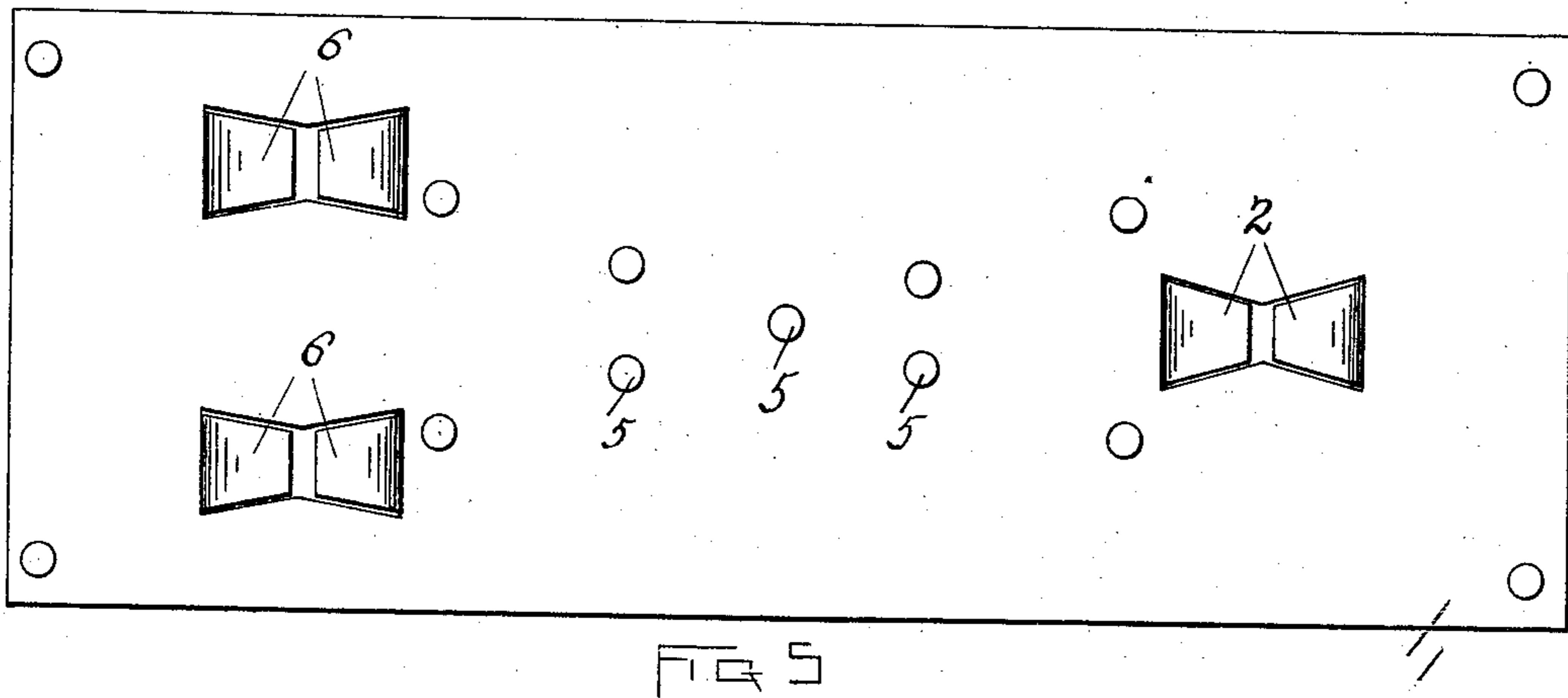
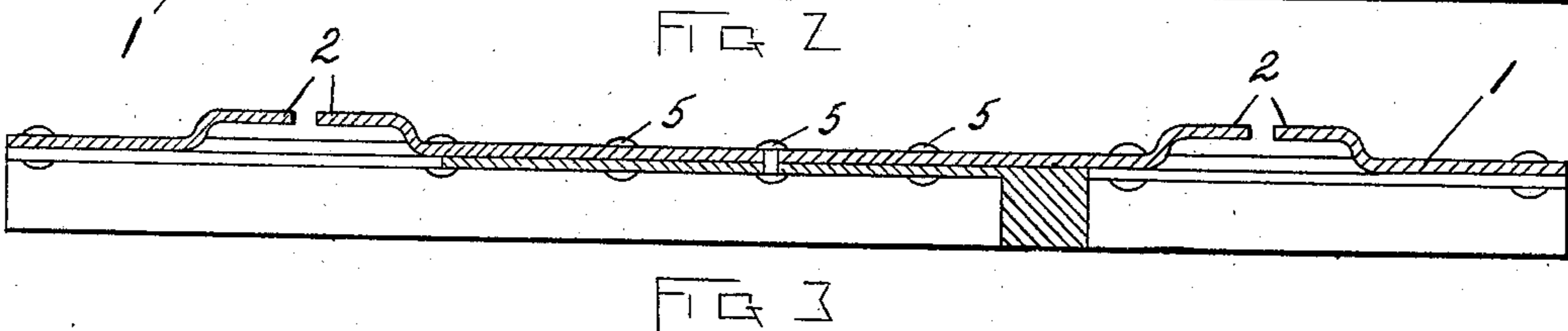
