

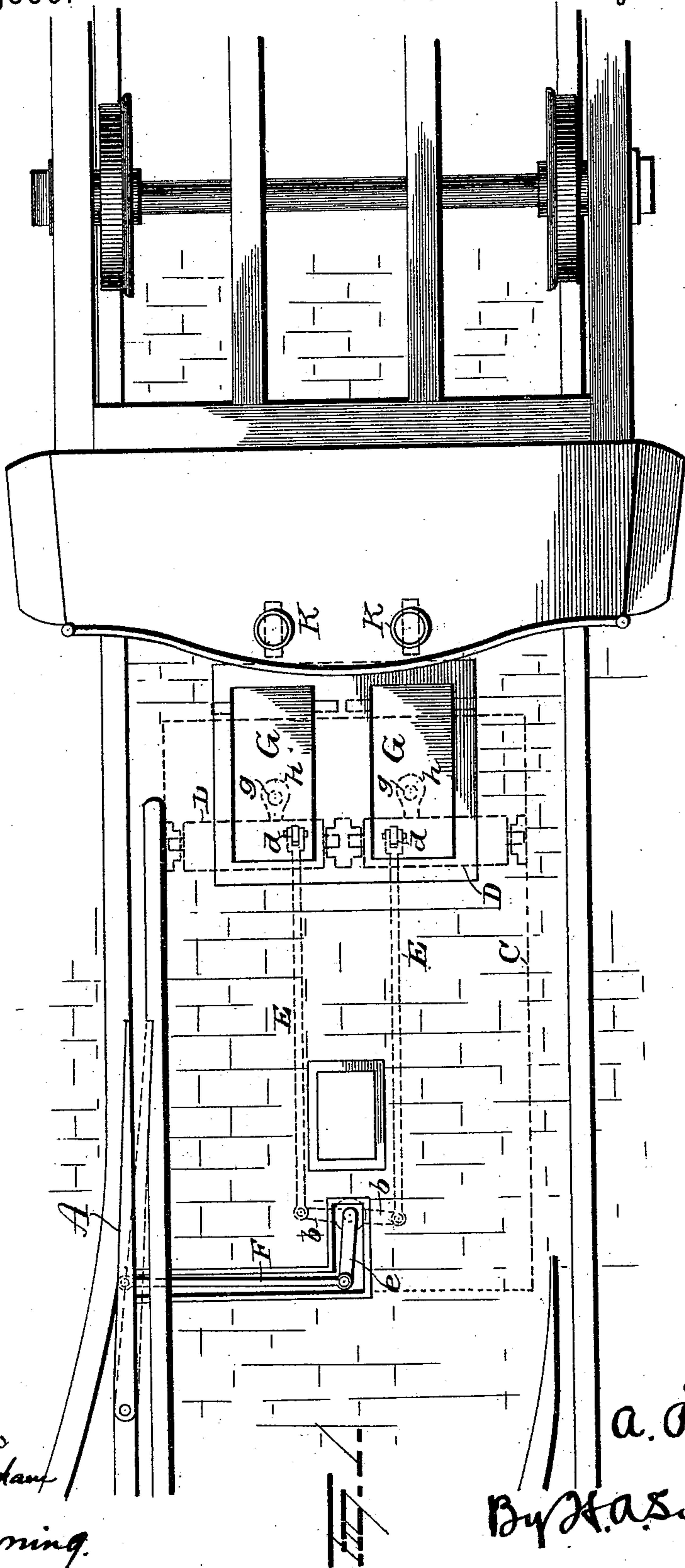
(No Model.)

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A. P. STEVENS.  
RAILROAD SWITCH.

No. 497,355.

Patented May 16, 1893.



