

(No Model.)

I. DOAN.
DOOR HANGER.

No. 352,741.

Patented Nov. 16, 1886.

Fig. 1.

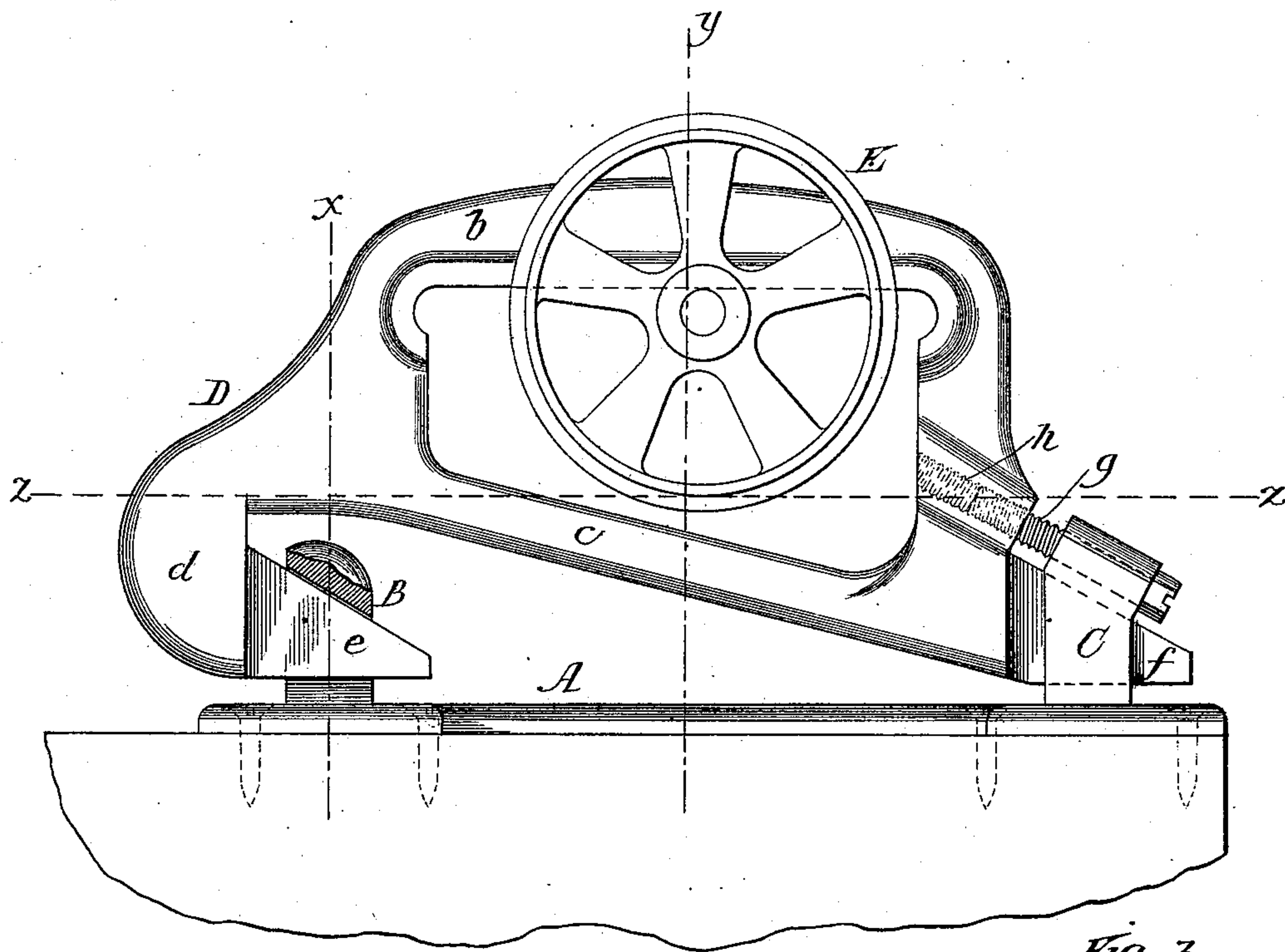


Fig. 3.

Fig. 2.

