(No Model.)

# H. LEACH.

## DOOR BELL.

No. 410,713. Patented Sept. 10, 1889.

Fig. 1.

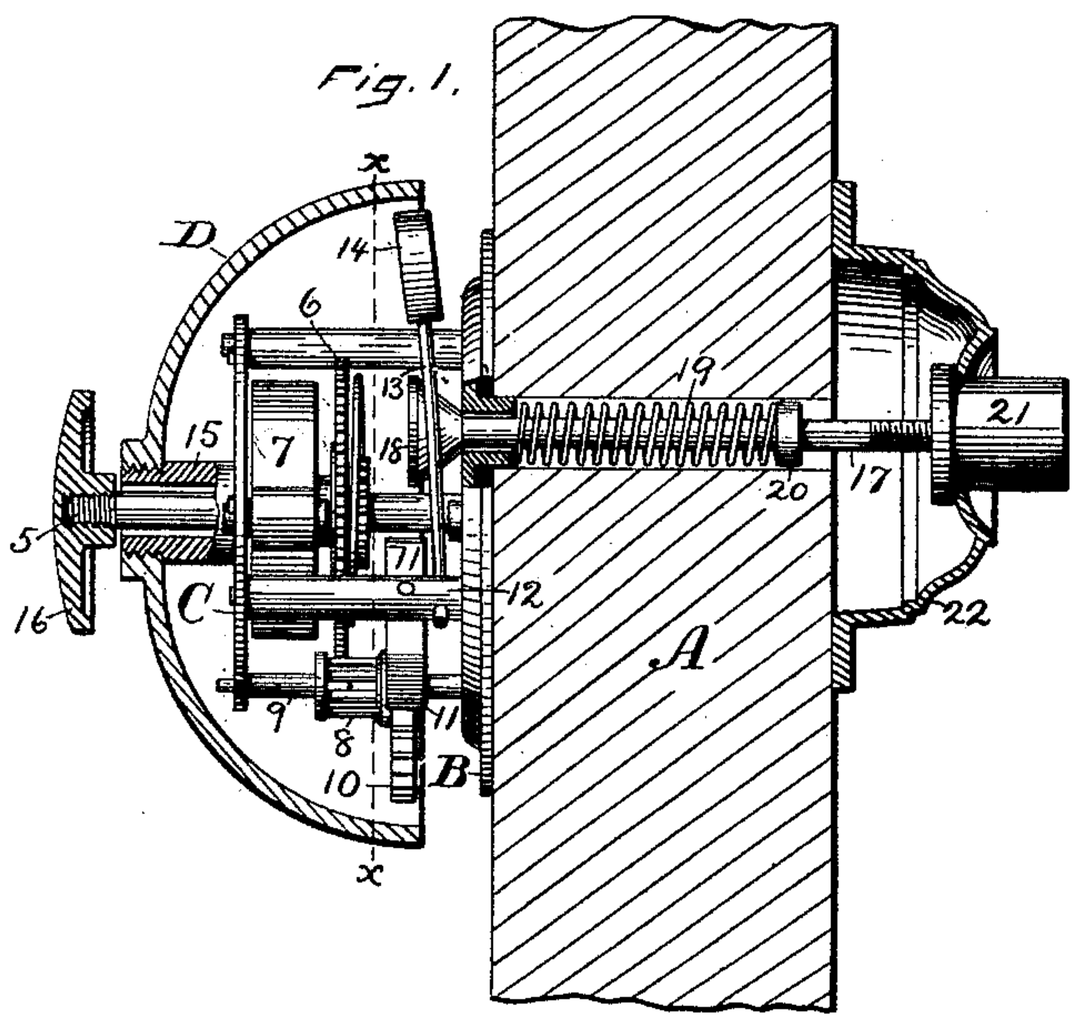



Fig. 2.

