

(No Model.)

2 Sheets—Sheet 1.

VAN ZANDT M. MOORE.
DOOR HANGER.

No. 585,276.

Patented June 29, 1897.

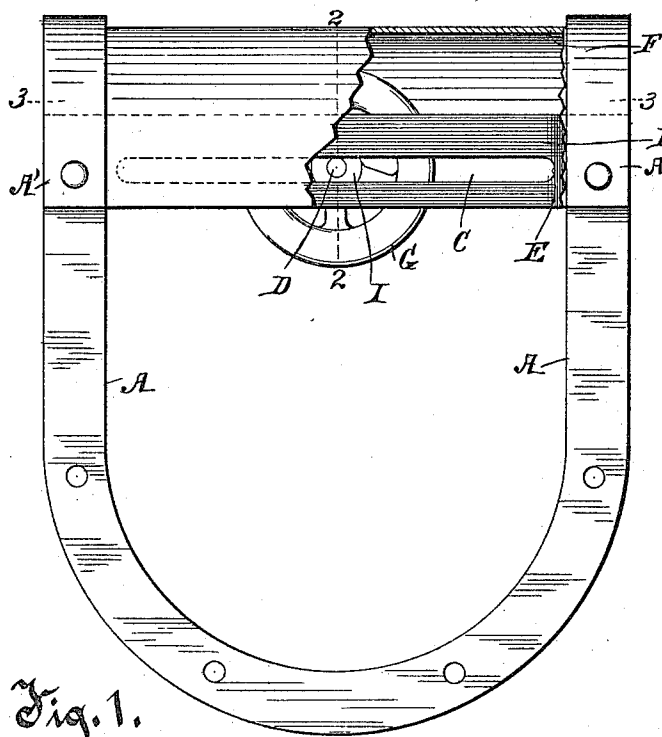


Fig. 1.

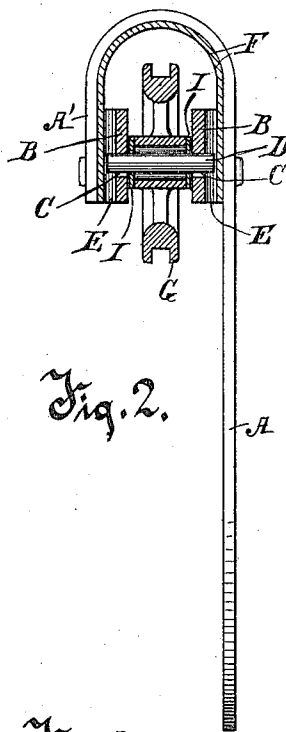


Fig. 2.

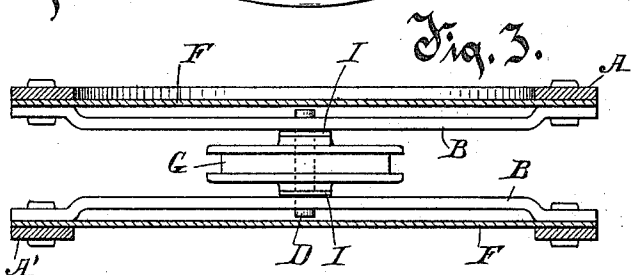


Fig. 3.

Fig. 4.

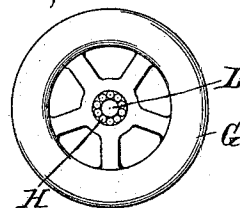


Fig. 5.

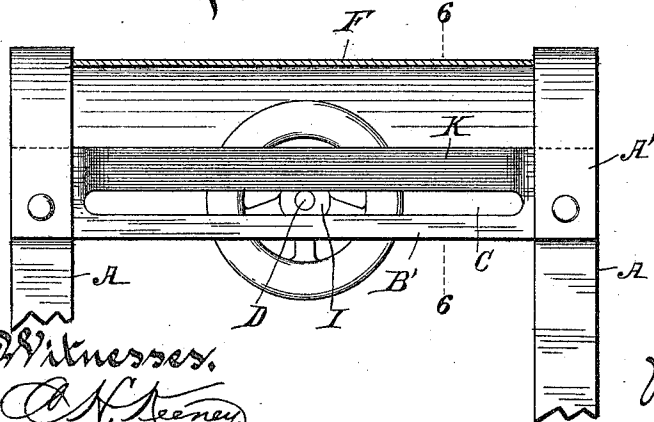
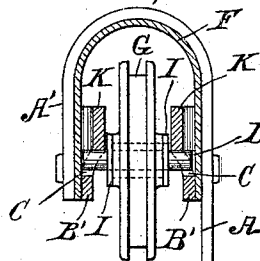


Fig. 6.



