

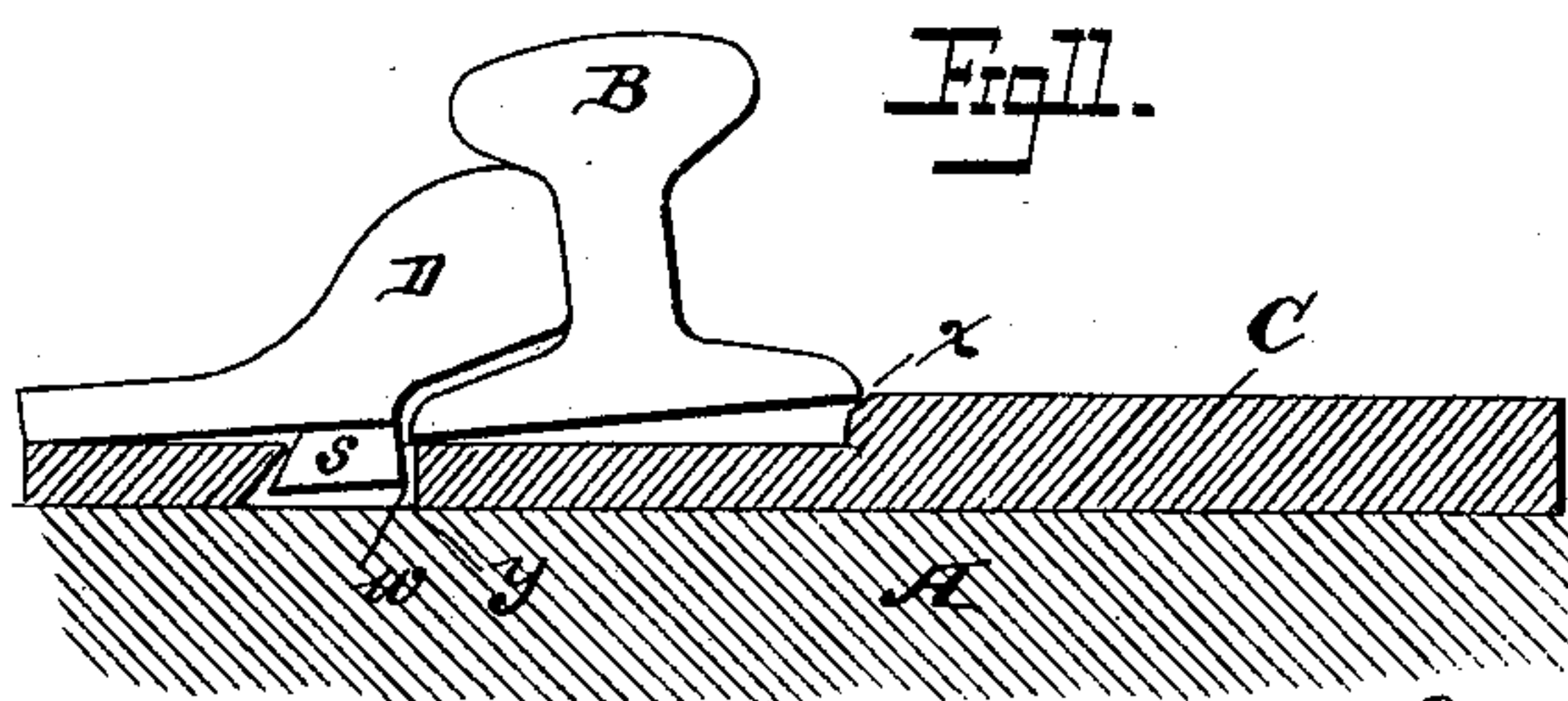
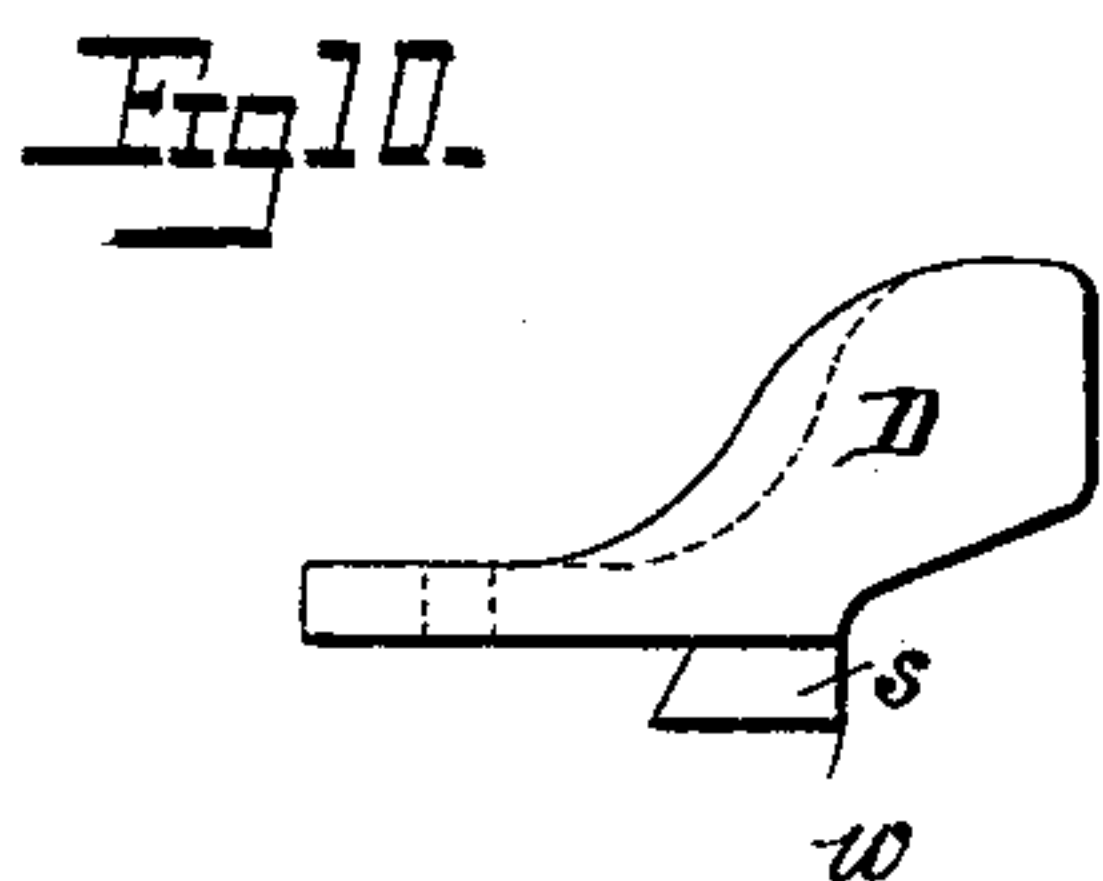
