(No Model.) 3 Sheets—Sheet 1.

T. R. BROWN.

RAILROAD SWITCH STAND.

No. 318,948. Patented June 2, 1885.

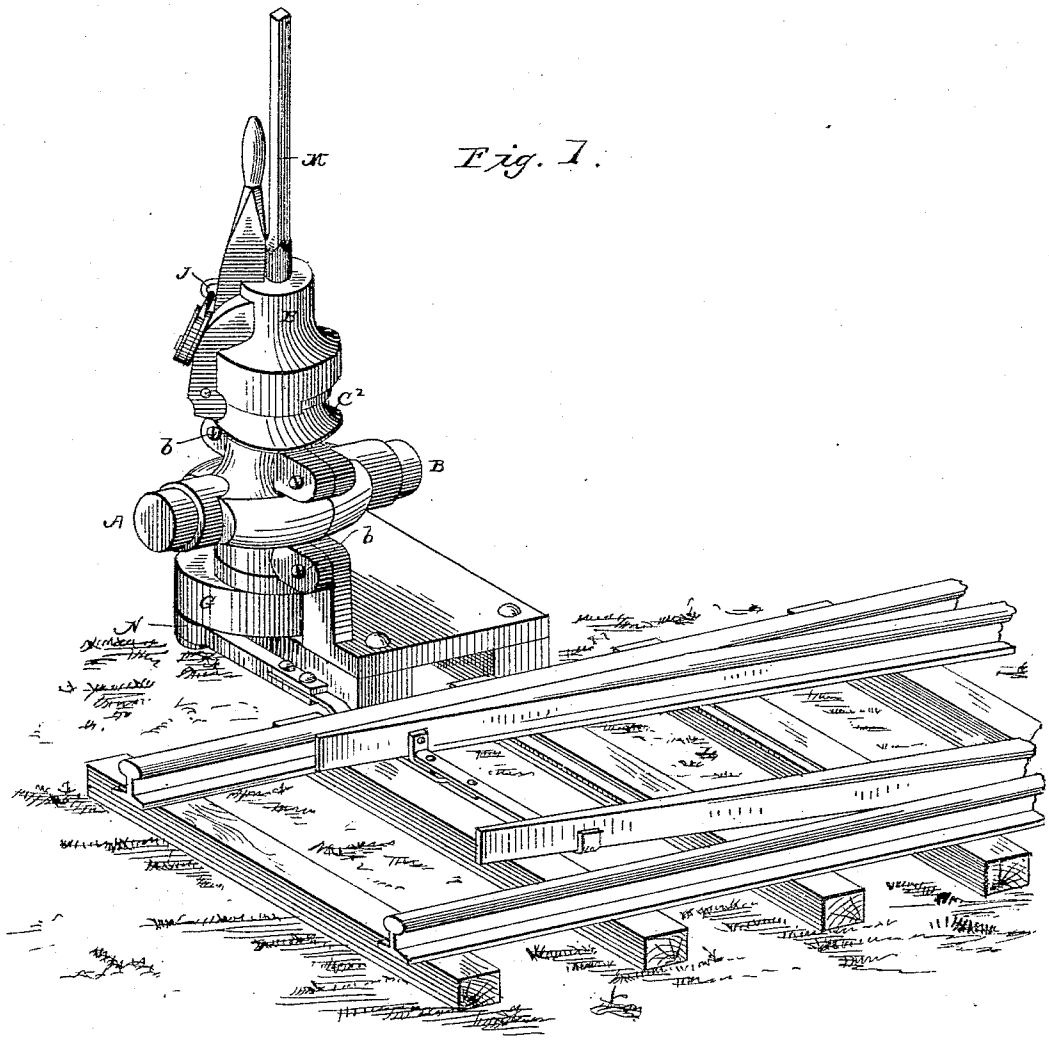

Fig. 1.

WITNESSES

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Fig. 2.

