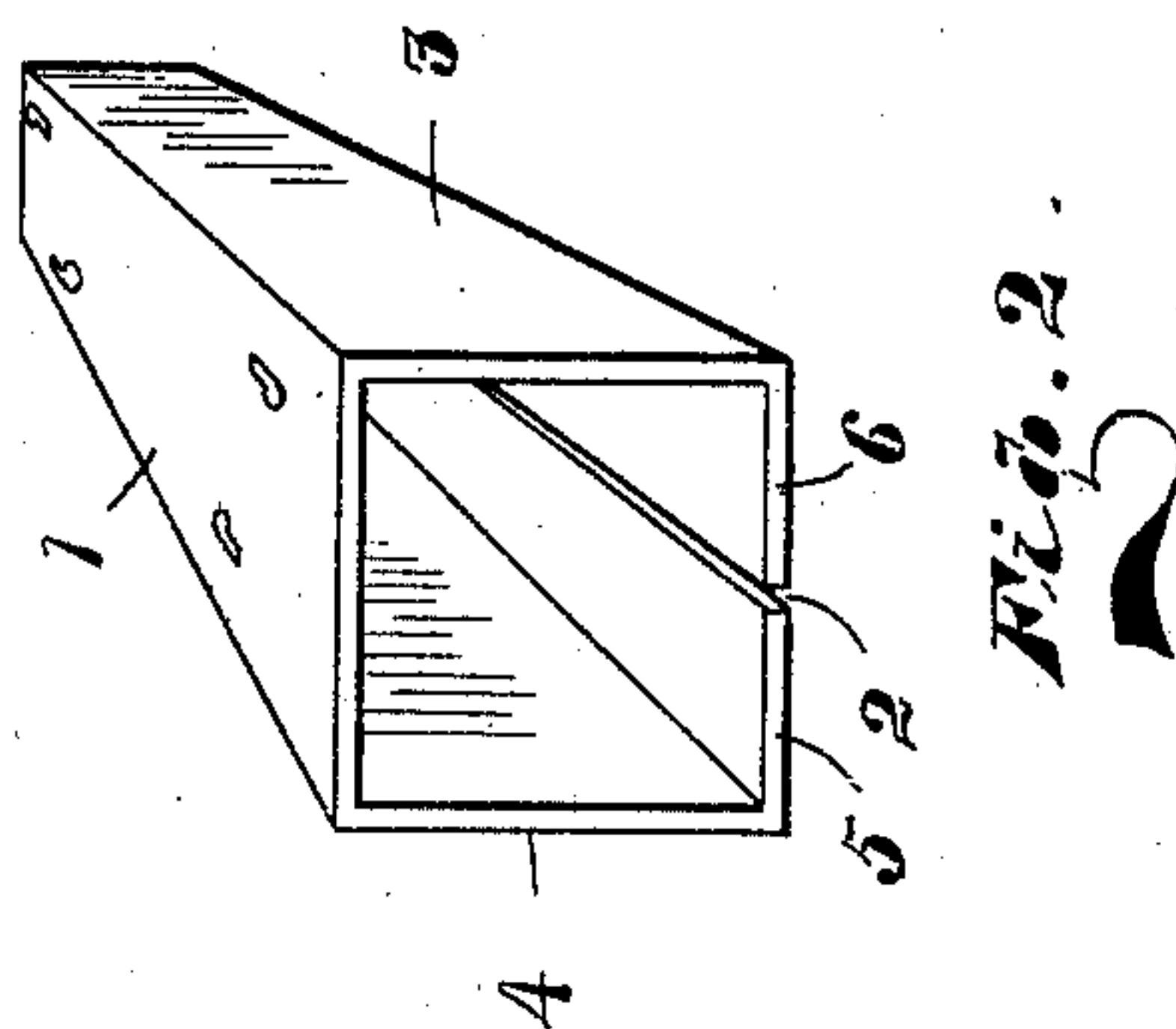
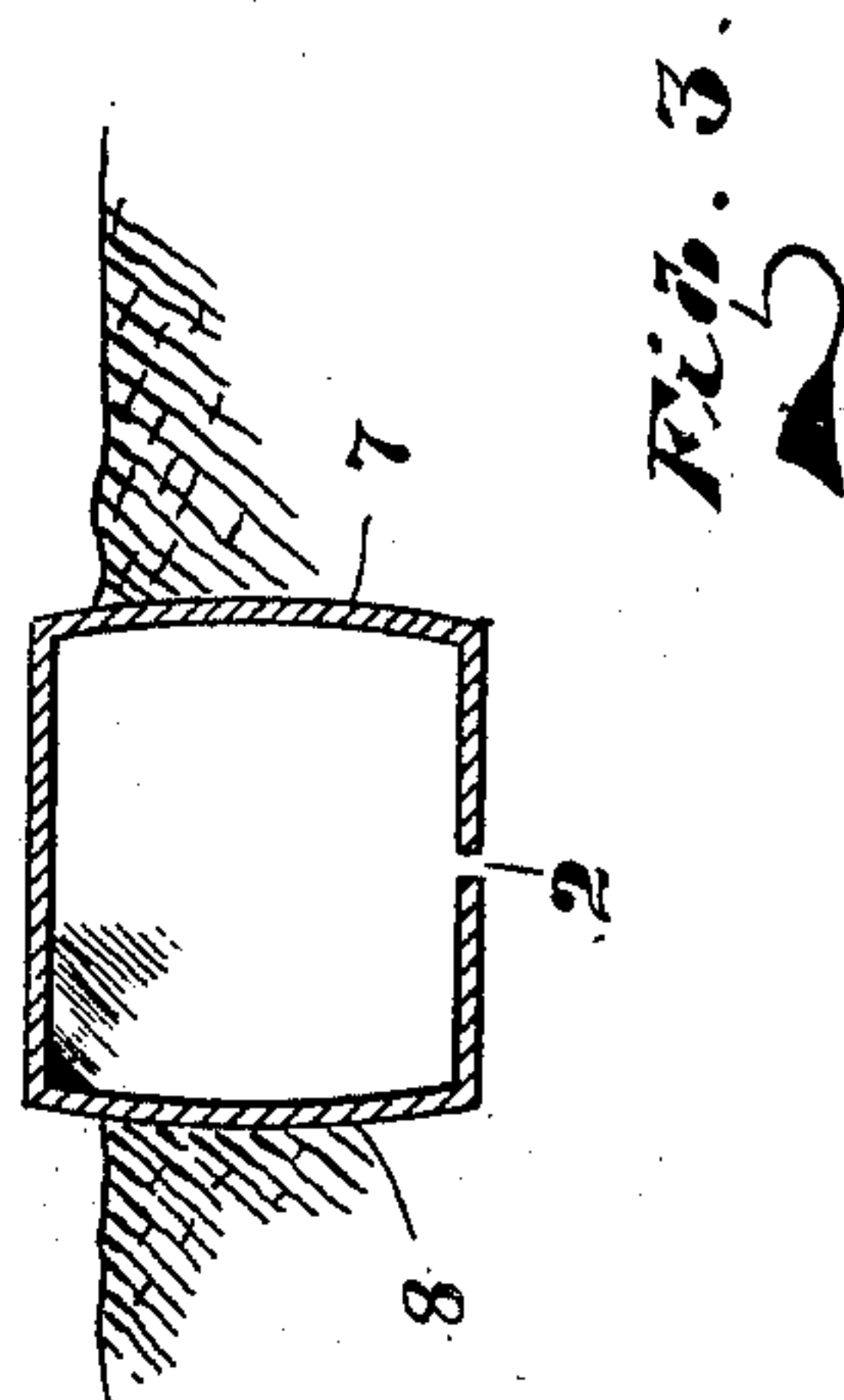
