

(Model.)

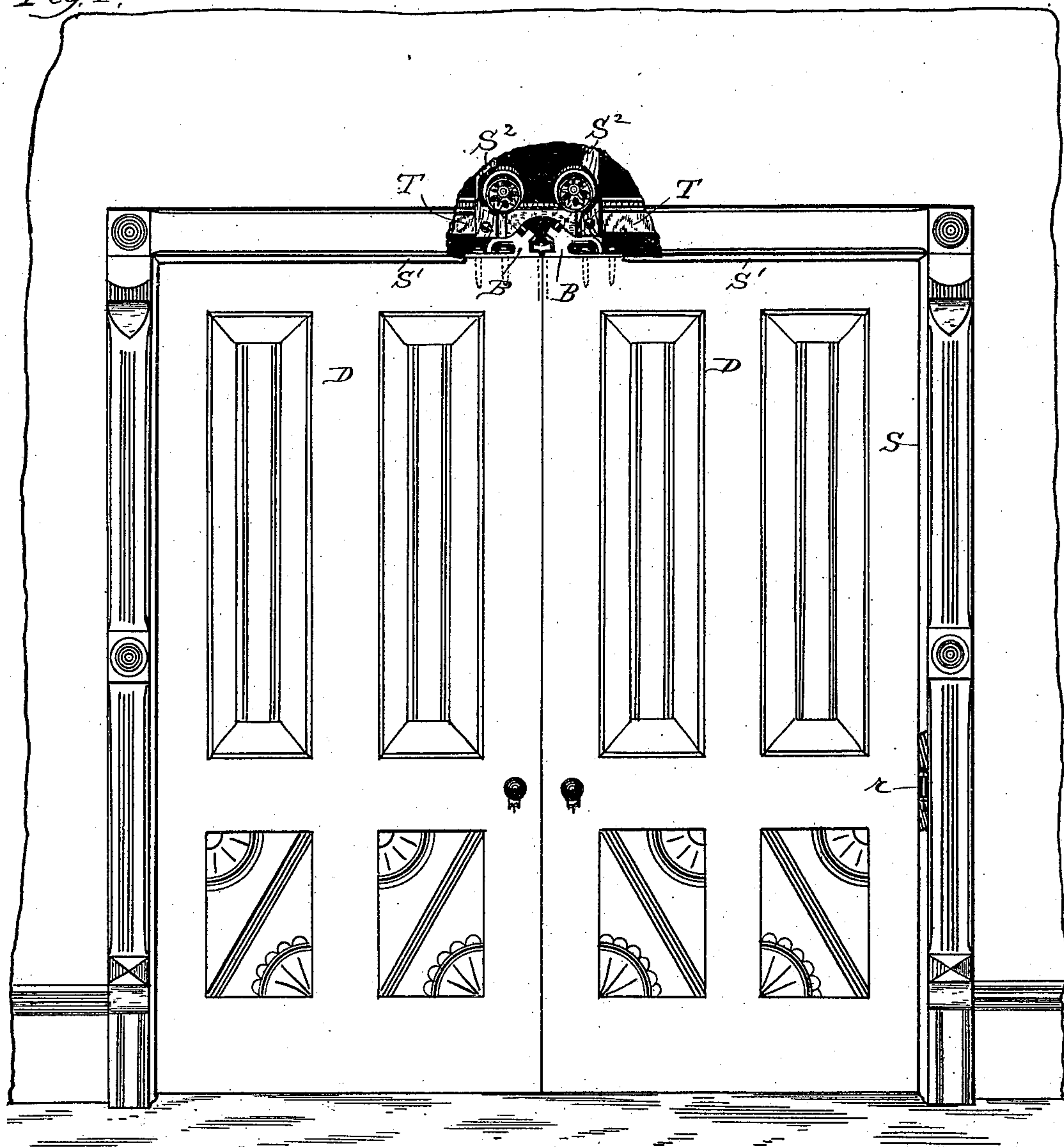
3 Sheets—Sheet 1.

S. SHREFFLER, Jr.
DOOR HANGER.

No. 355,724.

Patented Jan. 11, 1887.

Fig. 1.



Witnesses.

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(Model.)

3 Sheets—Sheet 2.

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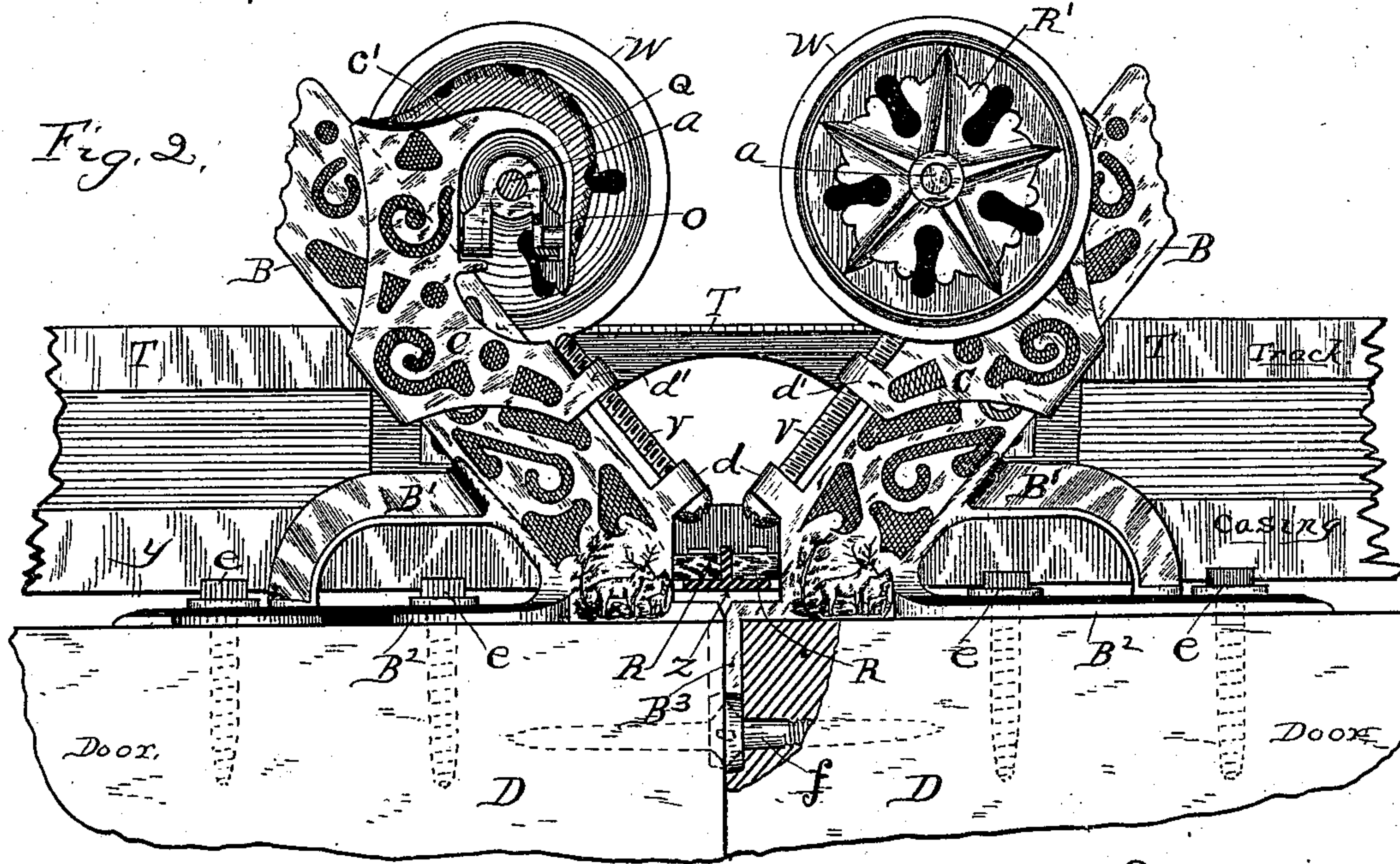


