

(No Model.)

S. F. SEELY.  
Railroad Tie.

No. 235,706.

Patented Dec. 21, 1880.

FIG. 1.

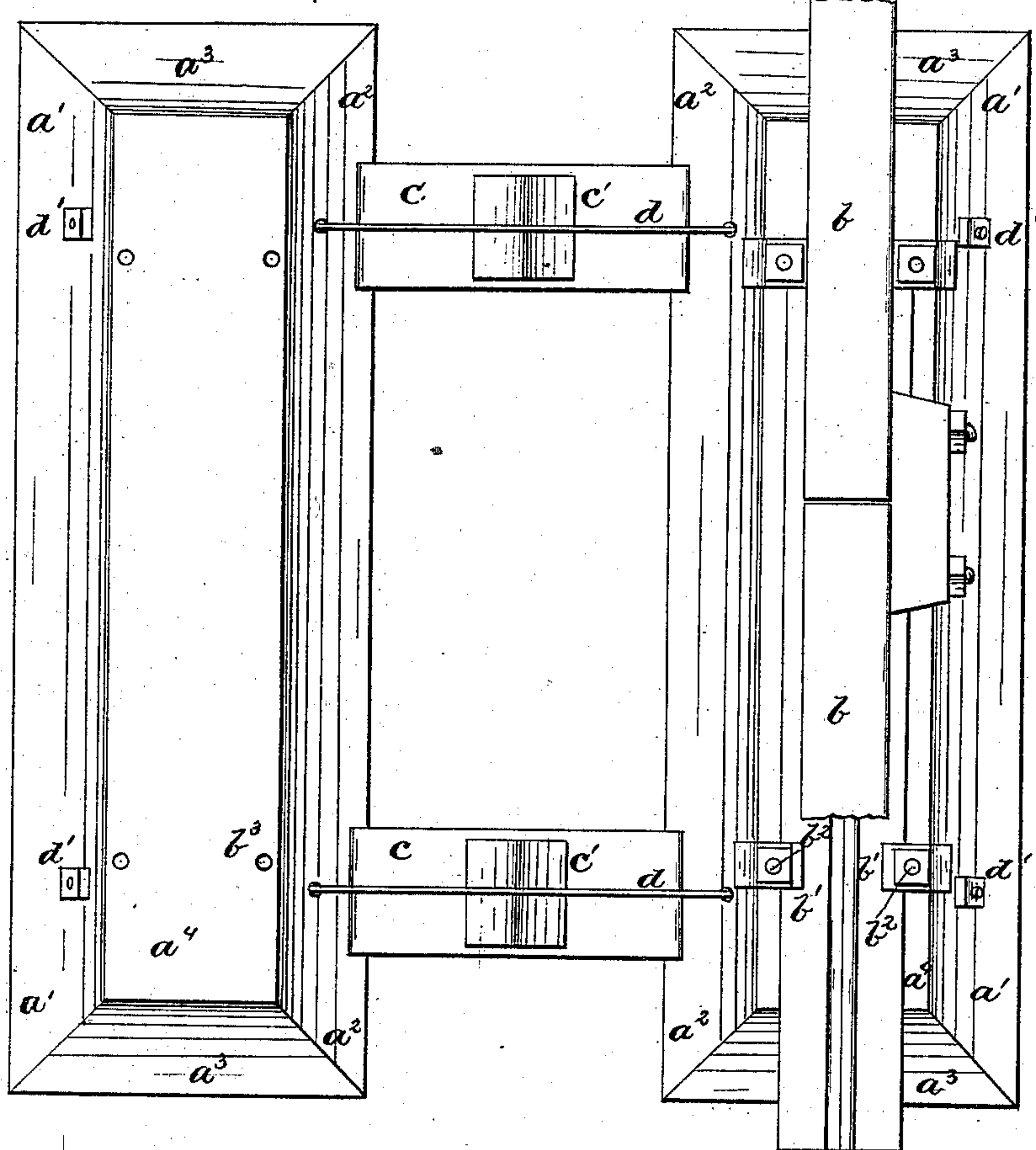
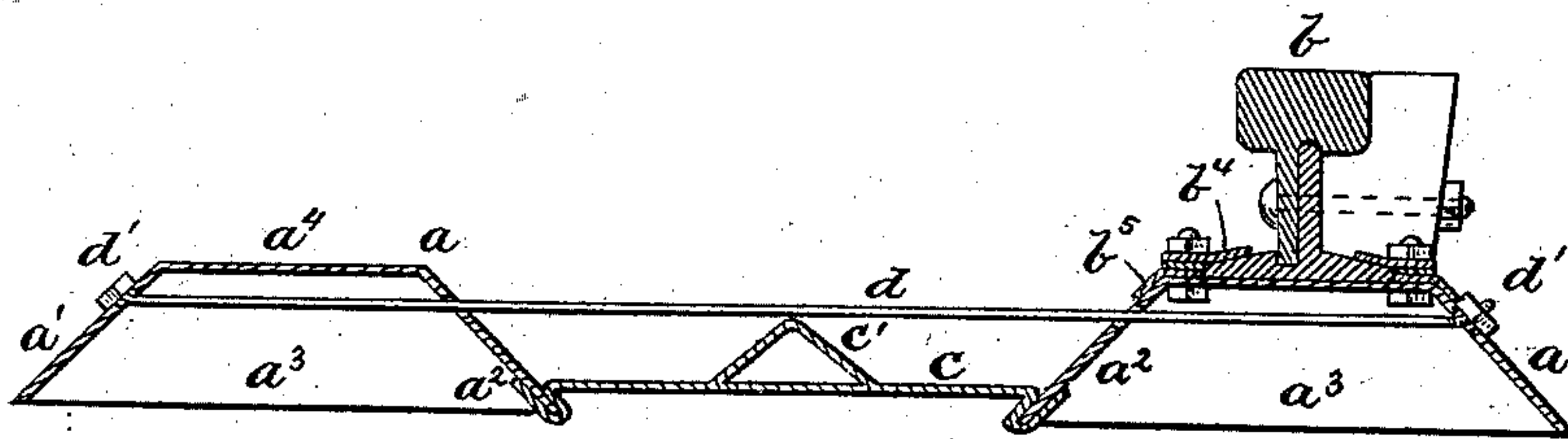


