

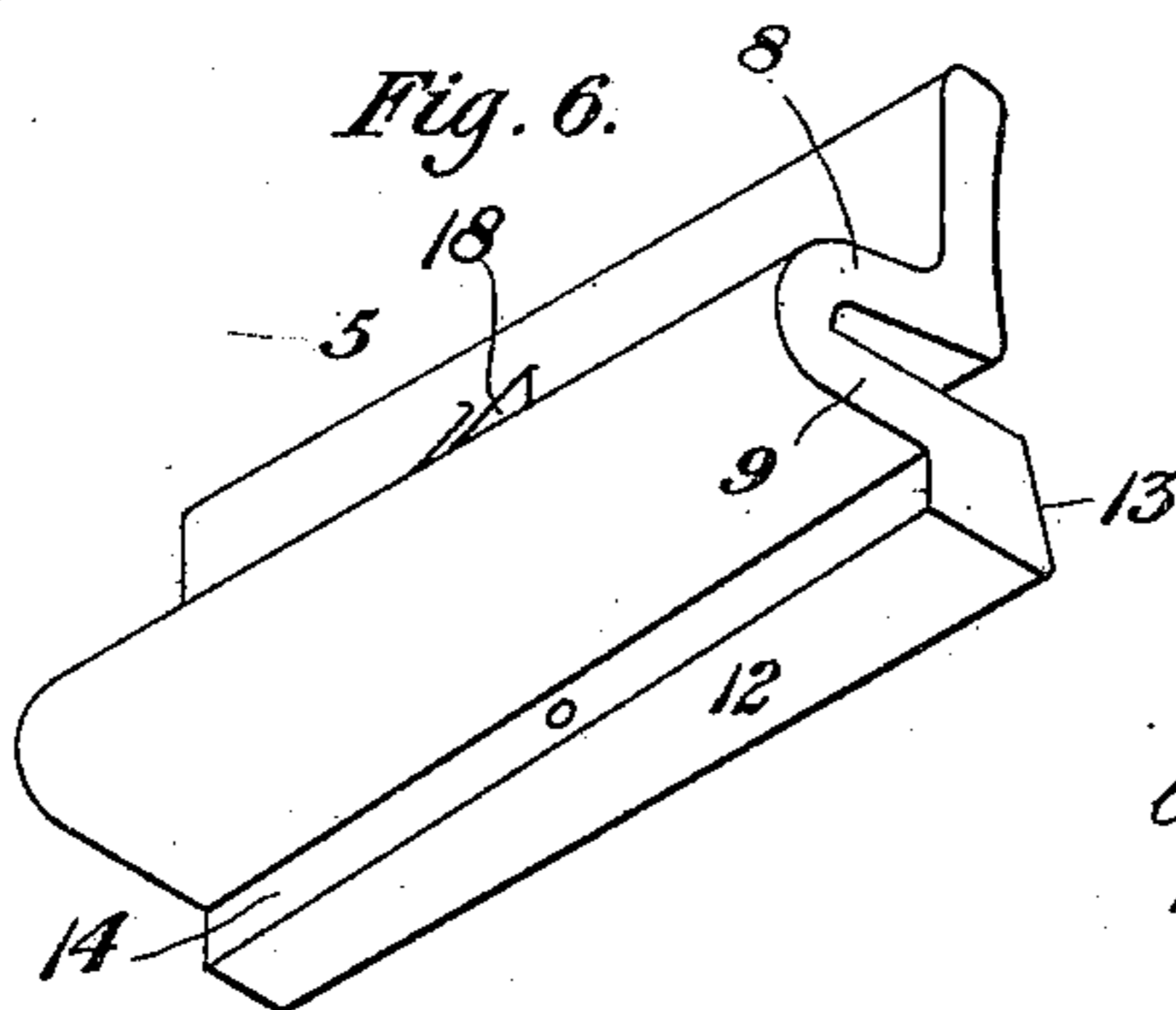
