

No. 703,311.

Patented June 24, 1902.

G. SHOEMAKER.
STREET RAILWAY SWITCH.

(Application filed Nov. 15, 1901.)

(No Model.)

2 Sheets—Sheet I.

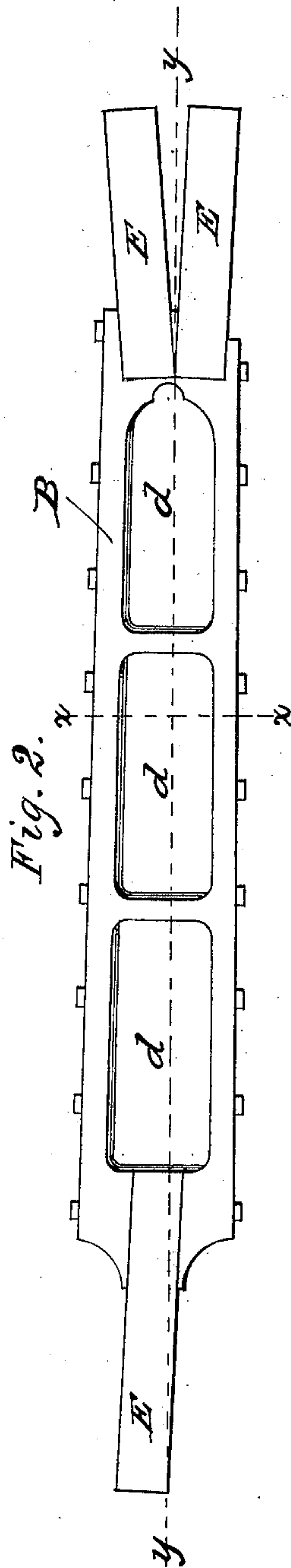
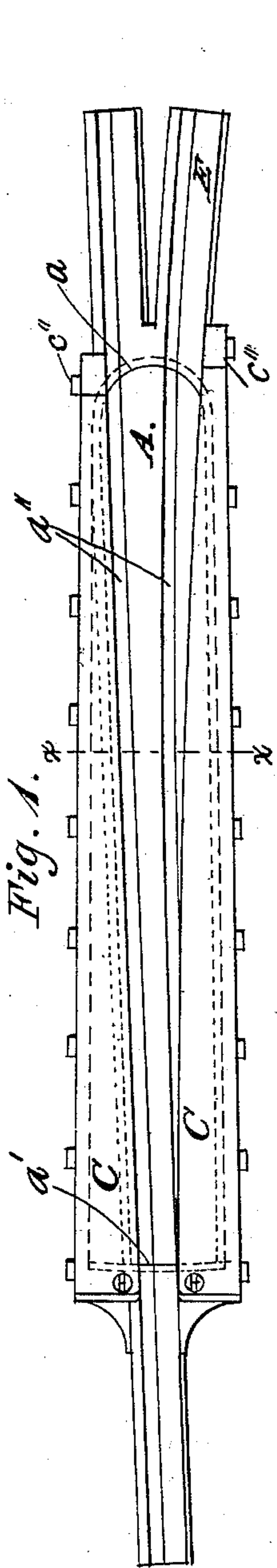
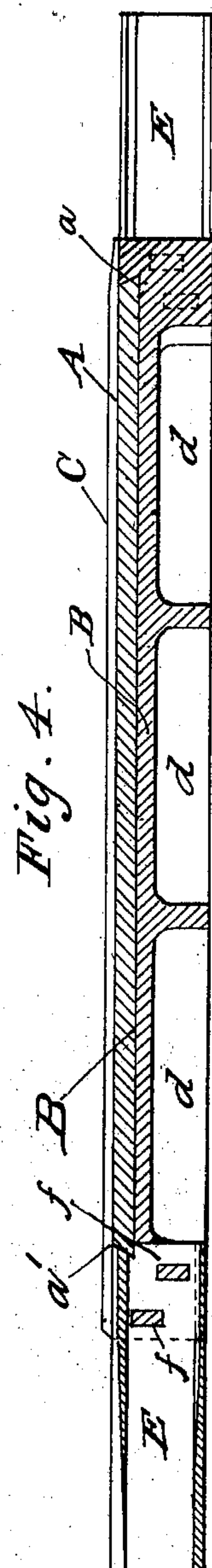
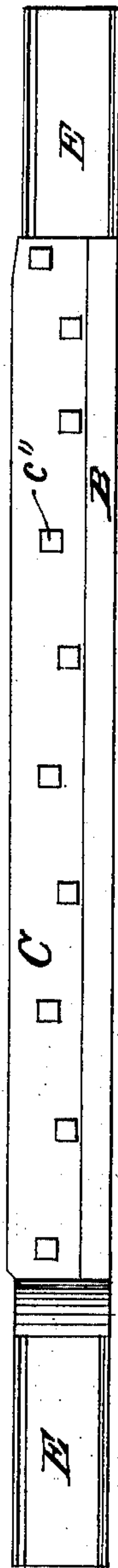


Fig. 3.