Fig. 3.

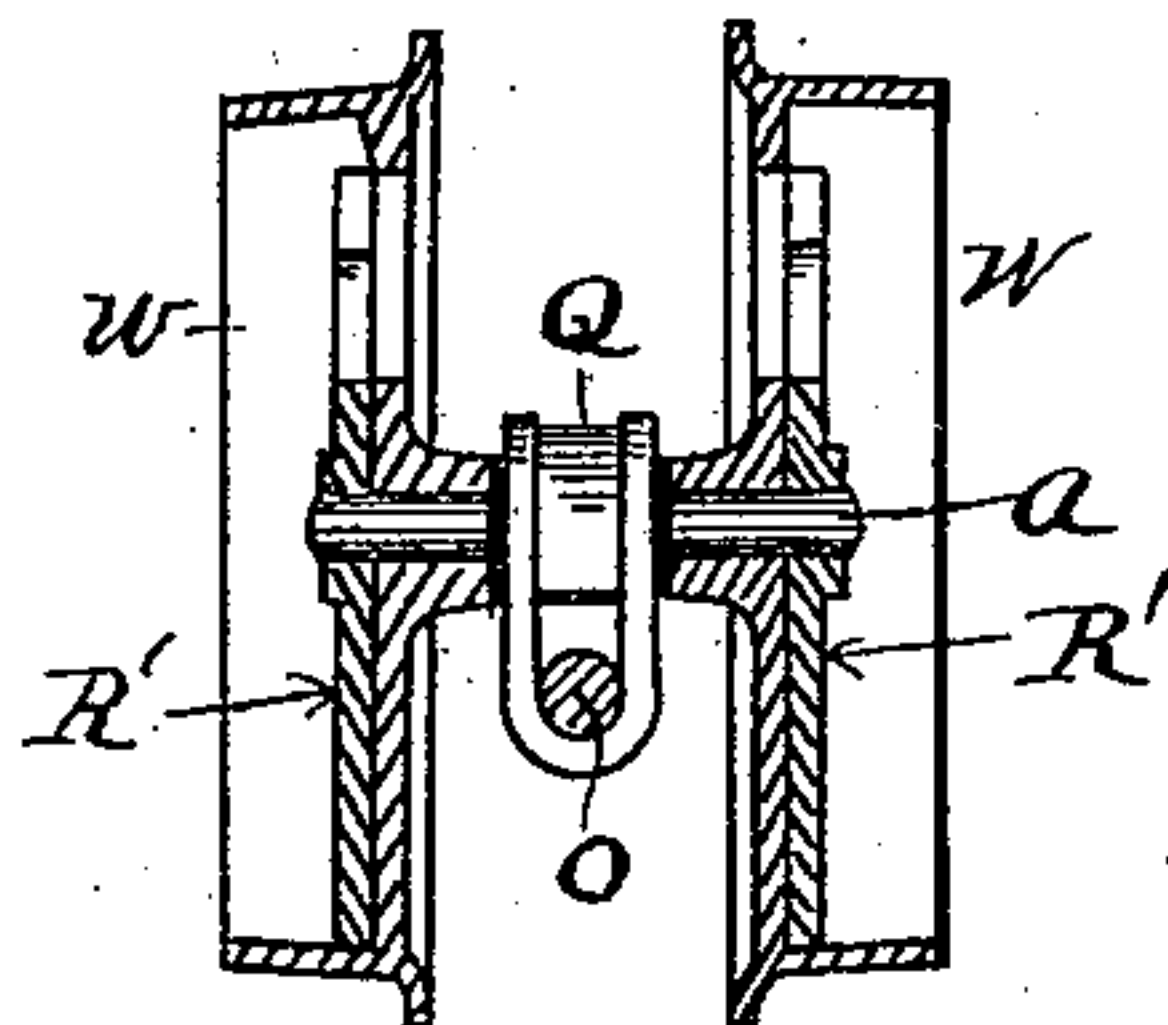


Fig. 4.

