

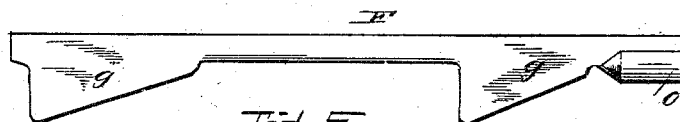
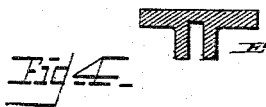
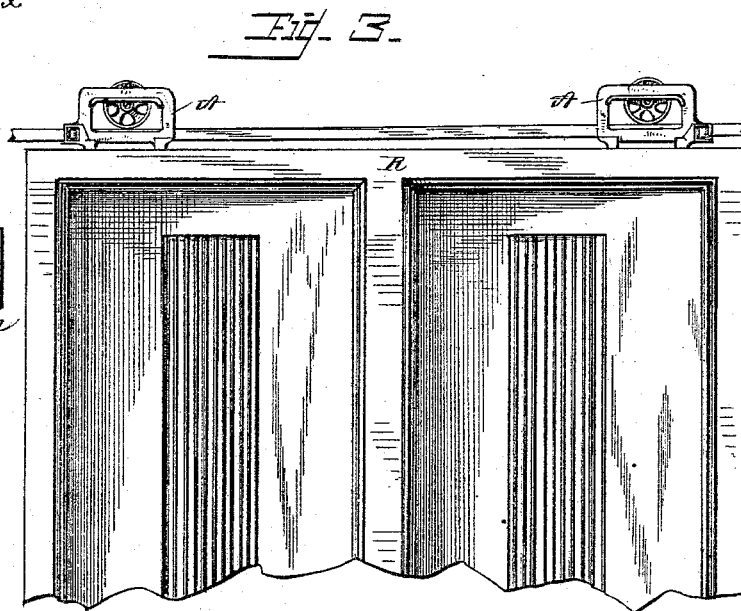
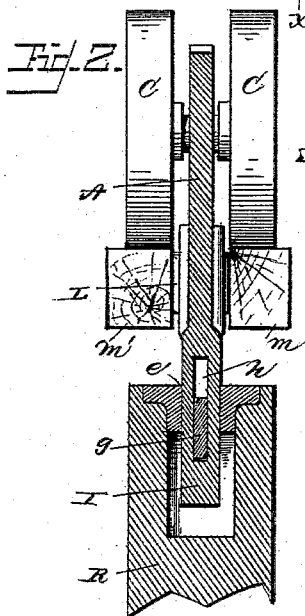
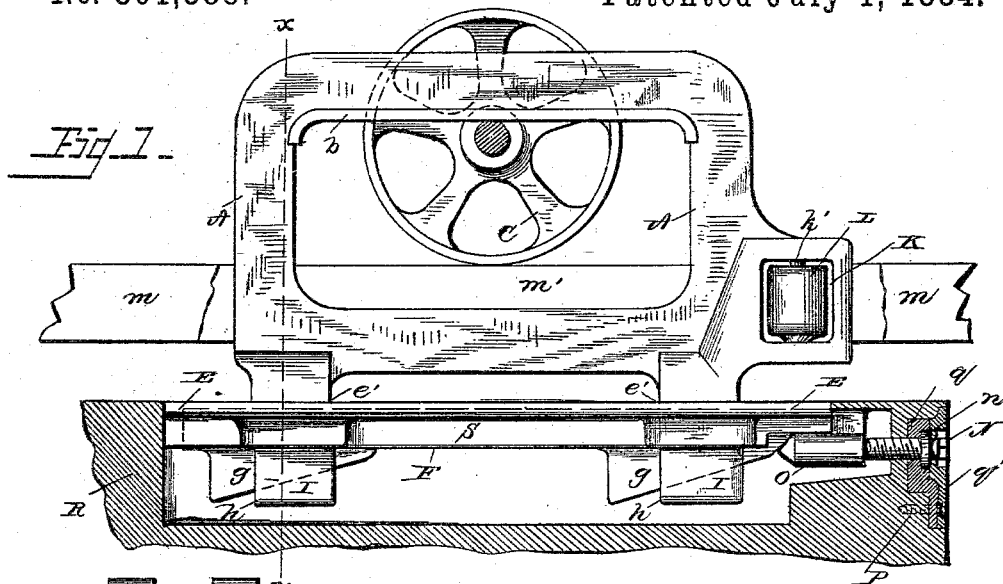
(No Model.)

