

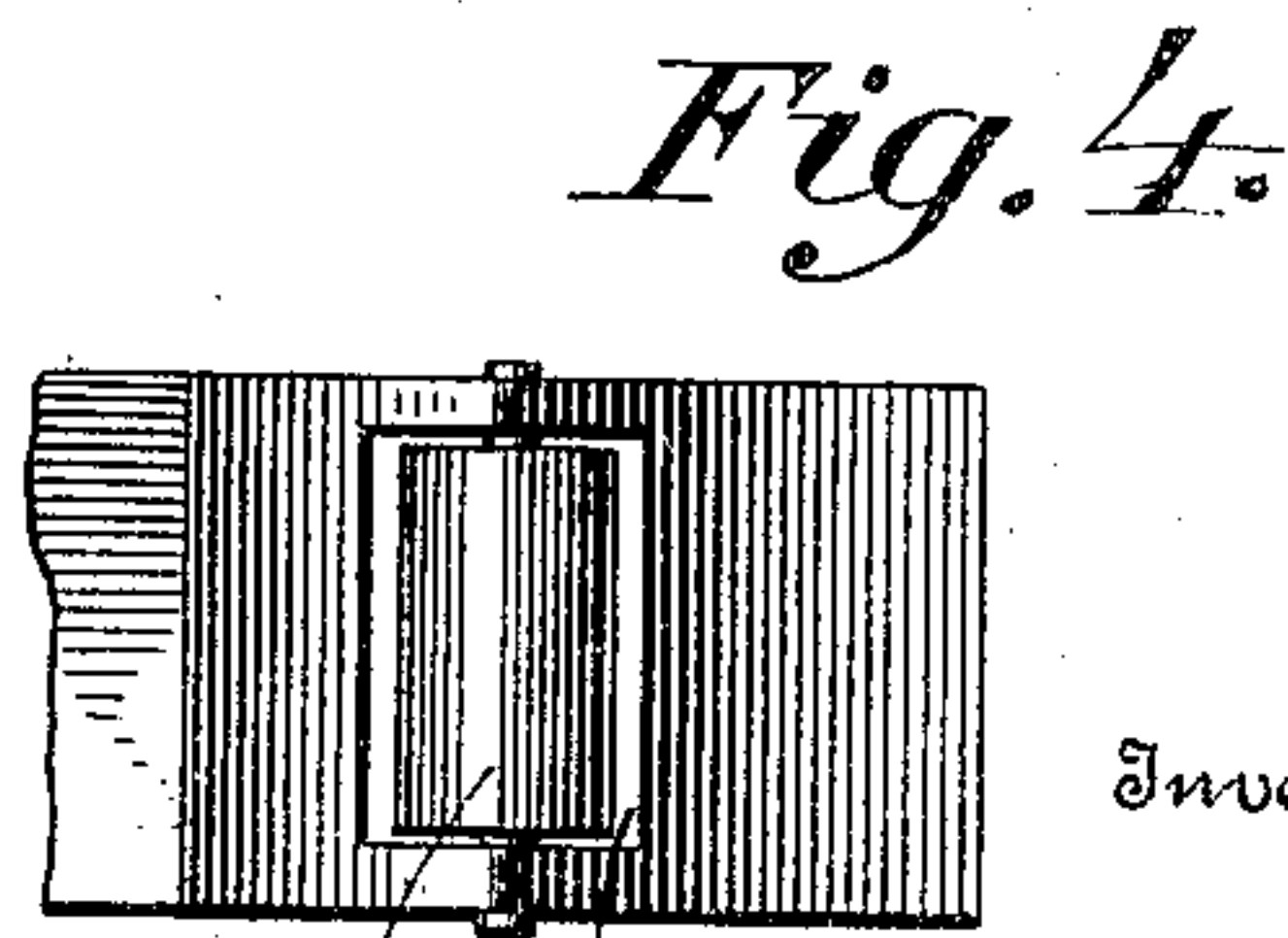
