(No Model.)

F. BROWN.

RAILROAD SWITCH.

No. 517,727. Patented Apr. 3, 1894.

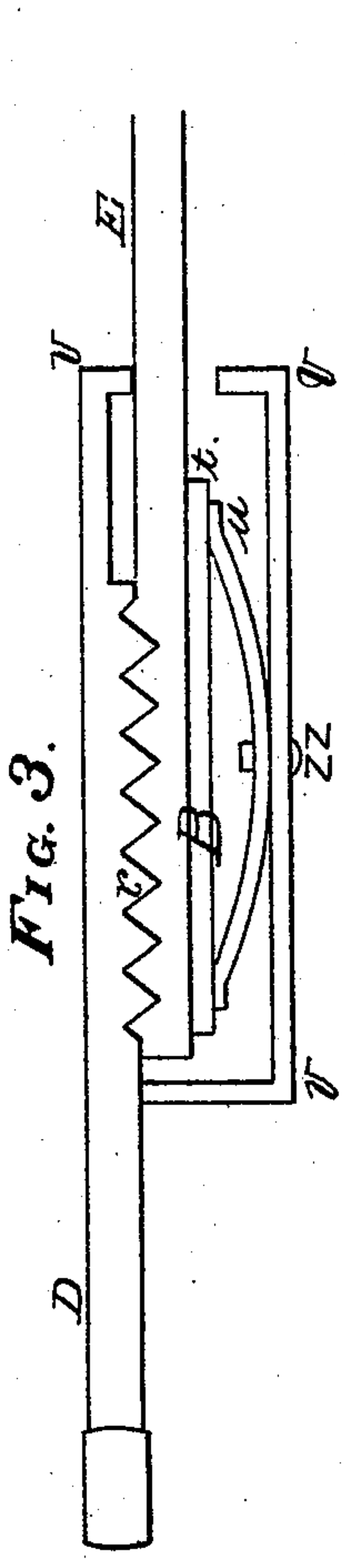

FIG. 3.

FIG. 1.

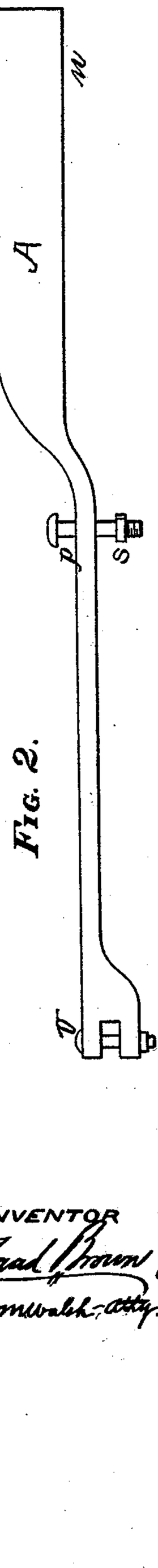

FIG. 2.

WITNESSES.

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FRANK BROWN, OF CINCINNATI, OHIO.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 517,727, dated April 3, 1894.

Application filed November 8, 1893. Serial No. 490,388. (No model.)

To all whom it may concern:

Be it known that I, FRANK BROWN, a citizen of the United States, residing in Cincinnati, county of Hamilton, and State of Ohio, have invented a new and useful Railroad Device, of which the following is a specification.

My invention relates to improvements in railroad switches, the objects of my improvements being to afford facilities for the automatic closing and operation of such switches when the same are left open, and to automatically open such switches by railroad engines or cars leaving the side-tracks as hereinafter described. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a top view of a closed switch with my improvements; Fig. 2 a vertical view of the lever A; Fig. 3 a vertical view of the lock B.

Similar letters refer to similar parts throughout the several views.

The rails H. H. and J′, the connecting rods F′, F², F³, F⁴ and D and E, the lock B, and levers A′, A², constitute the frame work of a split switch with my improvements. The levers A′ and A² are attached to the connecting rods F′ and F³ by means of bolts at *o*, *o*, and move upon the bolts *p*, *p*, which pass through track ties and are held in position by nut *s*. The lock B, attached to the connecting rods D and E, consists of the interlocking teeth *r*, friction plate *t*, elliptic spring *u*, case or box *v*, to which the elliptic spring is attached by a bolt and nut Z—Z, as shown in Fig. 3.

A switch when equipped with my improvements is operated as follows:—By means of the switch stand L, and the connecting rods D, E, F′, and lock B, the switch is thrown to an "open" position, (this movement does not disturb the parts of the lock B, in their relation to each other,) and the free ends *n*, *n*, of the levers A′, A², are brought to and against the rail J², the attached ends *o*, *o*, receding from the rail. The free ends *n*, *n*, are higher than the rail they are brought in contact with. The forcible contact of a tappet attached to a locomotive engine pilot with the vertical surface next the track rail of the end *n*, of lever A′, or A² causes the lever to move on the bolt *p*, and draw the connecting rod E, thereby releasing the lock B, by causing the teeth *r* of rod E to move upon the corresponding teeth of rod D, which several movements force the rails H, H, by means of the connecting rod F′ or F³ as the case may be, to a "closed" position. During these switch-closing operations the working parts of the switch stand L and the connecting rod D remain stationary. Such parts are returned to the position they should occupy to a closed switch by opening the box *v* of lock B and removing the elliptic spring *u* which will permit a free movement in the switch stand and the return of the rod D and teeth *r*, to the position shown in Fig. 3, when all the mechanism will be in a "closed switch" position as in Fig. 1.

Switches equipped with my improvements may be closed or opened automatically by engines moving in the direction indicated by the arrow in Fig. 1, by the entrance of the wheel flanges between main track and switch rails, and without the tappet necessarily coming in contact with lever A².

When it is desired that a locomotive engine shall enter a side track it is necessary that the tappet shall be so adjusted that it will not come in contact with lever A.

I am aware that prior to my invention automatic switch stands were in use, making it possible to open switches automatically by engines leaving the side track, or to close them automatically by engines on the main track passing over the switches in the direction indicated by the arrow in Fig. 1, such opening or closing being effected by the entrance of the engine wheel flanges between the heads of main track and switch rails. I therefore do not claim such devices broadly, but

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

1. In switches, levers A′ and A² pivoted at *p*, *p*, communicating with connecting rods D, E, F′ and F³, and lock B, all combined and arranged to operate rails H, H, substantially as shown and described.

2. Lock B to which is connected the connecting rods D and E, substantially as shown.

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Witnesses:
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