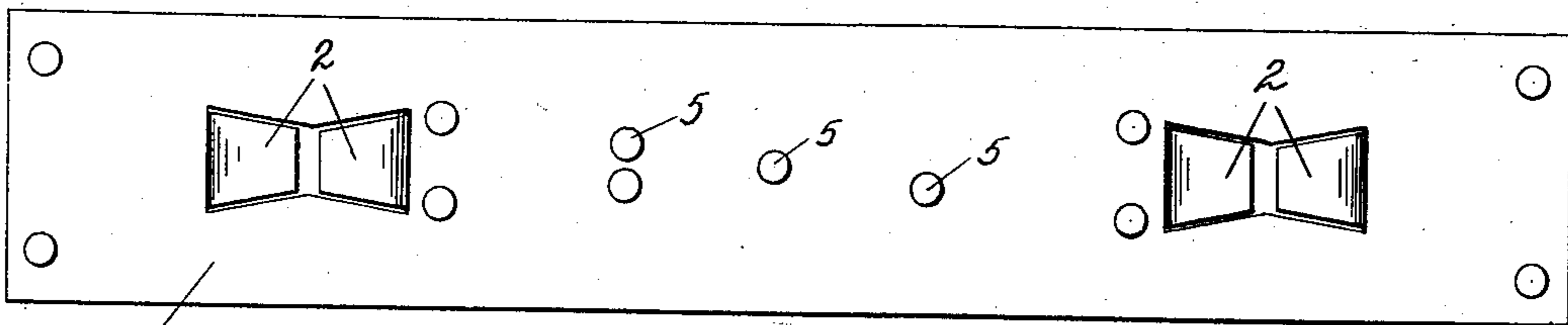
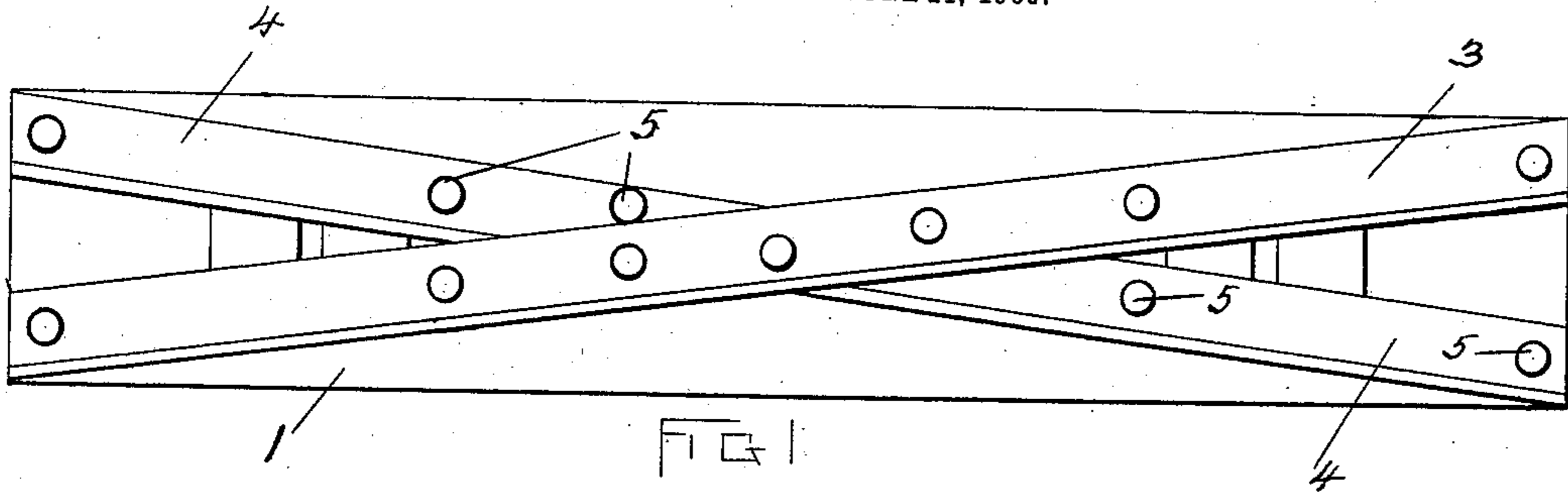


