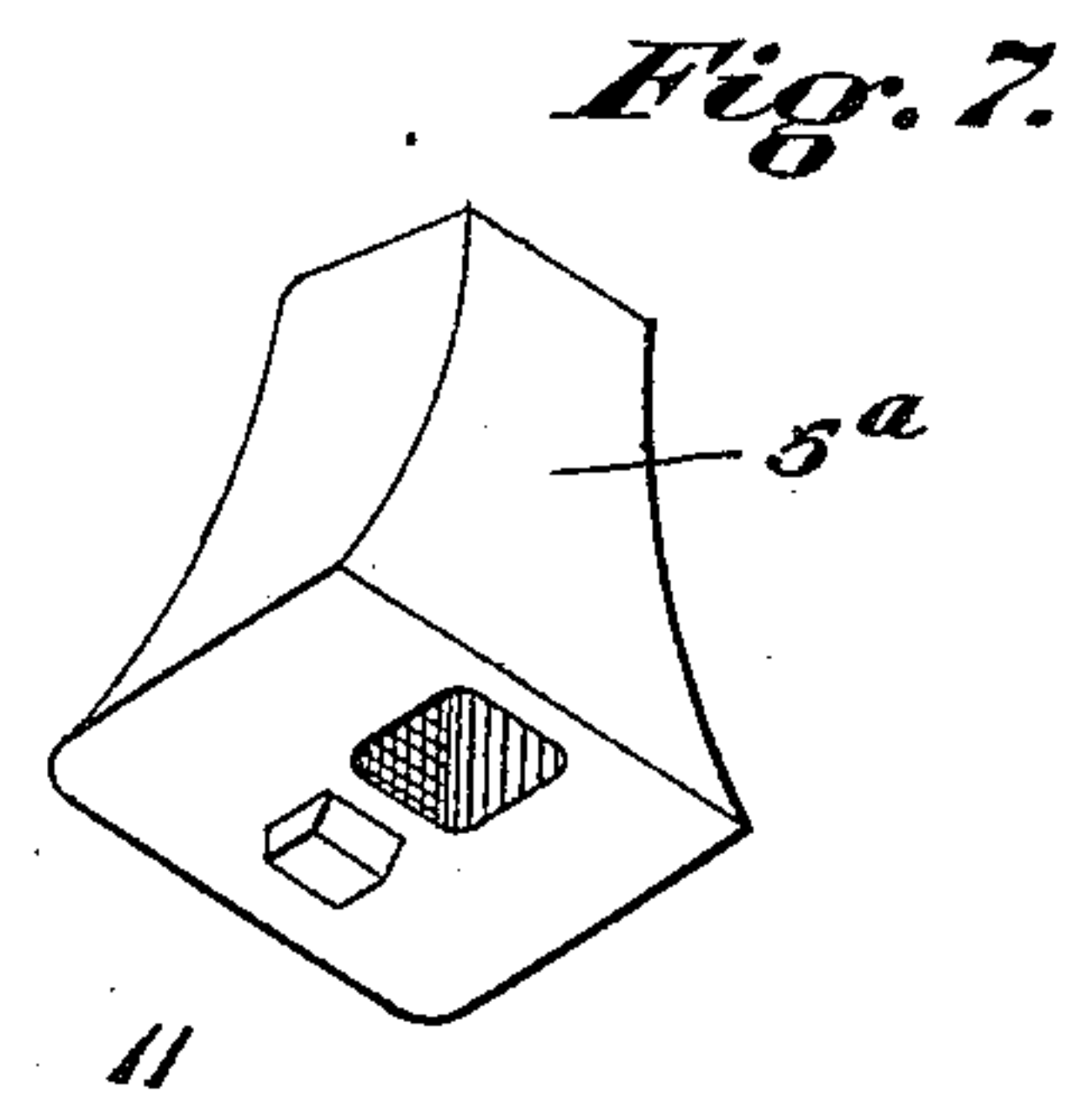
