

W. G. COLLINS.
DOOR HANGER.

No. 178,116.

Patented May 30, 1876.

Fig. 1.

Fig. 2.

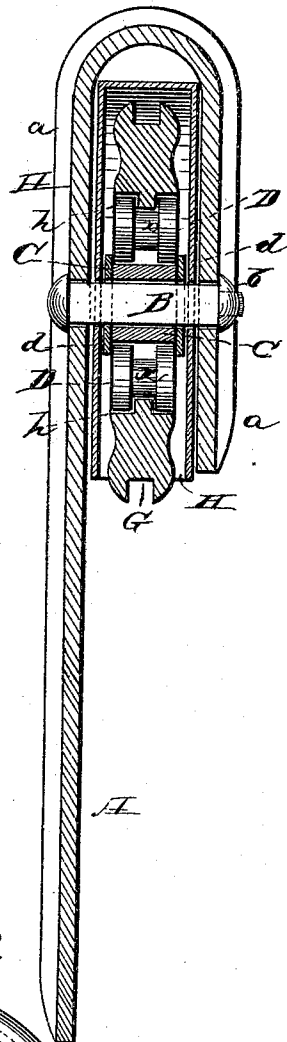
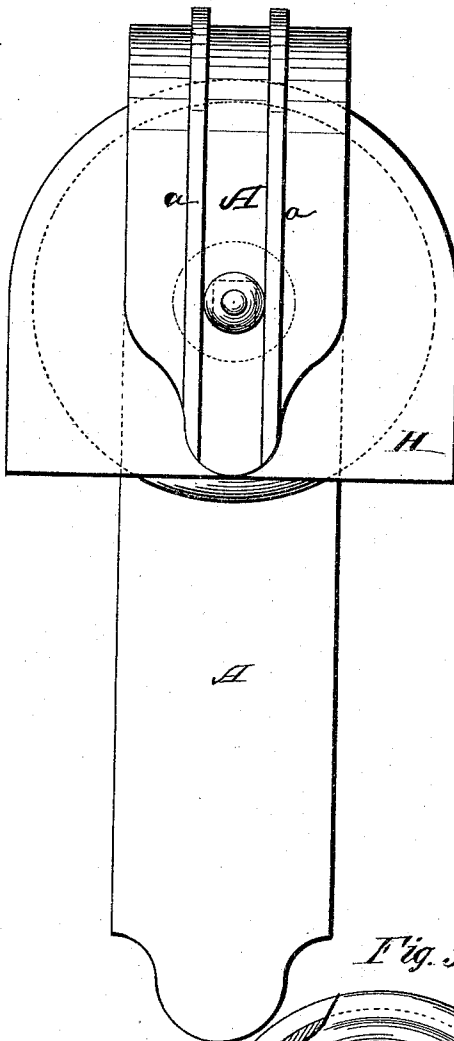
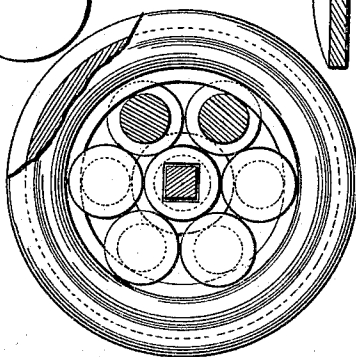


Fig. 3.



Witnesses:

P. C. Dietrich.

Wm. C. Appelman.

Inventor:

Wm. G. Collins

Per: C. H. Watson & Co. Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM G. COLLINS, OF NILES, OHIO.

IMPROVEMENT IN DOOR-HANGERS.

Specification forming part of Letters Patent No. **178,116**, dated May 30, 1876; application filed February 5, 1876.

To all whom it may concern:

Be it known that I, WILLIAM G. COLLINS, of Niles, in the county of Trumbull and State of Ohio, 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 thereof, 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 the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the novel construction and arrangement of a hanger for barn-doors, in which the wheel or rim is provided with a continuous projecting rib, combined with grooved rollers; also, the washer is combined with the hub, and the hood or covering combined with the frame and wheel, all as hereinafter more fully described and definitely claimed.

In the accompanying drawing, Figure 1 is a side elevation of my barn-door hanger. Fig. 2 is a longitudinal section of the same. Fig. 3 is a section of the main wheel and interior friction-rollers.

A represents a rolled wrought-iron strap of suitable dimensions, which is bent, as shown, to form the frame of the hanger. On the outside of this strap are formed two parallel longitudinal beads, ribs, or tongues, *a a*, extending the entire length of the strap, and serving to stiffen the frame without too great expense of metal. This arrangement of the strengthening-ribs admits of some holes being punched in the center and some on the edges without severing the ribs, such holes being necessary in riveting and fastening the frame to the door, and fastening the parts to the frame.

Through the frame or bent part of the strap A is passed a square bolt, B, which is fastened by a nut, *b*, as shown, or may be riveted. On this bolt is placed a hub or sleeve, C, with a washer, *d*, at each end thereof, also placed on the bolt. The diameter of these washers is larger than the outside diameter of the sleeve C, as is shown in Fig. 2. Around this hub or sleeve is placed a series of friction-rollers, D, which fit between the projecting edges of the washers *d d*, and are formed each with a deep circumferential groove, *x*, in the center.

G is the large wheel or rim, which has a continuous central tongue or rib, *h*, projecting around its inner circle, to match and fit in the grooves *x* of the rollers D, thereby holding said main wheel to the center without the use of side bearings, and thus preventing all friction on the sides of the main wheel against the frame.

It will readily be seen that if, for instance, the rollers are one inch long, and bear upon a hub of equal length, and the total radius is about two and one-fourth inches, it will take a great angle of slant or variation from the center of gravity, or variation from a horizontal position, to throw the main wheel against the side of the frame. The tongue or rib *h* also strengthens the main wheel by increasing the depth of the rim without necessitating an increased diameter, which increased diameter would lessen the angle necessary to throw the wheel against the frame.

The two washers *d d* at the ends of the hub C throw the wheel from the sides of the frame, and leave a hub without the thin raised edges, which would prevent making a sound chilled iron hub.

H is a hood of sheet or cast iron, which may be placed either on the inside or outside of the frame over the wheel, to protect the same from snow and ice.

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

1. The wheel or rim G, provided in the center of its inner circle with a continuous projecting rib or tongue, *h*, in combination with the grooved rollers D, for the purposes herein set forth.

2. The washers *d d*, in combination with the hub C, for the purposes herein set forth.

3. The hood H, in combination with the frame A and wheel G, for the purposes herein set forth.

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

WILLIAM G. COLLINS.

Witnesses:

C. H. WATSON,
WM. B. UPPERMAN.