Witnesses  
*E. W. Thompson*  
*G. F. Downing*

Inventor  
*A. P. Stevens*

By *H. A. Seymour*  
Attorney

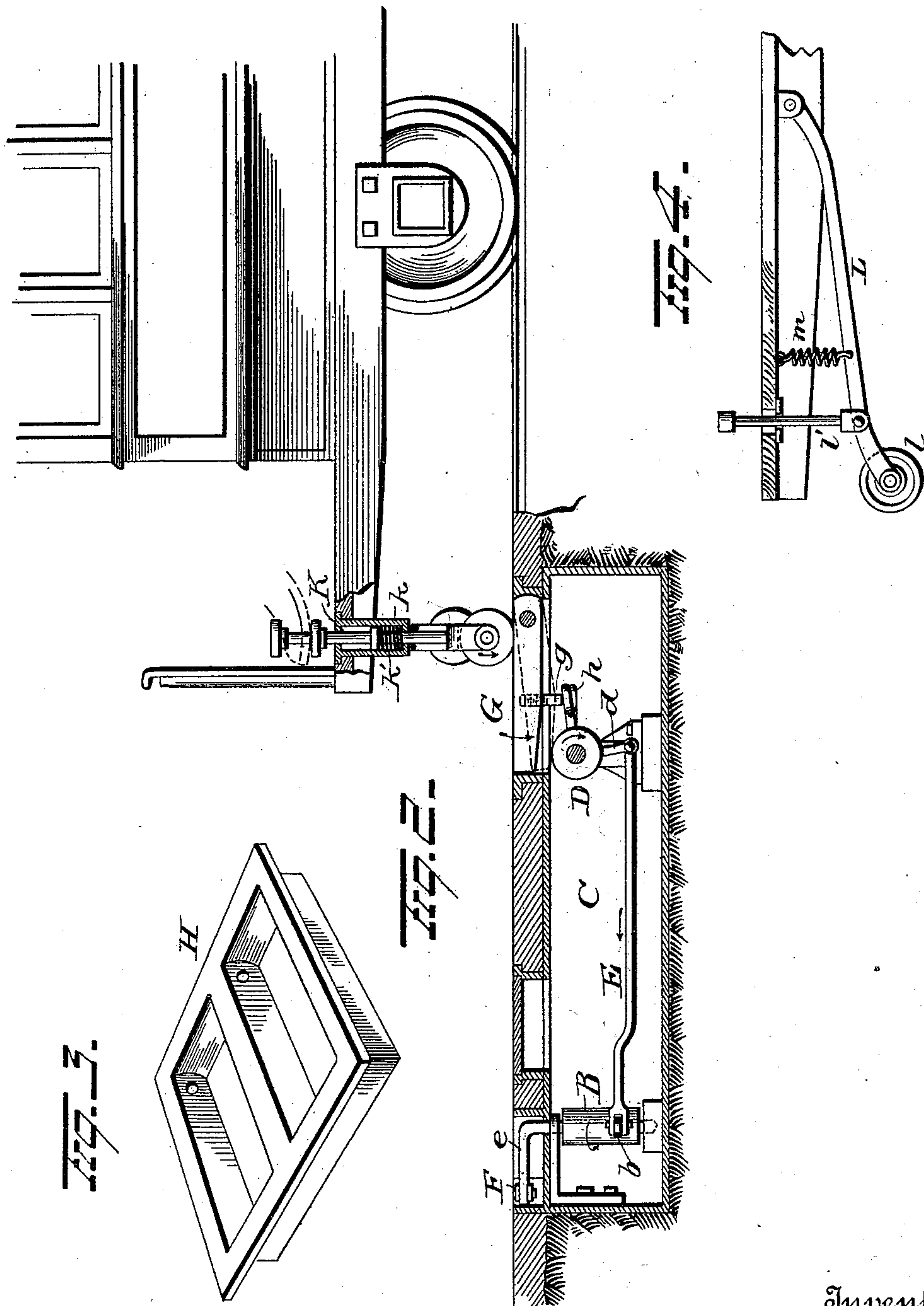
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# UNITED STATES PATENT OFFICE.

AUGUSTUS P. STEVENS, OF BROOKLYN, NEW YORK.

## RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 497,355, dated May 16, 1893.

Application filed December 28, 1892. Serial No. 456,551. (No model.)

*To all whom it may concern:*

Be it known that I, AUGUSTUS P. STEVENS, of Brooklyn, in the county of Kings and State of New York, have invented certain new and  
5 useful Improvements in Railroad-Switches; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use  
10 the same.

My invention relates to an improvement in railway switches, the present invention being applicable more particularly to street railways in which the switch is turned from the ap-  
15 proaching car.

