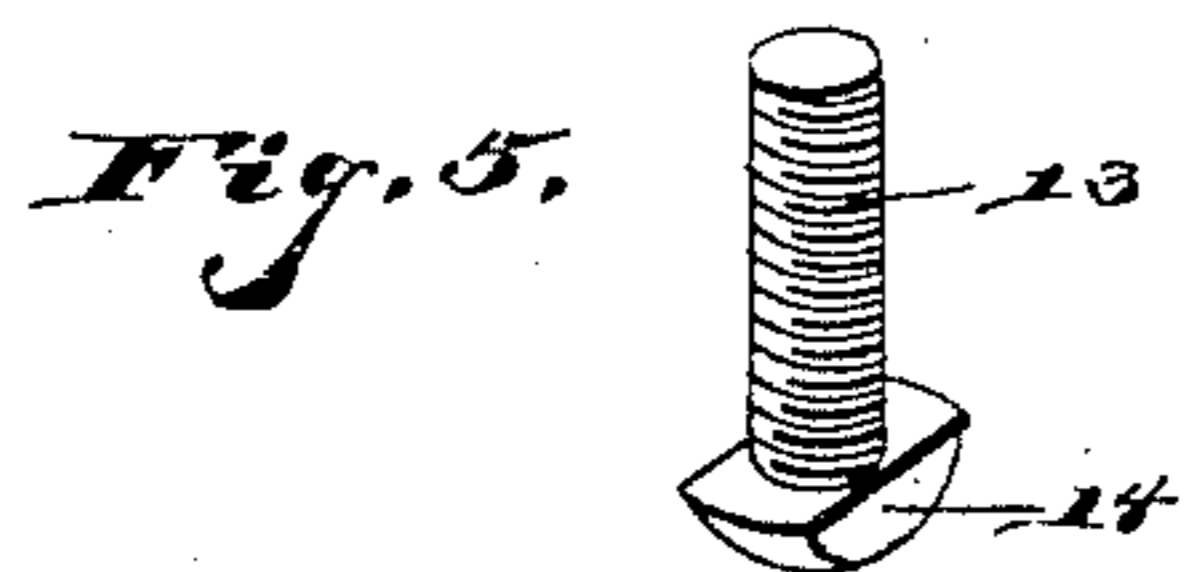
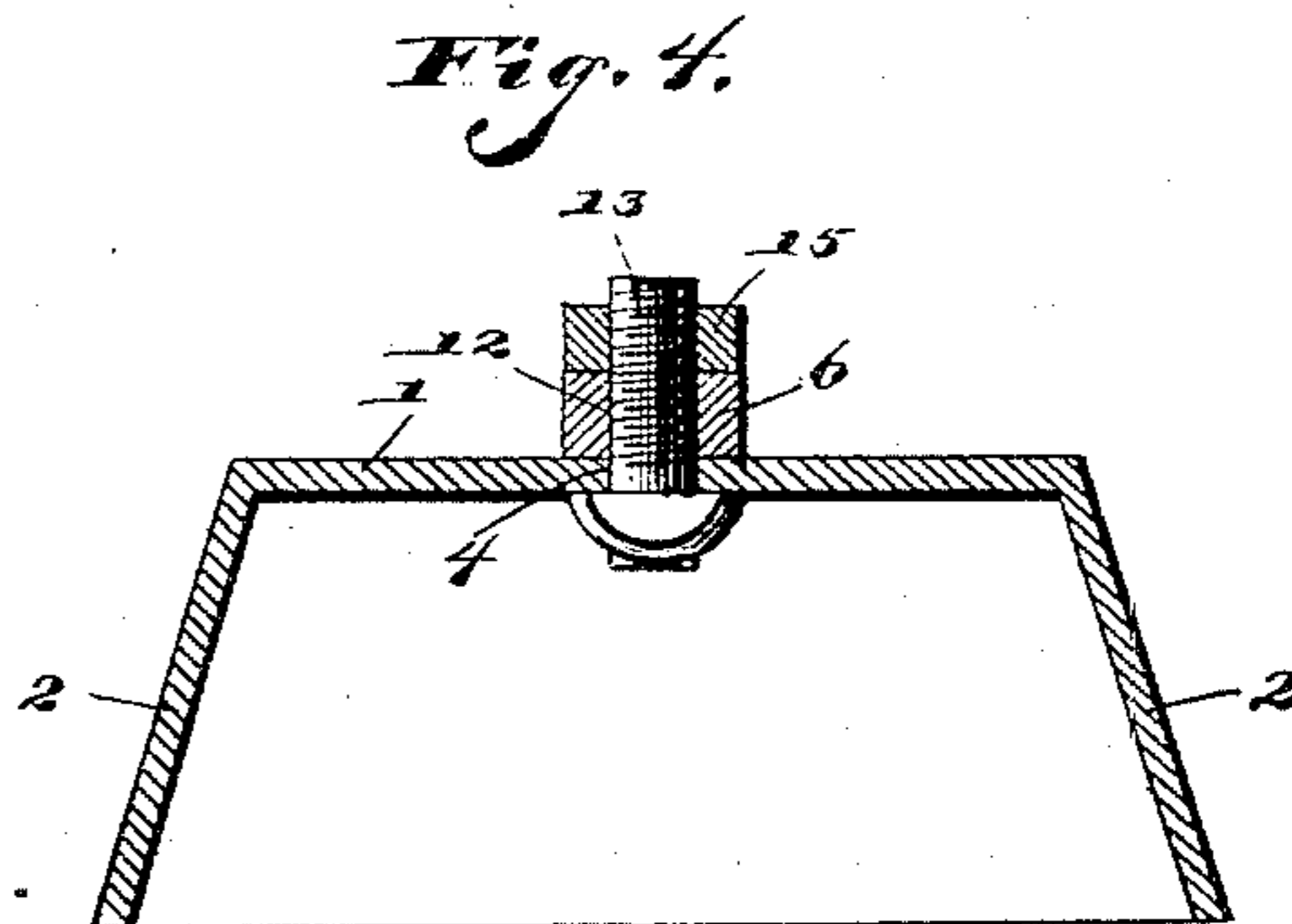
