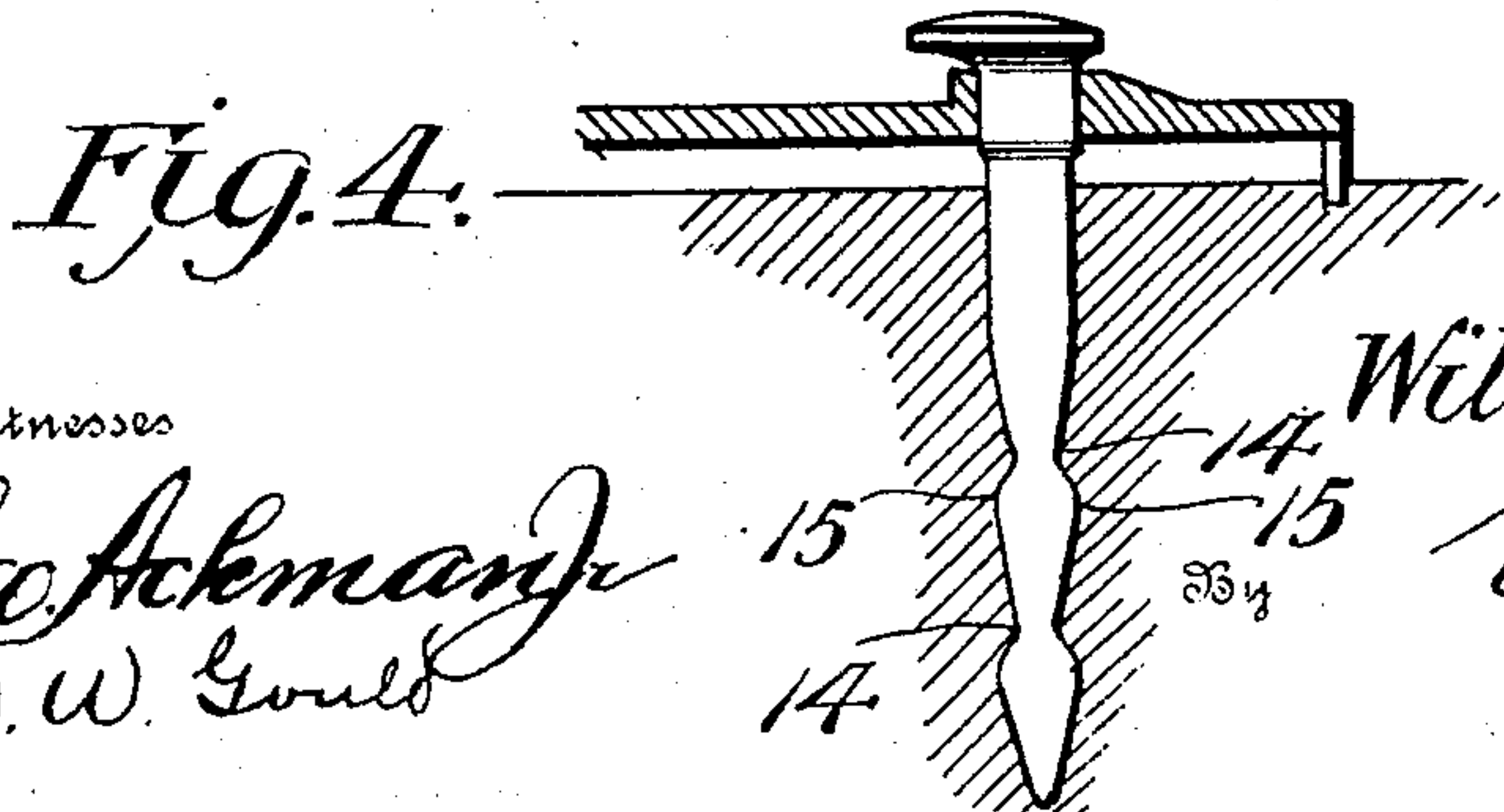