Witnesses.

A. N. Keeney.
Anna C. Faust.

Inventor.

Van Zandt M. Moore
By Benedict Morrell
Attorneys.

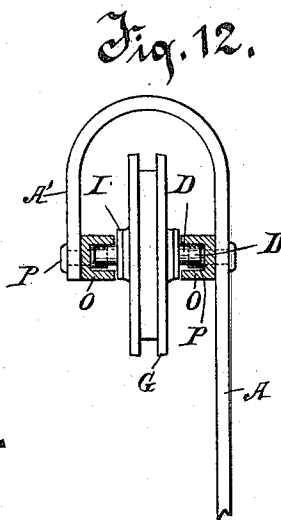
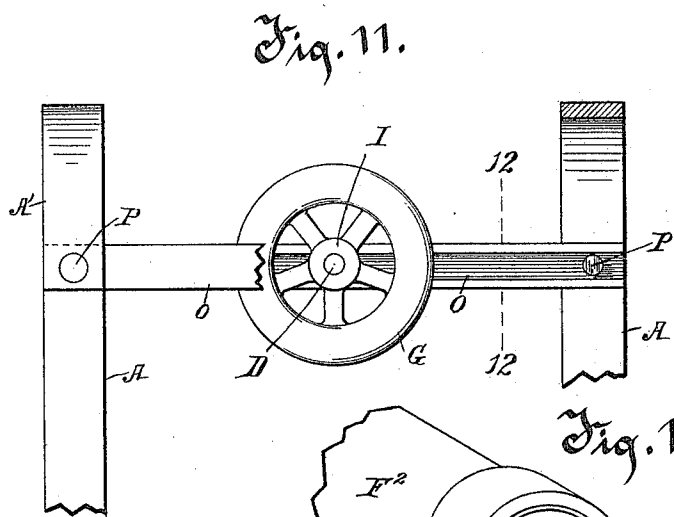
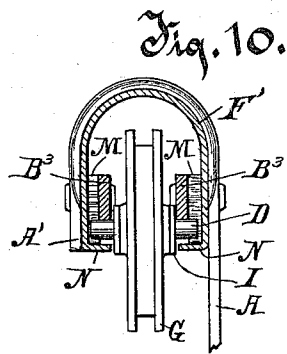
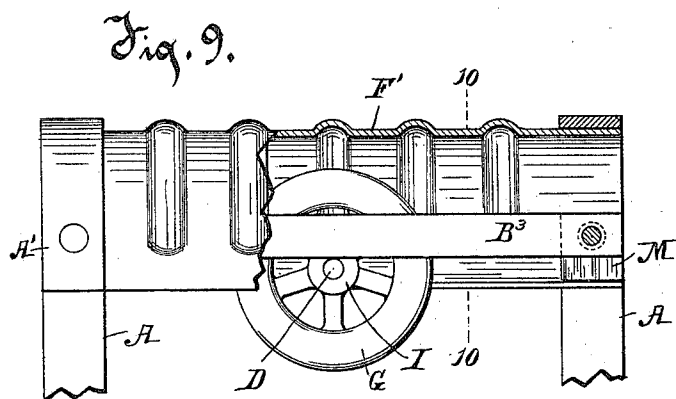
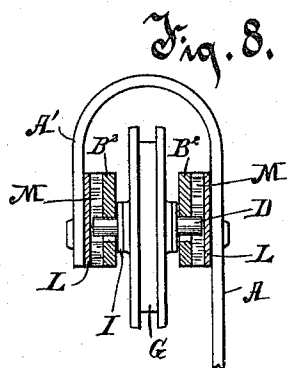
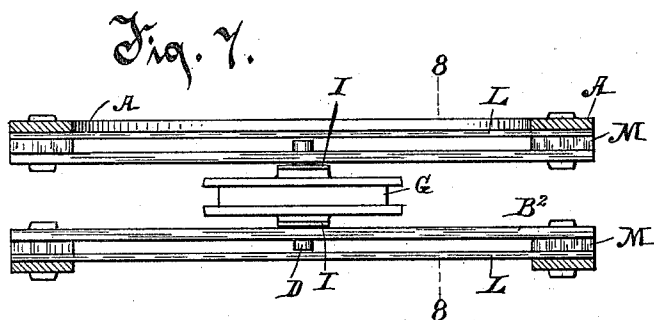
(No Model.)