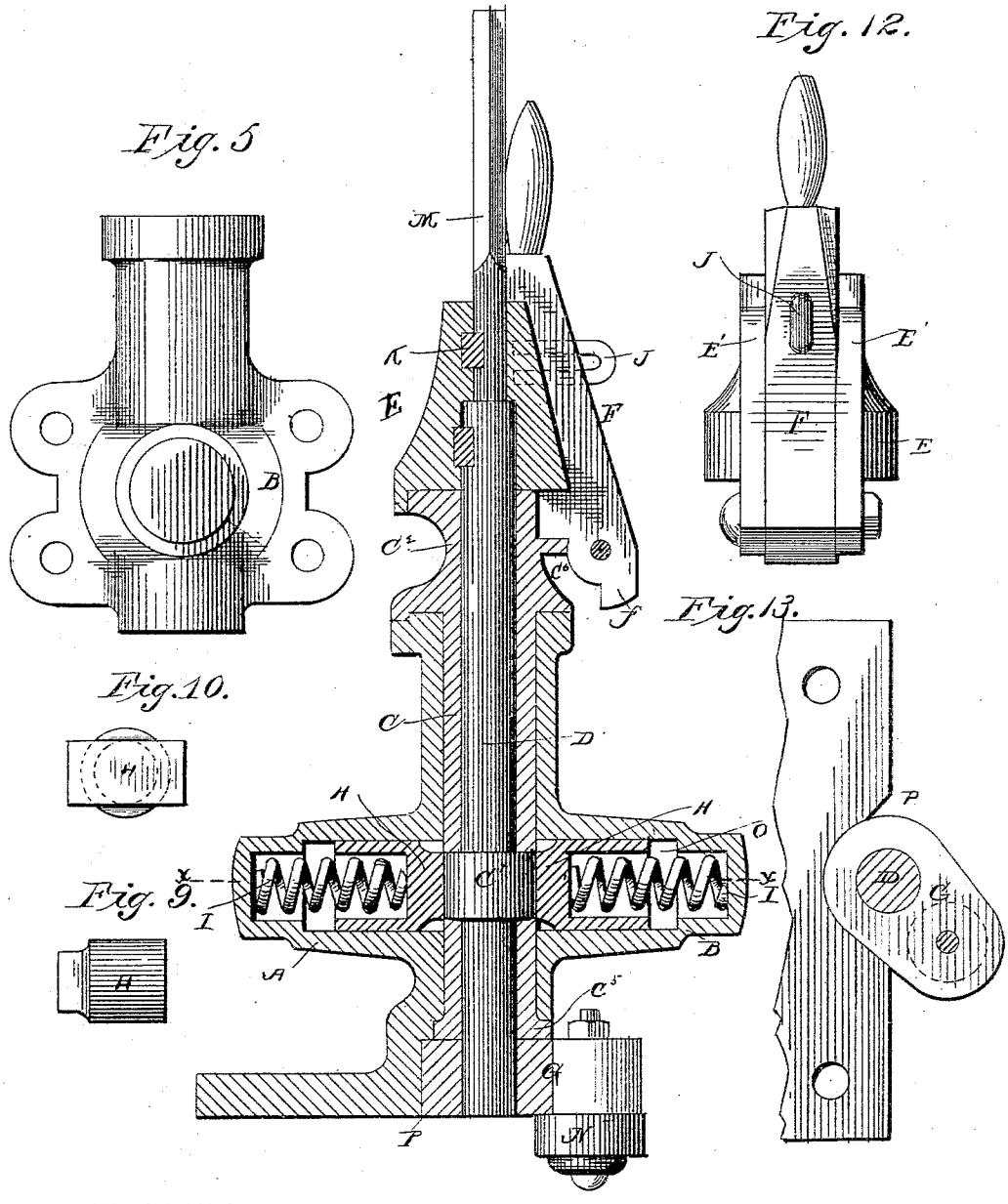

Fig. 5

Fig. 10.

