

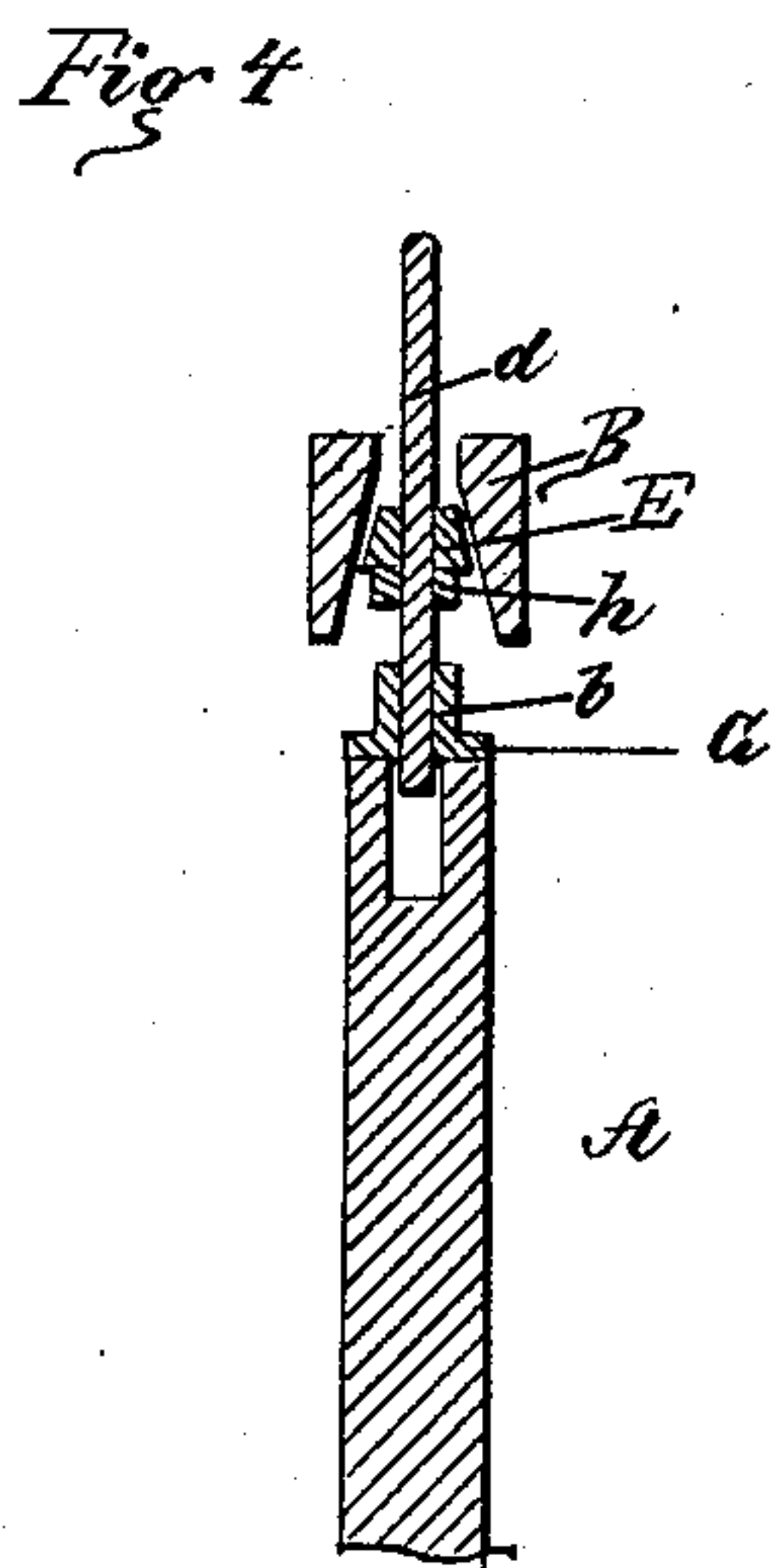
