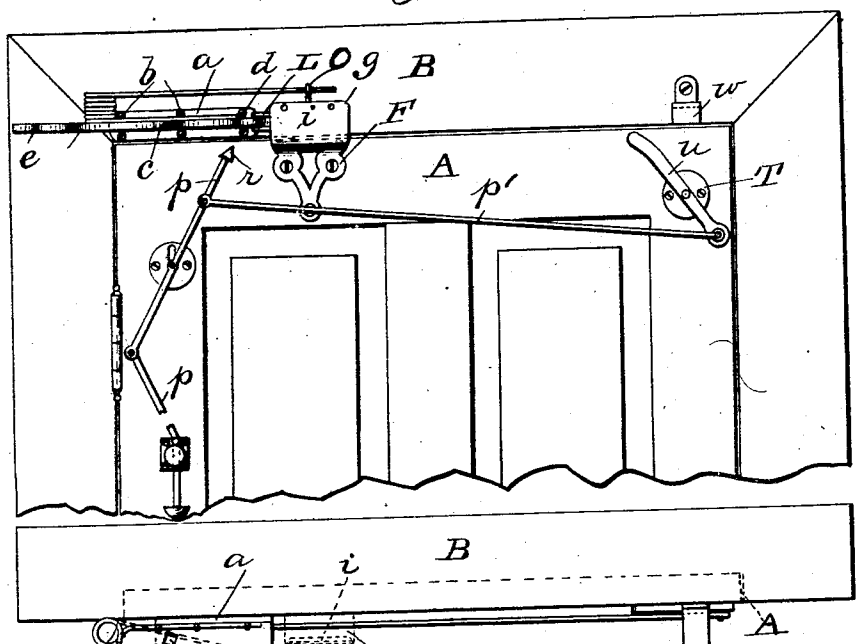
(No Model.)

C. J. WAGENER.

DOOR CLOSER, CHECK, AND HOLDER.

No. 573,497. Patented Dec. 22, 1896.

Fig. 1.



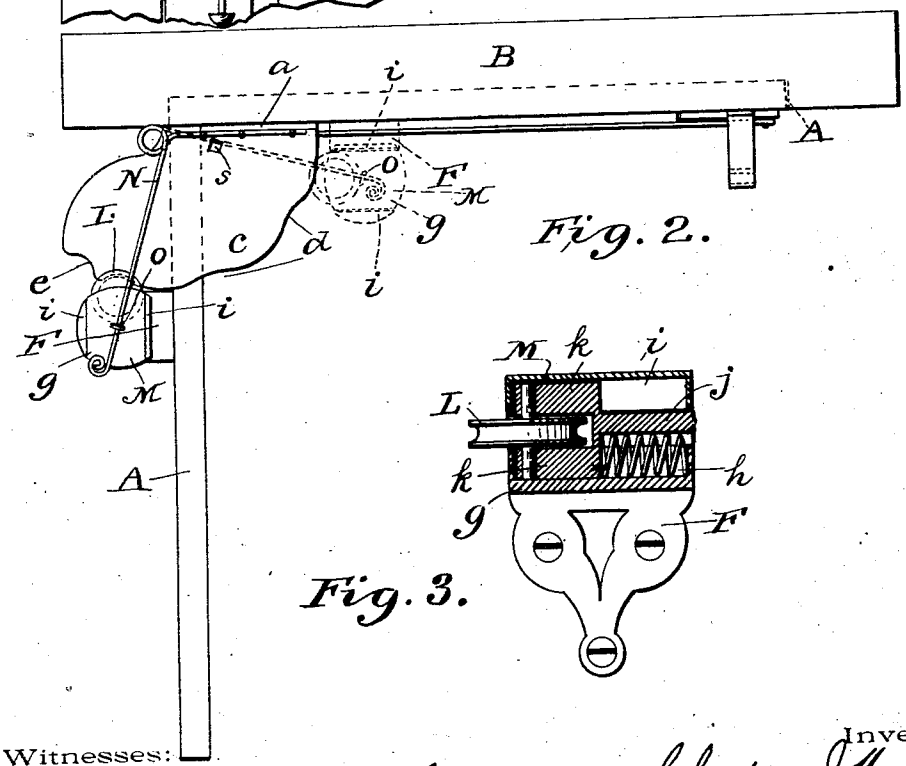


Fig. 2.

Fig. 3.

Witnesses:
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UNITED STATES PATENT OFFICE.

CHRISTIAN J. WAGENER, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILBERT LEE SLACK, OF SAME PLACE.

DOOR CLOSER, CHECK, AND HOLDER.

SPECIFICATION forming part of Letters Patent No. 573,497, dated December 22, 1896.

Application filed July 8, 1895. Serial No. 555,358. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN J. WAGENER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in a Combined Door Closing, Checking, and Holding Device; 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 relates to improvements in a combined door closing, checking, and holding device.

The objects of my invention are to provide a simple, cheap, and durable device of the class mentioned, adapted to be readily attached to the door-casing above the door and the door itself, by the use of which the door is automatically closed and is kept from slamming while closing, and can also be locked while standing ajar.

