

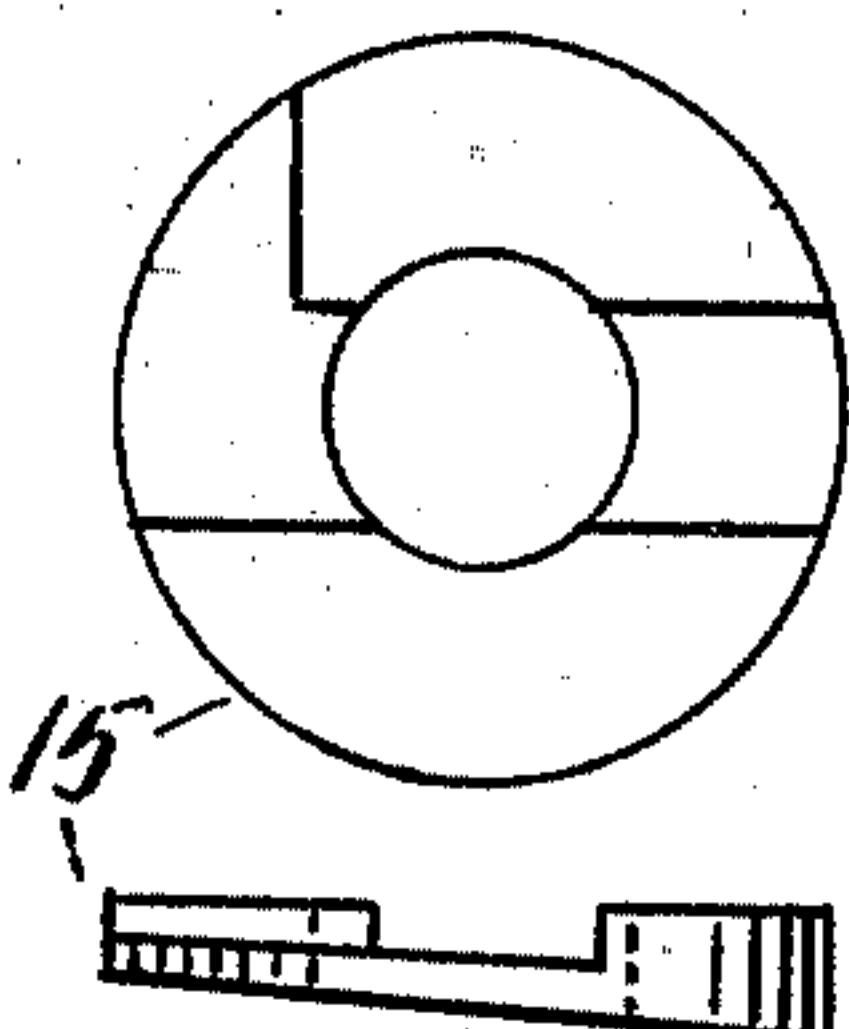
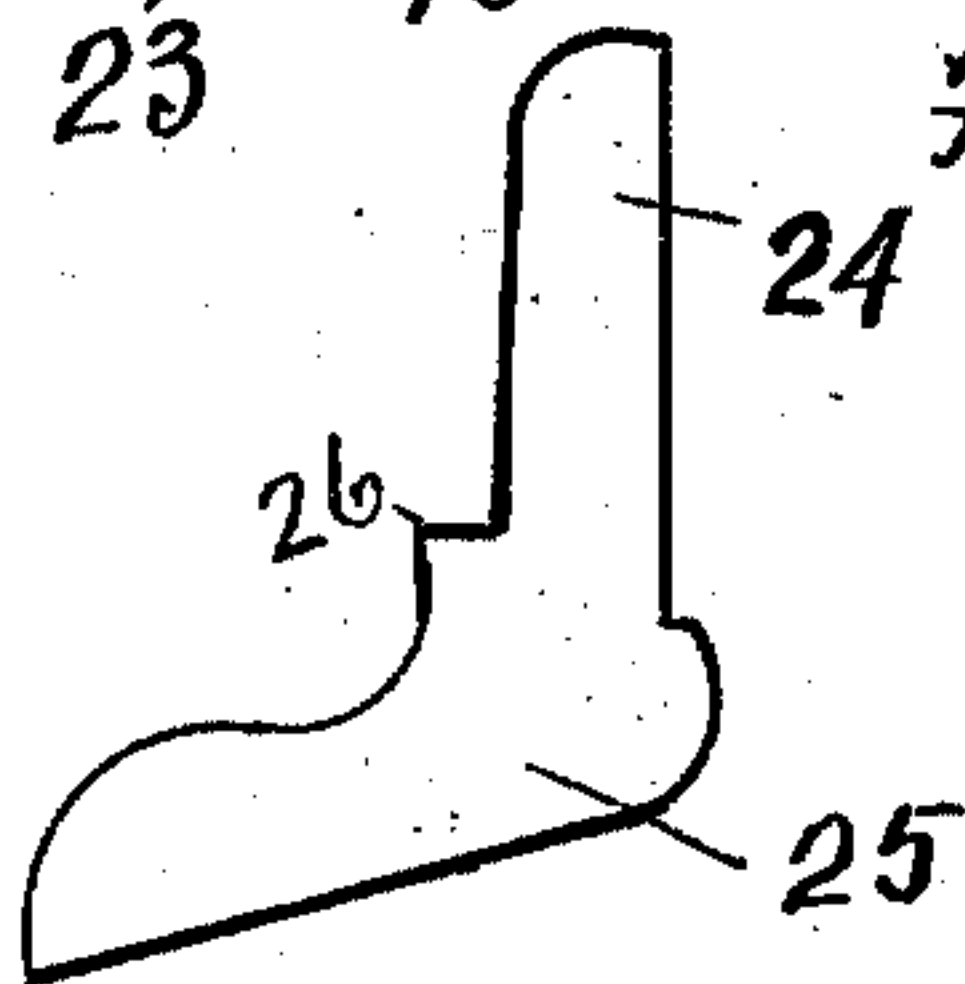
