

No. 793,457.

PATENTED JUNE 27, 1905.

L. S. MELLINGER.  
TIE AND RAIL FASTENER.  
APPLICATION FILED FEB. 4, 1905.

Fig. 1.

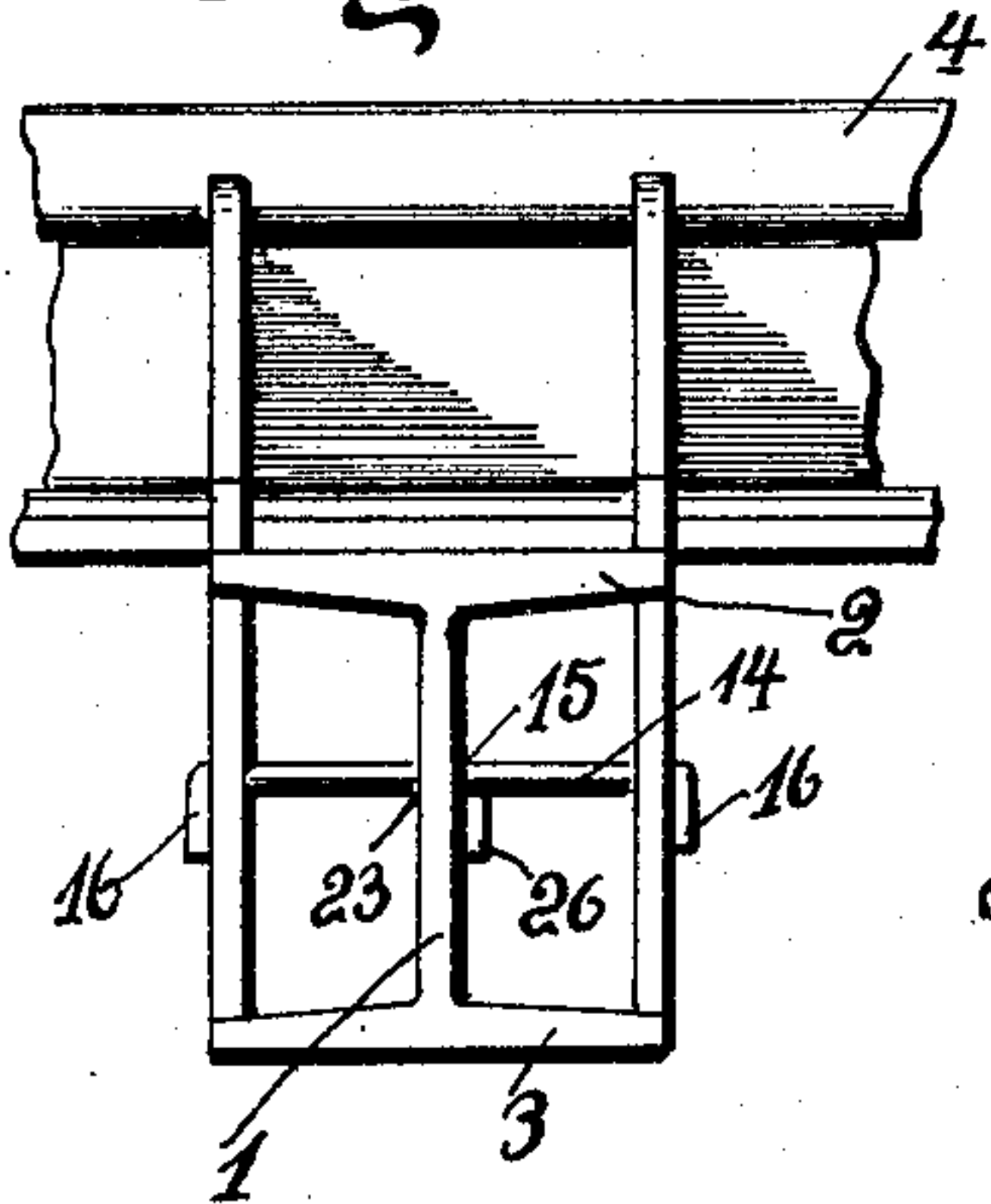


Fig. 2.

