

(No Model.)

2 Sheets—Sheet 1.

Z. SWOPE.
DOOR CHECK.

No. 476,328.

Patented June 7, 1892.

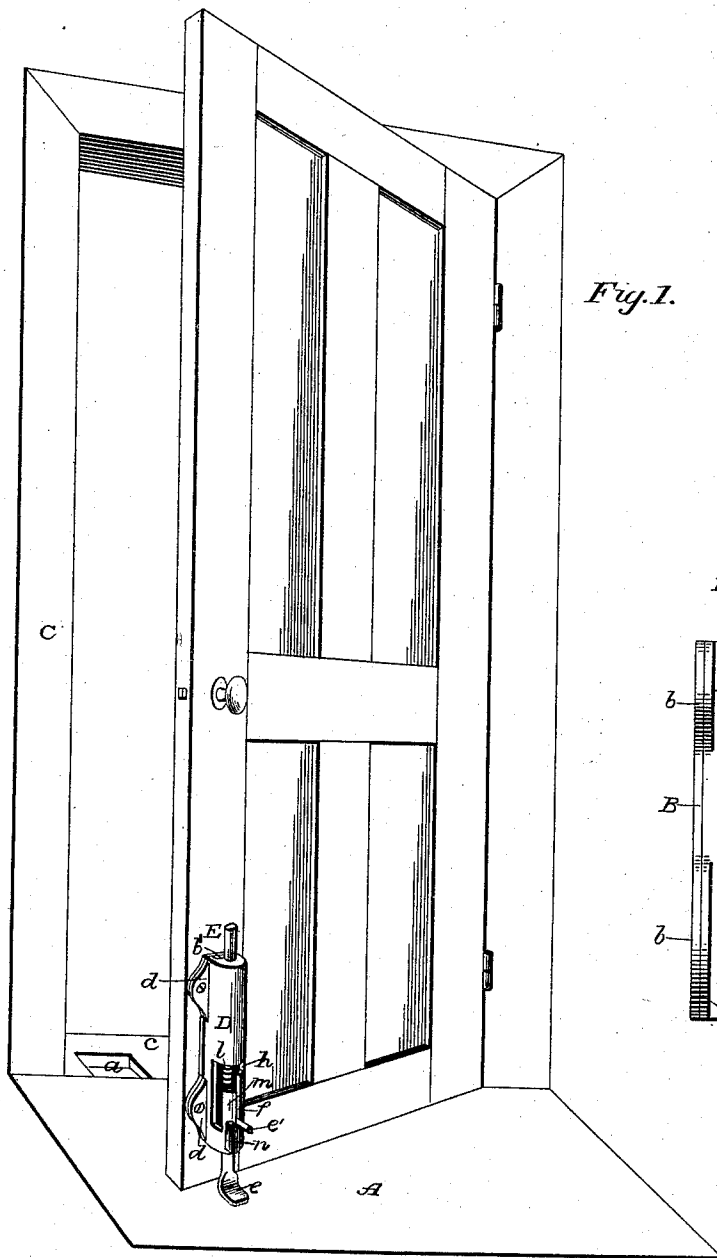


Fig. 1.

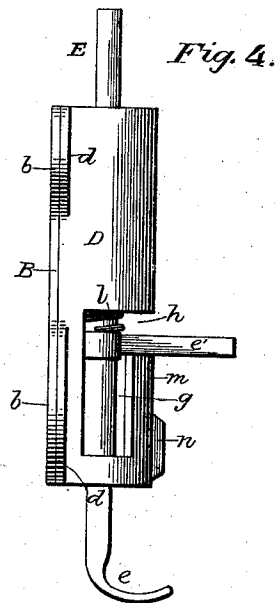


Fig. 4.

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ATTORNEY.

(No Model.)

2 Sheets—Sheet 2.

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DOOR CHECK.

No. 476,328.