E. T. PRINDLE.

DOOR HANGER.

No. 301,388.

Patented July 1, 1884.



WITNESSES

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# UNITED STATES PATENT OFFICE.

EDWARD T. PRINDLE, OF AURORA, ILLINOIS.

## DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 301,388, dated July 1, 1884.

Application filed December 6, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD T. PRINDLE, of Aurora, in the county of Kane and State of Illinois, have invented certain new and useful Improvements in Door-Hangers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My present improvements are designed to secure true and positive vertical adjustments of hanging and sliding doors, so that when adjusted higher or lower they may always hang level and true, notwithstanding the shifting of the axis of the traveling rollers to or from the center of the "rider-bars" of the yoke.

My invention consists, mainly, in a novel construction of the yoke and of the devices whereby the door is vertically adjusted, and also in the parts employed in connection therewith.

Figure 1 is an elevation showing one of my improved hangers applied to the top of a door near one corner, it being understood that in practice there is a similar one near the other corner. Fig. 2 is a cross-section in the line  $x$  of Fig. 1; Fig. 3, a reduced view showing two of my hangers applied to the top of a door; Fig. 4, a cross-section of the slotted plate, and Fig. 5 an elevation of the adjustable slide-bar.

My invention belongs to that class in which the yokes are attached to the upper corners of the door, such yokes having a rider-bar riding upon the axle which connects a pair of wheels arranged to run on a double track in the casement above the door or doors.

A is the yoke;  $b$ , its rider-bar; C, the double wheels; E, a slotted plate to be secured to the top of the door; F, a double-key piece having two independent inclined keys, constituting part of the same. It consists of a straight horizontally-adjustable bar provided with these two keys,  $g$ , which are thin and solid, and project downward from the bar, each key having parallel vertical sides and ends, but being inclined on their lower edges, substantially as shown, and each is adapted to enter

and to be supported and to slide in a loop-hole or guideway,  $h$ , made in the respective vertical prongs or lugs I of the yoke. Each of these lugs, instead of being solid and hanging down loosely in free space, has the vertical hole  $h$  through it, adapted to receive one of these locking-keys  $g$  of the double-inclined key-bar F, and instead of the front and rear edges of these lugs being inclined, they are made vertical. The effect of this construction, when these parts are connected together for use, is that both the keys  $g$  positively, simultaneously, and equally interlock with both the lugs, these slotted lugs being at both ends of the yoke, and the slots  $h'$  in the plate E being made to receive these lugs.

K is an opening in the body of the yoke at one of its ends, and adapted to receive a guide-roller, L, mounted on a vertical axis,  $k'$ , and this roller thus comes into position to run between the ordinary track-rails,  $m m$ , arranged in the wall or partition of the building above the doors.

N is an adjusting screw or bolt entering a threaded socket,  $o$ , made at one end of the slide-bar F, and P the device on the edge of the door through which the adjusting-screw is passed. It is formed of two plates,  $q q'$ , which are applied one upon the other on the vertical edge of the door R at its top, as shown, so as to be flush therewith. Through both plates passes the screw-bolt N, having an annular flange,  $n$ , which lodges in a corresponding cavity in one of these plates. This flange and cavity serve to hold the screw-bolt to place, and to prevent its endwise movement when turned either way to adjust the position of the slide F for raising or lowering the door through the agency of the inclined keys  $g$ , which, when lifting the door, bear upon the inclined bottoms of the openings  $h$ , made in the lugs I. The outer plate lies flush with the edge of the door, and has a recess on its outer face, within which lies the head of the bolt N.