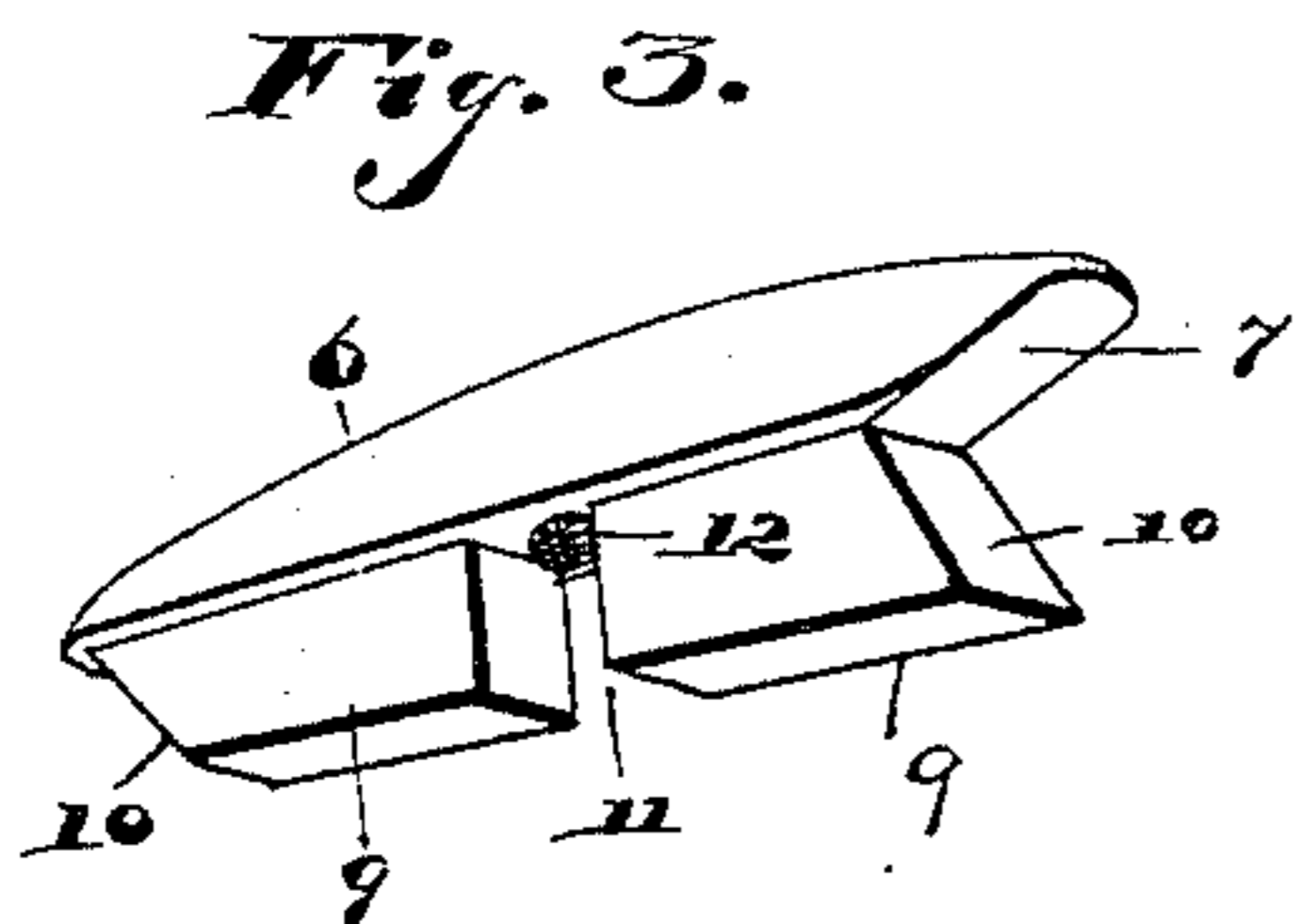