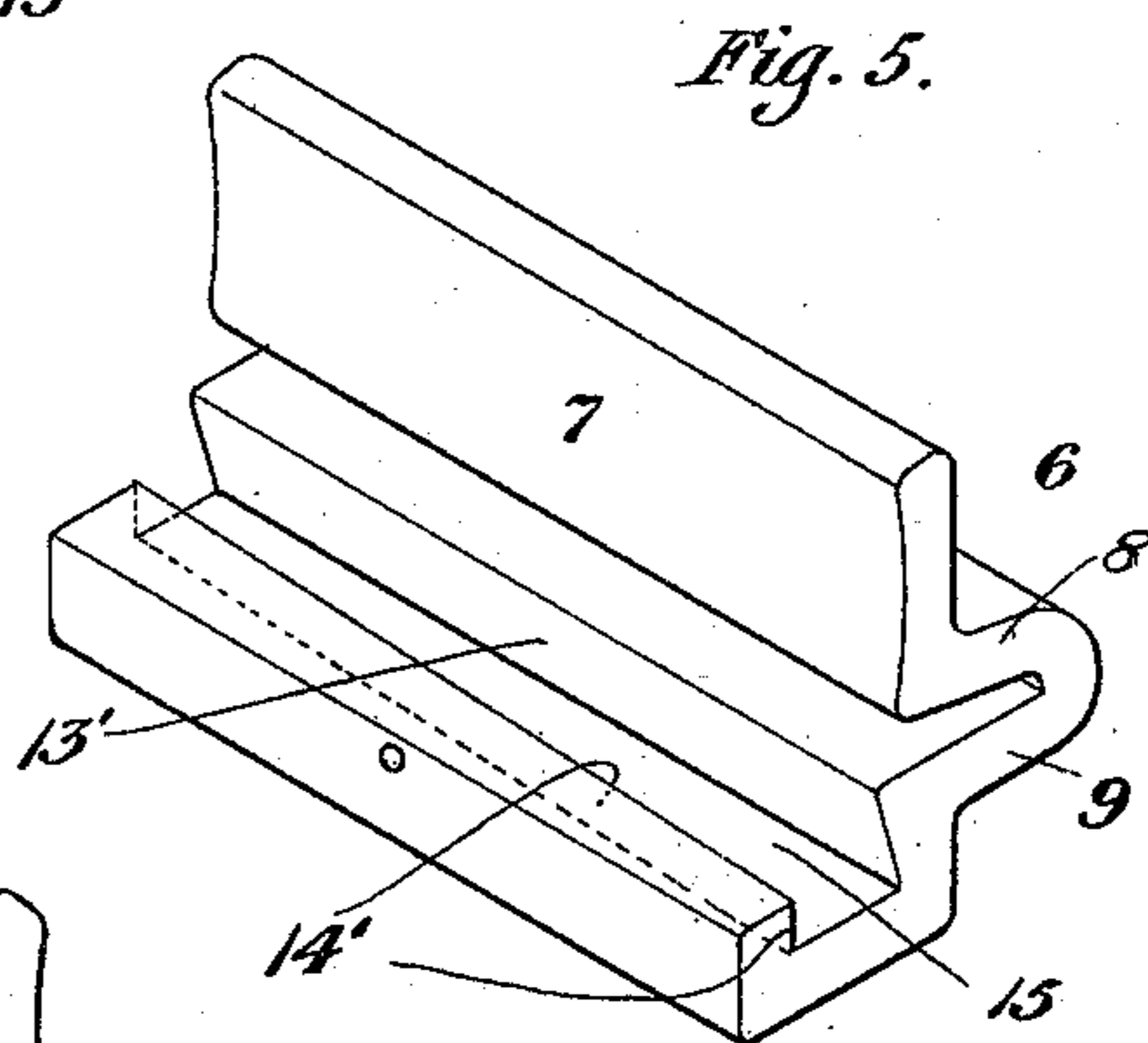
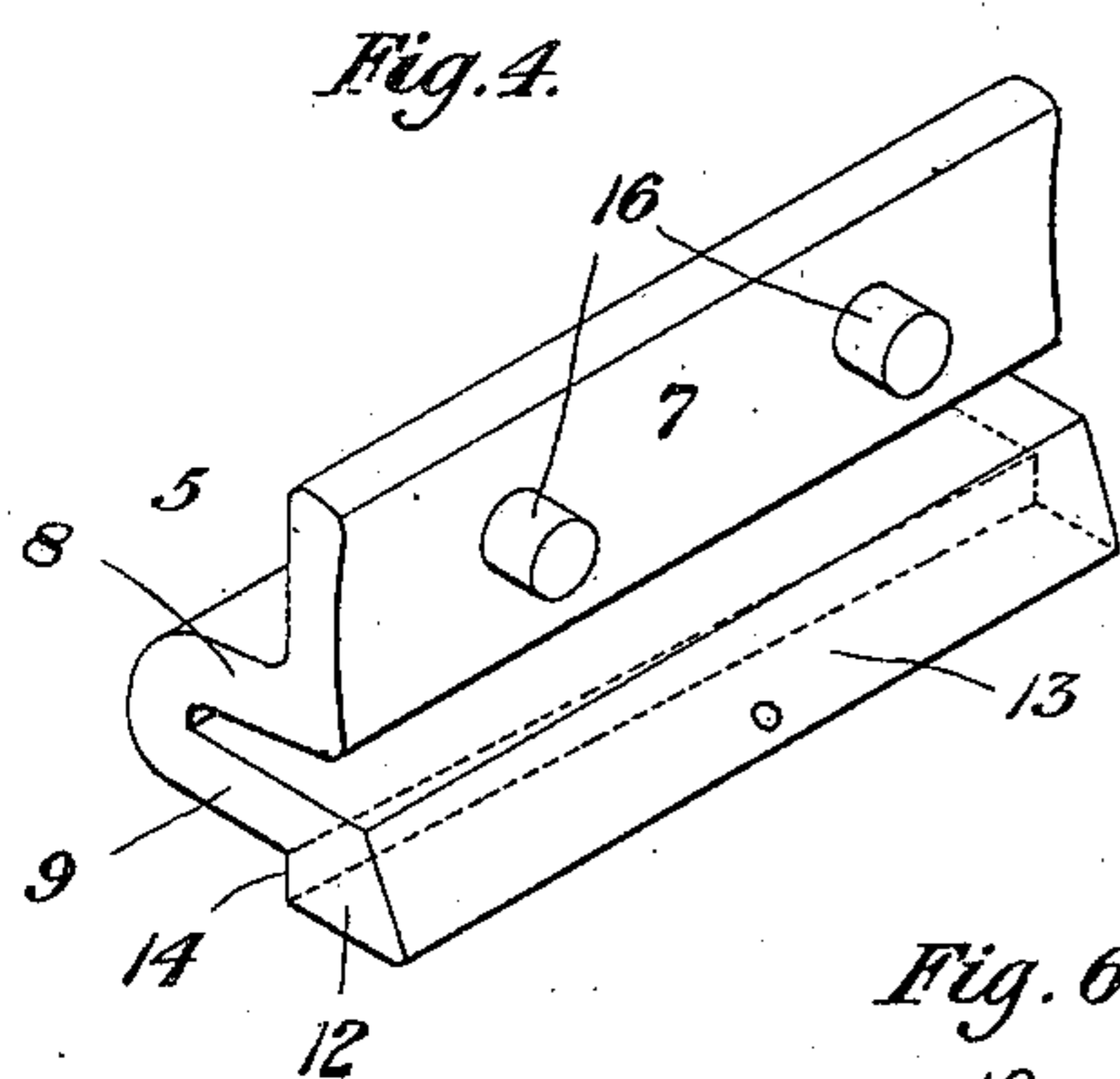
