

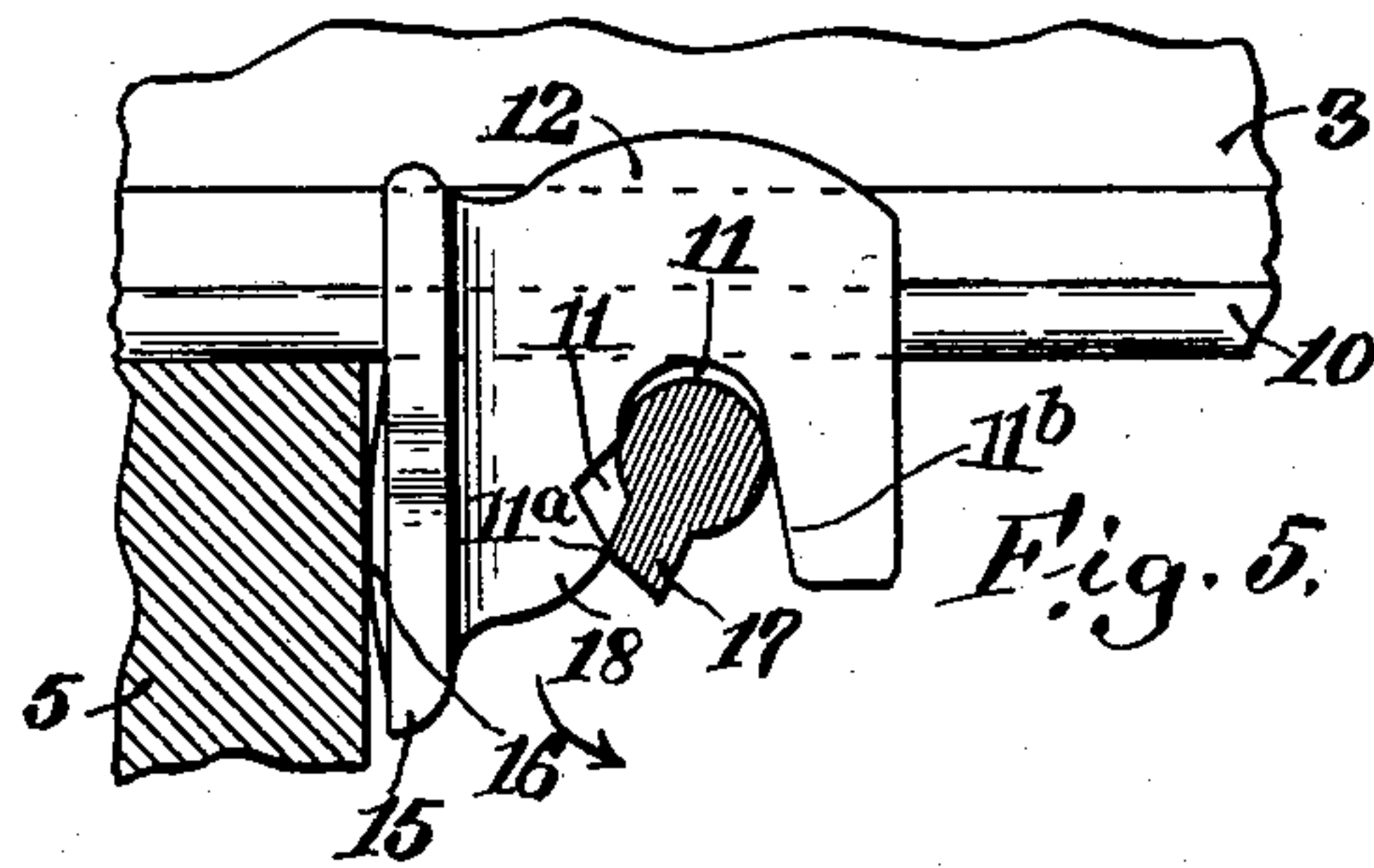
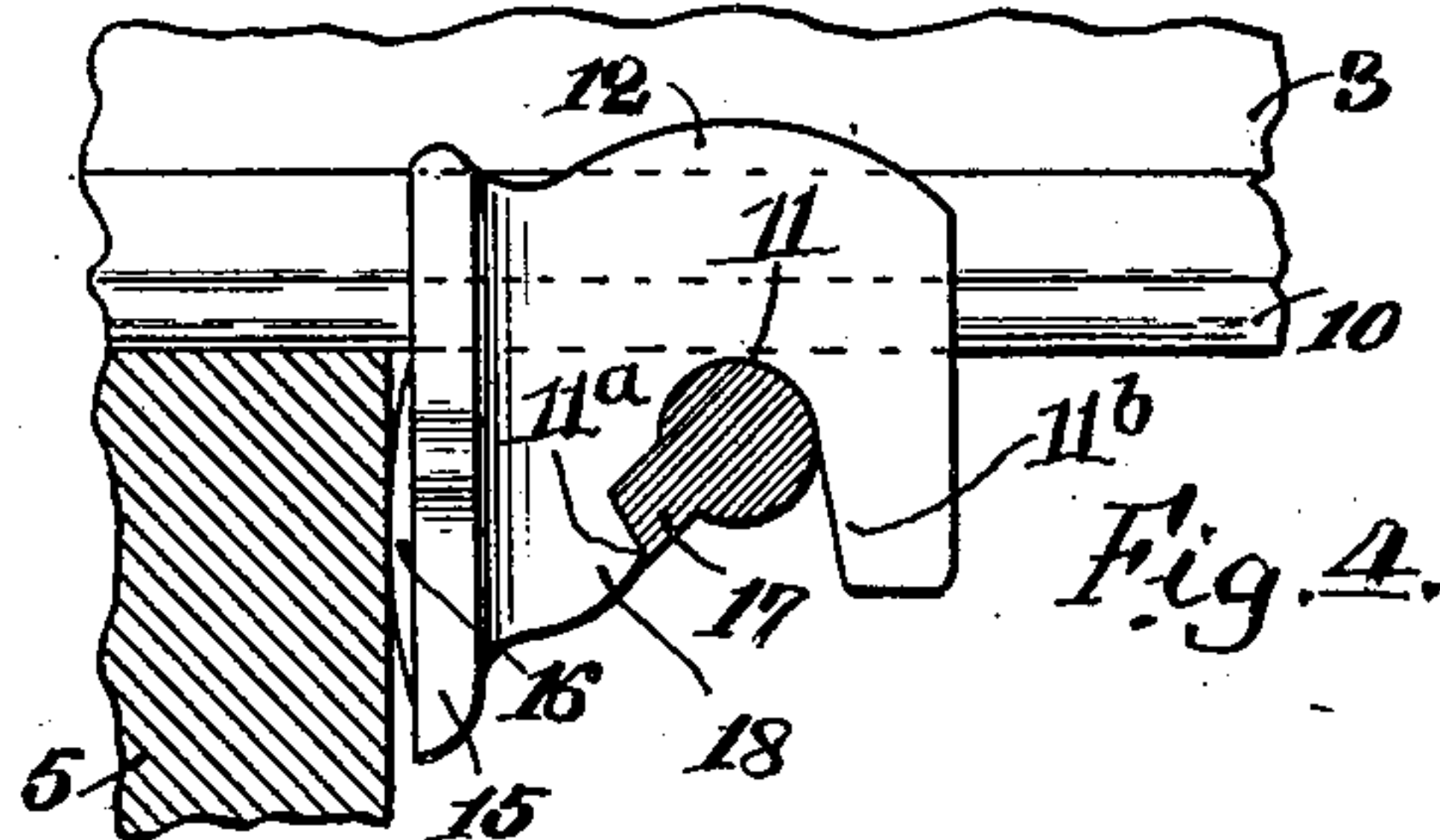