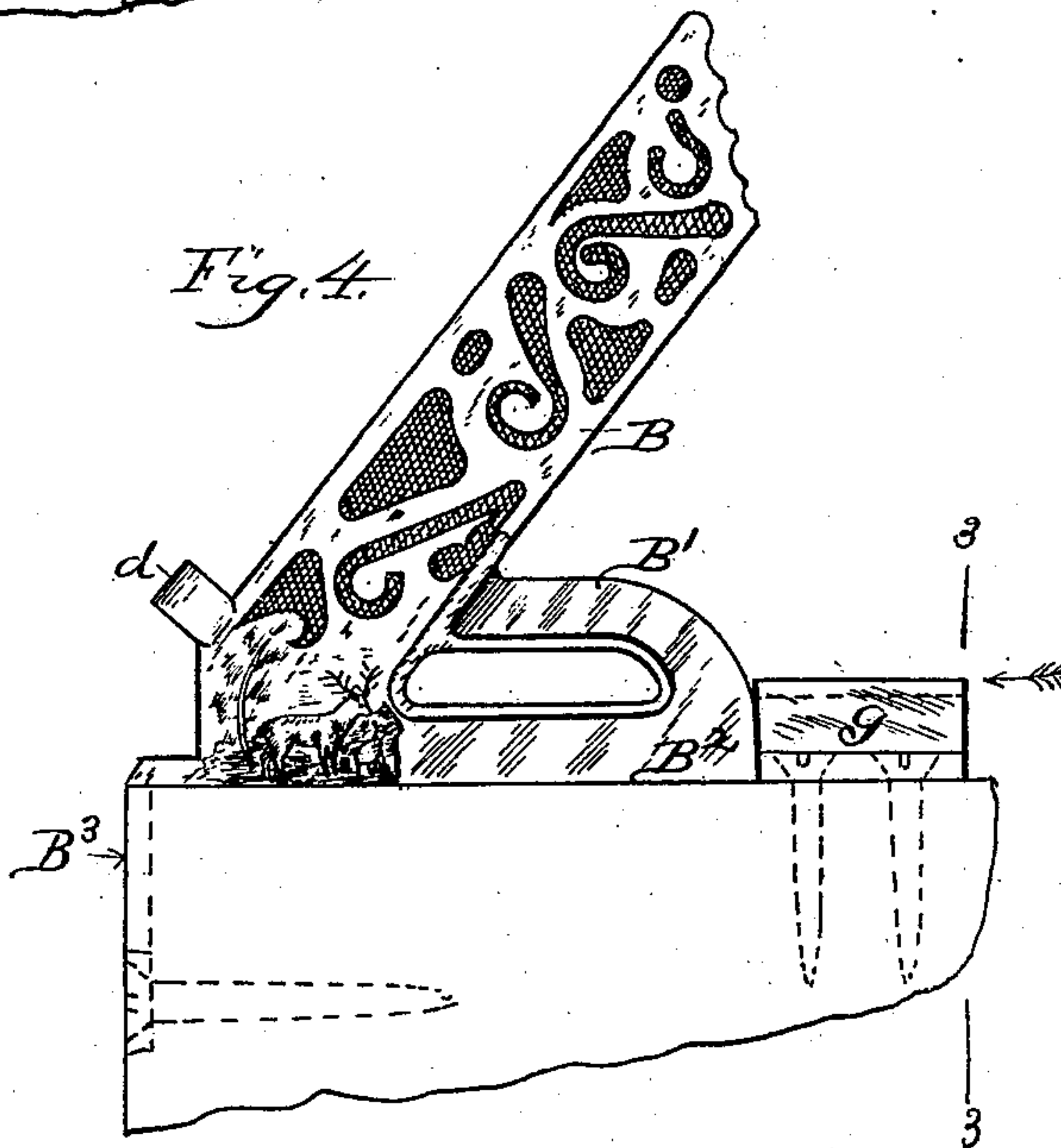
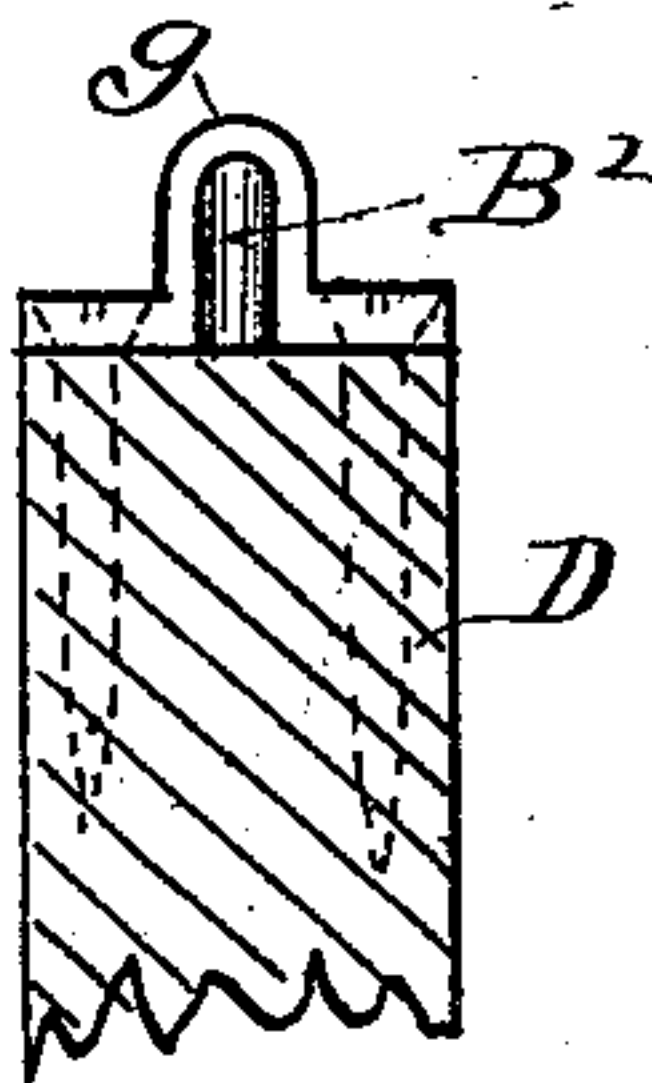


Fig. 5.



Fig. 6.



Witnesses.