Witnesses.

James Fernald
Martin L Hoffman

Inventor.
George Shoemaker.

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2 Sheets—Sheet 2.

Fig. 5.

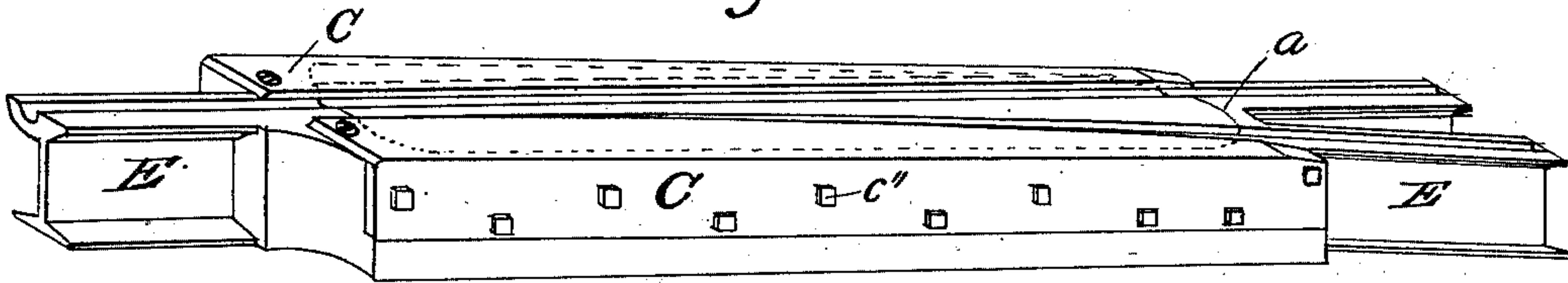


Fig. 6.



Fig. 7.



Fig. 8.

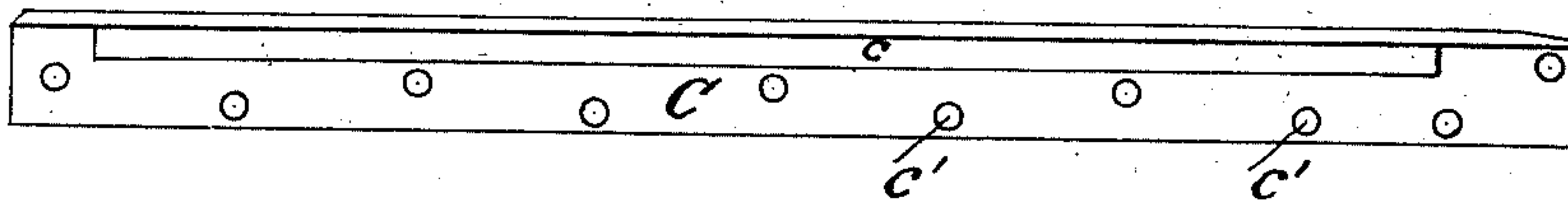


Fig. 10.

