

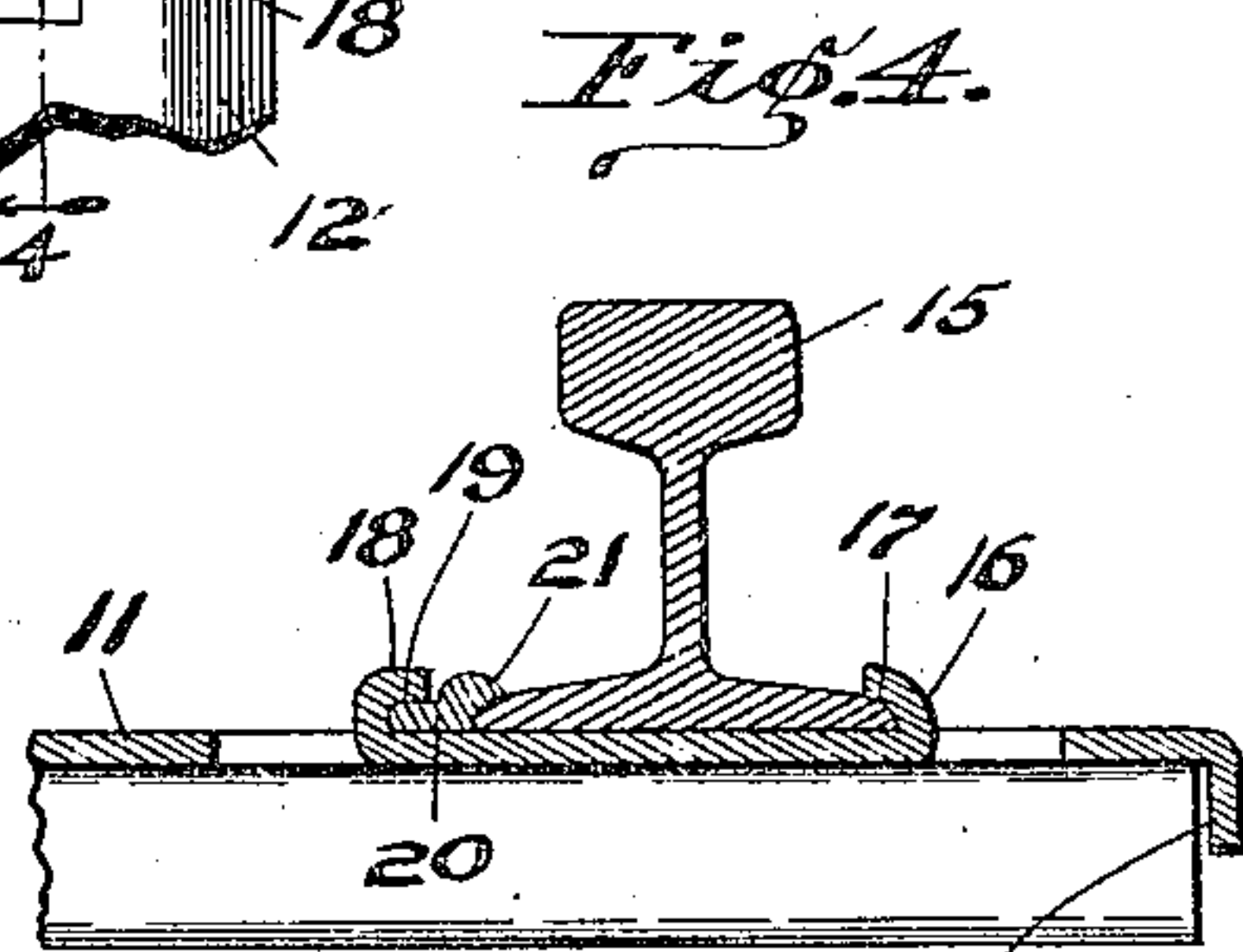
