

No. 843,308.

PATENTED FEB. 5, 1907.

H. G. STAAB.
RAILWAY TIE.

APPLICATION FILED AUG. 23, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

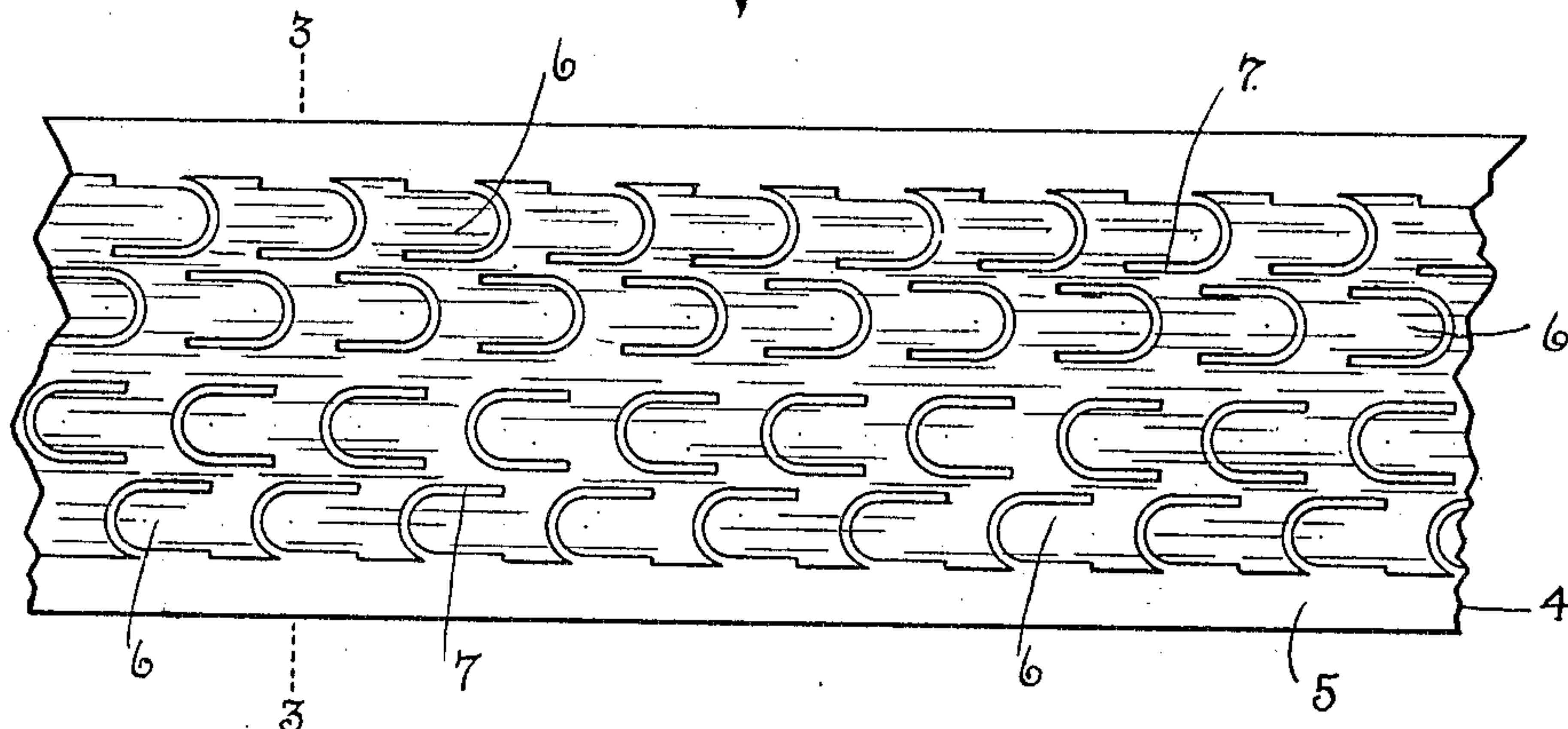


Fig. 2.

