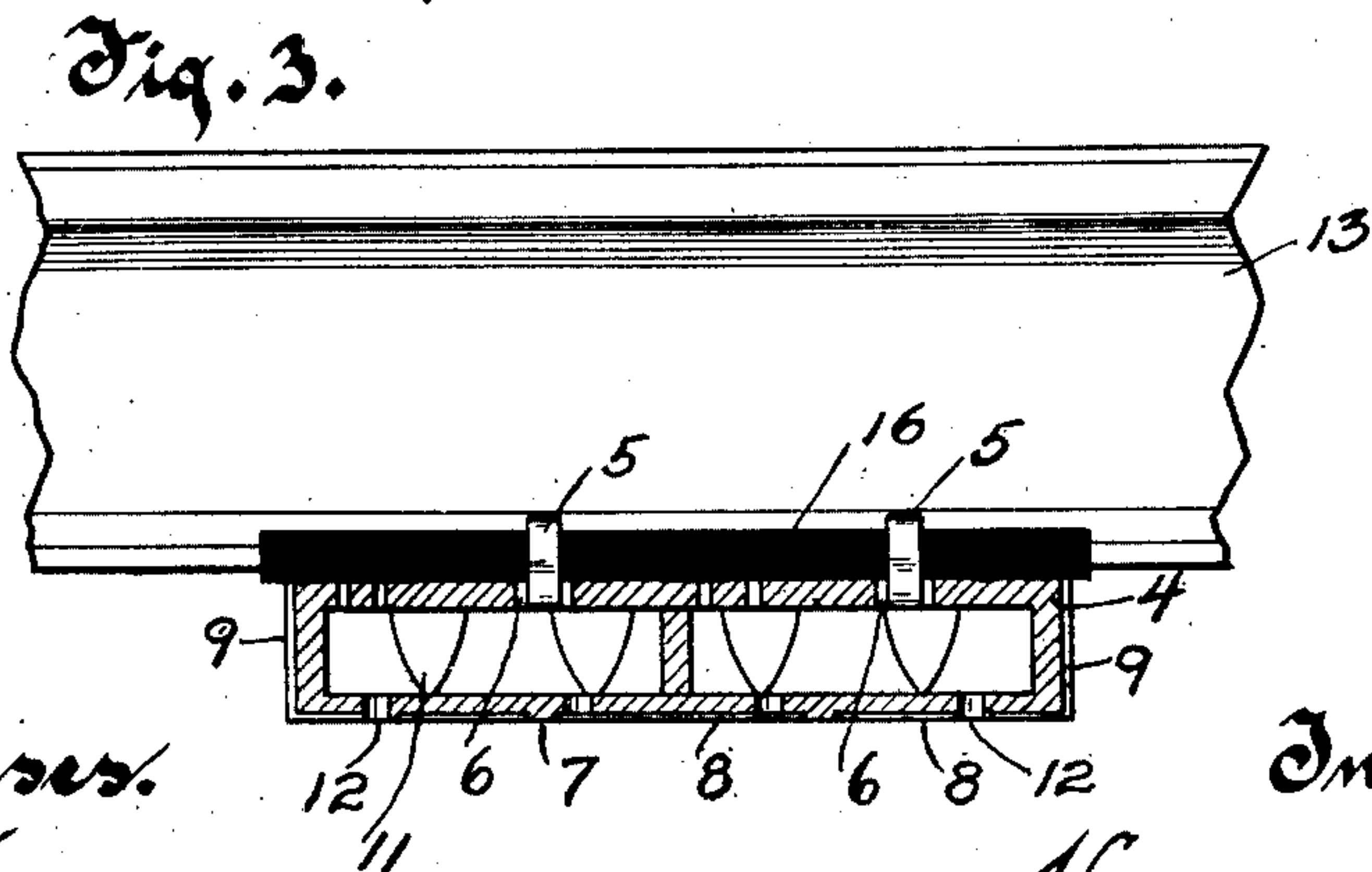
