

No. 621,710.

Patented Mar. 21, 1899.

M. C. RICHARDS.
SLIDING DOOR HANGER.
(Application filed Nov. 4, 1897.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

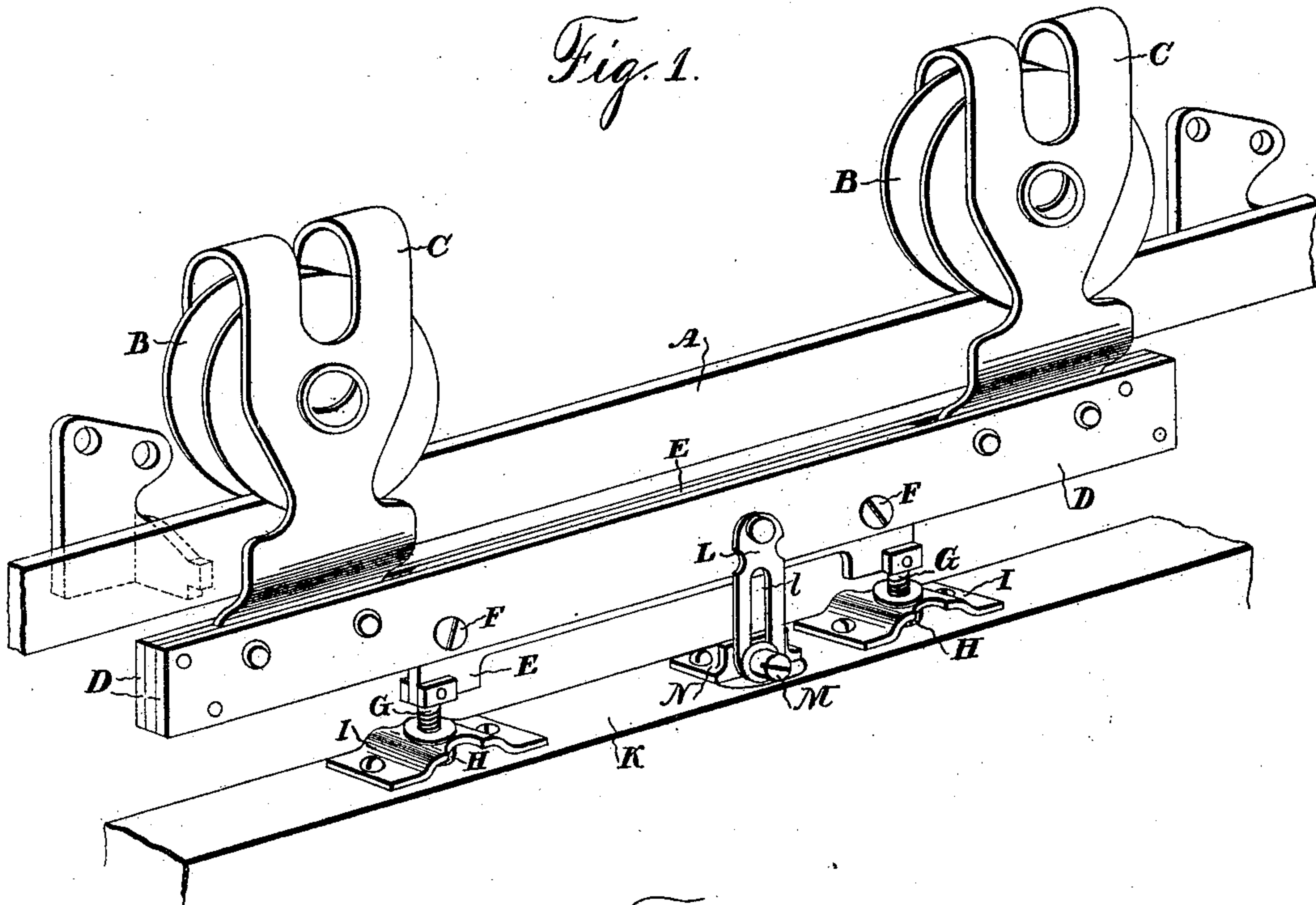
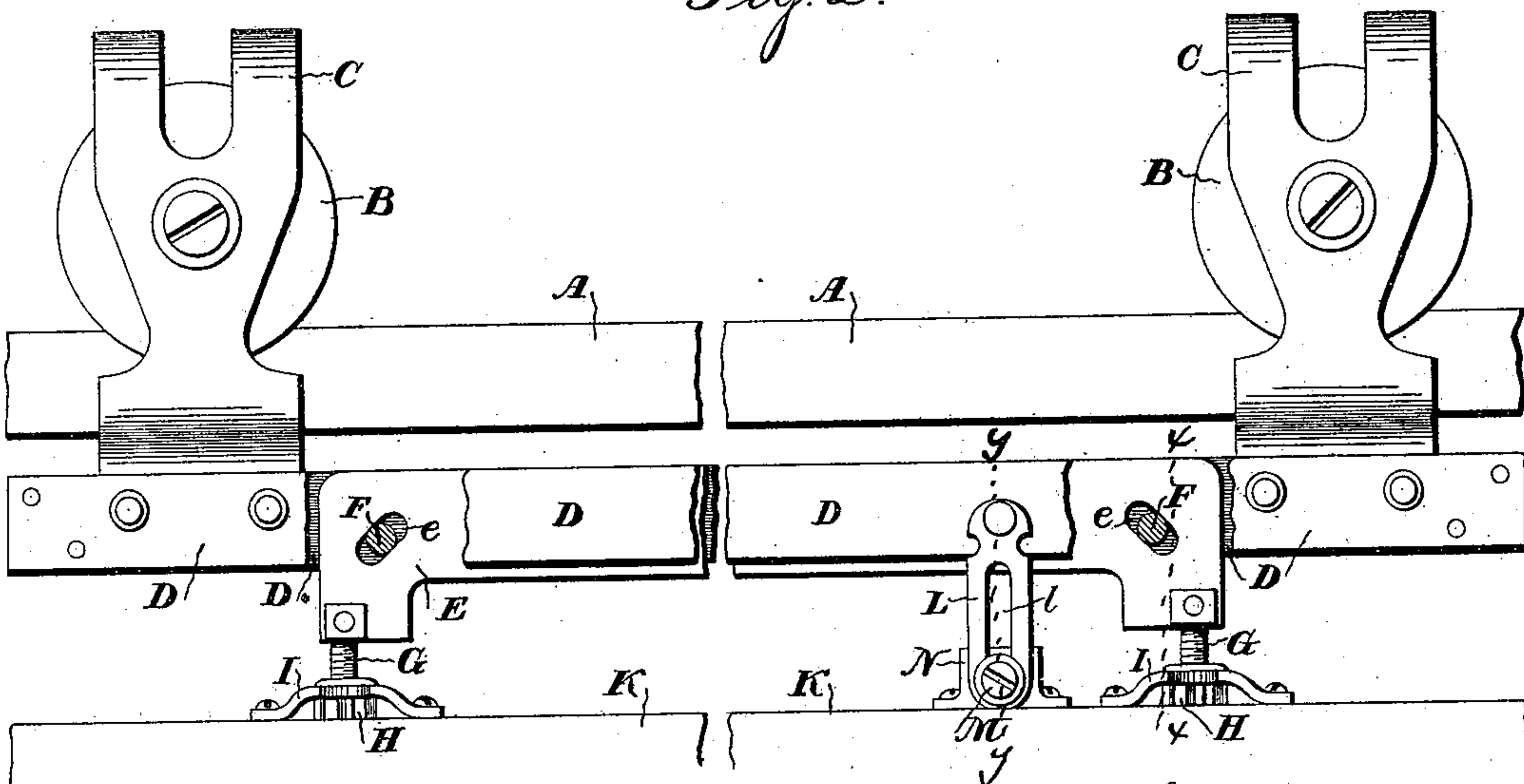


Fig. 2.



