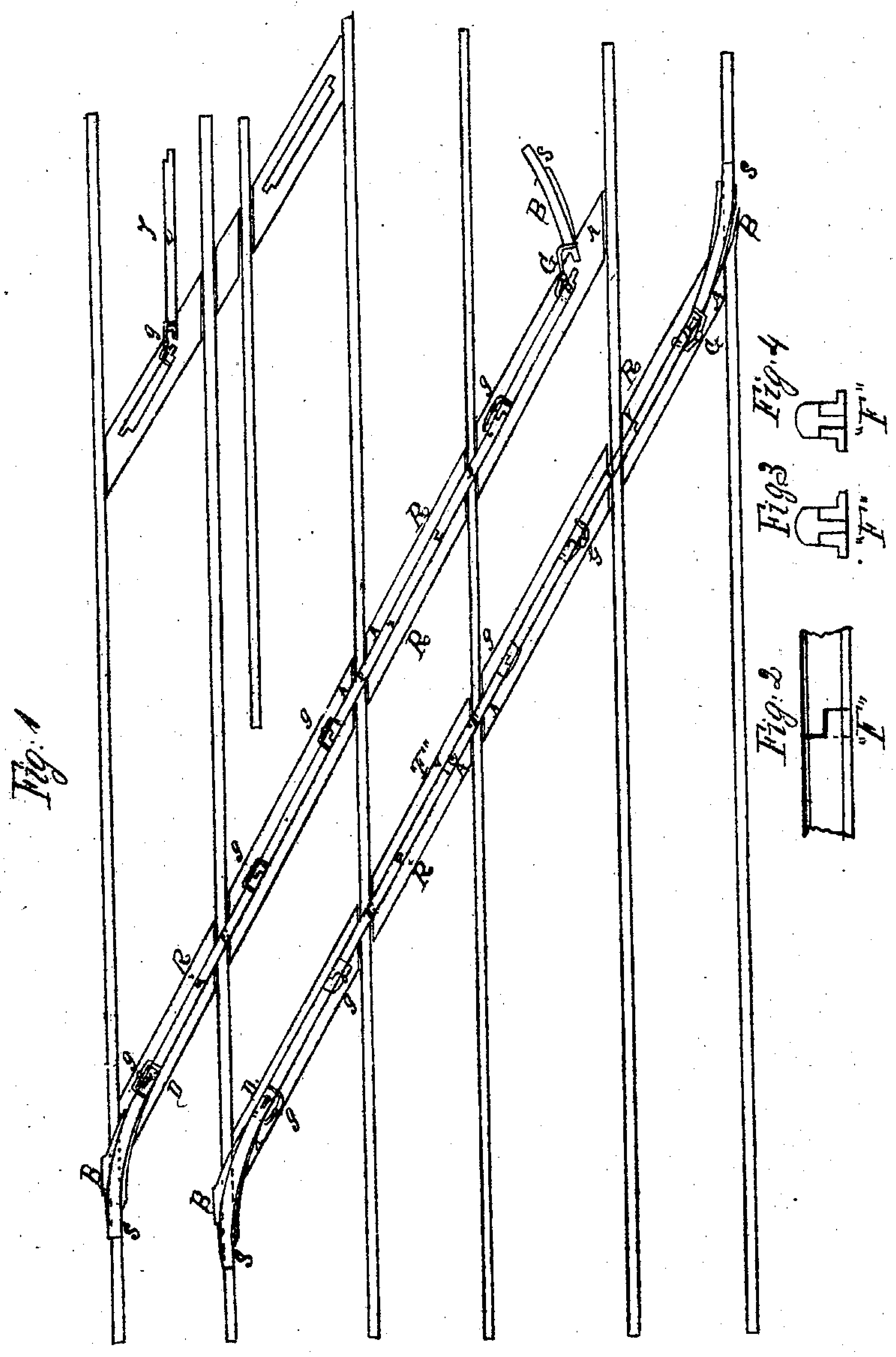
2 Sheets
Sheet 1

B. C. Galvin.

Railway Switch.

No 72185 Patented Dec. 17, 1867.