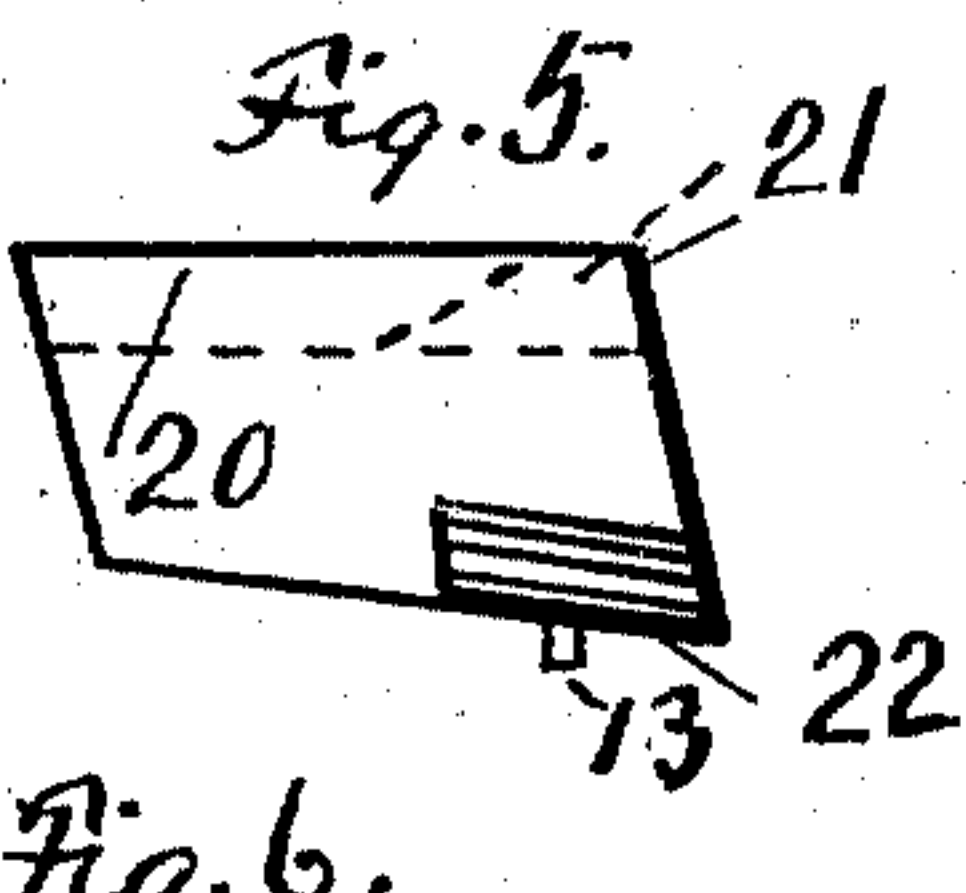