FIG. 2.



Witnesses:

M. M. Lacey  
J. B. Holderby

Inventor:

Samuel F. Seely  
By R. D. & A. P. Lacey Attys.

# UNITED STATES PATENT OFFICE.

SAMUEL F. SEELY, OF PETERSBURG, MICHIGAN.

## RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 235,706, dated December 21, 1880.

Application filed April 22, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL F. SEELY, a citizen of the United States, and residing at Petersburg, in the county of Monroe and State of Michigan, have invented certain new and useful Improvements in Railroad Ties and Fish-Plates; and I do hereby 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has for its object to furnish a compound railway-tie which will preserve its position on the railway-bed without being ballasted, as is required for ordinary ties.

It consists in two main longitudinal ties formed hollow underneath and united by two cross-ties provided with central vertical supports and held by cross-brace rods, all of which will be hereinafter fully explained.

In the drawings, Figure 1 is a plan, and Fig. 2 a cross vertical section, of my invention.  $a a$  are the two main ties, which are laid longitudinally on the bed of the road, and on them the rails  $b$  are laid, as shown.

The longitudinal tie  $a$  is made of any suitable material, and is hollowed out on its under side, so as to form the side walls,  $a' a^2$ , and the end walls,  $a^3$ , all sloping outward, as shown. It is also made with a flat top,  $a^4$ , on which the rails  $b$  are laid and secured by plates  $b'$ , held by bolts  $b^2$ . The bolts  $b^2$  are put through the bolt-holes  $b^3$  and are inserted from below the top  $a^4$ , as shown.

The plates or fastenings  $b'$  are formed with flanges or lips  $b^4$ , which project over the edges of the foot of the rail, and with the flanges or lips  $b^5$ , which are bent downward against the inclined sides  $a' a^2$  of the ties  $a$ , and hold them firmly in place, thus making secure fastenings for the rails  $b$ . The plates  $b'$  may be cast in one piece or made in three pieces, as shown.

The longitudinal ties  $a a$  are united by two cross-ties,  $c c$ , arranged near their ends and a slight distance above the lower edges of the inner side-walls,  $a^2 a^2$ . These cross-ties  $c c$  are

parallel with the surface of the road-bed, and being elevated above the lower edges of the side ties,  $a a$ , water will drain off below them. They are made flat and of strong material, so that if by the settling of the entire device they are brought onto the surface of the road-bed they will present very little obstruction to the free drainage of the water.

On the upper sides of the cross-ties  $c c$ , and equidistant between the longitudinal ties  $a a$ , I place the vertical standards or bridges  $c' c'$  which support the brace-rods  $d d$ . The brace-rods  $d d$  have their ends put through and near the top of the longitudinal ties  $a a$ , and are held by nuts  $d' d'$  against the outer walls,  $a' a'$ , as shown. The rods are arranged parallel with the cross-ties  $c c$ , and pass over and are supported on the tops of the central standards,  $c' c'$ .

This compound railway-tie, made as described, will maintain itself in proper position on the road-bed without ballasting. The longitudinal ties being hollow underneath, with sloping sides and ends, as described, will become firmer as they settle downward. The inclined sides tend to compact the earth within the hollow space, and the more compact the earth becomes the firmer will be the position of the tie. The cross-ties  $c$  prevent the longitudinal ties from being crowded apart at their bottoms. The cross-braces  $d d$  prevent the upper portions of the longitudinal ties from spreading. The braces  $d$ , having their fastenings on outer walls,  $a' a'$ , of the longitudinal ties, and being supported against the cross-ties by the standards or bridges  $c'$ , give to the compound tie great firmness in structure, and all the parts of the entire device will be maintained constantly in the same relative position to each other, thereby preserving the opposite rails of the track at all times in their proper relations.

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

1. The compound tie for railways, composed of the longitudinal ties  $a a$ , made hollow underneath and having the inclined sides  $a' a^2$ , the cross-ties  $c c$ , having the central supports,  $c'$ , and the brace-rods  $d d$ , all arranged



to operate substantially as and for the purpose set forth.

2. The combination, with the hollow tie  $a$ , having inclined sides  $a'$   $a^2$  and bolt-holes  $b^3$ , of  
5 the plate  $b'$ , having the flange  $b^4$  and flange  $b^5$  bent down against the inclined side of the tie  $a$ , and the bolt and nut  $b^2$ , substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 30th day of 10 March, 1880.

SAMUEL F. SEELY.

Witnesses:

H. CAMBURN,  
THOS. H. LEACH.