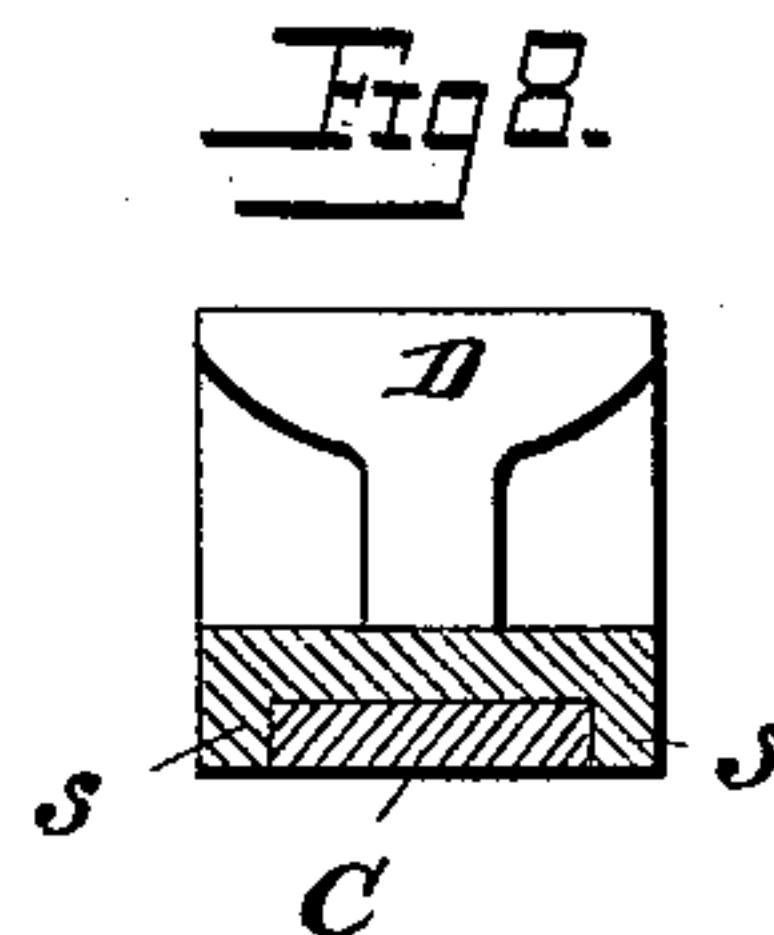
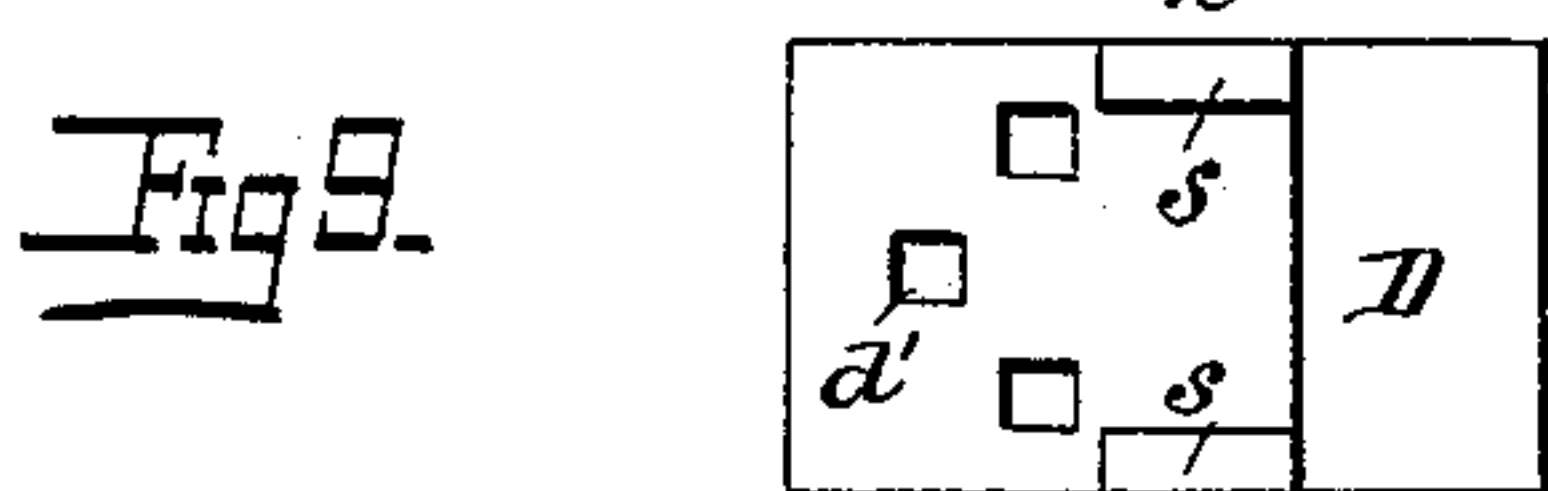
