

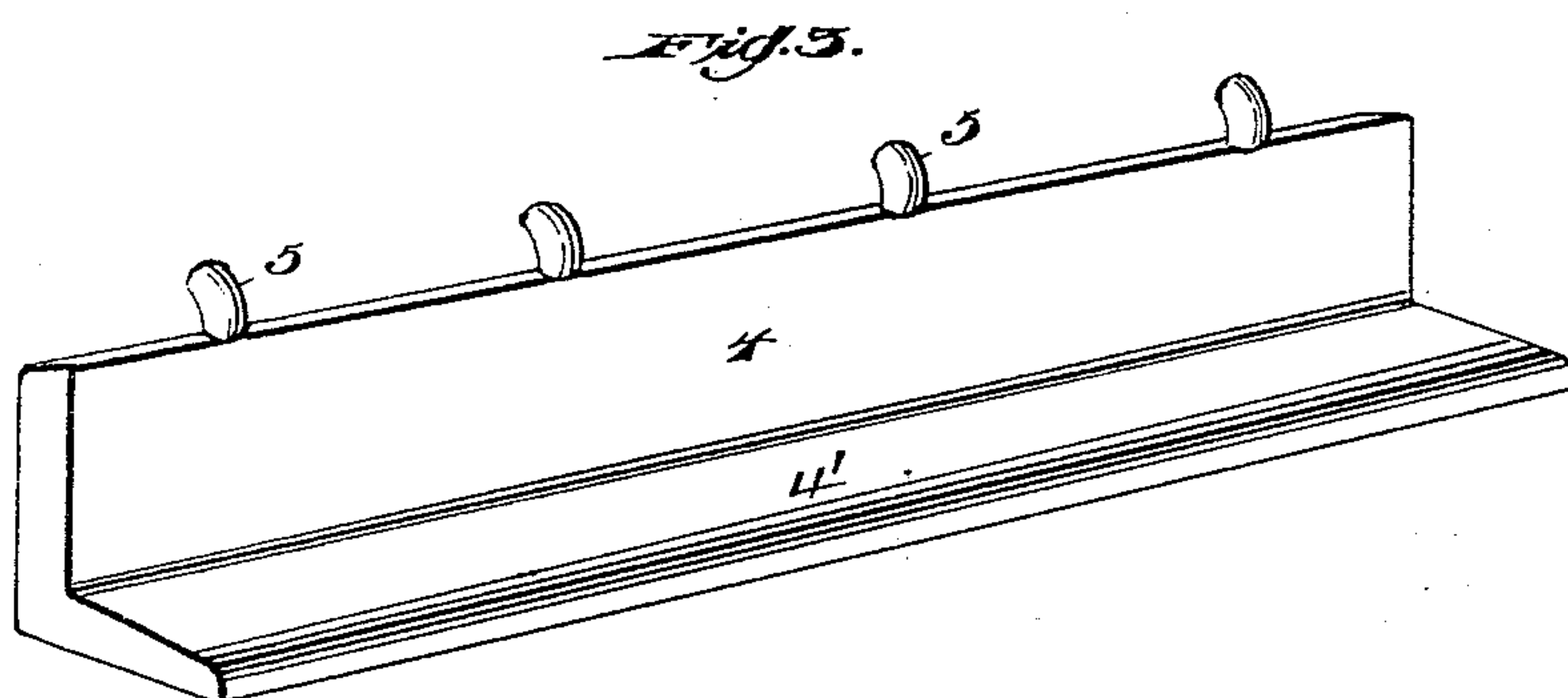
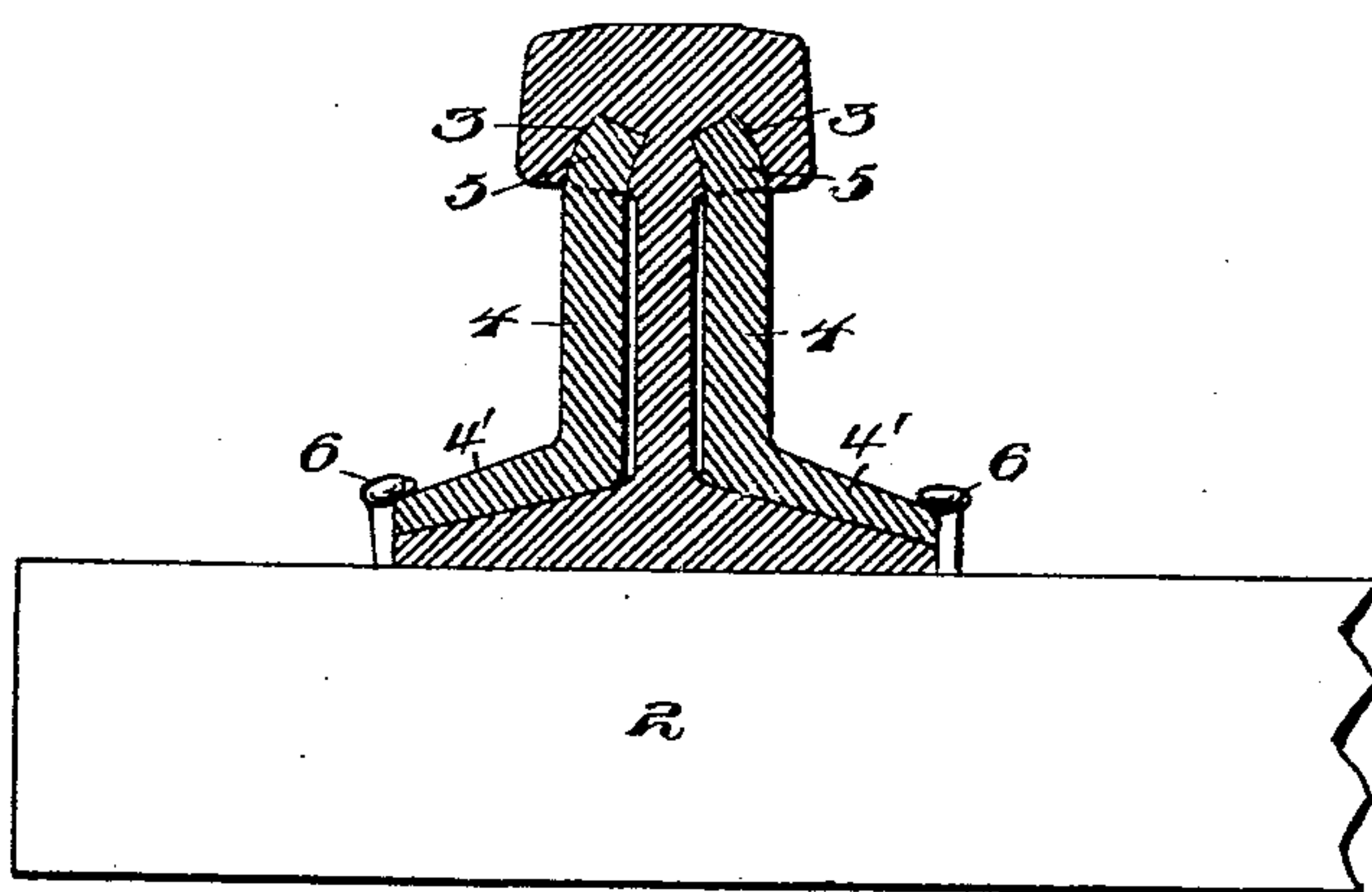
