

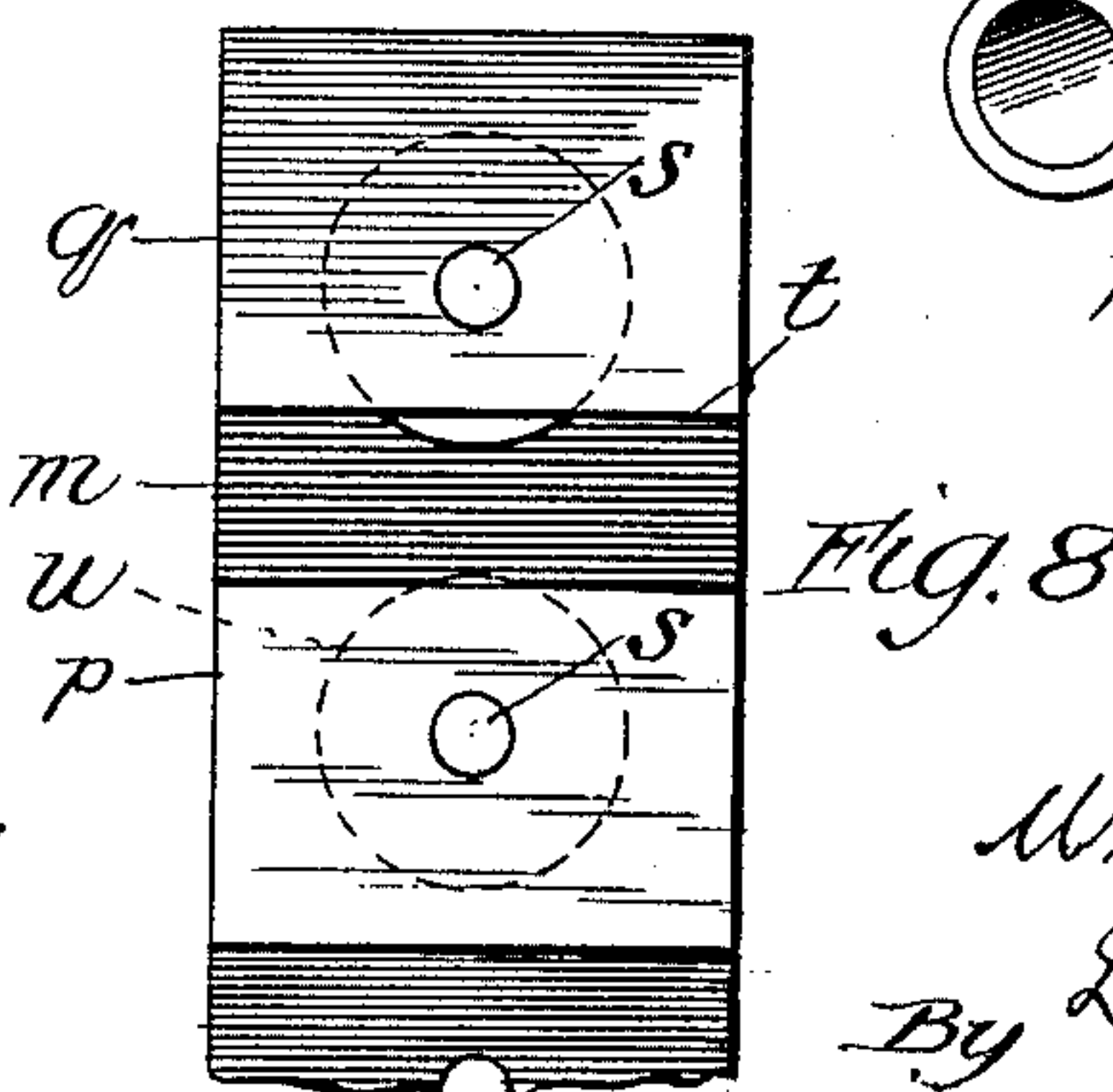
