(No Model.)

I. B. PERRY.

DOOR HANGER.

No. 307,585. Patented Nov. 4, 1884.

Fig. 1

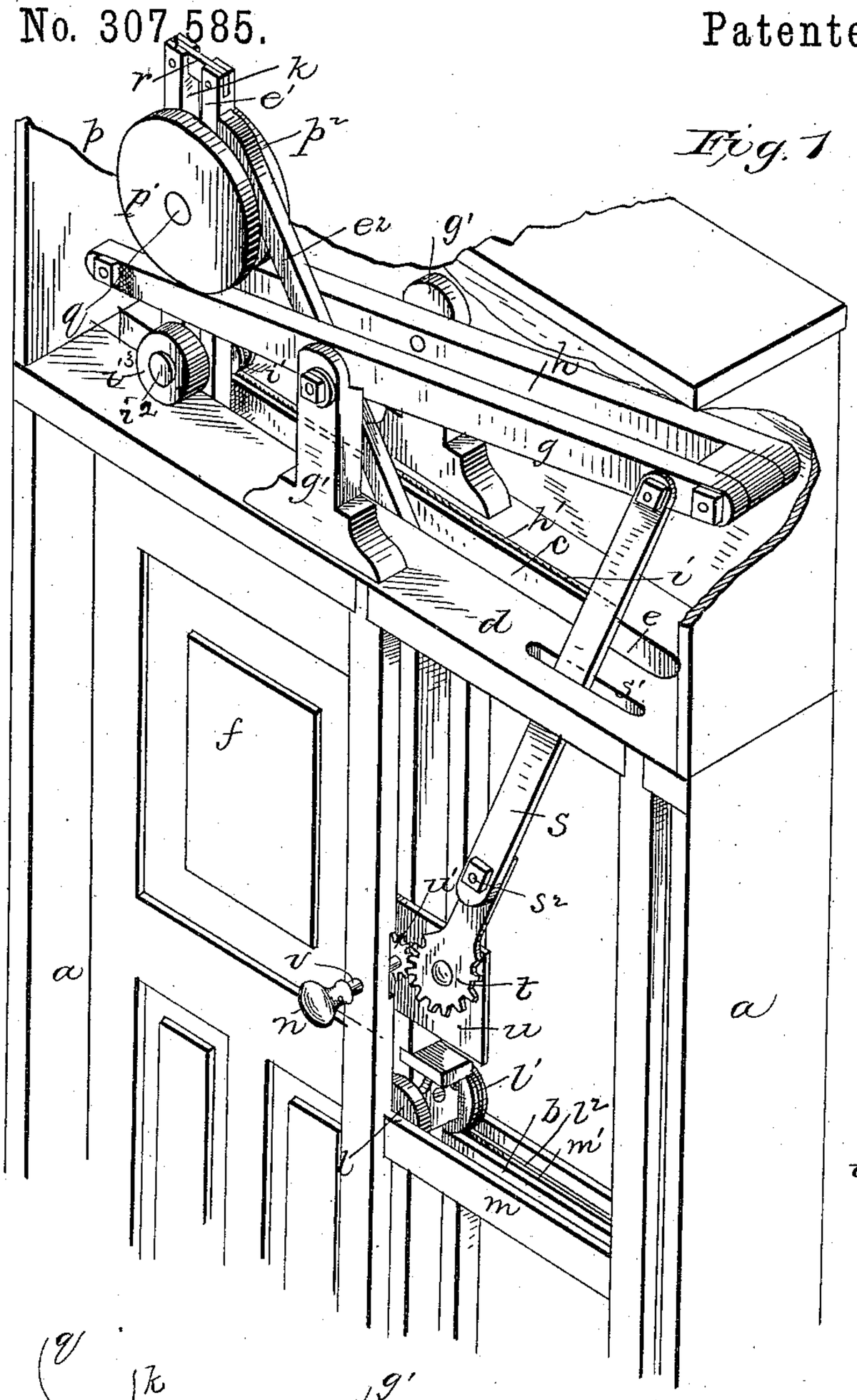
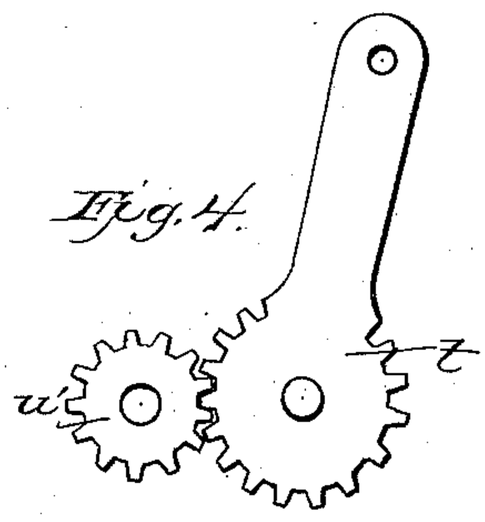


Fig. 4.



