

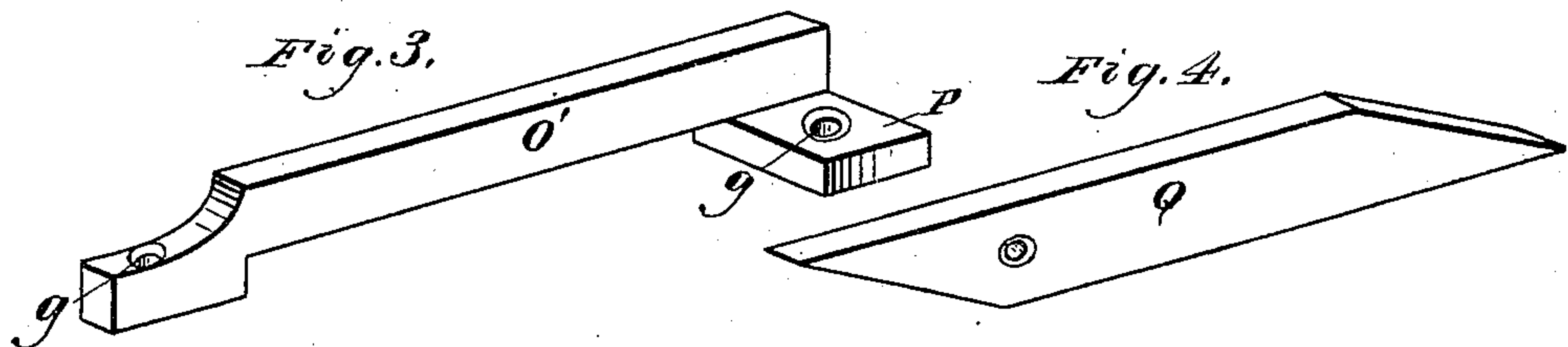