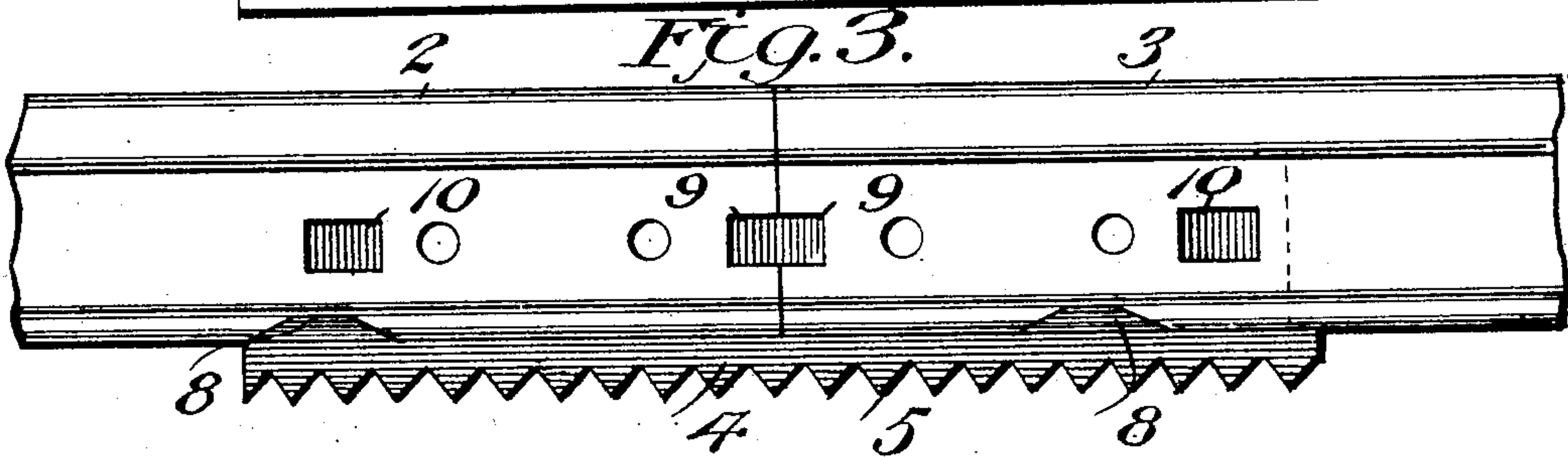
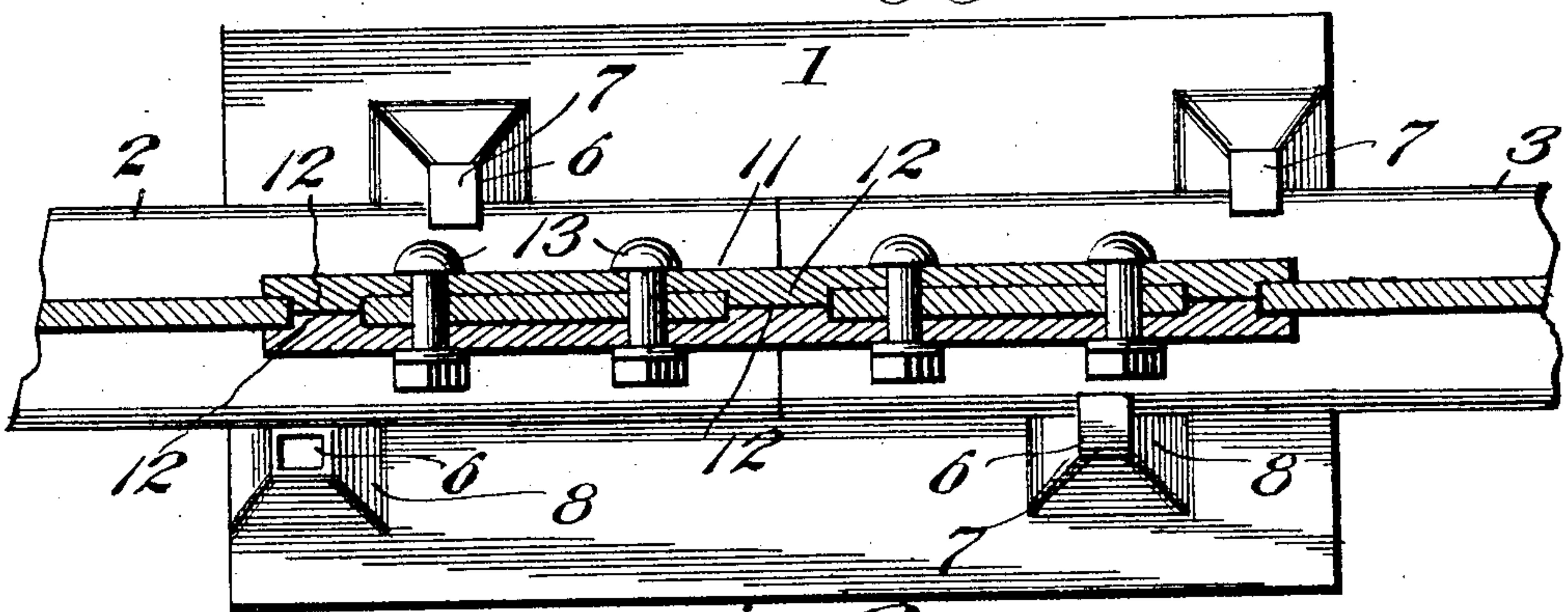