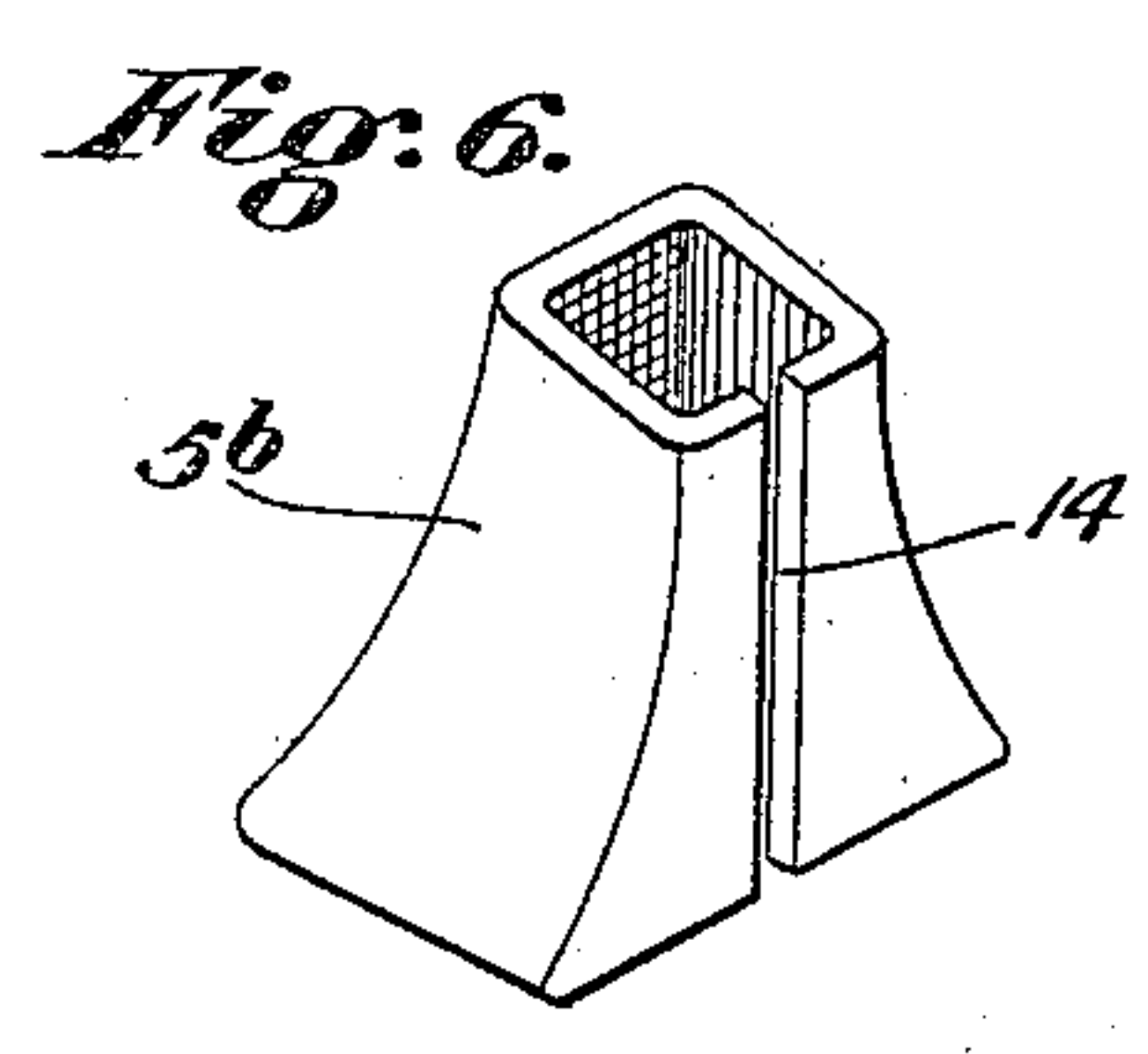