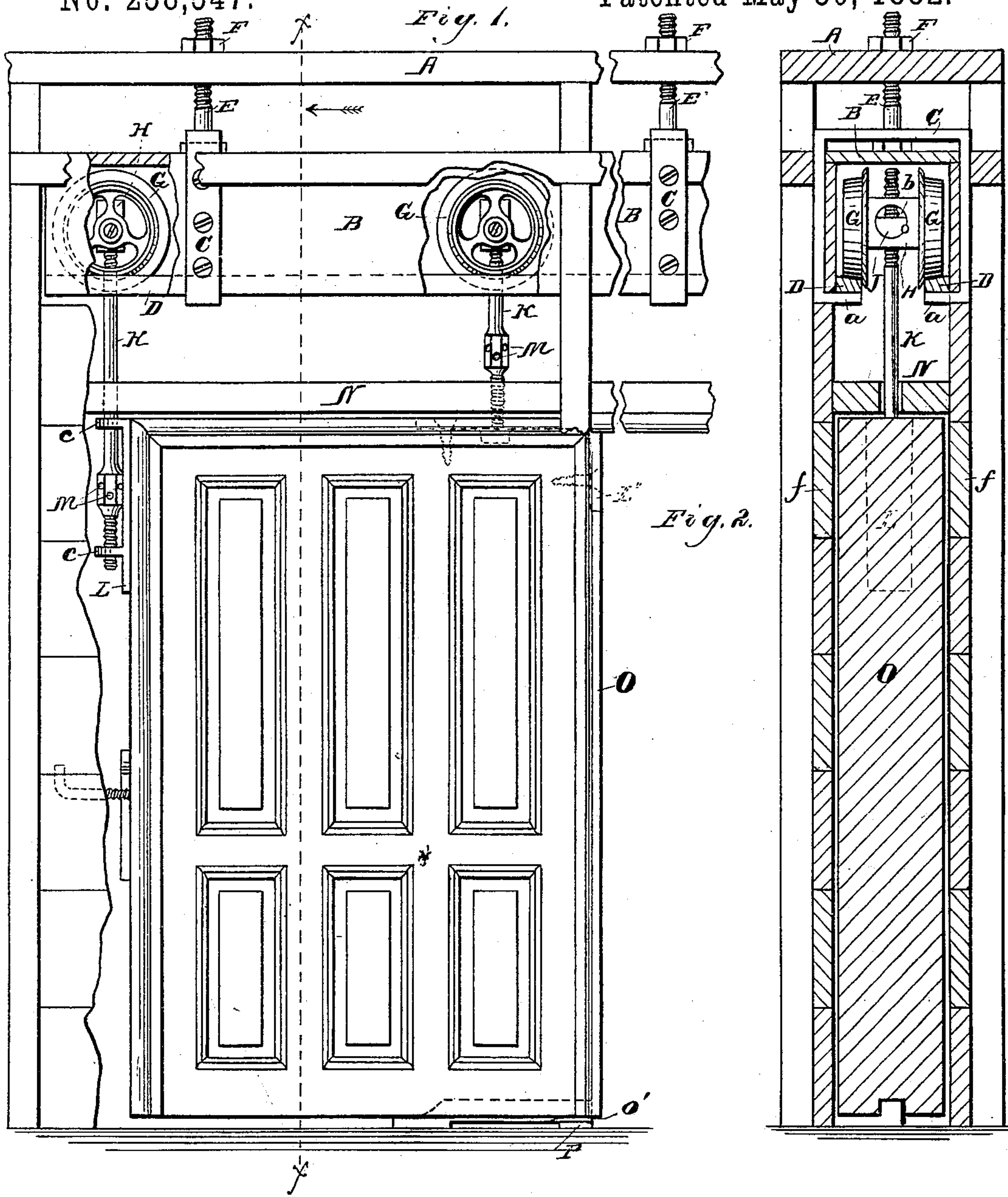
(Model.)