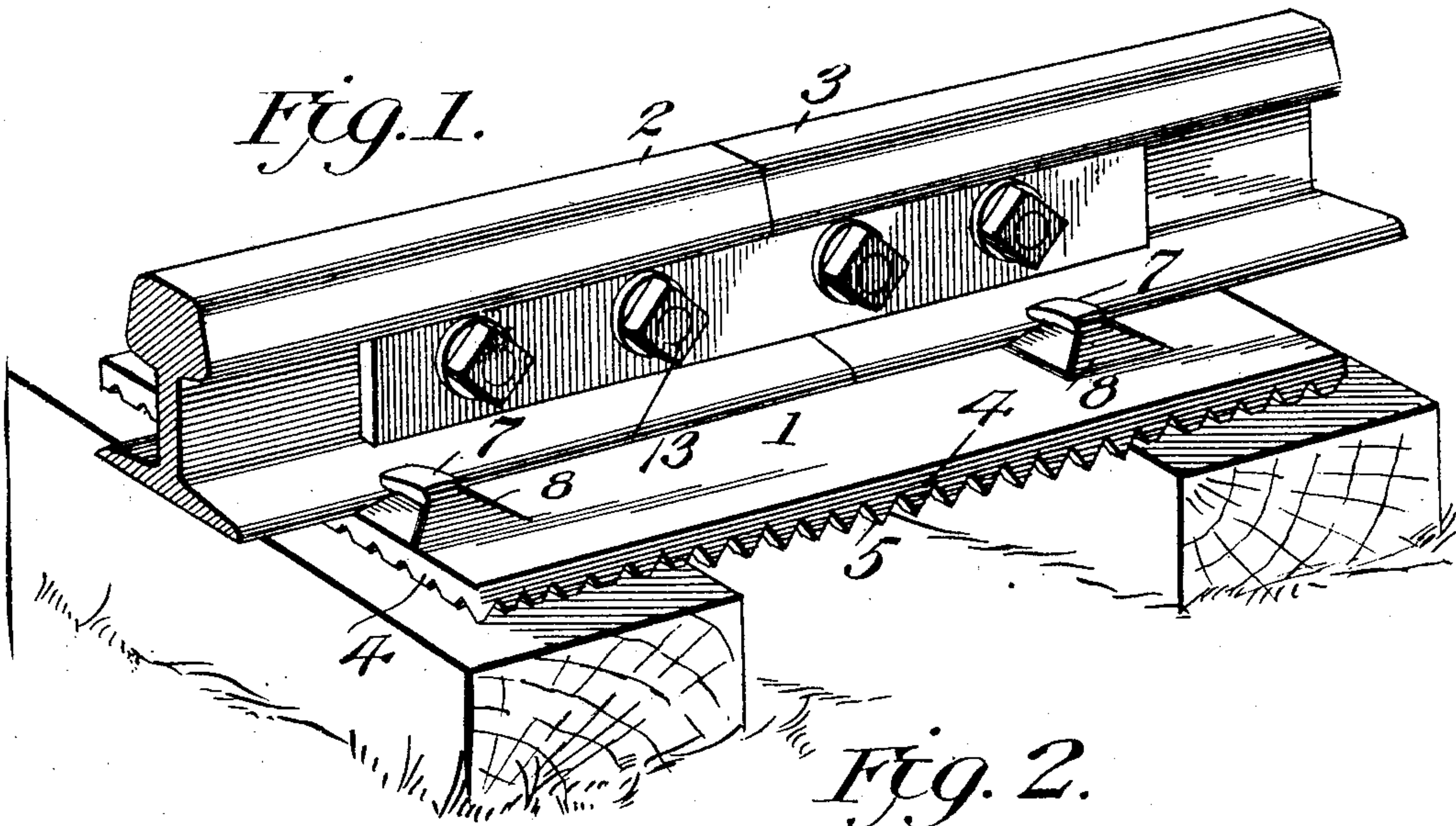


