

(No Model.)

J. B. CAREY.
RAILWAY SWITCH.

No. 254,797.

Patented Mar. 14, 1882.

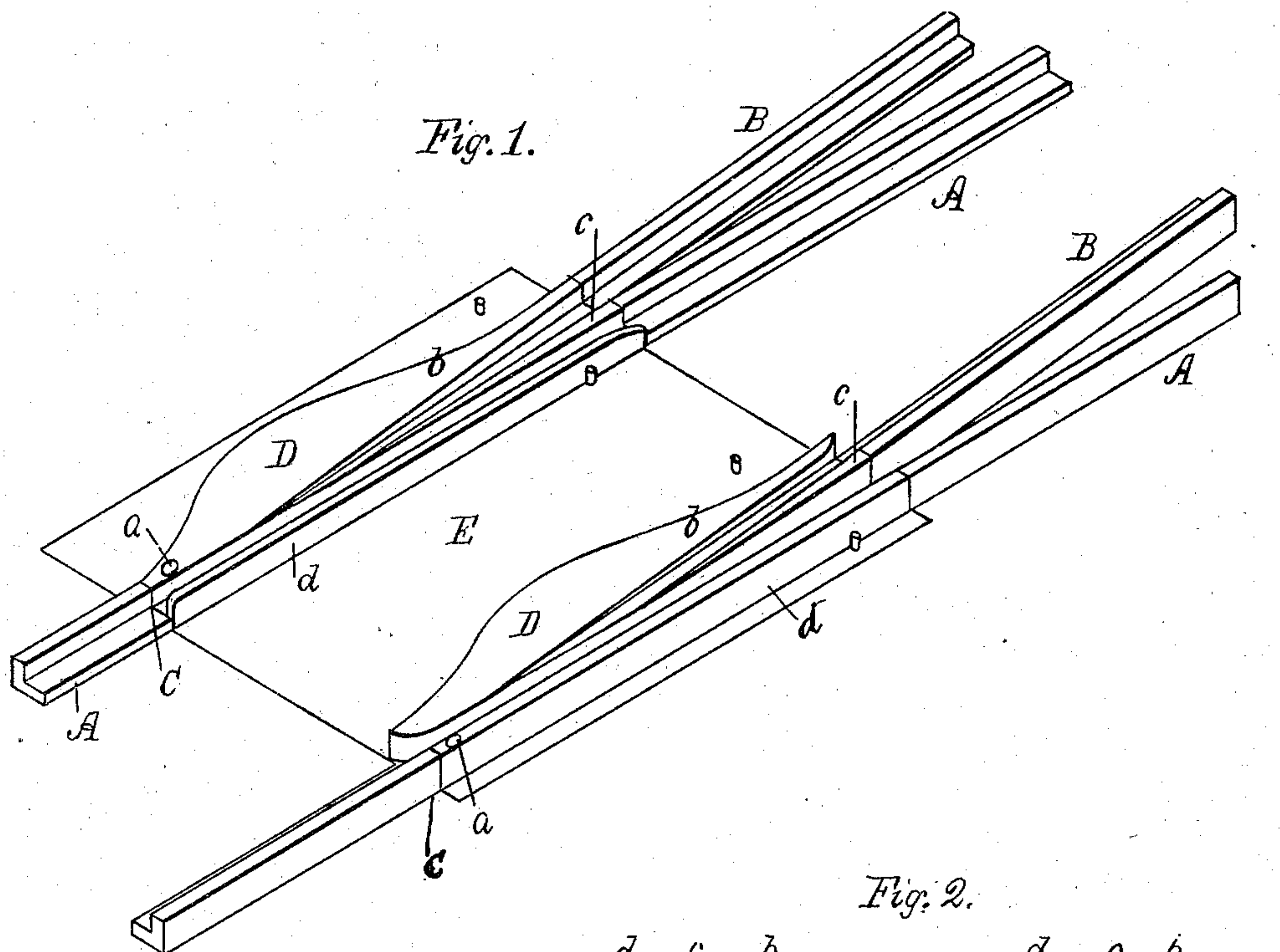


Fig. 1.