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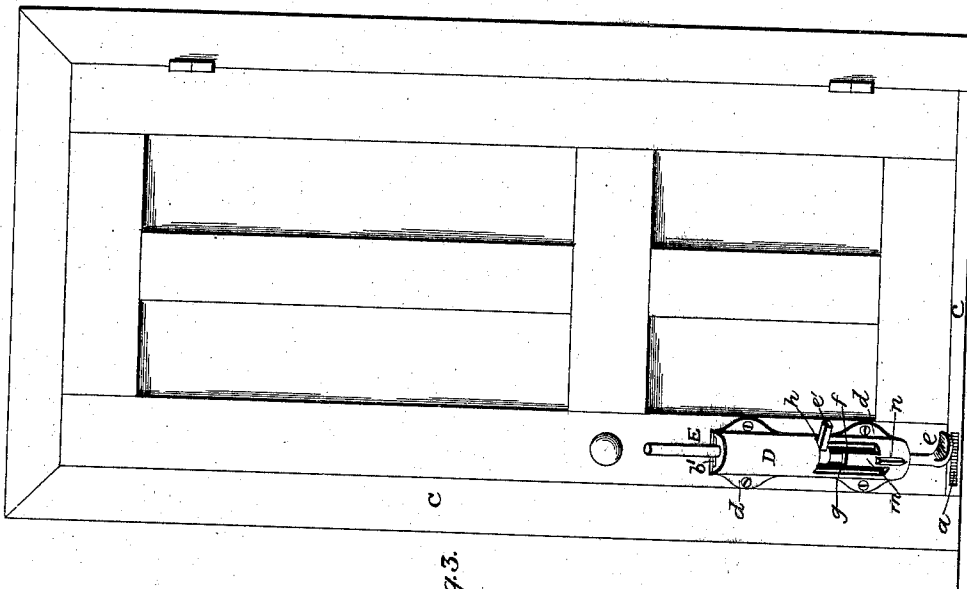


Fig. 3.

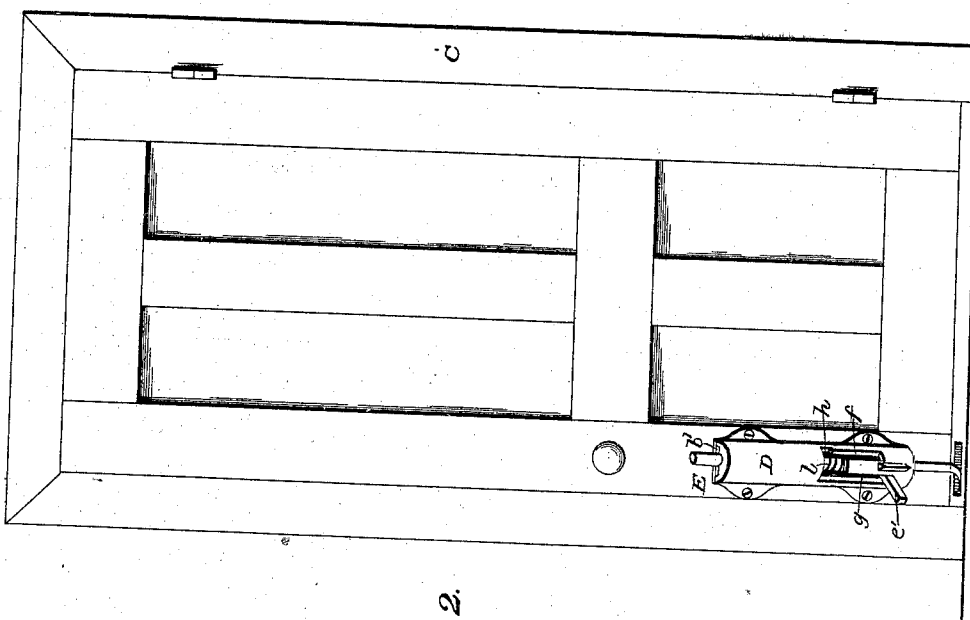


Fig. 2.