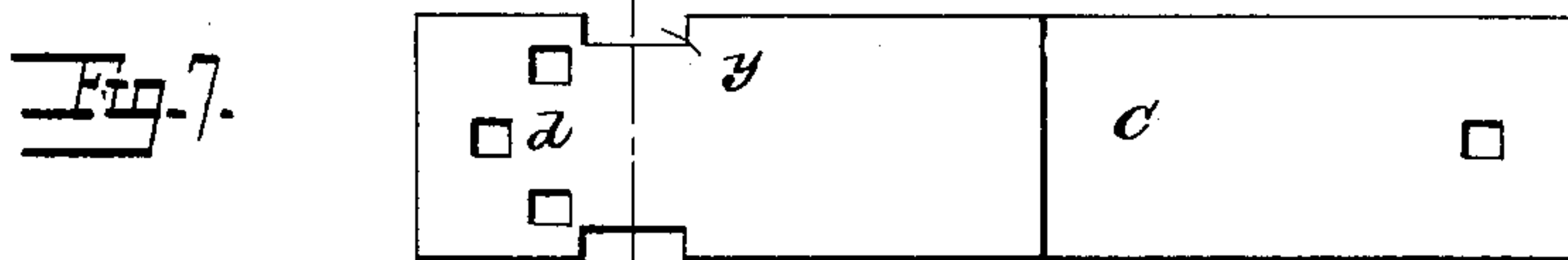
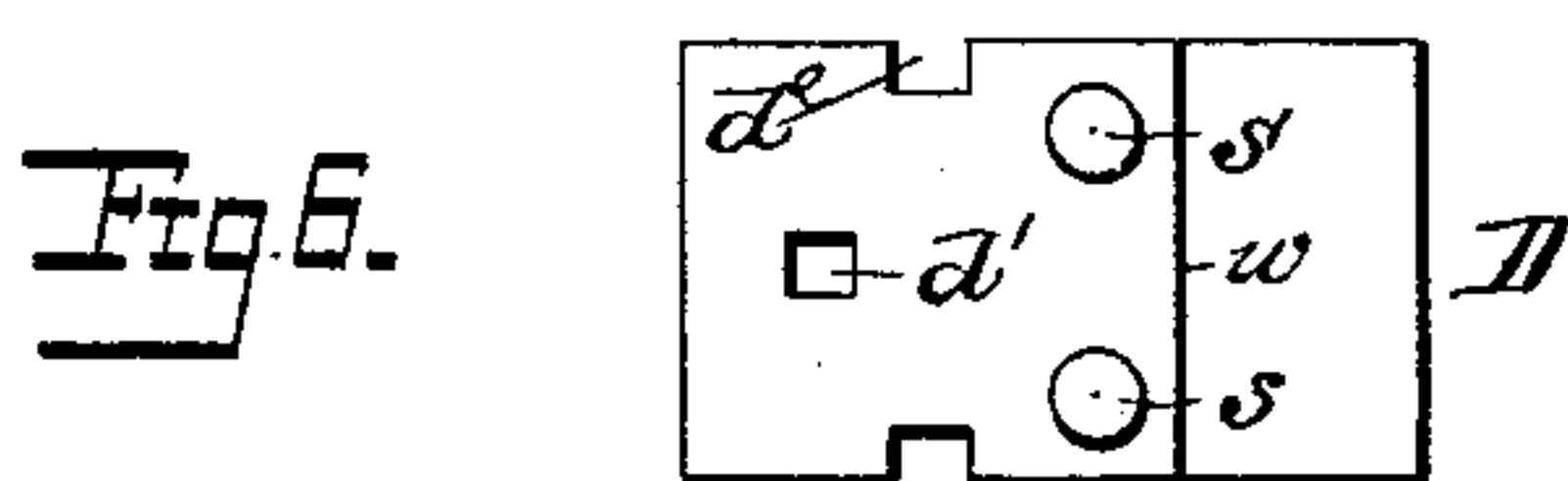