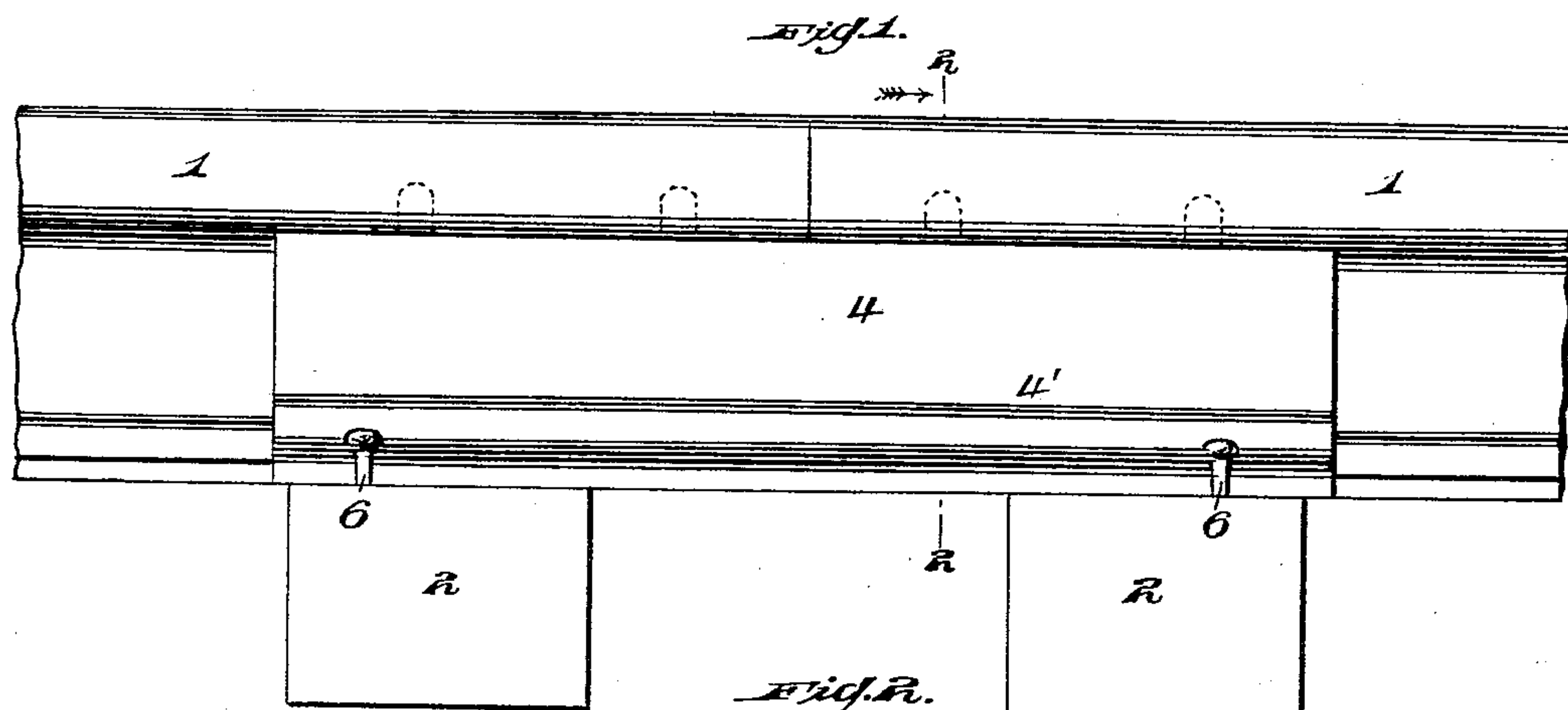
No. 684,193.