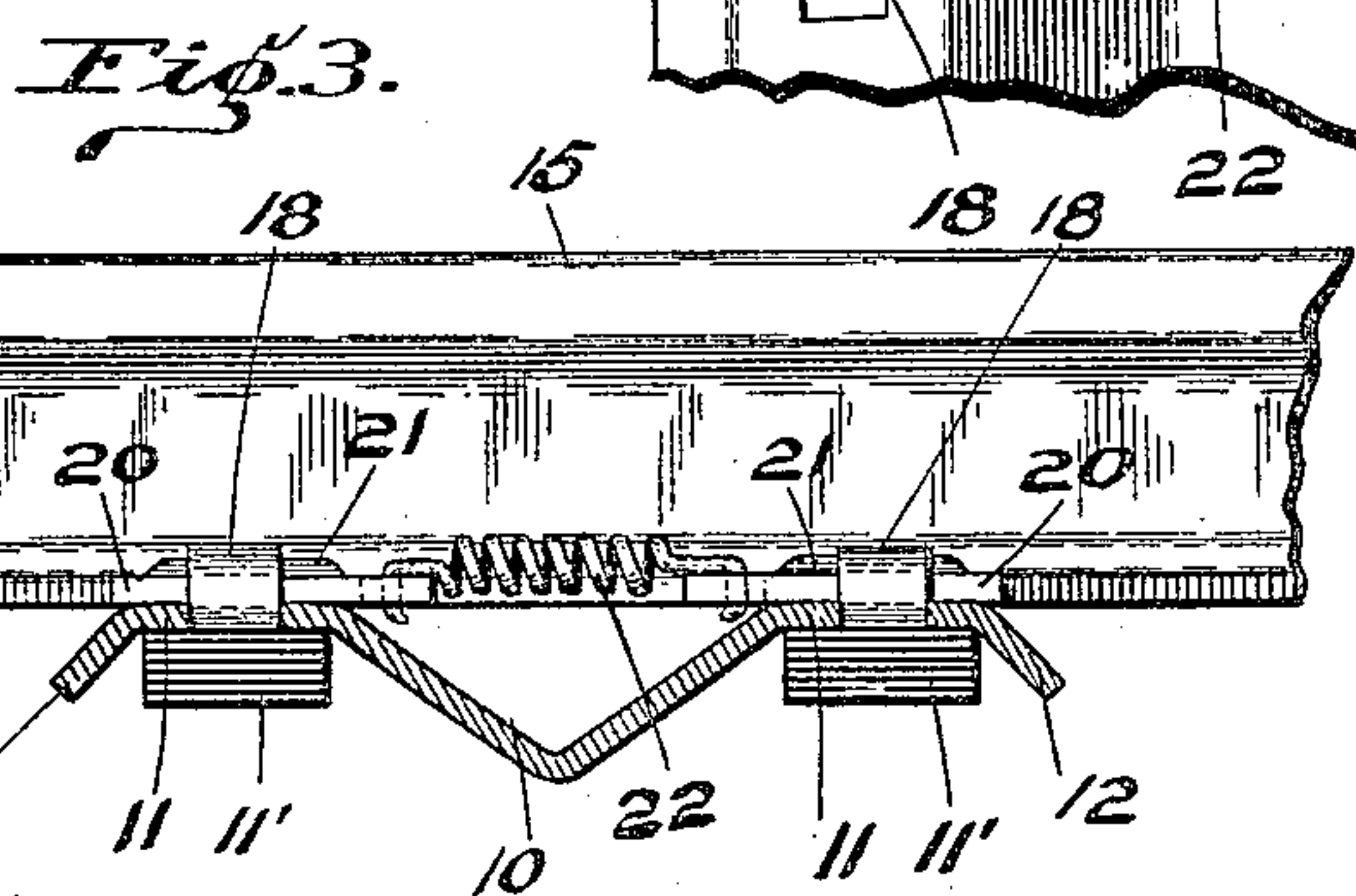