No. 842,414.

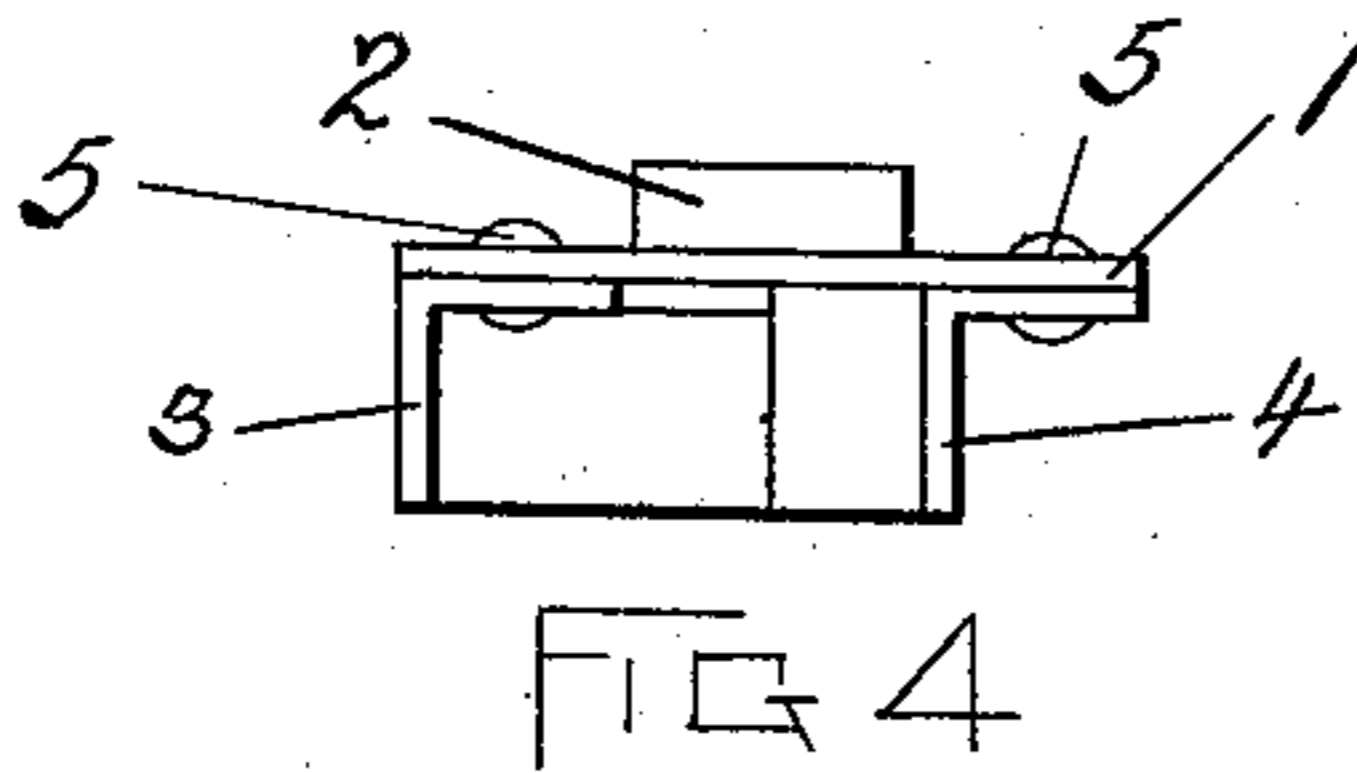
PATENTED JAN. 29, 1907.