No. 803,429.

PATENTED OCT. 31, 1905.

W. W. POST.  
RAIL JOINT.

APPLICATION FILED APR. 15, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM W. POST, OF VALLEYVIEW, SOUTH DAKOTA, ASSIGNOR OF  
ONE-HALF TO WARREN HURST, OF MILLER, SOUTH DAKOTA.

## RAIL-JOINT.

No. 803,429.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed April 15, 1905. Serial No. 255,751.

*To all whom it may concern:*

Be it known that I, WILLIAM W. POST, a citizen of the United States, residing at Valleyview, in the county of Hand and State of South Dakota, have invented new and useful Improvements in Rail-Joints, of which the following is a specification.

The invention relates to improvements in rail-joints designed to support the meeting ends of rails in a manner to prevent sagging or spreading of the rails.

The main object of the invention is the provision of a rail-joint comprising a plate adapted to be secured to the ties and supporting the meeting ends of the rails.

The invention is clearly illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view illustrating the application of my improved rail-joint. Fig. 2 is a plan view of the same, the rails and fish-plates being shown in section. Fig. 3 is a side elevation of the rail-joint and connected rails, the fish-plate being removed. Fig. 4 is a sectional detail, partly in elevation, illustrating my preferred form of spike.

Referring to the drawings, wherein like reference-numerals indicate like parts throughout the several views, my improved rail-joint comprises a base-plate 1, designed to underlie and support the meeting ends of rails 2 and 3. The plate, preferably oblong in plan, is provided on each edge with a depending flange 4, the lower edges of which flanges are formed with a series of serrations or teeth 5, designed to bite into the tie and secure the plate against accidental movement. Spike-openings 6 are formed in longitudinal alignment contiguous the side edges of the rail-flange, which openings are designed to receive spikes 7, the projecting heads of which contact with the bases of the rails in the usual manner. Each opening 6 is surrounded by a projecting wall 8, which inclines from the surface of the plate 1 upward, terminating coincident with the edge of the opening 6. The wall described forms a water-shed about the opening 6 to deflect any water from said opening, and thereby prevent destruction of the tie about the spike.

The meeting ends of the rails 2 and 3 are

recessed longitudinally at 9 to provide when said rails are placed end to end a rectangular opening, as shown. Similar openings 10 are formed in each of the rails 2 and 3 a short distance from the recess 9, these openings descending transversely through the rails and being preferably rectangular in shape. Fish-plates 11, formed with laterally-projecting keys 12, are designed to be secured on each side the meeting ends of the rails by suitable bolts 13, the bolts passing through the rails and fish-plates. The keys 12 project from the fish-plates a distance equal to half the thickness of the web of the rail, so that when a fish-plate is in place on each side the keys 12 thereof will project half-way through the openings formed in the rails and abut against the corresponding key of the opposite fish-plate.

The weight of the rails and trains will force the teeth 5 of the plate 1 into the ties of the track, it being understood that said plate is of a length to include two ties or may be of such length as to engage only a single tie. The holding action of the teeth, together with the holding effect of the spikes 7, will prevent any longitudinal movement of the plate, and therefore the meeting ends of the rails are prevented against sagging, the weight on one rail end being communicated and shared by the adjoining rail end. The fish-plates prevent independent longitudinal movement of the rails when connected and arranged as described and, together with the base-plate, provide an effective rail-joint.

By preference the spike 7 is of particular form, being transversely recessed or grooved at 14, formed intermediate the length of the spike, and preferably two in number. The grooves are formed on each side of the spike—that is, on opposite faces—thereby providing projecting edges or surfaces 15 immediately contiguous said grooves. In the use of this spike the grain of the tie is cut by the entrance of the spike, the wood being forced downward and outward to avoid the projections 15, the displaced portion springing back into the grooves 14, securely embedding the spike in the tie to prevent its accidental withdrawal.

While I prefer the use of the spike herein-

before described, it is understood that I contemplate the use of any other form of spike which may be found convenient or desirable.

Having thus described the invention, what  
5 is claimed as new is—

A rail-joint comprising a base-plate formed with a series of depending teeth to engage the railroad-tie, said plate being designed to support the meeting ends of rails and formed  
10 with spike-openings adjacent the bases of said

rails, inclined walls encircling said openings to provide water-sheds, and fish-plates to secure the meeting ends of the rails against longitudinal movement.

In testimony whereof I affix my signature in  
presence of two witnesses.

WILLIAM W. POST.

Witnesses:

F. E. CRABTREE,  
WARREN HURST.