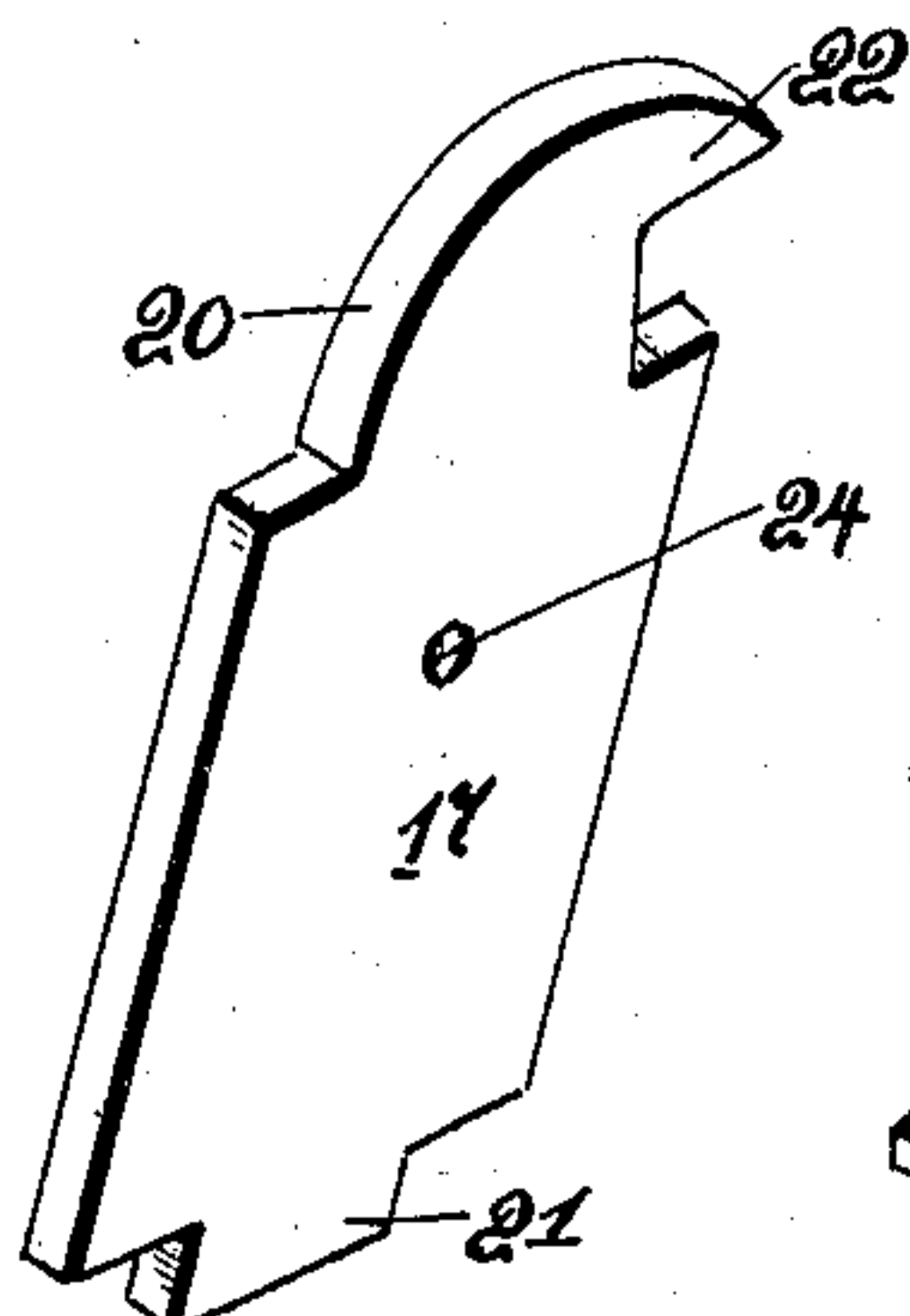