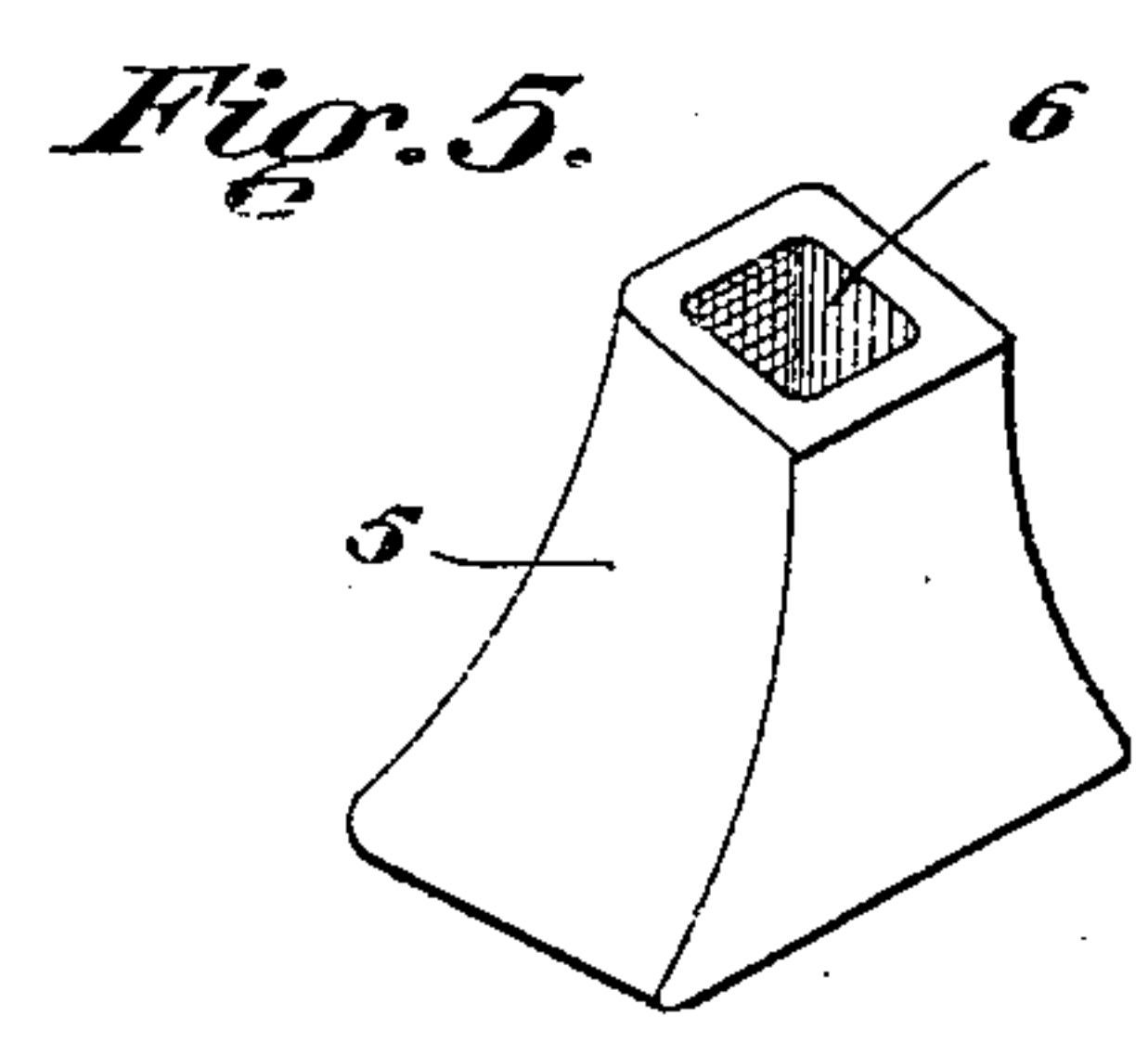
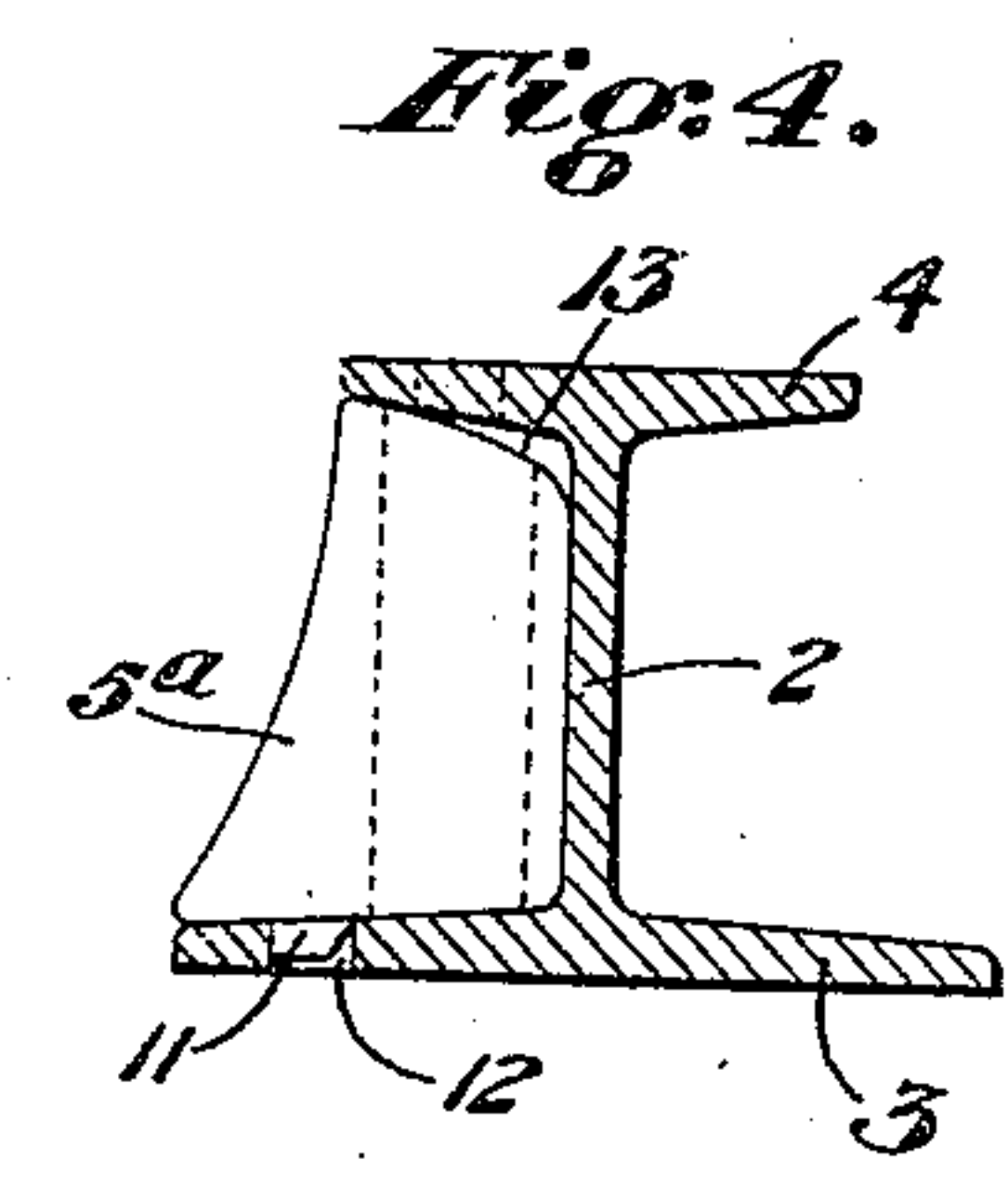