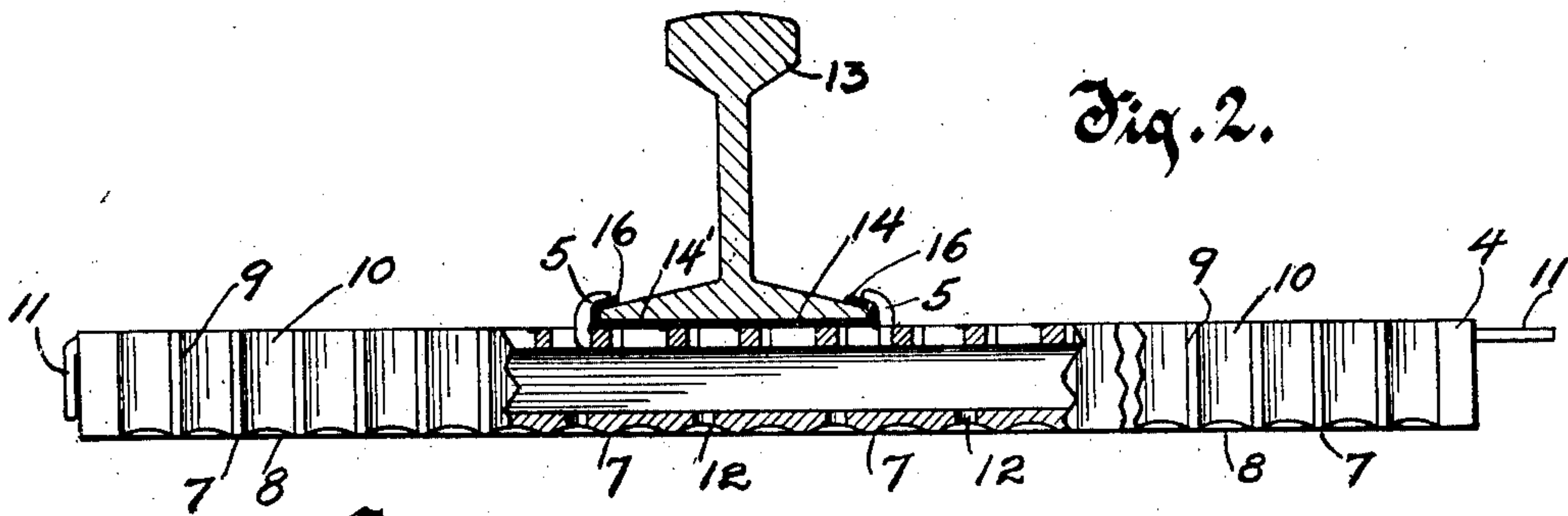