Witnesses

Inventor:

Sheet. 2
2 Sheets

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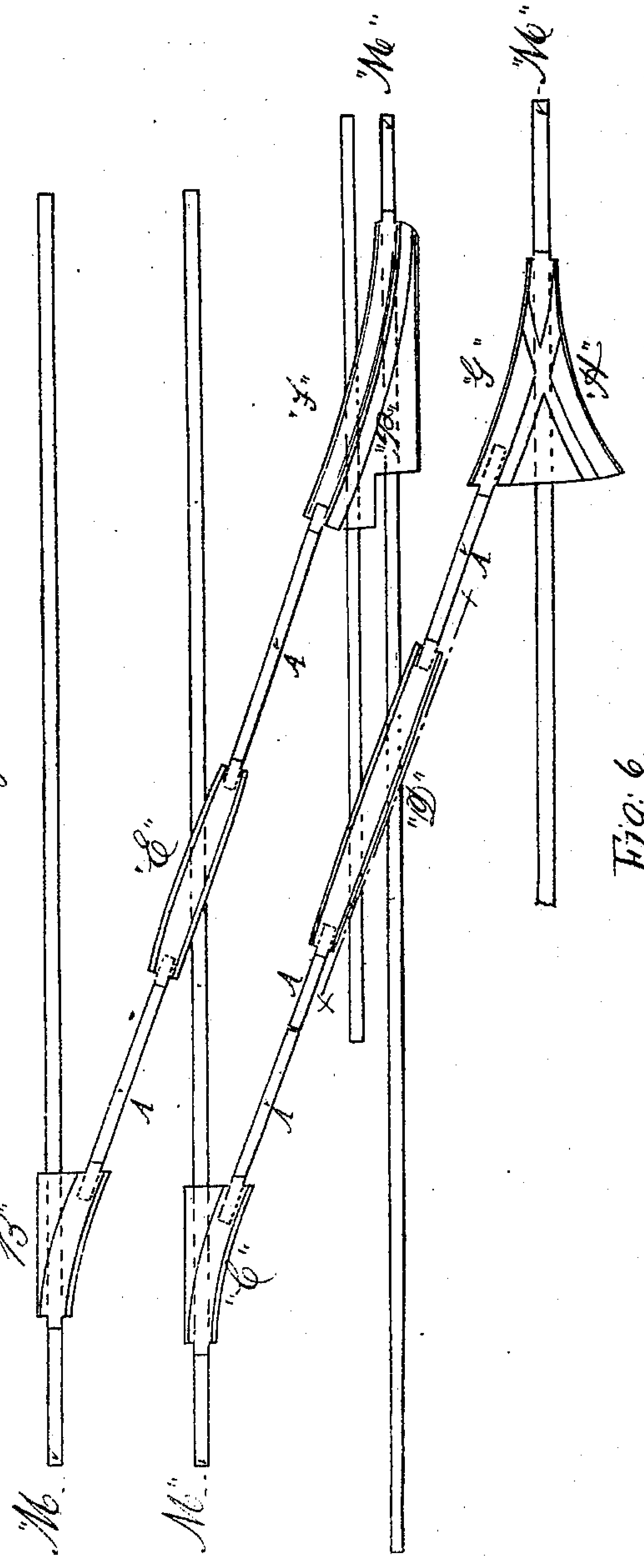

Fig. 5.

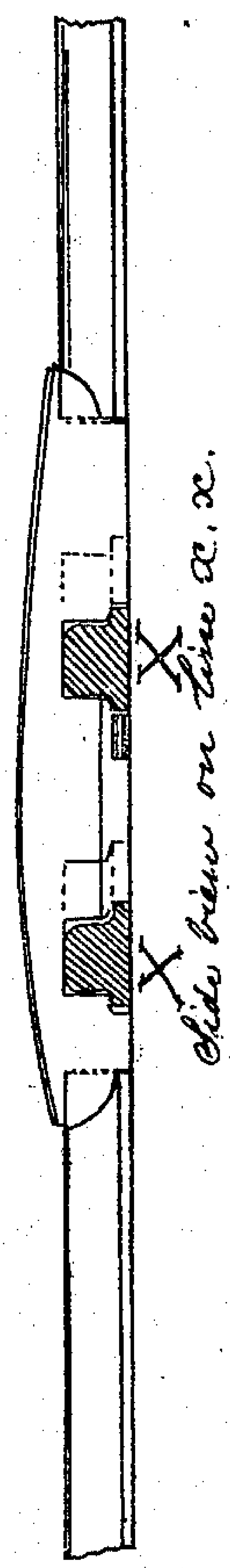

Fig. 6.