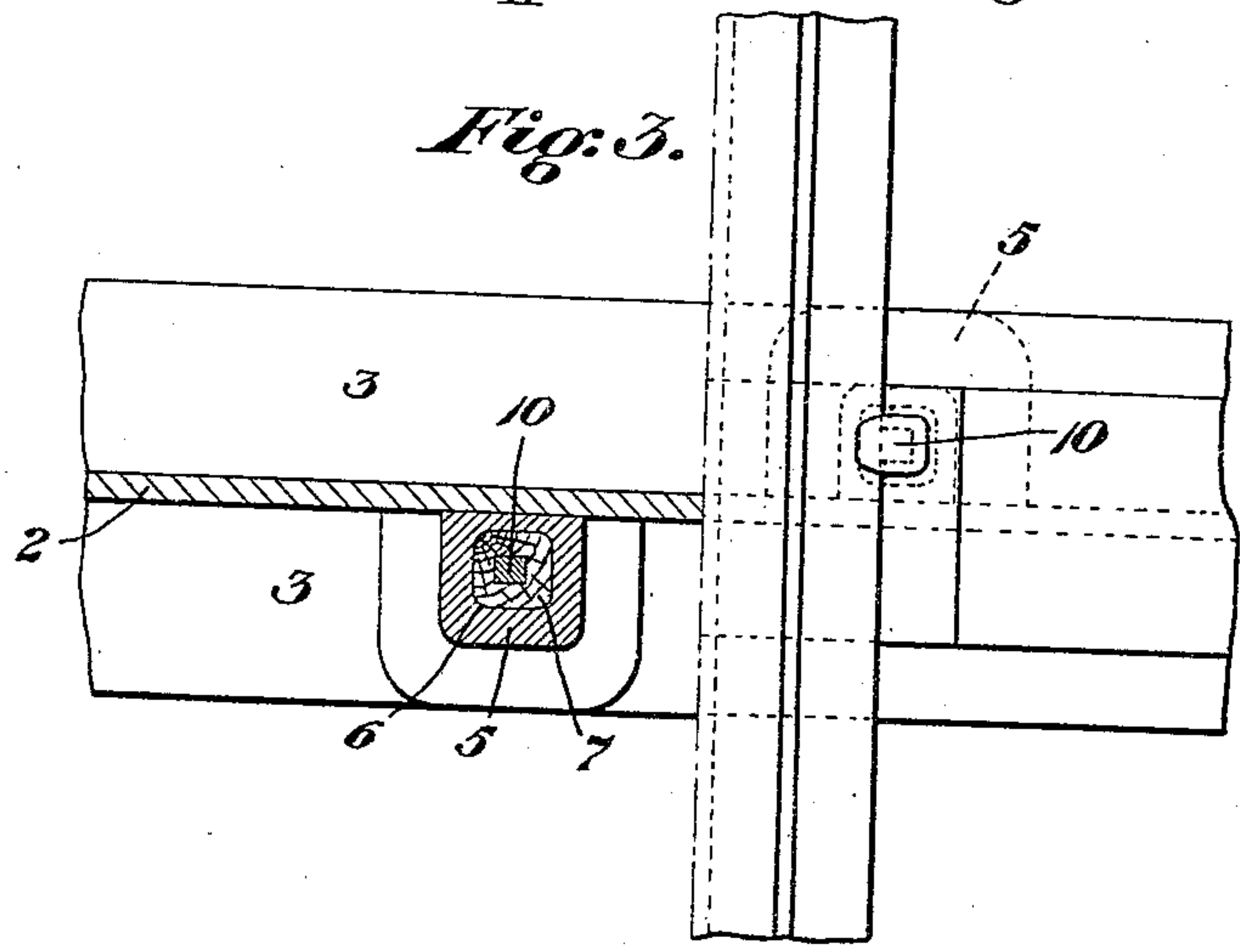