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UNITED STATES PATENT OFFICE.

ZURIEL SWOPE, OF LANCASTER, PENNSYLVANIA.

DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 476,328, dated June 7, 1892.

Application filed May 19, 1891. Serial No. 393,288. (No model.)

To all whom it may concern:

Be it known that I, ZURIEL SWOPE, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Door-Checks, of which the following is a specification.

My invention relates to improvements in that class of devices used for holding a door in either a partially or entirely open position and for locking the same when closed; and it consists in the construction and combination of the various parts, as herein fully described, and then specifically pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view of a partially-open door having my device attached thereto, the friction-foot being lowered to rest on the floor and serve as a check. Fig. 2 is an inside elevation of a closed door, the foot being lowered and engaged with a recess in the door-sill to serve as a bolt; and Fig. 3, a similar view, but showing the foot raised so as not to lock or otherwise interfere with the free movement of the door. Fig. 4 is a side elevation of the check detached from the door.

Similar letters indicate like parts throughout the several views.

Referring to the details of the drawings, C represents the door-frame; *c*, the door-sill; A, the floor, and *a* a recess formed in the door-sill.

D represents a semi-cylindrical tube open at the back and having ears *d* formed on both sides near the upper and lower ends.

B indicates a back plate constructed to fit against the back of cylinder D and close the opening therein. The back plate also has ears *b* on its sides of the same shape as and adapted to register with the ears on the tube. Ears *d* and *b* have corresponding perforations, through which pass the screws that secure the check to the door. Half of the ends of the check are formed with the inner portion of the curve of the cylinder, and in the center of the edges of those half ends there are semicircular recesses. The other half of said ends is formed by tongues *b'* on the extremity of the inner face of the back plate. In the center of the outer edges of the tongues *b'* there are also semicircular recesses, which register

with the recesses in the first-mentioned half ends, the recesses at the ends of the check forming circular openings, through which the spring-rod E passes.

The rod E extends entirely through the check and is revoluble therein. It has a spiral spring *l* coiled about it, the lower end of which bears on the boss on the rod to which the handle *e'* is secured and the upper end against the top of the check.

In the lower end of the cylindrical shell or case D there are two vertical slots, divided by a tongue *m*, one of the slots *f* being located to the right of the center of said cylinder and with its left side about on that center and the other *g* on the left of the center of the cylinder and farther from said center than slot *f*. There is also a horizontal slot *h*, extending across the upper ends of the vertical slots, into which they open, and into the shell beyond the right side of slot *f*. When the rod E is elevated to raise the friction-foot (to be hereinafter described) from the floor, the rod is turned so as to allow the handle *e'* to engage the right-hand end of the horizontal slot and hold the foot up, as shown in Fig. 3; but when it is desired to lower the foot to hold the door in an open position or to serve as a bolt to lock it the rod E is turned until the handle is respectively above the slots *f* or *g*, when the handle is released to permit the spring to force the rod downward with the handle engaging one of said slots, as seen in Figs. 1 and 2. To strengthen the tongue dividing the slots *f* and *g*, a rib *n* is formed on the tube D at the point of junction therewith of said tongue.

e represents the friction-foot formed on the lower end of the rod E, and its peculiar construction forms an important element in the operation of the check. This foot is elongated and connected with the rod by an upward curve, the toe also curving upward. The foot is so connected with the rod that when it is in a lowered position and the handle is engaged with the right-hand slot *f* said foot is longitudinally tangent, or approximately so, to the arc of the curve through which it travels as the door swings upon its hinges; but when the rod is lowered with the handle engaging the left-hand slot *g* the foot is approximately parallel longitudinally with the