Witnesses
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United States Patent Office.

BARTHOLOMEW CLIFFORD GALVIN, OF NEW YORK, N. Y.

Letters Patent No. 72,185, *dated December* 17, 1867.

IMPROVED RAILWAY-SWITCH.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, BARTHOLOMEW CLIFFORD GALVIN, of the city of New York, in the State of New York, have invented a new and useful Mode of Switching Locomotive Railway-Cars in depots and at stations; and I do hereby declare that the following is a full and exact description of the construction of the same and its operation, reference being had to the annexed drawings, respectively, making a part of this specification, in which—

Figure 1 is a plan view of my invention.

Figure 2 is a side view of a self-connecting rail-end joint used in my invention.

Figure 3 is a sectional view of the female end of said joint.

Figure 4 is a sectional view of the male end of said joint.

Figure 5 is a plan view of my invention in a permanent and portable form, combined, and on the same principle as fig. 1.

Figure 6 is a sectional view of detail letter X in fig. 5.

The nature of my invention consists in providing a mode of connecting numerous parallel locomotive railway-tracks together, wherever required, in depots or at stations, for the purpose of switching empty or full cars, from one railway-track to another, across any number of intervening tracks, thereby effecting a saving of time, labor, expense, and the inconvenience of switching whole trains in depots, in order to extract therefrom or attach thereto one or more cars required, and whereby horse-labor may be used for switching-purposes in place of locomotive-engines.

The invention, as shown in drawing, fig. 1, is constructed as follows, and may be made of iron or wood, or of both combined:

That part of my invention shown in drawing, fig. 1, letter A, shows elevated and longitudinally-laid sleepers with angular ends, and laid obliquely between the rails of the railway-tracks to be crossed over or connected for the purpose of switching. They are connected with the extremities of the cross-sleepers of the iron tracks at both ends. On these longitudinal sleepers the elevated track of rails, or of wood and iron combined, is laid permanently for the purpose of this invention, but the ends of such rails or track-way do not connect with the iron tracks at either end, or prevent at any time the transit of cars thereon. At the four ends of such elevated iron track-way, shown in the drawing, fig. 1, letters B, four iron curves are attached thereto by the insertion therein of part of the solid ends of such curves, and by a hinge, which works below the depth of a railway-car wheel flange, and enables the curves to be placed on or off the track they are intended to connect with, by means of a lateral revolving and perpendicular motion combined in the hinge referred to. These curves are hollow at one end, B, and at that end they enclose the iron rails on which respectively they are placed for switching-purposes. On their upper side they afford an inclined plane of ascending railway-track from the top level of the rail on which they are placed to the elevated track-way to which such curves are hinged. The take-off from the upper level of the iron rail, obtained by the formation of these curves, forms an inclined plane of ascent, both straight and curved, straight from the thin end of the curve S, (which extends along the top of the rail it rests on,) for a sufficient distance to elevate the flange of a railway-car wheel (ascending such inclined plane) above the level of the iron rail on which the curve rests, so that the wheel can pass over without its flange touching the rail, and then the inclined plane begins to curve, from the line of the rail passed over, upwards to its straight connection with the level of the elevated rails or track-way, as shown in drawing, fig. 1, letter D.

That part of my invention used for switching-purposes, shown in drawing, fig. 1, letter E, is made of iron rail, or of wood and iron combined. It is straight, hinged at one end to and partly inserted in the elevated rails so laid between railway-tracks, as described, and at the other end is so made as to be self-connecting (letter F) with said rails or elevated track. The exact size and shape of the rails to be crossed over are cut out from the bottom of that part of invention, letter E. It thus fits across the rails firmly, connects with the adjacent end of the elevated track-way by the dove-tail and straight-insertion, self-connecting joints, shown at fig. 1, letters F and R, affords on its upper side a level track continuous with the rails or track-way at both ends of it, as shown in drawing, fig. 1, letter E.