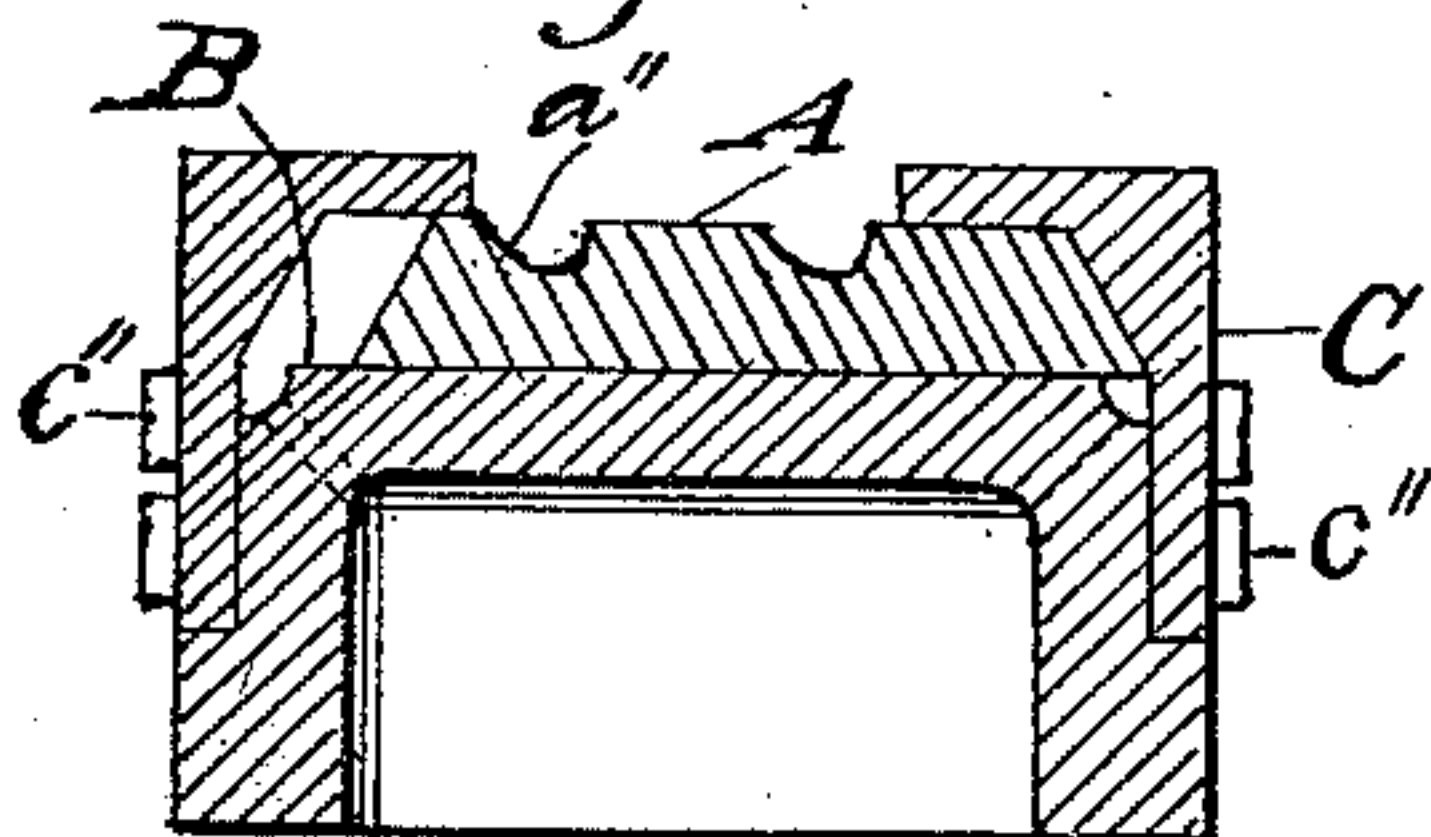
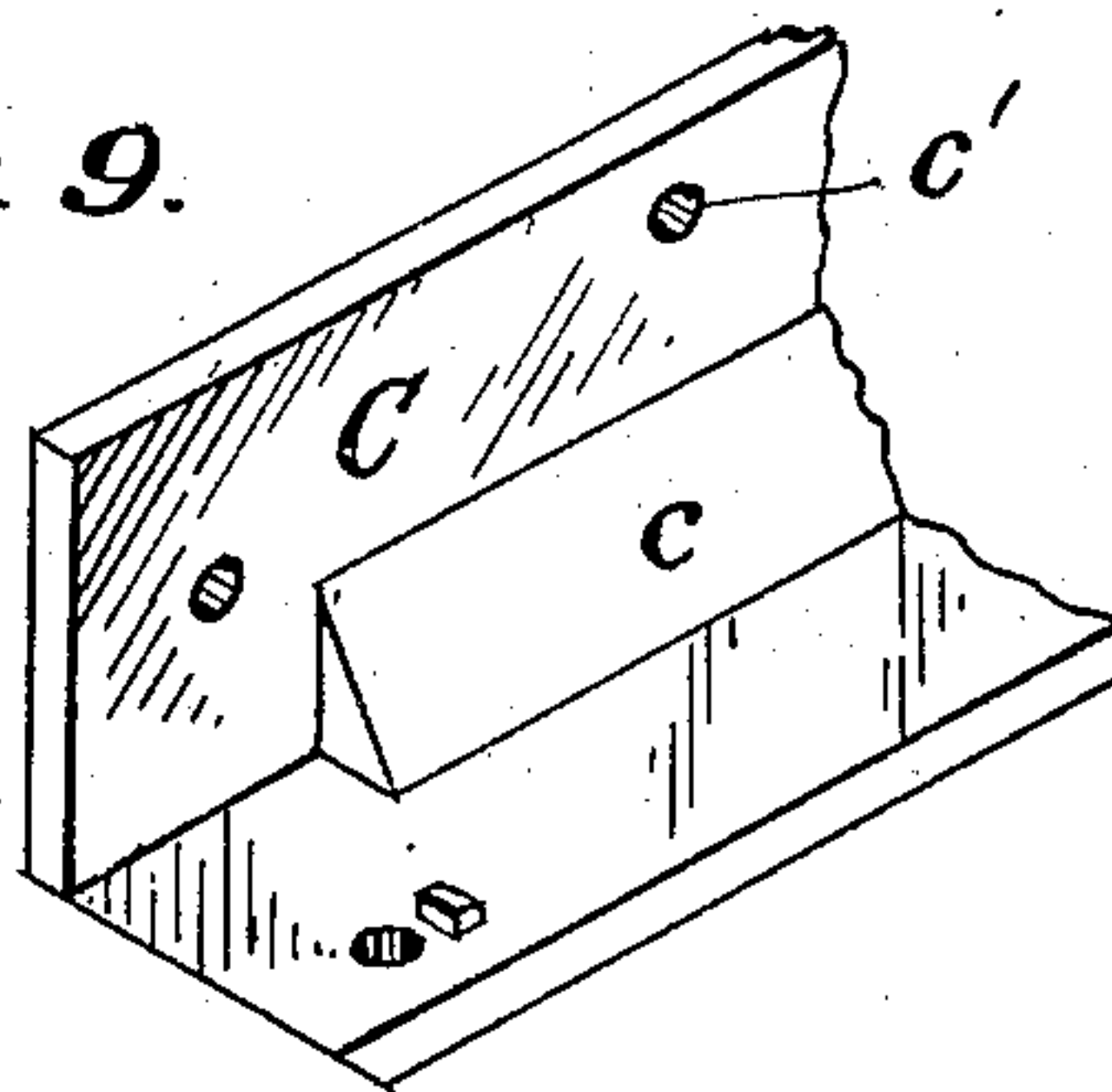