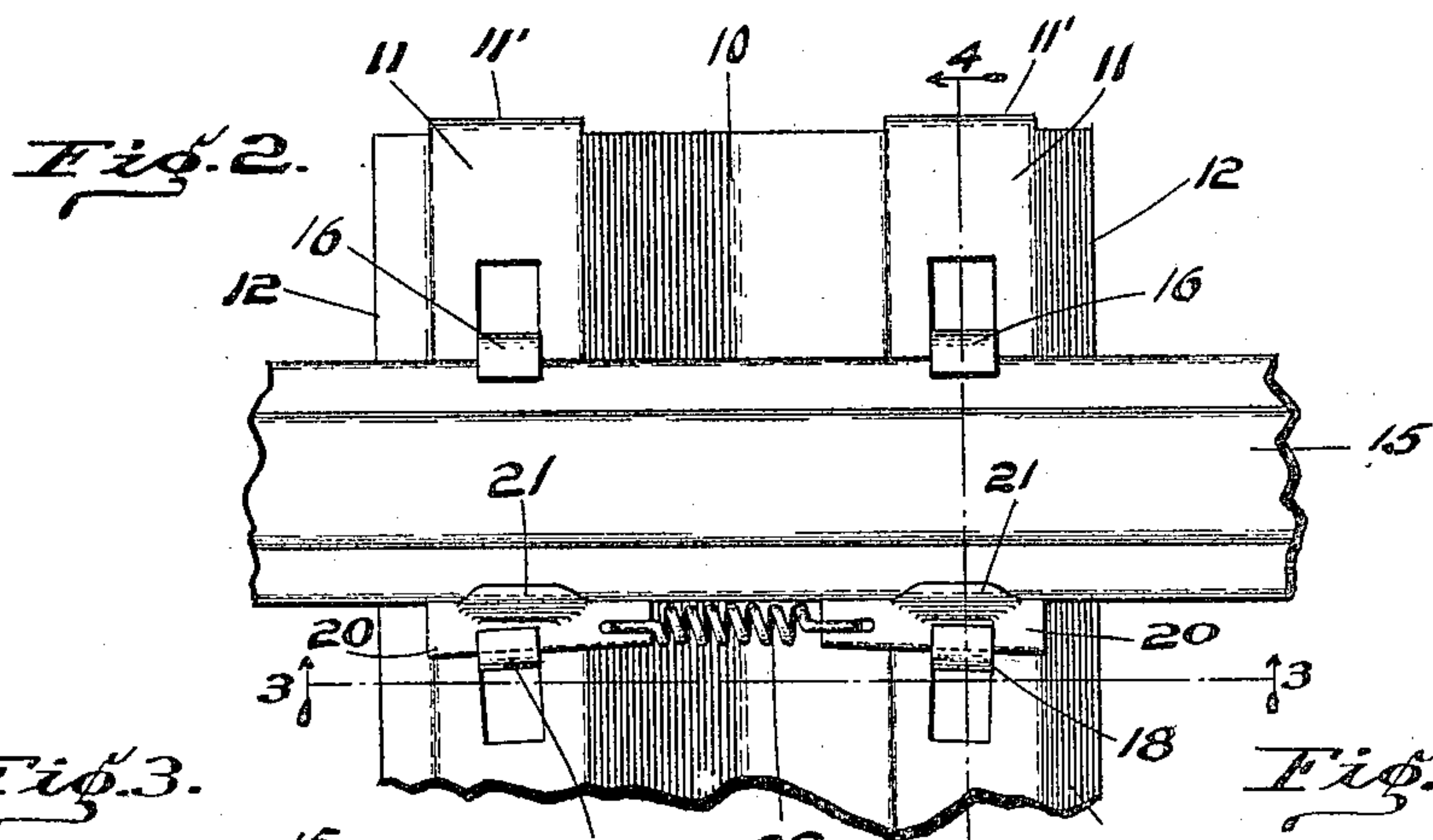