2 Sheets—Sheet 1.

W. F. BERRY.
DOOR HANGER.

No. 258,547.

Patented May 30, 1882.



Witnesses.

Henry Transfuser.
J. W. Nichols

Inventor.

Wilbur F. Berry.
per. F. F. Warner.
his Attorney.

(Model.)

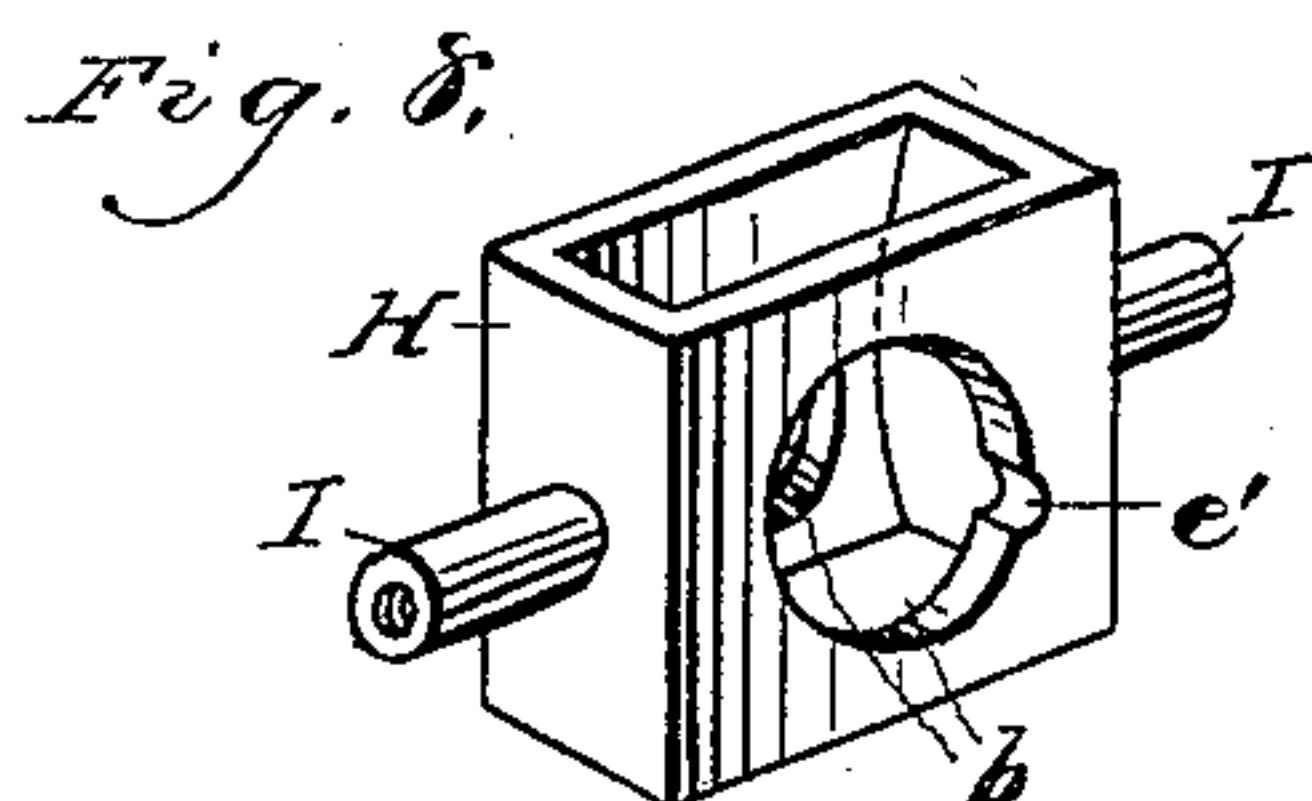
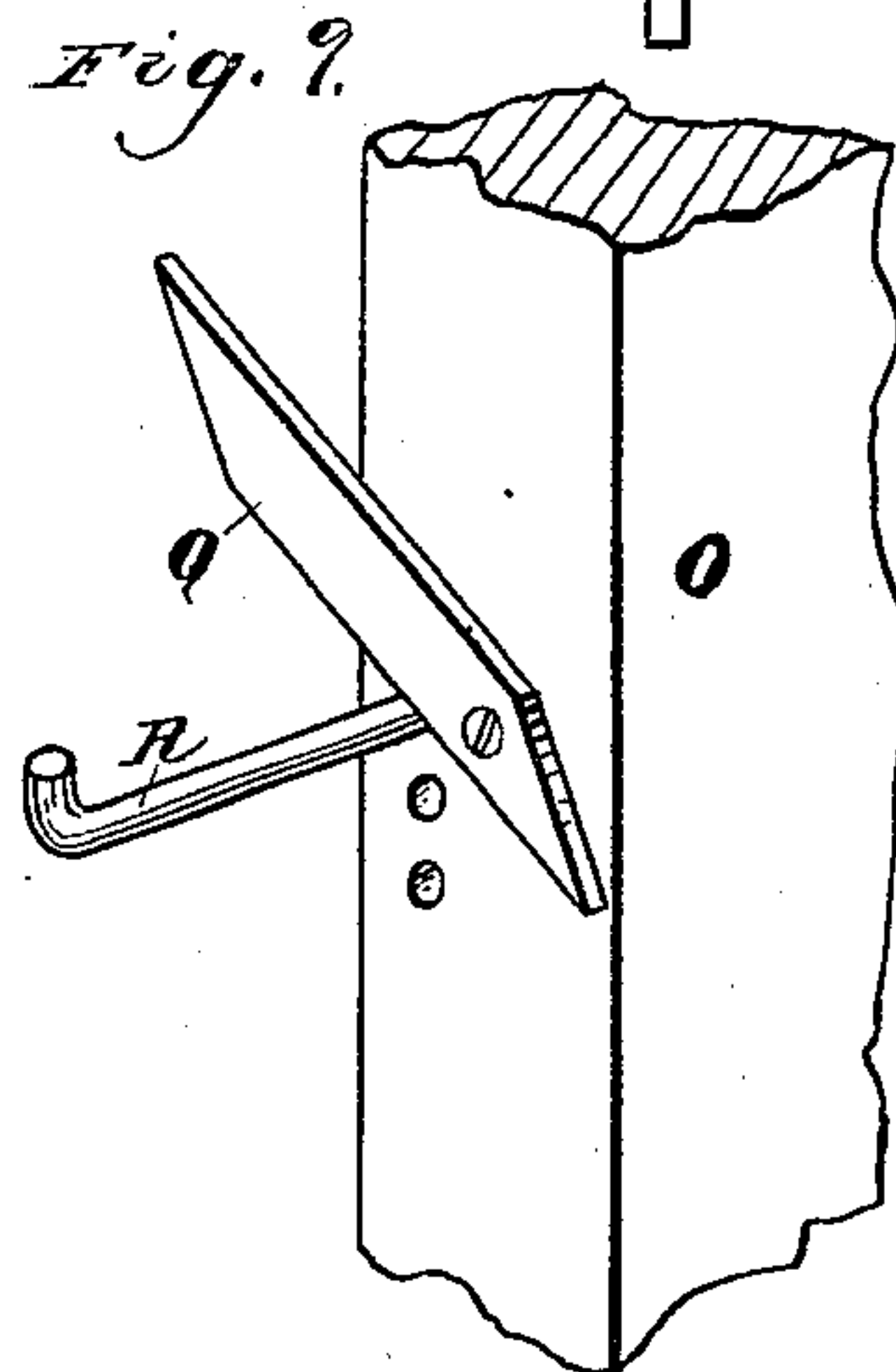
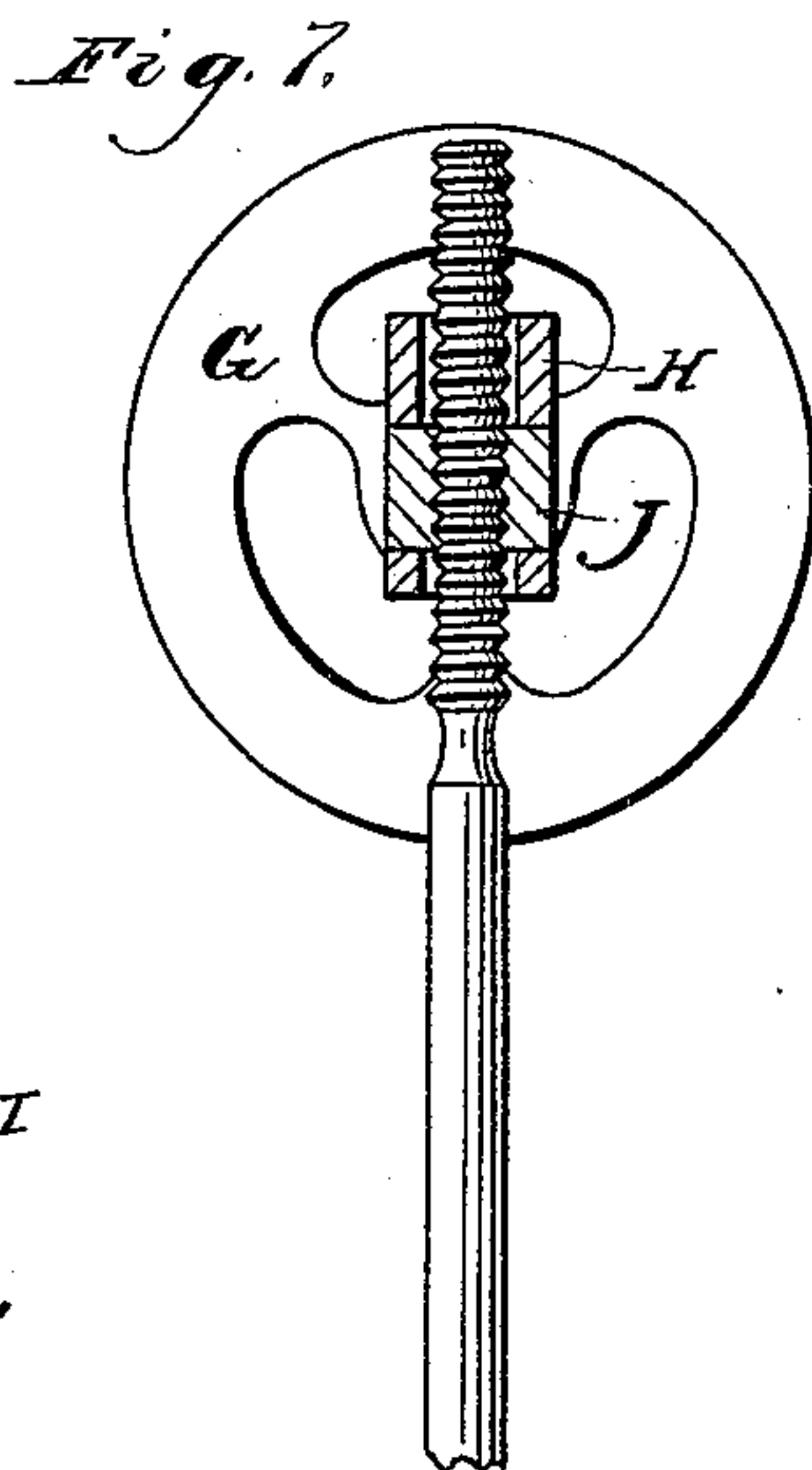