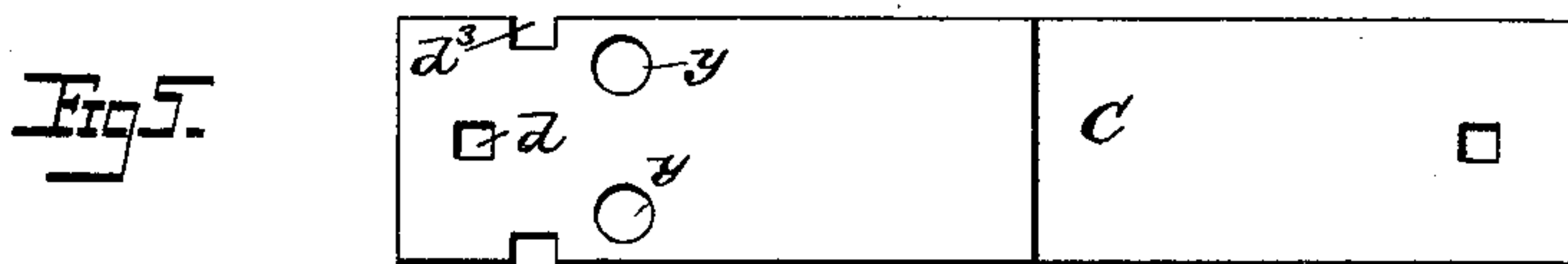
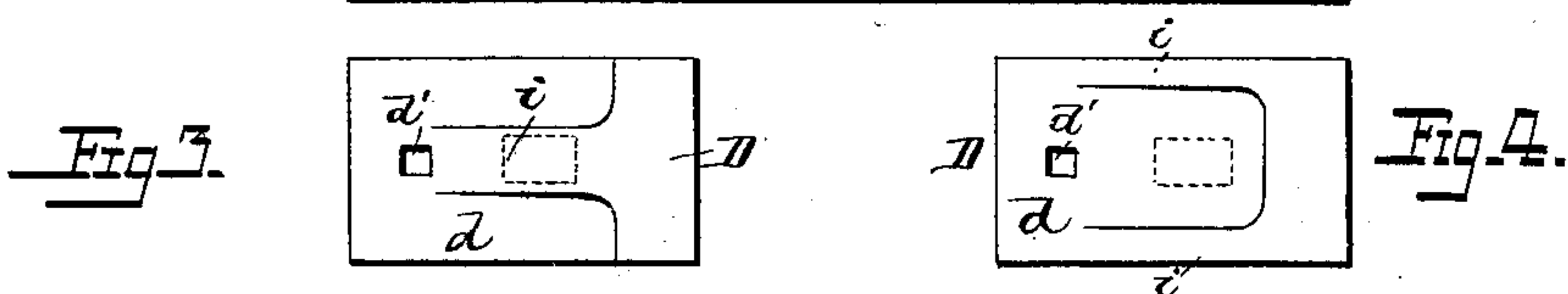