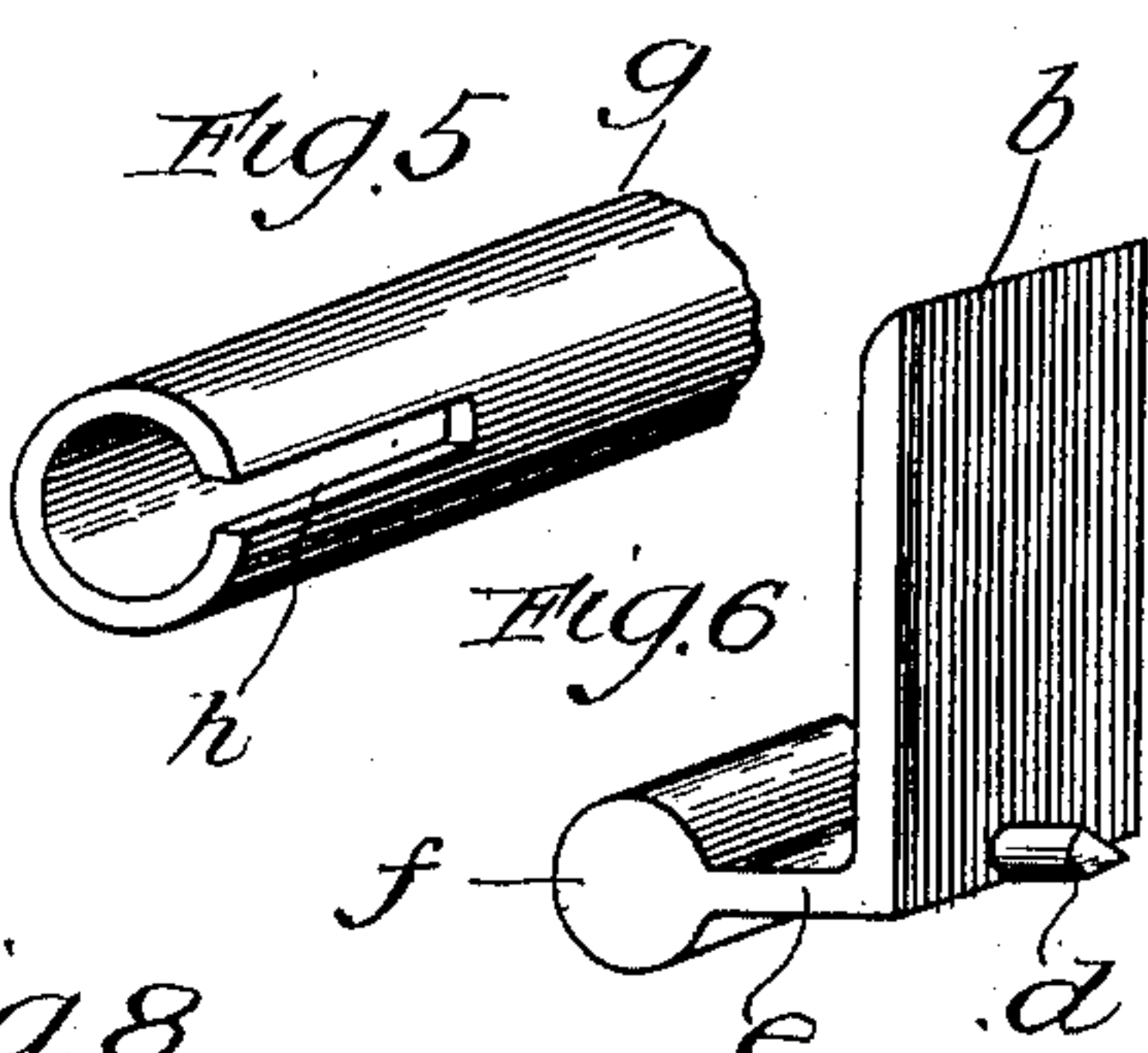
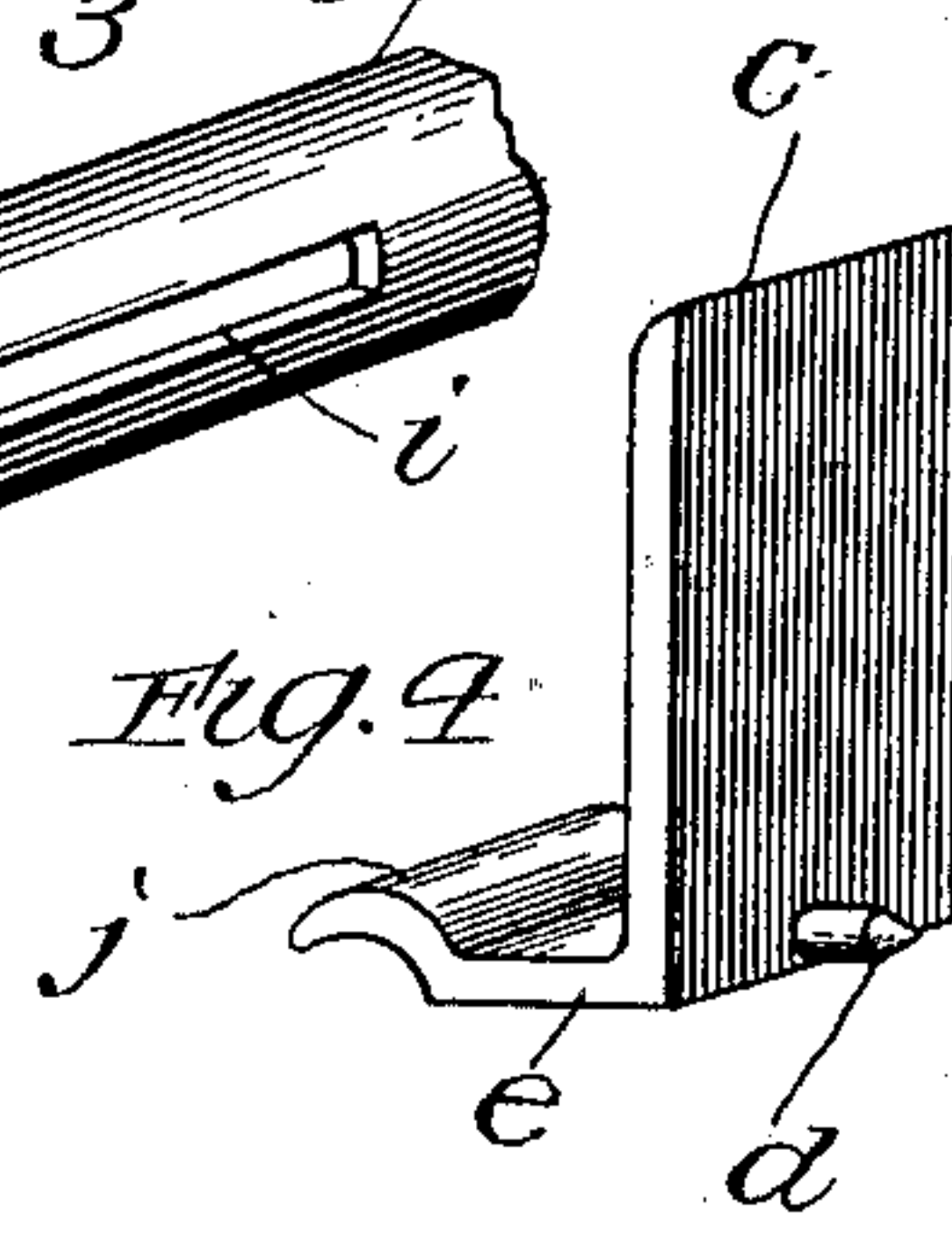