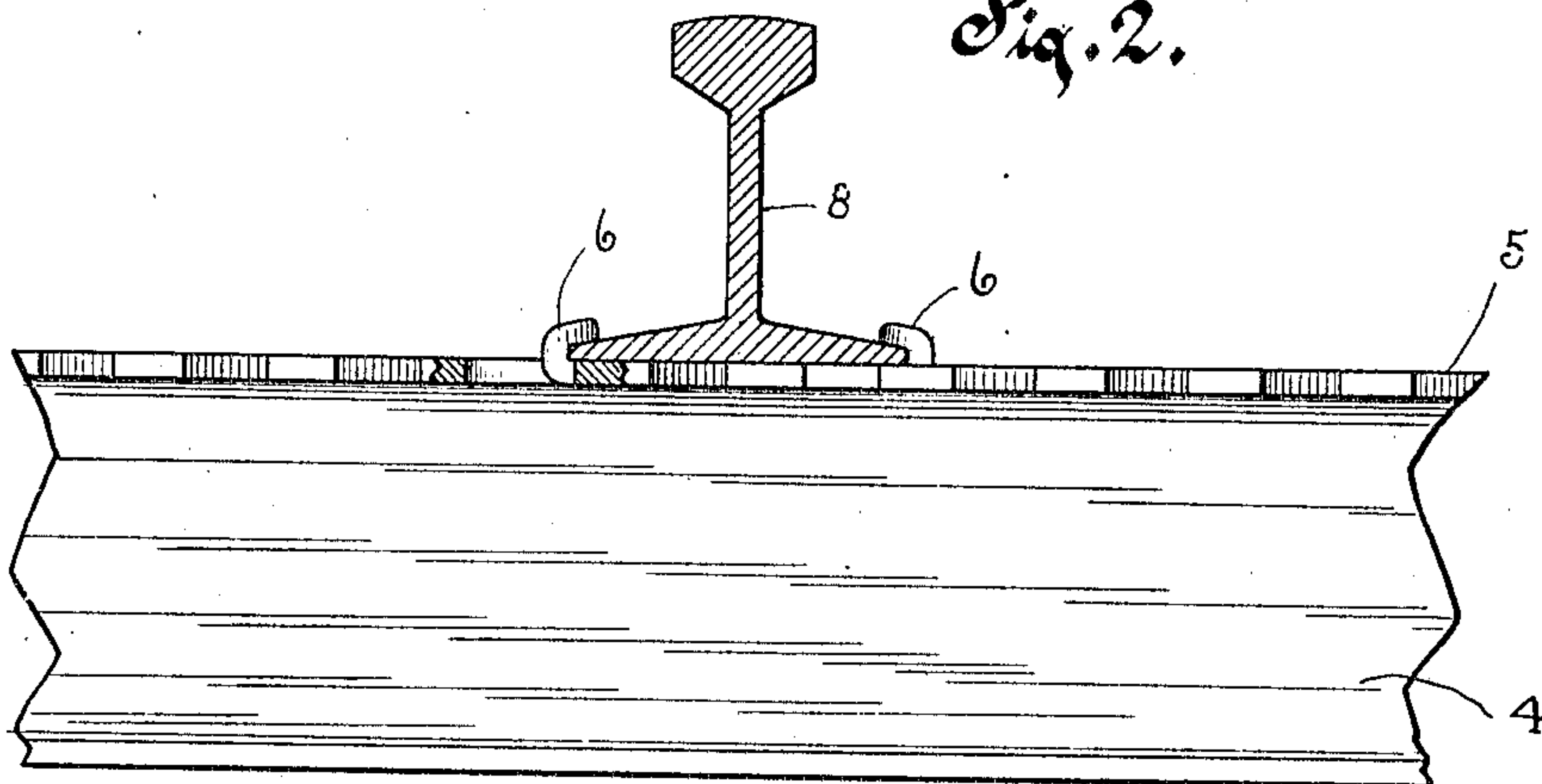