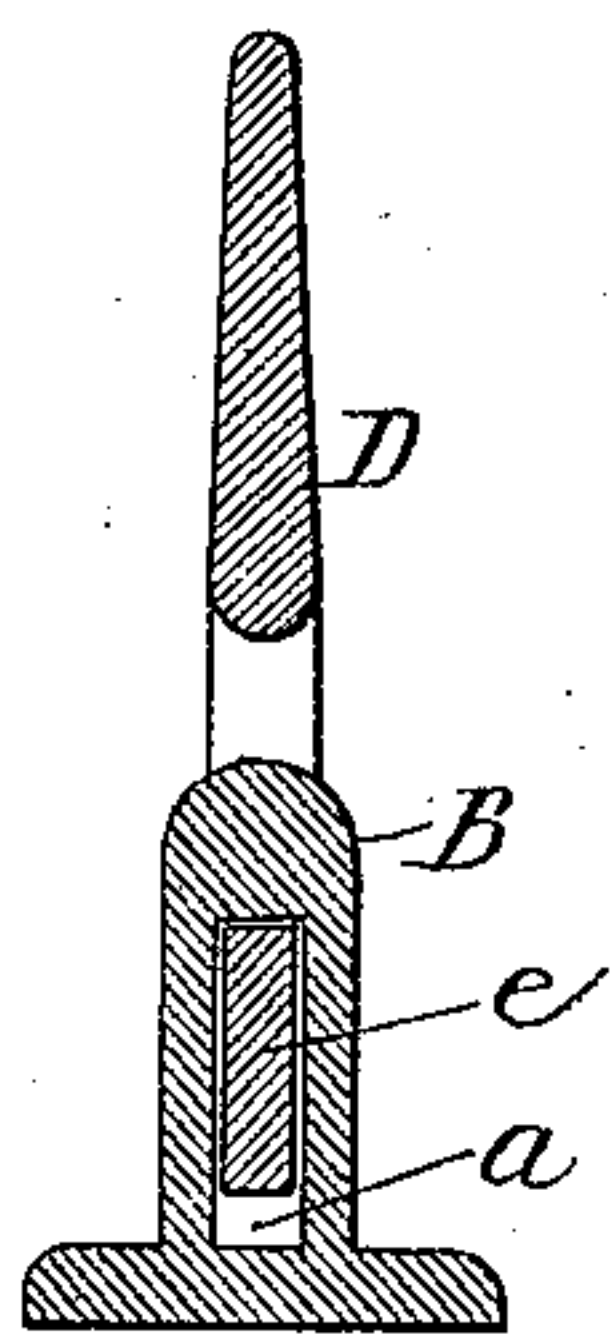
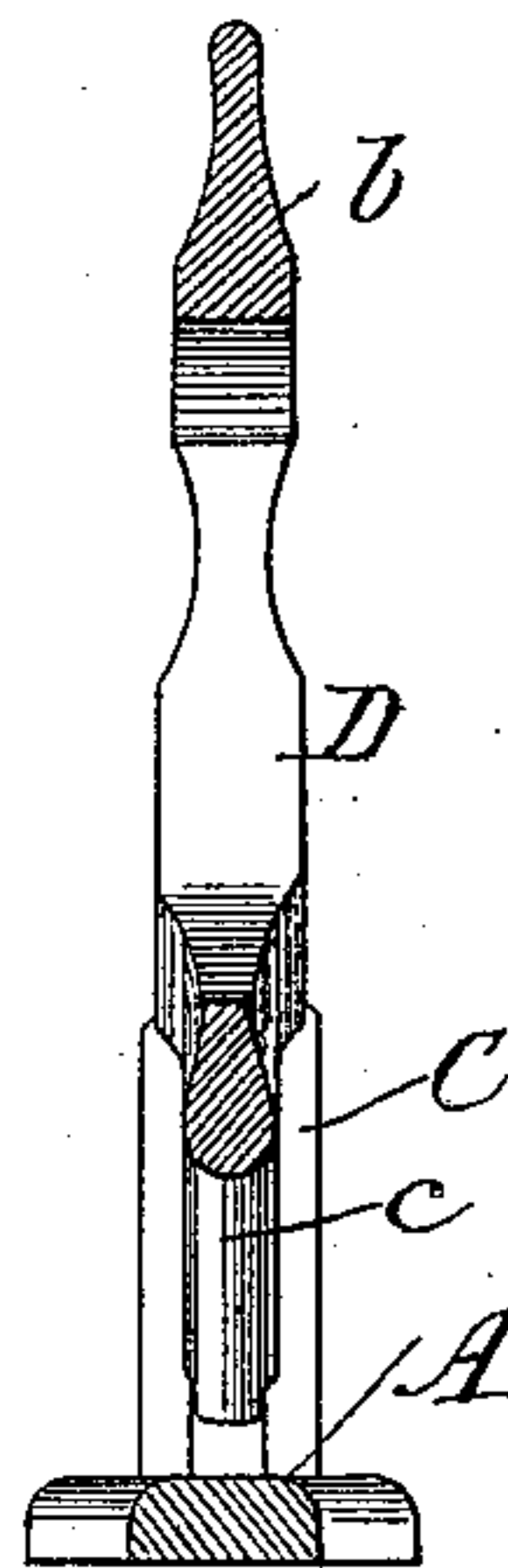