Fig. 9.

Fig. 12.

Fig. 13.

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(No Model.) 3 Sheets—Sheet 3.

T. R. BROWN.

RAILROAD SWITCH STAND.

No. 318,948. Patented June 2, 1885.

Fig. 3.

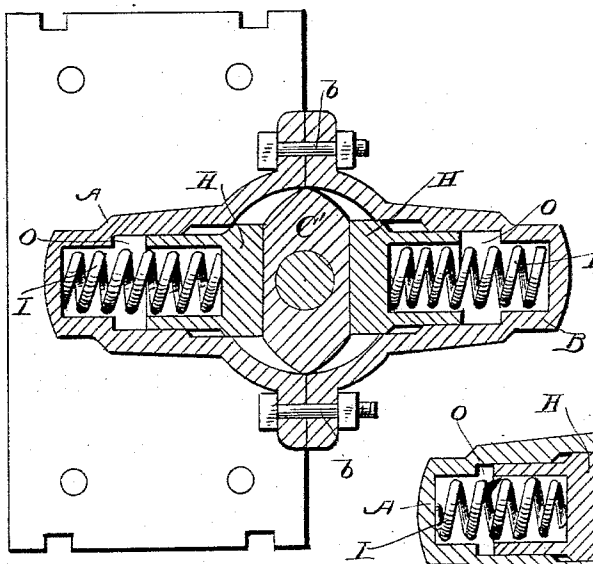


Fig. 11.

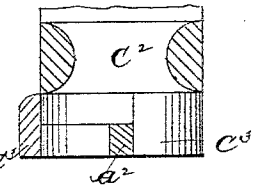


Fig. 14.

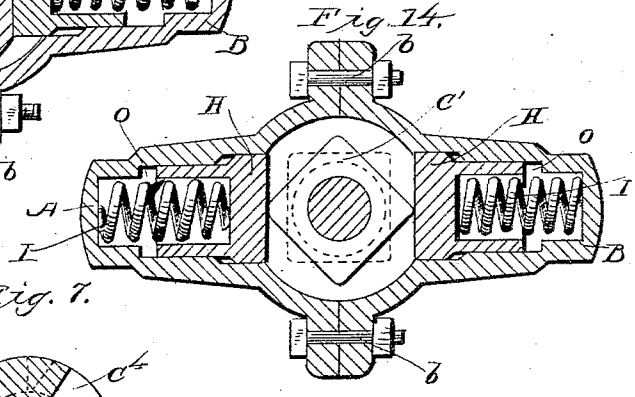


Fig. 7.

Fig. 6.

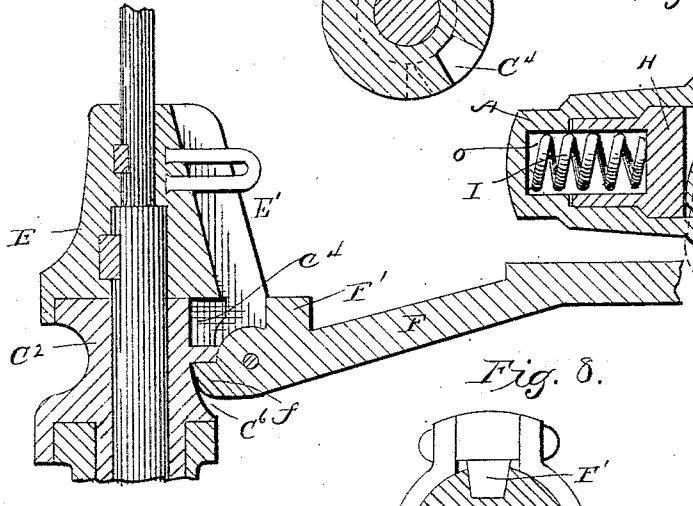


Fig. 4.