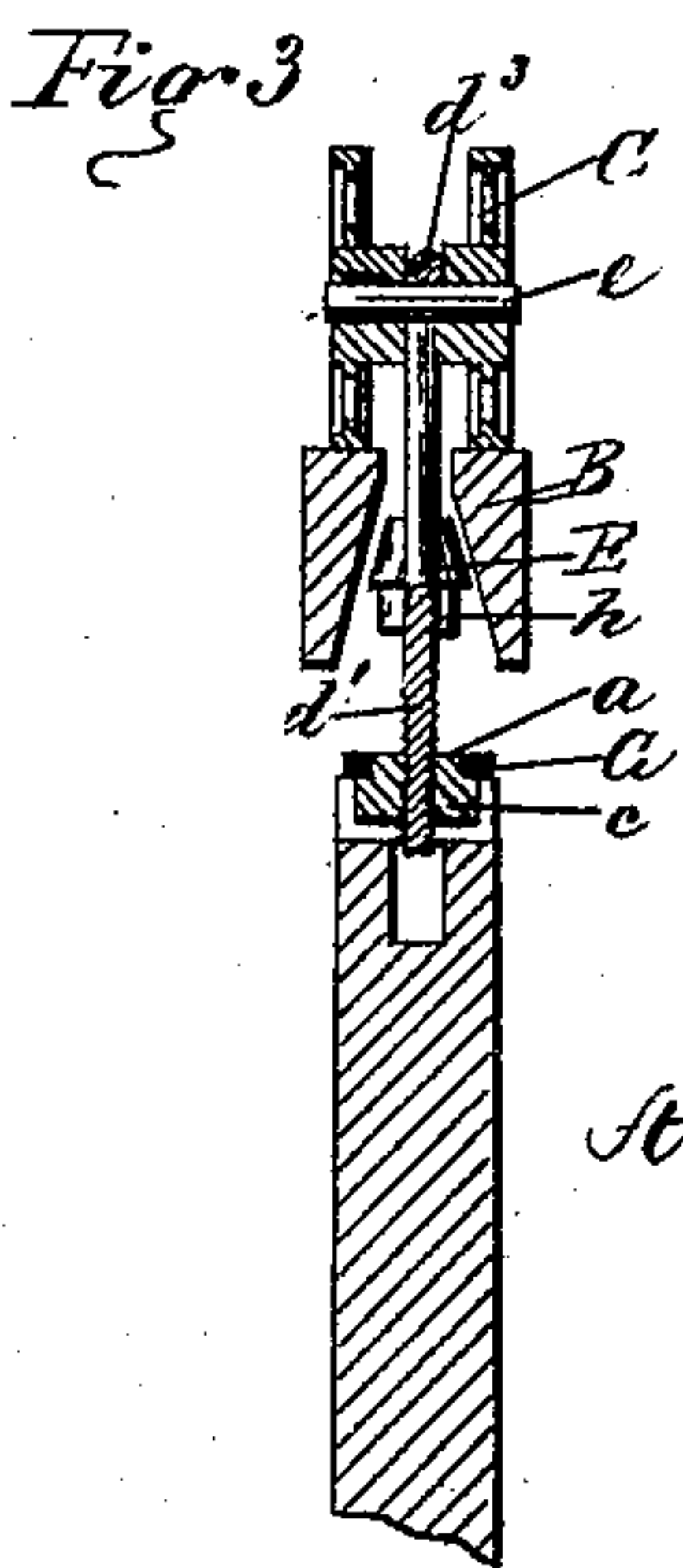
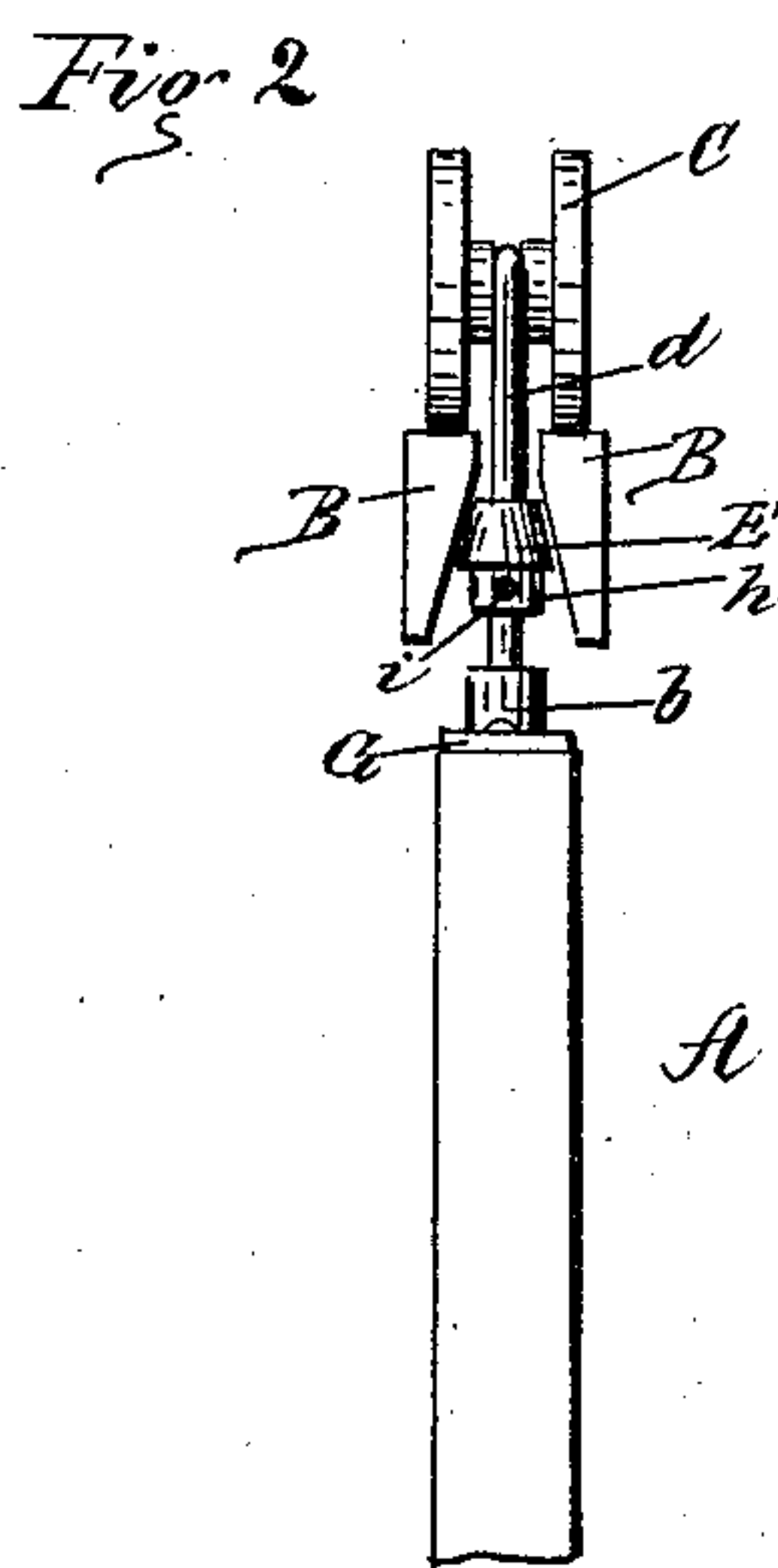