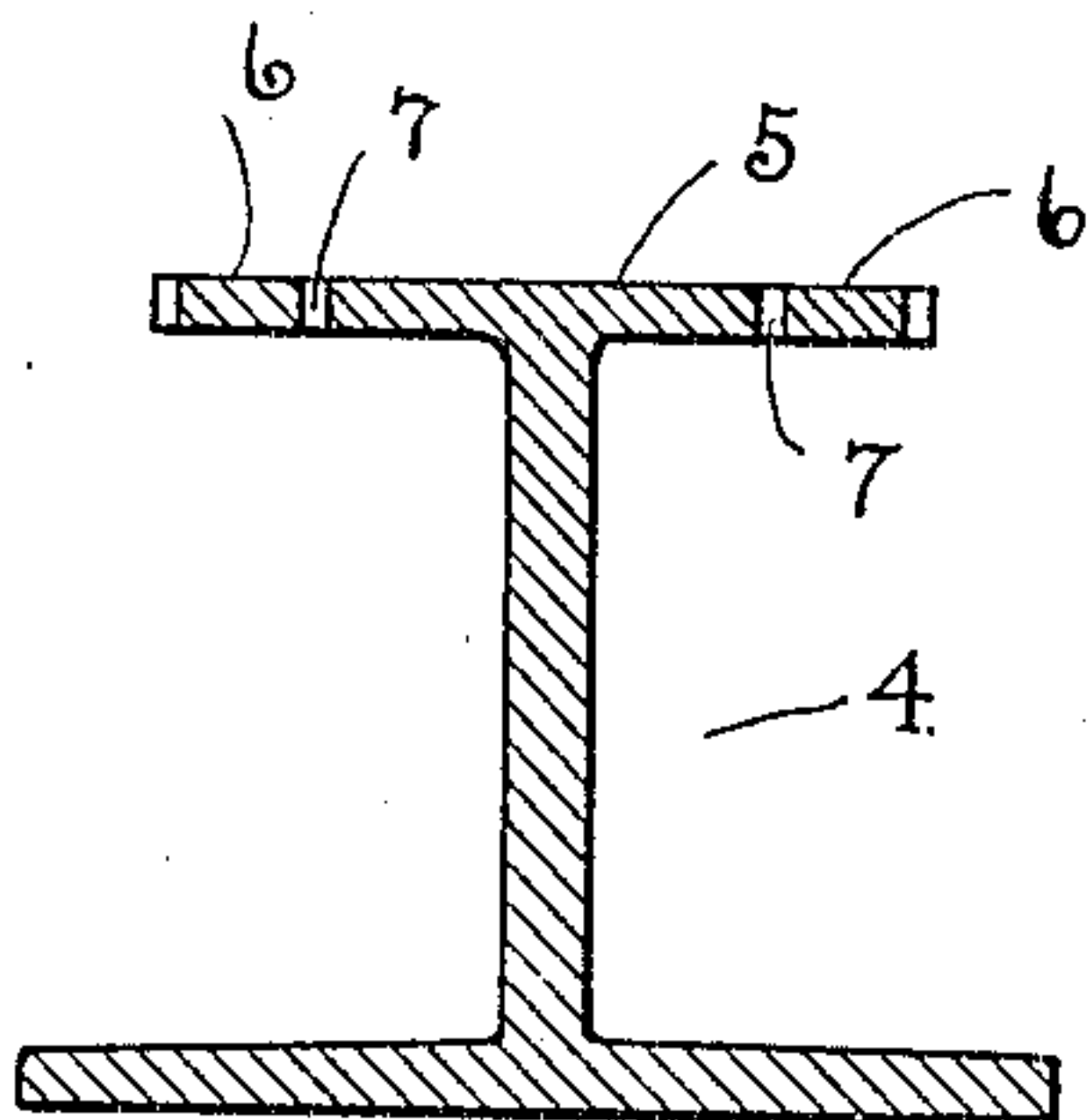