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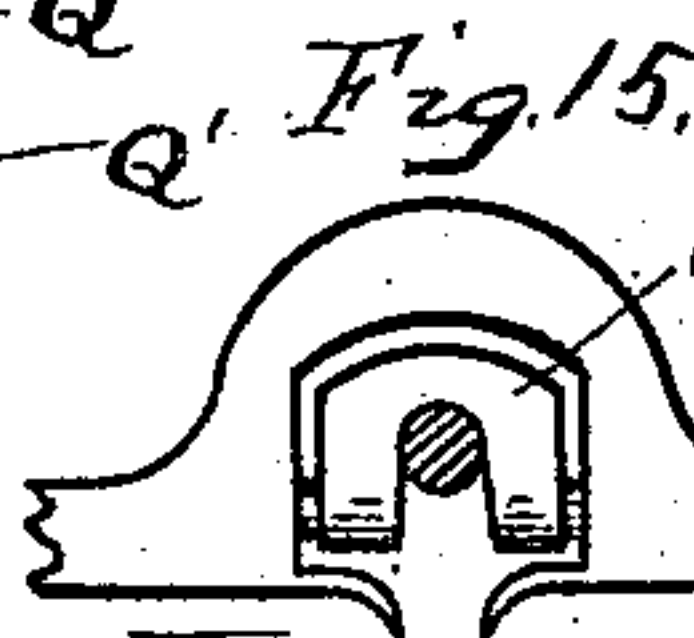
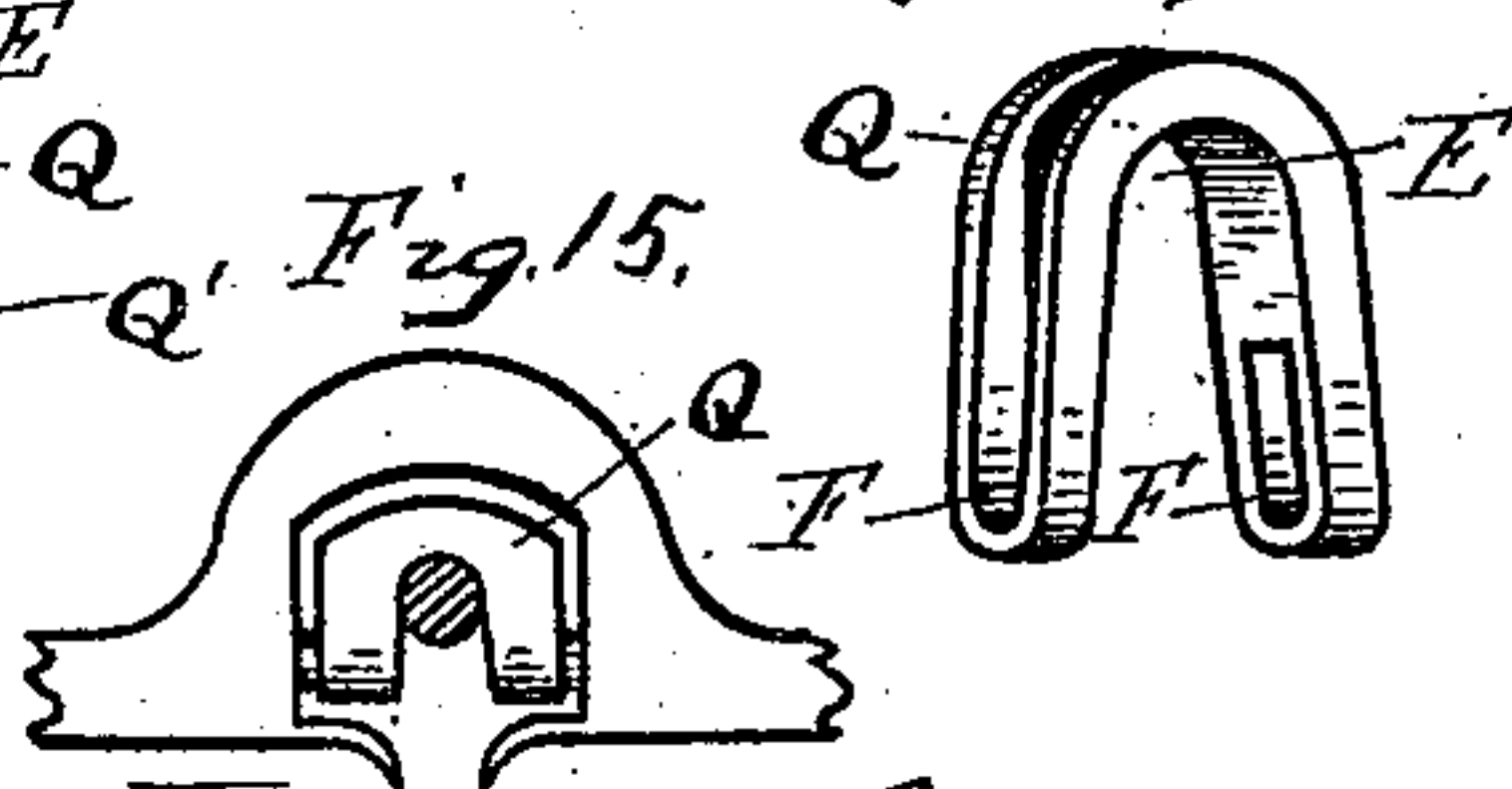