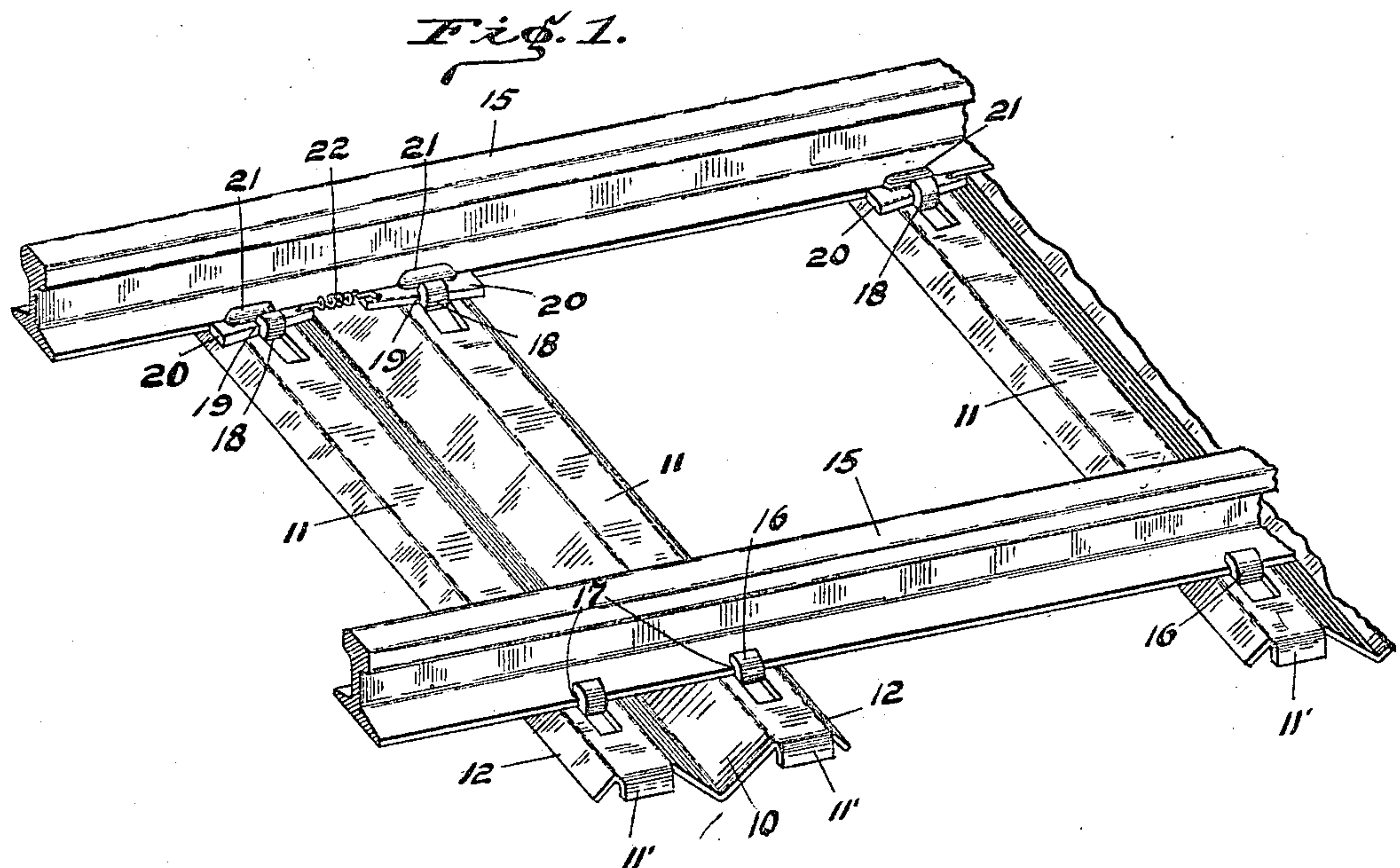
No. 817,544.

