(No Model.)

J. BRAHN.

RAILWAY SWITCH.

No. 248,990. Patented Nov. 1, 1881.

Fig. 1.

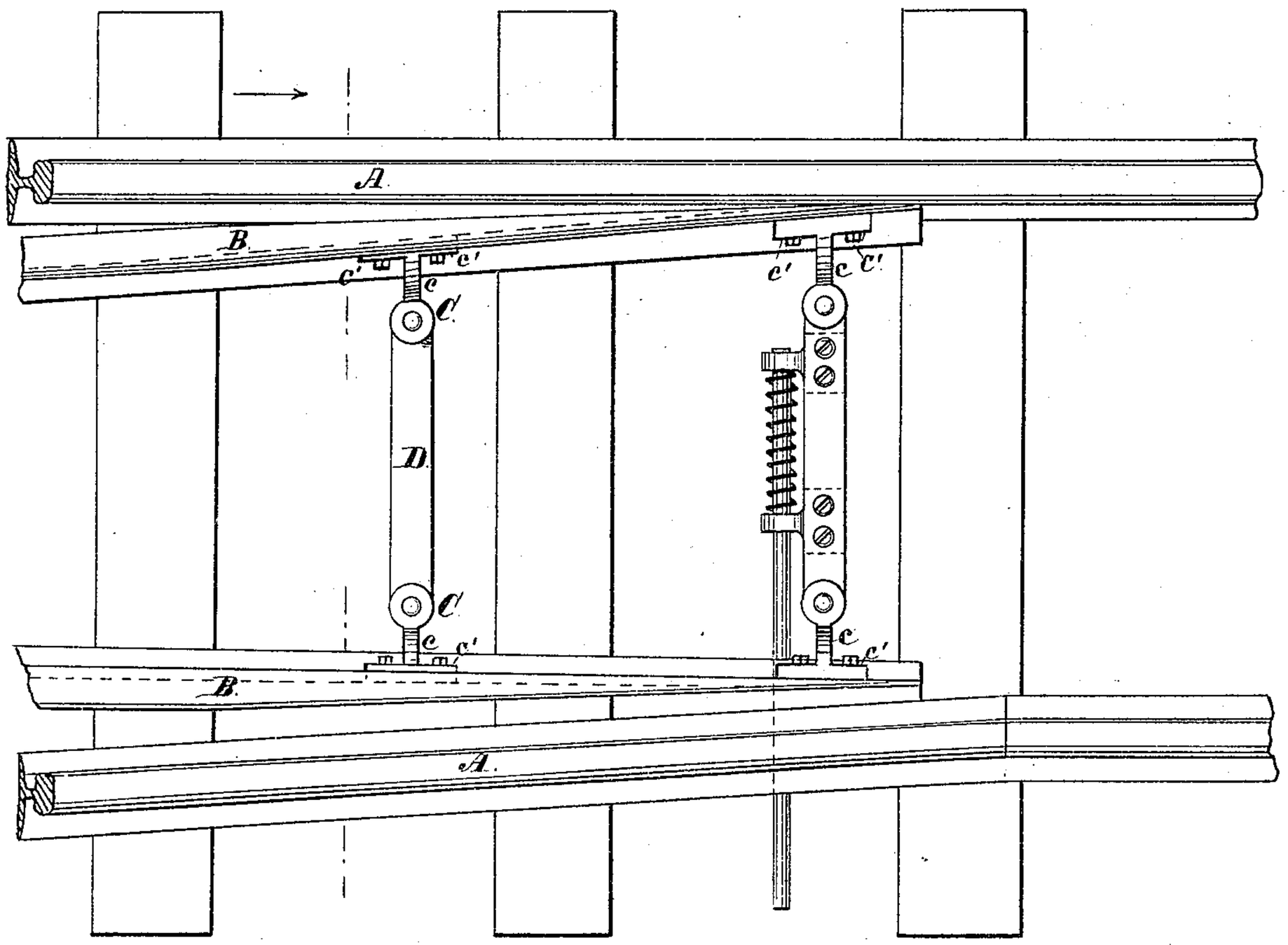
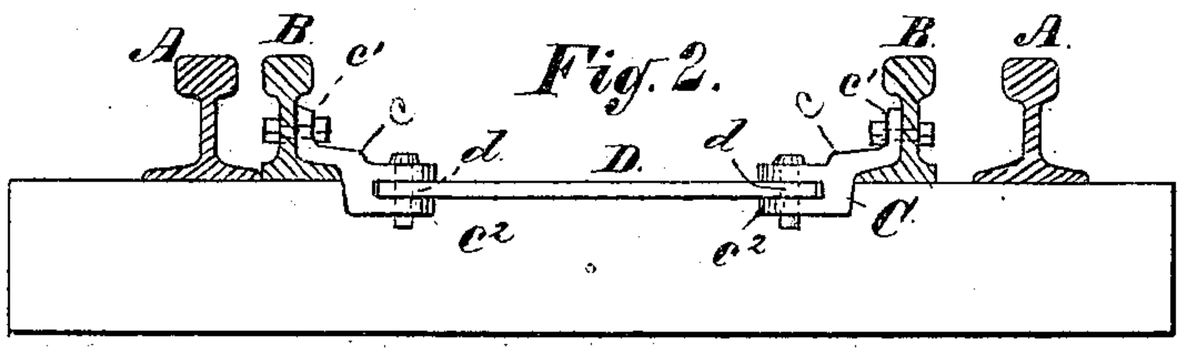


Fig. 2.