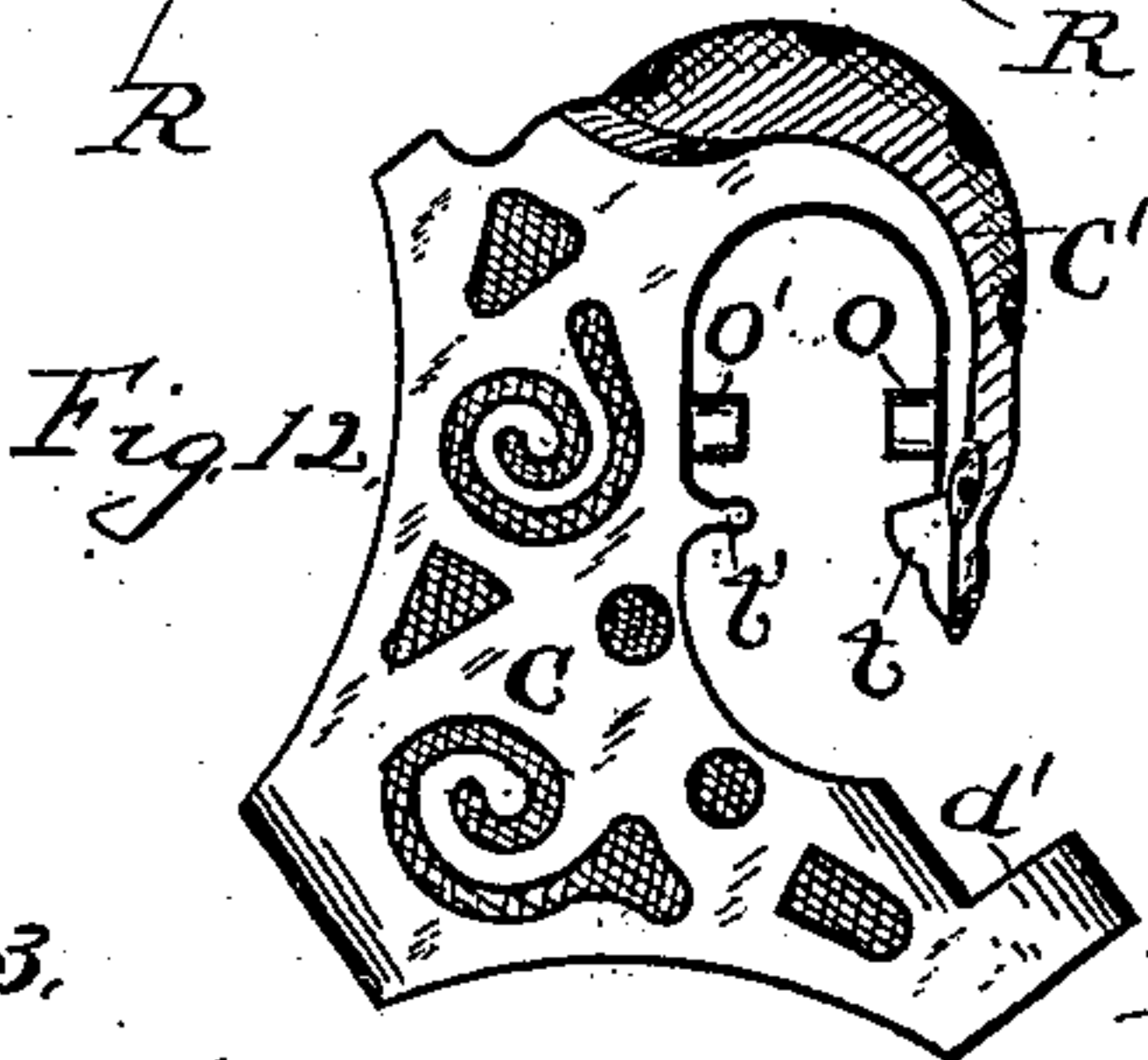
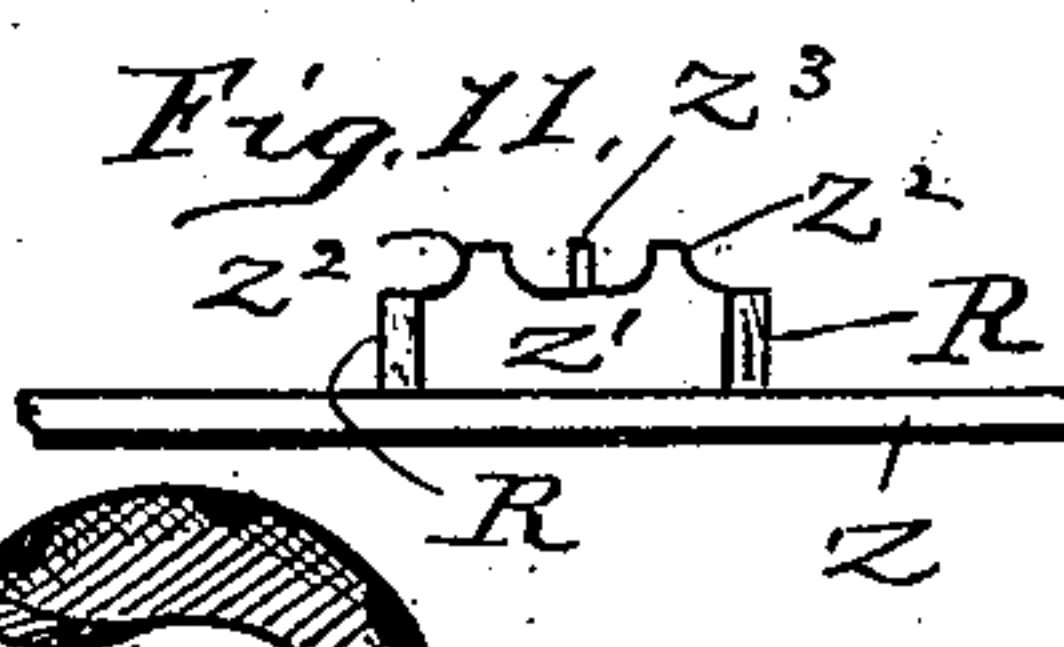
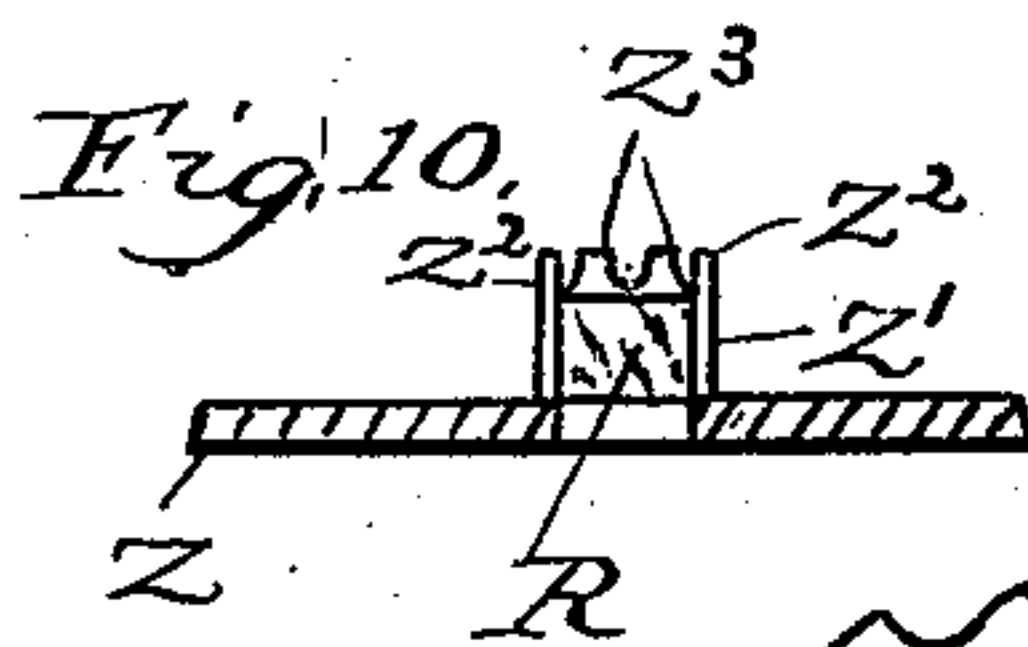
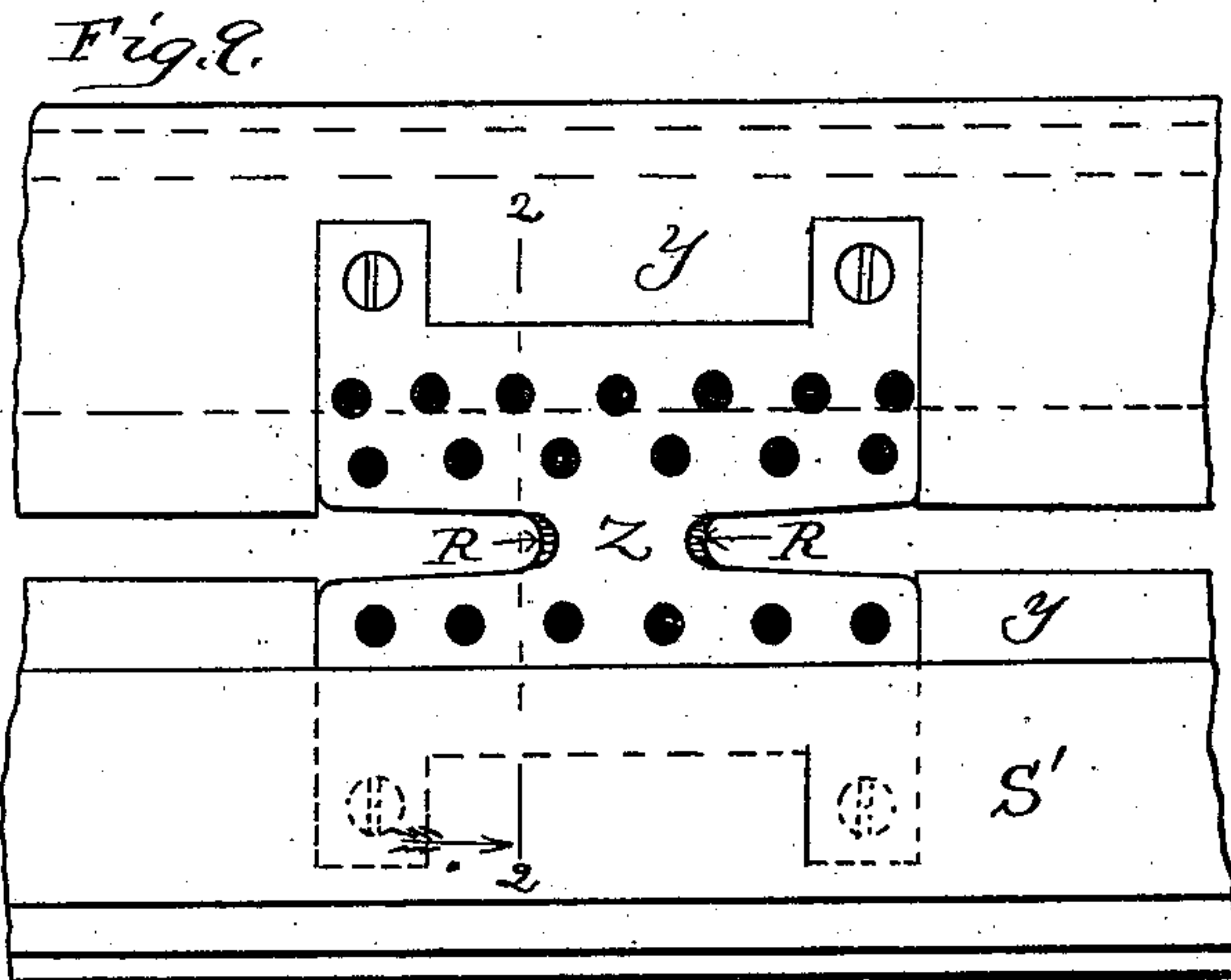