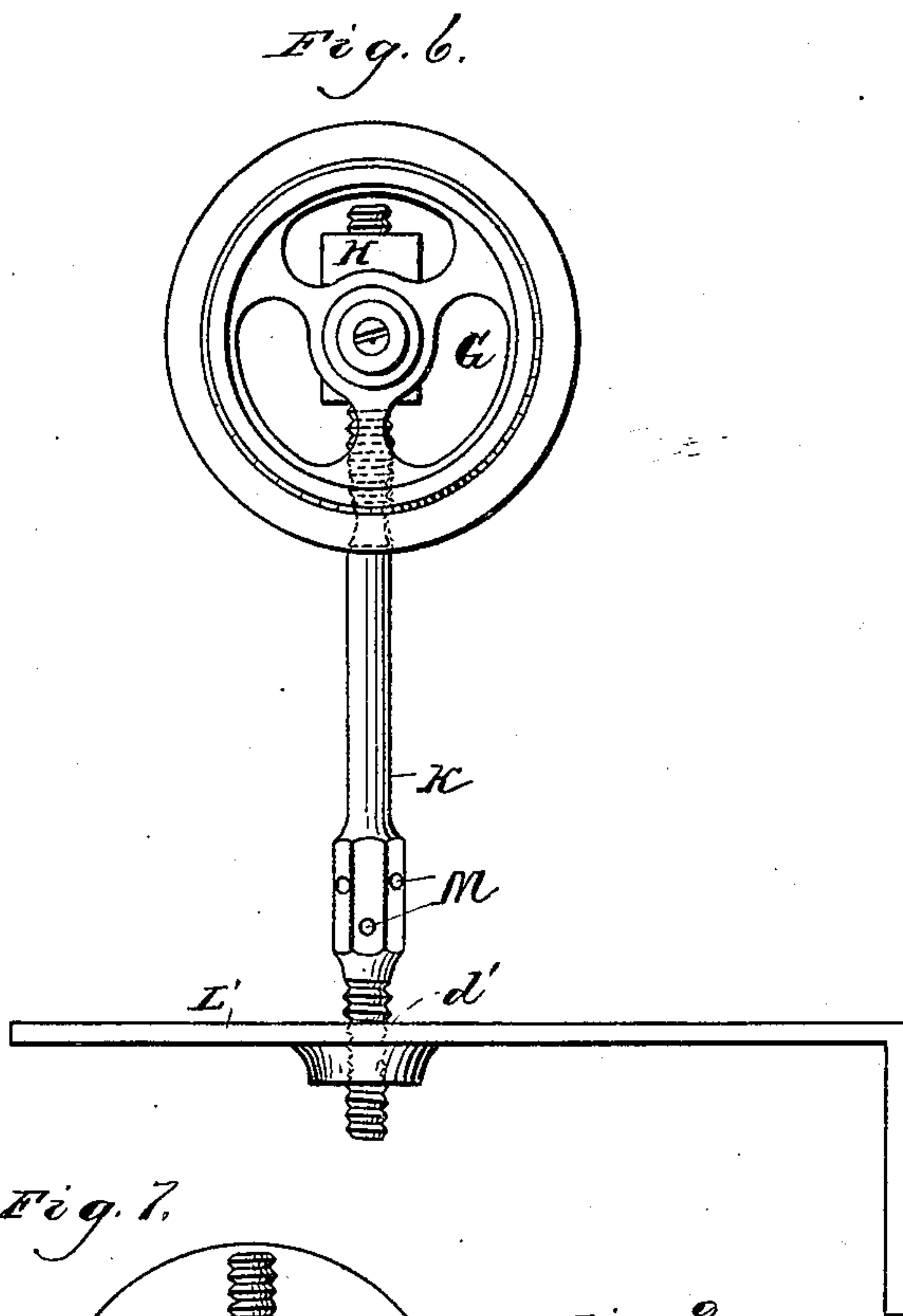
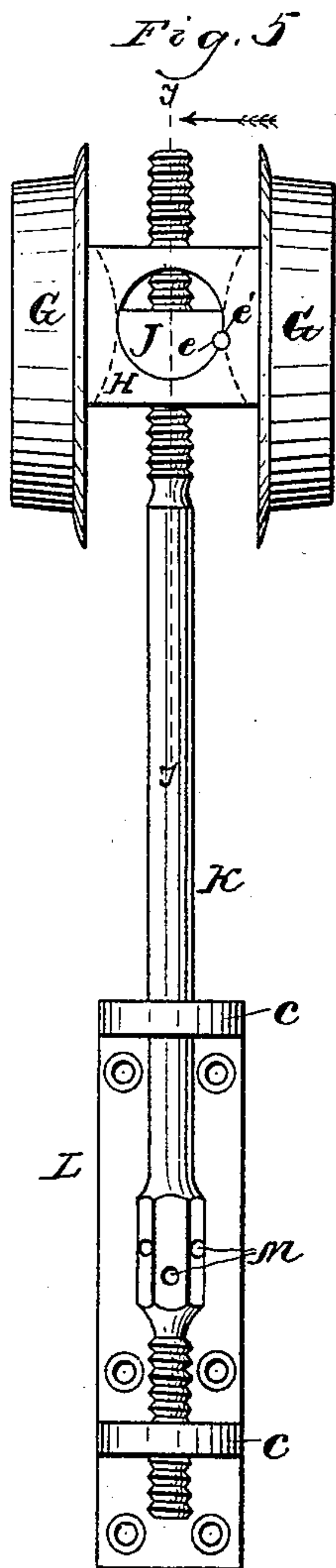
2 Sheets—Sheet 2.

