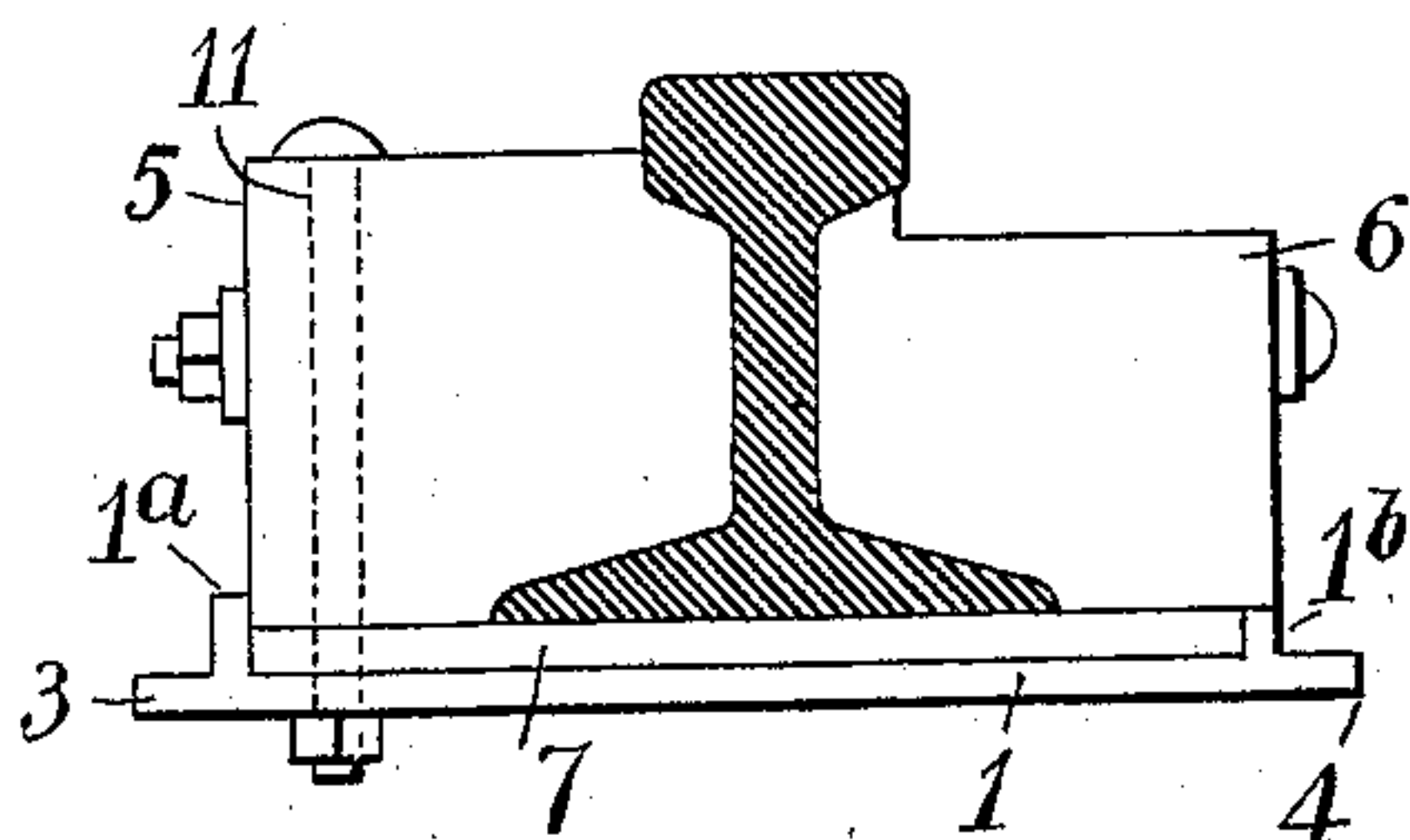
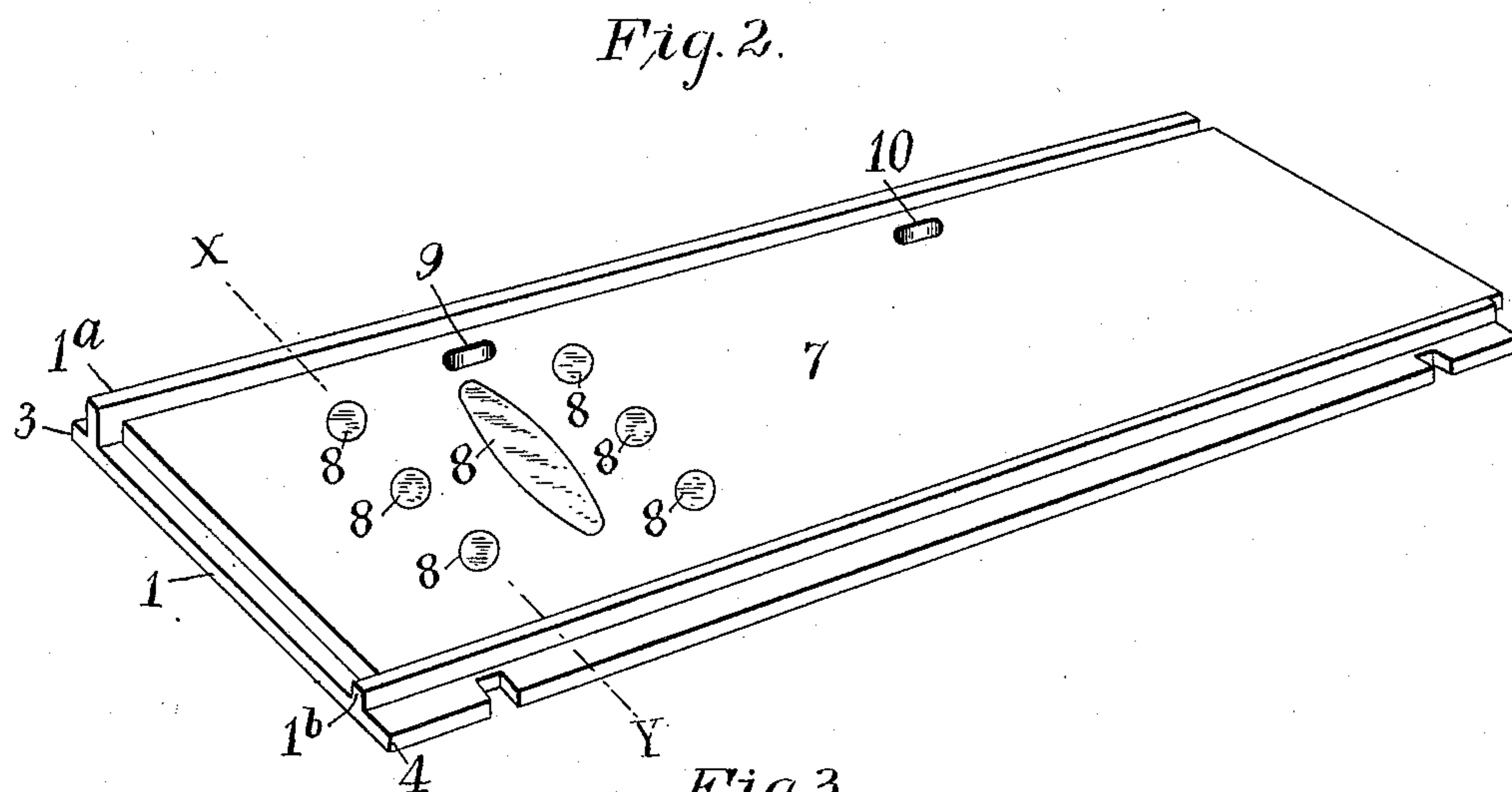
