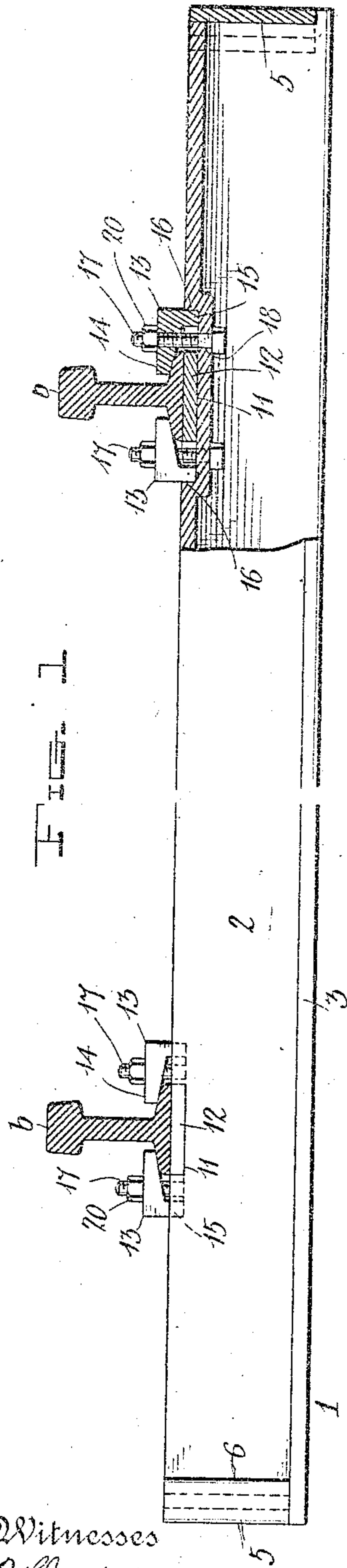


No. 884,241.

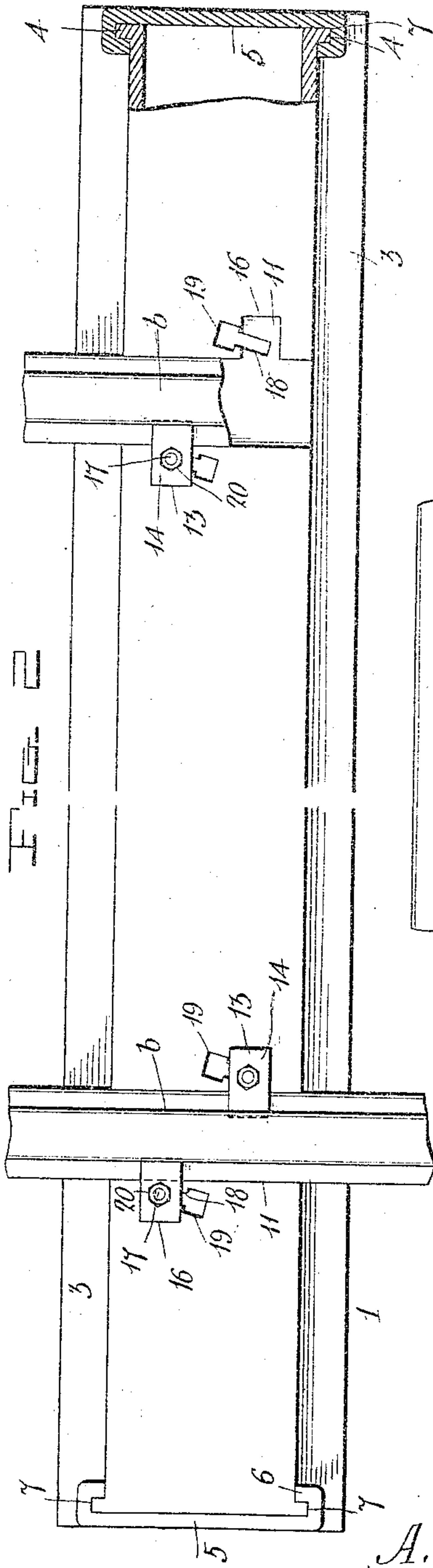
PATENTED APR. 7, 1908.