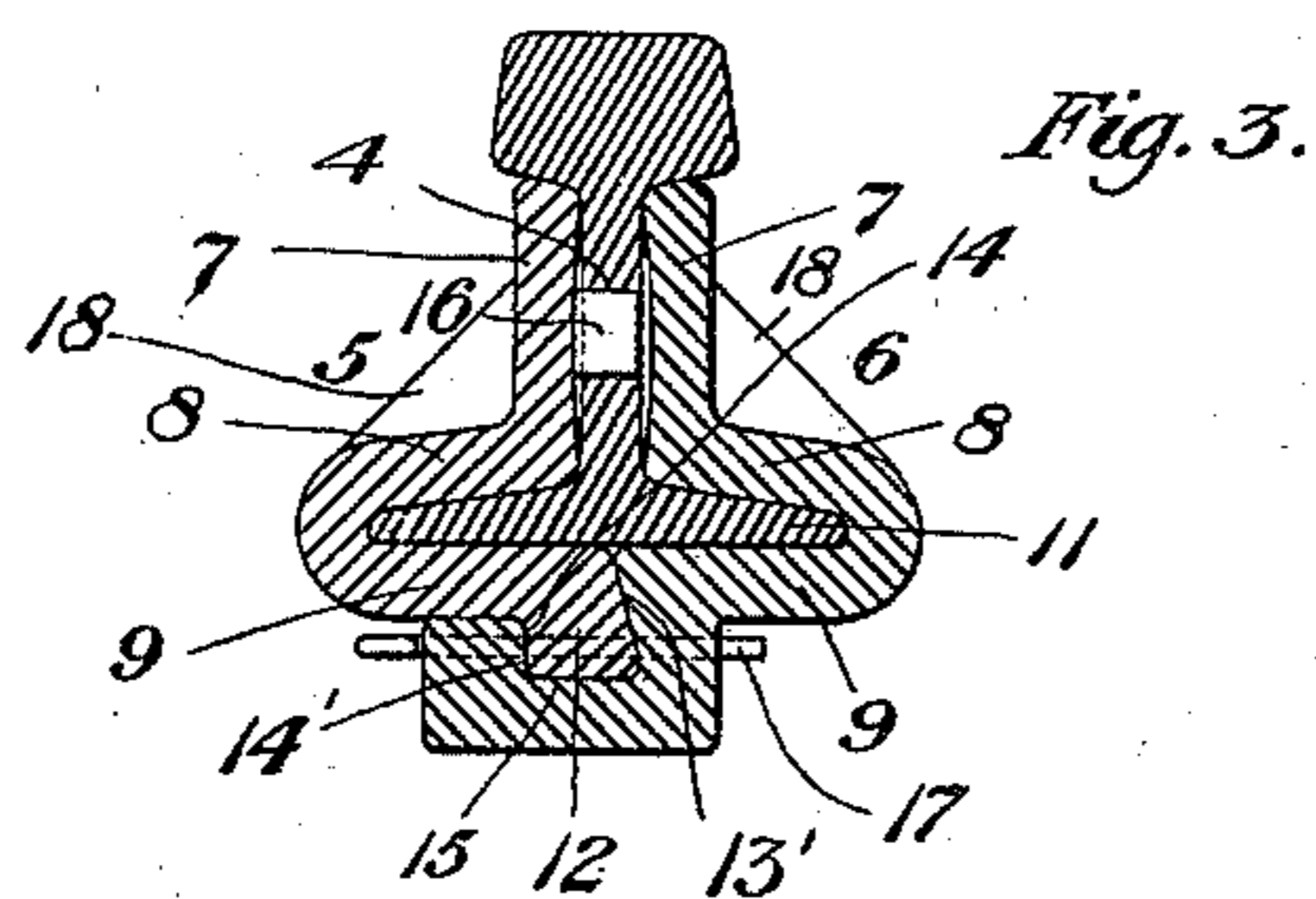