J. J. MOORE.  
METALLIC RAILWAY TIE.  
APPLICATION FILED JUNE 14, 1906.



WITNESSES

J. L. Fuller.  
J. Donsbach.



INVENTOR

John J. Moore,  
By Mosher & Curtis  
Attys.

# UNITED STATES PATENT OFFICE.

JOHN J. MOORE, OF TROY, NEW YORK, ASSIGNOR OF ONE-THIRD TO  
THOMAS J. RAFFERTY AND ONE-THIRD TO GORDON GREEN, OF  
TROY, NEW YORK.

## METALLIC RAILWAY-TIE.

No. 842,414.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed June 14, 1906. Serial No. 321,612.

*To all whom it may concern:*

Be it known that I, JOHN J. MOORE, a citizen of the United States, residing at Troy, county of Rensselaer and State of New York, have invented certain new and useful Improvements in Metallic Railway - Ties, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a bottom plan view of my improved metallic railway-tie. Fig. 2 is a top plan view of the same. Fig. 3 is a central vertical longitudinal section of the same. Fig. 4 is an end view of the same. Fig. 5 is a top plan view of a double form of tie embodying my invention.

The principal object of the invention is to provide a cheap, simple, durable, and efficient metallic railway-tie which can be built up from rolled metal shapes.

Referring to the drawings, wherein the invention is shown in preferred form, 1 represents the body of the tie, which comprises an elongated plate of metal, preferably rolled iron or steel, having near each end a pair of lips 2, struck up from the body thereof, adapted to receive the foot of an ordinary railway - rail. (Not shown.) Attached to the under side of the body-plate 1 are diagonally-disposed angle-irons, one of which, 3, extends diagonally of the plate from corner to corner, while the shorter angle-irons 4 extend from the remaining corners of the plate diagonally to the longer plate 3. Each angle-plate is secured to the body-plate by a plurality of rivets 5, inserted through the body-plate and horizontal member of the angle-

plate. The tie thus formed possesses great strength for a given weight of metal and is built up of rolled metal shapes, which are easily sheared off in the desired sizes and easily punched and riveted. The depending flanges formed by the vertical members of the diagonally - arranged angle - irons are adapted to be seated firmly in the road-bed or ballast, thereby overcoming any tendency of the ties to slide or creep.

In Fig. 5 I have shown a double tie constructed in the same manner as the single tie above described, except that it has near one end two pairs of lips 6 struck up therefrom, each pair being adapted to receive the foot of a railway-rail, (not shown,) and the pairs being arranged in line with each other, so that the two rails thereby supported will be maintained in alinement with each other.

What I claim as new, and desire to secure by Letters Patent, is—

1. A built-up metallic railway-tie comprising a flat body-plate, and diagonally-arranged angle-irons riveted to the under side of said body-plate.

2. A built-up metallic railway-tie comprising a flat body-plate having, near each end, rail-engaging lips struck up from the body of the plate, and diagonally-arranged angle-irons riveted to the under side of said body-plate.

3. A built-up metallic railway-tie comprising a flat body-plate; a long angle-iron riveted to the under side of the body-plate and extending diagonally from corner to corner thereof; and a pair of angle-irons riveted to the under side of the body-plate and extending from the remaining corners, diagonally to said long angle-iron.

In testimony whereof I have hereunto set my hand this 8th day of June, 1906.

JOHN J. MOORE.

Witnesses:

FRANK C. CURTIS,  
J. DONSBACH.