PATENTED APR. 10, 1906.

W. H. BROWN.

AUTOMATICALLY TIGHTENING RAILWAY RAIL HOLDER AND TIE.

APPLICATION FILED DEC. 18, 1905.



Witnesses
Frank A. Fable
T. W. McMeans

Inventor
William H. Brown
BY
Bradford Hood
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM H. BROWN, OF INDIANAPOLIS, INDIANA.

AUTOMATICALLY-TIGHTENING RAILWAY RAIL-HOLDER AND TIE.

No. 817,544.

Specification of Letters Patent.

Patented April 10, 1906.

Application filed December 18, 1905. Serial No. 292,254.

To all whom it may concern:

Be it known that I, WILLIAM H. BROWN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Automatically-Tightening Railway Rail-Holders and Ties, of which the following is a specification.

The object of my invention is to produce a railway tie or sleeper, preferably of metal, provided with means for engaging and holding a rail, said means consisting in part of a tapered member which is continuously urged toward a tighter position by suitable means.

The accompanying drawings illustrate my invention.

Figure 1 is a perspective view of a short section of road-bed equipped with my invention. Fig. 2 is a plan of one end of a tie with the rail in position thereon; Fig. 3, a section on line 3 3 of Fig. 2; Fig. 4, a section on line 4 4 of Fig. 2.

The tie or sleeper is formed of a suitable length of metallic plate creased in its middle to form a trough-like portion 10 to form a transverse drainage-channel for the road-bed. Flanking each side of trough 10 is a substantially horizontal portion 11, the outer edge of which is downturned to form a short outwardly and downwardly inclined lip 12, which thus furnishes a good grip upon the road-bed to prevent displacement longitudinally of the track. The lips 12 are comparatively short in order that they may offer no material hindrance to the use of tamping-tools, so that the material of the road-bed may be thoroughly tamped against the sides of the trough 10 and up against the horizontal portions 11. The plate is provided at each end with downturned portions 11', which serve to prevent displacement of the tie transversely of the road.

The upper faces of the two portions 11 of each tie form a pair of slightly-separated supports for the rail 15, and in order to hold the rail transversely in position upon the tie I punch from the portion 11 a lip 16, which is turned upward and inward to form a crotch 17, into which one edge of the foot of the rail may be passed. In opposition to each lip 16 I form a similar lip 18 in the same manner, said lip, however, being such distance from the lip 16 that the rail may be entered by placing one edge of the foot of the rail beneath the lip 16 and then swinging the rail downward into position, the opposite edge of

the foot of the rail lying a short distance from the lip 18. The lip 18 forms a crotch 19, adapted to receive a tapered gib or key 20, the inner upright face of the crotch 19 lying at a slight angle to the line of the rail and fitting the taper of the key 20. Key 20 is provided with a lip 21, which overhangs the adjacent edge of the foot of the rail, so as to hold the rail down firmly upon the tie.

As a train moves along the track there is a consequent vibration of the rail upon the tie, and in order to insure the maintenance of the key 20 in its tightest possible position I provide a spring 22, which is attached to the keys 20 and continuously urges them forward between the lips 18 toward a tighter position. As a consequence any vibration of the rail upon the tie which would tend to loosen the key will permit the spring to draw the key more firmly into position, and thus keep the parts tight.

It will be readily seen that where the tie is provided with two adjacent keys 20 the spring 22 may be attached to the two keys, thus serving to operate simultaneously upon the two.

It will be readily understood that a different form of spring from that shown may be used without departing from my invention and that any material may be used for the support for the rail or for the tie.

I claim as my invention—

1. The combination, with a rail, of a support therefor, means carried by said support for engaging a rail against transverse displacement, a wedge for engaging said rail in opposition to said means, an abutment for said wedge carried by the support, and means for continuously urging said wedge between the rail and abutment.

2. The combination, with a tie, of a pair of abutments between which a rail may ride, a wedge adapted to engage one of said abutments and the rail to urge the rail transversely toward the other abutment, and a spring for urging said wedge toward a tighter position.

3. A tie consisting of a metal plate having struck up therefrom at each end two pairs of abutments between which the rail may lie, a pair of wedges each adapted to engage one abutment of a pair to urge the rail transversely toward the other abutment of the pair, and a spring connecting the two wedges to urge them simultaneously toward tighter positions.

4. A tie provided at one end with two
pairs of separated abutments between which
a rail may lie, a pair of wedges each adapted
to engage one abutment of a pair to urge the
5 rail transversely toward the two abutments
of the pair, and a spring connecting the two
wedges to urge them simultaneously toward
tighter positions.

10 5. A tie formed of a metallic plate creased
medially with flanking horizontal portions
and downturned edges and having struck up
from intermediate portions of the horizontal
portions near each end thereof a pair of co-
operating intumed lips between which the

15 rail may lie, of two pairs of wedges—one pair
for each end of the tie, each wedge adapted to
lie between the rail and an adjacent lip, and
two springs, each for connecting the adjacent
ends of a pair of wedges to urge them simul-
taneously to tighter positions. 20

In witness whereof I have hereunto set my
hand and seal, at Indianapolis, Indiana, this
16th day of December, A. D. 1905.

WILLIAM H. BROWN. [L. s.]

Witnesses:

ARTHUR M. HOOD,
THOMAS W. McMEANS.