(No Model.)

J. A. BACHMAN.

DOOR CHECK.

No. 385,400. Patented July 3, 1888.

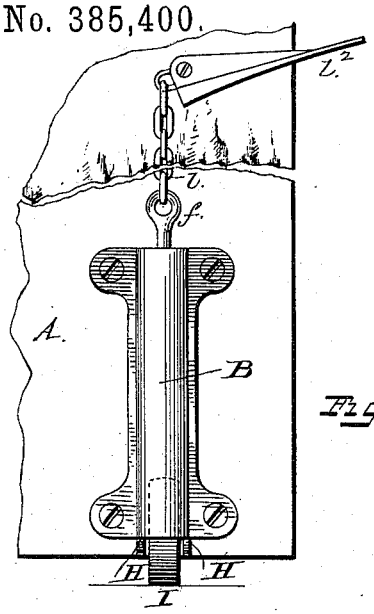


Fig. 1.

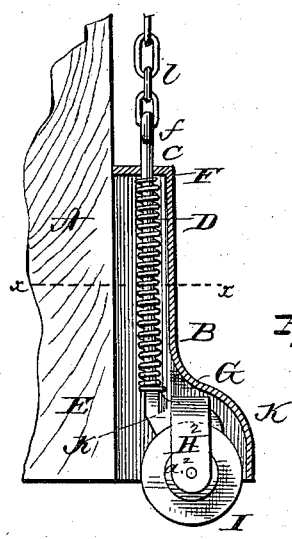


Fig. 2.

Fig. 3.

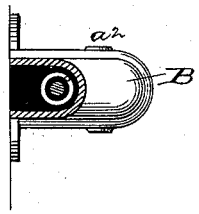


Fig. 5.

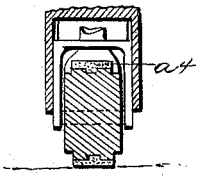
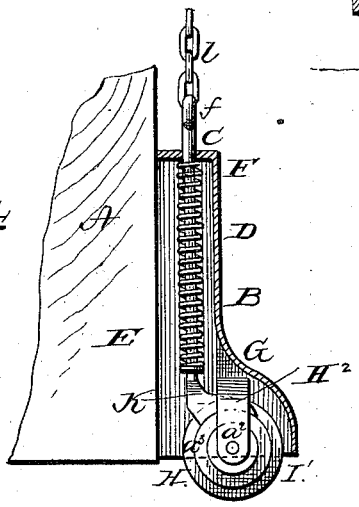


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH A. BACHMAN, OF AUSTIN, TEXAS.

DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 385,400, dated July 3, 1888.

Application filed November 8, 1887. Serial No. 254,655. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. BACHMAN, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, have invented certain new and useful Improvements in Door Stops or Checks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improvement in means for supporting in part a swinging or hinged door and checking, when open, its inclination to close when placed in a given position.

The device, in one instance, consists of a caster or other suitable wheel journaled in a housing or sheath, and in connection therewith is a brake-shoe provided with a spindle, about which latter is coiled a spiral spring backed by an offset in said housing, which acts upon the brake-shoe, throwing and holding it against the periphery of said wheel to check the free movement of the same. The housing or sheath is secured to one of the faces of a door.

In a variation of the device the wheel has on either of its faces an annular offset upon which the brake-shoe bears, instead of, as in the first instance, bearing upon the periphery of the wheel. In this instance the wheel, instead of being journaled in the sheath, is journaled in the ends of a U-shaped vertically-movable bearing guided in its vertical movement by grooves in the said sheath. The brake-shoe in this variation is divided or bifurcated, so that its bearing-surfaces may bear upon the annular offsets without touching the tread of the wheel.

A third feature of my device is the eccentric-lever pivoted to the door above the housing or sheath, and in connection with this lever is a chain secured to the head of the spindle of the brake. The purpose of this lever is to lift the brake clear of the wheel in the first instance—*i. e.*, where the wheel is journaled in the sheath—and in the case where the wheel is journaled in the U-shaped movable bearing the said lever is intended to lift, through the brake and said bearing, the wheel entirely clear of the floor.

