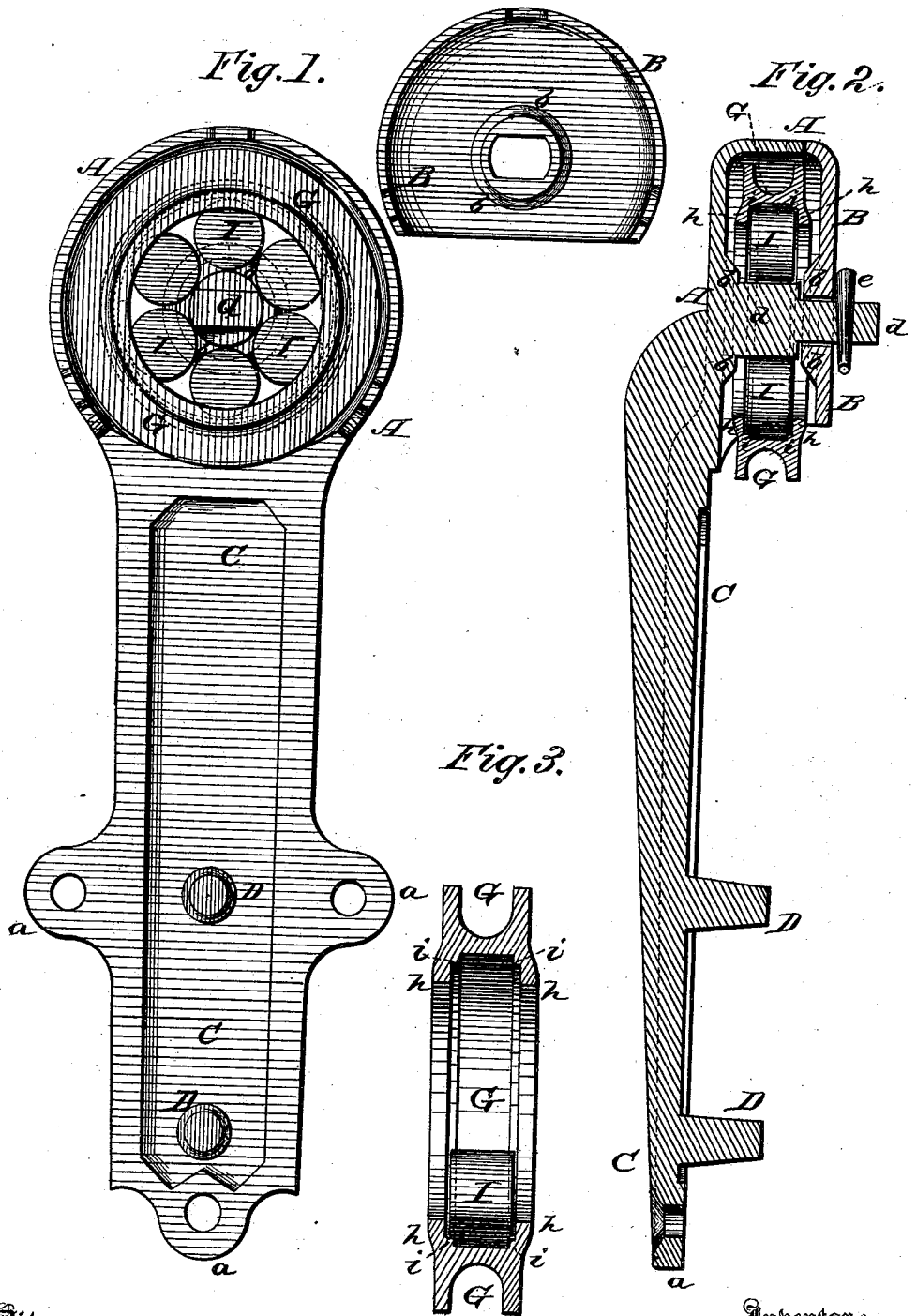


J. H. LAWRENCE.  
BARN DOOR HANGERS.

No. 188,521.

Patented March 20, 1877.



Witnesses:  
*P. Dietrich,*  
*Frank A. Duffy*

Inventor:  
*John H. Lawrence,*  
Per *C. H. Watson & Co.,* Attorneys.

# UNITED STATES PATENT OFFICE.

JOHN H. LAWRENCE, OF STERLING, ILLINOIS.

## IMPROVEMENT IN BARN-DOOR HANGERS.

Specification forming part of Letters Patent No. **188,521**, dated March 20, 1877; application filed February 19, 1877.

*To all whom it may concern:*

Be it known that I, JOHN H. LAWRENCE, of Sterling, in the county of Whitesides and State of Illinois, have invented certain new and useful Improvements in Barn-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.

This invention relates to barn-door hangers; and it consists in combining, in a barn-door hanger, a frame and cap, each provided with washers or annular projections, a stud, and grooved wheel, having interior side flanges and ribs or shoulders, with plain anti-friction rollers, as will be hereinafter more fully set forth and definitely claimed.

In the annexed drawing, which fully illustrates this invention, Figure 1 is a front view of the barn-door hanger with the cap removed. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is an enlarged section of the wheel.

A represents the frame or case provided with the cap B, and cast in one piece with the strap C, which latter has suitable projections *a a*, with perforations for the passage of the bolts or screws for fastening the hanger to the door. This strap C is cast with two or more dowel-pins, D D, projecting from its inner side. On the inner sides of the frame A and cap B are cast central projections or washers *b b*, concentric therewith, and from the center of the frame projects a stud or journal, *d*, the inner end of which is round, and the outer end made flat, to pass through a corresponding aperture in the cap, said cap being held in place by suitable lugs and corresponding notches in the adjoining edges of the frame and cap, and by a pin or key, *e*, passed through the end of the stud *d*. G represents the wheel of the hanger, which wheel is, as usual, formed with a circumferential groove to fit over, and run upon, the rail from

which the door is suspended. This wheel G is simply an annular rim, and is, around its interior circumference on each side, provided with an inwardly-projecting flange, *h*; or, in other words, it is formed with a deep groove around its interior, leaving the two side flanges *h h*. In the bottom of this groove, near each flange *h*, is formed a ridge or shoulder, *i*, extending entirely around the groove, and upon these ridges or shoulders are placed the chilled anti-friction rollers I I, which fit in between the flanges *h h*. A suitable number of these rollers are used to complete the circle within the wheel.

The flanges *h h* on the sides of the wheel hold the chilled anti-friction rollers I, and these rollers, resting on the washers *b b* of the frame and cap, prevent the wheel from touching or rubbing the frame, avoiding all side friction, the only friction being the round surfaces of the rollers against the round shoulders *i* of the wheel, and this only at the ends of the rollers—none in the center.

By this construction the wheel is kept from rocking, and kept straight and true, and the rollers are let down into the wheel, so as to bring the bearing nearer the track. The chilled anti-friction rollers I are plain, and hence can be cast perfectly round, and with much less trouble than if they were otherwise constructed.

Having thus fully described this invention, what is claimed as new, and desired to be secured by Letters Patent, is—

In a barn-door hanger, the combination of the frame A and cap B, each provided with the washers or annular projections *b b*, the stud *d*, the grooved wheel G, having interior side flanges *h h*, and ridges or shoulders *i*, and the plain anti-friction rollers I I, all substantially as and 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.

JOHN H. LAWRENCE.

Witnesses:

E. F. LAWRENCE,  
I. S. BETTS.