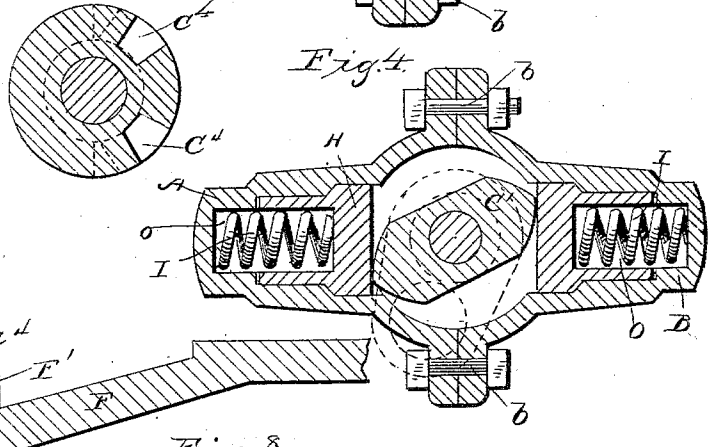
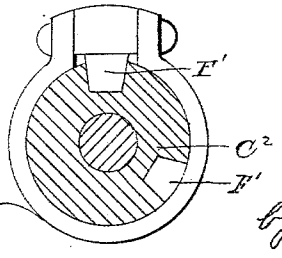


Fig. 8.



WITNESSES

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UNITED STATES PATENT OFFICE.

THOMAS R. BROWN, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF TWO-THIRDS TO WALTER C. MEEKER, OF SAME PLACE, AND ALFRED J. MANNING, OF NEW YORK, N. Y.

RAILROAD-SWITCH STAND.

SPECIFICATION forming part of Letters Patent No. 318,948, dated June 2, 1885.

Application filed August 9, 1884. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. BROWN, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Switch-Stands, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to switch-stands for railways, designed to permit the wheels of the cars to automatically operate the stand through the switch-rails, should the latter be misplaced; and the invention consists in the construction and novel arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a view in perspective of the stand in connection with a track. Fig. 2 is a vertical longitudinal sectional view showing the position of the parts when locked. Fig. 3 is a horizontal section on the line *x x* in Fig. 2. Fig. 4 is a horizontal section on the same plane, showing the rock-shaft C and projections C′ in a position differing from the position shown in Fig. 3. Fig. 5 is an outer face view of the main section B. Fig. 6 is a vertical sectional view of the head of the rocker-shaft, cap, handle, and handle-pocket, showing the position of the handle when the switch is to be turned or thrown by hand, and when the connection between the switch and springs is broken. Fig. 7 is a detail view of the rock-shaft. Fig. 8 is a detail section of the under side of the cap and handle, the latter and its bearings being shown full. Figs. 9 and 10 are detail views of the spring-cups. Fig. 11 is a view of the back of the head of the rock-shaft and upper part of main section A, showing projections a^2 and C^3. Fig. 12 is a front elevation of the cap and lever or handle, showing opening in the handle through which the staple J passes. Fig. 13 is a detail view showing part of the base of the stand and the crank G. Fig. 14 is a horizontal sectional view of the stand and springs.

Referring by letter to the accompanying drawings, the switch-stand is provided with a vertical shaft, D, on which is placed a rocker-shaft or loose sleeve, C, arranged to turn on the shaft D, but having no movement on the line of its axis. The said rocker-shaft C is provided with projections C′, against the sides of which, and at right angles thereto, rest the bottoms of the spring-cups H H. On one end of the rocker-shaft is formed the head C^2, which rests on the main sections A and B of the stand, which, together with the flange C^5 at the other end, hold it in position in the line of its axis. The main sections A and B are held together by bolts *b b*, thus keeping the springs in position, and forming journals for the rocker-shaft. The head C^2 is provided with recesses C^4, into which the projection F′ of the handle or lever F rests when locked in position, as shown in Fig. 1. The head C^2 is also provided with a groove or recess, C^6, into which passes the end *f* of the handle F, thereby preventing the handle F from falling below an angle of about ninety degrees.

