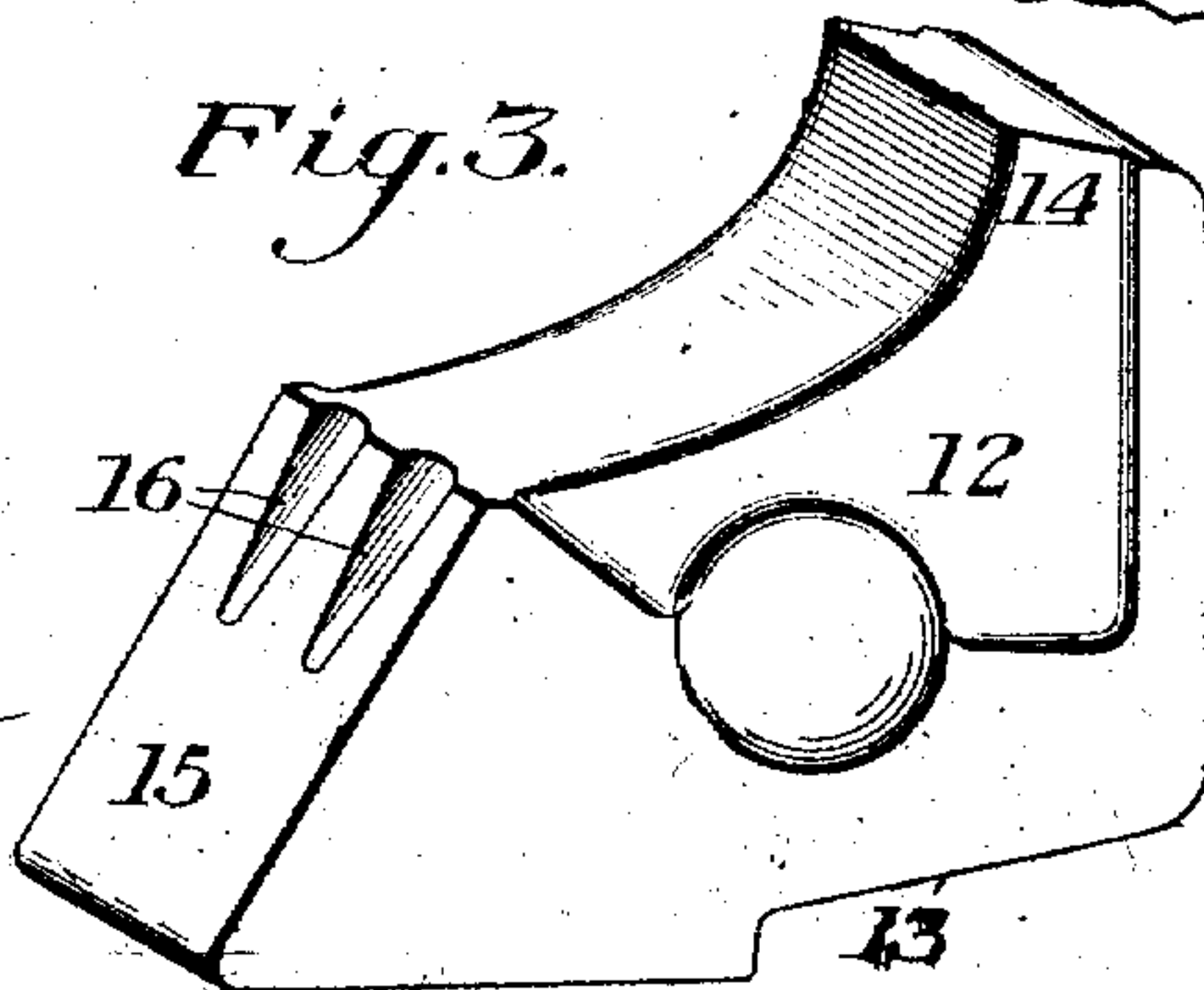
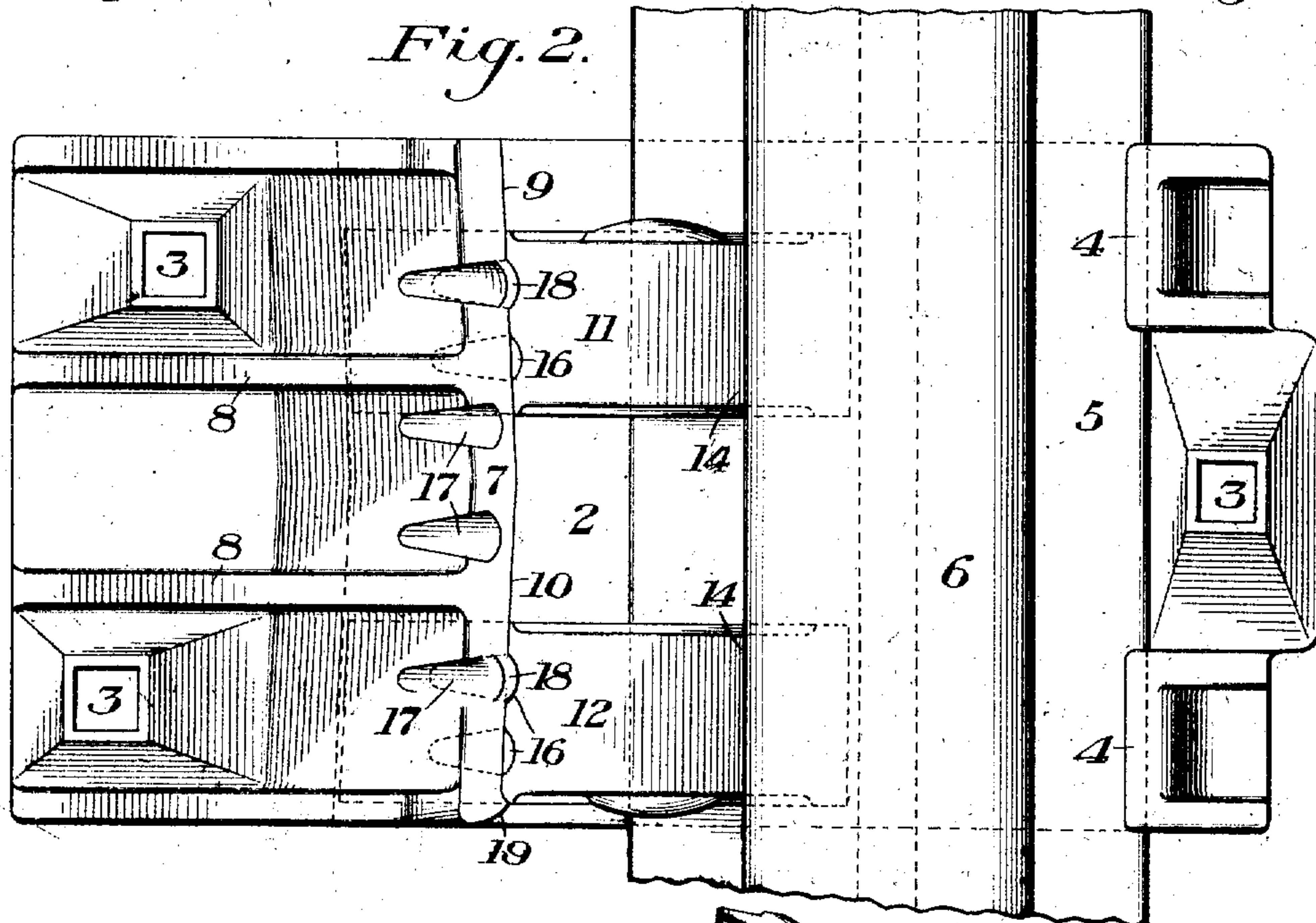