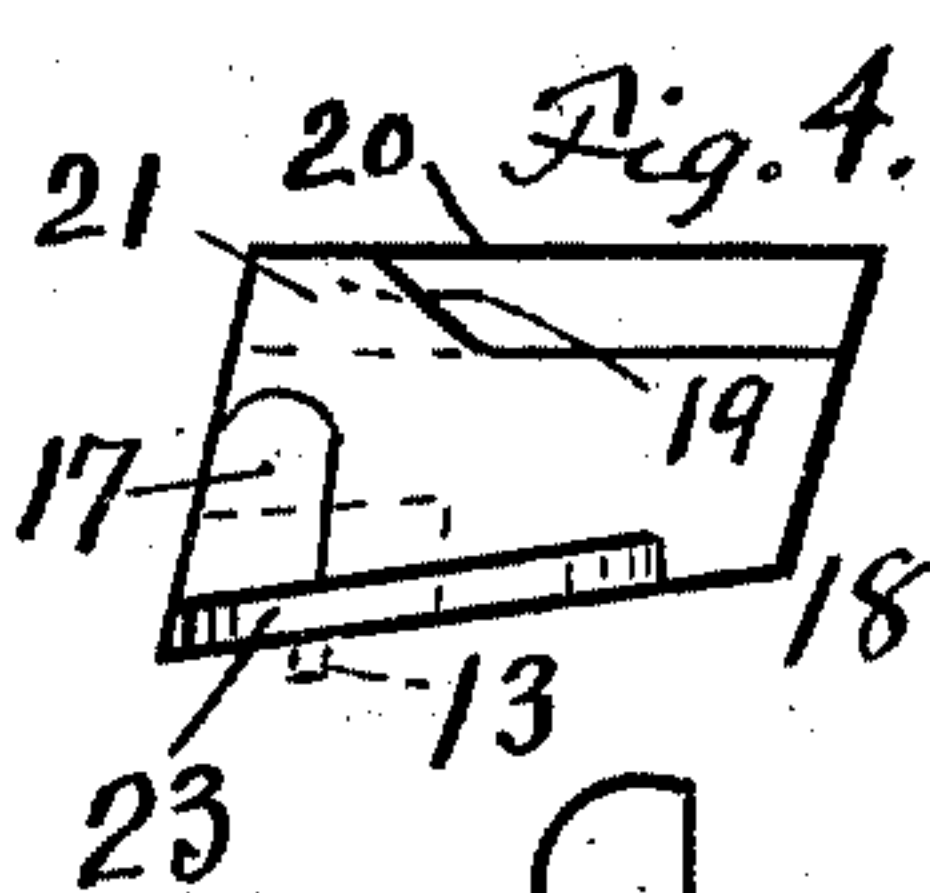
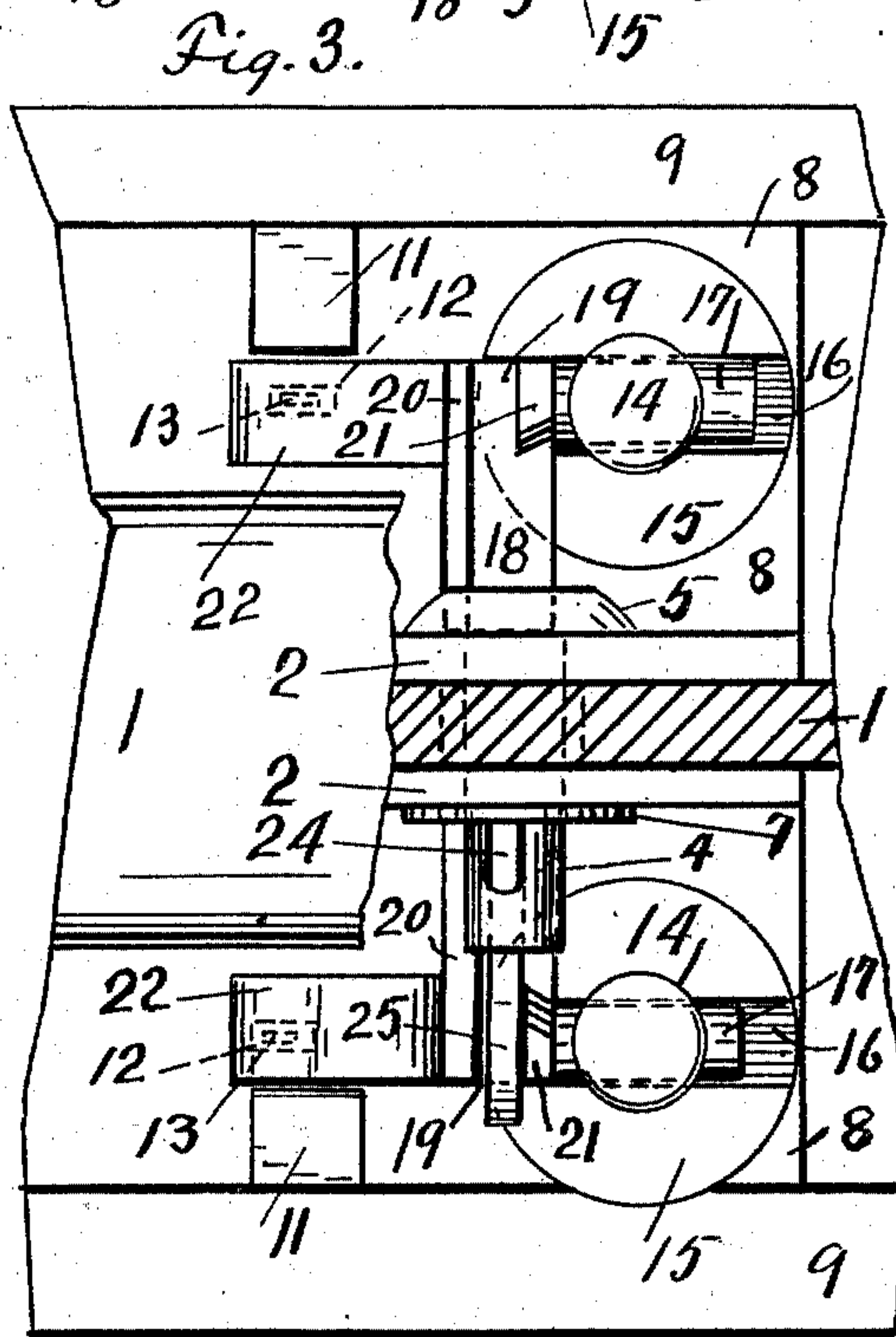
