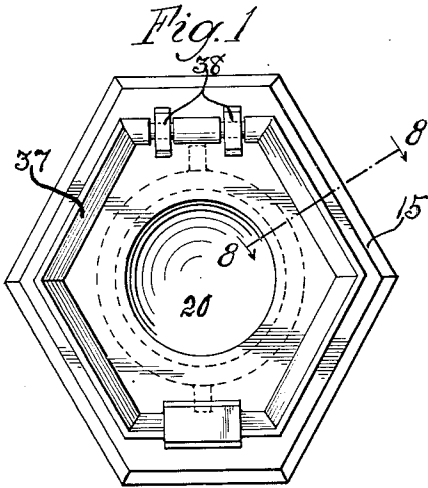
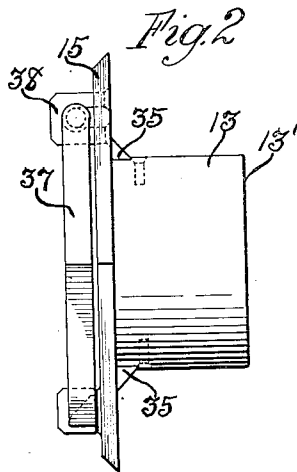
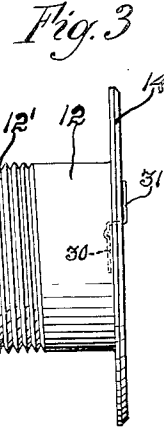
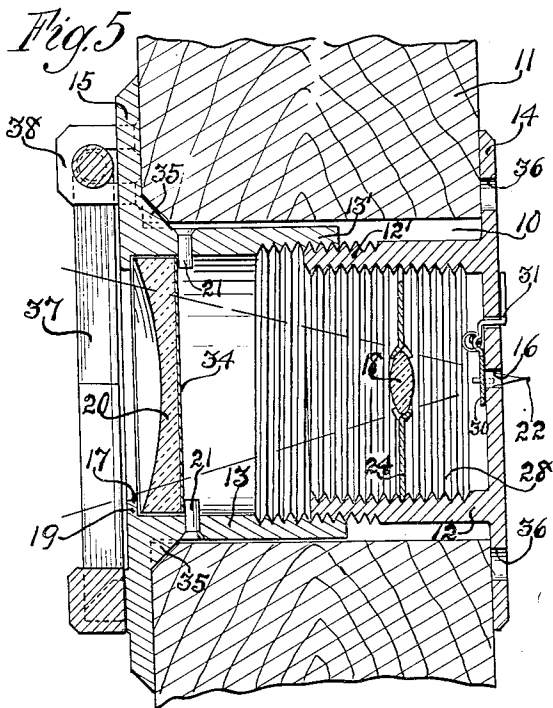
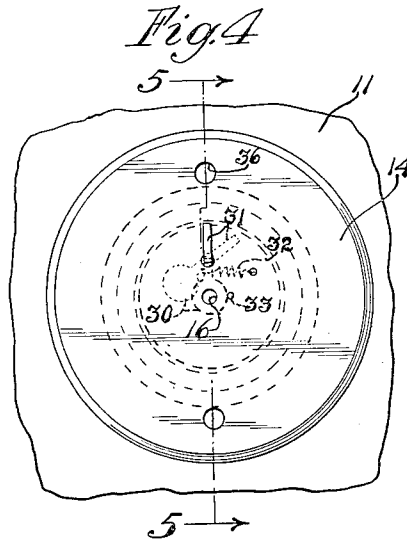
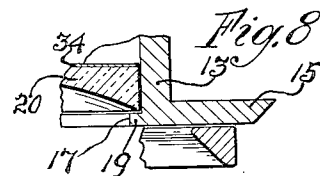
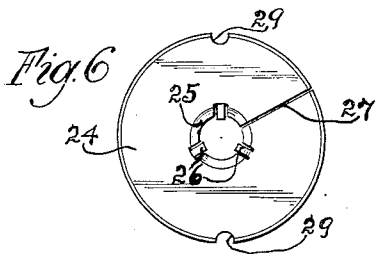
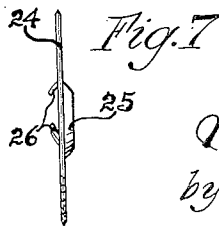


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W. G. HARDT
OBSERVATION DEVICE
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OBSERVATION DEVICE

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3 Claims. (Cl. 88—1)

This invention relates to an improved observation device.