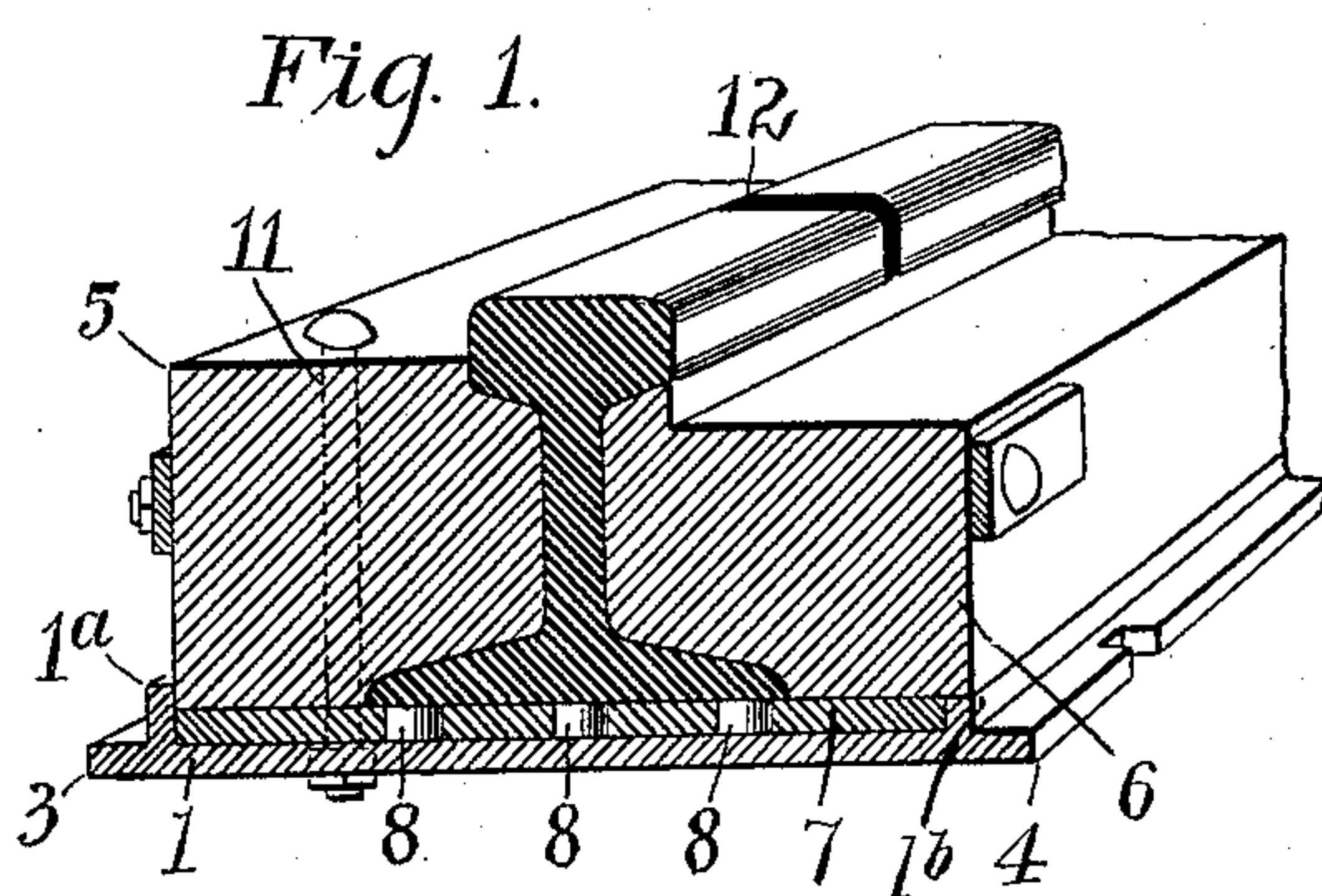