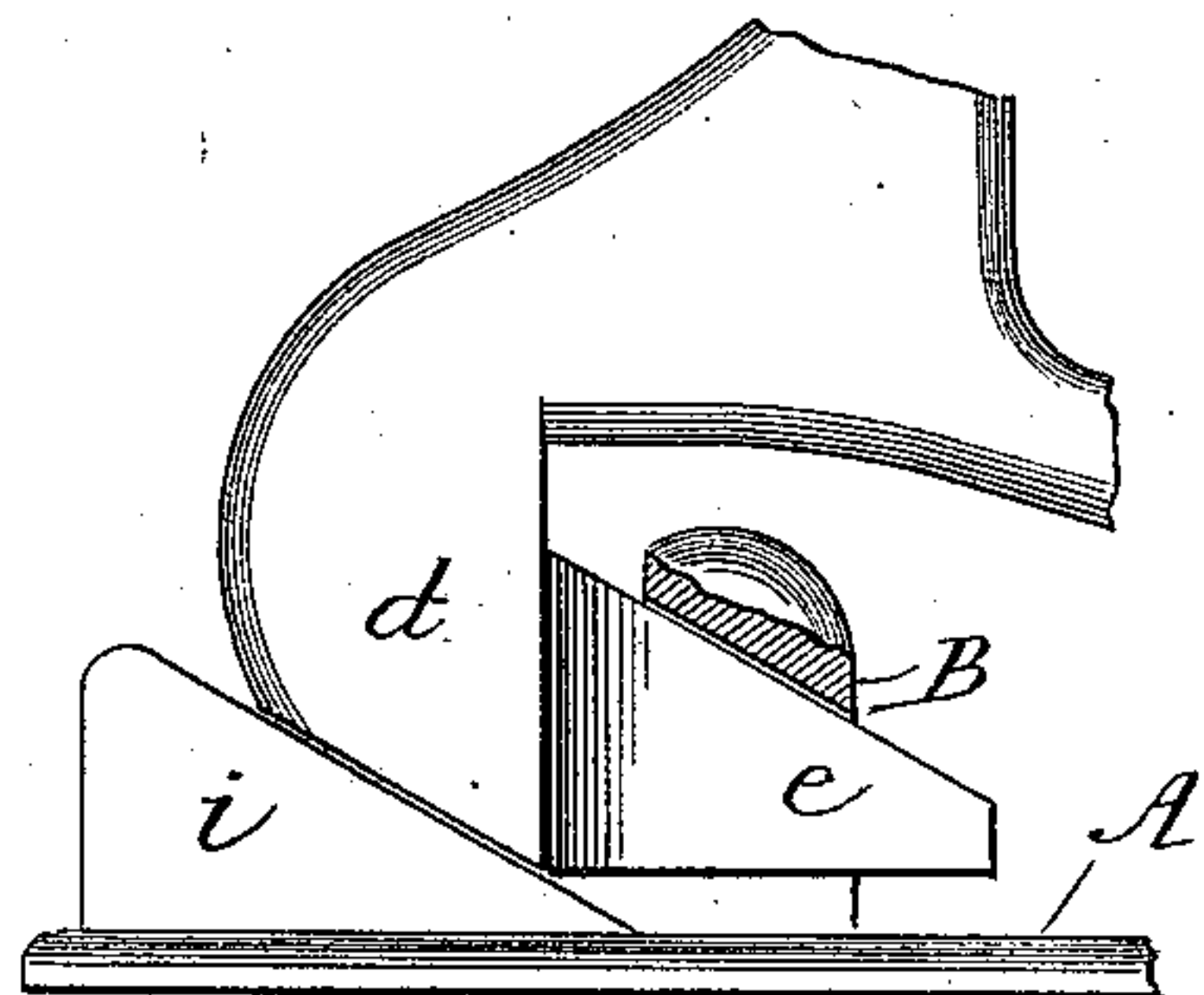