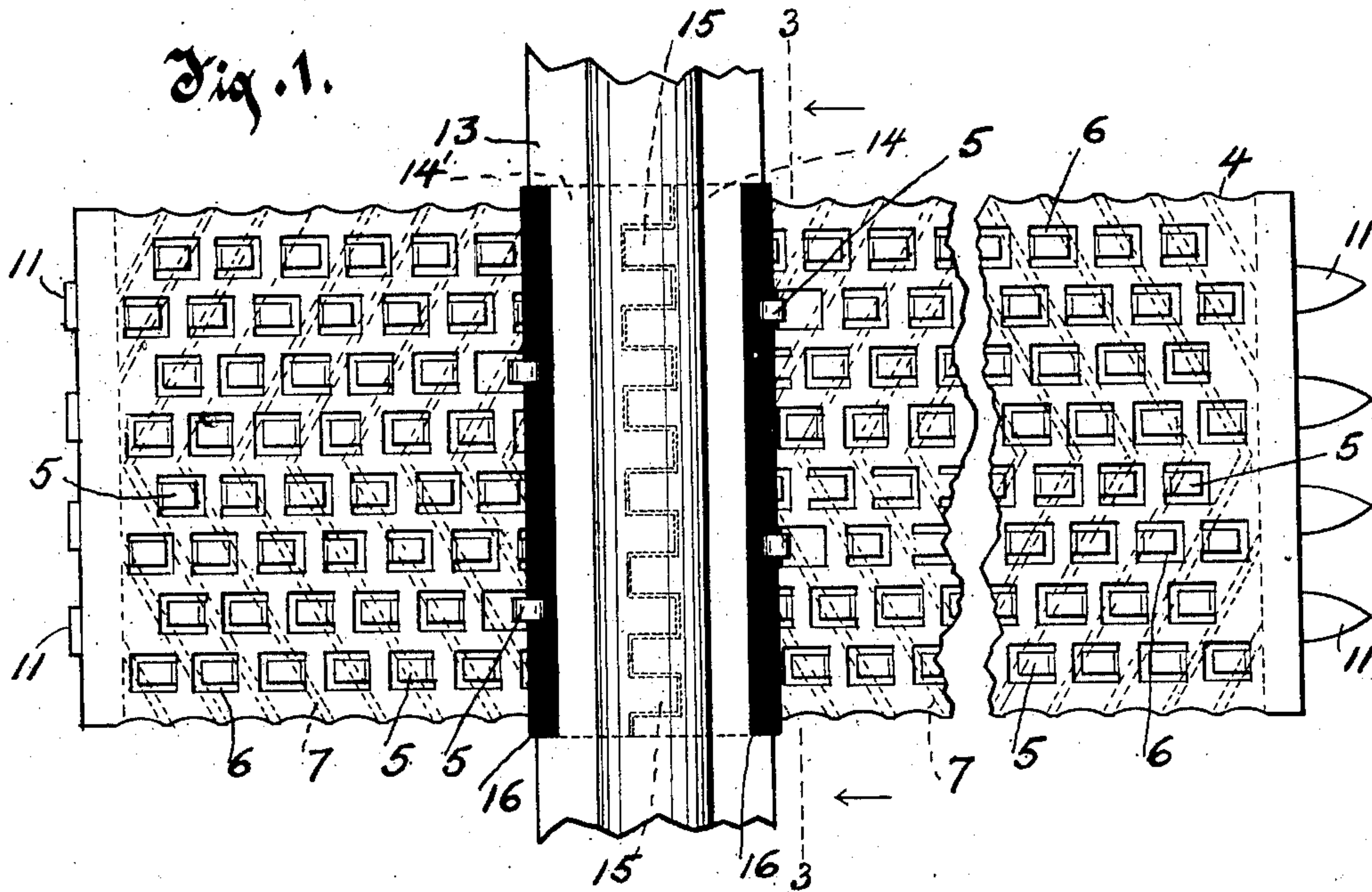