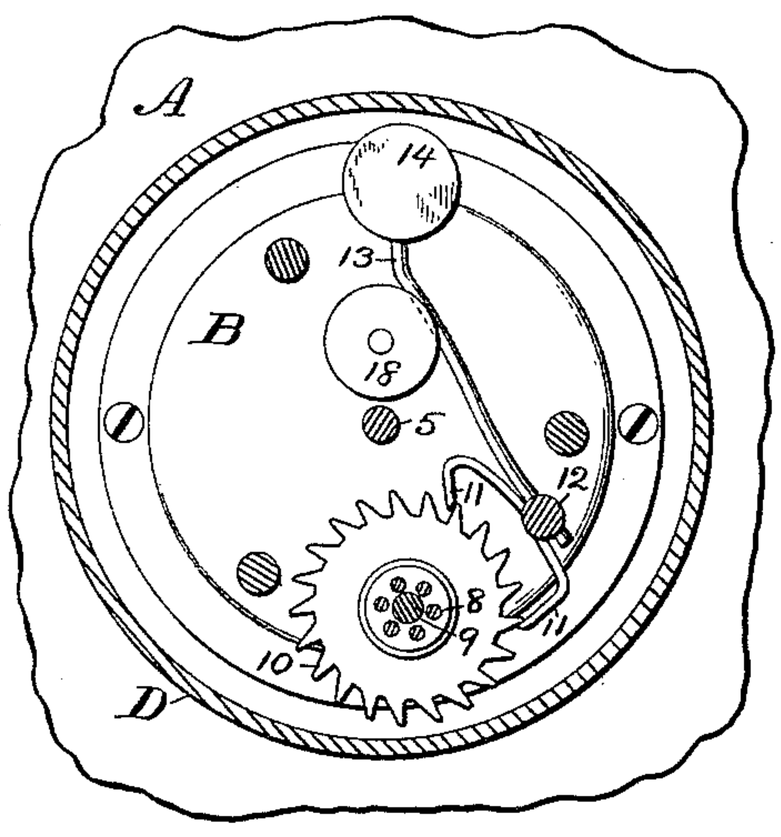



Fig. 3.

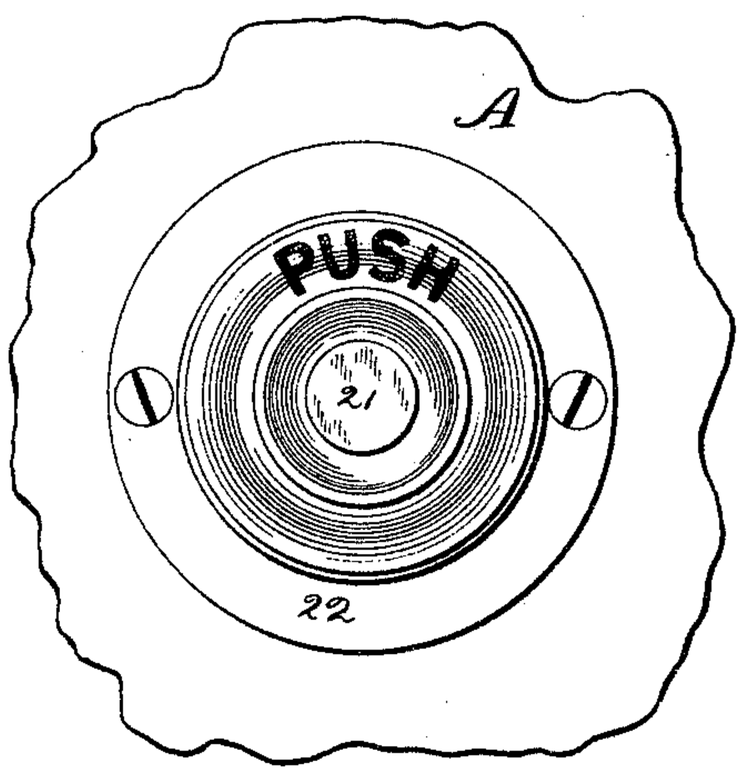
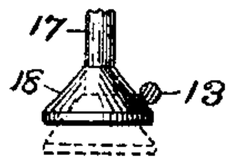



Fig. 4.




Witnesses.
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# UNITED STATES PATENT OFFICE.

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## DOOR-BELL.

SPECIFICATION forming part of Letters Patent No. 410,713, dated September 10, 1889.

Application filed March 5, 1889. Serial No. 301,920. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY LEACH, a citizen of the United States, residing at Bristol, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Door-Bells, of which the following is a specification.

My invention relates to improvements in door-bells; and the objects of my invention are simplicity of construction and general efficiency and convenience in operation.

