

H. S. LOCKWOOD.
DOOR KNOB.
APPLICATION FILED JUNE 15, 1908.

938,776.

Patented Nov. 2, 1909.

Fig. 1.

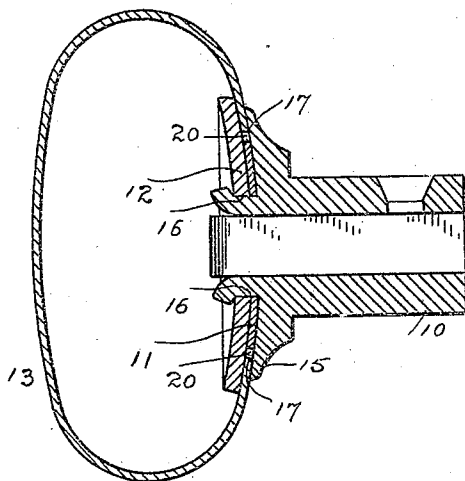


Fig. 2.

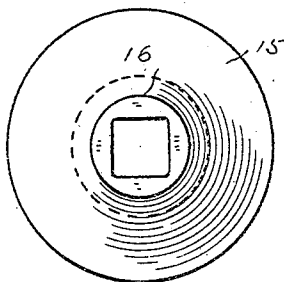


Fig. 3.

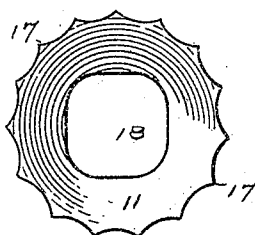


Fig. 4.

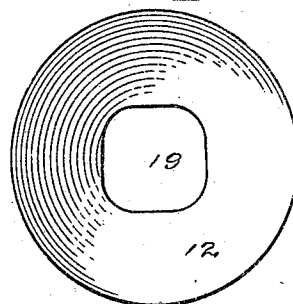


Fig. 5.

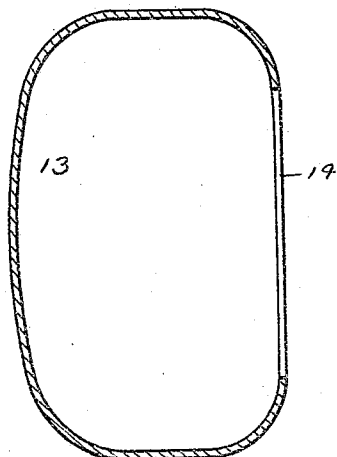
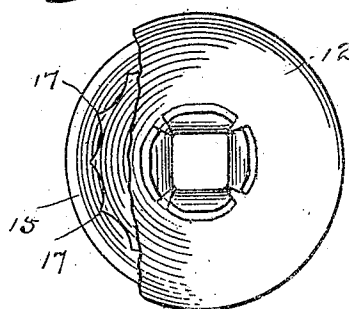


Fig. 6.



Witnesses:

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By

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UNITED STATES PATENT OFFICE.

HENRY S. LOCKWOOD, OF SOUTH NORWALK, CONNECTICUT.

DOOR-KNOB.

938,776.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY S. LOCKWOOD, a citizen of the United States, residing at South Norwalk, county of Fairfield, State of Connecticut, have invented a new and useful Door-Knob, of which the following is a specification.

This invention has for its object to provide a simple and inexpensive door knob, which shall be made entirely of metal and of few parts which are inexpensive to produce, as the operations are all performed mechanically and the assembling or attachment together of which is performed mechanically.

With these and other objects in view I have devised the simple and novel door knob, of which the following description in connection with the accompanying drawing is a specification, reference characters being used to indicate the several parts.

Figure 1 is a longitudinal section of my novel knob complete; Fig. 2 an end elevation of the shank detached; Fig. 3 an elevation of the corrugated washer detached; Fig. 4 an elevation of the inner washer detached; Fig. 5 a section of the shell detached; and Fig. 6 is an elevation partly broken away, showing the washers assembled upon the shank and locked in place ready to receive the shell.

10 denotes the shank, 11 the corrugated washer, 12 the inner washer and 13 the shell. The shank is provided with the usual longitudinal opening to receive a spindle, with a collar 15 and with a neck 16 on the inner side of the collar. The shank may be cast or may be formed complete from sheet metal as preferred. Washer 11 is provided with a toothed, corrugated or serrated edge, as at 17, and with a central opening 18, which is made angular but is preferably rounded at the corners. Washer 12 is larger than washer 11 and is provided with a similar angular opening 19 preferably rounded at the corners. Both of these washers are concealed in the completed knob and may be formed of low grade steel even in the most expensive knobs. The shell is struck up from soft steel, brass or bronze to substantially the form shown in Fig. 5, leaving a central opening 14 which just permits washer 12 to be passed through. The inner face of collar 15 is made slightly concave, and the washers are both made concavo-convex to correspond.

In assembling, serrated washer 11 is first passed over the neck into engagement with the collar, then washer 12 is passed over the neck and into engagement with washer 11, and then the neck is opened outward by means of a blow, as clearly shown in Figs. 1 and 6. The openings in the washers are made just large enough at their shortest diameters to receive the neck freely, so that when the neck is opened outward a portion of the metal of the neck will pass into the rounded corners of the openings in the washers and will lock the washers rigidly to the shank and prevent the possibility of rotation of the washers on the shank. It will be noted (see Figs. 1 and 6) that collar 15 and washer 12 are both of greater diameter than washer 11, so that a circular recess, which I have indicated by 20, is left between said parts. Washer 12 is now passed through the opening in the shell and the edge of the shell is closed into recess 20 between washer 12 and the collar with sufficient force to cause the teeth or serrations upon the edge of washer 11 to be forced into the metal of the shell at the edge of the opening, thereby locking the shell rigidly to the shank and making it impossible for the shell to be turned on the shank, washer 12 serving as a perfectly rigid support for the inner wall of the shell and keeping it securely in place. The collar is then closed down firmly upon the outer side of the shell, so that a perfectly air-tight and moisture-tight joint is made between the shell and the shank.

Having thus described my invention I claim:

1. A knob comprising a shank having a collar and a neck, a washer of less diameter than the collar and having an irregular shaped edge, and an inner washer of greater diameter than the said irregular washer, both rigidly secured to the neck with the irregular washer between the inner washer and said collar leaving a circular recess between the collar and the inner washer around the irregular washer, and a shell having an opening, the edge around said opening occupying said recess and engaging the said irregular washer.

2. A knob comprising a shank having a collar and a neck, a washer of less diameter than the collar and having a serrated edge and an angular opening with rounded corners, and an inner washer of greater diameter than the serrated washer and having a

similar opening, said washers being mounted on the neck, portions of the metal of the neck being spread out and securing said washers in position, and a shell having an opening, the edge around said opening being located between the margins of the collar and inner washer and engaging the edge of the serrated washer.

3. The combination with a seamless wrought-metal knob-grip having a concentric opening in its inner face, of a washer-like locking plate inserted in the said open-

ing and having its edge formed with points which are embedded in the edge of the grip, and a shank rigidly mounted in the said locking-plate against rotary and longitudinal movement. 15

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

HENRY S. LOCKWOOD.

Witnesses:

OLIVER S. STANLEY,
FREEMAN B. MINTON.