The object is to provide means whereby the switch may be more perfectly balanced than heretofore to the end that it may be operated by the application of very slight pressure, and it consists in certain novel features of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In the accompanying drawings, Figure 1 is  
25 a plan view of a portion of the road bed showing the pit in which the switch operating mechanism is located. Fig. 2 is a longitudinal sectional view. Fig. 3 is a detached view of the plate which supports the hinged treads,  
30 and Fig. 4 is a modification.

A represents the movable switch tongue. This is pivoted at one end in the usual manner in the rail frog and it is shifted by the following mechanism.

35 B is a shaft vertically supported in the pit C.

D D are a pair of horizontal shafts also located in the pit in position to be easily rocked. Arms *d d* project downward from each of these horizontal shafts and from these arms  
40 *d d* connecting rods E E extend forward to arms *b, b*, projecting laterally and in opposite directions from the vertical shaft, so that the horizontal shafts and the vertical shaft rock  
45 simultaneously. The horizontal shafts rock in opposite directions and the vertical shaft has an arm *e* the end of which is connected by means of a connecting bar F with the pivoted tongue. These parts constitute the en-  
50 tire switch operating mechanism and this

mechanism is itself operated by means of the treads G, G. The latter are hinged to a removable plate H preferably and their free ends are provided with depending projections *g, g*, located in position to strike arms *h, h*,  
55 projecting laterally from the horizontal shafts. These depending projections are preferably made adjustable to compensate for wear and also to make their operation exact. They are adjusted to rest upon the arms *h, h*, so  
60 that the slightest depression of the treads G, G, is felt on the arms *h, h* and in consequence the horizontal shafts are set in operation. So to operate the switch one tread or the other is depressed from the car according to the  
65 direction in which it is desired to have the car go and the treads are long enough and far enough away from the switch so that the operator may be satisfied that the switch is in the desired position before the car reaches  
70 it and the length of the treads is sufficient so that in case the operator should inadvertently depress the wrong one he would still have time to set it right, by acting promptly before the car passed on too far. The down-  
75 ward movement of the treads is limited by the horizontal shafts which they strike and form stops therefor.

Any convenient means may be adopted for operating the switch from the car. I prefer  
80 however to employ a spring actuated slide rod K. This slides vertically in a socket *k* placed in the car platform and is held normally elevated by the action of spring *k'*. This rod K has a roller on its lower end and a foot  
85 piece on its upper end. There are of course two or three rods and when desired to turn a switch, the operator simply places his foot upon one or the other as the case may be, the roller striking and depressing the tread and  
90 rising out of the way as soon as it is liberated. In lieu of this form, the device shown in Fig. 4 may be employed. In this latter construction levers L are pivoted to the car and provided with rollers *l* and a slide rod *l'*  
95 passes loosely through the car platform and is pivotally connected to the lever. Springs *m* yieldingly support these levers.

The pit C may be connected with the sewer and a man hole is generally formed into it so  
100



that access may be had to the mechanism therein.

In conclusion it may be remarked that the aim has been to simplify the construction, reduce the parts to a minimum and render the parts as sensitive and responsive as possible to slight pressure, this resulting from the even balancing of the parts.

It is evident that slight changes might be resorted to in the form and arrangement of the several parts described without departing from the spirit and scope of my invention and hence I do not wish to limit myself to the exact construction herein set forth but,

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

1. The combination with rock shafts, rods connecting them together, and means for connecting one of the shafts to the switch rail to be shifted, of hinged treads the free ends of which are located in position to strike the adjacent rock shafts to limit their depression,

and projections on the treads for rocking the shafts, substantially as set forth.

2. The combination with a pair of horizontal shafts, arms thereon, a vertical shaft having arms projecting therefrom, a rod extending from one of the arms on the vertical shaft to the switch, and rods connecting arms on the vertical shaft with arms on the horizontal shaft, of hinged treads, and projections thereon adapted to strike arms on the horizontal shafts whereby to operate the latter and the free ends of the treads adapted to strike the horizontal shafts to form stops therefor when sufficiently depressed, substantially as set forth.

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

AUGUSTUS P. STEVENS.

Witnesses:

CYRUS PYLE,  
GEO. T. HUDSON.