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Henry H. H. H.
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Inventor.
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F. F. Warner,
his Attorney.

UNITED STATES PATENT OFFICE.

WILBUR F. BERRY, OF MARTINSBURG, WEST VIRGINIA.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 258,547, dated May 30, 1882.

Application filed December 7, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILBUR F. BERRY, of Martinsburg, in the county of Berkeley and State of West Virginia, have invented certain new and useful Improvements in Door-Hangers, of which the following, in connection with the accompanying drawings, is a specification.

My invention consists in a door-hanger constructed and arranged as hereinafter set forth, and particularly pointed out in the claims.

In the drawings, Figure 1, Sheet 1, is a front view or elevation of a door hung on hangers embodying my invention, a part of the wood-work or casing and frame being represented as broken away to show the hangers. Fig. 2, Sheet 1, is a section in the plane of the line *x x* of Fig. 1. Fig. 3, Sheet 1, is a perspective of the guide. Fig. 4, Sheet 1, is a like representation of the stop. Fig. 5, Sheet 2, is a front view or elevation of a pair of sheaves with their hanger-rod and astragal plate. Fig. 6, Sheet 2, is a side view or elevation of the same adapted to the top of the door. Fig. 7, Sheet 2, is a section in the plane of the line *y y* of Fig. 5. Fig. 8, Sheet 2, is a detail in perspective of the sheave-axle, and Fig. 9, Sheet 2, is a like representation of the stop and its support.

Like letters of reference indicate like parts.

A is a header or fixed bar covering the spaces or recesses in which the doors ride.

B is a box or hollow bar open at the bottom.

C C are hanger irons or plates fastened to and extending across the top and sides of the box B, and also bent inward, as shown at *a a*, to support the box, but not far enough to close the bottom thereof, although they extend inward a considerable way from the sides, as shown.

D D are rails arranged on the inbent parts *a a* and fastened to the inner sides of the box B. The upper sides or faces of these rails are slightly beveled by preference, as shown, for the purpose hereinafter set forth, the inner edges being lower than the outer.

E E are screw-bolts passing through the tops of the irons C C and through the bar A. The plates C C are supported, as shown, on the heads of the bolts E E, and F F are nuts run upon the upper ends of the bolts.

The parts now described and thus suspended

adjustably in the door-recesses, constitute the track, which may be raised and lowered, and consequently set level at a greater or less distance below the bar A by turning the nuts F F for that purpose.

G G are flanged and beveled sheaves.

H H are hollow blocks, through which circular openings *b b* are made.

I I are spindles extending from the sides of the blocks, which are closed, and the sheaves are mounted on these spindles.

J J are semicircular nuts, arranged respectively in the opening, *b b*.

K K are hanger-rods, the upper ends of which are screw-threaded and pass through the nuts J J.

L and L' are astragal plates, the former of which is adapted to be fastened to the rear edge of the door, near the top thereof, and the latter of which is adapted to be fastened to the upper front corner of the door. On the plate L are ears *c c*, in the upper one of which is a plain hole, and in the lower one of which is a screw-hole. I also make a screw-hole in the plate L', as indicated by the dotted or broken lines at *d'*, Fig. 6. The lower end of one rod K passes freely through the upper ear *c*, and its extreme lower end is screw-threaded to work in the screw-hole in the lower ear *c*. The lower end of the other rod K is also screw-threaded and enters the screw-hole *d'*. The lower threads on the rods K K are cut in one direction, and the upper threads in the opposite direction—that is, one is a right-hand screw and the other a left-hand screw.

M M are holes in the lower part of the rods K K. The rods K K are substantially alike, except in length, as shown. In the nuts J J, I make the semicircular openings *e e*, and in the blocks H H are like openings, *e' e'*, registering with the openings *e e* when the hanger is properly set or hung.

N is the door-jamb, which consists of bars arranged on each side of the rods K K, and O is the door. I make the flanges of the sheaves deeper than the greatest distance which should exist between the jamb and the upper edge of the door, so that they cannot be raised above the rails D D after the door is hung; and I also bevel the flanges, so that they will not be likely to catch on the edges or sides of the rails while

rolling along. After the track has been properly adjusted, strips should be nailed below it to the studding, to aid in supporting the track; but if the door-recesses are to be boarded up, as indicated at *ff*, Fig. 2, the same result will follow if the boards reach the track.

The box B will be held steadily in place by the upper parts of the door frame and casing, but may be adjusted vertically with facility, in the manner already stated, so that the track may be placed at the proper height and made true and level. The beveled rails and correspondingly-beveled sheaves tend or aid to hold the sheaves to the center line between the rails, so that the sheaves will run in a straight line when the doors are opened and closed; also, by beveling the sheaves and rails, matter—such as mortar—falling on them will slide off and not obstruct the track.