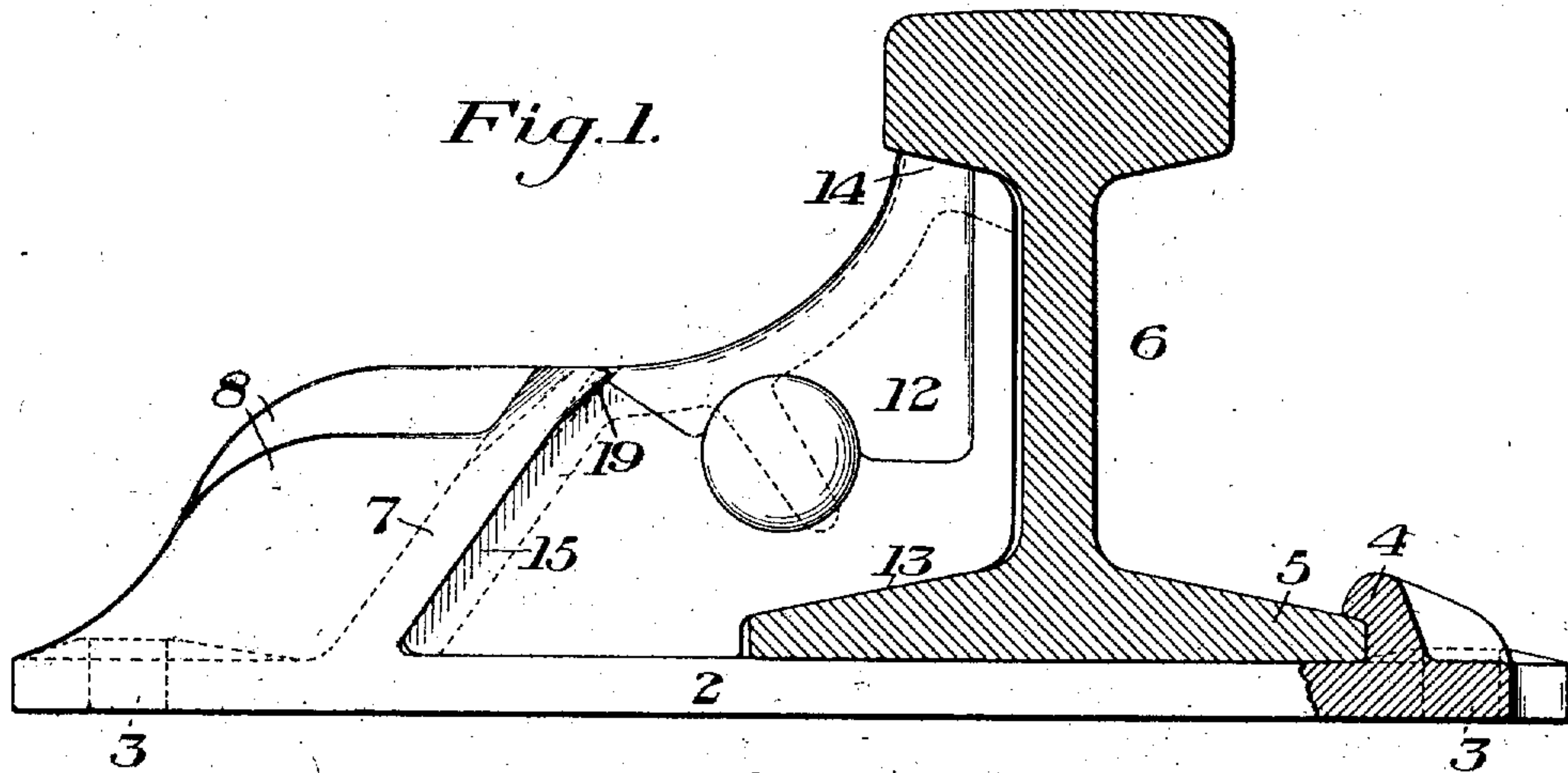