In the accompanying drawings, Figure 1 illustrates my door-bell partly in central vertical section and partly in side elevation, some of the parts being broken away in order to better illustrate others. Fig. 2 is a vertical section thereof on line *x x* of Fig. 1. Fig. 3 represents in elevation the push-button and its escutcheon on the exterior of the door; and Fig. 4 is a detached view of the holding and releasing dog, together with a transverse section of the hammer-rod.

A designates a portion of the door to which my bell is applied. B designates a base-plate secured to said door, upon which plate is mounted an ordinary alarm-striking mechanism, the base B preferably forming one of the movement-plates of said alarm mechanism, and C designates a companion plate, between which plates the alarm mechanism is supported. The movement selected consists of a main shaft 5, bearing the ratchet-wheel 6 and spring 7; the lantern-pinion 8, mounted on shaft 9, which shaft carries also the verge-wheel 10; the pallets 11, hammer-shaft 12, hammer-wire 13, and its hammer 14 for sounding the bell, all as in well-known alarm mechanisms, and for which other ordinary spring-actuated alarm mechanisms may be substituted. Upon the movement-plate C and surrounding the main shaft 5, I secure the hub 15, upon which the bell D is mounted, and upon the outside of the bell, on the main shaft 5, I secure the winding-button 16. I combine with said alarm mechanism and bell a slide 17, having secured thereto and moving with it the holding and releasing dog 18, which projects laterally from the body of said slide in the vicinity of the hammer-wire 13. A spring 19 around the body of said slide 17 is arranged to hold said dog 18 in the path of the hammer-wire when the slide is left free to the action of said spring. As shown, one end of the spring 19 bears upon a hub formed on the base-plate B, and the other end of the spring bears upon the collar 20, affixed to said slide 17. This mechanism is designed to be attached to a door or to the casings by the side of a door, provision being made for the thickness of the door or other intervening object, which separates the bell upon one side from the push-button 21 upon the other side.

I have illustrated the slide 17 as made long enough to reach through the door and to receive the push-button 21 upon its outer end. I prefer to surround the push-button with an escutcheon 22, as shown.

I have represented the holding and releasing dog 18 in the form of a tapering round button, so that the body of the slide may be round and fitted in round bearings; but if the slide were held against rotation it is evident that if the dog projected into the path of the hammer-wire or other vibrating projection on the hammer-shaft its essential requisites would be present. The taper or beveled face is upon that side which first engages the hammer-wire when the dog is moving into the path of said wire.

In use the alarm mechanism is wound up and rewound from time to time, so that its spring will be ready to operate the hammer whenever the hammer-wire is released. The spring 19 holds the slide and dog in the path of the hammer-wire, as illustrated by the full lines in Fig. 4, so as to prevent the hammer from sounding the bell. When it is desired to sound the bell, the push-button 21, which imitates that of an electric bell, is depressed to move the slide 17 and throw the dog 18 into the position indicated by the broken lines in Fig. 4, thereby removing said dog from the path of the hammer-wire and permitting it to vibrate and sound the bell, under the influence of the alarm-spring, until the pressure upon the push-button is released and the dog, under the influence of the spring 19, again comes into the path of the hammer-wire to arrest its movement.

By my invention the bell and alarm mech-

anism are adapted to be placed upon the inside of a room—as, for instance, upon a door—and to have its hammer-wire released for sounding by means of a dog, which slides transversely to the movement of said hammer-wire, which dog may be actuated by means of a push-button and returning-spring.

I am aware that prior patents for burglar-alarm and for alarm-bells for bicycles, show spring-actuated alarm mechanisms with various tripping devices for holding and releasing said mechanism, and I hereby disclaim the same.

I claim as my invention—

1. In a door-bell, the combination of a spring-actuated alarm movement and hammer-wire, a slide 17, having a holding and releasing dog 18, arranged to move transversely to the movement of said hammer-wire, a spring 19, for holding said dog in engagement with said hammer-wire, and a push-button 21 at the other end of said slide for throwing said dog out of engagement with said hammer-wire, substantially as described, and for the purpose specified.

2. In a door-bell, the combination of the vibratory hammer-wire, the slide 17, push-button 21 at one end of said slide, a holding and releasing dog adapted to move with said slide transversely from and to the path of said hammer-wire, said dog being provided with a beveled face upon that side which first engages the hammer-wire when moving into its path, substantially as described, and for the purpose specified.

HENRY LEACH.

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