S. B. NICKUM.

Railroad-Switch.

No. 226,342. Patented April 6, 1880.

Fig. 1.

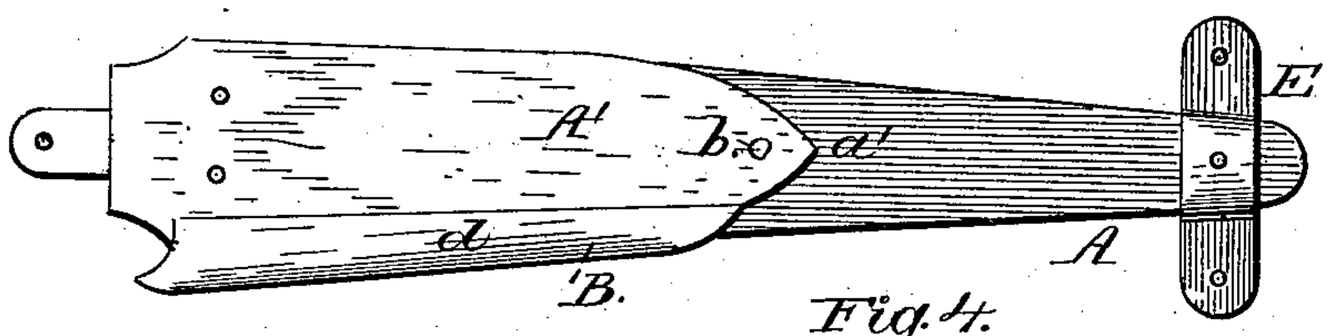


Fig. 4.

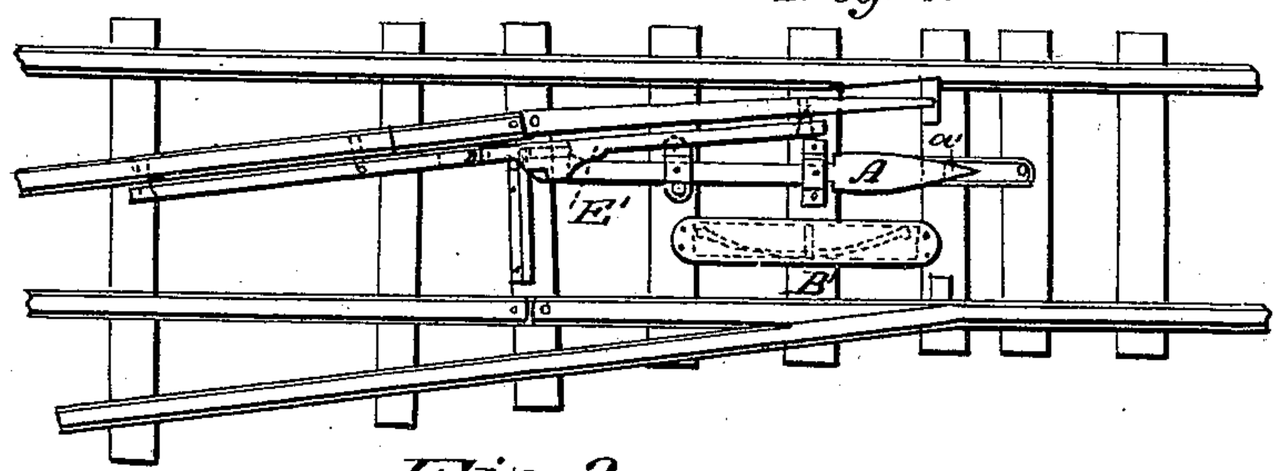


Fig. 2.

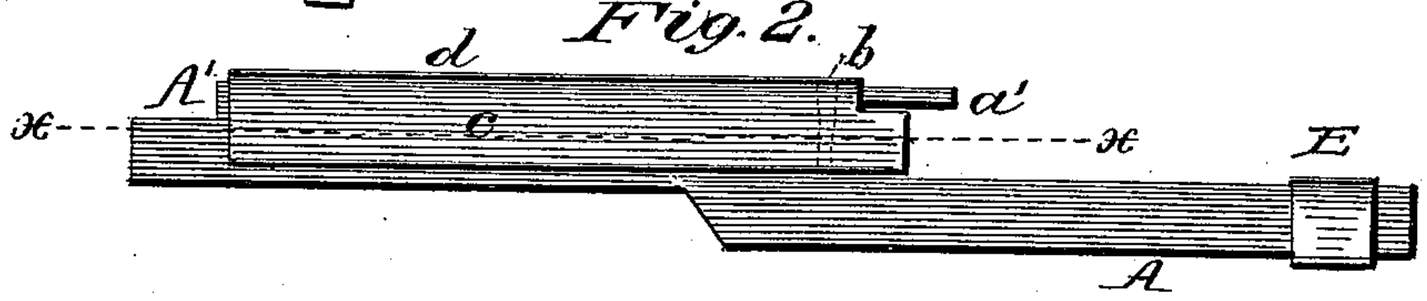
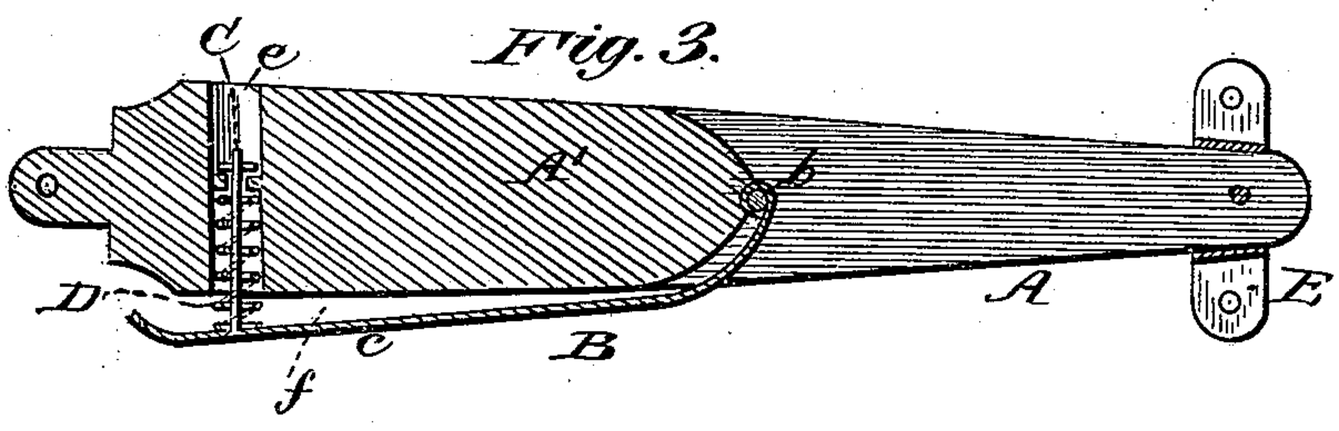