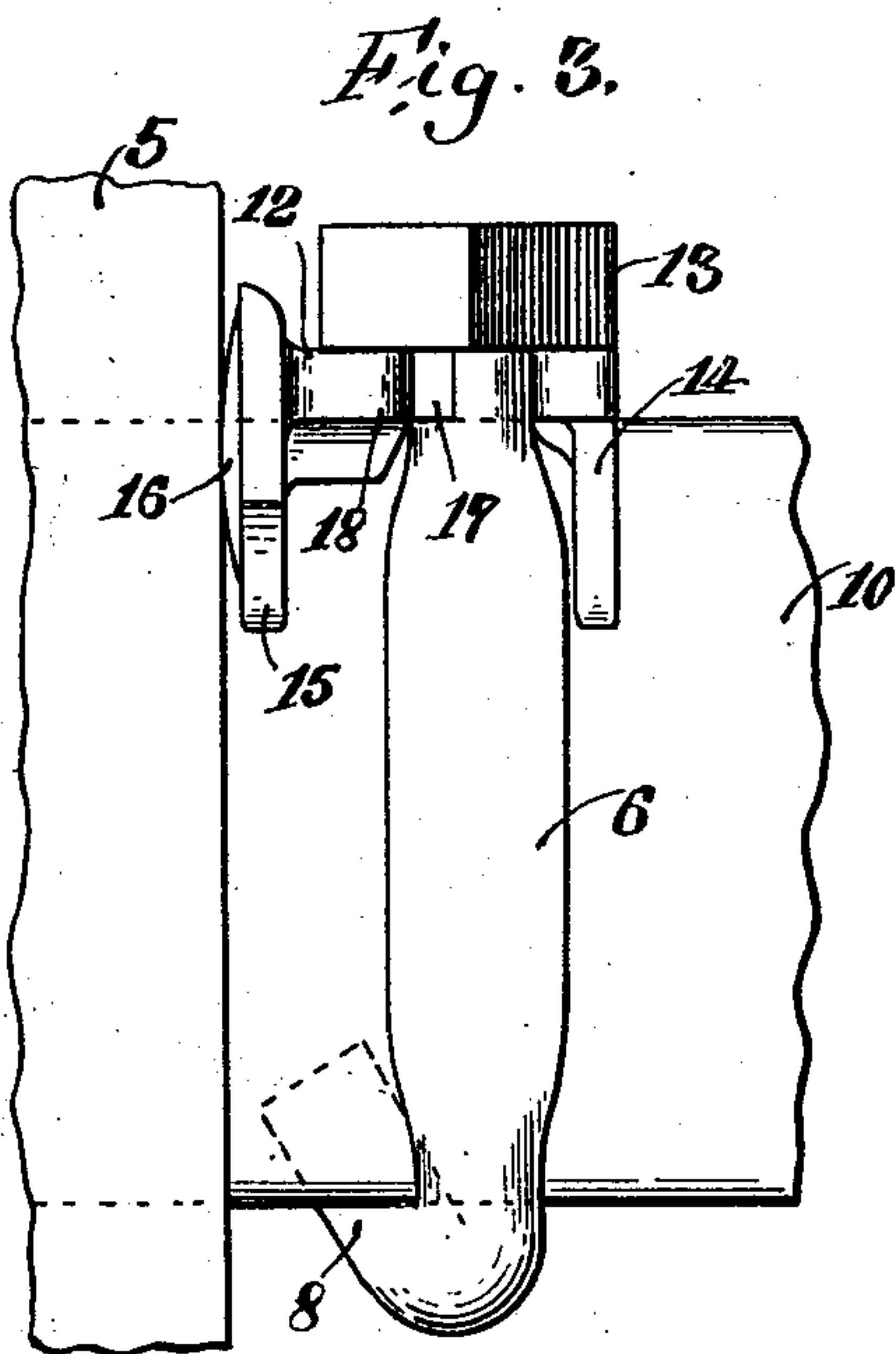
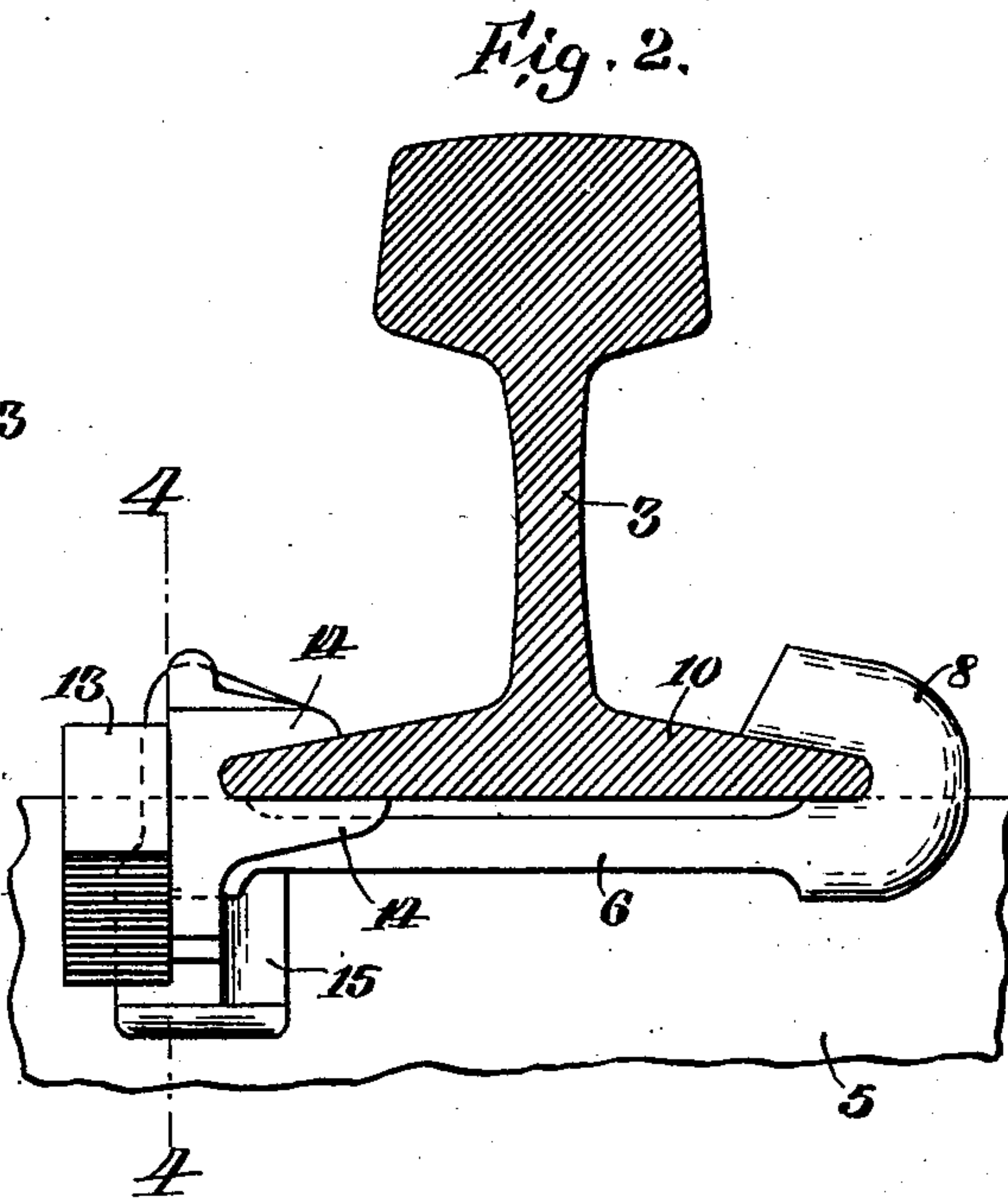