2 Sheets—Sheet 2.

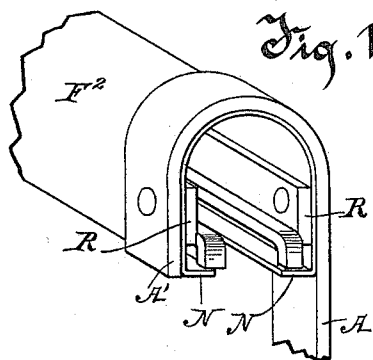
VAN ZANDT M. MOORE.
DOOR HANGER.

No. 585,276.

Patented June 29, 1897.



Witnesses:
W. Keeney
Anna L. Faust.



Inventor.
Van Zandt M. Moore
By Benedict Morell
Attorneys.

UNITED STATES PATENT OFFICE.

VAN ZANDT M. MOORE, OF MILWAUKEE, WISCONSIN.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 585,276, dated June 29, 1897.

Application filed September 19, 1896. Serial No. 606,310. (No model.)

To all whom it may concern:

Be it known that I, VAN ZANDT M. MOORE, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Door-Hangers, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention relates to that class of door-hangers in which there is a revolving and traveling wheel, which wheel is provided with a loose axle.

The special object of the invention is to provide a construction to permit the wheel to rotate freely on the axle, especially when at the limit of the travel of the axle on its ways, in order to obviate the cutting and wearing away of the parts of the hanger-frame, the axle being adapted to stop its rotating movement when it reaches the end of its runway and the wheel to turn upon it on antifriction-rollers.

A further object is to provide for setting the retaining-strips parallel with but at a distance from the rider-bars, leaving a space between said rider-bars and the retaining-strips, whereby the displacement of the axle endwise is prevented and the axle permitted at all times to cover the full bearing-surface of the rider-bars.

Other objects of the invention are incidental to those heretofore named.

The invention consists of the improved hanger, its parts and combination of parts, as herein described and claimed, or their equivalents.

In the drawings, Figure 1 is an elevation of the complete hanger, parts being broken away to exhibit interior construction. Fig. 2 is a transverse section of the hanger shown in Fig. 1 on line 2 2 thereof. Fig. 3 is a transverse section of the hanger longitudinally on line 3 3 of Fig. 1, looking downwardly. Fig. 4 is an end view of the hanger-wheel, showing also its axle-bearing. Figs. 5 and 6 are respectively an elevation and transverse section of a slightly-modified form of the principal parts of the door-hanger. Figs. 7 and 8 are respectively a plan view and a transverse section of the chief features of another modified form of the door-hanger. Figs. 9

and 10 are respectively an elevation (with parts broken away) and a transverse section of still another modified form of some of the principal parts of the door-hanger. Figs. 11 and 12 are respectively an elevation (with parts broken away) and a transverse section of yet another modified form of some of the parts of the door-hanger. Fig. 13 is a perspective view of a fragment of a door-hanger, showing a modified construction of parts thereof.

The preferable form of my improved door-hanger is shown in Figs. 1, 2, and 3 and comprises the straps A A, which at their upper extremities are curved and brought over in U shape, forming short opposite and parallel legs A', these straps being adapted for securing the hanger to the door, and being also the principal parts of the frame of the hanger, to which other parts are secured.

Parallel and opposite straight rider-bars B are secured at their respective ends to the straps A A and the legs A' A'. These rider-bars are provided longitudinally thereof with elongated slots C C, adapted to receive the ends of the axle D therein, the upper straight wall of which slots form the ways on the rider-bars, along which the axle travels. These rider-bars B are bent or formed to offset laterally a little nearer the straps and legs A A', which offsetting forms the shoulders E E just at the ends of the slots C.

The straps A and the rider-bars B are advantageably made of steel, and a covering F, preferably made of sheet-steel, bent over in the form of a hood, or in U shape in cross-section, and of such size and form as to fit against the inner surface of straps A and legs A' opposite and above the rider-bars B, is secured to the straps, so as to inclose and cover the rider-bars and the wheel G therewith. The cover F extends down behind and is opposite the rider-bars B and forms end bearings for the axle D, adapted to prevent its shifting or displacement endwise. The offsetting of the rider-bars B carries them inwardly toward each other along the entire length of the slots C, providing a little space between the bars and the cover F, adjacent and opposite thereto, thus giving opportunity for such length to the axle D as to provide ample bearing-sur-

face thereon against the rider-bars upwardly and permitting the axle at all times to cover the full width of the rider-bars.