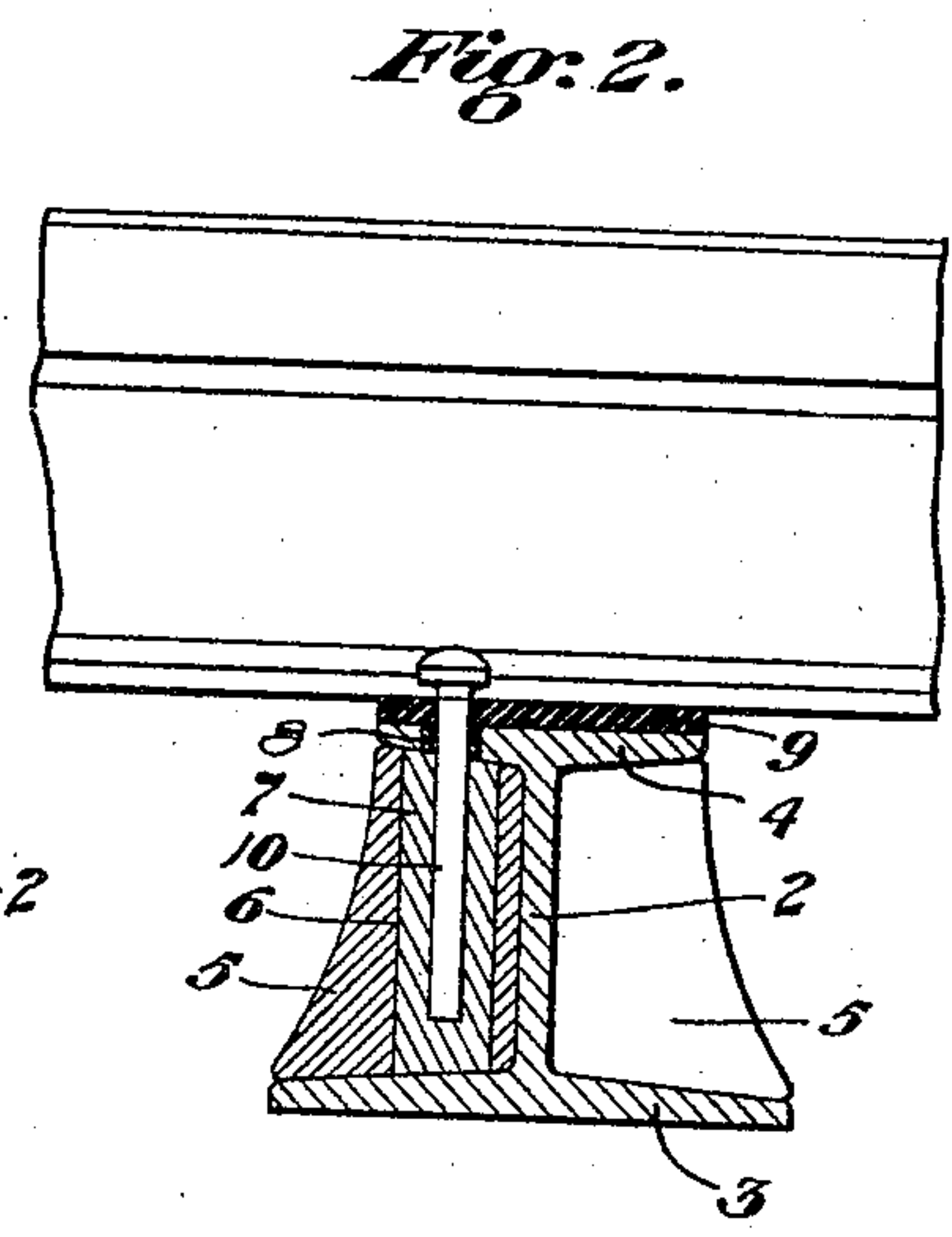
