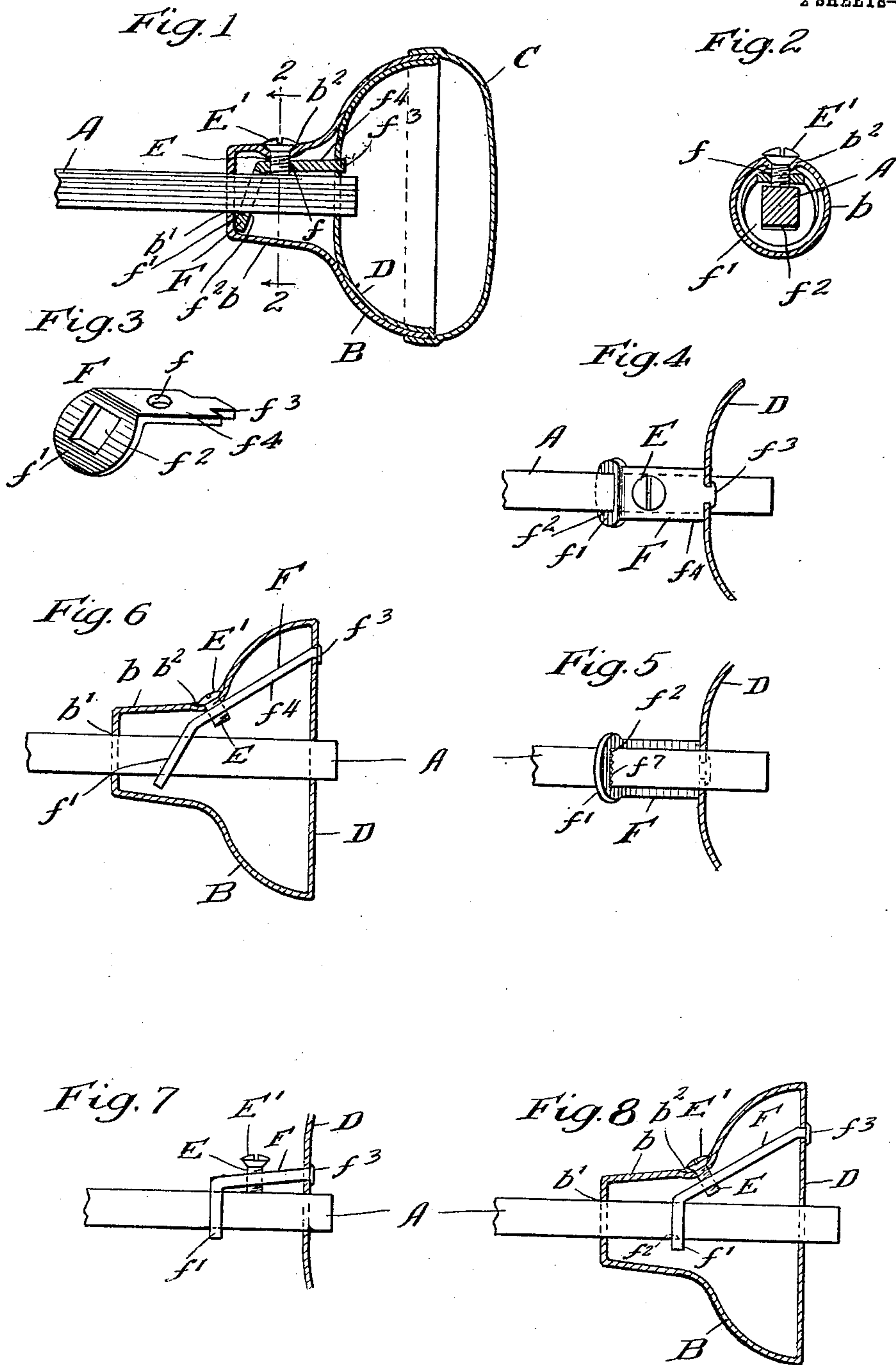


A. H. FRANKLIN.  
 KNOB ATTACHMENT.  
 APPLICATION FILED MAR. 26, 1909.

936,441.