A. S. TOPPING.  
RAILROAD TIE.

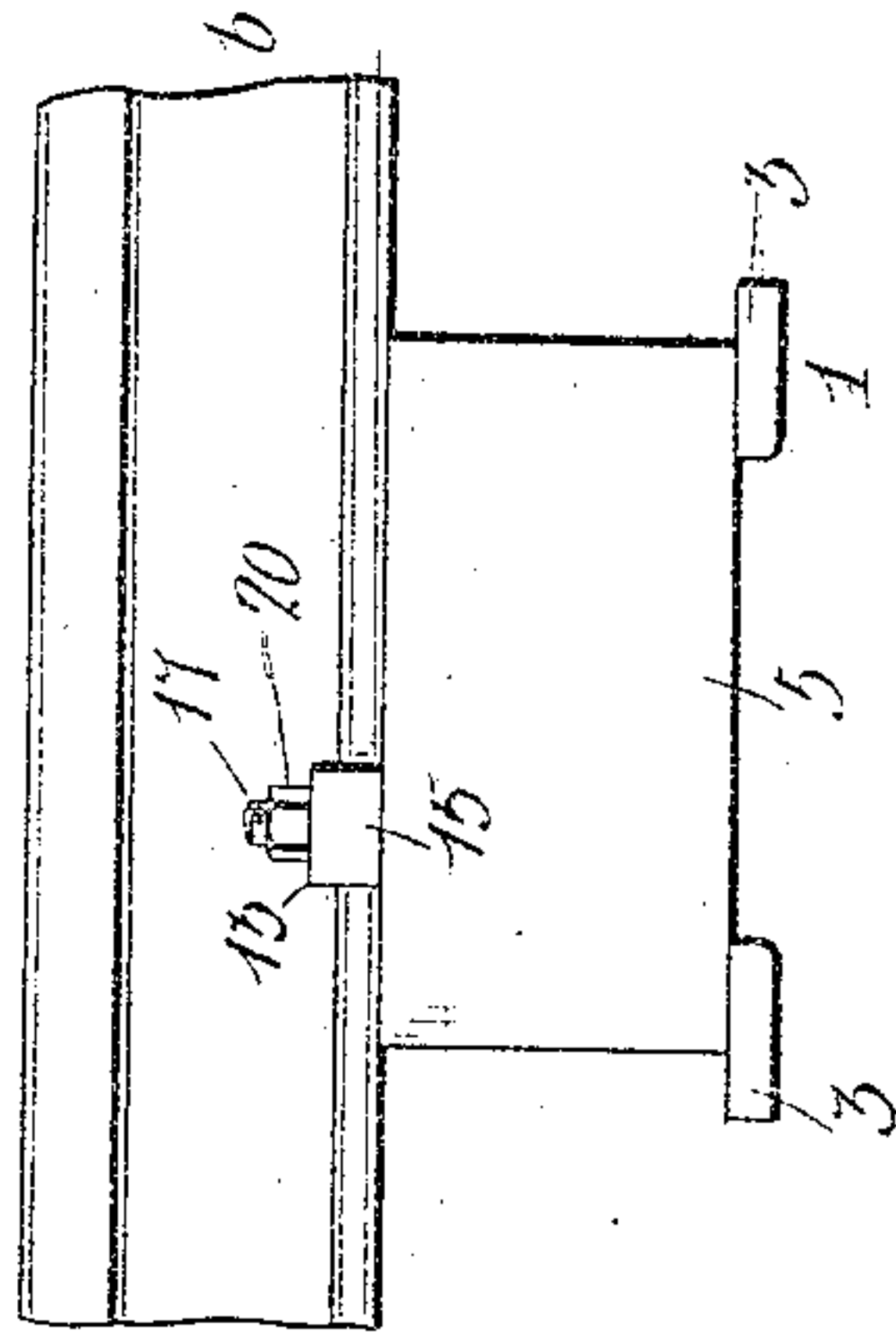
APPLICATION FILED MAR. 28, 1907.



Witnesses  
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# UNITED STATES PATENT OFFICE.

ALFRED S. TOPPING, OF GRAND RAPIDS, MICHIGAN.

## RAILROAD-TIE.

No. 884,241.

Specification of Letters Patent.

Patented April 7, 1908.

Application filed March 28, 1907. Serial No. 365,047.