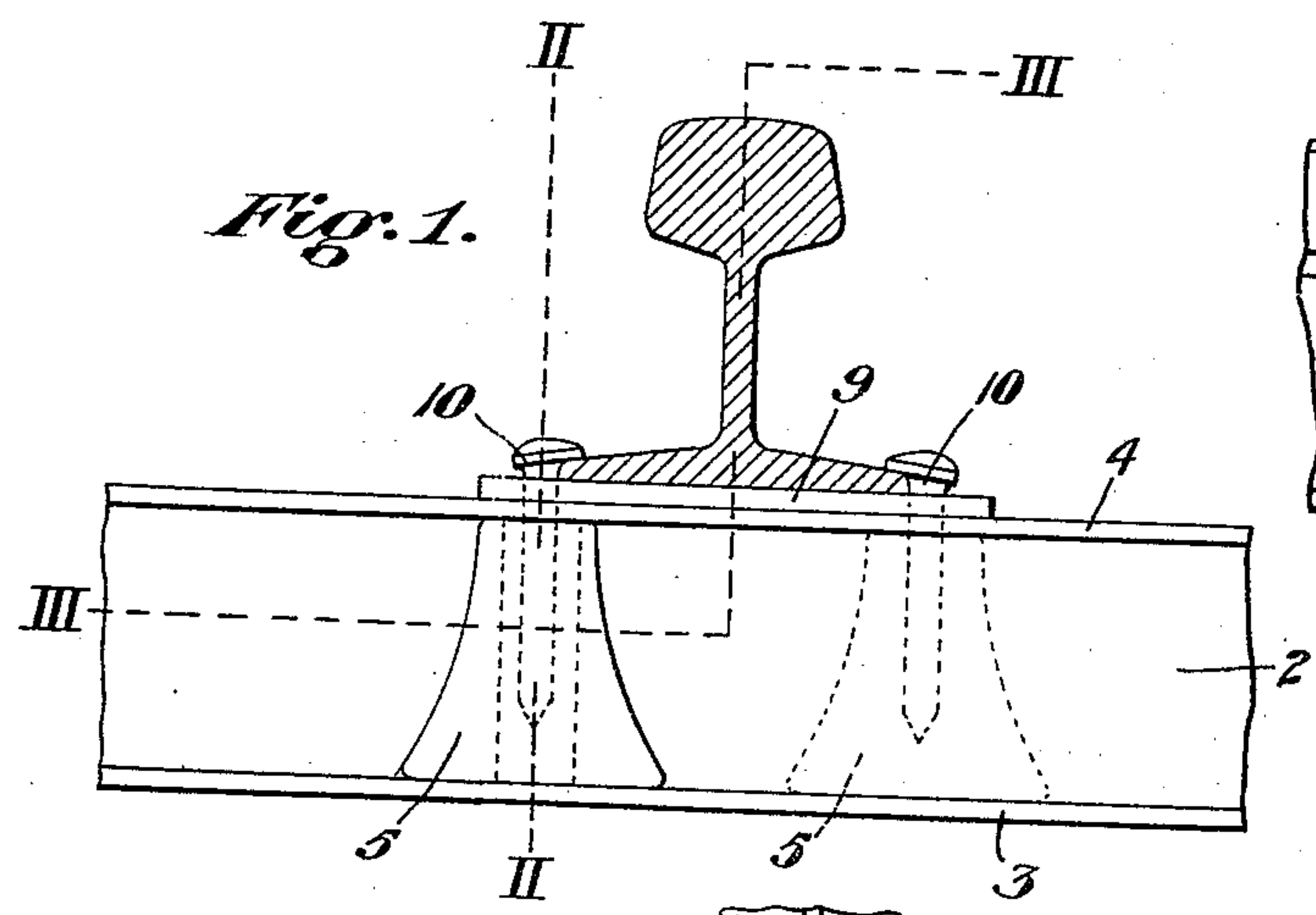


