Jan. 3, 1928. 1,654,729

W. H. GREENE

LATCH

Filed Sept. 14, 1925

Fig. 1.

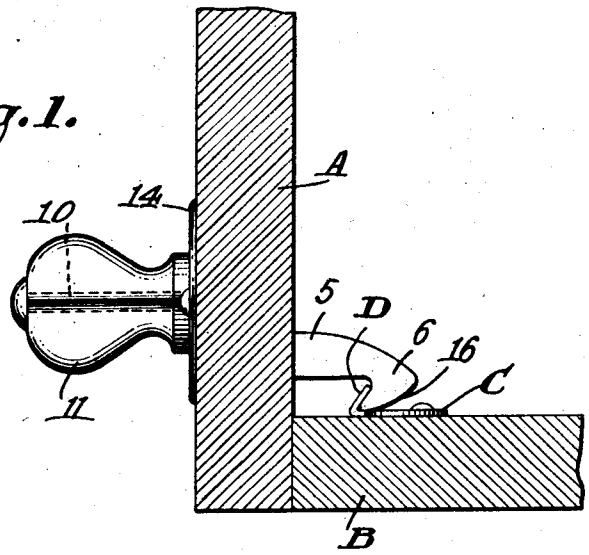


Fig. 2.

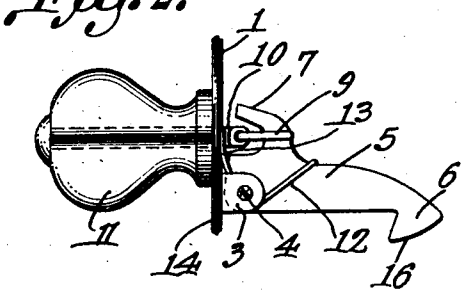


Fig. 3.

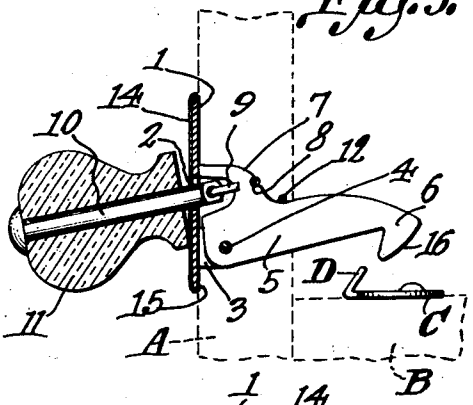


Fig. 4.

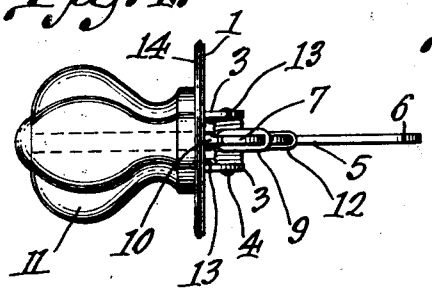
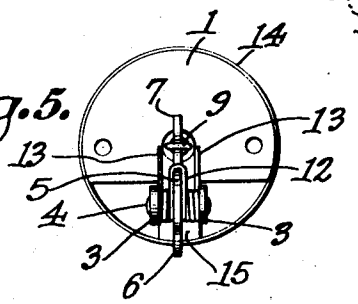


Fig. 5.



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UNITED STATES PATENT OFFICE.

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LATCH.

Application filed September 14, 1925. Serial No. 56,293.

This invention relates to a latch designed primarily for use upon doors and the like and one of the objects is to provide a latch which can be shifted by the tilting of the knob so as to cause the latch to become disengaged from its keeper.

A further object is to provide a latch the working parts of which, other than the knob and the head of the latch, are concealed within the door.

A still further object is to provide a latch all parts of which are carried by a single attaching plate which can be applied readily to a door without requiring the services of a skilled mechanic.

A still further object is to provide a latch which will be released by a direct pull upon the knob.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings,

Figure 1 is a section through a portion of a door and its jamb, the latch being shown in elevation in engagement with its keeper.

Figure 2 is a side elevation of the complete latch removed from the door.

Figure 3 is a view partly in side elevation and partly in section showing how the latch can be disengaged from its keeper by tilting the knob.

Figure 4 is a top plan view of the latch.

Figure 5 is an end elevation thereof.

Referring to the figures by characters of reference A designates a portion of a door and B designates a portion of the jamb, there being a keeper C attached to the jamb and provided with an outstanding portion D for engagement by the head of the latch.

The latch includes an attaching plate 1 having an opening 2 and extending from one face of the attaching plate are spaced ears 3 in which is mounted a pivot pin 4. The arm 5 of the latch is mounted on the pivot pin and is provided, at one end, with a head 6 for engagement with the keeper. Extending from one edge of the arm is a finger 7 provided with a notch 8 and mounted in this notch is a link 9 attached to one end of a pin 10. Said pin is extended through a knob 11. Thus it will be seen that the link and the pin constitute a flexible connection between the finger 7 and the knob.

A spring 12 straddles the finger 7 and bears within the notch 8. Opposed portions of this spring are coiled about the pin 4 and the terminals of the spring, which have been indicated at 13, bear against the plate 1. Thus the spring tends at all times to hold the head 6 and arm 5 in keeper engaging position, a pull being exerted by finger 7 through link 9 and pin 10 upon the knob 11. Thus the base of the knob will be normally pressed against the plate 1 or a cover disk 14 housing the plate.

It will be noted by referring to Figure 5 that the ears 3 are formed by cutting away segmental portions of the plate 1 to properly shape the said ears and then bending the ears at right angles. This leaves a tongue 15 with the ears 3 extending from the side edges thereof.

It will be understood that when it is desired to release the latch from its keeper it is merely necessary to pull upon the knob 11. This pull will be transmitted through the connection 9—10 to the finger 7 with the result that said finger will be drawn from the position shown in Figure 2 back against the plate 1, thereby lifting the head 6 out of engagement with the keeper and against the action of the spring 12. When the knob is released the spring will return the parts to their initial positions and when the door is closed the beveled end 16 of the head 6 will ride over the keeper and snap into engagement therewith, this operation taking place without shifting the knob 11, because of the flexible connection between the finger 7 and the knob.

The latch can also be disengaged from its keeper by tilting the knob as shown in Figure 3. When this is done the base of the knob will fulcrum on the cover plate 14 and a pull will be exerted upon finger 7 and

thence to the arm 5. This release will take place no matter in what direction the knob may be tilted.

What is claimed is:

1. A door latch including a plate, an arm pivotally mounted on the plate for engagement with a keeper, an operating knob slidably and tiltably mounted relative to the plate, and a connection between said knob and the arm for shifting said arm to released position during the sliding or tilting action of the knob relative to the plate.

2. A latch including a plate having an opening, a keeper engaging arm pivotally mounted on the plate, a knob, a pin carried by the knob and extending loosely through the opening in the plate for sliding and tilting movement in the opening, and a link connection between the pin and the arm for shifting the arm to one extreme position during the tilting or sliding movement of the pin, and a spring engaging the arm for holding the same normally in a predetermined position with the knob pressed against the plate.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

WILLIAM H. GREENE.