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

SYLVANIS B. NICKUM, OF JALAPA, INDIANA.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 226,342, dated April 6, 1880.

Application filed September 3, 1879.

To all whom it may concern:

Be it known that I, SYLVANIS B. NICKUM, of Jalapa, in the county of Grant and State of Indiana, have invented certain new and useful Improvements in Railroad-Switches; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a plan or top view. Fig. 2 is a side elevation. Fig. 3 is a longitudinal horizontal section taken through the plane indicated by line *x x* in Fig. 2; and Fig. 4 is a plan view, on a reduced scale, of a switch provided with my improvement.

Similar letters of reference indicate corresponding parts in all the figures.

This invention has relation to railroad-switches; and it consists in certain improvements upon the switch-operating lever shown and described in the Letters Patent of the United States No. 215,960, granted to me on the 27th day of May, 1879, and shown on a reduced scale in Fig. 4 of the drawings.

The object of this present improvement is to reduce the strain upon said lever and cause it to work more easily and evenly during the operations of opening and closing the switch.

The switch shown in Fig. 4 consists, essentially, of the combination, with the fixed or stationary rails of the main line and with the contiguous switch or siding rails, of an adjustable inner rail, E′, and a movable tie, B′, which are operated by a system of levers, one of which, A, is made with a beveled head and operated by a pin which projects downwardly from the approaching engine or car, and which, on the approach of the engine or car, strikes against the side of the beveled lever-head, and turning this to one side opens the switch; but I have found that in practice it is difficult to operate the said lever A in the manner described without causing undue friction or wear; or, if this is to be avoided, the lever is apt to be pivoted too loosely, causing, in either case, imperfect operation of the mechanism.

To avoid these drawbacks I provide the switch-operating lever A with a cap, B, which is hinged or pivoted upon a pin, *b*, in the pointed front end of the beveled lever-head A′, the point *a′* of which projects out over pin *b*, so as to cover and protect this from injury.

The cap B consists of a side plate, *c*, and top plate, *d*, which is set at right angles to *c*, and overlaps the lever-head, so as to close or cover the open wedge-shaped space between plate *c* and the contiguous side or face of the lever-head A′, the rear part of which is perforated or slotted, as shown at *e*, to receive a pin, C, one end of which is secured in plate *c* and encircled by a spiral spring, D, as shown more clearly in Fig. 3 of the drawings. The spring D therefore tends to force the cap-plate B outwardly from lever-head A′, and when on the approach of a train the operating-pin strikes the lever-head the hinged plate B will receive or take up the jar or concussion caused by the contact, and, yielding gradually, will at the same time turn lever A′ A into its proper position for operating the switch, the forward end of lever A having its fulcrum in a cap-piece, E, which is bolted upon one of the ties.

The spring D should be stiff enough to operate lever A′ A by the pressure against plate *c;* but I do not confine myself to a spiral spring arranged as shown and described, as a differently-constructed spring may be used, or a spiral spring differently arranged to produce the same result.

The cap-plate B is preferably made in two parts—that is, the parts *c d*, being separate and bolted to each other, so that it may be used upon either side of the lever-head by simply reversing the position of the plates or parts *c d*.

The top piece, *c*, by overlapping the lever-head, prevents the accumulation of dirt in the wedge-shaped open space *f* between the lever-head and plate, which would prevent the easy operation of the latter.

Having thus described my improvement, I claim and desire to secure by Letters Patent of the United States—

1. As an improvement in railroad-switches, the combination, with the pivoted operating-

lever A, having beveled head A′, of the hinged cap-plate B and spring D, substantially as and for the purpose set forth.

2. The combination of the pivoted lever A A′, provided with the bolt *b* and horizontal transverse slot or recess *e*, hinged plate B, consisting of a side plate, *c*, and cap-plate *d*, and provided with a pin or bolt, C, and spiral spring D, encircling said pin or bolt between the side of the lever-head A′ and side plate, *c*, when constructed and arranged to operate substantially in the manner and for the purpose herein shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

SYLVANIS B. NICKUM.

Witnesses:

JOHN C. CONNER,

MARTIN B. HUDSON.