5 An object of this invention is to provide an improved device which is mountable on a door or the like, whereby a person at the inside of a door can observe a person at the outside thereof, without being seen by the latter.

10 Another object of this invention is to provide a one-way observation device utilizing two or more lenses having the focal point or principal focus located a short distance inward of the door.

15 Another object of this invention is to provide such an observation device comprising tubular mounting members which are adjustably connected, and which are provided with two or more coinciding lenses whereof at least one lens is mounted adjustably therein, thus adapting this device to doors of different thicknesses.

20 These and various other objects and advantages are attained with this invention, as will become apparent from the following description, taken in connection with the accompanying drawing wherein the invention is shown in its preferred form; it being understood that various other arrangements and forms of construction may be adopted in carrying out the objects and purposes of this invention.

In the drawing:

30 Fig. 1 is an elevational view of the observation device, as seen from the outer side.

Figs. 2 and 3 are elevational views, respectively, of the outer and inner portions of the device disassembled.

35 Fig. 4 is an elevational view, showing the inner side of a portion of a door with this device installed therein.

Fig. 5 is an enlarged vertical sectional view thereof, taken on line 5—5 of Fig. 4.

40 Figs. 6 and 7 are elevational views showing the supporting member for the small lens in face view and in edge view, respectively.

Fig. 8 is a detail sectional view, taken on line 8—8 of Fig. 1.

45 The drawing illustrates my improved observation device in its preferred form of construction, which is arranged and adapted to be mounted in an aperture 10 provided in a door 11 or other opaque wall member, and the like, so as to enable a person to observe therethru someone at the outside of the door or opaque member without being observed himself at the inside thereof. This device comprises a plurality of tubular mounting portions arranged and connected to be adjustable for length, so that it can be fitted on 55 doors of different thicknesses; and these portions

preferably include an inner tubular portion 12 and an outer tubular portion 13 which have threaded engaging portions 12' and 13' for adjustably securing them together. A radially extending annular flange or plate 14 is provided integral on the inner end of portion 12 for closely engaging the inner side of the door, and a radially extending annular flange or plate 15 is provided integral on the outer side of tubular portion 13 for closely engaging the outer side of the door. Said plates are drawn firmly against the door by the threaded connection of portions 12 and 13, to provide a tight fit, and thereby also covering the ends of aperture 10 and presenting a neat appearance.

15 A plurality of coinciding lenses are mounted in the tubular portions 12 and 13, so as to provide observation therethru only in the outward direction; and openings 16 and 17 are therefore provided in plates 14 and 15, respectively, the opening 16 being a relatively small one, to accommodate an eye and having a small lens 18 mounted adjacent thereto, while the opening 17 is nearly as large in diameter as the tubular portion 13, thereby providing a shoulder 19 which serves as the outer support for the outer and larger lens 20. Rivets 21 are pressed thru suitable openings in portion 13 to secure lens 20 in position.

20 The lenses are coinciding lenses and are so curved and so spaced apart as to position their focal point or principal focus a short distance inward of the inner lens 18, as indicated at 22 in Fig. 5, so as to enable placing the eye at this point and observing a person at the outside of the door, while such outer person cannot see the observer at the inside of the door in the room. The lenses may also be formed and arranged to enlarge the appearance of the person or object at the outside.