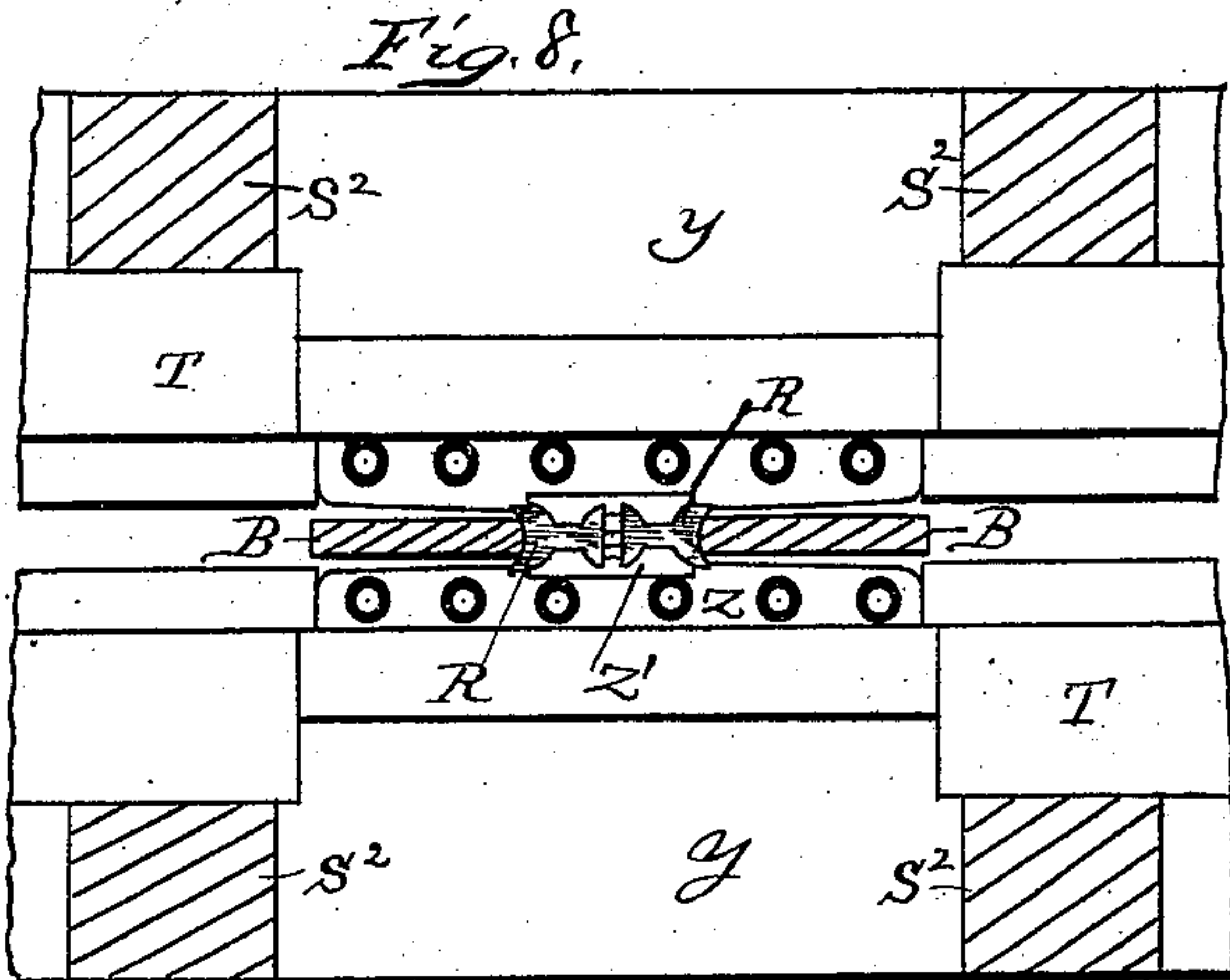
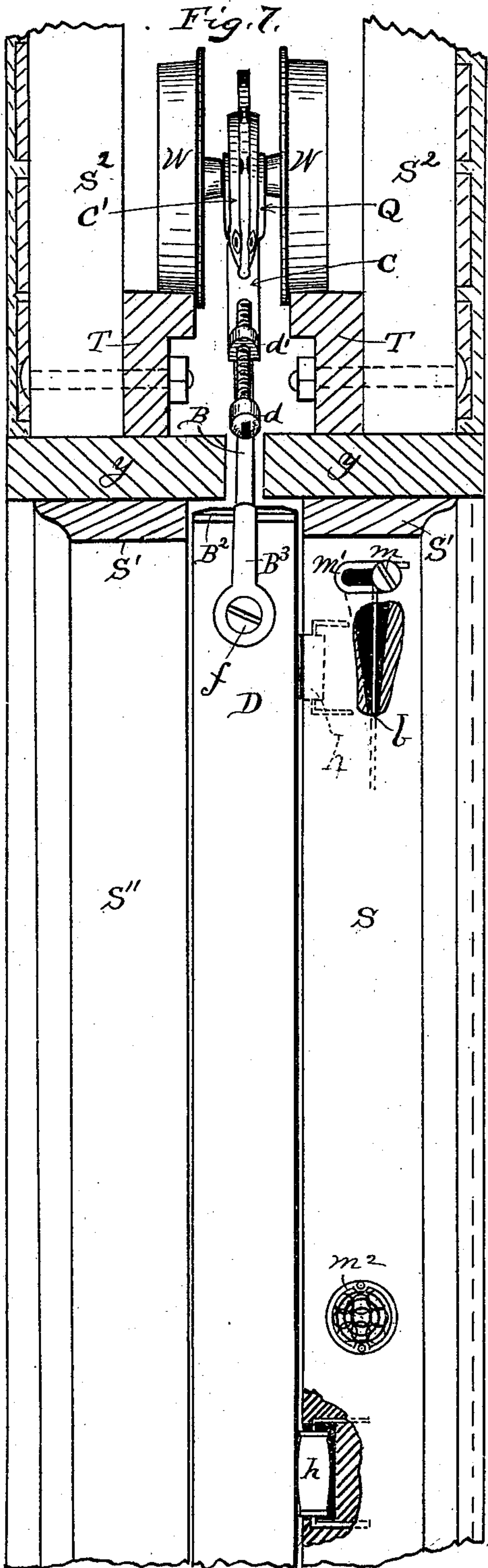
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UNITED STATES PATENT OFFICE.