By allowing the blocks H H to turn on the nuts J J the hanger can be more conveniently handled while being hung than if the parts were rigid, and the sheaves can be used on any track which has become uneven by settling, as they will adjust themselves to such unevenness; but the tilting of the sheaves may be prevented, when desired, by bringing the holes *e* and *e'* together and driving a pin through them.

By making right and left hand screws on the rods K K a slight turning thereof will cause a considerable vertical adjustment, or an adjustment just twice as great as if the screws were the same, or if only one were made thereon. After this vertical adjustment has been properly made, subsequent turning of the rods K K may be prevented by driving a pin through one of the holes M M into the edge of the door, the plate L being open to admit such a pin. The holes M M also allow the rods K K to be turned with facility by means of a removable pin or other suitable tool, which may be inserted for that purpose into these holes.

By adapting the plates L and L' to be applied to the edges of the door, and by connecting the rods K K to these plates without passing the rods into the door, the tenons of the latter are not weakened.

It will be perceived that the sheaves as well as the track are adjustable vertically or with relation to the door. The track or rails may be made of pine. The metallic parts, excepting the hanger-rods, I prefer to make of malleable iron. Such a hanger will in practice make very little, if any, noise. It may be constructed and applied with facility, is strong, durable, and comparatively cheap.

O' is a guide adapted to steady the movement of the lower edge of the door, into which a groove is sunken to receive the upper edge or part of the guide, as indicated in Figs. 1 and 2. This guide is raised between its ends, as shown.

P is a foot on the outer end of the guide. I arrange the foot on the outer end of the guide for convenience of access in applying the guide

in its place. In the foot P and in the rear end of the guide are holes *g g*, to admit fastenings to secure the guide to the floor. In cases in which a close joint is desired between the guide O' and the door, I make the groove which receives the guide sufficiently wide to allow a piece of listing or other suitable packing to be placed on the door along that side of the groove opposite the foot P.

Q is a stop having beveled ends, and pivoted near one end to the rear edge of the door.

R is a removable supporting-pin to hold the free end of the stop up or out far enough to strike one of the studding, or a stop-block or catch thereon, so as to limit the out movement of the door. The space between the doors and the studding sometimes varies, and by pivoting the stop to the door, and by employing a removable pin, R, the stop can be with facility so supported as to extend across either a greater or less space and serve its purpose.

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

1. The combination, in a door-hanger, of the vertically-adjustable box B, having an open bottom, the rails D D, rigidly applied to the inner sides of the said box, the double sheaves G G, mounted on the said rails, the hanger-rods, and the door-plates, substantially as and for the purposes specified.

2. The combination, in a door-hanger, of the two flanged sheaves G G, each having beveled or inclined perimeters, and the correspondingly-beveled rails D D, substantially as and for the purposes specified.

3. The combination, in a door-hanger, of the headed-screw bolts E E, the plates or irons C C, the hollow box B, having an open bottom, the rails D D, and the nuts F F, substantially as and for the purposes specified.

4. The combination, in a door-hanger, of the hollow block H, having spindles on its sides and a circular opening, *b*, the sheaves G G, mounted on the said spindles, the hanger-rod K, and a semicircular nut, J, run upon the said rod and arranged in the opening *b*, substantially as and for the purposes specified.

5. The combination, in a door-hanger, of the right and left screw-threaded hanger-rods K K, the plates L and L', adapted for attachment to the outside of the door, and having therein screw-holes to receive the lower ends of the said rods, and the sheaves G G, adjustably connected to the upper ends of the said rods by means of male and female screws working oppositely from those at the lower end thereof, whereby a simple turn of the said rod will adjust the door vertically to an extent greater than if the screw-threads on the said rods both run in the same direction, substantially as specified.

WILBUR F. BERRY.

Witnesses:

F. F. WARNER,

H. FRANKFURTER.