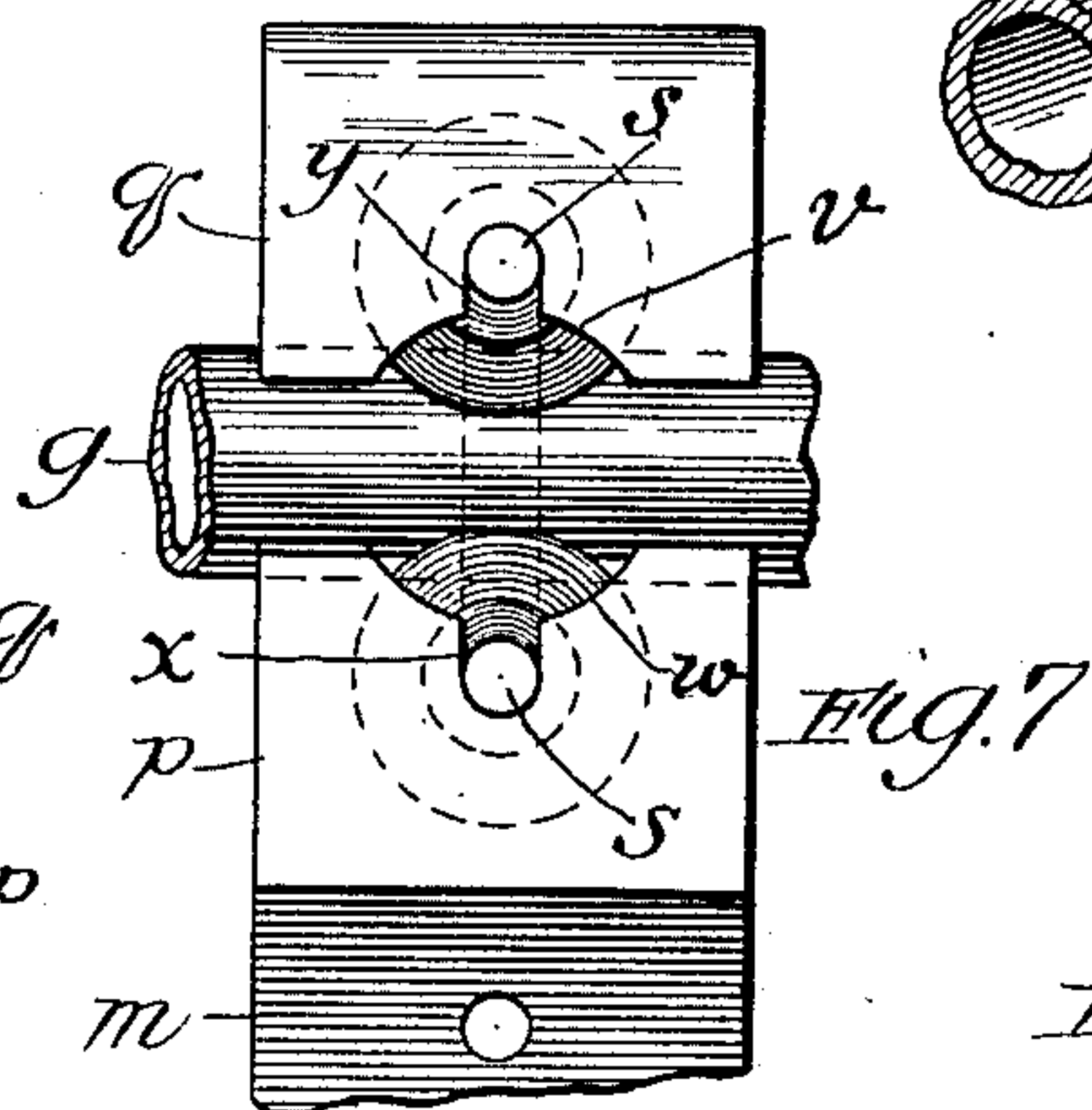
