(No Model.)

A. R. ROBERTS.

SAFETY DEVICE FOR RAILROAD SWITCHES.

No. 318,394. Patented May 19, 1885.

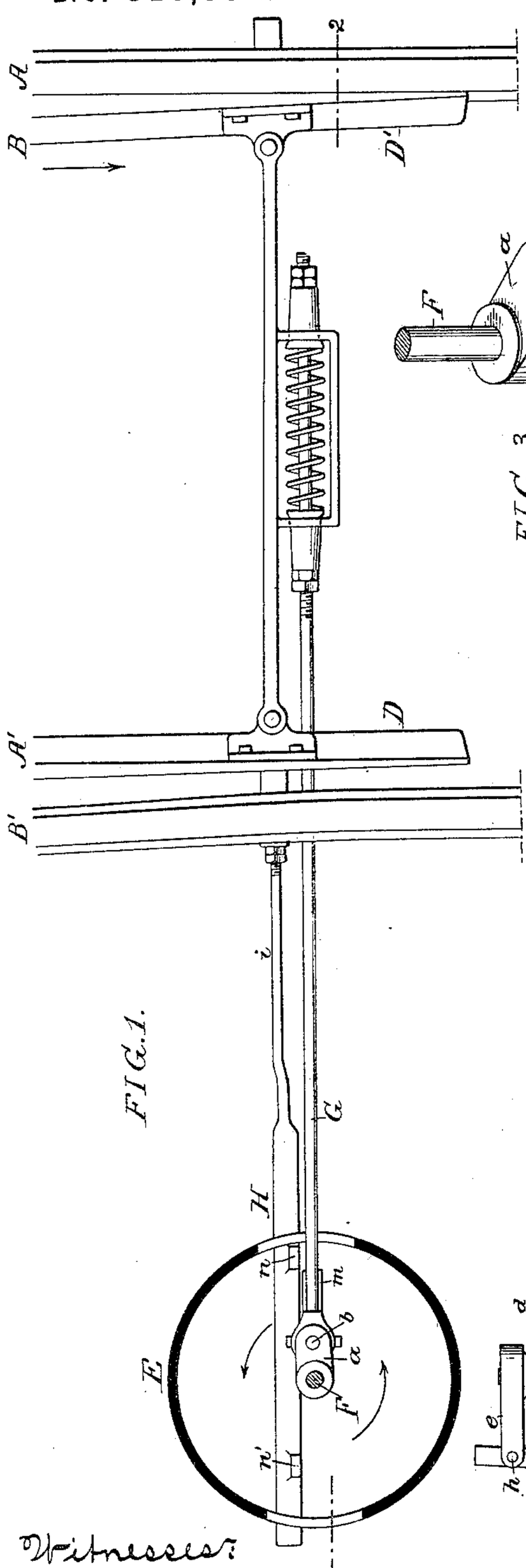


FIG. 1.

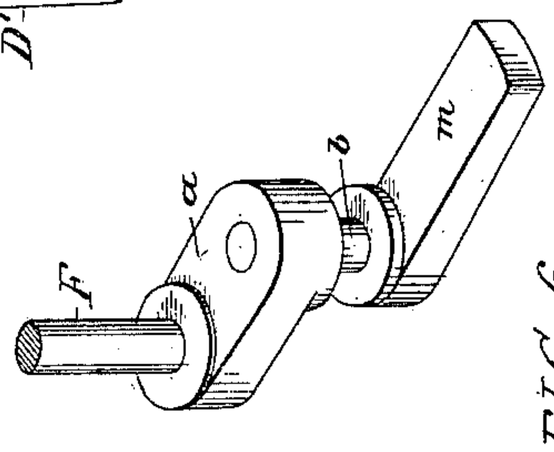


FIG. 3

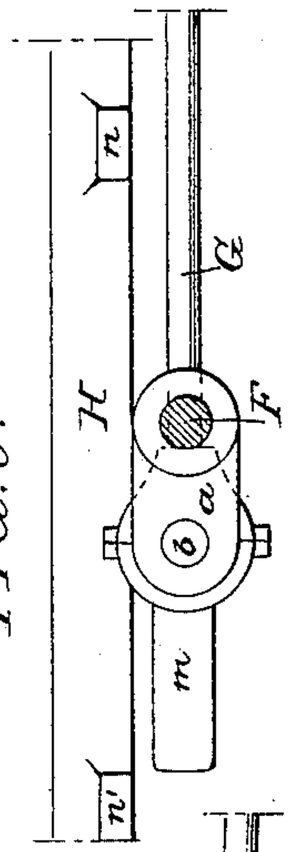


FIG. 6.

