R. H. BARNARD.
Door-Holder.

No. 213,611. Patented Mar. 25, 1879.

Fig. 1.

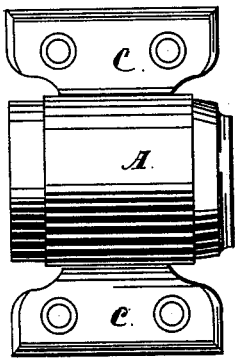
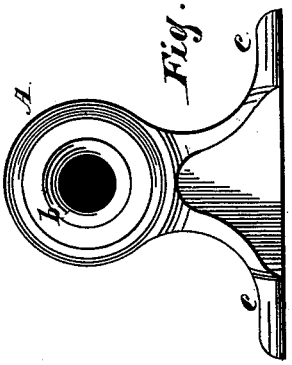


Fig. 3.



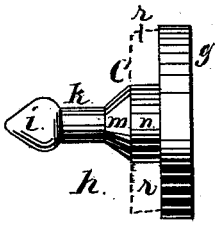
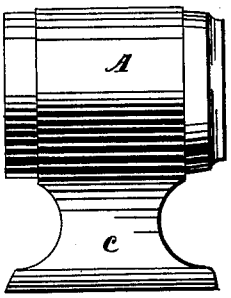


Fig. 4.

Fig. 2.



C

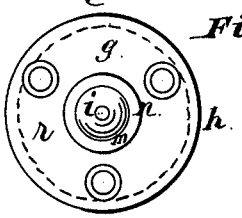


Fig. 5.

Fig. 8.

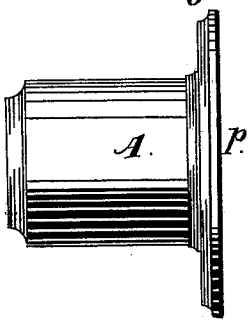
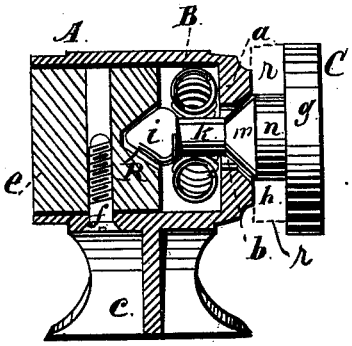


Fig. 6.



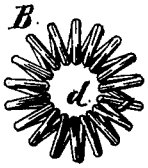


Fig. 7.

Witnesses.
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UNITED STATES PATENT OFFICE.

RICHARD H. BARNARD, OF HYDE PARK, ILLINOIS.

IMPROVEMENT IN DOOR-HOLDERS.

Specification forming part of Letters Patent No. **213,611**, dated March 25, 1879; application filed November 29, 1878.

To all whom it may concern:

Be it known that I, RICHARD H. BARNARD, of Hyde Park, Cook county, State of Illinois, have invented a new and useful Improvement in Door-Holders, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of the cylindrical barrel or floor-piece. Fig. 2 is a side view of the same. Fig. 3 is a front view of the same. Fig. 4 is a side view of the catch. Fig. 5 is a front view of the catch. Fig. 6 is a vertical section of the device, showing the catch in position in the barrel. Fig. 7 is a detailed plan view of the spring; and Fig. 8 is a side view, showing a modified construction of the barrel, by which it is rendered capable of being attached to the wall or base-board, instead of the floor.

Corresponding parts in the several figures are denoted by like letters of reference.

The object of this invention is to construct an improved device for holding doors open; and it is primarily designed for use upon passenger-cars, but may be used in any other place to which it is adapted.

It consists in a floor or wall piece, within which is a peculiar spring, and a catch to be secured to the door, which catch has a head, which can be forced into the spring in the floor-piece, and can be withdrawn therefrom, all as more fully hereinafter set forth.

In the drawings, A represents a floor or wall piece, consisting of a cylinder, partly closed at one end, forming a shoulder, *a*, but having an opening, *b*, to receive the catch. As shown in Fig. 1, this cylinder is mounted on legs *c c*, provided with holes for screws, by means of which it can be secured to the floor.