951,118.

W. W. HILL.
RAILWAY TIE.
APPLICATION FILED JULY 21, 1909.

Patented Mar. 8, 1910.



Witnesses:
Chas. S. Kelsey.
Harry Jones.

Inventor:
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UNITED STATES PATENT OFFICE.

WILLIAM W. HILL, OF PITTSBURG, PENNSYLVANIA.

RAILWAY-TIE.

951,118.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed July 21, 1909. Serial No. 508,738.

To all whom it may concern:

Be it known that I, WILLIAM W. HILL, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention consists of an improvement in railway ties, more particularly metallic ties, and refers to means for providing holding devices for the ordinary spikes whereby they may be used for securing the rails to the tie in the usual manner. Ordinarily, in metallic ties, the rails are held in place by securing clips, bolts, etc., and have proved comparatively inefficient under the various strains to which the ties and rails are subjected.

In carrying out my invention, I provide pedestals or bases having inserted plugs of wood or the like adapted to be set into the tie in proper position to receive the shank of the spike in the manner hereinafter described.

In the drawings:—Figure 1 is a view in elevation of one end of the tie showing the rail set thereon and secured in place by spikes driven into the retaining pedestals. Fig. 2 is a cross sectional view on the line II. II. of Fig. 1. Fig. 3 is a sectional plan view on the line III. III. of Fig. 1. Fig. 4 is a sectional view of the tie showing a modified construction of pedestal provided with a retaining lug. Figs. 5, 6 and 7 are perspective detail views of different forms of pedestals.

As is well known, railway spikes when driven into an ordinary wooden tie are successfully retained thereby, and have proved to be very efficient for the purpose of retaining the rail. In my invention I utilize not only the binding effect of the wood surrounding the spike, but also retain the wood against undue expansion thereby increasing its binding effect.

In the drawings, 2 represents a typical form of metal tie of I-beam form having base and top flanges 3, 4, and it will be understood that the application of my invention is particularly available with ties of this form having lower and upper portions for retaining the pedestal.