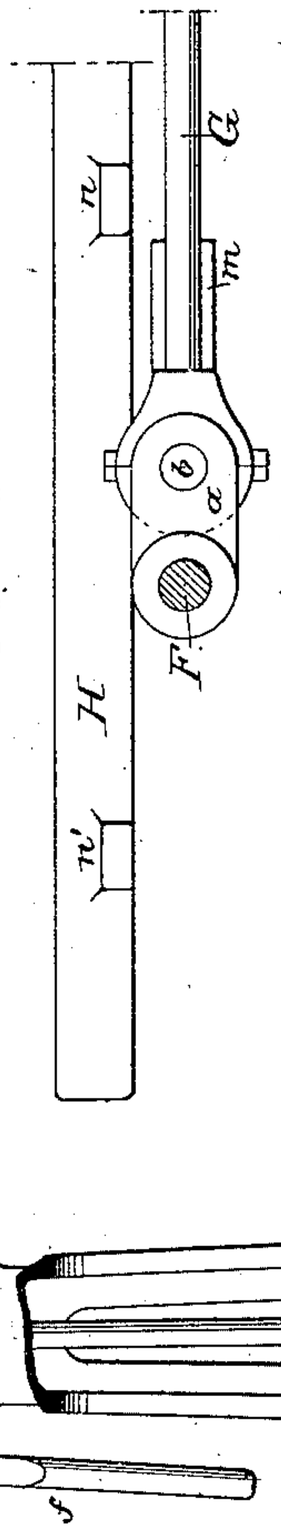


FIG. 4.

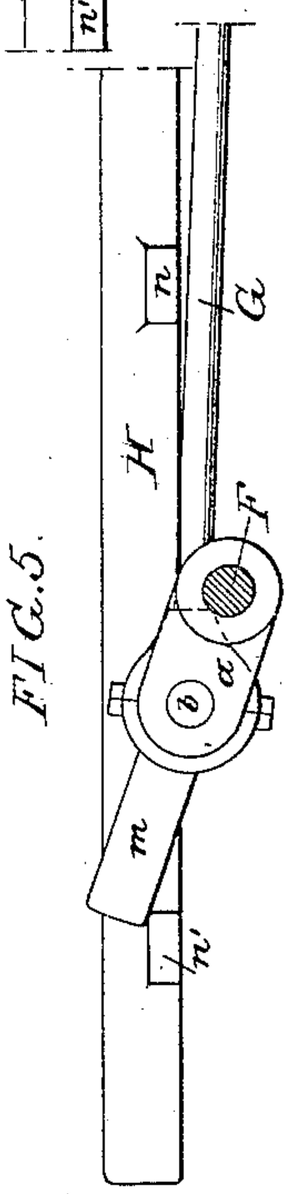


FIG. 5.

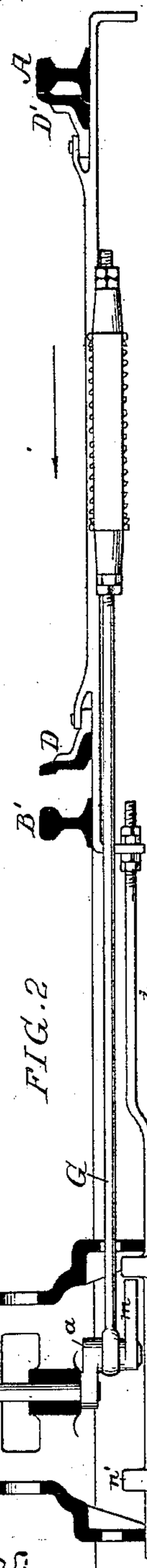
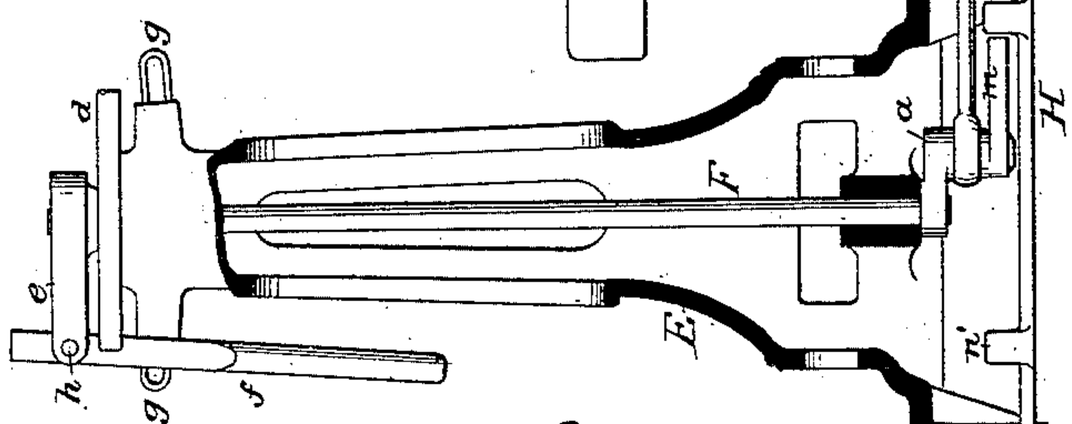


FIG. 2.