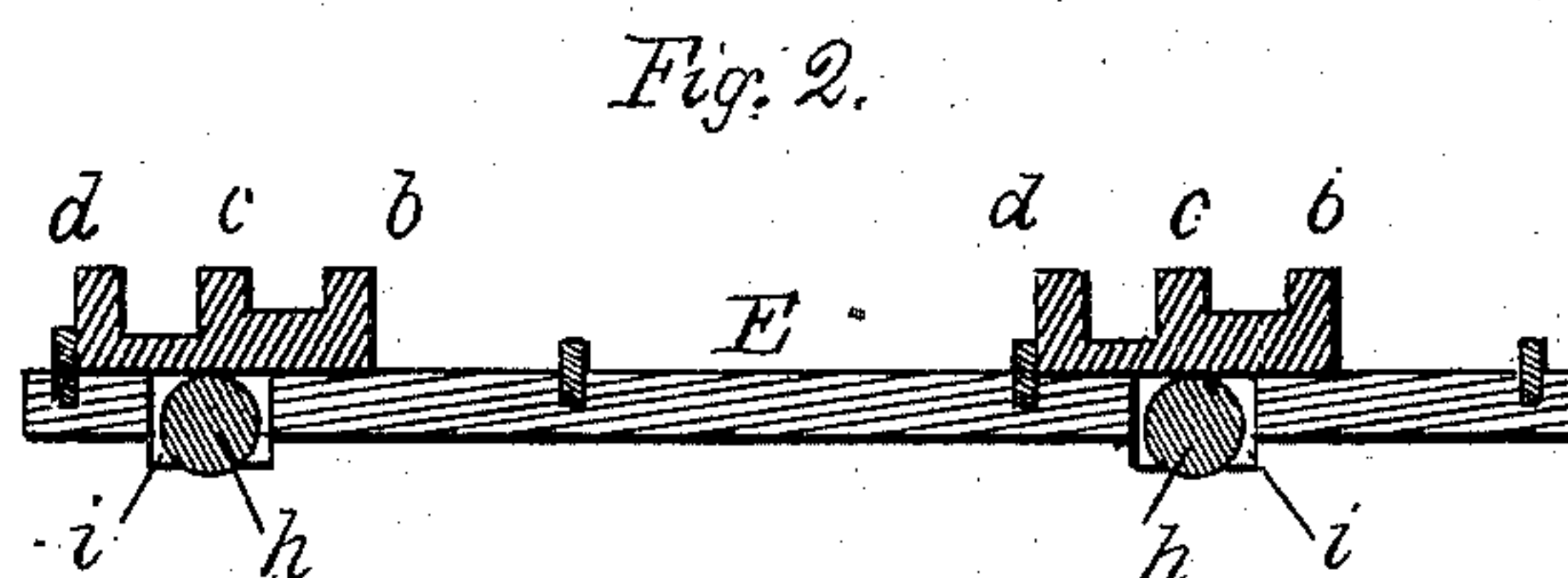


Fig. 2.

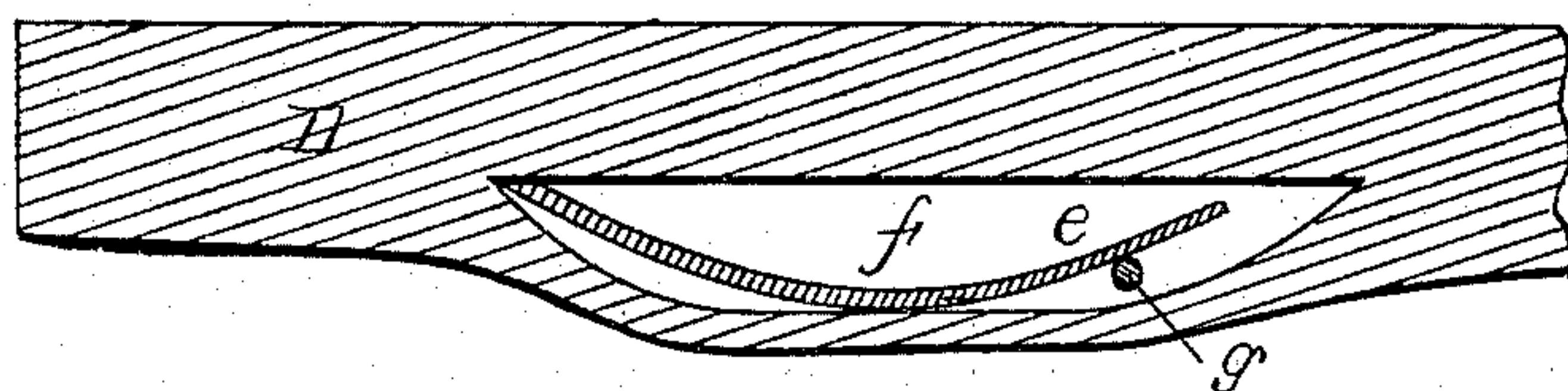


Fig. 3.