face of the door. When the handle is in engagement with the right-hand slot, the foot bears upon the floor with a yielding pressure, which is sufficient to hold the door partially or wholly open against any ordinary pressure of wind or other force; but when acted on by any unusual rush of wind or the pressure of any very heavy body the door will give slowly thereto until entirely closed in the frame or opened back against the wall, the foot, by reason of its construction, readily passing over and following any inequalities in the floor and preventing the door from being closed too opened against the wall with violence. The recess *a* has a greater length than breadth and is cut in the sill lengthwise with the length thereof, and the foot *e* is longer than the width of recess *a*, but shorter than the said recess. Should the door be forced shut when the foot is lowered with the handle *e'* in engagement with the right-hand slot *f*, said foot cannot enter the recess *a*, as it extends lengthwise across said recess, and thus the locking of the door against the inmates when they are out of the room is avoided; but if it is desired to bolt the door the foot is lowered with the handle engaging the left-hand slot *g*, when said foot will enter recess *a*, as the length of the foot then coincides with the length of the recess.

The construction of the back plate, as herein described, and the manner of securing it in place permits the spring-rod to be removed by simply detaching the check from the door, should it be necessary to replace a broken or worn-out spring or to make any other repairs requiring access to the interior of the tube. If it is desirable to increase the friction between the foot and the floor, a rubber or other suitable sole may be attached to the bottom of the foot, or the bottom of the foot may be serrated or otherwise roughened.

If preferable, the rod forming the handle may be made short enough to form only a guide in the vertical slots or a detent in the right-hand end of the horizontal slot, and a handle may be attached to the upper end of the spring-rod. It is not necessary that the vertical slots be arranged in the precise positions described, for those positions may be changed and the twist or bend of the foot altered on the rod, so that when lowered it will occupy the several positions before described.

Other minor changes may be made in the construction and arrangement of the various parts of the check without departing from the spirit and scope of my invention. For instance, instead of being made straight, as shown in the drawings, the foot may be curved horizontally, so that when the rod is lowered with the handle engaged in the right-hand slot *f* said foot will lie in the arc of a circle concentric with the axis about which the door moves instead of being tangent to said arc.

I am aware of the patent to John W. Craig

for an improvement in door-checks, No. 198,931, dated January 8, 1878, in which a roller-foot connected with a spring-rod is employed with a tube having a vertical and horizontal slot; but in this construction it is found that with the roller-foot there is not sufficient friction between the foot and floor to prevent the door from being started too easily when open and swung with undue violence against the door-frame or wall. This is especially objectionable with the doors of stores or shops, as the violent slamming of the door often cracks or breaks the glass in the door and front. The construction of the foot employed by me prevents this effectually, the friction being much greater between a sliding foot and the floor than between the floor and a rolling foot.

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

1. The combination, in a door-check, with a door and a sill having an elongated recess cut in it longitudinally thereof, of a tube having vertical slots and a horizontal slot connected with the vertical slots, a spring-rod passing through the tube, a lug or pin secured on the rod and adapted to engage each one of the slots, means for raising said rod, and a foot of greater length than the width of the recess so connected with the spring-rod that when said rod is lowered with the lug or pin engaged with one of the vertical slots the foot will extend transversely over the recess and when the lug or pin engages the other vertical slot said foot will register longitudinally with said recess and be adapted to enter therein, substantially as and for the purpose specified.

2. In a door-check, the combination, with a door-sill having an elongated recess cut in it longitudinally thereof, of a tube having vertical slots and a horizontal slot connected with the vertical slots, a spring-rod passing through the tube, a lug or pin secured on the rod and adapted to engage each one of the slots, means for raising said rod, a foot of greater length than the width of the recess and having an upwardly-curved connection with the spring-rod, and the toe thereof also curved up, the connection of the foot with the spring-rod being such that when said rod is lowered with the lug or pin engaged with one of the vertical slots the foot will lie longitudinally in an arc described by it with the swinging of the door and transversely over the recess and when the lug or pin engages the other vertical slot said foot will register longitudinally with said recess and be adapted to enter therein, substantially as and for the purpose specified.

ZURIEL SWOPE.

Witnesses:

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WM. R. GERHART.