Above the rocker-shaft C and resting on it is the cap E, which is secured to the shaft D by a key, K. The cap E is also provided with the ears or flanges E′, into the lower end of which the handle F is hinged, and the said flanges E′ form in the cap E a pocket for the handle F, which is locked in its upright position by an ordinary switch-lock passing through the staple J. When locked in its upright position, the handle or lever F rests against the shaft M, coming in contact therewith or in close proximity thereto, thereby preventing the insertion of a bar or other means of leverage between them.

To the lower end of the shaft D is fixed the crank G, to which is fastened the connecting rod or bar N, which connects the switch-points to the stand.

In the pockets O O are two springs, I I, of sufficient stiffness to resist man-power, but which will yield to steam-power. These springs are placed opposite to each other, and the pressure on the journals is equalized through the counteraction of one spring by the other, thereby relieving the strain and making the wear equal on all parts of the journals, and yet the combined power of the springs is transmitted to the crank G when the rocker-shaft is turned. The recess C^6 is

formed not quite half-way around the head C^2. The recess of the opposite side is made to lighten the head C^2. The shaft of the stand is formed in two sections, D and M, and they are keyed separately to the cap E. The main object of this construction is that the target-section M, which is liable to become bent in shipping or otherwise, can be taken out and straightened without interfering with any of the other parts of the stand. The sides of the crank G bear against the base of the main section A at P, thereby also limiting the movement of the shaft D, as also by the projection a^2 in Fig. 11. The head C^2 is also provided with the projections C^3, Fig. 11, which fall below it and overlap the main section A and alternately rest against the projection a^2 above referred to, and shown in Fig. 11. This stand is designed to work in connection with split or pointed railroad-switches, to throw and lock them to their proper positions, and yet permit a train to pass through such switches when set wrong, and replace the switch and set it right for the other track after the train has passed through.

The operation of the stand is as follows: In order to set the switch from one track to the other, the lever F is lowered (thereby severing all connection between the shaft D and the springs) and moved to the right or left, as the case may be, until it cannot be moved farther; then it is raised and locked in its upright position, at which time the stand is ready to work automatically. In case the handle cannot be raised and locked, it is an evidence that the switch has not been fully moved, and that there is an obstruction between the points and main rails, because F cannot in that case be engaged with C^4. Thus it is impossible for a switchman or other person to throw and lock the stand and not have the switch in its proper place.

The working of the stand automatically is as follows: In case the switch is set for the main track, and a train passes from the siding or turn-out to the main track without first having the switch thrown, the flanges of the wheels push the switch-points from the main rail. The points being connected to the crank G by the rod N, the crank is turned, and, being fastened to the shaft D, which is locked to the rocker-shaft C by the cap E, the handle of which rests in the recess C^4 of the rocker-shaft, when the rocker-shaft is turned the projections C′ are moved to position shown in Fig. 4, and compress the springs I I. As soon as the train has passed, the pressure of the springs on the projections C′ is sufficient to return them to their original positions, Fig. 2, thereby replacing the switch.

In case it is desirable to have the stand throw the switch from one track to the other automatically, it is necessary to form the rocker-shaft square where the projections C′ now are, as shown in Fig. 14; then as soon as the wheels have partially opened the points of the switch the point of the square of the rocker-shaft has passed beyond the center, and the pressure of the springs is on the next face of the square, thereby throwing the switch right for the other track.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a switch-stand, the combination, with the rocker-shaft, of the spring-cups H H, having their bottoms bearing against the projections C′ of the rocker-shaft, as set forth.

2. The combination, with the internal shaft and operating-lever, of the loose sleeve and the springs, combined and operating to relieve the shaft of unbalanced pressure and strain in its bearings, as set forth.

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

THOMAS R. BROWN.

Witnesses:
JAMES SMELLIE,
GEO. J. MEDOLE.