J. W. STEPHENSON.
 COMBINED RAIL BRACE AND TIE PLATE.
 APPLICATION FILED AUG. 12, 1910.

979,351.

Patented Dec. 20, 1910.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN W. STEPHENSON, OF TOLEDO, OHIO, ASSIGNOR TO THE NATIONAL MALLEABLE CASTINGS COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

COMBINED RAIL-BRACE AND TIE-PLATE.

979,351.

Specification of Letters Patent.

Patented Dec. 20, 1910.

Application filed August 12, 1910. Serial No. 576,915.

To all whom it may concern:

Be it known that I, JOHN W. STEPHENSON, a resident of Toledo, Lucas county, Ohio, have invented a new and useful Combined

5 Rail-Brace and Tie-Plate, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—
10 Figure 1 is an end view partially in section of a combined rail brace and tie plate embodying my invention and shown applied to a track rail; Fig. 2 is a plan view; and Fig. 3 is a perspective view of one of the
15 brace members.

My invention has relation to tie plates and rail braces for railway tracks; and is designed to provide a device of this character which is simple in its construction; which
20 will hold the rail securely in a manner to prevent creeping thereof; which will provide a strong brace for the rail, and also an efficient support for the head thereof; and which is provided with means for preventing the brace members from becoming loose
25 in service.