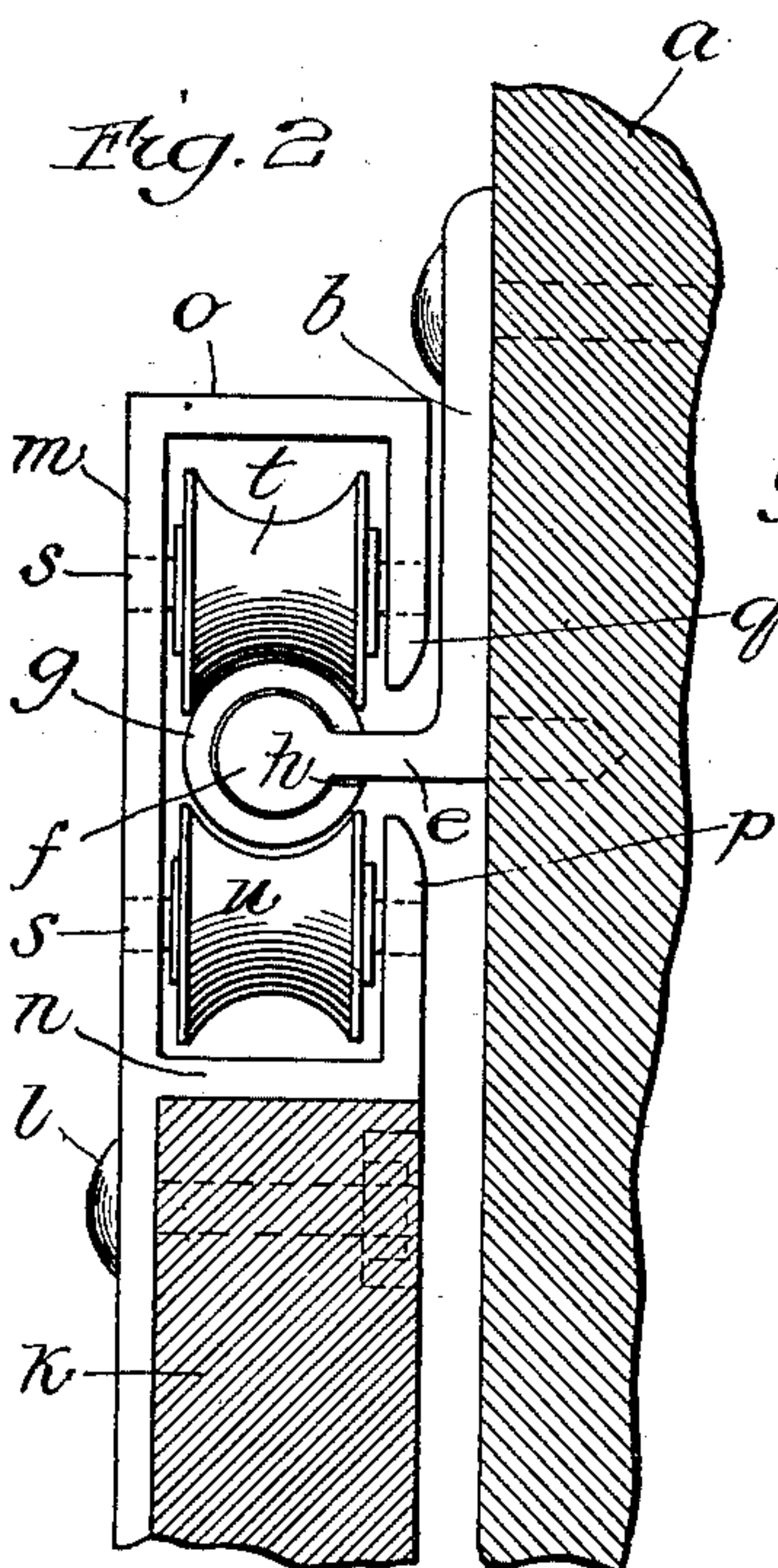