(No Model.)

J. WAYLAND.
RAIL JOINT.

No. 603,779.

Patented May 10, 1898.



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UNITED STATES PATENT OFFICE.

JAMES WAYLAND, OF NEWARK, NEW JERSEY.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 603,779, dated May 10, 1898.

Application filed January 22, 1898. Serial No. 667,540. (No model.)

To all whom it may concern:

Be it known that I, JAMES WAYLAND, a citizen of the United States, and a resident of Newark, county of Essex, State of New Jersey, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to insulated rail-joints employed on railway-tracks to produce electrical discontinuity of the rails for signaling or other purposes.

The object of the invention is to provide an improved construction in point of durability, efficiency, and cheapness.

In carrying out the invention I provide a bed-plate of steel having upturned lateral ribs or webs, one of which—namely, that which in service lies on the outside of the track—is sufficiently high to prevent outward spread of the rail. The bed-plate may be formed by passing a blank of metal between suitable forming-rolls, so as to produce the upturned webs, and then sawing into suitable lengths to bridge two cross-ties of a railway-track.

Between the webs of the bed-plate I mount a shim of insulating material, one end of which is provided with a plurality of steel blocks secured in holes in the shim, so as to form a part of the same. The shim is laid so that the blocks will support the end of the forward rail at a joint, so as to give said rail a firm seat and prevent damage to the shim by the hammer-like blows on the end of the rail by passing trains. The shim and bed-plate are pierced with slots, through which bolts may pass to lock them in place relatively to one another and to coupling-blocks, of wood or other insulating material, pressing against the rail ends at the joint. The bolt-holes are symmetrically placed with relation to the ends of the shim and bed-plate, so that the former may be reversed in position with respect to the ends of the bed-plate, thereby permitting the same joint appliances to serve for each direction of traffic along a railway.

The several features of novelty of the invention will be more particularly hereinafter described, and will be specifically indicated in the claims appended to this specification.