No. 826,905.

PATENTED JULY 24, 1906.

H. G. STAAB.
RAILWAY TIE.

APPLICATION FILED AUG. 5, 1905.



Witnesses.

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HERMAN G. STAAB, OF MILWAUKEE, WISCONSIN.

RAILWAY-TIE.

No. 826,905.

Specification of Letters Patent.

Patented July 24, 1906.

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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.

The primary object of the invention is to provide 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.

With the above primary object and other incidental objects 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 one of my improved railway-ties, showing a fragment of a rail extending thereacross and secured thereto. Fig. 2 is a view looking at one of the longitudinal edges of the tie, the rail being in transverse section, a part of the tie broken away; and Fig. 3 is a transverse section on the line 3-3 of Fig. 1.

Referring to the drawings, the numeral 4 indicates my improved tie, which consists, preferably, of a hollow casting having closed sides and open ends and of any desired metal, preferably malleable iron.

The top surface of the tie is provided thereover with a series of lips 5, which ordinarily or before the tie is put into service lie on a horizontal plane with said top surface of the tie. Some of these lips have their free ends pointing toward one end of the tie, and other of said lips have their free ends pointing toward the opposite end of the tie. These lips are preferably formed by making in the casting U-shaped cuts 6, the metal remaining after the cuts are formed, constituting the lips 5. There is sufficient space left, however, between the edges of the lips and the bordering edges of the cuts to provide a clearance for the insertion of a tool which may be employed for conveniently turning the lips upwardly to engage over the base of the rail, as hereinafter fully referred to.

In order to provide for the tie being securely held in the railway-bed, I construct

the bottom and longitudinal side edges thereof with ribs between which the sand and dirt may pack, and thereby prevent accidental displacement of the tie,

The ribs on the bottom are indicated by the numeral 7 and extend across the width of the tie in preferably an approximate V-shaped form, the spaces 8 between the ribs being advisably of a concave form. The apices of some of these V-shaped ribs preferably point outwardly toward one end of the tie, while the apices of other of said ribs point toward the opposite end of the tie. The ribs of the longitudinal side edges are indicated by the numeral 9, and the spaces between said ribs by the numeral 10. These side ribs extend in straight lines from the top to the bottom of the tie, and the spaces therebetween are also preferably of concave form. From this construction it will be seen that when the tie is sunk into the railroad-bed opportunity is afforded for having the sand and dirt pack tightly in the spaces between the ribs in the bottom and sides of the tie, and hence said tie is thereby quite securely anchored against displacement.

At opposite ends of the tie and extending from the top edge are tongues 11, which when the tie is in use are bent downwardly in order to partially cover the open ends of the tie, and thereby prevent stones or other heavy substances from entering the hollow interior space of the tie.

The bottom of the tie is provided with a series of openings 12, which permit water that may enter the interior of the tie to drain out.

In the drawings a fragment of one rail 13 is shown as extending across the tie in a straight transverse line. When a rail is so laid, it is secured in place by bending the lips 5 which are nearest to the base of the rail around the edges and onto the top of said rail-base.

It will be evident from the construction and disposition of the lips 5 that the tie may be laid uniformly straight throughout and that a rail or any number of rails may not only be laid across the tie transversely 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 5 adjacent to the base of the rail in position to be bent over said rail-base, and thereby hold the rail in place. By my improved construction, therefore, the tie will answer for

all purposes, so that the necessity of providing different kinds of ties for rails running in different directions or at different angles is avoided.

5 A further advantage of my improved construction is that it does away entirely with the necessity of the separate bolts ordinarily employed to hold the base of the rail to the ties, inasmuch as the integral lips of my invention perform the function of said bolts.

10 While I have herein shown and described a hollow tie with the closed sides and open ends, yet I do not wish to be understood as restricting myself specifically thereto, inasmuch as a solid plate cast or otherwise made and provided with the lips, some pointing toward one end of the tie and others pointing toward the opposite end of said tie and adapted to be bent over and into engagement with the base of a rail, I would consider within the spirit and scope of my invention.

As is well known, in many railroads where the block system is employed the rails are used as conductors for the electric current, wire conductors being usually employed at the rail-joint and extending from one rail-section to the other in order to prevent any interruption of the electric current. Where my improved tie is employed in connection with systems of the character referred to, it is necessary to insulate the rail from the tie, as otherwise the current would pass from the rail onto the metallic tie. I therefore in the accompanying drawings show an insulating device in the form of a chair for the rail-base and consisting of two half-sections 14 14', of any suitable insulating material, preferably paper fiber. The bottoms of these sections extend beneath the rail-base and are provided at their inner edges with interlocking fingers 15. The side edges of these sections are flanged upwardly, as indicated by the numerals 16 16, and bent over the top of the rail-base, the downturned ends of the lips 5 being bent thereover, and thereby serving to hold the insulating-sections in place.

What I claim as my invention is—

1. A railway-tie comprising a plate having on its top surface a series of lips, the free ends of some of said lips pointing toward one end of the plate and the free ends of other of said lips pointing toward the opposite end of the plate, and said lips being initially turned down, but adapted to be bent over so that those lips which are nearest to the base of a rail, set across the tie at any angle, may be bent over said rail-base.