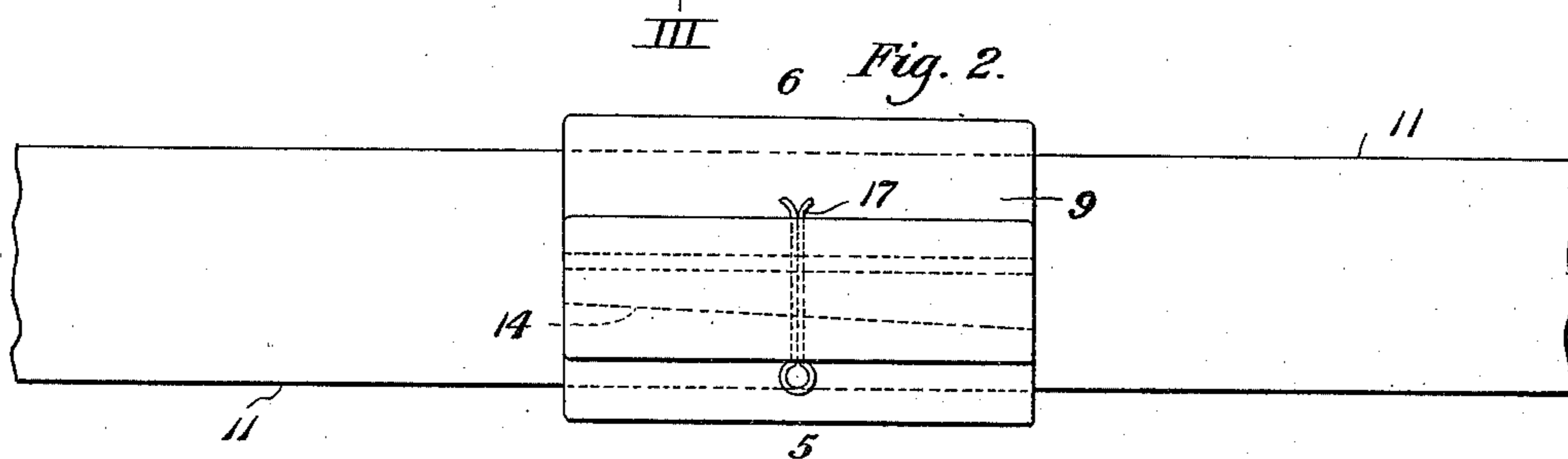