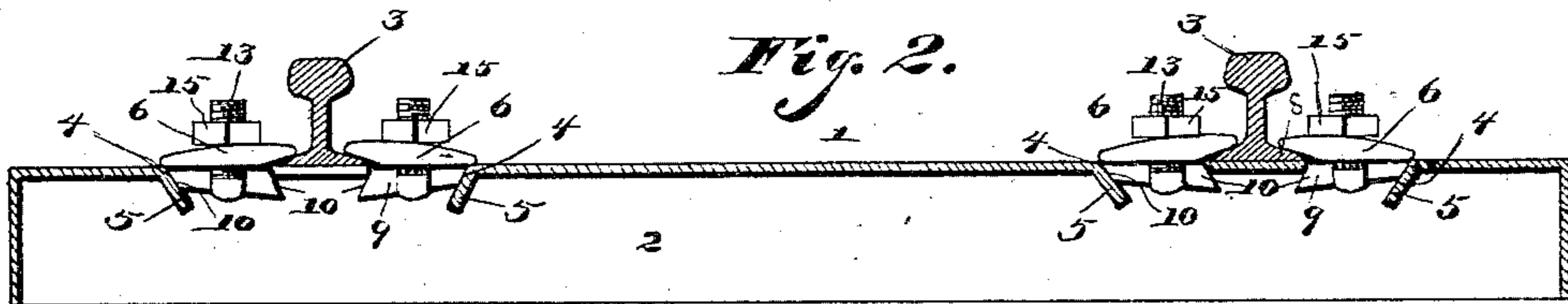
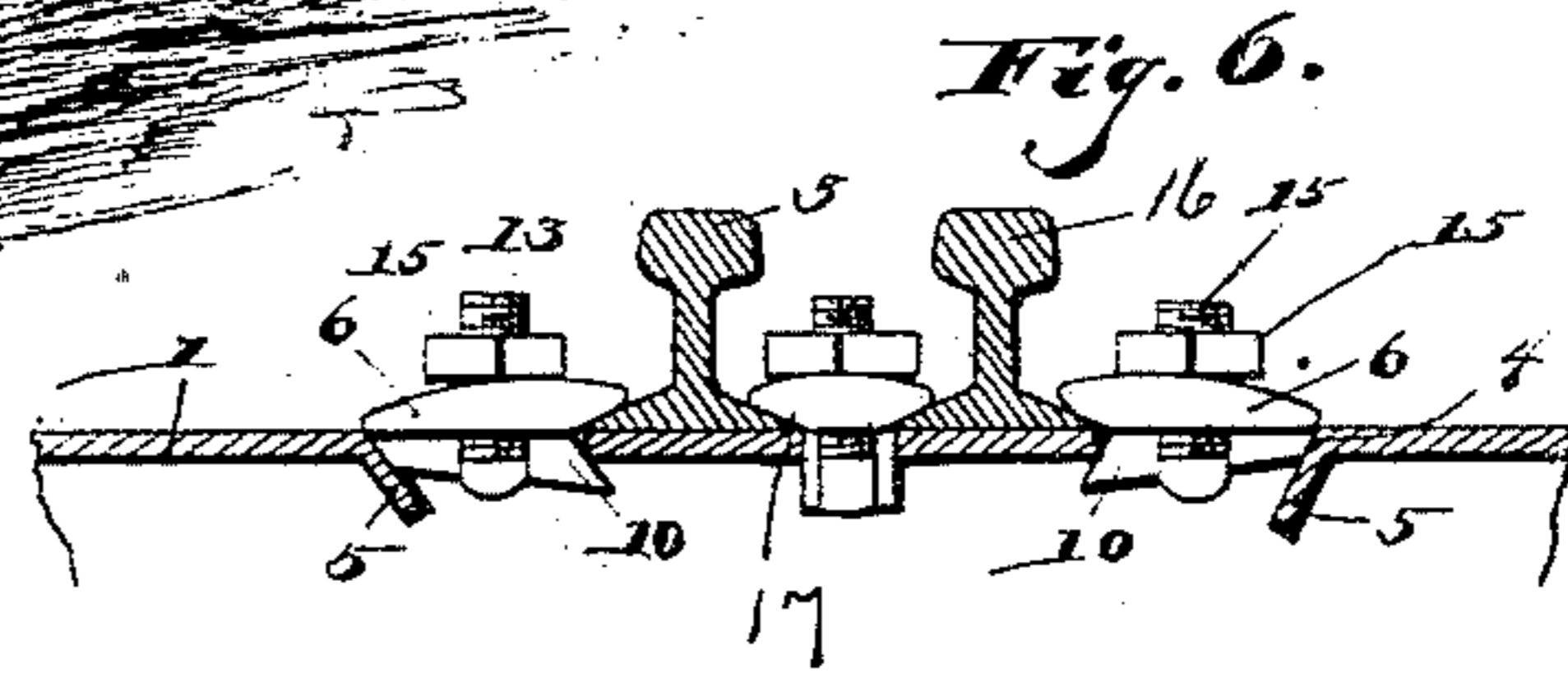