Patented Oct. 12, 1909.  
 2 SHEETS—SHEET 1.



Witnesses:

Wm. Geiger  
 Pearl Abrams

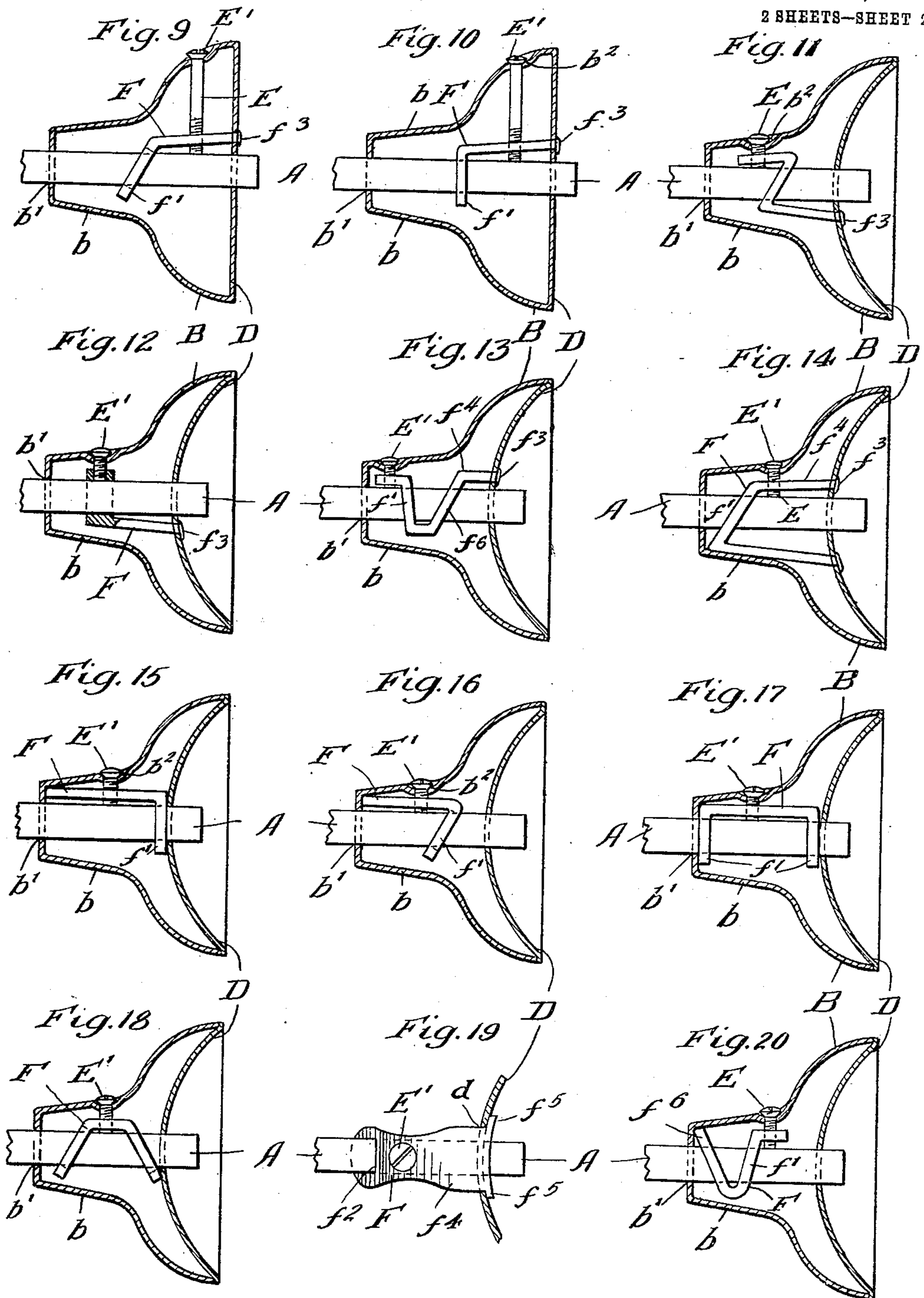
Inventor:  
 Arthur H. Franklin  
 By Munday, Coats, Adcock & Clarke.  
 Attorneys

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# UNITED STATES PATENT OFFICE.