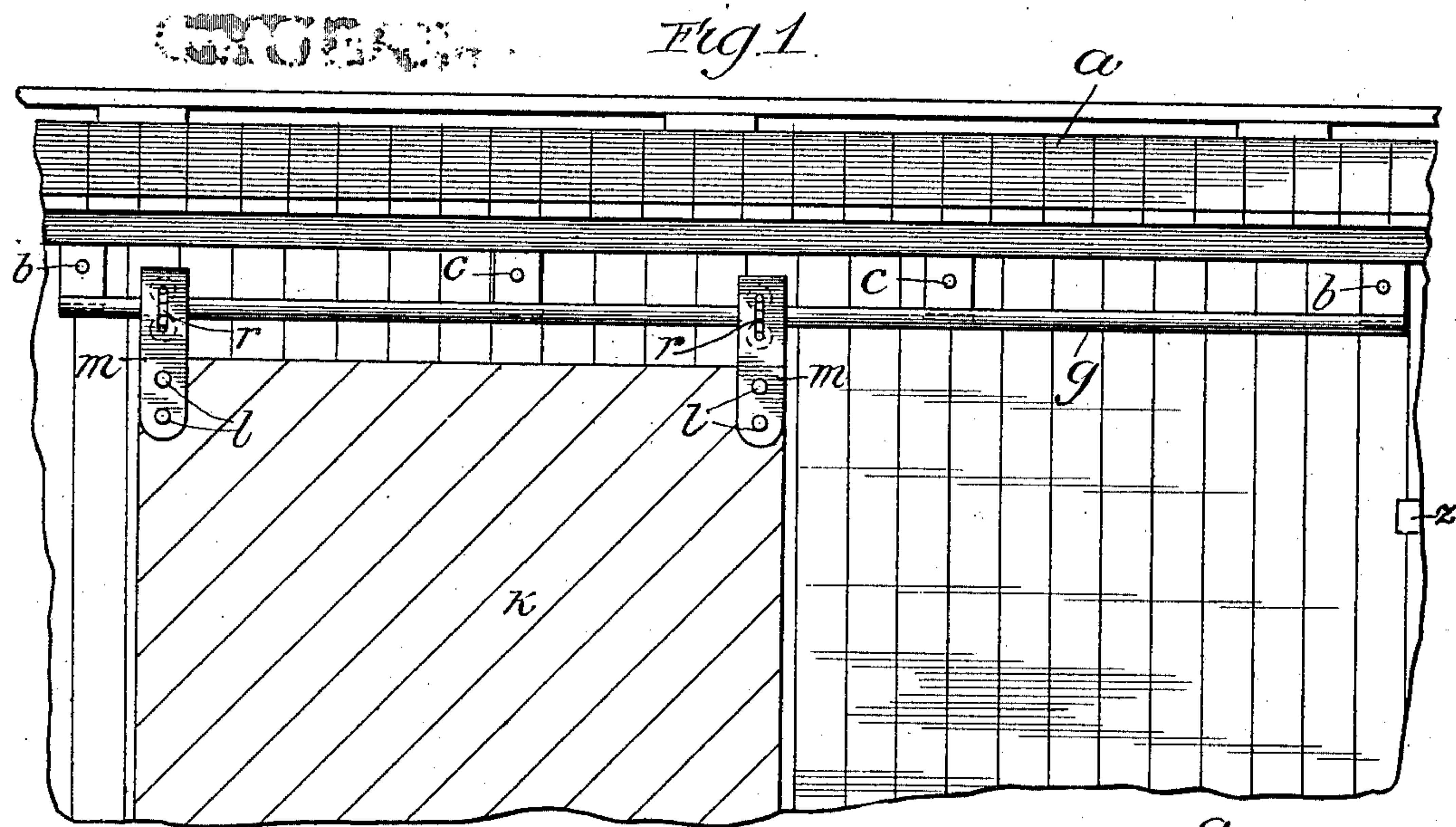
No. 686,774.