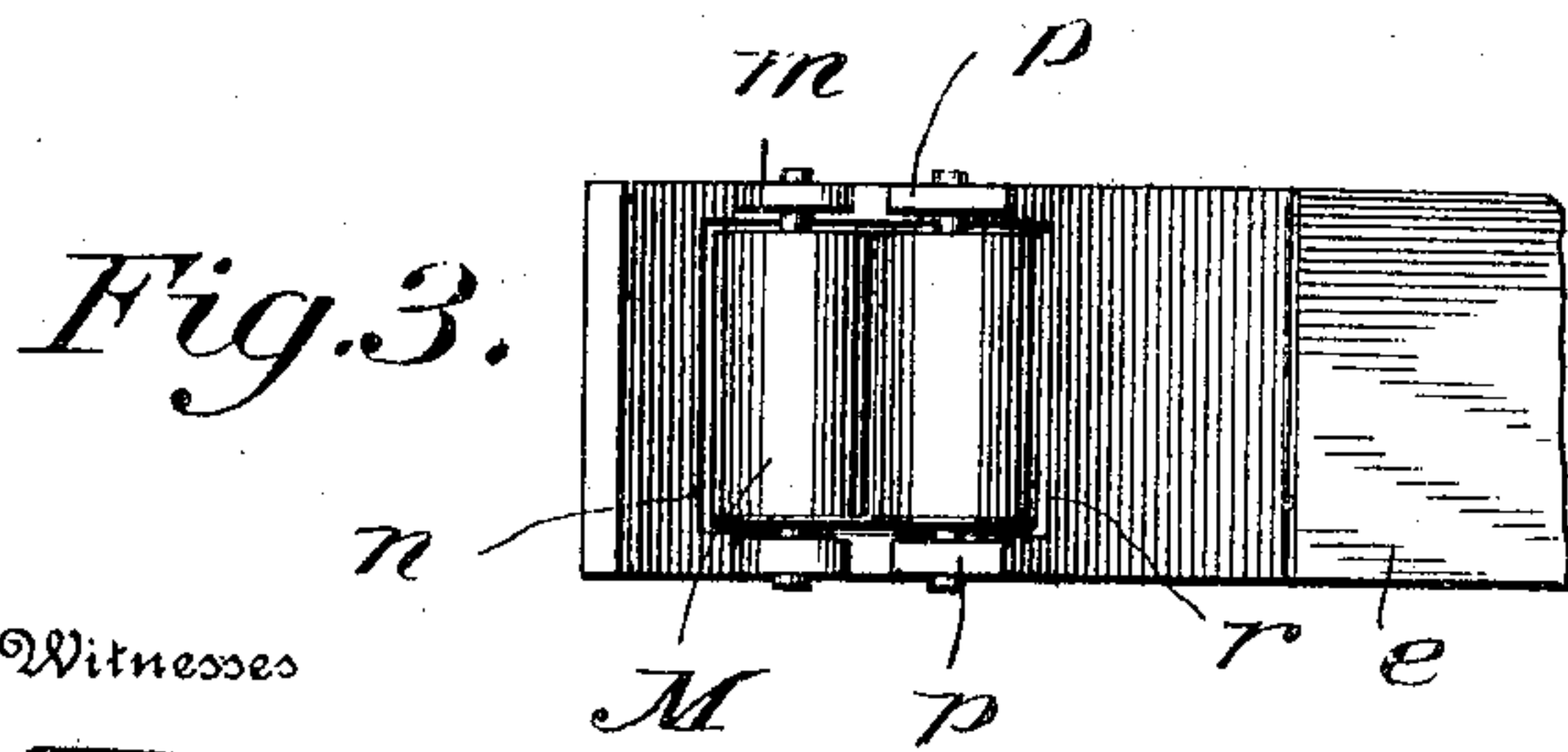
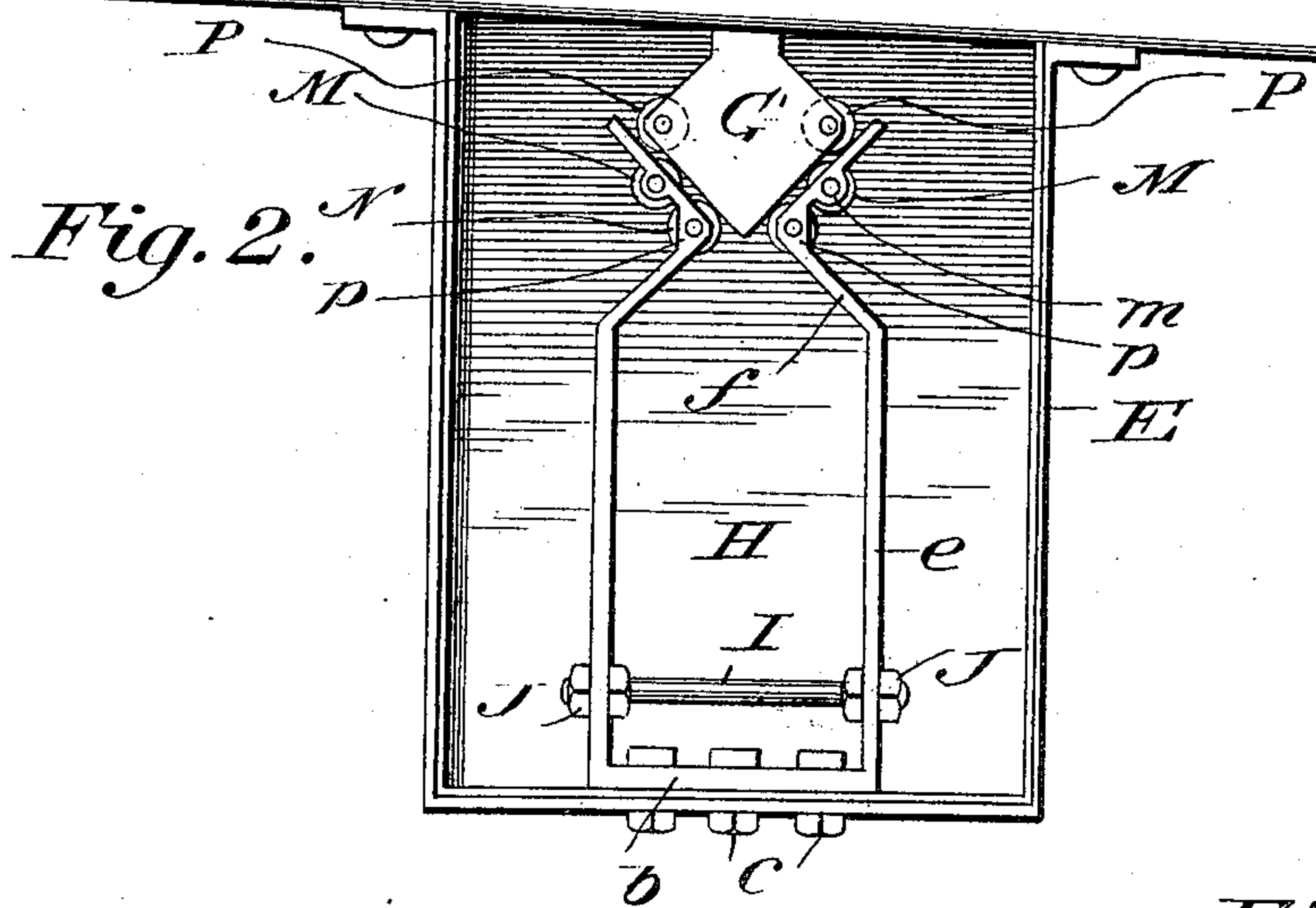