Fig. 3.



Witnesses.

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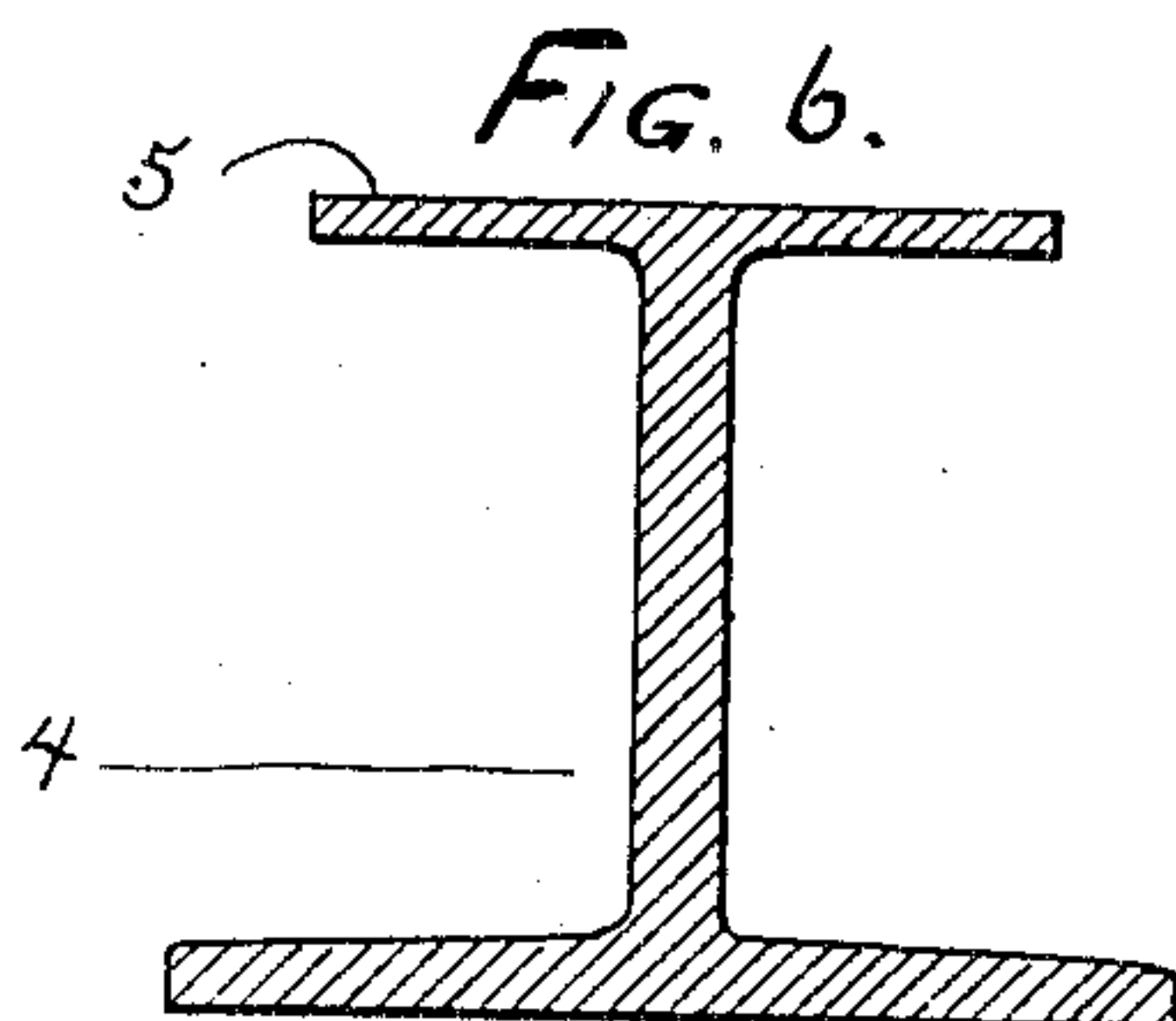