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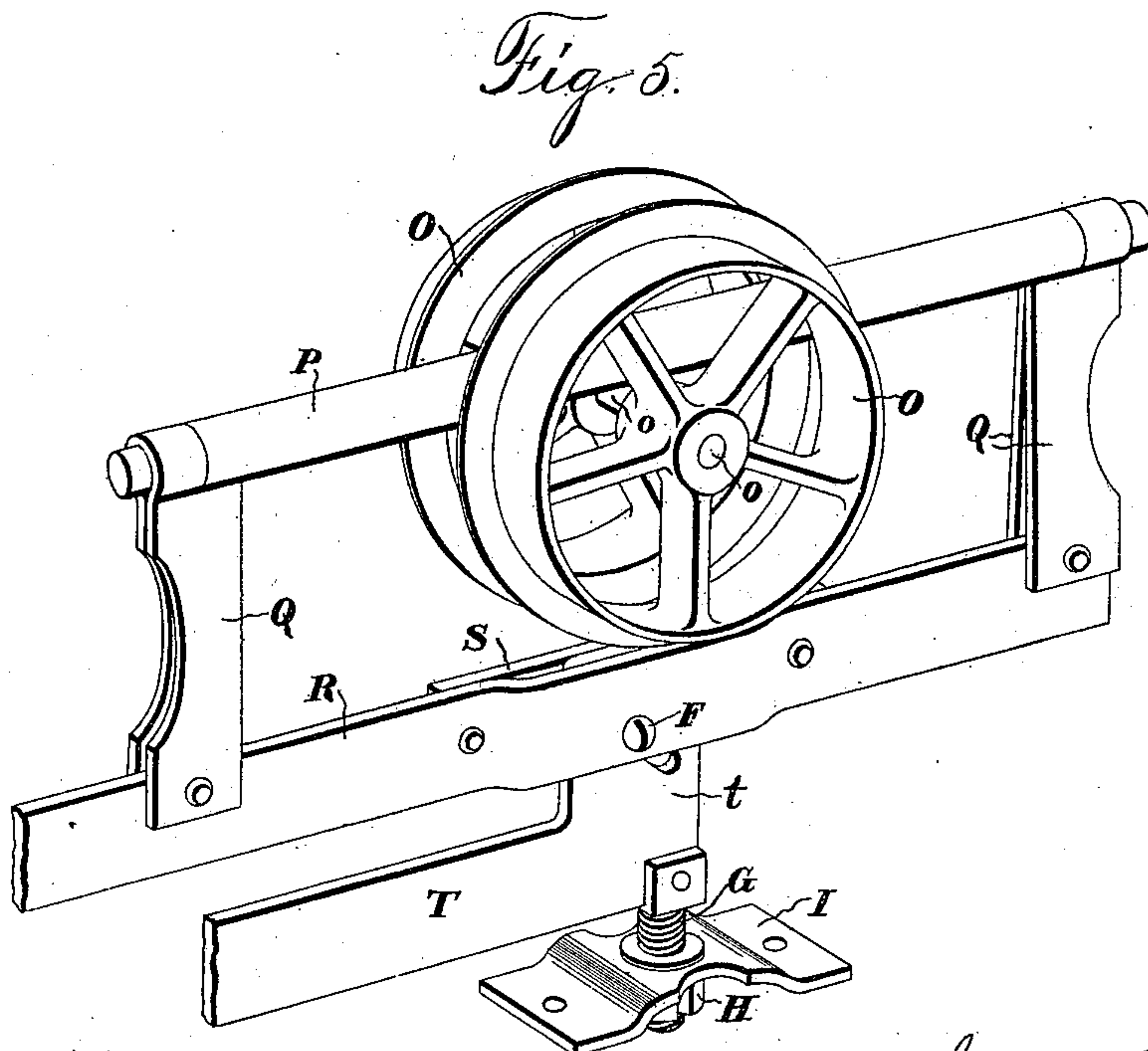
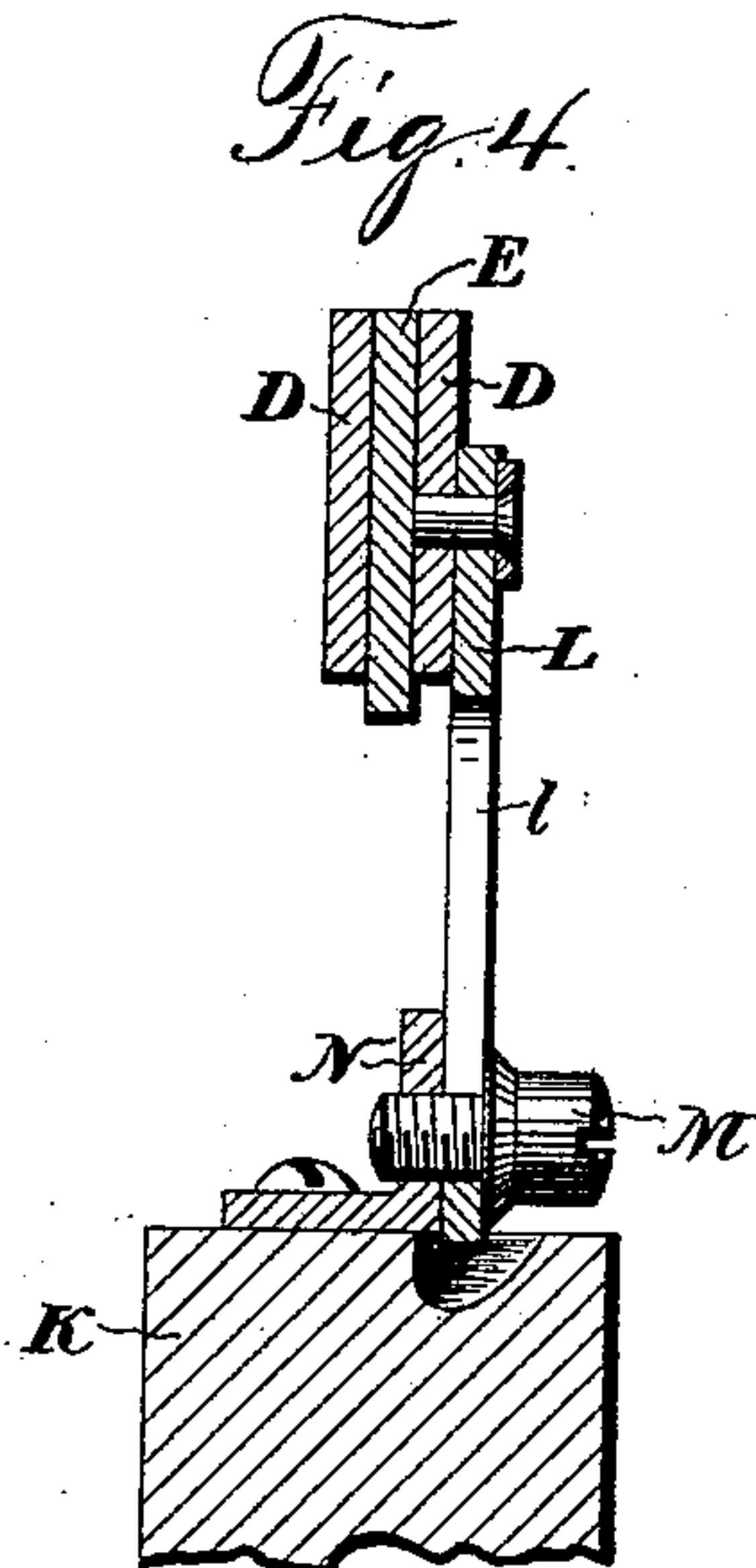