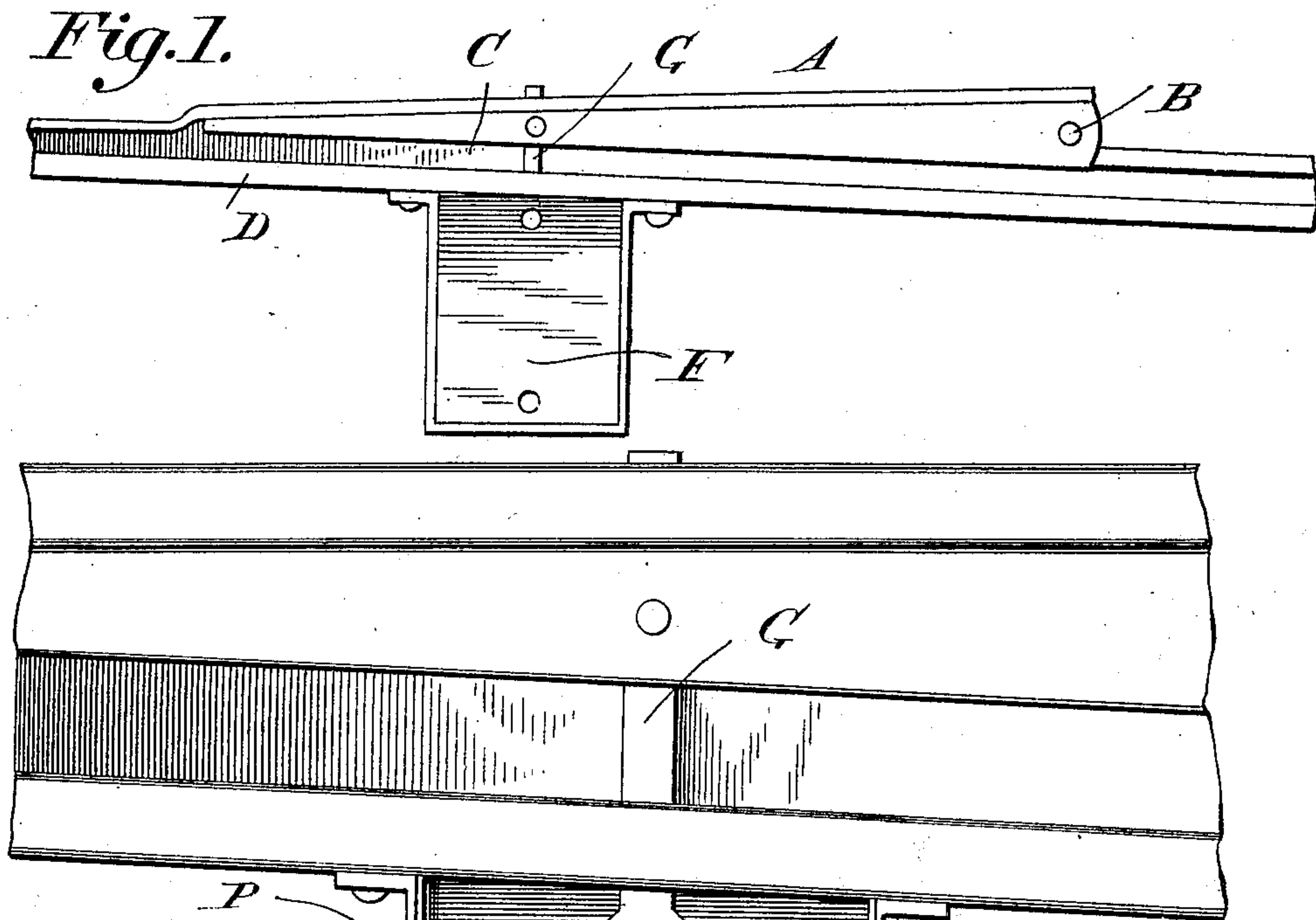
No. 887,064.