Referring to the drawings, the numeral 2 designates a tie plate member provided with the usual spike holes 3 for securing it to the
30 tie, and having near one edge undercut lips or flanges 4 adapted to engage one edge of the base flange 5 of the track rail 6. At the opposite side of the rail the member 2 is formed with the transversely extending upward projection 7 having the bracing ribs or
35 webs 8. The projection 7 is inclined as shown, to give a beveled undercut inner face, and is also provided with a double bevel inclined to the longitudinal plane of
40 the web of the rail, as shown at 9 and 10.

11 and 12 designate brace members, which are adapted to fit between the inner beveled or undercut faces of the projection 7 and the rail. These members are shown as having
45 a portion 13 which fits against the base of the rail, an upper portion 14 which fits underneath and forms a support for the top flange of the rail, and a portion 15 which seats between the outer edge of the rail and
50 the inner face of the projection 7. The outer face of this portion 15 of each brace is inclined in two directions to fit the double inclination of the inner face of the projection 7.

16—16 are depressions in the upper end of
the inclined portion 15 of each brace, and
17—17 are reduced portions in the upper
end of the projection 7.

In applying the device to the rail, the
brace members 11 and 12 are inserted between the rail and the projection 7, and are
60 tightly driven to their seats, the transverse inclinations of the inner face of the projection 7 causing them to become firmly wedged in position. The parts are preferably made
65 of malleable castings, and the brace members can be very firmly wedged in place by driving. The reduced portion 17 is crimped to engage a depression 16, as shown at 18, and the edge of the projection 7 may be
70 crimped over the edge of the brace as shown at 19.

It will be noted that the form of the brace members of my invention is such as to cause them to form a very rigid brace for the
75 rails; in fact, when these members are properly driven and secured, the entire device is practically a one-piece structure. The braces also extend underneath practically the full width of the overhanging flange of the head
80 of the rail so as to form a full support for the same. When the projection 7 is crimped, it makes it impossible for the brace members to work loose in service, and when the brace members are spiked to the ties, the
85 rails will be rigidly held from creeping.

It will be obvious that various changes may be made in the construction and arrangement of the parts, and that the device could be used with a single brace, without
90 departing from the spirit and scope of the invention as defined in the appended claims. Thus, while I have shown the brace members as of cored or hollow form to reduce their weight, it is obvious that solid braces
95 may be employed if preferred, and that various other changes may be made in the form of the parts. It will also be understood that the upper end of the projection need not be reduced at certain portions, but that this
100 portion may be so formed that any part thereof may be crimped to engage the depressions in the braces. It will be further understood that my invention is applicable not only to a tie plate of the form described,
105 but also to ties in which projections corresponding to the projection 7 are formed integrally with the ties.

I claim—

1. In a combined rail brace and tie plate, a tie plate member having a transversely extending upward projection at one side of the rail, said projection having an inner face which is inclined downwardly and outwardly and also transversely, a brace member seated between the said projection and the rail, and bearing against the doubly inclined face of the projection, and means on the projection for securing the brace member in place; substantially as described.
2. In a combined rail brace and tie plate, a tie plate member having a transversely extending upward projection at one side of the rail, said projection having an inner face which is inclined downwardly and outwardly and also transversely, a brace member seated between the said projection and the rail and having a recessed face bearing against the doubly inclined face of the projection, the recess in said face being adapted to receive a crimped portion of the projection to secure the brace member against displacement; substantially as described.
3. In a combined rail brace and tie plate, a tie plate member having a transversely extending upward projection at one side of the rail, said projection having an inner face which is inclined downwardly and outwardly and also transversely, a brace member seated between the said projection and the rail and bearing against the doubly inclined face of the projection, and means for securing the brace against displacement by a crimped en-

gagement between the brace and tie plate; substantially as described.

4. A combined rail brace and tie plate, comprising a tie plate member having an upward projection at one side of the rail, the inner face of said projection being inclined downwardly and outwardly, and also having a double transverse bevel, two brace members driven between said inclined face and the rail, and means for securing the braces against displacement by a crimped engagement between the braces and tie plate; substantially as described.

5. In a rail brace, a brace member, and a seating member therefor, the brace member having a recess at its outer side, and the seating member having a projection fitting the outer side of the rail brace and adapted to be forced into engagement with said recess; substantially as described.

6. In a rail brace, a brace-seating member having an upward projection formed with an inclined and wedging inner face, and a brace member adapted to be driven between said face and a rail, the brace member having a recess or depression therein with which adjacent portions of the projection may be caused to engage; substantially as described.

In testimony whereof, I have hereunto set my hand.

JOHN W. STEPHENSON.

Witnesses:

JOHN J. MANNING,
MARK KUEHN.