That part of my invention in drawing, fig. 1, letter G, shows the hinge used in invention in connection with the curves, letters B, and the track-crosser, letter E, for the purposes of the invention. Each lap of the

hinge has an extension in its centre, forming part of such lap, and is shaped as a square and round iron bar respectively. These bars extend backward at right angles with the face of the hinge next to them, when the hinge is expanded.

Those parts of my invention, respectively lettered B and E, are attached to the elevated rails or track-way by means of the hinge referred to. One of the hinge's extensions being square and riveted through the solid end of letters B and C, and the other extension, which is round, is riveted through the end of the elevated rails or track-way. On the last-mentioned extension the hinge revolves, and the lateral and upward motions, necessary for the working of letters B and C for the purposes of the invention, are thus obtained.

That part of my invention, shown in drawing, fig. 1, letter F, as also in detail drawings thereof, figs. 2, 3, and 4, as a straight-insertion self-connecting rail and joint, is constructed by cutting that end of that part of invention lettered F, so that the lower half or three-fourths of the centre of the ends of the track-crosser, letter E, shall project at the joint F; and that part of the rail or elevated track connected with letter E at the joint F, shall be so made or cut as to receive in its ends the projecting end of letter E, and thereby form a self-connecting rail and joint, as shown in detail drawings thereof, figs. 2, 3, and 4, for the purposes of my invention, as shown in fig. 1 aforesaid.

Here ends the description of invention as shown in Sheet No. 1, figs. 1, 2, 3, and 4.

My invention, as shown in drawing, fig. 5, is constructed as follows: That part of my invention, shown in drawing, fig. 5, letter A, shows the rails laid obliquely between and on the same, level with the iron rails, between which switching is required, but without the ends of such rails, so obliquely laid, forming of themselves any connection with the rails between which they extend.

Those parts of my invention, shown in fig. 5, letters B, C, D, E, F, and G, are constructed on the same principle as those parts in fig. 1, letters B and E, and afford, when in operation for the purpose of my invention, a portable railway-track on the top of their respective lengths. The track so afforded forms an inclined plane of ascent from the two ends of each to the centre of each. Such inclined plane is curved in the centre of B, C, F, and G, and straight throughout in D and E.

Those parts of my invention, lettered B, C, D, E, F, and G, are hollow underneath for some distance from the two ends of each part respectively, to enable them to be fitted on the rails, letter A, laid obliquely, and on the iron line of rail they are used to connect with letter M. When those parts of my invention, letters B, C, D, E, F, and G, are placed on the iron track, as shown in drawing, fig. 5, they respectively enclose, within their two ends and sides partly, the iron line of rail on which they rest, or are placed, for the purpose of switching, and railway-cars are then passed over by their means from track to track, across any number of tracks, between which the invention is constructed.

That part of my invention, letter P, shows the curve used for switching where a broad and narrow-gauge rail is to be passed over or connected.

That part of my invention, fig. 5, letter H, shows a double curve for the purpose of switching to the right or left of the rail on which the curve is placed, in connection with rails laid obliquely to the right or left of any track. It affords a double take-off from the rail it rests on by its two inclined planes, both straight and curved, and constructed on the same principle as letter B in fig. 1.

That part of my invention, fig. 5, letter D, as also in fig. 6, letter X, are identical, and by letter X appears the hollows cut out of letter D, so as to fit it over the rails to be crossed by that part of my invention, as also shown in drawing, fig. 1, letter Y, both being constructed on the same principle.

Here ends the description of my invention as shown in Sheet No. 2, figs. 5 and 6.

Having described the nature and construction of my invention, what I claim as such, and desire to secure by Letters Patent, is as follows:

1. In railroad-switches, as shown in Sheet No. 1, fig. 1, I claim the construction and arrangement of fixed and movable rails with curved extremities, the movable rails and extremities being hinged to the fixed rails, and the movable rails locking therein by the straight-insertion self-connecting rail and joint shown in figs. 2, 3, and 4, and by the dove-tail joint in the ends of such rails fixed and movable, all substantially as described for the purpose set forth.

2. In railroad-switches, as shown in Sheet No. 2, fig. 5, I claim the construction and arrangement of fixed rails connected by curved extremities, and straight track-crossers made with hollow ends, all substantially as described for the purpose set forth.

BARTH'W CLIFFORD GALVIN.

Witnesses:
THOMAS STENT,
JO. C. CLAYTON.