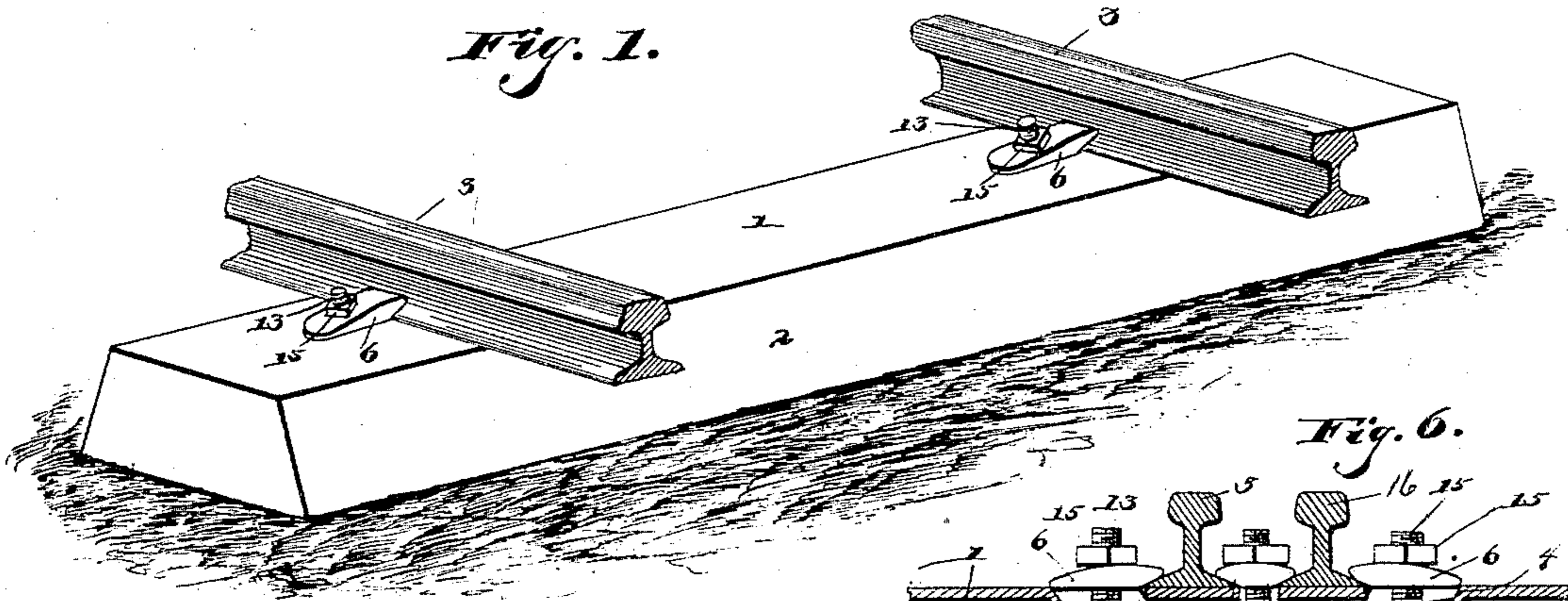