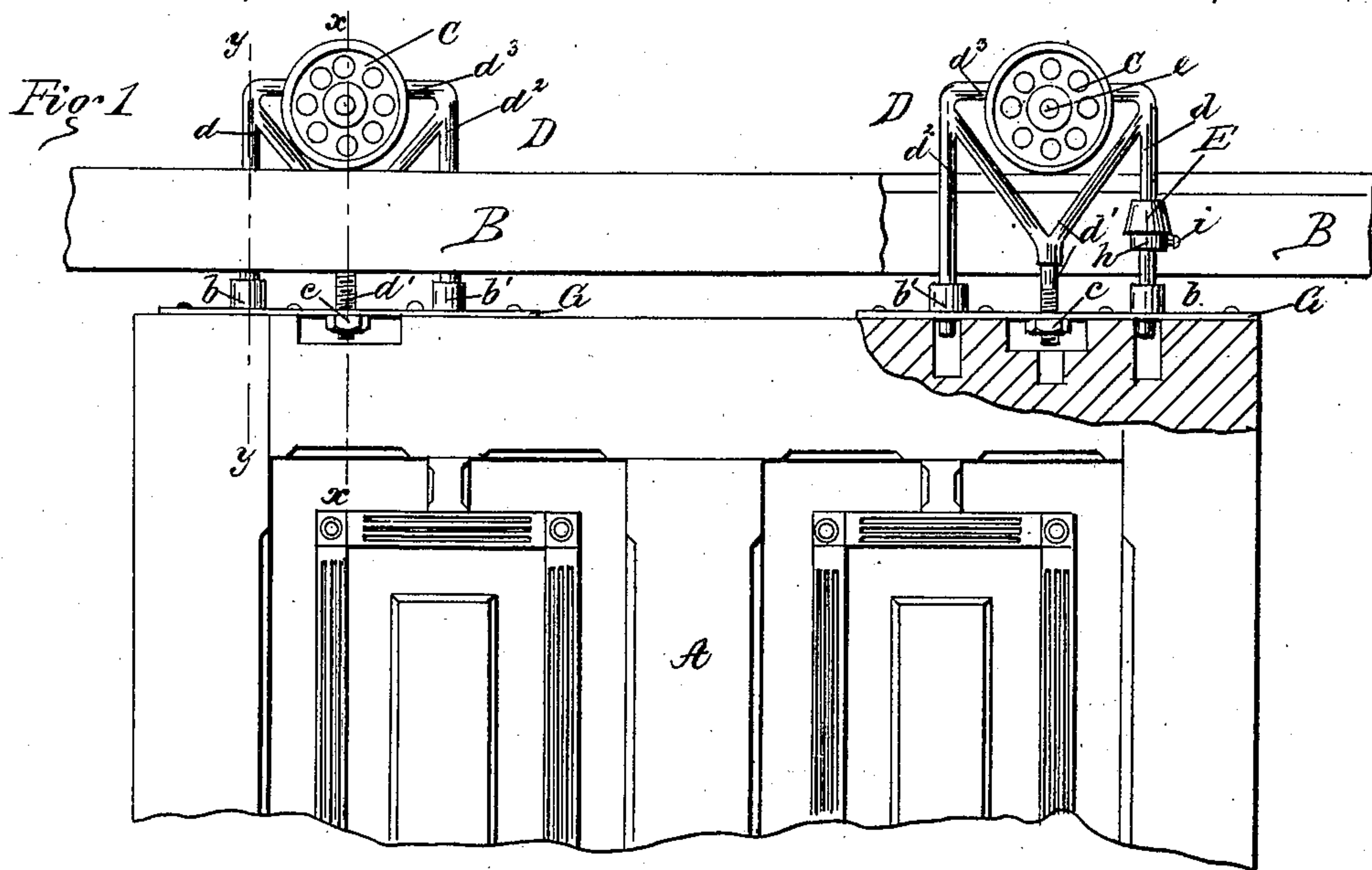
(Model.)