Fig. 9.



Witnesses.

James C. Fernald.
Martin L. Hoffman.

Inventor.

George Shoemaker.

UNITED STATES PATENT OFFICE.

GEORGE SHOEMAKER, OF PHILADELPHIA, PENNSYLVANIA.

STREET-RAILWAY SWITCH.

SPECIFICATION forming part of Letters Patent No. 703,311, dated June 24, 1902.

Application filed November 15, 1901. Serial No. 82,485. (No model.)

To all whom it may concern:

Be it known that I, GEORGE SHOEMAKER, a citizen of the United States, residing at Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Double Tread and Groove Street-Railway Switches, of which the following is a specification.

My invention relates to improvements in street-railway switches upon which a double groove is channeled in the tongue, the tongue itself having a semicircular end, with a radius of one-half of the required width of the tongue, and having the point of tangency within the length of it.

The objects of my invention are, first, to combine a more permanently rigid and smoothly-working switch and provide a switch-tongue incapable of distortion by the lateral thrust of a car-wheel upon it in making the curve or by heavy wagons using the car-track. These objects are attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view of the switch set for the straight track. Fig. 2 is a bottom view; Fig. 3, a side view, and Fig. 4 a sectional view taken on the line *yy*. Fig. 5 is a perspective view of the complete switch. Fig. 6 is a top view of the tongue. Fig. 7 is a side view of the tongue. Fig. 8 is a view of one of the guard-angles. Fig. 9 is a perspective view of one end of the guard-angles on a larger scale, and Fig. 10 an enlarged section taken on the line *xx*.

Similar letters refer to similar parts throughout the several views.

The tongue A is dovetailed into the bed B at each end at an angle of sixty degrees at the points *a a'*. The joint *a* being semicircular dispenses with the use of a pin to secure it to the bed B, and the joint *a'*, being a segmental curve described from the pivotal point with-

in the semicircular joint *a*, makes it easy of motion back and forth. The two guard-angles C being formed with an angular piece *c* to fit the sides of the tongue A and secured to the bed B by means of the bolts *c''*, inserted through the holes *c'*, prevent the tongue A from being thrown out of its proper position and provide a means by which it may be thrown into position, if slightly out, by the flange of a car-wheel moving in the grooves *a''*. For economizing the necessary materials I make in the underside or bottom of the bed B three hollow places *d* and in the ends cast sections of the rail E, securing them by means of the oblong apertures *f* therein.

While I prefer the minor details of the construction, it is apparent that they may be modified without departing from the invention.

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

1. In a double tread and groove railway-switch the combination of a pinless tongue for tongue-switches and tongue mates, formed with perfectly - semicircular heel, the full width of itself beveled downwardly on all edges and having a bearing on three of its edges at either of its positions, and a switch-bed with a semicircular undercut at its heel, a segmental undercut at its point, to firmly dovetail the switch-tongue to the bed at both its ends, and two guard-angles formed and adjusted to give a side bearing to the tongue in either of its positions.

2. The tongue A, having two grooves *a''*, and two treads, and beveled from the top sixty degrees downwardly on all edges to a flat bed, and dovetailed therein, substantially as shown.

GEORGE SHOEMAKER.

Witnesses:

JAMES C. FERNALD,
MARTIN L. HOFFMAN.