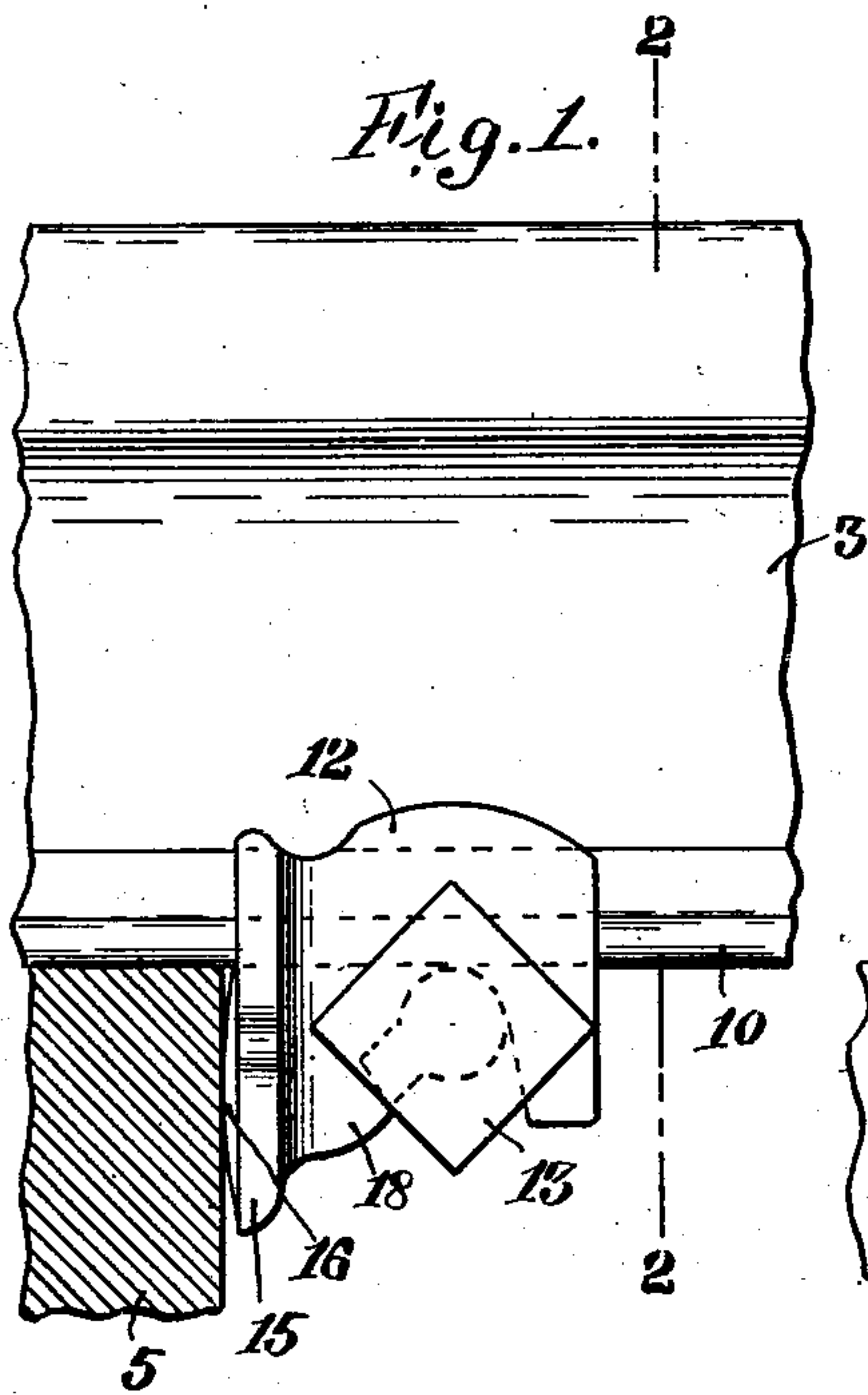
No. 897,038.