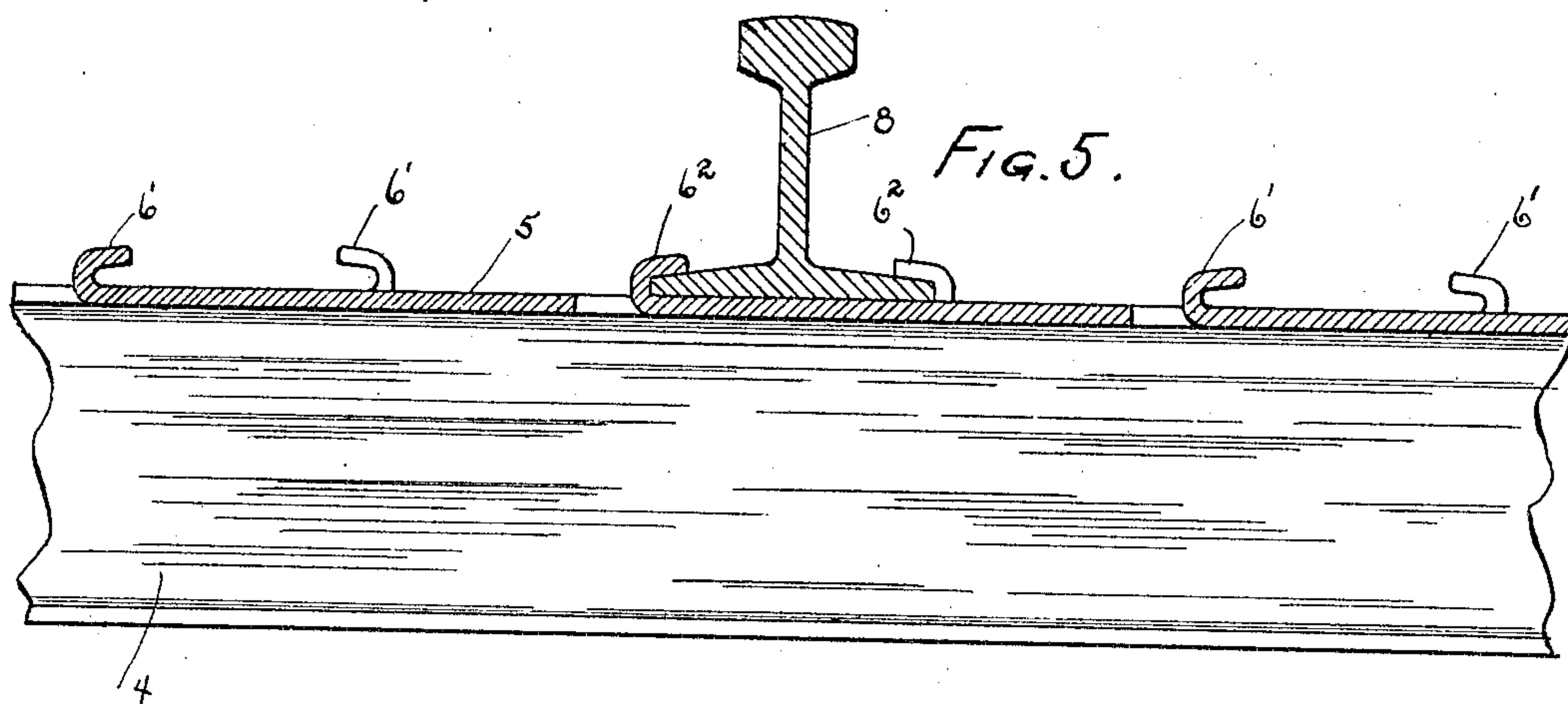
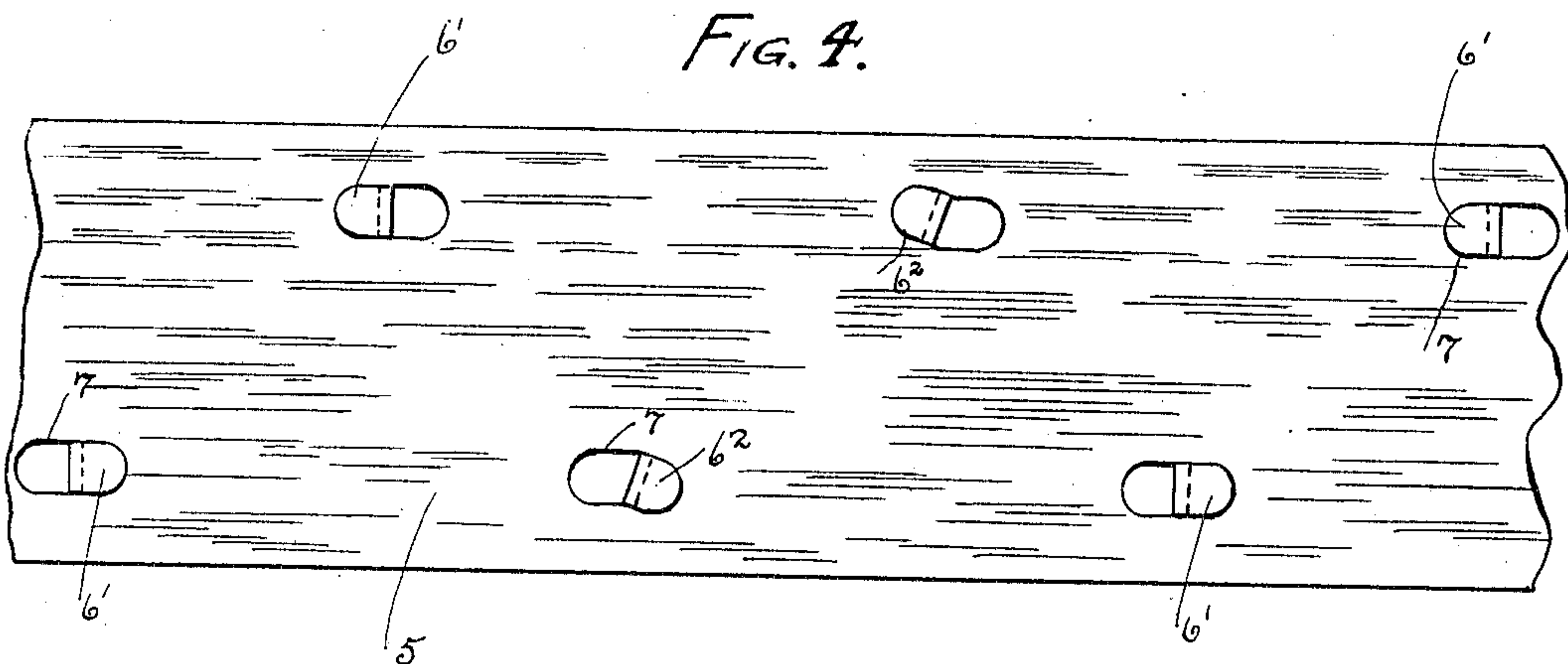
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2 SHEETS—SHEET 2.