PATENTED MAY 12, 1908.

G. S. CHAMBERLIN & D. HARRINGTON.

SWITCH.

APPLICATION FILED SEPT. 19, 1907.



Witnesses

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UNITED STATES PATENT OFFICE.

CARL S. CHAMBERLIN AND DANIEL HARRINGTON, OF COLORADO SPRINGS, COLORADO, ASSIGNORS OF ONE-THIRD TO JAMES C. CONNOR, OF COLORADO SPRINGS, COLORADO.

SWITCH.

No. 887,064.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed September 19, 1907. Serial No. 393,647.

To all whom it may concern:

Be it known that we, CARL S. CHAMBERLIN and DANIEL HARRINGTON, citizens of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented new and useful Improvements in Switches, of which the following is a specification.

Our invention pertains to means preventing casual movement of a switch tongue (split switches, channel points, stub rail, or any movable switch point) from either of its working positions; and it has for its object to improve such means by the provision of devices calculated to render the working of the parts easy and practically free from friction and the undue wear attendant thereon.

The invention will be fully understood from the following description and claims when the same are read in connection with the drawings, accompanying and forming part of this specification, in which:

Figure 1 is a plan view of the switch in which our improvements are embodied. Fig. 2 is an enlarged plan view of the switch with the cover of the casing removed. Fig. 3 is an enlarged, detail side elevation of a portion of the keeper comprised in our improvements, and: Fig. 4 is an enlarged, detail side elevation of the plunger which coöperates with the said keeper.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which:

A is a swinging switch tongue which is preferably centered at B, and movable in a depression C of a railway rail structure D.