ARTHUR H. FRANKLIN, OF TRAVERSE CITY, MICHIGAN.

## KNOB ATTACHMENT.

936,441.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed March 26, 1909. Serial No. 485,914.

*To all whom it may concern:*

Be it known that I, ARTHUR H. FRANKLIN, a citizen of the United States, residing in Traverse City, in the county of Grand Traverse and State of Michigan, have invented a new and useful Improvement in Knob Attachments, of which the following is a specification.

My invention relates to improvements in devices for attaching knobs to spindles of door or other locks.

The object of my invention is to provide a device of a simple, efficient and durable construction for adjustably attaching door knobs to spindles in different positions as may be required.

My invention consists in connection with the door knob and spindle, of a catch preferably connected at one end to the web of the knob and having an opening to receive the spindle and through which the spindle may be slipped into different positions as required, and adapted to exert a gripping action upon the spindle and a clamp screw extending through the inner shell of the knob and threaded in the catch so as to cause the screw and catch to properly grip and securely hold the spindle in any position to which it may be adjusted.

My invention further consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described.

In the accompanying drawing forming a part of this specification, Figure 1 is a central longitudinal section of a device for adjustably attaching knobs to spindles embodying my invention. Fig. 2 is a cross section on line 2—2 of Fig. 1. Fig. 3 is a detail perspective view of the catch or gripper. Fig. 4 is a detail plan view showing the spindle, catch, clamp-screw and a portion of the web of the knob in section. Fig. 5 is a detail bottom view of same also showing a portion of the web in section. Figs. 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20 are detail sectional views illustrating different modifications or forms of my invention.

In the drawing, A represents the spindle, B the inner shell of the knob, C the outer shell thereof and D the web.

E is the clamp screw and F the catch or gripper by which, in connection with the

clamp screw, the knob is adjustably and securely held in any desired position on the spindle.

The spindle and knob, including the inner and outer shells and web thereof may be of any desired construction. The inner shell B is preferably furnished with a thimble or hub-like extension  $b$  having an opening  $b^1$  to receive the spindle A which is preferably square in cross section. The thimble portion  $b$  of the inner shell is also preferably provided with a countersink or socket  $b^2$  to receive the head  $E^1$  of the clamp screw E. The inner and outer shells and web of the knob may be secured together at their meeting edges or rims in any suitable manner, but preferably by being pressed or clenched together as indicated in the drawing. The catch or gripper F is provided with a screw threaded opening  $f$  to receive the clamp screw E and with a bent or inclined arm  $f^1$  which is provided with an opening  $f^2$  through which the spindle A extends. One end of the catch or gripper F may bear against some fixed part, as either the web D, the hub or thimble portion of the inner shell B or the spindle A, so that when the clamp screw E is tightened, the catch or gripper F will exert a binding and gripping action on the spindle A. Preferably one end of the catch or gripper F is attached to the web D of the knob as illustrated in Figs. 1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 or 14, and to so secure it it is or may be provided with a head or upset end  $f^3$ . Sometimes it may be more convenient to have one end of the catch or gripper F free or simply bear against the thimble or hub portion of the inner shell B as illustrated in Figs. 15 and 16, and in other forms the catch or gripper F is furnished with two bent ends or members each having an opening through which the spindle A extends, as illustrated in Figs. 17, 18 or 20.

Instead of connecting the catch or gripper F to the web D by riveting or upsetting the shank  $f^4$  which projects through the web in certain forms of my invention, it may be connected to the web by providing it with shoulders  $f^5$ , the web D having a slot  $d$  through which the shouldered end of the catch F may be inserted as indicated in Fig. 19.

As before stated, the preferred form of



my invention is that indicated in Figs. 1 to 5. As shown in Figs. 6, 7, 8, 9 and 10, the construction is substantially the same, excepting that the catch or gripper F is of different shapes.

As shown in Fig. 11, the catch or gripper F is bent into substantially a Z form with the end or limb thereof which is attached to the web D on the one side of the spindle A and with the arm thereof to which the clamp screw E is applied on the opposite side of the spindle A.

