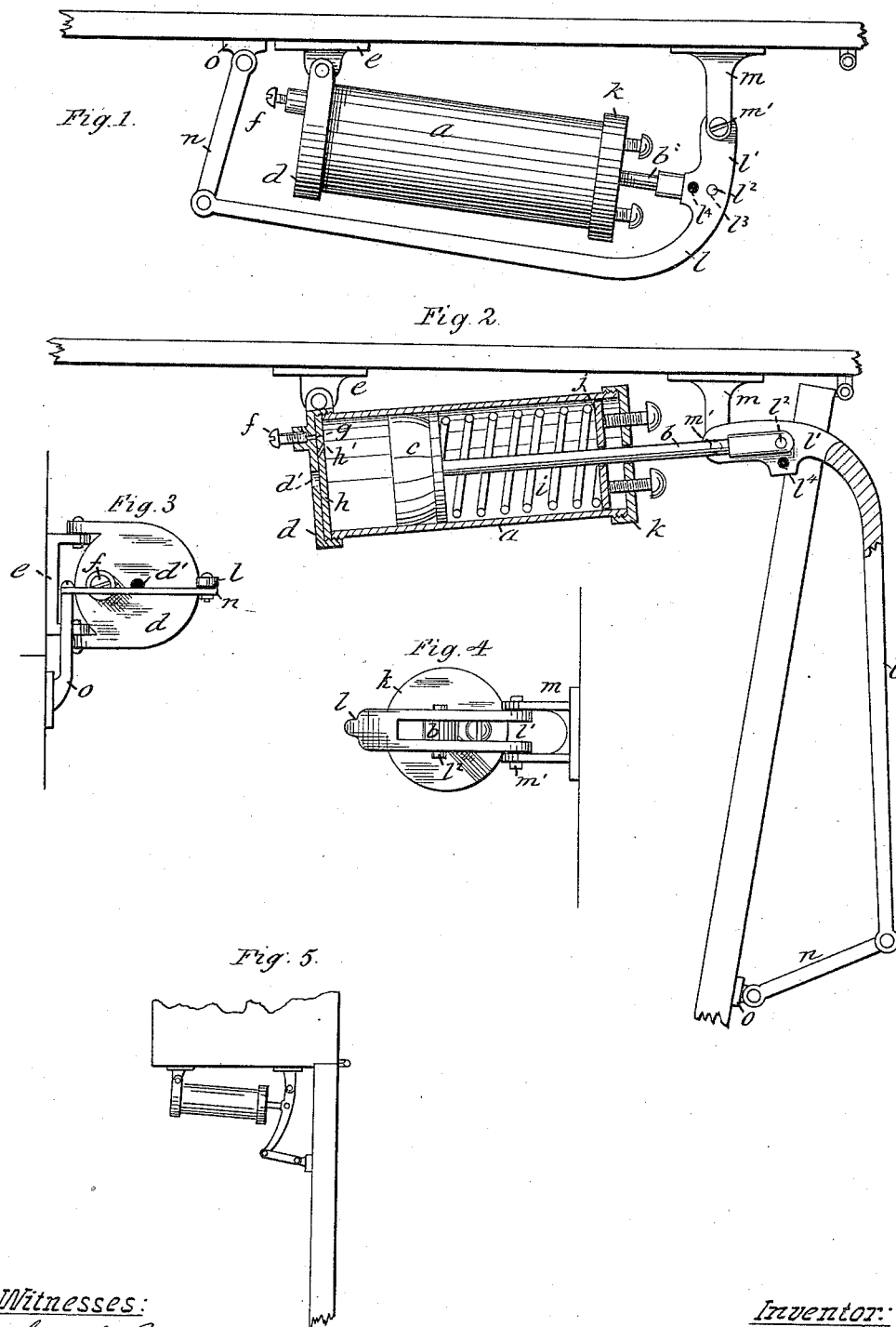


(No Model.)

G. S. PERKINS.
PNEUMATIC DOOR CHECK.

No. 302,582.

Patented July 29, 1884.



Witnesses:

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UNITED STATES PATENT OFFICE.

GUSTAVUS S. PERKINS, OF HARTFORD, CONNECTICUT.

PNEUMATIC DOOR-CHECK.

SPECIFICATION forming part of Letters Patent No. 302,582, dated July 29, 1884.