In the accompanying drawings, which illustrate the invention, Figure 1 is a perspective view of a joint embodying my improvements,

the front plane being a section on the plane indicated by the line X Y of Fig. 2. Fig. 2 is a perspective view of the bed-plate and shim. Fig. 3 is an end view of a joint embodying my improvements, the rail being shown in cross-section.

1 represents a bed-plate rolled, preferably, from steel and provided with two side ribs or webs 1^a 1^b , rising vertically from the floor, and with projecting edges 3 4, provided with notches at the sides, as indicated, to accommodate the spikes by which the bed-plate is secured to the cross-ties. The rib 1^b is lower than the rib 1^a , the latter thus serving to prevent lateral spread of the rail ends when they are coupled together by blocks 5 6, as shown in Fig. 1. Between the ribs 1^a and 1^b is a shim 7, made of indurated fiber or other tough insulating material and of a sufficient thickness to raise the floor to the level of the top of the low rib 1^b . In one end of the shim are mounted blocks of steel or other suitable metal 8, which may be of any desired number or configuration and are preferably wedged fast in holes formed in the shim, so that the latter may be moved without dislodging them. Slots 9 10, symmetrically placed with relation to the ends of the shim and bed-plate, are provided, through which bolts, as 11, may be passed to lock all parts of the joint firmly together.

In establishing a joint the bed-plate is laid with the high rib 1^a on the outside of the rail and the shim is placed so that the metal blocks will lie in front of the joint with reference to the direction or movement of traffic, so that the rail end which receives the impact or blow of a passing train may be given a firm seat and a minimum amount of damage to the road-bed and parts of the joint may result. Thus the arrangement shown in Fig. 2 would be suitable for the right-hand rail of a track over which traffic was proceeding toward the left of the drawings. In order to accommodate the joint to traffic in the opposite direction, it would only be necessary to reverse the shim 7 end for end, so that the metal blocks 8 would lie on the right-hand side of the bed-plate. The coupling-block 6 is arranged to rest on the short rib 1^b of the bed-plate, as indicated in Fig. 1, thus permitting its easy removal for repairs of the

joint when required. The coupling-block 5, however, bears against the high rib 1^a and effectually prevents outward spread of the rail ends. By this arrangement a joint of
 5 cheap construction is provided which has great strength and durability and by which few renewals of the shim are required. This follows from the construction shown, by which any splitting or spreading of the shim is
 10 avoided. The latter being of the same width as the floor of the bed-plate it is always kept in position and cannot flatten out in some places more than in others and break off or splinter in spots. Between the rail ends is
 15 provided the usual insulating-web 12 to prevent accidental contact by expansion of the rails.

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

1. A bed-plate for an insulated rail-joint having a plane floor, vertical longitudinal side ribs of different height integral therewith and projecting lateral flanges notched
 25 to receive spikes, an insulating-shim confined between the ribs, and a coupling-block bearing on the shim and overlapping the low rib.

2. A reversible insulating-shim for a rail-joint having secured in one end of the same
 30 one or more metal blocks to receive the impact of a train, whereby the shim and blocks may be handled as a single piece.

3. An insulating-shim for a rail-joint having mounted in or secured thereto one or
 35 more metal blocks, and provided with means for locking it to a bed-plate symmetrically placed with respect to its ends whereby it may be reversed end for end for the purpose described.

4. In an insulated railway-joint the combination of a bed-plate provided with ribs at
 40 its sides, bolt-holes symmetrically placed with respect to its ends, and a reversible shim having one or more metal blocks at one end and bolt-holes to register with those of the bed-
 45 plate.

5. An insulated railway-joint comprising a bed-plate with vertical ribs at its sides of unequal height, a reversible shim having one
 50 or more blocks in one end thereof, and coupling-blocks at the sides of the rail ends bolted together and to the bed-plate, one of said blocks resting on the lower rib and removable therefrom, the other block bearing against
 55 the high rib.

6. In an insulated rail-joint the combination of a bed-plate spanning adjacent cross-ties and provided with notched edges and vertical side ribs, a reversible shim held
 60 against lateral displacement by the side ribs, coupling-blocks at the sides of the rails, vertical bolts passing through one of the coupling-blocks, the shim and bed-plate, and horizontal bolts passing through the rail and
 65 coupling-blocks.

7. A railway-joint comprising a bed-plate and an insulating-shim of substantially the length of the floor of the bed-plate having
 70 metal blocks therein at a point between its ends.

In testimony whereof I have hereunto subscribed my name this 21st day of January, A. D. 1898.

JAMES WAYLAND.

Witnesses:

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ALICK G. MACANDREW.