I am aware that door-checks, broadly speaking, are old, but to various door-checks now on the market many serious objections are raised. They are expensive and complicated and easily get out of order, and besides they do not perform all the functions which my invention does, namely, closing the door, checking it while being closed to prevent slamming, holding the door open, and also locking the same while it is standing ajar.

With these objects in view my invention consists of the parts and combination of parts, all as more fully hereinafter described and particularly claimed.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front view of the device attached to door and casing; Fig. 2, a plan showing in dotted lines the door closed and in full lines open; Fig. 3, a central section through the part attached to the door.

Referring to the drawings, A indicates a door of the ordinary style, and B a casing. To the door-casing, directly above and at the inner or hinged side of the door, is rigidly secured a plate *a* by means of screws *b*. Attached to this plate and extending out at right angles therefrom and over the door is a bracket *c*. The outer edge of this bracket is curved and rounded and provided with depressions or indentations *d* and with one or more stop-notches *e*. This bracket may be of any suitable shape and size and may be made solid, although I prefer that it shall be composed of open-work of an artistic form. Secured to the upper part of the door and adjacent to the bracket *c* on the casing is a bracket F. Secured to this bracket or preferably cast in one piece therewith is a casing *g*, which extends outwardly and upwardly from the bracket. This casing is composed of a bottom plate, two vertical sides *i*, and a cap M. Within the casing is placed a sliding block *j*, composed of a shank and a head formed of two lugs or arms *k*, with a space between them. Within this space is hung a grooved wheel L on a turning-pin held in the lugs. The bottom plate of the casing *g* is provided with a slot *h*, into which one of the lugs *k* enters, and behind this lug and in this groove is placed a coiled spring. The wheel L is placed in engagement with the curved edge of the bracket *c* on the door-casing, and the coiled spring within the casing *g*, pressing on the lugs which carry the wheel, keeps the latter in contact with such edge. The cap M is held between the sides of the casing by means of screws passed through one of the sides *i* and fits closely on the sliding block *j*. Cap M is provided internally with a slot, into which one of the lugs *k* of the block *j* enters, by which the block is thus enabled to slide therein.

N is a strong partly-coiled spring-lever, one end of which is secured to the plate *a* on the door-casing, and the other end secured to the cap M of the casing *g* on the door by means of a staple *o* or equivalent device.

The means thus far described are for automatically closing the door and checking the same as it is being closed. Means for holding the door ajar or partly closed consist of a jointed rod *p*, pivoted to the door, its lower end passing through a bracket, as shown in Fig. 1, and its upper end provided with an arrow-shaped head *r*, which is adapted to enter an aperture *s* in the bracket *c*, extending out from the door-casing. The lower end of rod *p* may be formed as a handle to operate it.

A supplementary locking device consists of a rod p', pivoted to rod p at one end and to a lever-arm u at its opposite end. The lever u is in turn pivoted on a plate T. A catch-plate w is placed on the door-casing by which to hold the lever u when the door is locked.

It is obvious that the door-casing bracket c may be provided with a series of apertures s, by which the door can be held at different positions ajar by the engagement therewith of the arrow-headed rod p.

The operation of the closing and checking mechanism is as follows: As one end of the spring N is secured to the door-casing and the opposite end to the door, such spring acts as a lever the normal action of which is to close the door, and if there were no means provided for resisting or counteracting such direct action the door when opened and then let go would be closed with a slam by the full force of the spring. To resist and arrest such action of the spring-lever and to obviate this slamming effect, the curved bracket and the wheel are employed. As the curved bracket, along its edge, is provided with the depressions, undulations, or indentations over which the wheel moves as the door is closing, the normally direct action of the spring-lever on the door is arrested and the force of the spring is distributed over a prolonged line of resistance, which continuing as the spring shortens and its force is thereby relaxed, by the time the door is about ready to close the full force of the spring is so nearly abated or exhausted that only sufficient force remains to close the door gently. I have found that these features when so combined coöperate most successfully in accomplishing the result thus described.

When it is desired to hold the door wide open, the door is pushed until the grooved wheel is run into one of the stop-notches e, which may be made sufficiently deep to hold the wheel effectually against the action of the spring-lever which normally tends to force the door shut.

Having thus described my invention, what I claim is—

1. The combination with the door-casing and door, of the bracket c on the said casing provided with the stop-notch, e, the bracket-casing on the door provided with the spring-controlled wheel adapted to run on the edge of said casing-bracket and to enter said notch to hold the door open, and the spring-lever N, secured to the door and its casing and against the action of which the door is held open by the said wheel and notch, substantially as described.

2. The combination with the door and door-casing, of the bracket c on the said casing, said bracket provided with apertures, s, the jointed rod p, on said door, said rod provided with a head adapted to enter said apertures when the door is partly open and to lock the door while ajar, substantially as described.

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

CHRISTIAN J. WAGENER.

Witnesses:

W. L. SLACK,

THOMAS EWING, Jr.