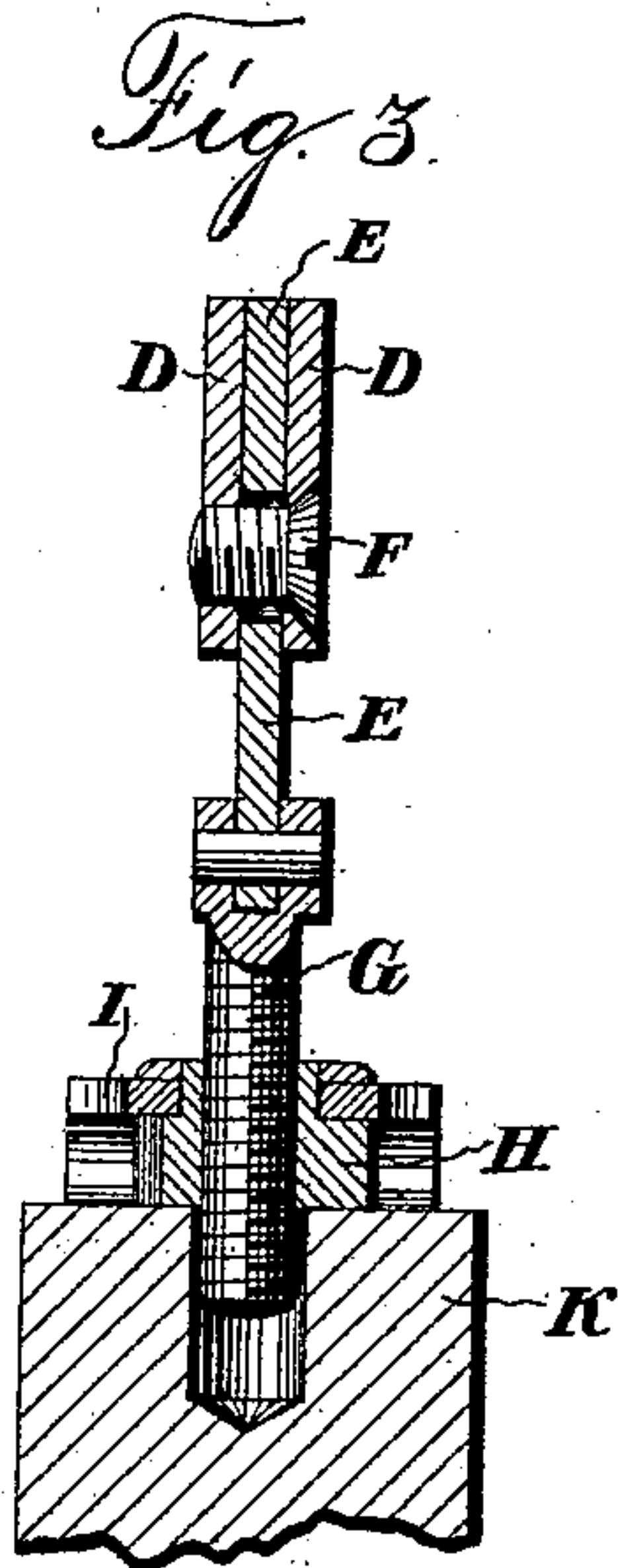
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UNITED STATES PATENT OFFICE.