The wheel G rotates on the axle D, and the axle D, as before stated, rides on ways in the slots C C in the rider-bars. The wheel G travels on a track provided therefor on a fixed support. If the axle D comes to the end of the slots C before the wheel G has carried the door to its limit of travel, it is desirable that the axle D shall cease to rotate, or otherwise it will cut a pocket at the ends of the slots in the rider-bars. To obviate this, and also to secure the easiest possible movement for the wheel G, I insert a series of loose antifriction cylindrical rolls H in the bore of the wheel about the axle D. To retain these rolls in place, steel disks or caps I are placed at the ends of the hub of the wheel G and between it and the rider-bars B about the axle D. By this construction the axle D, when it comes to the ends of the slot C in its travel on the rider-bars, will, by reason of the slight friction against it of the fixed end walls of the slots, cease to rotate, and the wheel G, if it continues to travel on its track, will, by reason of the lesser friction between it and its axle, rotate on the axle, thus obviating the cutting an undesirable pocket in the rider-bars, as has been hereinbefore stated it would otherwise do.

The modified form of hanger shown in Figs. 5 and 6 differs from the form shown in Figs. 1, 2, and 3 only in that the portion K of the rider-bars B', which is above the slot C, is alone offset inwardly from the plane of the bars to form ways for the travel of the axle D thereon.

The modified form of hanger shown in Figs. 7 and 8 differs from the preferable form shown in Figs. 1, 2, and 3 in that the cover F is omitted, and instead thereof strips L L, substantially as wide as the rider-bars B² B², are placed on the outside and opposite the rider-bars to prevent the endwise displacement of the axle D; also, in that the rider-bars are not offset, but are formed straight throughout their entire length, and small blocks M M are interposed at the ends of the rider-bars between them and the strips L L, thereby carrying the rider-bars away from the strips L L in substantially the same manner that the same result is accomplished by the offsetting of the bars in the form shown in Figs. 1, 2, and 3.

In the form of device shown in Figs. 9 and 10 the covering F' is corrugated transversely to strengthen it against lateral strain or shock, and its lower edges are turned inwardly under the rider-bars B³ B³, forming flanges or

guards N N, adapted to prevent the displacement of the wheel-axle D downwardly. In this form of construction the rider-bars B³ have no elongated slots C, but consist only of straight flat bars, the lower edges of which form the ways on which the axle travels. The rider-bars are offset or secured at a distance from the sides of the cover F' by means of blocks M M like those used in the form shown in Figs. 7 and 8.

In the modified form of hanger shown in Figs. 11 and 12 channel-irons O O are secured to the straps A and are employed instead of the rider-bars B in the preferable form of device. These channel-irons serve not only as ways for the travel thereon of the axle D, but also prevent its displacement endwise or downwardly. The bolts or rivets P, by which the channel-irons are secured to the straps A, project into the path of the axle D and limit its travel along the channel-irons.

In the modified form shown in Fig. 13 the cover F² is turned inwardly along its lower edges, forming a guard N, and angle-irons R R are secured to the straps A, one flange of which irons forms the ways for the travel of the wheel-axle, the angle-irons being the equivalent for the rider-bars of the other forms of construction. The flanges of the angle-irons that form the ways for the axle are turned down at their ends against the guards N N to limit the travel of the axle thereon.

What I claim as my invention is—

1. A door-hanger comprising straight parallel rider-bars integral with or secured to supporting members, an axle traveling on the rider-bars, stops at the ends of the line of travel of the axle adapted to engage the axle, a wheel loose on the axle, antifriction bearing-rollers interposed between the wheel and its axle, whereby the wheel turns freely upon the axle at the ends of the line of travel, while the axle remains at rest, means for retaining the bearing-rollers in place, and means to prevent the displacement of the axle endwise.

2. In a door-hanger, the combination, of rider-bars having longitudinal ways, a loose cylindrical wheel-axle traveling on the ways, and a retaining strip or strips parallel with the rider-bars and at a distance therefrom, whereby displacement of the axle endwise is prevented and the axle permitted to cover at all times the full bearing-surface of the rider-bars.

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

VAN ZANDT M. MOORE.

Witnesses:

C. T. BENEDICT,
ANNA V. FAUST.