2. A railway-tie comprising a plate having on its top surface a series of integral lips, the free ends of some of said lips pointing toward one end of the plate, and the free ends of other of said lips pointing toward the opposite end of the plate, and said lips being initially turned down, but adapted to be bent

over so that those lips which are nearest to the base of a rail, set across the tie at any angle, may be bent over said rail-base.

3. A railway-tie comprising a plate having a series of approximate U-shaped cuts in its top surface forming lips, said cuts being so disposed that the free ends of some of said lips point toward one end of the plate and the free ends of other of said lips point toward the opposite end of the plate, and said lips being initially turned down but adapted to be bent over, so that those lips which are nearest to the base of a rail, set across the tie at any angle, may be bent over said rail-base.

4. A railway-tie comprising a hollow plate having on its top a series of lips, the free ends of some of said lips pointing toward one end of the plate, and the free ends of other of said lips pointing toward the opposite end of the plate, and said lips being initially turned down, but adapted to be bent over, so that those lips which are nearest to the base of a rail, set across the tie at any angle, may be bent over said rail-base.

5. A railway-tie comprising a hollow plate having closed sides and open ends, said plate provided on its top with a series of lips, the free ends of some of said lips pointing toward one end of the plate, and the free ends of other of said lips pointing toward the opposite end of the plate, and said lips being initially turned down, but adapted to be bent over, so that those lips which are nearest to the base of a rail, set across the tie at any angle, may be bent over said rail-base.

6. A railway-tie comprising a hollow plate having its top provided with a series of substantially U-shaped cuts, forming lips, said cuts being so disposed that the free ends of some of said lips point toward one end of the plate, and the free ends of other of said lips toward the opposite end of the plate, and said lips being initially turned down, but adapted to be bent over, so that those lips which are nearest to the base of a rail, set across the tie at any angle, may be bent over said rail-base.

7. A railway-tie comprising a hollow plate having closed sides and open ends, with tongues projecting outwardly from one of the edges of each open end, said tongues adapted to be bent downwardly, and the top of said hollow plate provided with a series of lips, the free ends of some of said lips pointing toward one end of the plate, and the free ends of other of said lips pointing toward the opposite end of the plate, and said lips being initially turned down, but adapted to be bent over, so that the lips which are nearest to the base of a rail, set across the tie at any angle, may be bent over said rail-base.

8. A railway-tie, comprising a plate having on its top surface a series of lips arranged over substantially the entire area of said surface, the lips which are nearest to the base of

a rail extending over the plate adapted to be bent over said rail-base.

9. A railway-tie comprising a plate with means on its top surface for engaging the base of a railway-rail, and the bottom of said plate provided with a series of ribs of approximate V shape, and forming grooves therebetween, the apices of some of said ribs pointing toward one end of the tie, and the apices of the other of said lips pointing toward the opposite end of the tie.

10. A railway-tie comprising a plate having on its top surface a series of lips arranged over substantially the entire area of said surface, some of the lips pointing toward one end of the plate, and other of said lips pointing toward the opposite end of the plate, and the lips which are nearest to the base of a rail extending over the plate adapted to be bent over said rail-base.

11. A railway-tie comprising a plate having on its top surface a plurality of lines of lips arranged over substantially the entire

area of said surface, and each line of lips extending in the direction of the length of the tie, the lips which are nearest to the base of a rail extending over the plate adapted to be bent over said base-rail.

12. A railway-tie comprising a plate having on its top surface a plurality of lines of lips arranged over substantially the entire area of said surface, and each line of lips extending in the direction of the length of the tie, the lips in some of said lines pointing toward one end of the plate and the lips in other of said lines pointing toward the opposite end of the plate, and the lips which are nearest to the base of a rail extending over the plate adapted to be bent over said base-rail.

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

HERMAN G. STAAB.

Witnesses:

J. M. HALL,

R. C. JOHNSTON