SAMUEL SHREFFLER, JR., OF JOLIET, ILLINOIS.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 355,724, dated January 11, 1887.

Application filed February 26, 1886. Serial No. 193,282. (Model.)

To all whom it may concern:

Be it known that I, SAMUEL SHREFFLER, Jr., a citizen of the United States of America, residing at Joliet, in the county of Will and State of Illinois, have invented certain new and useful Improvements in Door-Hangers, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain improvements in "door-hangers," and is of that class known and designed as "parlor-door hangers," the construction and operation of which are fully set forth and explained in the following specification and claims, reference being
15 had to the accompanying drawings, and the letters and figures thereon, which form a part of this specification, in which—

Figure 1 is a side view of a pair of parlor-doors as they would appear in service supported by the hangers, a pair for each door, a portion of the door-casing and wall being broken away to show the front hanger of each door, the rear hanger of each door being covered from view by the casing and wall. Fig.
25 2 is a side view of the two front hangers, one of which having one-half of its double-tread wheel removed, showing a cross-section of its axle and the manner and means of connecting the wheels with the other parts of the hanger, also showing a central vertical longitudinal section of the buffer for arresting the motion of the doors when they have reached the proper position when closing them. Fig.
30 3 is a vertical cross-section of one of the double-tread wheels, a side view of its axle-spindles, and a front view of its axle-box. Fig. 4 is a side view of the inclined hanger-standard, showing the manner of its attachment to a door. Fig. 5 is a bottom plan view of the foot of the inclined hanger-standard. Fig. 6 is a view taken on line 3 of Fig. 4, looking as per arrow, to show the manner of securing the heel of the standard's foot to a door.
45 Fig. 7 is a cross-section of the wall, the hanger-tracks, and the upper casings and door-stops, a front view of a hanger, an edge view of a door, a side view of a pair of the upper studding, and a plan view of the side-door casing and stops, portions of one stop being broken away to show the manner of its construction and application. Fig. 8 is a cross-section of

the central upper studding for supporting the hanger-track, and a top plan view of the hanger-buffer and a portion of the hanger-track and upper casing. Fig. 9 is a bottom
55 plan view of the hanger-buffer secured in the casing and of a portion of one door-stop. Fig. 10 is a cross-section of the hanger-buffer on line 2 of Fig. 8, looking in the direction of
60 the arrow. Fig. 11 is a side view of the central part of the hanger-buffer. Fig. 12 is a side plan view of the adjustable slide of the hanger. Figs. 13, 14, and 15 are perspective view of the pivotal axle-boxes of the hanger.
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Referring to the drawings, and especially to Fig. 1, D D represent a pair of sliding parlor-doors suspended from a hanger-track by means of four roller-hangers—two for each door, one at each upper corner—and incased
70 by a suitable frame in the ordinary manner. T represents their supporting-tracks, arranged in the frame-work above the doors. S² represents the studding of said frame-work, to which the said track is bolted, as shown in Figs.
75 1 and 7; and S, S', and S'' represent the stops for properly holding the doors in position between the two sides of their frame. The upper casing, y, of said frame (see Figs. 2, 7, 8, and 9) is made in two parts, arranged a little
80 distance apart, so the hangers may traverse the space between them. At the center of said frame, and set in said casing y, is a buffer-plate, Z, so arranged as to unite the parts of said casing, (see Fig. 9,) and has oppositely-
85 arranged pockets to receive the nose of the hangers, and a pair of rubber buffers, R R, arranged in the box Z' of said plate, (see Figs. 2, 8, 9, 10, and 11,) for arresting the motion of the hangers and doors when they have
90 reached their proper position when closed. Lugs Z² and Z³ of box Z' (see Figs. 10 and 11) are so constructed that they can be bent over upon the rubber buffers to properly hold them seated.
95

The hanger proper consists of an inclined standard, B, having an eye-lug d, a rear brace-web, B', a foot, B², and a depending face-arm, B³, having an eye-lug at its lower end; of a slide, C, having a screw-threaded eye-lug,
100 d', a curved depending arm, C', formed as a goose-neck, a pair of trunnions, O and O', and a pair of lugs, t and t', and having an open chamber of size and form to correspond with

standard B, so it can be sleeved on said standard, and of a pivotal axle-box, Q, arranged to support said trunnions O and O' in its bearings F and F', (see Figs. 2 and 13,) and thus support the doors through the medium of slide C and standard B and their adjusting-screw V.