PATENTED AUG. 25, 1908.

D. F. & D. L. VAUGHAN.
ANTICREEPING DEVICE FOR RAILROAD RAILS.

APPLICATION FILED FEB. 26, 1908.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 6

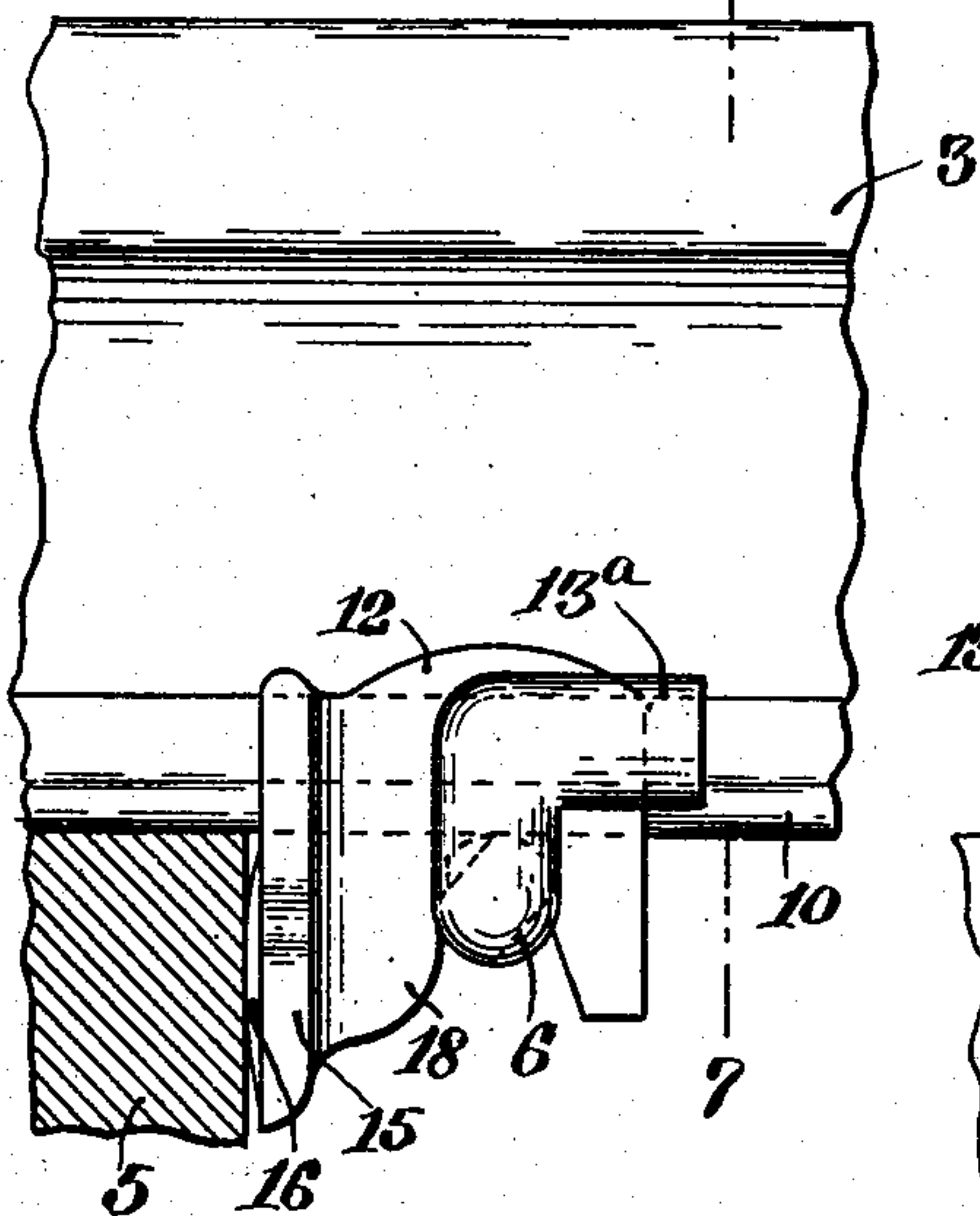


Fig. 7.