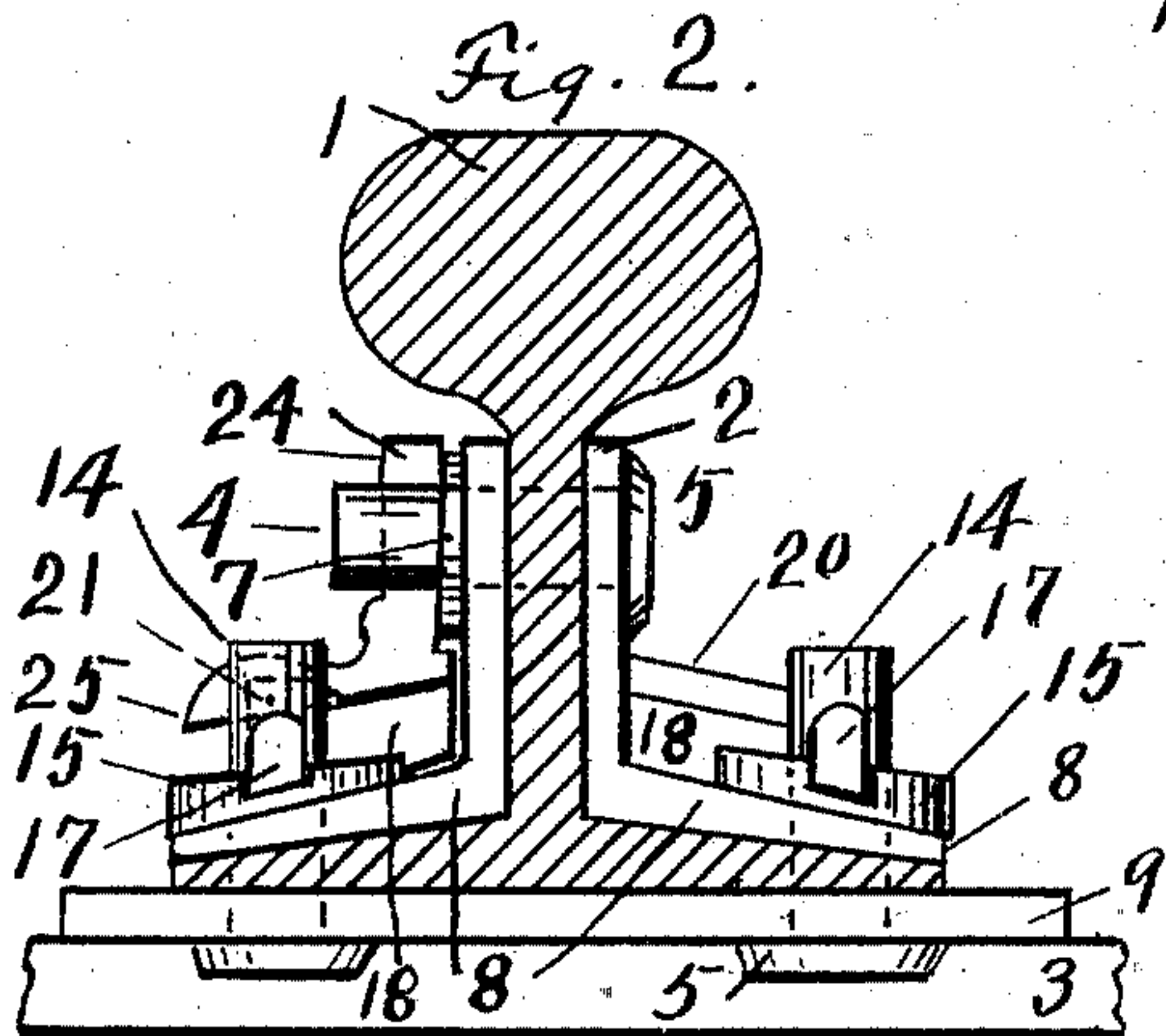
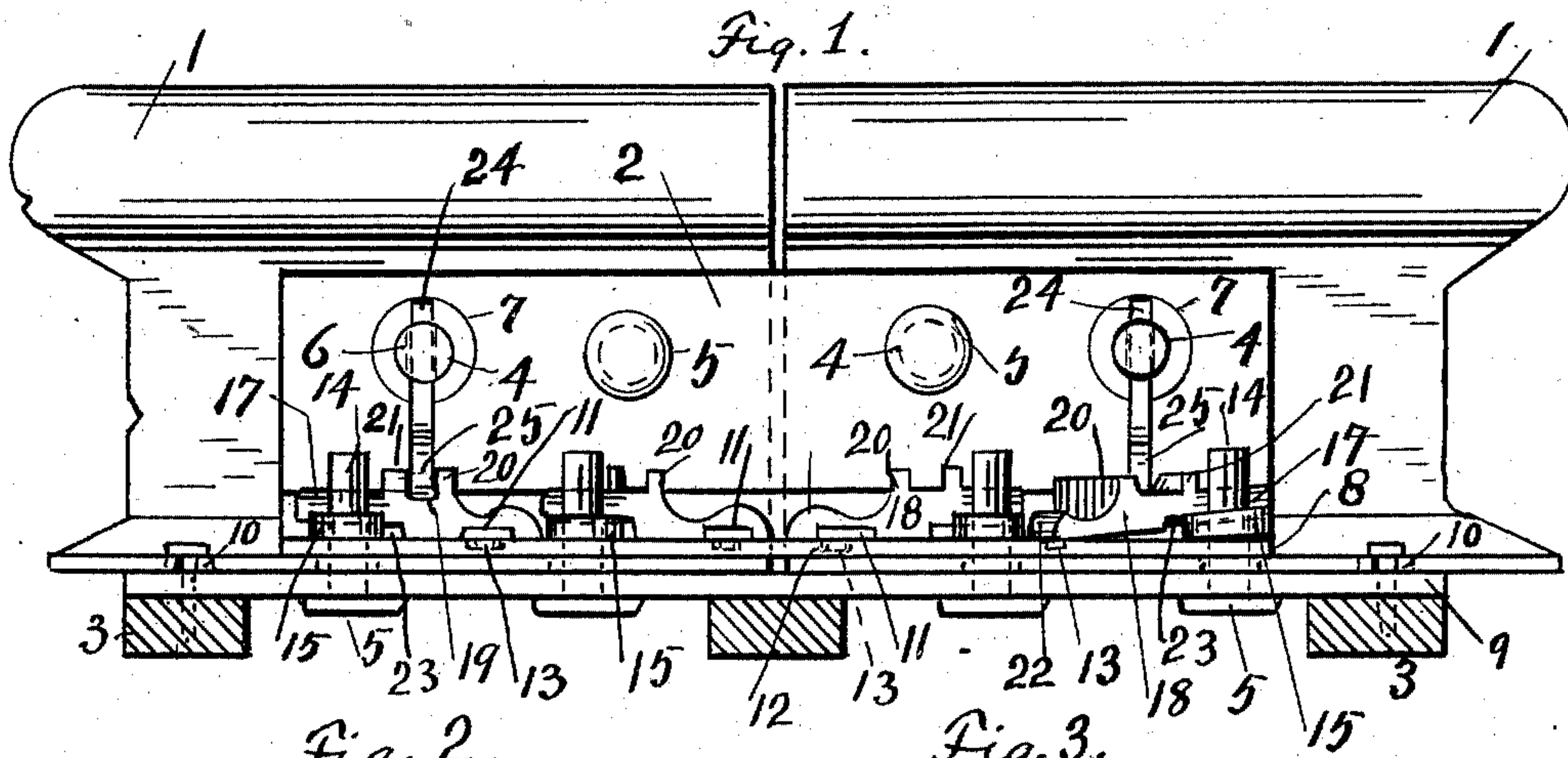
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RAIL JOINT.