B is a coil-spring, the two ends of which are connected together, making a circular spring, with an opening, *d*, through the center, as shown in Fig. 7. The diameter of this completed circular spring is somewhat less than the diameter of the cylinder A upon the inside.

e is a block of wood fitting the interior of the cylinder A. It may be held in place by means of a screw, or pin, *f*; and its inner end, when it is in place, may be in contact, or nearly in contact, with the spring B. This inner end is provided with a recess, R, into which the point of the catch can pass, as shown in Fig. 6.

C is the door-piece or catch, consisting of a plate, *g*, adapted to be secured to the door by means of screws, and a projecting piece, *h*, having a head, *i*, formed substantially as shown in Fig. 4, and a neck, *k*, somewhat smaller than the head. As shown, this part *h* is larger between the neck *k* and the plate *g* than the neck, and is beveled at *m*, and the opening *b* in the end of the cylinder A is correspondingly beveled. This peculiar construction is, I think, desirable, but is not a necessity.

In use, the floor-piece, when a floor-piece is used, is to be firmly secured to the floor, and the door-piece C is secured to the door near the bottom and on the back side, the two parts being arranged relatively to each other, so that the head *i* of C will, when the door is opened, enter the opening *b* in the front of the cylinder A. Then, by the use of sufficient force, the head *i* of the door-piece C, which is to be somewhat larger than the central opening, *d*, in the spring B, can be forced through the spring, which will yield and expand to allow the head to pass; and as soon as the head *i* has passed through the spring it will contract about the neck *k*, the parts being in the position shown in Fig. 6; and this spring, being so contracted around the neck *k*, will hold the door open. The form of the head is such that it can be withdrawn from the spring by the use of a reasonable force, the spring yielding and expanding, as before described.

The head *i* is tapering from its largest point both ways, and hence can be forced through the opening *d* both ways, such force being used as is required to overcome the resistance of the spring. I make these springs from steel wire usually. Springs of different sizes may be used, as circumstances require; or the strength of the spring can be varied by varying its length.

The floor-piece can be set at any desired angle corresponding with the angle at which the door will stand when open.

In Fig. 8 the cylinder A is shown, provided with a flange, *p*, standing at right angles thereto, which is to be provided with holes to

receive screws. This form is adapted to be secured to a wall or base-board, instead of the floor, and can be used wherever the door, when open, swings against a wall. By using a backing of wood between the wall-piece and the wall, this wall-piece can be set out a little, if necessary; and by beveling the backing-piece, the wall-piece (shown in Fig. 8) can be made to stand at an angle with the wall, so as to receive the catch C, if the position of the door, when open, renders it necessary. When the wall-piece (shown in Fig. 8) is used, it will not be necessary to secure the block *e* in the cylinder, as it will be held in place by securing the wall-piece to the wall.

A piece of rubber, *r*, is placed around the part *n* of the catch, arranged to act as a cushion and deaden the sound which will be produced by bringing the catch in contact with the floor or wall-piece.

The open end of the cylinder may be closed by a slide to hold the block *e* in place.

My invention can be used in connection with a metallic or other suitable door-knob, by providing such knob with a chamber to receive the spring, and on opening for the passage of the catch, in which case the catch would be secured to the wall.

It is customary to make metallic door-knobs in two parts, and it is an easy matter to provide such a knob with a chamber adapted to receive and hold the spring.

The spring B may be provided with a steel lining, located in the central opening, *d*, and open at one or more points to allow its expansion.

It is not necessary that the part A should be absolutely cylindrical in form; but there must be a chamber to receive a spring.

What I claim as new, and desire to secure by Letters Patent, is as follows:

The combination, with the barrel A, having recessed block *e* and retaining-spring B, of the catch C, having neck *n*, and rubber cushion *r*, adjusted upon said neck, substantially as herein described, for the purpose shown and specified.

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