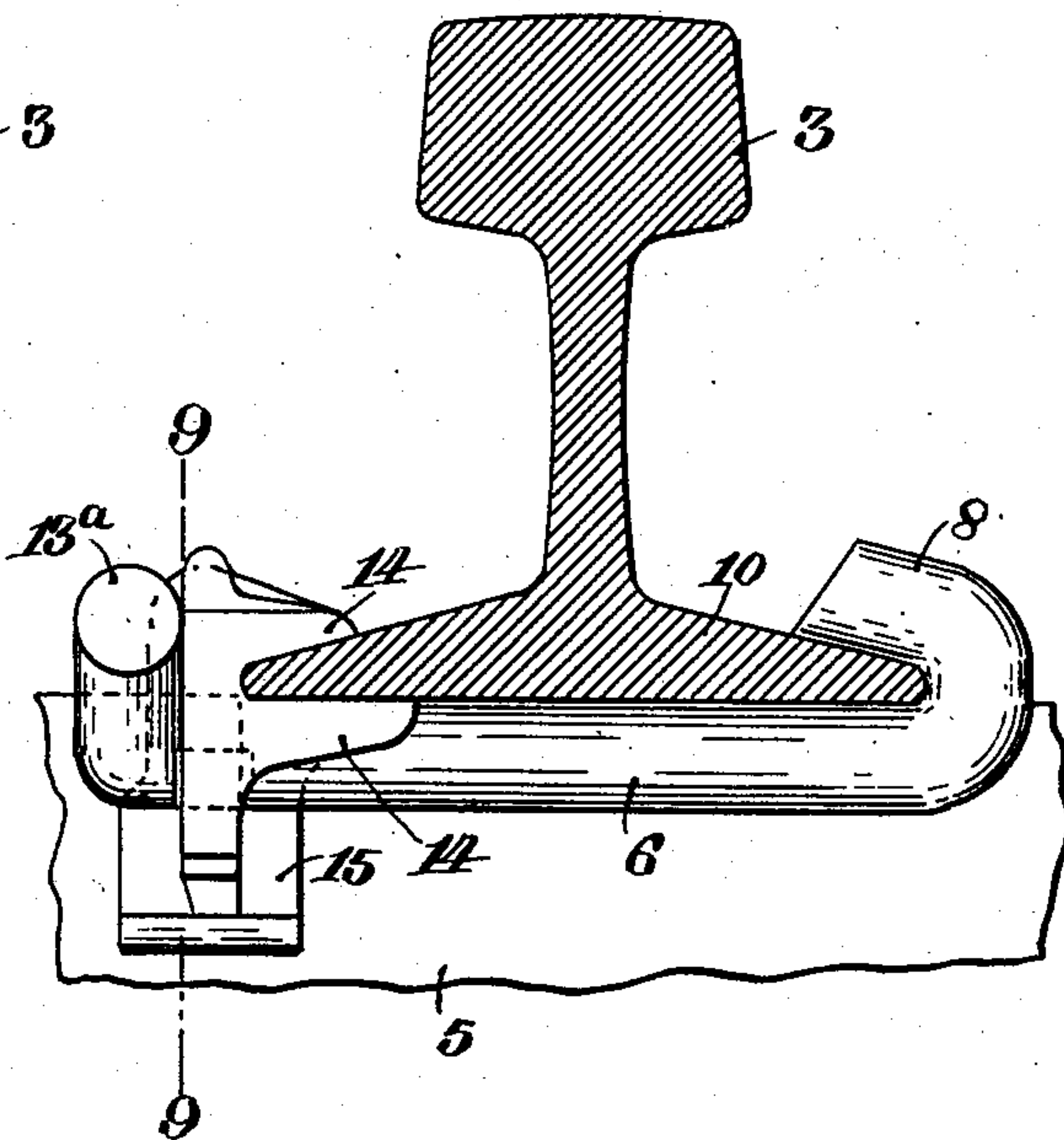


Fig. 8.

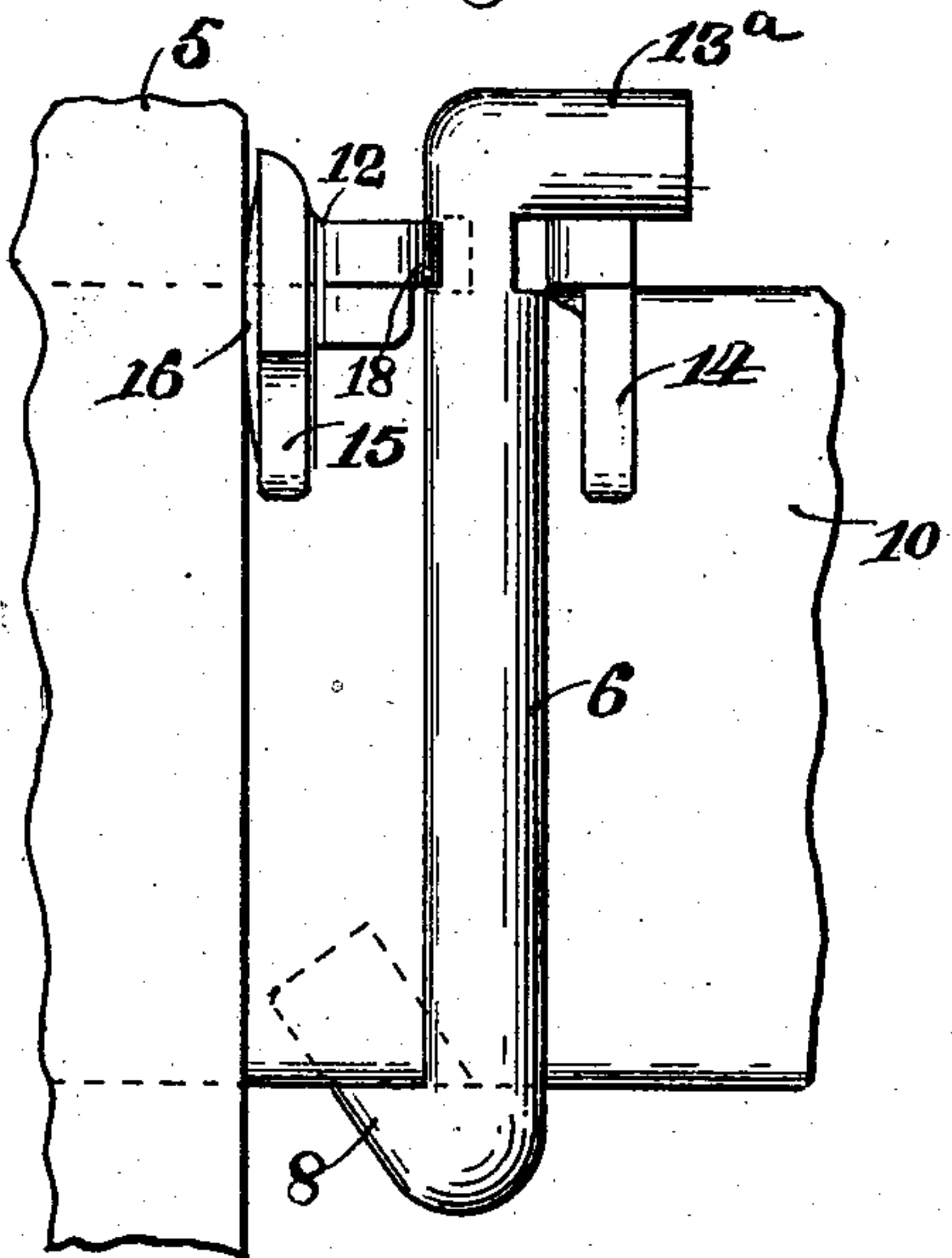


Fig. 9.