MARCIUS C. RICHARDS, OF AURORA, ILLINOIS.

SLIDING-DOOR HANGER.

SPECIFICATION forming part of Letters Patent No. 621,710, dated March 21, 1899.

Application filed November 4, 1897. Serial No. 657,372. (No model.)

To all whom it may concern:

Be it known that I, MARCIUS C. RICHARDS, of Aurora, in the county of Kane, and in the State of Illinois, have invented certain new and useful Improvements in Sliding-Door Hangers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my door-hanger shown as adapted to a single track; Fig. 2, a view thereof in side elevation with parts broken away; Fig. 3, a vertical cross-section on the line *xx*, Fig. 2; Fig. 4, a similar section on the line *yy*, Fig. 2; Fig. 5, a detail perspective view of a portion of the hanger when adapted for a double track.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to provide a construction of hanger for sliding doors whereby the door or doors may automatically adjust themselves to close squarely when derangement in the level of the tracks, due to the settling of the building, &c., takes place; and to this end said invention consists in the door-hanger having the features of construction substantially as hereinafter specified.

With all door-hangers with which I am acquainted it is necessary, when after the door is hung derangement of the level of the tracks occurs, to manually operate the adjusting devices of the hangers to place the door in proper position. This, besides being troublesome and requiring skill, necessitates the tearing out of portions of the door-frame to give full access to the door. In addition to the expense involved in employing a competent workman to do the work the woodwork of door and frame is often scratched or otherwise marred or defaced. It will therefore be apparent that it is most desirable to render the door automatically adjustable.