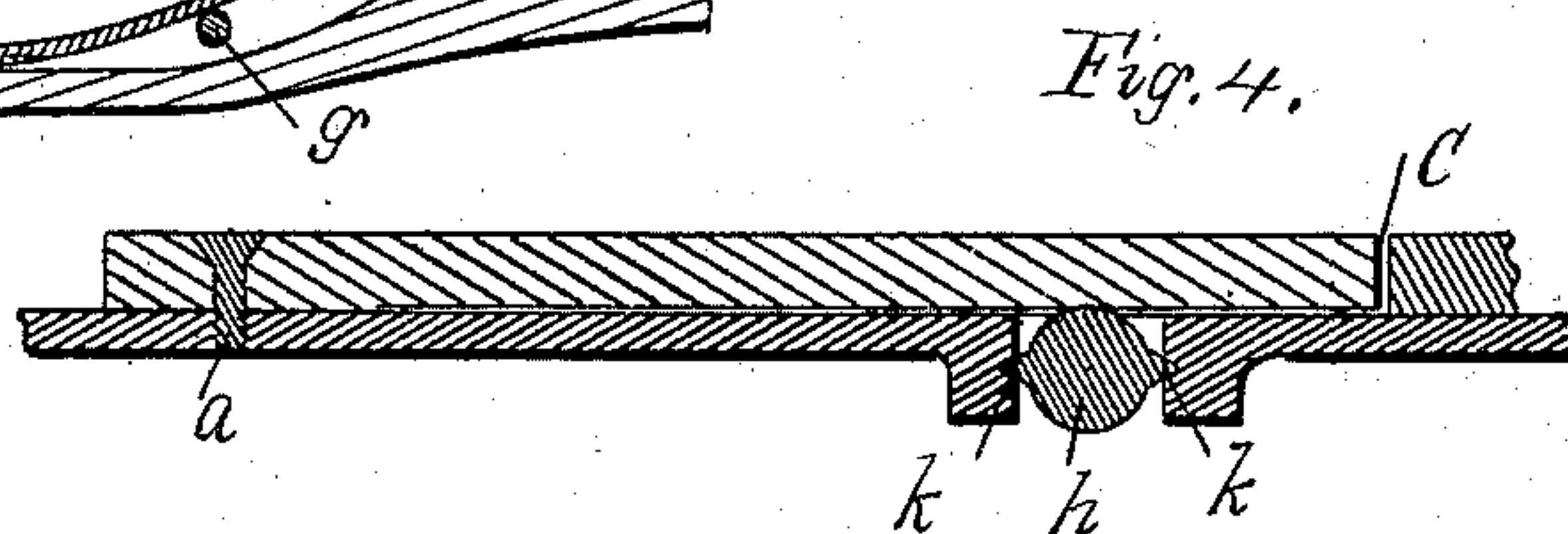


Fig. 4.

Witnesses.
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JOHN B. CAREY, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO WILLIAM V. HUTCHINGS, OF SAME PLACE.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 254,797, dated March 14, 1882.

Application filed October 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. CAREY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Railway-Switches; 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 or figures of reference marked thereon, which form a part of this specification.

This invention consists in a pair of switch-plates or frog-plates of twin construction disposed upon opposite sides of a street-railway track, each tongue being pivoted at one end to the portion of the main track opposite most remote from the turn-out, and each plate having two longitudinal rails, which at the free end of such plate correspond respectively with the rails of the main and turn-out tracks, and one of such rails on each plate vanishing as it approaches the pivoted end of the tongue, the two tongues being shifted together from the main track to the turn-out, or vice versa, by the action of the car when the latter is pulled to one side by the horses, and said plates being each returned automatically to its normal position against a stop and in line with the main track by the function of a spring contained in a pocket in its under side and operating with a stud erected upon the base or bearing-plate of the switch.