Patented Oct. 8, 1901.

E. B. COLYER.
RAIL JOINT.

(Application filed Aug. 3, 1901.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

ELIAS B. COLYER, OF PITTSBURG, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 684,193, dated October 8, 1901.

Application filed August 3, 1901. Serial No. 70,708. (No model.)

To all whom it may concern:

Be it known that I, ELIAS B. COLYER, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in rail-joints, and relates more particularly to that class wherein the use of nuts and bolts is entirely dispensed with.

15 The present invention consists of the novel form of fish-plates which carry a series of hooked members adapted to enter curved recesses formed in the under portion of the tread of the rail.

20 The invention further consists in the novel combination and arrangement of parts to be hereinafter more fully described, and specifically pointed out in the claim.

25 In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like numerals of reference indicate corresponding parts throughout the several views, and in which—

30 Figure 1 is a side elevation of two sections of rails secured together by my improved rail-joint. Fig. 2 is a vertical sectional view thereof, taken on the line 2 2 of Fig. 1 looking in the direction of the arrow. Fig. 3 is

35 a perspective view of one of the fish-plates. In the drawings the reference-numeral 1 indicates the rails, and 2 indicates the cross-ties.

40 The reference-numeral 3 represents curved recesses formed in the under face of the tread of the rail, which extend toward the central horizontal line of the rail-tread.

45 The reference-numeral 4 indicates fish-plates arranged on each side of the web of the rail and carry a series of hooked members or studs 5 at the upper edge of the fish-plates, these hooked members or studs 5 being adapted to fit in the curved recesses 3 of the rail.

The reference-numeral 6 represents spikes 50 which are driven into the cross-ties 2 and serve to retain the fish-plates in proper position upon the base of the rail and adjacent to the web of the same. The fish-plates 4 each have a base 4', which conforms to and 55 lies on the upper face of the rail-base, the edges of the base 4' being substantially flush with the edges of the rail-base, so that the spikes 6 when driven into the cross-ties 2 engage both the edges of the fish-plates and the 60 edges of the rail-base.

The many advantages obtained by my improved rail-joint will be readily apparent from the foregoing description, taken in connection with the accompanying drawings, 65 and it is not deemed necessary to give a detail description as to the operation of my invention.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my 70 invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 75

In a rail-joint, the combination with the rails having recesses in the under face of the tread at each side of the rail-web, said recesses being curved inwardly toward the central horizontal line of the rail-tread, of fish- 80 plates having web and base portions, the web portions carrying a series of curved studs to engage in the curved recesses in the rail-tread, and the edges of the base portions of said fish-plates being flush with the edges 85 of the rail-base, with spikes for securing the fish-plates in position, said spikes engaging the edges of the fish-plates and rail-base and the heads thereof impinging on the upper faces of the base portion of the fish-plates, 90 substantially as described.

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

ELIAS B. COLYER.

Witnesses:

JOHN NOLAND,
E. E. POTTER.