WITNESSES.

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HERMAN G. STAAB, OF MILWAUKEE, WISCONSIN.

RAILWAY-TIE.

No. 843,308.

Specification of Letters Patent.

Patented Feb. 5, 1907.

Application filed August 23, 1906. Serial No. 331,737.

To all whom it may concern:

Be it known that I, HERMAN G. STAAB, residing in Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Railway-Ties, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in railway-ties; and it relates particularly to a construction wherein the ties may be laid uniformly straight throughout, but yet will be adapted not only for rails running in a straight line, but also for rails running at various angles or in various directions—as, for instance, as covered in my issued United States Letters Patent No. 826,905, dated July 24, 1906, for improvements in railway-ties.

The object of the present invention is to provide an I-beam form of tie having the above characteristics; and with this object in view the invention consists of the devices and parts or the equivalents thereof, as hereinafter more fully set forth.

In the accompanying drawings, Figure 1 is a plan view of a fragment of a railway-tie embodying my improvements. Fig. 2 is a longitudinal section of Fig. 1, showing a rail applied to the tie, the said rail being in transverse section. Fig. 3 is a cross-section of the tie on the line 3 3 of Fig. 1. Fig. 4 is a plan view of a fragment of a railway-tie, illustrating a modification, the lips being shown as bent up. Fig. 5 is a longitudinal section of Fig. 4, and Fig. 6 is a cross-section of Fig. 4.

Referring particularly to Sheet 1 of the drawings, the numeral 4 indicates the tie, which is in the form of an I-beam of any suitable metal, but preferably of steel, although malleable iron may be used, if desired, to advantage. The top plate or head 5 of this tie is provided thereover with a series of lips 6, which ordinarily or before the tie is put into service lie in a horizontal plane with said top plate of the tie. Preferably the lips in some of the longitudinal lines of lips have their free ends pointing toward one end of the tie and the lips in other of the lines have their free ends pointing toward the opposite end of the tie. The lips are preferably formed by making U-shaped cuts 7 in the top plate of the tie, the metal remaining after the cuts are made forming the said lips

6. The cuts, it will be noticed, are made sufficiently wide to provide a clearance for the insertion of a tool which may be employed for conveniently turning the lips upwardly and over to engage the base of the rail. It will be noticed that the corners of the free ends of the lips are rounded. By this provision the lips are made much stronger than if sharp corners were left at the free ends thereof. In setting the ties they are firmly embedded or anchored in the railway-bed, the sand and dirt being packed around the base and upwardly a desired distance of the height of the web of the I-beam forming the tie.

In Fig. 2 of the drawings a rail 8 is shown in cross-section as extending across the tie in a straight line. When a rail is so laid, it is secured in place by bending the lips 6, which are nearest to the base of the rail, around the edges and onto the top of said rail-base.