(No Model.)

T. W. GILMER.  
RAILROAD TIE.

No. 433,524.

Patented Aug. 5, 1890.



Witnesses:

Samuel Ker.

W. F. Duwall.

Inventor

Thomas W. Gilmer.

By his Attorneys

C. A. Snow & Co.

# UNITED STATES PATENT OFFICE.

THOMAS W. GILMER, OF BIG STONE GAP, VIRGINIA, ASSIGNOR OF TWO-THIRDS TO THOMAS H. WALKER AND HENRY WEBB, OF SAME PLACE.

## RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 433,524, dated August 5, 1890.

Application filed April 18, 1890. Serial No. 348,439. (No model.)

### *To all whom it may concern:*

Be it known that I, THOMAS W. GILMER, a citizen of the United States, residing at Big Stone Gap, in the county of Wise and State of Virginia, have invented a new and useful Railroad-Tie, of which the following is a specification.

This invention has relation to fastenings for railroad-rails, and is especially designed for use upon metal ties.

The objects of the invention are to provide an exceedingly-cheap and preferably cast-metal fastening adapted to be easily clamped upon the rails and the ties and to snugly bind the two together in such a manner as to avoid any accidental loosening of the rails.

With the above general objects in view the invention consists in certain features of construction, hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of the tie and opposite rails, the latter being secured upon the former by fastenings made in accordance with my invention. Fig. 2 is a transverse section through the rails and tie, the fastenings being viewed in side elevation. Fig. 3 is a detail in perspective of one of the fastenings or clamps. Fig. 4 is a transverse section through the tie and fastening or clamp. Fig. 5 is a detail of the binding-bolt. Fig. 6 is a transverse sectional view illustrating the manner of fastening switch and guard-rails at switches.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 represents a metal tie, which may be of any desired construction, but which in this instance is elevated above the ground by a surrounding depending flange 2.

3 represents the rails, which are mounted upon the tie, and the latter is provided at each side of each rail with a longitudinally-disposed slot 4. In forming the slot 4 the outer ends of each pair of slots are provided with depending or inclined seats or flanges 5, which flanges are formed by punching the metal removed to form the slots downwardly, as shown. The bases of the rails rest upon those portions of the ties occurring between the pairs of slots, and said bases are em-

braced at opposite points by clamping blocks or fastenings 6.

The clamping blocks or fastenings 6 are preferably formed of cast metal, but may be otherwise formed, if so desired, and they have their inner ends undercut, as at 7, so as to conform to the web 8 of the rail. The heads or upper portions of the block lie upon the upper faces of the ties, and upon the bottoms or under surfaces of said blocks or fastenings there are formed depending tenons 9, of a length agreeing with the slots 4, the opposite ends of the tenons being beveled, as at 10, so that by inserting the blocks in an inclined manner into the slots the rear inclined ends take against the inclined seats or flanges 5, located at the outer ends of the slots, and the farther the blocks are forced into the slots the more are their inner ends advanced toward each other by reason of the rear inclined or beveled ends of the blocks and the inclined seats. If desired, these flanges or seats may be omitted, and the rear beveled ends merely rest against or bind upon the ends of the slots. Such a construction might be used provided the metal of the ties were sufficiently thick and heavy as not to wear away or become "smashed." I prefer, however, to employ the inclined seats, especially so in view of the fact that it does not add to the cost of the tie and greatly aids in a retention of the securing device.