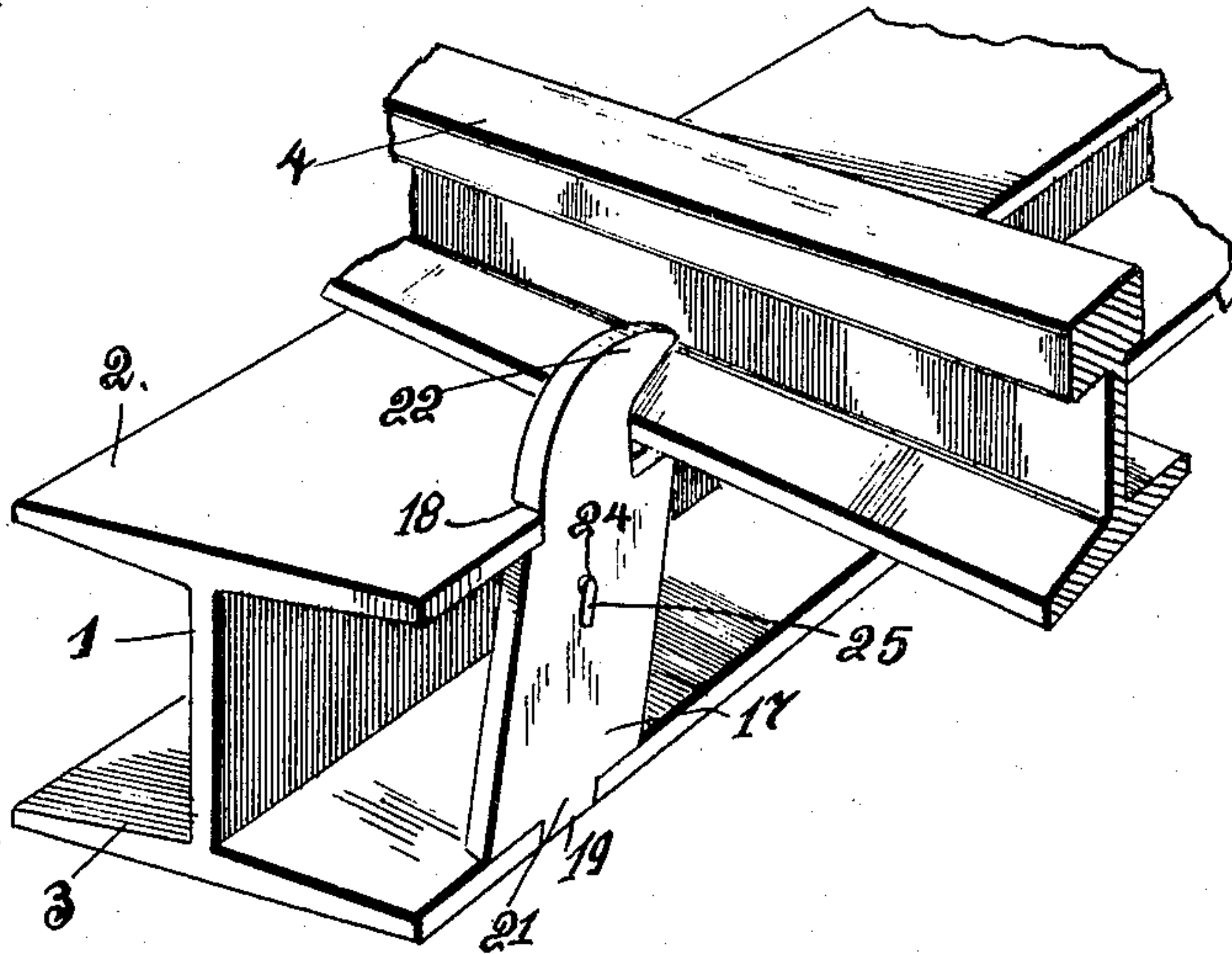