E is a casing connected to one side of the structure D and arranged so that its upper side is flush with the surface of a roadbed or street, and F is the cover of the casing, which is removable.

G is a plunger connected in a pivotal manner to and extending laterally from the tongue A and having one of its ends located in the casing E and there provided with an arrow or square head G', and H is a keeper located in the casing E and opposed to the head G' of the plunger so as to coöperate with said head in preventing casual movement of the tongue A from either of its working positions. The said keeper H is preferably formed of a single piece of resilient steel, and comprises an end cross-bar b,

bolted at c to the casing wall, arms e provided at their extremities with lips f each of which is of approximate right angle form, and a bolt I which extends loosely through the arms e and is provided with nuts J through which the arms e may be moved inward to increase their tension or outward to diminish the tension.

While the tongue A is in the position shown in Figs. 1 and 2, it will be apparent that the plunger head G' rests between the lips f of keeper H and at the outer sides of the apices of said lips with the result that the keeper is enabled to effectually prevent accidental movement of the tongue in the direction indicated by arrow. When, however, the tongue A is positively moved in said direction by hand, by a car running off the tongue, or otherwise, the arrow head G' of the plunger will press the lips f apart and passing said lips will assume a position at the inner side thereof. In this latter position the head G' coöperates with the lips f in preventing accidental movement of the tongue A in the direction opposite to that indicated by arrow, and yet when the tongue is positively moved in such direction, the lips f will give outward and permit the head G' to pass the same and will then spring inward to the positions illustrated ready to prevent kicking or casual movement of the tongue in the direction of the arrow.

With a view of rendering the co-action of the plunger head G' and the lips f of keeper H easy and practically free from friction so that the tongue A may be moved with the exercise of but a minimum amount of effort and without subjecting the parts to undue wear, we provide the lips f with rollers M, and we also prefer to provide the said lips with other rollers N, and the plunger head G' with rollers P. The rollers M are arranged upright between lugs m on the forward portions of the lips f and extend through openings n in said lip portions so as to offer rolling surfaces to the head G' as the same moves between the lips. The rollers N are mounted between lugs p on the lips and extend through openings r in the apices of the lips to offer rolling surfaces to the head G' as it passes said apices. The rollers p are mounted in recesses s in the side corners of the head G' and hence serve in combination with the rollers M and N to ease the movements of the head

pass the apices of the lips and to prevent undue wear of the head and lips incident to such movements.

It will be gathered from the foregoing that
5 the rollers described serve to render easy the coaction of the plunger head G' and the keeper H and to materially prolong the usefulness of said parts, and yet do not greatly increase the cost of the switch structure as a
10 whole.

The construction herein shown and described constitutes the best embodiment of our invention known to us, but it is obvious that in the future practice of the invention
15 such changes or modifications may be made as fairly fall within the scope of our invention as defined in the claims appended.

Having described our invention, what we claim and desire to secure by Letters-Patent, is:

1. The combination in a railway, of a movable switch tongue, a plunger connected with and extending laterally from the tongue and terminating in an arrow or square head,
25 and a keeper having resilient arms provided with lips of right angle form opposed to the head of the plunger and normally resting adjacent to and at opposite sides of the said head and also having openings in the forward
30 portions of said lips and rollers carried by said portions and extending through said openings.

2. The combination in a railway, of a movable switch tongue, a plunger connected

with and extending laterally from the 35 tongue, an arrow or square head on said plunger having recesses in its side corners and rollers mounted in said recesses and extending beyond said corners, a keeper having resilient arms provided with lips of right angle form opposed to the plunger head and
40 normally resting adjacent to and at opposite sides of the said head and also having openings in the forward portions of the lips and other openings in the apices of the lips, rollers carried by the forward portions of the
45 lips and extending through the openings therein, and other rollers carried by the lips at the apices thereof and extending through the openings in the apices. 50

3. The combination in a railway, of a movable switch tongue, a plunger connected with and extending laterally from the tongue and terminating in a head, and a keeper having resilient arms for engaging and holding
55 said head and also having openings in said arms and rollers carried by the arms and extending through said openings to present rolling surfaces to the head.

In testimony whereof we have hereunto
60 set our hands in presence of two subscribing witnesses.

CARL S. CHAMBERLIN.
DANIEL HARRINGTON.

Witnesses:

HOMER F. DAVIS,
J. M. KEMP.