In my drawings, Figure 1 is a part elevation of a door with my supporting and checking device applied thereto, and showing also the eccentric-lever. Fig. 2 is a vertical section through the door and sheath, the brake and controlling-spring for same being in elevation. Fig. 3 is a horizontal section with the shaft or axle of the wheel passing through both side walls of the sheath. Fig. 4 is a vertical section corresponding to that of Fig. 2, showing the wheel with annular offsets and journaled in the U-shaped bearing. Fig. 5 is a vertical section through the wheel, showing the rubber band, &c.

Similar reference-letters indicate like parts in all of the figures.

Referring to the drawings, A is the door, hung to a stile of a door-jamb opening in the usual manner. Secured to the outer face of the door at a point opposite the bottom rail is the sheath or housing B, and above this housing, at some convenient point in the door, is pivoted an eccentric-lever, l^2, connected to the spindle of the brake by a chain.

The housing B is provided with hollow spaces suitable to receive the brake and the wheel, and it is provided, also, with grooves for the U-bearing of the wheel-shaft.

The wheel I I′ is provided with a shaft, a^2, which in one case finds its journals in the sheath and in the other case is journaled in the U-shaped movable journal-bearing H^2. The brake is composed of a spindle, C, and a shoe, K, the latter being of a shape to conform to the portion of the wheel upon which it bears.

The wheel I is of the shape of the ordinary caster-wheel, and in this form the brake-shoe K bears upon the periphery of said wheel. The other form of wheel, I′, has annular shoulders a^3, and in this case the brake-shoe is bifurcated, so as to straddle the tread of the wheel and bear upon said annular offsets. The purpose in providing the annular offsets for the brake is to have the bearing of the shoe nearer to the axis of the wheel than said axis is from the tread of the same, so that any amount of weight or pressure put on the wheel by the brake could not prevent the wheel from revolving on account of the difference in leverage being in favor of the resistance at the floor.

D is the spiral spring surrounding the spin-

dle C, resting by its ends against a shoulder, F, at the top of the housing, and a shoulder, G, secured to the spindle. At the upper end of the spindle C is a loop, *f*.

l^2 is a lever provided with a long arm and a slightly-curved short arm, to which and the loop *f* a suitable chain or cord is attached. The purpose of this lever is to lift the brake entirely from the wheel where the same is journaled to the sheath, and in the case where the wheel is journaled to the U-shaped bearing, which passes over the brake-shoe, the lever, when thrown down, lifts the wheel, bearing, and brake all together.

At the threshold of a door, or within the sweep of the latter, it is frequently the case that some such obstruction as a carpet of unusual thickness or a carpet-sill has to be overcome as the door is being moved about its axis, and to compensate for such I provide the vertically-movable journal-bearing H^2, by which the wheel may readily be lifted against the spring without disturbing the door with reference to its vertical position. The wheel H has its periphery encircled by a rubber band or a hard-rubber ring, a^1, the same being held in place by means of an annular groove in the wheel, in which fits a corresponding tongue formed on the inner face of said band. In using the bearing-wheel journaled directly in the sheath the U-shaped bearing, having no function, may be dispensed with.

It has not been mentioned hitherto that it is important in a door-stop of this class that the friction at the floor be rolling rather than sliding friction, as by the latter there would be greater wear and tear to the floor-covering or the floor; hence the present wheel is used rather than something fixed.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the housing or sheath fixed to the door and the bearing-wheel journaled therein, of the brake provided with a spindle, and the spring influencing said brake and wheel, as and for the purpose specified.

2. The combination, with the wheel journaled in a movable bearing, as set forth, the brake, under the influence of the spring, resting upon a bearing-surface of the wheel, of the sheath or housing secured to the door, substantially as specified.

3. The combination, with a wheel provided with annular offsets and journaled in a movable bearing, the brake, and the spring, of the sheath provided with vertical grooves for the U shaped bearing, as and for the purpose set forth.

4. The combination, with the brake and bearing-wheel, of the lever pivoted to the door and the chain or cord connecting said lever and brake, as and for the purpose specified.

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

JOSEPH A. BACHMAN.

Witnesses:
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