The tenons 9 are each provided with a transverse recess 11, extending upward to the head of the block or fastening, and said heads are provided with bolt-openings 12, registering with the recesses. Inserted from underneath and upwardly through the bolt-opening of each of the blocks is a bolt 13, the lower end of which is provided with a T-shaped head 14, adapted to fit the transverse recess 11 and of a width greater than the width of the tenon, so that the opposite ends of the head take under the opposite edges of the slots 4. The upper ends of the bolts are threaded and upon them mounted binding-nuts 15. The rails being in position and the blocks inserted within the slots, it is apparent that by rotating the binding-nuts upon their bolts the blocks will be the more snugly de-

pressed into the slots in that the opposite ends of the T-heads of the bolts take under the opposite edges of the slots. It is apparent that this further depression of the blocks or fastenings serves to feed the same inwardly toward each other and the rail, the rear beveled ends of the blocks riding down the inclined seat 5 of the ties. In this manner the rails are clamped at their bases at opposite points upon each tie, and an occasional tightening will serve to maintain the road in a perfect condition, so far as the fastening of the rails to the ties is concerned. The spreading of the rails is clearly obviated, and, withal, rails may be easily removed and new ones substituted, and this without disturbing any of the adjacent rail-sections. The binding-nuts 15 may be maintained in position upon the bolts by any ordinary nut-lock, if the same be desirable.

Referring more especially to Fig. 6, the track-rails 3 and guard-rails 16 are laid side by side in the usual manner. The outer edges of the bases of the two rails at each side of the track are embraced and bound upon by the clamping-blocks 6 of the construction previously described. The ties in this instance are provided near each end with three slots or openings 4, the four outer openings receiving the blocks 6 and the two central openings each receiving a block 17, having its opposite ends undercut or beveled, so as to overlap the adjacent edges of the bases of the track and guard-rails, as shown at 18. A bolt or headed rod 13, of the same construction as heretofore described, passes through the fastener and serves to bind the parts together. By tightening the bolt the block is drawn snugly into position between the rails, which are in a similar manner bound upon at the opposite sides of the rails.

Having thus described my invention, what I claim is—

1. The combination, with a metal tie, the rails, and slots formed in the tie at opposite sides of the rails, of opposite pairs of fastenings or blocks mounted over the slots and having their inner ends adapted to embrace the bases of the rails and provided with depending tenons fitting the slots and having opposite beveled ends and a transverse recess, and T-shaped bolts passed through the fastenings and having their heads resting in the recesses and extending at each side of the same and taking under the opposite edges of the slots and nuts mounted on the bolts and adapted to bind the fastenings in position, substantially as specified.

2. The combination, with a metallic tie and rails mounted thereon, said tie being provided at each side of each rail with a slot, the outer ends of which have depending integral and inclined seats, of fastenings mounted in each of the slots and having their inner ends conforming to and adapted to grasp the base of the rail and provided upon their undersides with depending tenons fitting the slots and having opposite beveled ends, the rear one of which is adapted to ride upon the inclined seat of the tie, and further provided with transverse recesses and bolt-openings communicating with the recesses and formed in the upper portions of the fastenings, and T-shaped bolts, the heads of which fit the recesses and take under the opposite edges of their respective slots, the shanks of the bolts passing upwardly through the bolt-openings, and binding-nuts mounted upon the upper ends of the bolts and adapted to bind the blocks or fastenings against the inclined seats and within the slots, substantially as specified.

3. The combination, with the metal tie provided near its ends with the three openings, of the opposite switch and guard rails, the four outer binding-blocks seated in the outer openings and having their inner ends embracing the outer edges of the bases of the track-rails and their outer ends beveled and resting upon inclined seats formed in the ends of the openings, a central binding-block located between each track and switch-rail and occupying the central openings, and binding-bolts passed through the blocks headed upon their lower ends and taking at each side of the openings in the tie, and binding-nuts mounted upon the bolts and adapted to bind upon the blocks, substantially as specified.

4. The fastenings or blocks having their inner ends adapted to embrace the bases of the rails and provided with depending tenons having opposite beveled ends and a transverse recess, and T-shaped bolts passed through the fastenings and having their heads resting in the recesses and extending at each side of the same, and nuts mounted on the bolts and adapted to bind the fastenings in position, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

THOMAS W. GILMER.

Witnesses:

WM. S. MATHEWS,  
W. H. PRYOR.