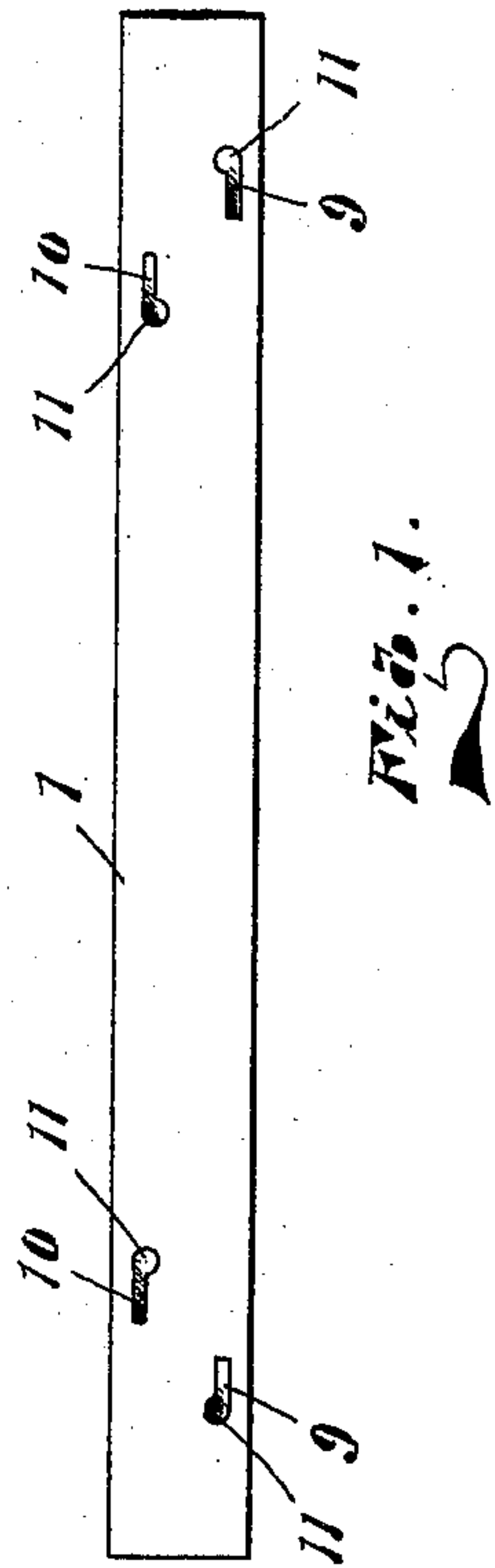