Fig. 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

ISRAEL DOAN, OF AURORA, ILLINOIS, ASSIGNOR TO THE WILCOX MANUFACTURING COMPANY, OF SAME PLACE.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 352,741, dated November 16, 1886.

Application filed December 10, 1885. Serial No. 185,304. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL DOAN, residing at Aurora, in the county of Kane and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Door-Hangers, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a section at line *x* of Fig. 1. Fig. 3 is a section at line *y* of Fig. 1, the wheel being removed. Fig. 4 is a modification.

My invention relates to that class of door-hangers which are designed to be secured to the upper edge of a door, and some part of which is made adjustable for the purpose of leveling the door.

The leading objects of my invention are to make such a door-hanger which can readily be attached to the door without mortising or cutting the top edge of the door, and which will be durable and efficient, and more steady and reliable in operation than hangers of that class as heretofore made, which I accomplish, as illustrated in the drawings and as herein described and claimed.

In the drawings, A is a metal plate, designed to be secured directly to the upper edge of a door by means of screws.

B is a post extending up from the plate A. It has a longitudinal slot, *a*, through it. The wall which forms the upper end of the slot, as shown, is inclined.

C is another post extending up from the plate A, and provided with a slot like the slot *a*. The upper end of the post C may be formed as shown in the drawings, and it has through it a smooth cylindrical hole (indicated by dotted lines) to receive a screw. These posts are preferably cast with the plate A.

D is a yoke. The upper part or bar, *b*, of this yoke forms a rider-bar. The lower bar, *c*, is inclined.

d is a downward extension from the main part of the yoke.

e is a projection from *d*, adapted to pass through the slot *a* in the post B. These parts *d* and *e* together form a hook, the upper or bearing surface of which is nearly at a right angle with the line of support or strain, thereby overcoming any tendency to slip, rattle, or

break, and avoiding undue strain on the adjusting devices, as hereinafter explained. The upper edge of the hook-extension *e* is inclined at an angle of about forty-five degrees.

f is another extension from the yoke, corresponding with the extension *e*, adapted to pass through the slot in the post C, its upper edge being also inclined. Between the bars *b* *c* of the yoke there is an open space to receive the wheel E. This wheel is supposed to be double, the two parts being connected by a short axle. The peripheries of the wheel in use travel upon a track as usual, the position of which is indicated by the line *z* in Fig. 1. The rider-bar rests upon the axle of the wheel as usual.

g is a screw which passes through the upper end of the post C and enters a screw-threaded hole in the yoke, as indicated at *h* in the drawings. Two of these hangers are to be used with each door—one at or near each upper corner. By turning the screw *g* the position of the parts *e* *f* in the posts can be changed, thus either raising or lowering the part of the door to which the hanger is secured, and by this means the door can be easily adjusted so as to be plumb.

It will be observed that the posts B C, as shown, are located outside of the extremelimit to which the wheel-axle passes. The arrangement and construction of the hook *d* *e* and extension *f* is such that the end of the hanger opposite to the screw will, in use, maintain its proper position as the door is rolled back and forth, the weight of the door being carried on the inclined extensions *e* *f*, without injurious strain on the adjusting-screw.

In Fig. 4 I have shown a slight modification, which may be used, if desired, although in my opinion it will not be necessary. The modification consists in providing the plate A with an inclined piece, *i*, and making the lower end of the extension *d* correspondingly inclined. By using this construction the downward movement of the inclined projection *e* in the post B will be positively prevented. The opposite end of the yoke will always be held in position by the screw *g*.

Instead of making each post B C exactly as described, each might consist of two vertical parts, with a pin or other connecting-piece at or near the top, which would, in effect, be the

same thing as a slotted post. There is no advantage, however, in this construction.

I am aware that door-hangers are in use having adjusting devices, and I do not claim the same, broadly.

In many door-hangers of this class, when the axle or spindle of the carrying-wheel has reached the limit at the end opposite the adjusting-screw, there is a tendency to separate the yoke from the door-plate, and as the average doors are heavy and these devices small, this tendency is very apparent, and especially so if there is any considerable space between the yoke and the plate. This is one of the defects of this class of hangers, as they must necessarily be somewhat loose in their connection. I overcome this difficulty by spreading the posts B C and bringing the hook *d e* around

so that its upper supporting-face is nearly at right angles with the line of support or strain, and I thereby overcome all tendency to slip or move, rattle, or break, and put only a slight strain on the adjusting-screw.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the yoke D, having the extension *f* and hook *d e*, the plate A, having the slotted posts B C, located outside the extreme limit of the wheel-axis movement, and the adjusting-screw *g*, all constructed and arranged substantially as and for the purposes set forth.

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Witnesses:

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