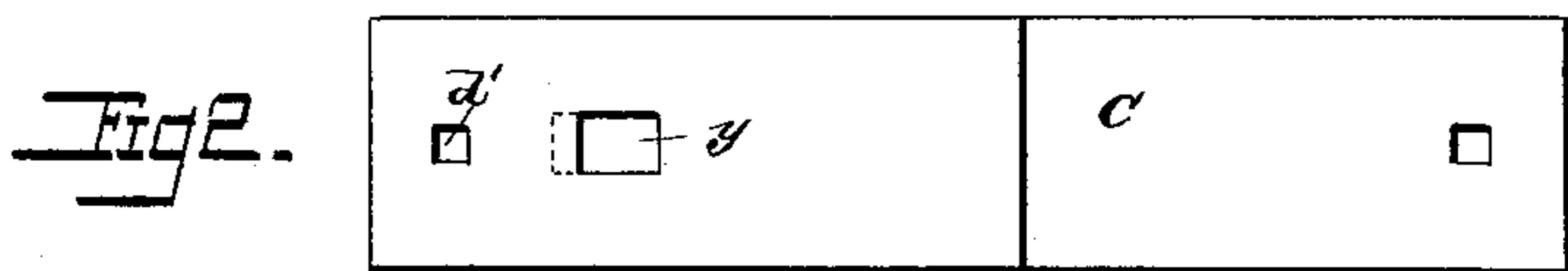
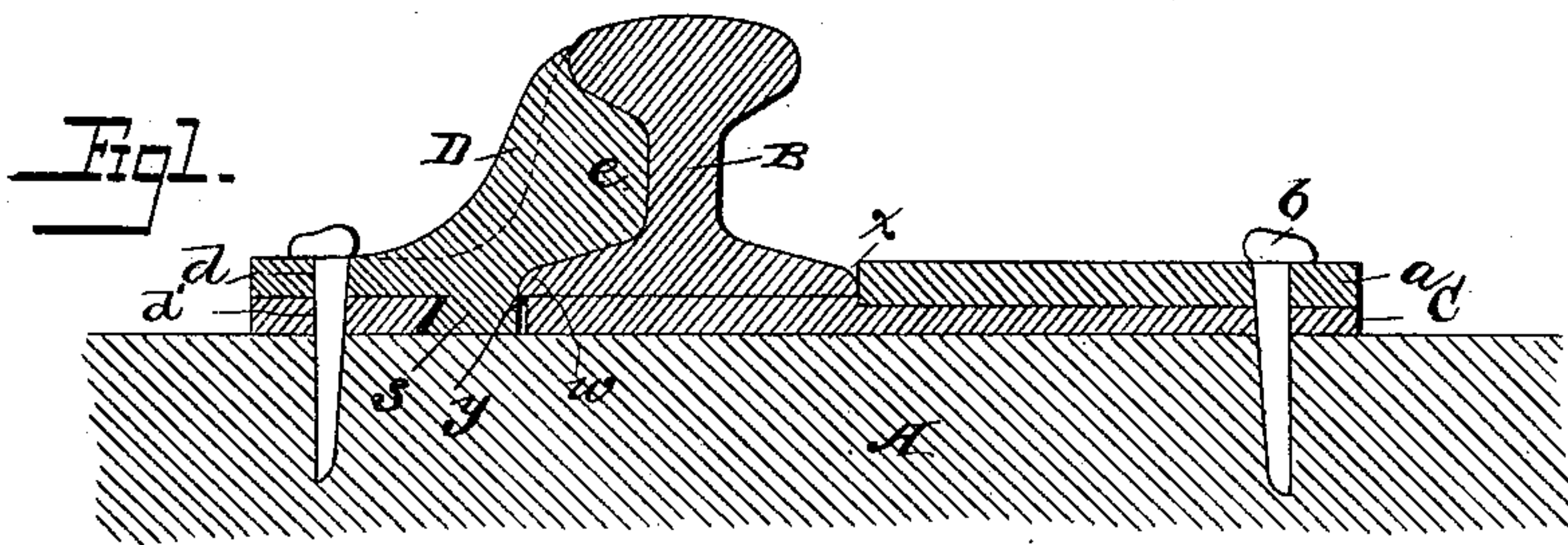
(No Model.)