J. J. O'DONNELL.
RAILROAD TIE.
APPLICATION FILED DEC. 6, 1909.

976,683.

Patented Nov. 22, 1910.



WITNESSES:
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RAILROAD-TIE.

976,683.

Specification of Letters Patent.

Patented Nov. 22, 1910.

Original application filed February 4, 1909, Serial No. 476,151. Divided and this application filed December 6, 1909. Serial No. 531,674.

To all whom it may concern:

Be it known that I, JOHN JOSEPH O'DONNELL, a citizen of the United States, residing at Biwabik, in the county of St. Louis and State of Minnesota, have invented certain new and useful Improvements in Railroad-Ties, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in railroad ties, and is a division of my application for improvements in railway tie and rail fastening means, filed February 4th 1909, Serial No. 476,151.

The object of my invention is to provide a railway tie made of metal in hollow form having a certain amount of flexibility when the train is passing over it.

Another object of my invention is to provide a metallic tie which is made of light material so constructed that it will not collapse under the weight of the train, and the tamping of the ballast will not take away the elasticity thereof.

In the accompanying drawings: Figure 1 is a top plan view of my improved railway tie. Fig. 2 is a perspective view of my improved tie. Fig. 3 is a transverse sectional view of a slightly modified form of tie.

Referring now to the drawings, 1 represents my improved tie which is approximately square in cross-section and having one side split or separated longitudinally by the slot 2.

My improved tie is preferably made of heavy sheet metal bent into the proper form which makes a light durable tie and yet at the same time having the proper flexibility, which the ordinary metal tie is wholly void of. The tie is made as heretofore stated of sheet metal and its edges are not brought close together so that the space 2 is left, this space being varied according to the amount of elasticity desired. By this arrangement, it will be seen that the tie is flexible and as a heavy load is passing over it will have some movement, that is the two side sections 3 and 4 will move independently and the weight forcing the same inwardly and thus giving the proper flexibility. The two edges 5 and 6 are moved inwardly toward each other

when the load is thereon and the engagement of the two edges limits the flexibility. While I have shown and described the slot in the bottom of the tie, it will be understood that it could be formed in either side or top without departing from my invention.

In Fig. 3, I show the sides 7 and 8 slightly bowed outwardly which allows of the use of a lighter material without any possibility of the sides collapsing. The ballast of the road-bed prevents the tie from collapsing outwardly and by slightly bowing or curving the sides outwardly all liability of the tie collapsing inwardly is prevented.

I have shown the upper face of the tie with two openings 9 and 10 at each end, which run longitudinally of the tie and are spaced a distance apart slightly less than the width of the base of the rail, whereby the rail can be shifted inwardly or outwardly as desired. The said openings at one end are in communication with circular openings 11, as shown in the original application and are designed to be used in connection with the fastening means as covered by the said original application.

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

1. A metallic tie formed of sheet metal in hollow form and having a flat upper face, outwardly bowed sides and substantially flat base having the edges of the metal spaced a distance apart, and means for securing the rails to the upper flat face.

2. A metallic tie formed of sheet metal in hollow form and having a flat upper face and outwardly bowed sides in the arc of a circle considerably greater than the diameter of the tie, said tie having a flat base, the edges of the metal forming the same spaced a distance apart and the upper face of the tie having bayonet slots for securing the rails thereto.

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

JOHN JOSEPH O'DONNELL.

Witnesses:

NORMAN E. LA MOND,
S. GEO. STEVENS.