In adapting my invention to hangers running on single tracks the track and wheels and the means for journaling the latter may be of any usual construction and arrangement. The track I illustrate is in the form of a simple metal bar A, supported on suitably-mounted brackets, and the wheels B and B are of usual form and mounted each in a hanger-plate C, whose lower end is carried

to a point sufficiently below the track A to clear it. For each door two wheels and hanger-plates are employed, and connecting the lower ends of the two plates and lying parallel with the track are two thin bars D and D placed on opposite sides of the plates and riveted or otherwise fastened thereto.

In the space between the two bars D and D is placed a bar E, that near its ends has two straight slots *e* and *e*, that diverge from each other downwardly, and through each of which passes a pin or screw F, that also passes through the bars D and D, and thus attaches the bar E to the latter. The described connection of the bar E permits it to swing or oscillate vertically, as on a pivot, the center of motion being at a point midway between the two pins F and F, and yet by reason of the inclination of the slots *e* and *e*, each pin at all times does its share in supporting the bar.

Attached to and depending from each end of the bar E is a short screw-rod G, having a nut H upon it, which has a swiveled connection with a strap I, fastened to the top of the door K. By means of the screws and nuts the height of the door may be adjusted.

As the door by reason of its connection with the bar E is free to rock or oscillate vertically, it will be plain that if the track be not level the door on meeting either the jamb (if it be a single door) or the other door (if double doors be employed) will move to align or square its abutting edge with the surface it comes against.

Should it be desirable to secure the door in the position to which it may adjust itself on a deranged track, means may be provided for this purpose. I illustrate a simple device for doing this.

Pivotally connected to the outer side of one of the bars D and hanging vertically therefrom is a slotted bar L, and passing through the slot *l* thereof is a screw M, that enters an angle-plate or bracket N, secured to the top of the door. By means of the screw the bar L can be clamped against the angle-plate, and thus the door held in a fixed relation to the swinging bar E.

In Fig. 5 I show my invention as adapted to a double-track hanger, double wheels O and O of ordinary construction being em-

ployed, upon the axle *o* of which rests a round rider-bar *P*, that is mounted at its ends upon arms *Q* and *Q*, that are riveted to a horizontal bar *R*, answering in function to the bars *D* and *D*. From between the bar *R* and a short bar *S*, secured thereto, a bar *T*, corresponding to the swinging bar *E*, is suspended, said bar *T* being provided at each extremity with a vertical extension *t*, whereby the main part or body of the bar is placed beneath the bar *R*. The door is attached to the swinging bar *T* by the same means as in the case of the single-track hanger.

Should the track curve or bend horizontally, it will not interfere with the free self-adjustment of the door nor with the easy running of the hanger.

Having thus described my invention, what I claim is—

1. As an improvement in sliding-door hangers, a single, vertically-swinging door-support, whose center of motion is intermediate its points of connection with the door, substantially as and for the purpose described.

2. As an improvement in sliding-door hangers, the combination of track-engaging wheels, and a single support for the door, consisting of a vertically-swinging bar suspended from said wheels, whose center of motion is

intermediate its points of connection with the door, substantially as and for the purpose described.

3. As an improvement in sliding-door hangers, the combination of a support and a vertically-swinging door-supporting bar, having diverging surfaces engaging parts on said support, substantially as and for the purpose described.

4. In a sliding-door hanger, the combination of the track-engaging support, a vertically-swinging bar having diverging slots, pins on said support engaging the slots, and means for attaching said bar to a door, substantially as and for the purpose shown and described.

5. A sliding-door hanger having a single, vertically-movable door-support, whereby the door may adjust itself automatically, and means for securing the door in the position to which it adjusts itself, substantially as and for the purpose described.

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of October, 1897.

MARCIUS C. RICHARDS.

Witnesses:

FRANK G. PLAIN,
W. F. FOWLER.