W W represent a double-tread wheel, having the short axle *a*. The treads of said wheel rest upon tracks T, and have flanges for properly guiding it on said tracks. The axle *a* of said wheel is arranged in bearing E of the pivotal box Q, and thereby supports said box, and in turn the door, as before described.

It will be seen that the axle *a* is arranged over and at right angles with trunnions O and O', and the bearings of box Q for said respective parts are in a corresponding position, so the wheel and its axle is pivotally connected with the other parts of the hanger, which permits it to adapt itself to the tracks, should one become higher or lower than the other, without giving side strain to the hangers, and, in other words, the depending parts of the hanger swing from universal bearings of said box Q.

The lugs *t* and *t'* of slide C and its arm C' are for the purpose of preventing box Q from lowering to become disengaged from trunnions O O', and they may be bent up to bear against said box to prevent rattling. The box Q is placed in position before the axle *a* of the wheel is inserted by turning sidewise and passing it in, so a trunnion will be on each side between its side flanges, until said trunnions rest in bearings F F'. Then it is erected and the other parts united.

V represents a screw passed up through the eye of lug *d* in such manner that its head rests against the lower side of said lug, and its extending end screws into lug *d'* of slide C, and is for the purpose of connecting the slide C with the standard B, and for adjusting the said parts of the hanger so the doors may be plumbed when first put up, or at any time thereafter, should the track or building settle.

e e are lag-screws arranged in the open slots B¹ B⁴ of the standard-foot B² and screwed into the top of the door D, so as to bear lightly against said foot. (See Fig. 2.)

The depending face arm, B³, of the hanger-standard is set into the door, and secured therein by means of the screw *f*, turned into the door through its eye-lug. (See Figs. 2 and 7.) If at any time it becomes necessary to remove the hanger from the door, only the screw *f* need be removed, as the foot can readily be shifted from under the heads of lag-screws *e e* without removing or turning them backward.

In Figs. 4 and 6 a box, *g*, is shown as a substitute for lag-screws *e e* shown in Fig. 2, and can be used in like manner as described, as the heel of foot B² can readily be moved in or out from said box.

The brace B' of standard B is for the purpose of giving additional supporting strength to said standard, and for re-enforcing said standard, so it will be better adapted to resist

any shock caused by the engagement of the nose of the hanger with the buffer-rubber R.

R' represents a re-enforcing rosette or ornamental plate for the spokes of the wheels W W, (see Figs. 2 and 3,) and are secured to said spokes to give them additional strength and to beautify their appearance.

The box Q is shown in Fig. 13 as having its bearing E entirely surrounded by using the cross-piece Q'; but this cross-piece may be dispensed with, if desired, as shown in Fig. 14, as there is no pressure on the lower part of said bearing.

It has been demonstrated that a sliding door operates much better when the side stops permit only a limited side play, as the door will not then play from side to side to prevent ease of movement; but this could not always be done, as doors are liable to warp and consequently bind if the stops are too close.

For the purpose of closely and yieldingly holding the doors between their side stops, the stop S of each door is secured to the casing by means of screws *m* in slots *m'*, (see Fig. 7,) and springs *b* are arranged in cut-away chambers of said stop, so as to rest against said screws *m* and yieldingly hold said stop to the door, and by the use of small rolls *h*, arranged in cut-away chambers along the edge of said stop, which engage with and roll against the door, the stop may be caused to constantly fit to the door, (see Figs. 1 and 7,) and should the door warp it would simply press out the stop, and not in any manner affect the working of the door.

It is intended that three rollers shall be used—one at each end and one at the center of the door—and may be made from plane wood or rubber, covered as desired.

Rosettes *m*², as shown in Fig. 7, are used to cover the slots and screw-heads of said stop. The inclined position of standard B permits the wheel W W to set back over the door D far enough so as not to collide with the wheel of the opposite door-hanger, and also permits said wheel to be over the adjusting-screw V and at one side of the said standard in its bearings in slide C, which will cause a side leverage on said slide to cause it to grip the standard B, so as to assist screw V to support the weight of the door, relieving the said screw from the entire burden.

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

1. The combination, with the tracks T and door D, of the standard B, having the foot B², depending arm B³, brace-web B', and eye-lug *d*, the slide C, having the depending curved arm C', screw-threaded eye-lug *d'*, trunnions O O', and lugs *t t'*, the screw V, the pivotal box Q, and the wheel W W, having the axle *a*, arranged substantially as and for the purpose set forth.

2. In a parlor-door hanger, and in combination with an inclined supporting-standard se-

cured to the upper part of a door, the slide C, having the depending curved arm C', trunnions O O', and lugs *tt'*, the pivotal box Q, wheel W W, having the axle *a*, and the means, 5 substantially as shown and described, for connecting and adjusting said parts, for the purpose specified.

3. In the door-hanger shown and described, the foot B² of the inclined standard B, having 10 the open slots B⁴, and depending face-arm B³, in combination with the lag-screws *e e* and wood-screw *f*, substantially as and for the purpose set forth.

4. In the door-hanger shown and described, 15 the adjustable slide C, having the curved depending arm C', the trunnions O and O', and lugs *tt'*, in combination with the pivotal box Q, by means of which the suspended parts of the hanger may swing from universal bearings, 20 as and for the purpose specified.

5. The combination, with the tracks T, door D, and yielding stop S, having set therein the rollers *h*, of the door-hanger, constructed and arranged substantially as shown and described, 25 for the purpose specified.

6. In combination with the door-hanger, constructed substantially as shown and described, and the tracks thereof, the buffer-plate Z, arranged to connect the casing supporting said track centrally between the doors, 30 and having the buffer-box Z' and the lugs Z² Z³, and the rubber buffers R R, arranged in said box and secured therein by means of bending said lugs upon them, substantially as and for the purpose set forth.

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Witnesses:

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WM. J. HUTCHINS.