In the modification shown in Fig. 12, the catch or gripper engages the web D at one end on one side of the spindle and is engaged by the clamp screw E at its opposite end on the opposite side of the spindle, thus causing the clamp screw and the catch to firmly grip the spindle between them.

In Fig. 13, the catch or gripper F is provided with a further bent arm  $f^6$  having an opening through which the spindle A extends, and the clamp screw engages one end of the catch while its opposite end is secured to the web D. In this form the catch F thus has a double gripping action on the spindle.

In the modification illustrated in Fig. 15 the gripping device or catch F is of a general loop shape and is secured at both of its ends to the web D of the knob and the opening therein to receive the spindle A is in the middle portion of the U or loop shaped catch.

In the modification illustrated in Figs. 15 and 16, the catch or gripper F is of an angle form and is not secured to the web D at either end, one arm of this bent catch being substantially horizontal with the spindle and engaged by the clamp screw E, while the other arm of the catch is furnished with the opening through which the spindle A extends.

In Figs. 17 and 18, the catch or gripper F is furnished with two similar bent arms, each provided with an opening through which the spindle A extends.

The modification illustrated in Fig. 19 is substantially the same as shown in Figs. 1 to 5, excepting that the gripper is furnished with shoulders  $f^5$  for engagement with the web instead of with a riveted shank.

In the modification shown in Fig. 20, the catch or gripper F is provided with two bent arms furnished with openings through which the spindle A extends, and the clamp screw E engages the catch F at one side of both of said arms instead of between said arms as shown in Figs. 17 and 18.

In all forms of my invention, the knob is securely held in any position desired on the spindle A by the binding and gripping action of the catch F and clamp screw E, and the attachment is rendered more secure by

the natural resiliency of the plate metal of which the catch F is formed.

The catch or gripper F may, if desired, be furnished with teeth  $f^7$  to engage the spindle as indicated in Fig. 5.

I claim:—

1. The combination with a knob and spindle, of a gripper having an opening through which the spindle extends and a clamp screw engaging the gripper, said gripper having screw threads to engage said clamp screw, substantially as specified.

2. The combination with a knob and spindle, of a device for adjustably attaching the knob to the spindle, consisting in a gripper extending lengthwise of the spindle and having a bent arm furnished with an opening through which the spindle extends and means for exerting pressure upon the gripper to cause it to grip the spindle, substantially as specified.

3. The combination with a spindle, of a knob having a web, a gripper attached at one end to said web and having a bent arm furnished with an opening through which the spindle extends and a clamp screw, substantially as specified.

4. The combination with a knob having a web, of a spindle, a gripper having a shank riveted to said web and provided with a bent arm having an opening through which said spindle extends and a clamp screw engaging said gripper to cause it to exert a gripping action upon the spindle, substantially as specified.

5. The combination with a knob having a web, of a spindle, a gripper secured at one end to said web, and provided with a plurality of bent arms having openings through which said spindle extends, and a clamp screw engaging said gripper to cause it to grip the spindle, substantially as specified.

6. The combination with a knob and spindle, of a gripper extending lengthwise of the spindle and having a plurality of bent arms furnished with openings through which the spindle extends, and a clamp screw engaging the gripper to cause it to grip the spindle, said gripper having screw threads to engage the clamp screw, substantially as specified.

7. The combination with a knob and spindle, of a gripper having a plurality of bent arms furnished with openings through which the spindle extends, and a clamp screw engaging the gripper and the spindle to cause the gripper to grip the spindle, substantially as specified.

8. The combination with a knob and spindle, of a gripper having screw threads to receive a clamp screw and provided with a bent arm furnished with an opening through which the spindle extends, and a clamp screw extending through and engag-

ing the gripper and also engaging the spindle to adjustably and firmly secure the knob to the spindle, substantially as specified.

5 9. The combination with a knob and spindle, of a gripper having a bent arm furnished with an opening through which the spindle extends, and a clamp screw engaging the gripper and the spindle to adjustably

and firmly secure the knob to the spindle, said knob having a web, and said gripper 10 being secured to said web, substantially as specified.

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