Application filed April 6, 1882. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS S. PERKINS, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Door-Catches, of which the following is a description, reference being had to the accompanying drawings, where—

Figure 1 is a top view of my device, shown as secured to the inner side of a door and its jamb. Fig. 2 is a view of same, showing the position of the parts when the door is opened about ninety degrees, and the cylinder and other details in longitudinal section. Fig. 3 is an end view of the device, showing the bottom of the cylinder and connections. Fig. 4 is an end view of same, showing the top of the cylinder and connections. Fig. 5 is a view of my device adapted to the outside of a door.

My invention relates to the class of devices used on doors to prevent slamming by the interposition of an air-cushion in a cylinder; and it consists of various improvements in the details of the device, whereby it is rendered more efficient as a door-check, and can also be used to hold the door open without special adjustment.

In the accompanying drawings, the letter *a* denotes a cylinder of usual form and material; *b*, a piston-rod secured to a leather-packed piston, *c*, in form and construction substantially that shown in my patent on door-checks, dated February 11, 1879, and numbered 212,260. The cylinder is externally threaded at the ends, to hold the interiorly-threaded flanged caps *d* and *k*. Cap *d* is pivoted to a stand, *e*, adapted to be fastened to the jamb of a door, and is perforated, as at *d'*, for the passage of air into and out of the cylinder. A screw, *f*, shouldered near its point, is arranged in a socket in the cap *d* to open or close the air-duct *g* and increase or decrease the outflow of air from the cylinder. A disk of leather, *h*, is secured between the cylinder and the cap *d*, and has in it a diagonal slot, *h'*, through which air enters when the piston is raised from the cap, as in the act of opening the door to which the device is applied, first passing through the hole *d'* and duct *g*. When the door is opened and released, the tension of

the spring closes it and forces the piston against the column of air in the cylinder. The air is forced against the leather disk, closes the slit, forms a cushion to the piston, and checks the door. The air leaks out as the motion of the piston ceases, and the door is closed by the operation of the spring. The operation of the device in this regard is precisely that of my invention shown in my patent of February 11, 1879, No. 212,260. By unscrewing the screw *f* a larger outlet is formed, and the door may be arranged so as to close with no cushion to the piston and with a slam; but by closing the duct *g* the air escapes by way of the slit and the opening *d'* only, and the door closes quietly. Within the cylinder is a spiral spring, *i*, compressed between the piston and a metallic disk, *j*, which (by means of screws working in threaded holes in cap *k*) is adjusted to regulate the pressure of the spring. A lever, *l*, is pivotally attached at its forked end *l'* to bracket *m* and to piston *b*, and a connecting-rod, *n*, is pivotally attached to lever *l* and to bracket *o*.

The above-described form of my device is adapted for use on the inside of either right or left hand doors, the brackets *m* *e* being fastened (as by screws) to the jamb over the door, and the bracket *o* by similar means to the face of the door near the upper edge—the cylinder being nearly parallel with the door. The stand *m* nearest the hinge. When the door is opened, as seen in Fig. 2, the piston-rod swings between the forked end of the lever *l*, and when the door is at an angle of about ninety degrees the pull of the spring is in a line with the pivots *m'* *l'*. In this position, as also when the door is opened wider, it is held open—a desirable thing in many instances, as when merchandise is to be carried through the doorway. Two or more pivot-holes, as *l'*, are provided in the lever, by using which the angle at which the door will close may be increased by changing the pivotal connection with the piston-rod to the holes in the succession named.

The form of my device applicable to the outside of doors is shown in Fig. 5, the shape of the lever being slightly changed, the other parts remaining the same, and the cylinder

being secured to the jamb at about right angles to its former position.

I claim as my invention—

1. In a door-check, in combination, a swinging cylinder, *a*, pivotally supported at its back head, a piston, *c*, a piston-rod, *b*, pivotally connected to a lever, *l*, at a point between the pivotal connections of the lever with the stand *m* and rod *n*, and a rod, *n*, and pivot-supports *e*, *o*, and *m*, all substantially as described.

2. In a pneumatic door-check, a cylinder, *a*, pivotally supported at its back head, a contained spring, *i*, with follower disk *j*, and screws whereby the tension of the spring is

adjusted, a piston, *c*, a piston-rod, *b*, pivoted to a lever, *l*, between its outer extremities, connecting-rod *n*, and pivot-supports, whereby the device is attached to a door and its frame, combined substantially as described, and for the purpose set forth.

3. In a door-check, a cylinder, *a*, contained spring *i*, disk *j*, and adjusting-screws whereby the tension of the spring is adjusted, all substantially as described.

GUSTAVUS S. PERKINS.

Witnesses:

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