Fig. 3.

Fig. 4.

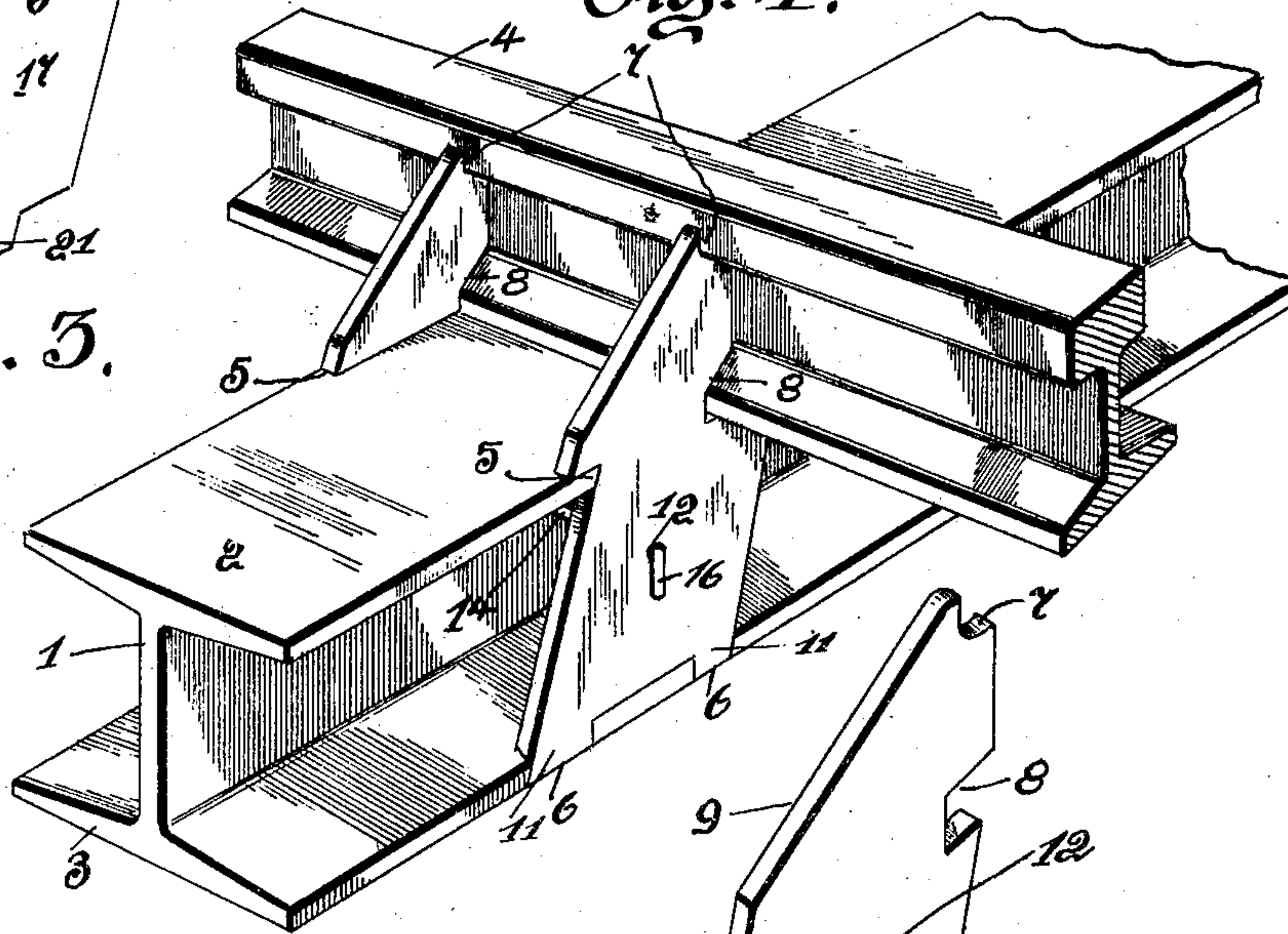