Witnesses:
Henry Gibbings
A. J. W. Vennilye

Inventor
James Brahn
by D. Fitch
his atty.

UNITED STATES PATENT OFFICE.

JAMES BRAHN, OF JERSEY CITY, NEW JERSEY.

RAILWAY-SWITCH.

SPECIFICATION forming part of Letters Patent No. 248,990, dated November 1, 1881.

Application filed July 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, JAMES BRAHN, of Jersey City, in the county of Hudson and State of New Jersey, am the inventor of an Improvement in Railway-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to railway-switches, and more particularly to the cross-bar and lugs which serve to connect the pointed or movable rails of the switch together; and it consists in the combination, with the pointed or movable rails of a railway-switch, of lugs formed of cast-steel or cast malleable iron bolted upon the rails, and having the form hereinafter described, together with plain wrought-iron bars with ends adapted to enter the jaws of said lugs and to be held in place therein by suitable bolts, all as hereinafter particularly described, and more at length recited in the claim.

Figure 1 is a plan of a railway-switch embodying my invention; and Fig. 2 is a cross-sectional view of the same on the line *x x*, Fig. 1.

A A are the rails of the main line, and B B are the pointed or movable rails of the switch.

At C C are shown lugs, which I form of cast-steel or malleable iron, in substantially the shape shown in the drawings—namely, with a body, *c*, adapted to fit and be seated upon the flange of the rail, and to depend somewhat below the line of the base of the rail, as seen in Fig. 2, and an upwardly-reaching flange, *c'*, adapted to fit against the body of the rail, by means of which flange the lugs may be bolted to the rails, as shown. The body of the lug is formed with the jaws c^2, which are arranged to project in the direction away from the rail, and are adapted to receive the end of the cross-bar, as hereinafter set forth.

D is a bar, which I fabricate of wrought-iron, and it may be flat or four-sided throughout its length, as shown, or its central portion may be cylindrical or many-sided, with its ends flattened down, as at *d*, and made of such a thickness that said ends will readily enter the jaws c^2 of the lugs C.

Hitherto in fabricating the lugs and connecting-bars of the movable rails of switches it has been customary to forge both the bars and the lugs, and to forge jaws upon the opposite ends of the bars, which were arranged to take onto the plain ends of the lugs bolted to the rails; but this form of bar and lugs is expensive to fabricate, while it is also necessary to form each pair of lugs and their connecting-bars as a separate and distinct set, in order to have them fit together when put in place on the switch. Moreover, it is evident that these lugs and bars thus forged are not interchangeable one set with another.

By fabricating the lugs C of cast-steel or cast malleable iron, with the body *c*, flange *c'*, and jaws c^2, as shown, I am enabled to make them all substantially alike, and thus interchangeable one with another on the switch, and attachable to the rails at any desired place along the line thereof, and at the same time I produce the jaws c^2 in a comparatively inexpensive manner, the cost of forging the same being avoided, while the lugs and their said jaws are still substantial and strong; and it is evident that the lugs and their jaws being thus formed in duplicate, I am able to construct the bars D by forging them as plain bars with flattened ends, and that the workman will have but a simple piece of work in forming the said ends substantially alike, so that the bars will be interchangeable with each other in their use with the lugs. I am thus enabled to dispense almost wholly with skilled labor, as the skill required to forge the jaws upon the bars now generally in use is not needed to forge the bars with the simply flattened ends of a uniform thickness, and the casting of the lugs being also accomplished without skilled expensive labor.

In using my cast lugs and forged flat end bars the lugs are bolted upon the inside of the parallel movable rails opposite to each other, as shown, any of the lugs thus cast being used indiscriminately, and the bars are then passed into place, their flattened ends being slipped into the opposing jaws of the lugs and there held by means of bolts, as shown.

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

In a railway-switch, the combination, with

the pointed or movable rails B B, of the lugs C, fabricated as specified, and composed of the body *c*, adapted to fit upon and depend somewhat below the flange of the rail, and the upwardly-reaching flange *c'*, adapted to fit against the body of the rail, and having the jaws c^2, together with the forged bars D, having the flattened ends *d*, all substantially as and for the purpose described.

Witness my hand July 21, 1881.

JAMES BRAHN.

In presence of—

P. B. VERMILYA,

A. G. N. VERMILYA,