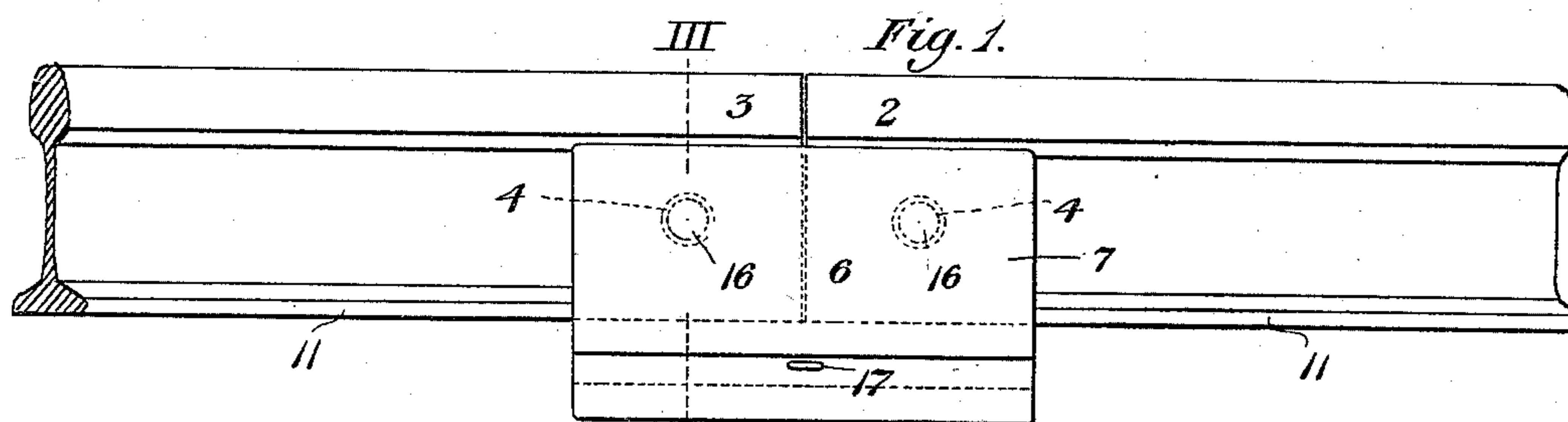
No. 645,002.