F. W. SNOW.

RAIL SUPPORT.

No. 338,796.

Patented Mar. 30, 1886.



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UNITED STATES PATENT OFFICE.

FRED W. SNOW, OF HILLBURN, NEW YORK.

RAIL-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 338,796, dated March 30, 1886.

Application filed June 19, 1885. Serial No. 169,222. (No model.)

To all whom it may concern:

Be it known that I, FRED W. SNOW, a citizen of the United States, and a resident of Hillburn, in the county of Rockland and State of New York, have invented certain new and useful Improvements in Rail-Supports, of which the following is a specification.

My invention relates to supports for the rails of railways; and it consists in a construction and arrangement of such supports, substantially as hereinafter pointed out.

In the drawings, Figure 1 is a transverse section of a rail and supports. Fig. 2 is a plan of the plate; Figs. 3 and 4, plans of the abutment-block, illustrating modifications; Figs. 5 and 7, plans showing modifications of the plate; Figs. 6 and 9, inverted plans showing modifications of the abutment-block. Fig. 8 is a section on the line 1 2, Fig. 7. Fig. 10 is a side view of the abutment-block. Fig. 11 is a section illustrating the mode of placing the rail in position.

A represents the sleeper, and B one of the rails, which may be the rail of a switch or one of the rails of the main track, and C is a plate upon which the rail B rests, which plate may extend along the sleeper only for a sufficient distance to support the switch-plate *a*, (which is secured to the plate C and the latter to the sleeper by a spike, *b*,) or the plate C may extend completely across the track and beneath both rails, and the switch-plate *a* may either be a separate detachable plate, as described, or it may be an elevated portion of the main plate C. In either case a shoulder, *x*, is presented as a bearing for the inner edge of the flange of the rail.

To laterally support the rail, prevent it tilting or spreading under the weight of the cars, and also to hold it in place upon the plate C and sleeper, I use a detachable abutment consisting of a block, D, having a flattened portion, *d*, perforated for the passage of one or more spikes, and fitting the top of the plate C, and a raised portion, *e*, the inner edge of which conforms to the outer face of the web and outer flange of the rail and extends to the upper side of the head thereof. The raised portion *e* may be strengthened by a single central rib, *i*, as shown in Fig. 3, or by two edge ribs, *i i*, as shown in Fig. 4, or in any other suitable manner; and one or more pro-

jections, *s*, at the under side of the abutment-block are adapted to one or more corresponding recesses, *y*, in the plate C. When the block is in place, the projection or projections *s* extend into the corresponding recesses of the plate C. The lower flange of the rail has its bearing against the shoulder *x* and against the abutment-block, and the inner edge of the latter fits closely the corresponding face of the rail, which is thus rigidly supported in position, so that the rails will have no tendency to spread apart in consequence of any loosening of the fastening-bolts, inasmuch as all lateral pressure from within the rail is resisted by the bearing of the projections *s* against the outer edges of the recesses *y*, the bolt or bolts serving as means of holding each abutment-block in its position upon the plate C and not being subjected to lateral strain. It will also be seen that the tendency of the rail to tilt will be resisted by the raised portion of the abutment-block, and in order to prevent such block from being lifted by strains tending to tilt the rail each projection *s* may have one edge beveled, and the edge of the corresponding recess may be similarly beveled or undercut, so that the abutment-block cannot be lifted without first moving it toward the rail, which cannot result when the pressure is being applied to force the rail outward.