The form of tie herein shown is such that said tie may be laid uniformly straight throughout and a rail or any number of rails may be laid not only across the tie in a straight line, but may be laid across said tie at a variety of different angles and in a variety of different directions, and when so laid there will always be some of the lips 6 adjacent to the base of the rail in position to be bent over said rail-base in order to hold the rail in place. The necessity for providing different kinds of ties for rails running in different directions or at different angles is therefore avoided in the construction herein set forth and described, and the employment of bolts, nuts, &c., is also avoided.

The employment of the lips 6, arranged and constructed as above described, in connection with the I-beam form of tie, produces a most advantageous construction, capable of being economically made and having the advantage of being a form of tie which is adapted not only to be easily and quickly anchored or embedded in the railway-bed, but which is, furthermore, adapted for general use as a tie on all railway-rail systems.

Sheet 2 of the drawings illustrates a modified form of construction. In this modification, instead of employing a series of lips arranged over substantially the entire surface of the head of the tie, I employ for each rail which is laid in a straight line across the tie two lips, (designated 6',) the said two lips adapted when a rail-base is inserted therebe-

tween to be bent over said rail-base. The distance between the innermost lip 6' of one set and the innermost lip 6' of the other set corresponds to the standard gage or width of track, and hence when rails are engaged by the two lips of a set the said rails are spaced the standard distance apart. The lips 6' are used for rails adapted to extend straight across the tie; but comparatively few switch-rails are laid as compared to straight rails; but when it is desired to use the tie illustrated on Sheet 2 for a switch and the track is already down it is not necessary to tear up the track in order to put in the switch, as my invention contemplates that every section foreman will be provided with a suitable form of die for stamping out additional lips of any desirable shape and located at any desired point of the tie. Two of these additional lips are illustrated on Sheet 2 of the drawings and designated by the numeral 6². These lips 6² after being bent up are slanted in diagonally opposite directions in order to properly engage the base of the slanting switch-rail laid across the tie. In this modification it is also preferred that the lips 6' and 6² be formed by cutting U-shaped cuts in the head of the tie, as in the form of construction illustrated on Sheet 1.

What I claim as my invention is—

1. A railway-tie of I-beam form in cross-section, the upper plate or head of said tie having a series of pairs of rounded lips provided thereon and disposed in longitudinal lines, said pairs of rounded lips being out of alinement transversely and the lips of each pair pointing in opposite direction to the adjacent pair, the lips which are nearest to the base of a rail extending over a plate adapted to be bent over said rail-base.

2. A railway-tie of I-beam form in cross-section, longitudinal lines of rounded lips formed from the head of the I-beam on each side of the web thereof, said rounded lips disposed out of alinement transversely with the longitudinal line of lips on the head on the same side of the web, the lips which are nearest to the base of a rail extending over the

head adapted to be bent over the base of the rail.

3. A railway-tie of I-beam form in cross-section, longitudinal lines of rounded lips formed from the head of the I-beam on each side of the web thereof, said rounded lips disposed out of alinement transversely with the longitudinal lines of lips on the same side of the web, but in alinement with the corresponding lines of rounded lips upon the head on the opposite side of the web, the lips which are nearest to the base of a rail extending over the head at any angle adapted to be bent over the base of the rail.

4. A railway-tie of I-beam form in cross-section, longitudinal lines of rounded lips formed from the head of the I-beam on each side of the web thereof, and said lips being initially flat with the top of the head, but adapted to be bent up and over, said rounded lips disposed out of alinement transversely with the longitudinal lines of lips on the same side of the web, but in alinement with the corresponding lines of lips upon the head on the opposite side of the web, the lips which are nearest to the base of a rail extending over the head at any angle, adapted to be bent over the base of the rail.

5. A railway-tie of I-beam form in cross-section, the upper plate or head of said tie having a series of longitudinal lines of approximate U-shaped cuts forming rounded lips upon each side of the web connecting the top plate to the bottom plate, said rounded lips disposed out of alinement transversely with the longitudinal lines of lips on the same side of the web, but in alinement with the corresponding lips upon the opposite side of the web, whereby lips are provided for bending over the base of a rail extending over the plate at any angle.

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

HERMAN G. STAAB.

Witnesses:

FRANK NICHOL,
JOSEPH H. MOORE.