Witnesses:

John E. Parker

Harry Drury

Inventor:

Alfred R. Roberts

by his Attorneys

Howson & Sons

UNITED STATES PATENT OFFICE.

ALFRED R. ROBERTS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE WHARTON RAILROAD SWITCH COMPANY, OF SAME PLACE.

SAFETY DEVICE FOR RAILROAD-SWITCHES.

SPECIFICATION forming part of Letters Patent No. 318,394, dated May 19, 1885.

Application filed April 13, 1885. (No model.)

To all whom it may concern:

Be it known that I, ALFRED R. ROBERTS, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Safety Devices for Railroad-Switches, of which the following is a specification.

My invention is based on that for which I filed an application for patent November 10, 1884, Serial No. 147,509.

The object of my present invention is to apply to upright or "coffee-mill" switch-stands a safety device of substantially the same character as that set forth in my said former application for notifying the operator whenever there is any obstruction which prevents the complete adjustment of the switch.

In the accompanying drawings, Figure 1 is a plan view of the switch with the stand in section and made according to my invention; Fig. 2, a transverse section on the line 1 2, Fig. 1; Fig. 3, an enlarged perspective view of part of the operating-lever, and Figs. 4, 5, and 6 diagrams illustrating the operation of the safety-bar.

A A′ are part of the rails of the main track; B B′, part of the rails of the siding or turn-out, and D D′ the switch-rails, which are connected together in the usual manner by cross-bars.

E is the switch-stand, which is of the coffee-mill type, and is of the usual construction, consisting of a column or standard in suitable bearings, in which is the operating-shaft F, the latter having at the upper end an arm, *e*, with handle *f* pivoted to it at *h*, said handle engaging with a notched plate, *d*, secured to the stand E, and being slotted for the reception of staples *g*, which project from the stand beneath the plate *d*, so that the handle can be secured by a lock in either of its extreme positions.

The shaft F has at its lower end a crank, *a*, having a pin, *b*, to which is attached the switch-rod G, said rod being connected to the rails D D′ by the usual spring-coupling used in switches of this class.

Extending from and rigidly secured to the crank-pin *b* is an arm, *m*, and at one side of the axis of the shaft F is guided a bar, H, attached to the rails D D′, in the present instance by a rod, *i*, which is adjustably secured to one of the cross-bars of the switch.

On the bar H are two projections, *n n′*, situated in such relation to the arm *m* that when the parts are in the position shown in Figs. 1, 2, and 4 the point-rails D are free to yield, in the direction of the arrow, Fig. 2, to the wheels of a locomotive or car traversing the main track, no movement being imparted to the rod G, and the arm *m* being in such position as not to interfere with the movement of the bar H. If the switch-rails have to be moved to change the switch, the handle *f* is lifted out of the notch in the plate *d* and the arm *e* is turned in the direction of the arrow, Fig. 1, to the position opposite to that shown in Figs. 1 and 2, the crank *a* and arm *m* being likewise reversed and the rail D caused to bear against the rail B. If there is no obstruction to the full movement of the rail D, the bar H will be so moved that the projection *n′* of the same will be out of the path of the arm *m;* but if a small stone or other obstruction is between the rail B and point-rail D, so as to prevent the full movement of the latter, the arm *m* will strike the projection *n′* on the bar H, as shown in Fig. 5, and prevent the full movement of the operating-handle *f*, thus notifying the operator that the switch is obstructed. The arm *m* is not locked by the projection *n′*, however, so that the switchman can at once reverse the movement of the handle and open the switch to permit the removal of the obstruction, the switch being then closed and the handle dropped into the notch in the plate *d*, the arm *m* then bearing the same relation to the projection *n′* on the bar H that it before held in respect to the projection *n*. (See Fig. 6.)

I claim as my invention—

The combination of the switch-stand and its notched plate *d*, the operating-shaft having a crank, *a*, and pivoted arm *f*, the switch, the yielding connection of said switch to the crank, an arm, *m*, on the operating-shaft, and a bar rigidly connected to the switch and having projections arranged in respect to the arm as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALFRED R. ROBERTS.

Witnesses:
HARRY SMITH,
HENRY HOWSON.