C. W. BULLARD.

DOOR HANGER.

No. 321,081.

Patented June 30, 1885.



Witnesses  
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# UNITED STATES PATENT OFFICE.

CHARLES W. BULLARD, OF CHICAGO, ILLINOIS.

## DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 321,081, dated June 30, 1885.

Application filed June 30, 1884. (Model.)

*To all whom it may concern:*

Be it known that I, CHARLES W. BULLARD, a citizen of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Door-Hangers, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my door-hanger and door, with part in section. Fig. 2 is an end elevation. Fig. 3 is a vertical cross-section taken on the line  $x x$ , Fig. 1. Fig. 4 is a vertical cross-section taken on the line  $y y$ , Fig. 1.

My invention relates to that class of devices known as "door-hangers," and which are used for carrying sliding doors.

I will now proceed to explain my invention, reference being had to the accompanying drawings, which form part of this specification, and in which—

A is the door; B B, the rails or tracks on which the wheels C run. D is the bracket or frame in which the wheel C is run, and by which the door is hung to the wheels; and E is a cone-shaped guide-pulley running against the ways B.

The application of my hanger to a door is as follows: The rails B B are secured in proper position above the door, the thicker edges being on top. These upper edges form the tracks on which the wheels run. The door is attached to the wheels by means of the bracket D and plate G. The bracket is made with the three arms  $d d' d^2$ . The plate is provided with the hole  $a$  in the center, and the collars  $b b'$  near each end, as well as proper screw-holes. The arms  $d d^2$  fit in the collars  $b b'$ , and the arm  $d'$  runs through the hole  $a$ , and is provided with screw-threads, which engage in the nut  $c$ , by means of which the plate G may be raised or lowered on the bracket D. The plate is screwed fast to the upper edge of the door, and then, by means of the nut  $c$ , a proper adjustment may be made at one side, and not at the rear edge, as is commonly the way, necessitating the removal of the door-case, the mortise cut in the door for this purpose being covered by the molding. The bracket or yoke D is made of round rods, and the upper bar,

$d^3$ , which bears on the axle  $e$  of the wheels, being also round, it forms a practically anti-friction bearing. The rails B B are beveled, as shown in Figs. 2, 3, and 4, and I have provided a pulley,  $h$ , formed like a truncated cone, which fits upon the arm  $d$ . Under this pulley is the collar  $h$ , provided with the set-screw  $i$ . The pulley is raised on the arm  $d$  until it engages with the faces of the rails B B. The collar  $h$  is then brought up snug against the lower side of the cone and secured in place by the set-screw  $i$ . This cone-shaped pulley in a great measure prevents the doors from swinging laterally, and if the door does cant it removes the friction. It also renders it impossible for the door to tip or jump forward, and likewise allows the builder some latitude in placing his rails, as he is not held to a particular adjustment of the space between them.

Having now fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the rails B B, of the wheels C C, the bracket D, composed of the rods  $d d' d^2 d^3$ , substantially as set forth, plate G, and pulley E, substantially as and for the purposes specified.

2. The bracket D, made of round rods, and having the arms  $d$ ,  $d'$ , and  $d^2$ , substantially as and for the purpose set forth.

3. The bracket D, substantially in the form shown, in combination with the plate G, provided with the hole  $a$  and collars  $b b'$ , and the nut  $c$ , substantially as and for the purposes set forth.

4. The cone-shaped pulley  $h$ , in combination with the wheels C C, bracket D, and rails B B, substantially as and for the purposes set forth.

5. The combination, with the door A and the plate G, attached thereto, of an independent bracket at each end thereof, having a central threaded arm,  $d'$ , passing through plate G, and adapted to receive a nut,  $c$ , on the under side of said plate, substantially as and for the purposes specified.

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Witnesses:

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