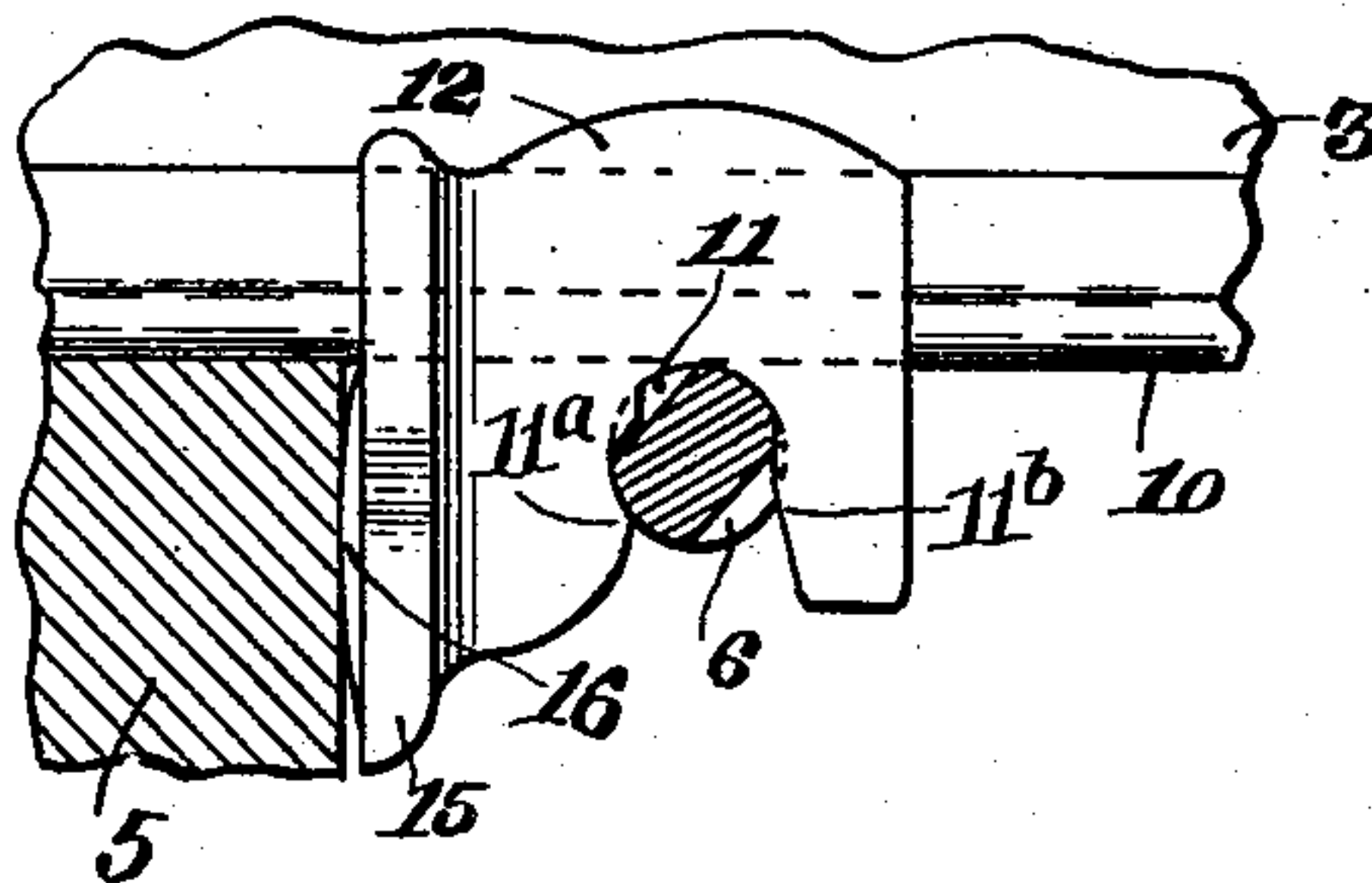
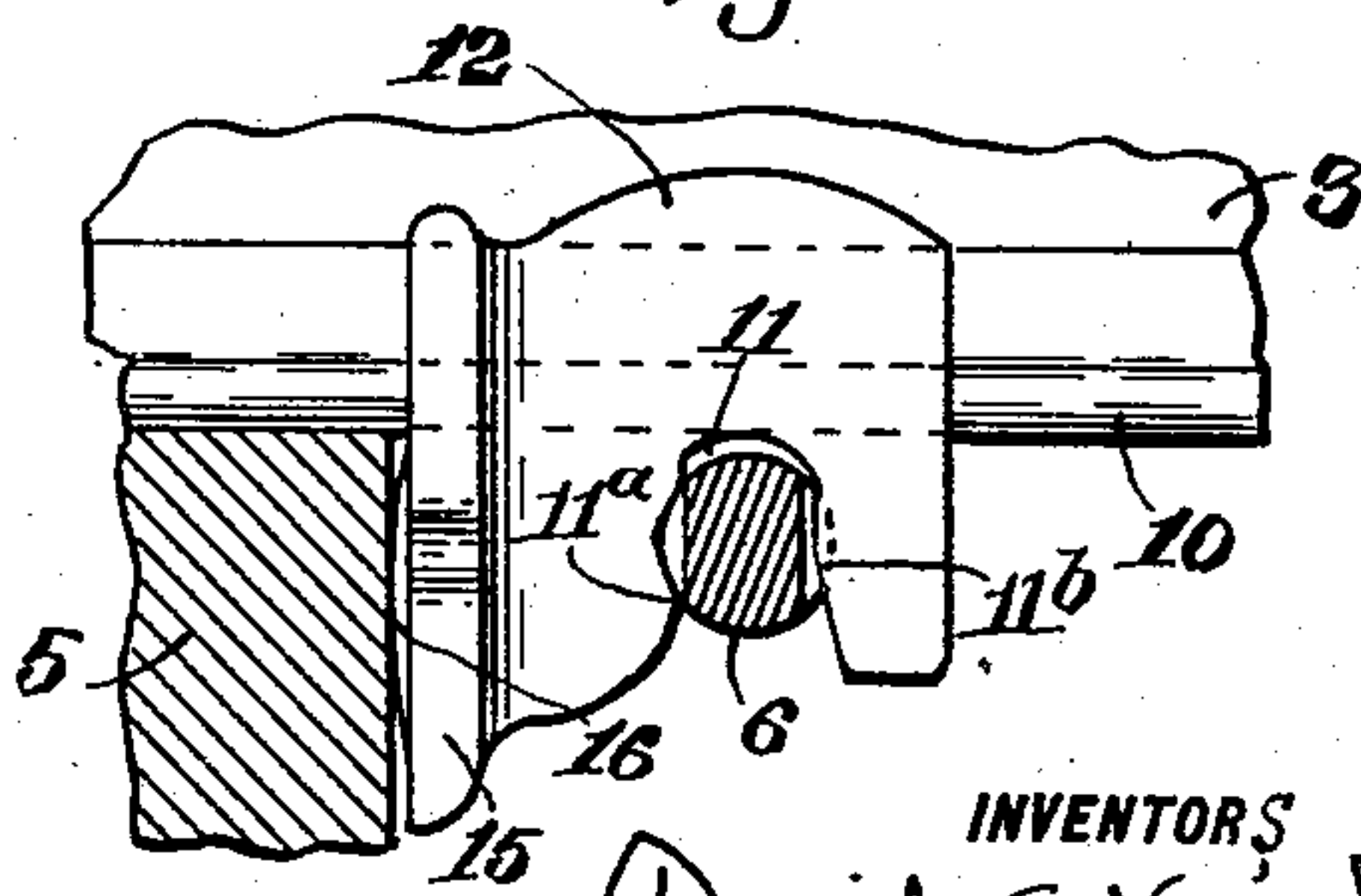