My invention further consists in supporting the free end of each tongue upon the top of a spherical ball located in a cell or opening of the bed-plate below such tongue, and pivoted horizontally within such cell, my object in employing this spherical bearing being to reduce the friction to the minimum and prevent accumulation of dust or dirt between the parts.

The drawings accompanying this specification represent, in Figure 1, an isometric elevation, and in Fig. 2 a cross-section, of a street-railway switch containing my improvements, while Fig. 3 is a horizontal section of one of the pivotal tongues, showing its spring and the

stud upon the base-plate, which operates with such spring. Fig. 4 is a section parallel with the longest plane of the switch.

In these drawings, A A denote the rails of the main line of a railway-track, and B B those of a turn-out or branch.

In carrying out my improvements I interrupt the main rails A A each by an opening, C, and in each of these openings I dispose a movable frog-plate or switch-plate, D, which is pivoted at the end most remote from the turn-out to the base or bearing plate E of the switch by a vertical pivot, *a*, in order that the free end of such switch-plate or frog-plate may be brought to connect with the main line or the turn-out, the normal position of the switch-plate being of course in communication with the main line.

Each plate is formed with a primary rail, *b*, which extends its entire length, and a secondary rail, *c*, upon its free end, this latter rail vanishing as the middle of the tongue is reached. Furthermore, upon the inner edge of one of said switch-plates is formed a guard rail or flange, *d*, a similar guard rail or flange, *d*, being erected on the outer edge of the other switch-plate.

Each switch-plate D is held in its normal position in line with the main track by a bow-plate spring, *e*, which is located within a pocket, *f*, in its under side, this spring operating with a vertical stud, *g*, erected upon the base or bearing plate E. Each switch-plate D rests at its free end upon the top of a spherical ball, *h*, which is contained in a cell or opening, *i*, in the bearing-plate E, such ball being pivoted at opposite sides horizontally to such plate by pivots *k k*, which are arranged parallel with the longest plane of the tongue, as shown in Fig. 4 of the drawings.

The sphere *h* provides an effective anti-friction bearing to each tongue, while, owing to its convex surface, collection of dust or dirt between the parts is impossible, and such dust or dirt as finds its way to this locality is precipitated to the bottom of the inclosure *i*. The normal position of the switch-plates and their rails is as shown in Fig. 1, the rails *c* of the right-hand plate being in line with one of the turn-out

rails B, and the rail *b* of the left-hand plate being in line with the other rail B of the turn-out. The said switch-plates and their rails are then in condition to allow a car to pass along the main track. If, however, it is desired to have the car pass on the turn-out, the car is turned to the left by pulling or guiding the horses, and the oblique draft of the wheels causes said switch-plates to turn on their pivots to the left, so as to bring the rail *c* of the left-hand plate in line with left-hand turn-out rail B, and also to bring the outer rail of the right-hand switch-plate in line with right-hand turn-out rail B. Of course the switch-plates are then in position to direct the wheels of the car to the turn-out rails B B. After the car has passed upon these turn-out rails the springs *f* turn these pivoted switch-plates to the right into their normal position.

The tongues are always in position to permit a car to enter upon the main track from a turn-out. The switch-plates, when in normal position, also direct cars coming out from the siding into the main line, the wheel-flanges on the left-hand side mounting the bottom of the groove between rail *b* and rail *c* and falling

into the space between *c* and *d*. The channels between rails *b* and *c* are more shallow than those between rails *c* and *d*. This construction is for the purpose of giving a flange-bearing to wheels passing through.

I claim—

1. In combination with a main track and a turn-out track, a pair of pivoted switch-plates, each provided with the three rails *b*, *c*, and *d*, and springs for returning them automatically to their normal position, said plates being adapted to be shifted laterally on their pivots by the action of the car-wheels, substantially as set forth.

2. The pivoted switch-plates, each provided with rails *b*, *c*, and *d*, in combination with springs *f*, inclosed within said plates and operating to return the said switch-plates to their normal position after the car passes from them onto the turn-out.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. CAREY.

Witnesses:

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F. CURTIS.