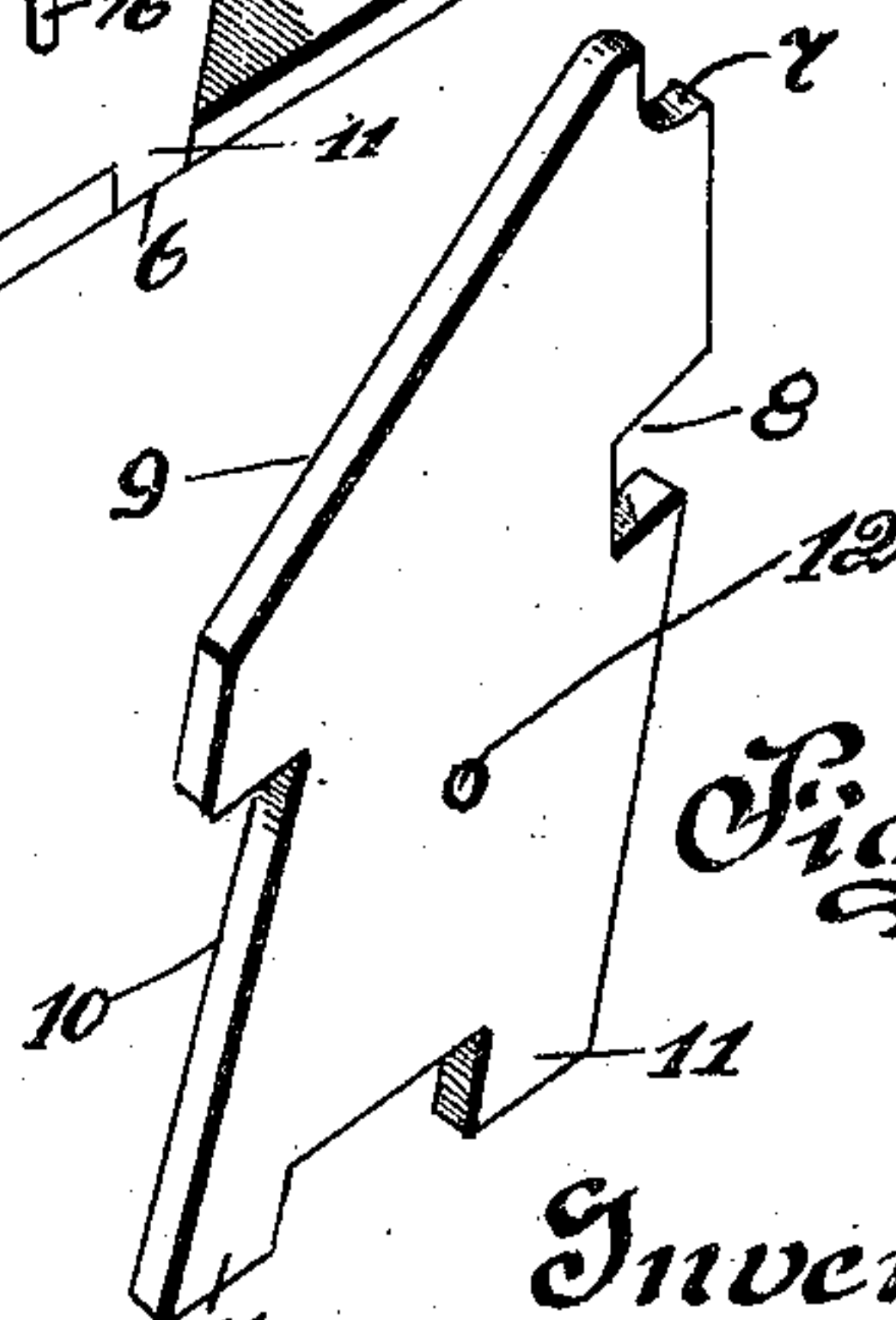