Fig. 10.



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UNITED STATES PATENT OFFICE.

DAVID F. VAUGHAN AND DAVID L. VAUGHAN, OF HADDONFIELD, NEW JERSEY; SAID DAVID F. VAUGHAN ASSIGNOR TO SAID DAVID L. VAUGHAN.

ANTICREEPING DEVICE FOR RAILROAD-RAILS.

No. 897,038.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed February 26, 1908. Serial No. 417,816.

To all whom it may concern:

Be it known that we, DAVID F. VAUGHAN and DAVID L. VAUGHAN, citizens of the United States, and residents of Haddonfield, Camden county, State of New Jersey, have invented certain new and useful Improvements in Anticreeping Devices for Railroad-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

The object of our invention is to provide a simple durable, and efficient anti-creeping device for railroad rails which may be readily applied to or removed from the rail, and by means of which longitudinal displacement of the rail commonly called "creeping", due to traffic conditions, soft road beds, and grades, may be prevented; and to this end the invention consists in the novel construction and combinations of parts which will be hereinafter fully described and claimed.

In the drawings:—Figure 1 is a side elevation of a portion of a railroad rail having our improved anti-creeping device applied thereto, and showing a portion of a tie on which the rail rests. Fig. 2 is a vertical section, as on the line 2—2 of Fig. 1. Fig. 3 is a bottom view of the parts shown in Fig. 1. Fig. 4 is a detail in section, as on the line 4—4, of Fig. 2. Fig. 5 is a view similar to Fig. 4, showing different relative positions of the parts. Fig. 6 is a side elevation of a portion of a railroad rail, showing another form of our improved anti-creeping device applied thereto, and showing a portion of a tie on which the rail rests. Fig. 7 is a vertical section, as on the line 7—7, of Fig. 6. Fig. 8 is a bottom view of the parts shown in Fig. 6. Fig. 9 is a detail in section, as on the line 9—9, of Fig. 7. Fig. 10 is a view similar to Fig. 9, showing different relative positions of the parts.

3 designates a portion of a railroad rail, and 5, a portion of a tie upon which the rail 3 rests.

We shall first describe the construction shown in Figs. 1 to 5 inclusive. Extending transversely beneath the rail 3, adjacent the tie 5, is a cross bar 6, one end 8 of which extends upwardly and inwardly over the top of one side of the foot flange 10 of the rail 3, in a manner to embrace and engage one side of said flange. The other end of the bar 6 extends through a socket 11 formed in the bottom of a shoe 12, and is provided with a suitable head 13, adapted to engage the outer

face of the shoe 12. The shoe 12 is provided with jaws 14, which embrace and engage the other side of the foot flange 10, the head 13 holding the shoe in engagement with the foot flange. The shoe 12 is provided with a tie-engaging portion 15, which extends forwardly with relation to the rail 3, to a point beyond the end 8 of the bar 6, and adjacent the tie 5, whereby any forward movement of the rail will carry the hooked end 8 of the bar 6 with it, while the other end of the bar 6 will be retarded by the portion 15 of the shoe 12 engaging the adjacent cross-tie 5, thus throwing the bar 6 into slightly diagonal position across the rail foot flange and causing the parts to grip said flange and increase the grip with any increase of the force tending to move the rail forward. We preferably provide the tie-engaging portion 15 with a convex face 16, to avoid undue strain on the edges of the part 15 should the contacting tie not be square with the rail. The portion of the cross bar 6 extending through the socket 11 is provided with a spud 17, and formed on the shoe 12, within the socket 11, is a shoulder 18. When the parts are in the position shown in Figs. 1, 2, 3, and 4, the spud 17 is in engagement with the shoulder 18, and is held in such position by the torsional spring action of the bar 6, thus locking the bar 6 and shoe 12 together, as will be hereinafter explained. The end 8 of the cross bar 6 extends over the top of the rail foot flange 10, but it preferably also extends laterally of the axis of the main body of the bar, as shown, to the end that the extension 8 may engage the top of the foot flange 10 to prevent the turning of the bar 6 in a direction to move the spud 17 away from the shoulder 18 for a purpose hereinafter explained. It will be observed that the socket 11 has a contracted entrance, between the walls 11^a and 11^b which are closer together than opposite walls of the interior of the socket, and that the portion of the bar which extends through the socket 11 and includes the spud 17, has transverse dimensions in one direction sufficient to prevent it from passing between the walls of said entrance, and transverse dimensions in another direction which will permit it to pass between the walls of said entrance. That is to say, the bar 6 may be turned on its axis to a position that will permit it to be passed between the walls 11^a and 11^b and inserted into the socket 11, and then again

turned on its axis to a position which will prevent its removal from the socket, due to its different transverse dimensions; so that after the bar 6 has been placed into the socket 11, and then turned to prevent its removal therefrom, it will form a means of securing the bar 6 and shoe 12 together, and to the foot flange of the rail, provided there is present some means to prevent the turning of the bar 6 to disengage it from the socket 11.