30 The lens 18 is preferably in the shape of a double convex converging lens, adapted to bring the principal focus near the inward face of the door. It is mounted adjustably in portion 12, to be positioned always at the proper focal distance from its companion lens 20, and adjacent the opening 16 in plate 14, this mounting being preferably done by means of a supporting plate 24 which has a central opening therein provided with an edge 25 pressed in one direction and fingers 26 pressed in the other direction, wherebetween said lens is clamped securely in the plate. Said plate 24 has a thin edge and has a radial slit 27, so that its edge fits in interior threads 28 provided within tubular portion 12, notches 29 being provided in the supporting 55

plate 24 adapted to receive the prongs of a pliers or the like, for turning the plate in threads 28 and adjusting the lens 18 into its proper position.

A cover or closure plate 30 is preferably provided to close opening 16 in plate 14 at the inside of the door, as by means of a handle or operating member 31 connected to plate 30 and pivoted on plate 14, while a spring 32 retracts the plate 30 to stop pin 33. This plate thus normally depends in closed position across the opening, but may readily be swung upward by moving the handle 31 to clear the lenses for observation purposes.

The lens 20 is preferably a plano-concave lens which has its concave face placed outwardly, and on its inward plane face it is provided with a translucent coat or layer 34 of suitable material, as indicated in Fig. 5, which will serve as a reflecting surface toward the outside, to maintain the interior of the device dark while the closure plate 30 is in its closed position, and prevent a person on the outside from viewing the interior of the device. When cover plate 30 is swung from opening 16, some light enters the interior of the device, and as the coating 34 on lens 20 is translucent, a person placing an eye at point 22 near the inside of the door can unnoticed observe a person at the outside of the door.

One or more ribs 35 or other suitable means is provided on plate 15 to engage in suitable notch means in the door, and hold the outer portion 13 securely against being turned or loosened at the outside of the door as long as the inner portion 12 is secured thereto. Apertures 36 may also be provided in inner plate 14 to accommodate a pliers or instrument for securing portion 12 onto portion 13.

The outer side of this device is made of a pleasing design and a modernistic appearance, as best shown in Fig. 1. It is preferably also provided with a knocker 37, which is substantially in the form of a beveled ring, and is mounted by hinge means 38, for instance, staples which embrace the upper part of the knocker ring and have their ends secured in openings provided in plate 15. This adds another useful feature to the device, and it enhances the appearance thereof from the outside of the door, and also diverts attention away from the observation device.

I claim:

1. An observation device for a door and the like, comprising tubular means mountable in an aperture in a door and consisting of an inner portion and an outer portion which have threaded connecting means concealed in the aperture adapting the same for doors of different thicknesses, an integral annular plate on each portion engaging the inner and outer sides of the door and covering the ends of the aperture, there being a smaller opening in the inner plate and a larger opening in the outer plate, a pair of lenses in said tubular portions including a negative lens of larger diameter mounted in the larger opening and a positive lens of smaller diameter mounted adjacent the smaller opening, and means carrying the smaller lens in the device and adjustable relative to the inner and the outer plates, thereby placing the principal focus closely adjacent the inner side of the door and permitting sight only outwardly therethrough.

2. The subject matter set forth in claim 1 wherein the means carrying the smaller lens consists of an opaque plate, and the outer lens is darkened on the inner side, to provide a dark space between said lenses.

3. An observation device for a door and the like, comprising tubular means mountable in an aperture in a door and consisting of an inner portion and an outer portion including integral connecting means for securing them adjustably together in the aperture, adapting the same for doors of different thicknesses, an integral annular plate on each portion engaging the inner and outer sides of the door and covering the ends of the aperture, there being a smaller opening in the inner plate and a larger opening in the outer plate, a lens mounted in each of the tubular portions including a concave lens of larger diameter in the larger opening and a convex lens of smaller diameter adjacent the smaller opening, and an opaque plate carrying the smaller lens therein adjustable in said inner portion and relative to said inner and outer plates, thereby placing the principal focus closely adjacent the inner side of the door and permitting sight only outwardly thru the lenses.

WILLIAM G. HARDT.