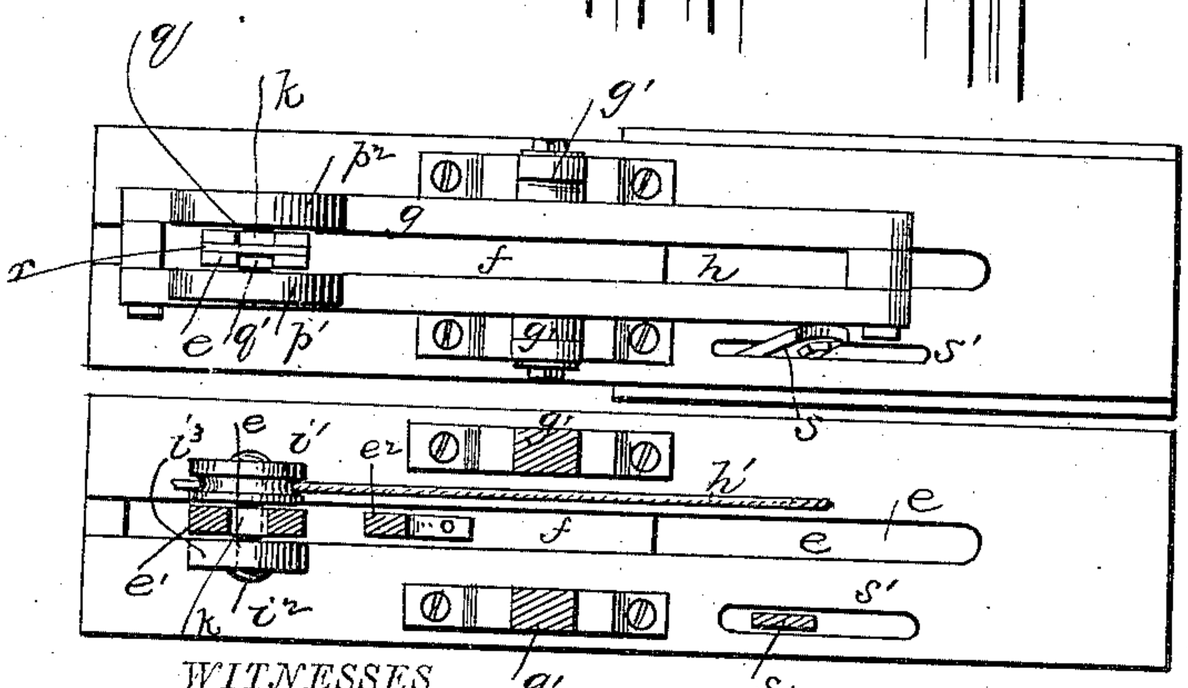


Fig 2.

Fig. 3

WITNESSES

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ISAAC BAXTER PERRY, OF KNOXVILLE, TENNESSEE.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 307,585, dated November 4, 1884.

Application filed March 20, 1884. (No model.)

To all whom it may concern:

Be it known that I, ISAAC BAXTER PERRY, a citizen of the United States, residing at Knoxville, in the county of Knox and State of Tennessee, have invented a new and useful Door-Hanger, of which the following is a specification, reference being had to the accompanying drawings.

This invention has relation to door-hangers; and it consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Figure 1 is a view in perspective of a door-hanger embodying my improvements applied to a single door, the wall of the recess, into which the door slides when opened, being broken away to show the operating-lever, the lower track-rails, and wheels for the same, and the wall above the door-frame being also broken away to show the mechanism above the frame. Fig. 2 is a plan view. Fig. 3 is a horizontal sectional view below the reversible inclined plane, and Fig. 4 is a detail view.