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RAIL-JOINT.

967,655.

Specification of Letters Patent. Patented Aug. 16, 1910.

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To all whom it may concern:

Be it known that I, HENRY L. MOYER, a citizen of the United States, residing at Shickshinny, in the county of Luzerne, State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification.

This invention relates to rail joints, the object of the invention being to provide improved means for joining the meeting ends of railway rails and securing them easily but strongly in exact alinement by use of certain interlocking parts, and without the use of screw bolts and nuts.

The invention consists in the construction hereinafter described and particularly pointed out in the claims.

In the accompanying drawing which illustrates the invention and forms part of the specification,—Figure 1 is a side view, and Fig. 2 an end view, of the devices applied to rails; Fig. 3 is a partial plan of the same on a larger scale than Fig. 1, and the head of the rail being broken away; Fig. 4 is an end view of the lower key or interlocking member looking toward the end which extends through its pin; Fig. 5 is an opposite end view of the same; Fig. 6 is a side view of the upper key or interlocking member; Fig. 7 shows a plan of a special washer, and also a side view thereof looking from the left.

Rails are denoted by 1, angle fish-plates by 2 and ties by 3. Plates 2 may be of usual length, and have a suitable number of holes, as four, registering with a like number of slightly elongated holes in the abutting rails to receive plain metal pins 4, one end of each pin having a large head 5, and near the opposite end a transverse hole 6. Preferably half of the pins 4 are inserted from one side and half from the other side though this is not essential. On each pin is a metal washer 7. The lower flanges 8 of the fish-plates bear directly on the inclined foot or base flanges of the rails and are preferably thicker at the edges next the rails than at the outer edges, thereby increasing the inclination of their upper sides, and have holes registering with elongated holes in the rail base, and also with holes in plate 9 which underlies the rails and rests on at least three of the ties, being firmly connected thereto. Preferably the rails have elongated notches 10 in which spikes are located, passing through the safety-plate 9 into the ties. At intervals on the upper outer edge of each

flange 8 are formed or secured lugs 11 which form abutments for the lower interlocking keys or members 18. Inside of the lugs the flanges 8 have depressions 12 to receive lugs 13 which project from the bottom of the lower interlocking members for additional safety.

Headed and perforated pins 14 extend up through plate 9, the rails and the fish-plate flanges 8, and have on them beveled washers 15. Across the top of each washer is a groove 16 to receive the end 17 of member 18. Said end is beveled in the same direction as the foot of the rail. The upper side of washer 15 is recessed from the groove to the periphery as shown in Fig. 7. The recess is to accommodate the body 18.

Member 18, before referred to, comprises a slightly tapering body having on its upper face a groove 19 formed by a long flange 20 and a shorter flange 21. At one extremity said body terminates in the end 17, and at the other in a yielding spring-handle and lug-engaging end 22. The bottom of said body is recessed at 23 where it overlies the washer 15.