Fig. 5.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

LOUIS S. MELLINGER, OF McKEESPORT, PENNSYLVANIA.

## TIE AND RAIL-FASTENER.

SPECIFICATION forming part of Letters Patent No. 793,457, dated June 27, 1905.

Application filed February 4, 1905. Serial No. 244,193.

*To all whom it may concern:*

Be it known that I, LOUIS S. MELLINGER, a citizen of the United States of America, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ties and Rail-Fasteners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in ties and rail-fasteners; and the invention has for its object to provide a novel form of metallic tie, together with means for fastening rails thereon.

Another object of this invention is to provide a metallic tie which will be strong and durable, comparatively inexpensive to manufacture, and highly efficient when used in connection with railroads.

Briefly described, my improved tie is substantially I shape in cross-section, and the edges of the tie are cut away to receive fish-plates, which are adapted to engage rails resting upon the tie. The fish-plates are locked to the tie by a tie-rod.

The above construction will be hereinafter more fully described and then specifically pointed out in the claims, and, referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is an end view of my improved tie, illustrating a section of rail secured thereto. Fig. 2 is a perspective view of my improved tie, illustrating the inner rail-fastener. Fig. 3 is a detail perspective view of the inner rail-fastener. Fig. 4 is a perspective view of my improved tie, illustrating the outer rail-fastener and rail-brace. Fig. 5 is a detail perspective view of one of the outer rail-fasteners.

To put my invention into practice, I have constructed a tie which is substantially I-shaped in cross-section, and the tie comprises a web portion 1, carrying a head 2, and a base 3. In manufacturing the ties a plurality of ties can be rolled in one piece and then sheared

to the desired lengths. The head 2 of the tie is adapted to support the rail-sections, and in the accompanying drawings I have illustrated a rail 4 as being secured upon the head 2 of my improved tie.

To secure the rails upon the ties, I employ three fish-plates, two of said fish-plates constituting the outer fastening means, while the other of said fish-plates constitutes the inner fastening means. To accommodate the outer fish-plates, the head 2 of the tie is cut away, as indicated at 5 5, and the base 3 is cut away, as indicated at 6 6. One of the outer fish-plates is illustrated in Fig. 5 of the drawings, and it consists of a plate the one upper edge of which is cut away, as indicated at 7 and 8, to engage the head and base, respectively, of the rail-section, and the opposite upper edge is beveled, as indicated at 9. The outer edge of said plate is sheared, as indicated at 10, to engage the head 2 of the tie, and the bottom edge of the plate is sheared to form depending lugs 11 11, which are adapted to engage in the cut-away portions 6 6 of the tie-base. Approximately central of said fish-plate I form an aperture 12, and when said fish-plates are placed in their respective positions, as illustrated in Figs. 1 and 4 of the drawings, a rod 14 is employed for securing said fish-plates to the tie, the rod 14 being adapted to pass through an opening 15, formed in the web portion 1 of the tie. To secure the rod within the opening 15 and the apertures 12, the ends of said rod are bent downwardly, as indicated at 16 16.

The inner fastening means comprises a plate 17, and the one edge of the head 2 and the base 3 of the tie is cut away, as indicated at 18 and 19, to accommodate the neck portion 20 and the depending lug 21 of the plate 17. The neck portion 20 of the plate 17 is formed with an overhanging lip 22, which is adapted to engage the base of the rail 4 when said plate is mounted within the openings 18 and 19 of the tie. To secure the plate in position, I have provided the web portion 1 of the tie with an opening 23, and approximately central of said plate 17 I have provided an aper-



ture 24. A rod 25, similar to the rod 14 heretofore described, is employed for securing the plate 17 to the tie; and after the rod has been passed through the opening 23 and the aperture 24 the ends of the rod are bent down, as indicated at 25, similar to the ends of the rod 14.

By the particular shape of the fish-plates and the plate 17 when mounted in the tie it will be impossible for the same to become detached from the tie or from the rail-section with which they are engaged, and besides gripping and retaining the rail-section in position upon the tie the outer and inner fastening means serve to support and brace the head and base of the tie. It will be observed that I have employed double fastening means upon the outer sides of a rail-section, and it will be impossible for the rails of a track to spread and incur an accident.

While I have illustrated rods as being employed to hold the fastening means in engagement with the tie, it is obvious that bolts and nuts or suitable keys can be readily employed, and various other slight changes may be made in the details of construction without departing from the general spirit and scope of the invention.

What I claim, and desire to secure by Letters Patent, is—

1. A tie and rail-fastener, comprising an I-shaped beam adapted to support rail-sections, and having cut-away portions in both edges of the head and base at one side of the rail-sections, plates seated in said cut-away portions and engaging the rail-sections, a tie-rod passing through the web of the beam and connecting said plates, an inside plate seated in the edge of the head and base of the beam and engaging the rail, and a tie-rod connecting said plate to the web of the I-beam.

2. The combination with the rail-sections, of an I-shaped beam constituting a cross-tie adapted to support the rail-sections, fish-plates seated in the edges of the head and base of said beam at the outside of the rail-sections and tied to the web of said beam, a fish-plate seated in the edge of the beam at the inside of the rail-section, and means connecting said latter fish-plate to the web of the beam.

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

LOUIS S. MELLINGER.

Witnesses:

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E. E. POTTER.