Referring by letter to the accompanying drawings, *a* designates the door-framing; *b*, the recess in which the door slides to open it, and *c* the recess above the door-frame, in which the reversible inclined plane, rolling weight, and traveling hanger are operated. The top piece, *d*, of the door-frame is provided with a vertical longitudinal slot, *e*, through which the lower ends of the vertical slotted arm *e'* and the inclined arm e^2 project, and are secured to the upper edge of the door *f*. A longitudinally-slotted reversible inclined plane, *g*, is pivoted between two standards, *g' g'*, rising from the top piece, *d*, of the door-frame, and the arms *e' e'* of the hanger project up through the slot *h* of the inclined plane *g*. At one side of the long slot *e*, and extending parallel therewith, is a metal track-rail, *h'*, composed of a round wire rod, *i*, embedded partially in the upper face of the top piece, *d*, and on this track runs a grooved wheel, *i'*, on one end of a fixed shaft, i^2, passing transversely through the vertical arm *e'* of the hanger below the vertical slot *k* in the same, a plain wheel, i^3, being provided on the other end of the shaft i^2, these wheels *i'* and i^3 forming the upper support for the sliding door. The wheels *l l'* for the lower track, *m m'*, are made similar to those just described, the grooved wheel *l'* having a metal track, l^2, these grooved wheels and metal tracks preventing lateral play of the sliding door on the tracks. The wheels *l l'* are secured through their axle to the rear edge of the door within the recess *b*, a short distance below the line of the operating-knob *n*. The rolling weight *p* is made of two annular weights, *p' p²*, fixed upon the ends of a shaft, *q*, leaving a space, *q'*, between their inner faces, through which the arms of the hanger pass, as shown.

To put the rolling weight in place the upper end of the vertical slot *k* is left open until the shaft *q* is put into said slot, after which the top of the slot is closed by a bar, *r*, to prevent the rolling weight from being lifted out of the slot. The roller-weight travels upon the upper face of the reversible inclined plane. At one end of the reversible incline plane is pivoted a lever-arm, *s*, which extends down through a short slot, *s'*, in the top piece of the door-frame, and by a pivotal connection, s^2, at its lower end to the outer end of a pivoted ratchet-arm, *t*, connected to a bearing-plate, *u*, secured to the door-jamb out of sight, and this ratchet-arm *t* is operated by a pinion, *u'*, fixed to the spindle *v* of the door-knob *n*. When the door is closed, the rolling weight is at the depressed end of the reversible inclined plane, which is at this time the end farthest from the lever. The door-knob should be now turned toward the right, which will operate the ratchet-arm and lever-arm to raise the depressed end of the pivoted inclined plane, which, as it is raised, will carry the rolling weight up in the vertical slot, and will depress the other end of the inclined plane, thereby reversing the incline and causing the rolling weight to gravitate to the other end, and in doing so it carries the hanger and door to that end of the tracks. A rubber cushion, *w*, breaks the concussion at the end of the track.

To close the door the knob must be turned in the opposite direction, to again reverse the inclined plane, and the rolling weight will carry the door back to its closed position.

Where double sliding doors are used, the parts must be duplicated, except that the

spindle need not pass entirely through the jamb, as a knob may be provided for each room, and may be located at the right-hand jamb in each room, so that by opening one door the person may pass through and operate the other knob to open the other door.

This door-hanger is of great advantage in stores and other places where doors have to be opened frequently. They are desirable also for public buildings—such as churches and theaters—as it is only necessary to turn the knob to automatically open them.

The device is simple and cheap in construction. Its action is positive, and it is efficient for the purposes for which it is intended.

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

1. The combination, with the slotted pivoted reversible inclined plane, secured above the slotted top piece of the door, and connected to the spindle of the door-knob by suitable tilting mechanism, of the vertically-slotted hanger secured to the upper edge of the door, projecting upwardly through a slot in the top piece of the door-frame, and provided with a grooved track-wheel at one end of a transvere shaft fixed in the slotted arm of the hanger, and a plain wheel on the other end of said shaft, and the rolling weight, having its shaft in the vertical slot of the hanger, and adapted to travel on the reversible inclined plane, substantially as specified.

2. The combination, with the door-frame having the upper and lower horizontal track, and the door provided with a hanger having a vertically-slotted arm, a plain and a grooved track-wheel on the same shaft for the upper track, and the plain and grooved track-wheels for the lower track, of the pivoted reversible inclined plane, through the longitudinal slot of which the slotted arm of the hanger projects vertically, the rolling weight having its shaft in said vertical slot, and the lever-arm connected to one end of the reversible inclined plane, and at the other to the pivoted ratchet-arm, and the pinion on the knob-spindle engaging said ratchet-arm, whereby when the door-knob is turned the pivoted inclined plane will be tilted, the rolling weight raised and caused to roll to the depressed end of said inclined plane, thereby carrying the door with it, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ISAAC BAXTER PERRY.

Witnesses:

W. L. LEDGERWOOD,

J. M. KING.