The upper interlocking keys or members 24, which extend through the horizontal pins 4, are approximately L-shape but have an obtuse instead of a right angle between the upright or stem part and the foot 25. Each key member 24 on the edge facing the washer 7, is recessed, the heel of the member extending below the washer to the fish-plate. On the opposite edge said member has a shoulder 26 to limit upward movement in the pin hole. The inclined foot of member 24 when interlocked occupies the groove 19.

The mode of applying the described parts, and the operation, are as follows: The rails and plates being in position, insert pin 4 and pin 14; push member 24 up through pin 4, and the end 17 through pin 14 above the washer 15, the pin and washer being turned so that the handle 22 will stand out from the rail at about 45 degrees, in which position the toe of member 24 will rest on the top of body 18 back of the short flange 21. Handle 22 is then swung toward the web of the rail, at the same time being sprung upward so as to pass over lug 11 and behind it, lug 13 also entering its socket, though the lug 13 and socket may be omitted if desired. The turning movement described crowds member 24 up by a wedge action to the extent of its travel, the foot 25 being pushed along into

groove 19 where it is held. Said turning movement also by carrying around washer 15 wedges and clamps the parts tightly in place so that they cannot accidentally become loose, or rattle. But by a suitable tool and force the parts can be disengaged if required. The angle fish-plates and plates 9 arranged and held as described stiffen and strengthen the joint, giving increased safety without interfering with rail expansion and contraction.

It will be seen that opposite each interlocking member 18 engaging an upper member 24, is a lower member 18, but no upper cooperating member 24, the lower member in this case simply serving to secure pin 14.

Having thus described the invention what I claim and desire to secure by Letters Patent is:—

1. The combination with abutting rails, of angle fish-plates, perforated headed pins extending through the rail-web and the fish-plates, an interlocking member entered in the hole of each of said pins, a like number of perforated headed pins extending up through the rail base and said fish-plates, lower interlocking members, one entered in the hole of each of the last named pins, and means holding the said lower members interlocked with the upper members.

2. The combination with abutting rails, of angle fish-plates, perforated headed pins extending through the rail-web and the fish-plates, an interlocking member entered in the hole of each of said pins, a like number of perforated headed pins extending up through the rail-base and said fish-plates, lower interlocking members, one entered in a hole of each of the last named pins, wedge washers on the last named pins, and means holding the lower member in interlocking position.

3. The combination with abutting rails, of angle fish-plates, pins extending through the rail web and fish-plates, interlocking members in the pins, pins extending up through the rail-base and the fish-plates, washers on the latter pins, and interlocking members entered in said latter pins.

4. The combination with abutting rails, of angle fish-plates, pins therethrough, a

safety plate on which the ends of the rails rest, pins extending through said plate, rails and fish-plates, wedging washers on the latter pins, and cooperating interlocking members entered in the first pins and in the latter pins respectively.

5. A rail joint comprising fish-plates, horizontal pins therethrough, approximately L-shaped keys for said pins, vertical pins in the base flanges of the rails, keys for the latter pins having engaging means for the L-shaped keys, and means for holding the keys in engaging position.

6. A rail joint comprising fish plates, vertical and horizontal pins passing through the rails and fish plates, vertical and horizontal interlocking keys engaged with the horizontal and the vertical pins respectively, the horizontal keys being movable under the vertical keys to wedge them up and to hold them, as set forth.

7. A rail joint comprising angle fish-plates, horizontal pins therethrough, approximately L-shaped keys therefor, flanges of said fish-plates resting on the rail-flanges, vertical pins through the plates and flanges, cooperating keys for the vertical pins, and wedge washers on the vertical pins and having parts engaged by the latter keys so as to turn therewith.

8. In a rail joint, the combination of angle fish-plates, pins through the rail-web and the fish-plates, keys for said pins, pins in the rail-base and said fish-plates, keys engaging the latter pins and each having a wedge-body adapted to be pushed under the first mentioned keys to raise them and to abut against the fish-plate, and having an handle-end, and lugs forming abutments for said ends.

9. In a joint of the character described, the combination with rails and fish plates, of the upper and lower pins passing through the rails and fish plates, interlocking keys engaging said pins, and bevel-washers, one for each lower pin, below and engaged by the lower keys, as set forth.

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