The plate E (see Fig. 4) is made with two longitudinal ribs,  $s s$ , on its under side, leaving a guide-groove,  $t$ , between them, in which runs the upper part,  $u$ , of the slide F, which also, as shown, and as before stated, extends through both lugs I, and when this slide is adjusted either forward or backward by means of its

screw N, each of its keys *g* (one at each end) acts equally and simultaneously with its other key *g* to raise the door evenly and truly, or to permit its being lowered evenly and truly, so that the bottom and top of the door shall always be kept in horizontal planes.

The rider-bar, instead of being flat and milled, may be a cylindrical bar.

The yokes and plate are preferably of cast-iron.

The slide and its keys are preferably of wrought-iron.

To put the hangers into practical use the partition of the room or building must of course be double, as with sliding doors generally. The two rails are firmly fastened at the proper height to the partitions, and placed perfectly true and level both ways. Each door has a hanger near each top corner. The plates are firmly secured to the top edge of the door, the wood of the door being first mortised out to make room for the lugs and for the slide-keys; and the yokes and plates are so placed that the plates *q* and *q'* and the screw N shall be fitted flush onto the edge of the door—that is, with both yokes facing outward—so that in raising or lowering a door a wrench may be applied first to the adjusting-screw at one edge of the door, and then to the other adjusting-screw at the other edge of the door, there being room enough between the rails to permit this being done.

It will be seen from the above description, and from the means and manner of adjustments, that the yoke and its rider-bar are not held down or adjusted at one of their ends only, nor by a device acting on one end only, but that the slide must necessarily always act on both ends precisely in the same manner and by an adjustment of one and the same bolt, N. The yoke cannot therefore, when adjusting it, be tilted so as to leave its rider-bar inclined; nor, when the door is slid and the axle of the wheels C approaches the ends of the bar, can the bar rise or drop at either end to take it out of its true horizontal position, because the keys lock both ends alike to any position to which the bar has been adjusted, and cannot lock them to any but a horizontal position. The lugs of the yoke, being both held alike by their respective keys on the slide, remain firmly in the plate, so that they cannot either of them tip either way, and consequently the yoke cannot tip either way, whether the axle of the rollers be at the center or at either end of the yoke. The door therefore cannot be thrown out of square or true, or so that one of its bottom corners may be lower than the other, and thus not only scrape on the floor, but also cause the two doors to gape either at the top or bottom when

brought together—a defect now so common and annoying in sliding doors as usually hung.

Doors hung with my improved hangers must always hang true, and need only to be adjusted slightly to the proper height. The adjusting screw-bolt is also located where it is easily accessible.

In spoke-feeding machines a vertical screw-rod has been used having its head projecting and exposed, and having two flanges, one of which is at its extremity connected to a vertically-movable slide placed between the ends of the rod, and having other specialties of construction; but such a device could not be applied and used like mine on the edge of a door and for adjusting the hanger.

I claim—

1. In a door-hanger, the slide-bar F, made as described—that is, with a socket, *o*, at one end, and with the two solid keys *g g*, one near each end, inclined on their lower edges, and adapted to hold the yoke equally at both ends, substantially as described.

2. In door-hangers, a rider-bar yoke having two vertical lugs, I, made with guide-holes extending through them, combined with a slide-bar provided with adjusting-inclines *g*, adapted to enter and to be shifted in such guide-holes, substantially as and for the purposes set forth.

3. In a door-hanger, combined with the yoke, its rider-bar, and slotted lugs I, and with an adjustable slide-bar having the two inclines *g g*, the slotted plate E for the top of the door, and an adjusting-screw, N, entering a threaded socket on one end of such slide-bar, substantially as and for the purposes set forth.

4. The described rider-bar yoke A, having the opening K in an integral part thereof for the guide-roller, and having two lugs, I, with the passages *h* through them, as set forth.

5. In a door-hanger, the plate E for the top of the door, having the longitudinal ribs *s s* on its under side and the longitudinal groove *t* between them, adapted for an adjusting slide-bar.

6. The plates *q* and *q'*, both adapted to be inserted in the edge of the door, the outer plate having an exterior cavity for the head of an adjusting-bolt, and the plates having a cavity between them to receive the flange of such bolt, combined with the screw rod or bolt, having a collar occupying the cavity between the plates, and with an adjusting-slide, all substantially as and for the purposes set forth.

EDWARD T. PRINDLE.

Witnesses:

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