The bar 6 is made of steel or other suitable material, and when the parts occupy the position shown in the drawings, the part of the bar extending through the socket 11 is held therein in the position shown in Fig. 4, by the extension 8 of the bar engaging the top of the rail foot flange 10, and preventing the turning of the bar to permit it to be removed from the socket 11.

In applying the device to a rail, the shoe 12 is placed into engagement with one side of the rail foot flange as shown, and the hooked end 8 of the bar 6 is placed into engagement with the other side of the rail foot flange. The other end of the bar 8 is then sprung into the socket 11 by a combined torsional and upward pressure upon the head 13 of the bar; that is to say, a wrench or other suitable tool is applied to the head 13 and the bar 6 is twisted or sprung upon its axis in the direction of the arrow, to the position shown in Fig. 5, the hooked end 8 of the bar engaging the top of the rail foot flange 10 and preventing the turning of said end; the bar 6 being, at the same time, moved up into the socket 11. This being done, the pressure of the tool upon the head 13 is removed, thus permitting the torsional spring action of the bar 6 to turn it within the socket 11 to the position shown in Fig. 4, which will prevent the removal of the bar from the socket. We preferably so locate the spud 17 on the bar 6 with relation to the extension 8, that after the bar 6 has been sprung into the socket 11, as just described, there will remain sufficient resilience or spring action in the body of the bar 6 to press the spud 17 into engagement with the shoulder 18, and thus firmly hold or lock the parts together and to the rail foot flange 10. The device may be removed from the rail by reversal of the operation just described.

The bar 6 may be of any shape and size for its intended purpose, and the cross-sectional shape of the body of the bar where the spring action above described takes place, may be varied to suit different conditions. It may be made from a round bar having the central portion thereof flattened, as shown in Figs. 2 and 3, or the cross-section of the bar may be round throughout its entire length, as shown in Figs. 7 and 8; or it may be made of various cross-sectional shapes to obtain the object desired.

The construction and operation of the device shown in Figs. 6 to 10 inclusive, are precisely the same as the construction and operation of the device shown in Figs. 1 to 5 inclusive, with the exception that instead of providing the end of the bar 6 with the square head 13, we give the bar one or more bends at right angles to its axis, so as to form a suitable head, 13^a, as shown in Figs. 6, 7, and 8, to engage the outer face of the shoe 12, and to which head a wrench or other suitable tool may be applied to effect the torsional action upon the bar 6; and instead of employing the spud 17, we flatten or cut-away two opposite sides of the portion of the bar 6 which extends through the slot 11, so as to make its transverse dimensions in one direction greater than its transverse dimensions in another direction, thus accomplishing the same result as is accomplished by the construction shown in Figs. 1 to 5 inclusive.

While we have herein shown and described our invention in two desirable and practicable forms, we desire it to be understood that we do not limit ourselves to these particular constructions, as the same may be greatly modified without departing from the invention.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:—

1. In an anti-creeping device for railroad rails, the combination, with the rail, of a part engaging one side of the rail foot flange, a cross bar extending beneath said flange, and provided with means on one end thereof for engaging one side of said flange, means on the other end of said bar for engaging said part, the part-engaging means on the bar being held in engaging position by the spring action of said bar in tending to assume a position from which it was sprung, and tie-engaging means acting upon one end of said bar, substantially as described.

2. In an anti-creeping device for railroad rails, the combination, with the rail, of a shoe engaging one side of the rail foot flange and provided with a socket having an entrance the walls of which are closer together than opposite walls of the main interior of the socket, a cross bar extending beneath said flange and provided with means on one end thereof for engaging the other side of said flange, the other end of said bar extending through the main interior of said socket and having transverse dimensions in one direction sufficient to prevent it from passing between the walls of said entrance, and transverse dimensions in another direction which will permit it to pass between the walls of said entrance, means for holding said bar in position to prevent it from passing out through the entrance to said socket, and tie-engaging means acting upon one end of said bar, substantially as described.

3. In an anti-creeping device for railroad rails, the combination, with the rail, of a shoe engaging one side of the rail foot flange, a cross bar extending beneath said flange and provided on one end thereof with a part extending over one side of the rail foot flange and laterally of the axis of the main body of the bar, means on the other end of said bar for engaging said shoe, the shoe-engaging means on the bar being held in engaging position by the spring action of said bar in tending to assume a position from which it was sprung, and tie-engaging means acting upon one end of said bar, substantially as described.

4. In an anti-creeping device for railroad rails, the combination, with the rail, of a shoe engaging one side of the rail foot flange, a cross bar extending beneath said flange and provided with means on one end thereof for engaging one side of the flange, a head on the other end of said bar holding said shoe in engagement with said flange, means on said bar for engaging said shoe, the shoe-engaging means on the bar being held in engaging position by the spring action of said bar in tending to assume a position from which it was sprung, and tie-engaging means acting upon one end of said bar, substantially as described.

5. In an anti-creeping device for railroad rails, the combination, with the rail, of a shoe engaging one side of the rail foot flange and having a socket therein in which is formed a shoulder, a cross bar extending beneath said

flange and provided with means on one end thereof for engaging one side of the flange, means on the other end of said bar for engaging said shoulder, the shoulder-engaging means on the bar being held in engaging position by the spring action of said bar in tending to assume a position from which it was sprung, and tie-engaging means acting upon one end of said bar, substantially as described.

6. In an anti-creeping device for railroad rails, the combination, with the rail, of a shoe engaging one side of the rail foot flange and having a socket therein in which is formed a shoulder, a cross bar extending beneath said flange and provided with means on one end thereof for engaging the other side of the flange, a head on the other end of said bar holding said shoe in engagement with said flange, means on the bar for engaging said shoulder, the shoulder-engaging means on the bar being held in engaging position by the spring action of said bar in tending to assume a position from which it was sprung, and tie-engaging means upon one end of said bar, substantially as described.

In testimony whereof, we have hereunto affixed our signatures.

DAVID F. VAUGHAN.
DAVID L. VAUGHAN.

Witnesses:

S. I. HARPER,
A. V. GRONFEL.