The various parts above described may be varied in construction without departing from the main features of my invention.

Thus in Figs. 1, 2, 3, and 4 the abutment-block is shown as provided with a single projection, *s*, oblong in shape, and with an outer beveled edge. In Figs. 5 and 6 the abutment-block has round lugs or projections *s*, adapted to corresponding openings in the plate C. In Figs. 7 to 9 the abutment-block has two rectangular projections, *s*, one at each side, and the plate C has corresponding side notches, *y*, the projections *s* having beveled edges corresponding to beveled edges of the plate C.

In Figs. 1 to 4 I have shown the parts constructed to secure the block D by a single spike passing through corresponding openings, *d d'*, in the plate C and block; but I prefer to provide the plate with three openings, a central opening, *d'*, and two side notches, *d''*, and a block, D, with a corresponding opening, *d'*, and side notches, *d''*.

The projections *s* may be at any portion of the block, I prefer, however, to arrange them as close as possible to the inner edge, *w*, which bears against the edge of the rail-flange, thereby securing the positive bearing at a point as close as possible to the edge of the rail and correspondingly increasing the stability.

It is of course necessary that the notches or recesses *y* shall be somewhat longer than the corresponding projections, *s*, when the faces are beveled, as shown in Figs. 1, 10, and 11. This requires a slight inward movement of the block as it is applied in position, and then an outward motion to bring the beveled edges in contact, leaving just sufficient room between the edges *w* *x* for the reception of the flange of the rail. This, however, will not prevent the rail from being closely fitted in place, as the block D may be slightly tilted and the rail B correspondingly tilted, as shown in Fig. 11, until the inner edge of the flange escapes the shoulder *x*, when the parts will be carried downward to position and will fit closely without any play.

I am aware that cast-metal shoe-blocks having a solid abutment on one side and a movable abutment fitting into a recess and held in place by a pin are old; but my invention differs therefrom in that I use a flat switch-plate forming a support for the main and sliding switch-rail, and I apply an abutment to the outside of the main rail, which is held securely in place by the projections interlocking with the recesses in said switch-plate, leaving room for the switch-rail to be moved to and from the main rail unimpeded. Such a shoe as I have disclaimed could not be used for the purpose for which mine is used, nor is the construction the same.

I have shown the switch-plate *a* as elevated slightly above the level of that part of the plate upon which the outside rail rests, which might necessitate the cutting away of the switch-rail to cause it to coincide with the outside rail; but this construction is not essential. The switch-plate would vary in length accord-

ing to its position in respect to the moving rail.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. The combination, in a retaining device for rails, of a flat switch-plate provided with one or more openings or recesses, *y*, and adapted to constitute a bearing for the main and the switch rails, and an abutment-block adapted to fit the side of the main rail and having one or more projections at the under side extending into the same, but not below the plate, and corresponding to the recesses *y*, substantially as set forth.

2. The combination of the rail B, plate C, having recesses adjacent to the outer edge of the rail, and block D, fitted to the plate and side of the rail and provided with projections adapted to said recesses, and having extended bearing portion *d*, substantially as set forth.

3. The flat switch-plate C, forming a bearing for the main and switch rails, having one or more openings with beveled edges, in combination with the main rail and with a block adapted to the plate and main rail and having projections at its under side, with beveled edges extending below the bottom of the block into the opening, and having a bearing upon the outer side of the opening, substantially as described.

4. The combination of the plate C, having recesses *y*, and openings or notches for the passage of spikes, and the abutment-block D, adapted to fit the outer side of the rail, having one or more projections corresponding to the recesses *y*, and with spike openings or notches corresponding to those in the plate, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRED W. SNOW.

Witnesses:

W. C. DUVALL,
WM. S. SAYERS.