Patented Nov. 19, 1901.

W. B. SMITH.
DOOR HANGER.

(Application filed Dec. 31, 1900.)

(No Model.)



Witnesses:
Harold H. Barrett
J. L. Masters.

Inventor:
William B. Smith
By David H. Fletcher,
Atty

UNITED STATES PATENT OFFICE.

WILLIAM B. SMITH, OF CHICAGO, ILLINOIS.

DOOR-HANGER.

SPECIFICATION forming part of Letters Patent No. 686,774, dated November 19, 1901.

Application filed December 31, 1900. Serial No. 41,671. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. SMITH, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Door-Hangers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which similar letters of reference in the different figures indicate corresponding parts.

My invention relates to hangers for sliding doors for freight-cars, barns, and other structures; and the object of my invention is to so construct a track and the supports therefor, together with the hangers for suspending such doors thereon, that any desired number of supports may be employed throughout a given length of track without interfering with the action of the hangers, while at the same time the hangers and wheels may be so constructed and combined that the latter cannot become derailed, all of which is hereinafter more particularly described, and definitely pointed out in the claims, it being understood that my invention relates to an improvement upon that shown and described in my pending application Serial No. 738,389.

In the drawings, Figure 1 is a side view of a railway-car to which is attached a sliding door by means of the devices embodying the features of my invention. Fig. 2 is a vertical sectional view in detail showing an edge view of a hanger, a portion of the door, the track, track-support, and the manner in which the latter is attached to the car. Fig. 3 is a detail view in perspective of an intermediate portion of the track. Fig. 4 is a perspective view of one of the intermediate track-supports. Fig. 5 is a perspective view in detail of one end of the track. Fig. 6 is a perspective view in detail of one of the end supports for the track. Fig. 7 is an inside or back view of one of my improved hangers, and Fig. 8 is a like view of a modified form of hanger.

Referring to the drawings, *a* represents the body of an ordinary freight-car, to which are attached, by means of bolts or screws, end brackets *b b* and intermediate brackets *c c*. The brackets are formed from cast metal and each is provided with a flat plate, as shown, having a stud *d*, Figs. 4 and 6, adapted to be

inserted within a bore in the side of the car. An opening is also provided for the insertion of a bolt. The brackets are each provided with a horizontal arm *e*. Upon the outer end of the bracket *b* is formed a cylindrical portion *f*, of a diameter corresponding to the inner diameter of the tubular track *g*. In each end of said tubular track is formed a slot *h*, Figs. 2 and 5, which is adapted to receive the part *e* of the end bracket, the two end brackets being inserted from opposite directions. Intermediate between the ends, at predetermined distances from each other according to the length of the track, are formed slots *i*, Fig. 3, for engagement with the intermediate brackets *c*, each of which latter is provided with a bent portion *j*, the curve of which conforms to the interior curve of the tube.