*To all whom it may concern:*

Be it known that I, ALFRED S. TOPPING, a citizen of the United States, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Railroad-Ties; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention is an improved metallic railroad tie provided with means to facilitate the tamping of the tie and to permit the removal thereof from the road bed, and further provided with improved means for securing the rails on the tie so that they cannot spread, and the said invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a metallic railroad tie and rail fastening devices constructed in accordance with my invention; Fig. 2 is partly a top plan view and partly a horizontal sectional view of the same; and Fig. 3 is partly an end elevation and partly a transverse sectional view of the same.

In accordance with my invention, the tie, 1, is made of steel, iron, or other suitable metal, may be wrought, cast or otherwise constructed, is hollow and is open on its lower side and at its ends. The side walls of my improved tie are provided at their lower edges with outwardly extending base flanges, 3, which form broadened lower surfaces to bear on the ground. The said side walls of the tie are provided at their ends with outwardly extending flanges, 4, the outer sides of which are at a slight distance from the ends of the base flanges.

The ends of the tie may be closed by means of plates, 5, which are rectangular in form and of appropriate size to bear on the base flanges and against the vertically, outwardly extending flanges, 4, of the tie, and the ends of the said plates are bent to provide them with flanges, 6, to bear against the inner sides of the said flanges 4, and with grooves, 7, to receive said flanges, 4, so that the said end plates may be placed on the ends of the tie by merely pressing them downwardly thereon so as to engage them with the said flanges, 4, at the ends of the tie. It will be understood that said plates may be detached

from the ends of the tie by raising them so as to cause them to clear the said flanges, 4.

When placing a tie, one of the plates 5 must be removed, and the tie filled with earth or sand and tamped so as to ballast the tie and firmly hold the same in place on the road bed, and the end plate must be then secured in place.

To remove the tie, one of the end plates must be first removed and the tie can then be readily moved endwise without lifting the same so as to cause it to readily disengage from the ridge of earth formed by the tamping of the earth in the tie, as will be understood.

In the upper side of the tie at points coincident with the rails, *b*, are transverse recesses, 11, in which wooden blocks or plates, 12, are placed, and on which wooden blocks or plates said rails bear, said wooden blocks or plates forming in effect cushions between the rails and the tie, and to a considerable extent relieving the ties of the concussion caused by the passage of trains, and also enabling the ties to yield somewhat as the trains pass over them.

I provide in combination with my improved tie, rail securing devices, 13, each of which has a flange, 14, to bear on one side of the base of the rail, and a vertical flange, 15, to enter one of the said recesses, 11, and bear against the shoulder, 16, formed by the end of the said recess. The said rail securing devices are preferably made of iron or steel and are provided with openings for the reception of bolts, 17, which are employed to secure said devices on the tie. Each of the said bolts has a squared or angular portion near its head, engaging a similarly shaped opening in the depressed portion of the tie forming one of the recesses, 11, to prevent said bolt from turning, and the nuts, 20, of the said bolts are screwed on the upper ends thereof and above said devices, 13. To enable the bolts to be placed so as to extend through the recessed portion of the upper side of the tie, the said openings, 18, through which the squared or angular portions of the bolts extend, are elongated to form oblique slots which converge toward the rail and are provided at their outer ends with openings, 19, of sufficient size to clear the heads of the bolts and form enlargements of the outer portions of the said slots. Such slots facilitate the placing of the rail securing devices on the tie and in engagement with the rails, and also



facilitate the removal of such devices when it is desired to remove or take up the rails.

Since the flanges 15 of the rail securing devices, 13, lie in the ends of the recesses, 11, and against the shoulders 16 forming the ends of said recesses, and since the said rail securing devices are firmly held in place by the bolts, 17, it will be understood that the said devices are effectually prevented from moving outwardly, and, hence, said devices serve to securely fasten the rails on the ties and prevent the rails from spreading.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of the invention may be readily understood without requiring a more extended explanation.

Having described my invention, what I claim as new and desire to secure by Letters-Patent, is:

1. A hollow metallic railroad tie, open at its ends and having closures slidably mounted on said ends.

2. A hollow metallic railroad tie, open at its ends and having guides arranged thereon and closures for said ends slidable on said guides.

3. A hollow metallic railroad tie, open at its ends, having outwardly extending base flanges and provided at its ends with outwardly extending flanges, in combination with detachable plates forming closures for the ends of said tie, said plates bearing on the ends of the base flanges and against the ends of the tie, and having inwardly extending flanges and grooves co-acting with the end flanges of the tie to secure said plates in place.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALFRED S. TOPPING.

Witnesses:

J. H. TOLAND,  
D. R. EASON.