Patented Mar. 6, 1900.

G. W. PALMER.
RAIL JOINT.

(Application filed Mar. 9, 1898. Renewed Jan. 15, 1900.)

(No Model.)



Witnesses:
Watson Large.
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UNITED STATES PATENT OFFICE.

GEORGE W. PALMER, OF MCKEE'S ROCKS, PENNSYLVANIA, ASSIGNOR OF
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RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 645,002, dated March 6, 1900.

Application filed March 9, 1898. Renewed January 15, 1900. Serial No. 1,480. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PALMER, a citizen of the United States, residing at McKee's Rocks, in the county of Allegheny and State of Pennsylvania, have invented or discovered a new and useful Improvement in Rail-Joints, 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—

Figure 1 is a view in side elevation of my improved rail-joint. Fig. 2 is a bottom plan view thereof. Fig. 3 is a cross-section taken on the line III III of Fig. 1. Fig. 4 is a perspective view of one side of my joint. Fig. 5 is a similar view of the other side. Fig. 6 is a similar view of Fig. 4 in another position.

My invention consists of an improvement in joints for railroad-rails, and is designed for the purpose of firmly embracing and holding together the meeting ends of adjacent sections of rails by means of the clamping and retaining power of opposite embracing members held together by interfitting portions, as I shall hereinafter describe.

By my construction the use of the ordinary fish-plates and connecting-bolts is dispensed with and the trouble and annoyance of loose nuts, with the consequent danger of accident, are avoided.

Referring to the drawings, 2 3 are the meeting ends of rails, each of which is provided with a hole 4 through the web.

5 6 are the embracing members of the joint, each formed with a vertical side 7, adapted to bear against the head and web of the rail, formed into laterally-extending upper and lower base portions 8 9, with an intervening space for the reception of the flange 11 of the rail. The side 5 is provided with a downwardly - extending longitudinally - tapering tongue 12, the inner face 13 of which slopes outwardly and forms one side of a dovetail.

The opposite side 14 is vertical, but tapers toward the opposite end, as indicated in dotted lines in Figs. 2 and 4. The other side 6 is formed with a socket 15 to receive the key 12, formed by a continuation of the metal, and is made with a vertical face 14' and an opposite outwardly-sloping face 13' at an angle to the

face 14' and tapering toward the end. This socket is thus adapted to receive the tongue 12 and is so proportioned that when adjusted in position, with the rails in place, the parts will make a neat binding fit. The rail-webs, as has been said, are provided with holes 4, and the side 5 is provided with projecting teats 16, adapted to enter the holes. The side 5 is first applied and the teats 16 fitted into the holes, when the side 6 is then set up against one of the rails at the narrow end of the tongue 12 and driven longitudinally until the tongue is firmly embraced, the sides being drawn together by means of the tapering faces 13 13' until the two members are drawn tightly together, with the vertical sides bearing against the head and web of the rail.

By reason of the teats 16 longitudinal displacement of the rails is prevented, while sufficient allowance is made for expansion and contraction by somewhat enlarging the holes 4.

When in position, the members may be keyed together by a pin 17 passing through both sides and effectually preventing displacement, although ordinarily the parts will be maintained in position by reason of the binding action of the tapering key and socket. One or more ribs 18 may be formed in each member for the purpose of bracing the side 7, and when constructed, as I have described, of cast-steel or malleable iron the joint will perform the functions of firmly holding and retaining the ends of the rail in position in a most satisfactory and enduring manner without liability to displacement or loosening.

The advantages of my invention will be appreciated by those skilled in the art, and while the form and proportions may be changed to suit different rail-sections or other variations I desire to include all such as within the scope of my invention.

What I claim is—

In a rail-joint, the combination, with abutting rail ends, of oppositely-located joint members provided with vertical sides adapted to bear against the head and web of the rails, projecting teats on one of the sides adapted to enter holes in the rail-web, lateral base portions adapted to embrace the upper and lower

faces of each rail-flange and meeting centrally of the rail-web, a downwardly-projecting tapering undercut socket formed longitudinally in one of the members, a correspondingly-tapered tongue in the other member adapted to enter such socket longitudinally, the socket and tongue occupying a position substantially central of the rail when assembled, and a con-

necting-pin passing through both members, substantially as set forth. 10

In testimony whereof I have hereunto set my hand.

GEORGE W. PALMER.

Witnesses:

PETER J. EDWARDS,
C. M. CLARKE.