It is obvious that when the brackets are inserted within the slots of the tubular track, as described, and in turn secured to the side of the car or other structure the track will be firmly and rigidly supported thereby.

Rigidly attached to the top of the door *k* by means of bolts *l* are hangers, each of which consists of a flat cast-metal plate *m*, having bores therein for the reception of said bolts and extended upwardly above the top of the door. Flanges *n o* are formed upon the plate *m* at right angles thereto and integral therewith, upon the inner ends of which are formed upward and downward vertical extensions *p q*, respectively, which are parallel with the main plate *m*, the inner faces thereof being flush with the inner face of the door. Within the outer plate *m* is formed a vertical slot *r* (shown in Fig. 1 and indicated in dotted lines in Fig. 7) for the reception of the axles *s s* of wheels or rollers *t u*, one of which is placed above and the other below the track, as shown. The axles *s*, which are preferably made from wrought iron or steel, are cast within the wheels, both of which latter are peripherally grooved, as shown, to conform to the cylindrical track, thereby forming flanges upon said wheels, the distance between which, measuring between the upper and lower wheels, is less than the diameter of the track.

Between the ends of the extensions *p q* is formed a space or opening, as shown in Figs. 2, 7, and 8, to receive the arm of the brackets, and thereby enable the hanger to pass the

latter without contact. Said extensions are preferably notched or cut away, as shown at *v w*, respectively, to enable the wheels *t u* to be inserted in place within the hangers.

5 Notches *x y* are also formed in said extensions to serve as bearings for the axles *s*.

The lower rollers *u* are placed at a sufficient distance below the track to leave a free space between the two and serve a double purpose—
10 viz., to prevent friction and binding upon the track when the door is pushed from the bottom or when the car-body sags, as well as to secure it at all times to the track, the flanges of the wheels preventing lateral movement.

15 In utilizing my improved device I first secure the track in position, as shown in Fig. 1, after which the wheels are placed in their respective bearings in the hangers, the upper ones being temporarily held in place by hand
20 until the hanger is mounted upon the track. This may be done either before or after the door is bolted to the hangers.

It will be seen from the foregoing that the door is free to roll from end to end of the
25 track without obstruction, none of the brackets forming any impediment thereto. This is an important advantage and enables the track to be shortened several inches, inasmuch as no allowance need be made for the
30 width of either the brackets or hangers, as is usually necessary to do in determining the length of the track.

Any suitable stop—as *z*, for example—may be formed upon the side of the car to prevent
35 the door from rolling off the end of the track.

It is obvious that the rollers *t u* may be centrally bored and that the axles may be inserted loosely therein and through suitable bores in the hanger-plates, in which case the
40 cut-away portions *v w* may be dispensed with, as shown in Fig. 8; but I prefer the construction first described, in that it enables the rollers to be removed and the lower ones to be substituted in lieu of the upper ones when
45 desired.

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

1. In a device of the class described, the combination of a hollow track open in the rear 50 for the reception of supporting-brackets, of supporting-brackets having their ends formed to fit the inner contour of said hollow track, hangers located at or near the respective upper corners of the door to be suspended there- 55 by, each of said hangers having flanged wheels mounted therein, one above and the other below said track, said hangers being each provided with an opening in the rear thereof to permit the same to pass the arms 60 of said supporting-brackets, substantially as described.

2. In a device of the class described, the combination with a track and means for supporting the same from the rear, of hangers 65 having grooved wheels mounted therein above and below said tracks respectively, each of said hangers having the upward and downward extensions *p q* in the rear thereof to form end bearings for the support of the 70 inner ends of the wheel-axles, substantially as described.

3. In a device of the class described, the combination with a hollow cylindrical track having longitudinal slots formed therein at 75 and from the respective ends, intermediate longitudinal slots at predetermined distances between said ends, supporting end brackets fitted to engage said end slots and to fill the tubular opening in the track, intermediate 80 brackets for engaging said intermediate slots, and hangers having grooved wheels mounted therein above and below the track and an opening in the rear thereof to permit said hangers to pass said brackets, the height of 85 said openings being less than the diameter of the track, substantially as shown and described.

In testimony whereof I have signed this specification, in the presence of two subscribing witnesses, this 29th day of December, 1900.

WILLIAM B. SMITH.

Witnesses:

D. H. FLETCHER,
D. B. CHEEVER.