5 is the pedestal of any suitable form or design, as shown, for insertion against the

web of the tie and between its lower and upper flanges, such pedestal being made by being cast, molded or pressed into the desired shape, the invention not being limited to the specific manner of making it. Extending vertically through the pedestal 5 is a cavity 6 within which is tightly inserted a plug 7 of wood, fiber or other suitable material, extending from one end to the other, and adapted when the pedestal is inserted to register centrally with a spike opening in the upper flange at one or both sides of the tie, as clearly shown in the drawings. As illustrated, I preferably insert an insulating thimble 8 in the spike opening of the tie and also an insulating rail bearing strip 9 of any suitable material, it being desirable to insulate one of the rails in such a manner from the other for the purpose of block signaling, etc. However, these insulating elements may if desired be dispensed with, and the rail set directly upon the upper flange 4 and secured by the spike through the bare opening in the tie flange with equally good results as to holding effect. When the pedestal is thus inserted, spike 10 is driven in the usual manner alongside the edge of the rail flange downwardly into the wooden plug 7 in the ordinary way. The driving of the spike compresses the wooden plug within its cavity, thereby greatly increasing its adhesion and effectually binding and retaining the spike as will be readily understood.

Ordinarily when the spike is driven, it will effectually retain the pedestal in position, but in Figs. 4 and 7 I have shown the pedestal 5^a provided at its under base portion with a lug or key 11 adapted to be inserted within a suitable aperture 12 in the base flange of the tie, thereby preventing lateral removal. In such form, the upper portion of the pedestal is rounded off as indicated at 13, for clearance, thereby facilitating its insertion and removal to and from operative position.

In Fig. 6 I show the pedestal 5^b as made of malleable or rolled metal in pressed or shaped form, which may be readily done by suitable dies, the edges of the blank being brought together or with a slight intervening space as indicated at 14, preferably at the back portion of the pedestal. By using malleable metal, I greatly increase the tensile strength of the pedestal, and retain a certain advantage in allowing a slight

spreading of the metal under expansion of the wooden plug, thus preventing bursting.

The device provides efficiently for the reception of the ordinary spike without the employment of any of the various and complicated clips, bolts, etc., and in actual service has demonstrated its efficiency, and by tests has shown that the binding action between the blank and the wooden plug, when retained against longitudinal movement as when used, is about three times the retaining effect on the spike in the ordinary wooden tie.

The advantages of the invention will be readily appreciated by all those familiar with the class of wooden and metal ties. It is comparatively simple and economical to manufacture; the plugs may be driven out and new ones inserted, and effectually combines with a metal tie the full advantages and retaining effect of the usual spikes when driven into the wood.

The device may be variously changed or modified by the skilled mechanic to suit different forms or designs of ties, but all such changes are to be considered as within the scope of the following claims.

What I claim is:—

1. A spike retaining pedestal having an inserted wooden core and tapered upper and lower faces for insertion between the upper and lower flanges of an I-beam tie, substantially as set forth.

2. A spike retaining pedestal having an inserted wooden core and tapered upper and lower faces for insertion between the upper and lower flanges of an I-beam tie, and provided with a projecting locking key arranged to engage an aperture in one of the tie flanges, substantially as set forth.

3. The combination with a structural tie having laterally extending upper and lower flanges, of a spike retaining pedestal having an inserted wooden core and faces adapted

to conform to the outline of the structural tie, substantially as set forth.

4. The combination with a structural tie having laterally extending upper and lower flanges, of a spike retaining pedestal having an inserted wooden core and faces adapted to conform to the outline of the structural tie, with means for retaining the pedestal in position.

5. The combination with a structural tie having upper and lower flanges, a spike opening, and a key opening, of a spike retaining pedestal having an inserted core of retaining material for the spike, and a projecting key adapted to engage said key opening, substantially as set forth.

6. The combination with a structural metal tie having upper and lower flanges, a spike opening, and a key opening, of a spike retaining pedestal having an inserted core and a projecting key, and shaped to fit between the flanges of the structural tie and against the web thereof, and having its upper face cut away for clearance to facilitate insertion and removal of the pedestal, substantially as set forth.

7. The combination with a structural metal tie having upper and lower flanges, a spike opening, and a key opening, of a spike retaining pedestal having an inserted core and a projecting key, and shaped to fit between the flanges of the structural tie and against the web thereof, and having its upper face cut away for clearance to facilitate insertion and removal of the pedestal, and vertically divided at one side to allow for expansion of the core, substantially as set forth.

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

WILLIAM W. HILL.

Witnesses:

C. M. CLARKE,

CHAS. S. LEPLEY.