

E. E. STAGGS.
 AUTOMATIC SWITCH STAND.
 APPLICATION FILED DEC. 31, 1908.

930,897.

Patented Aug. 10, 1909.

3 SHEETS—SHEET 1.

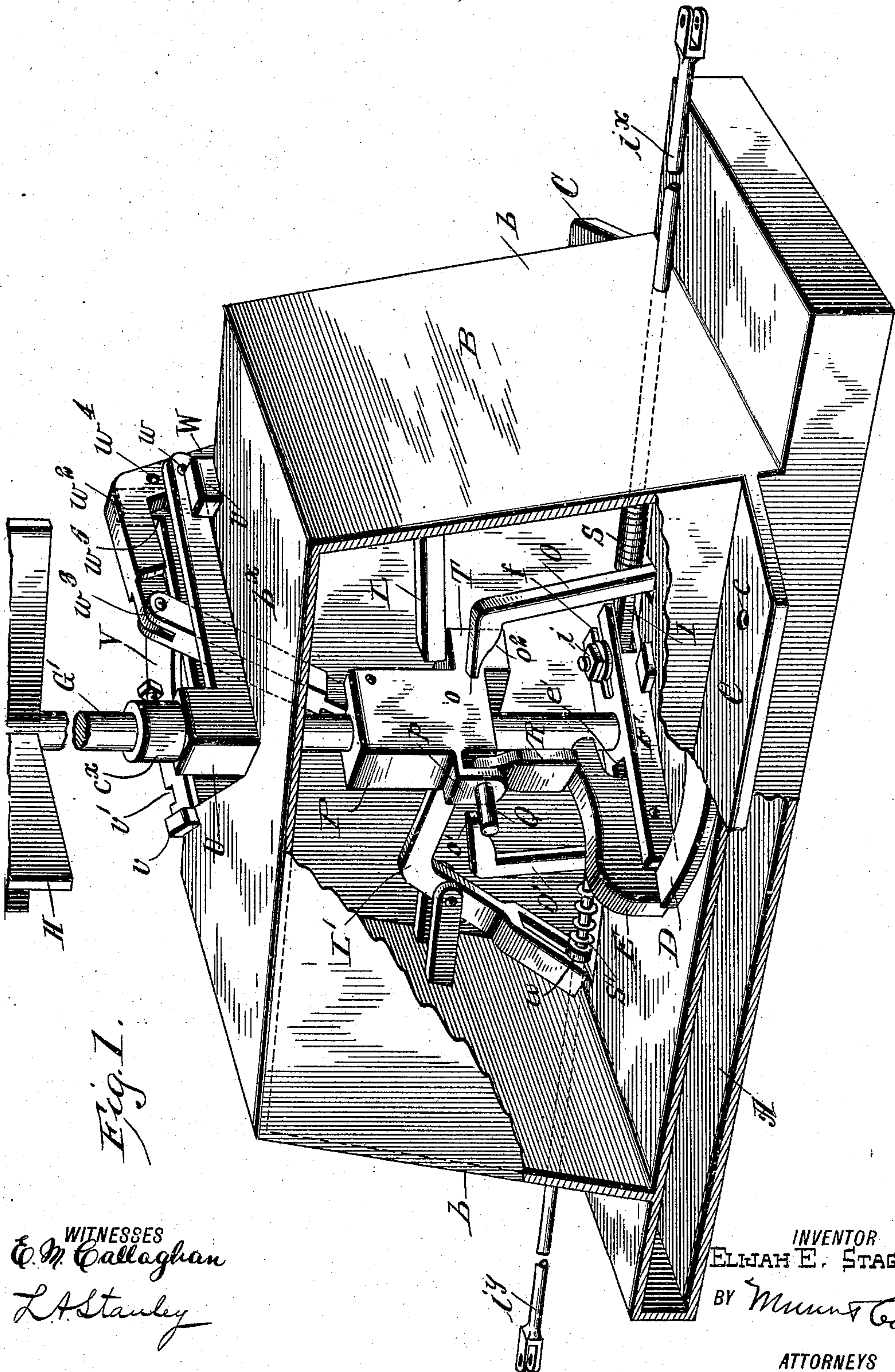


Fig. 1.

WITNESSES
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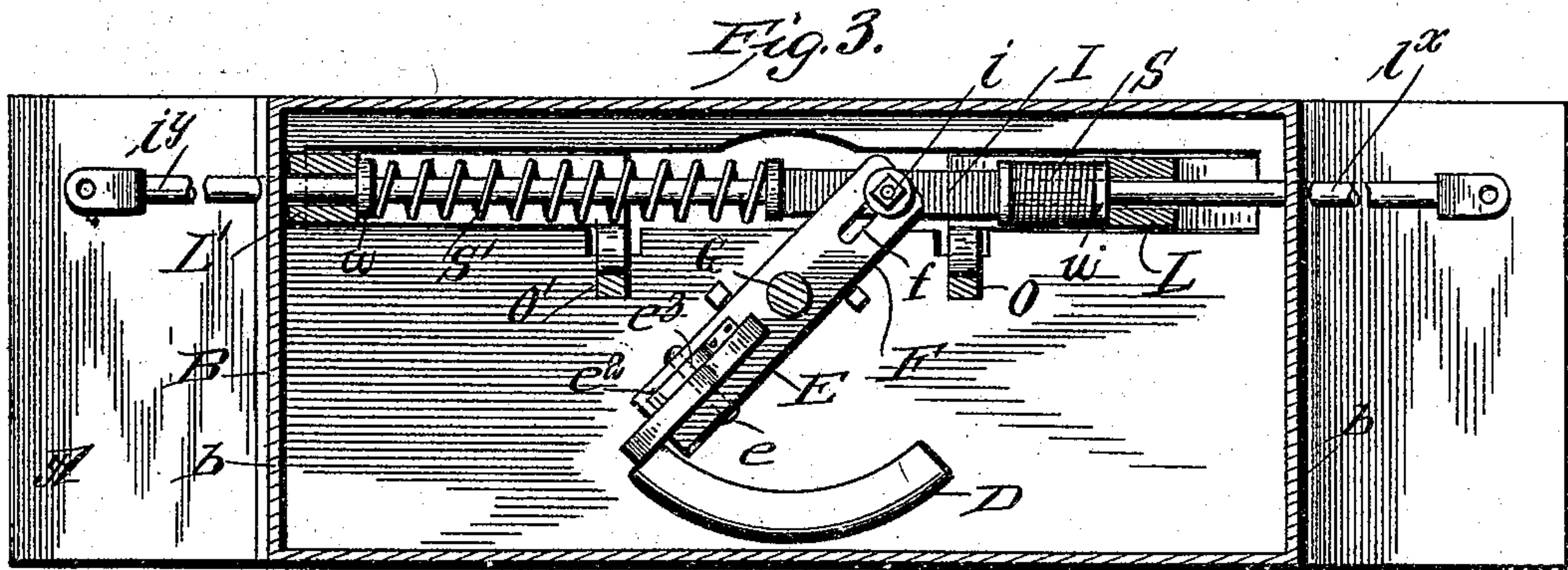
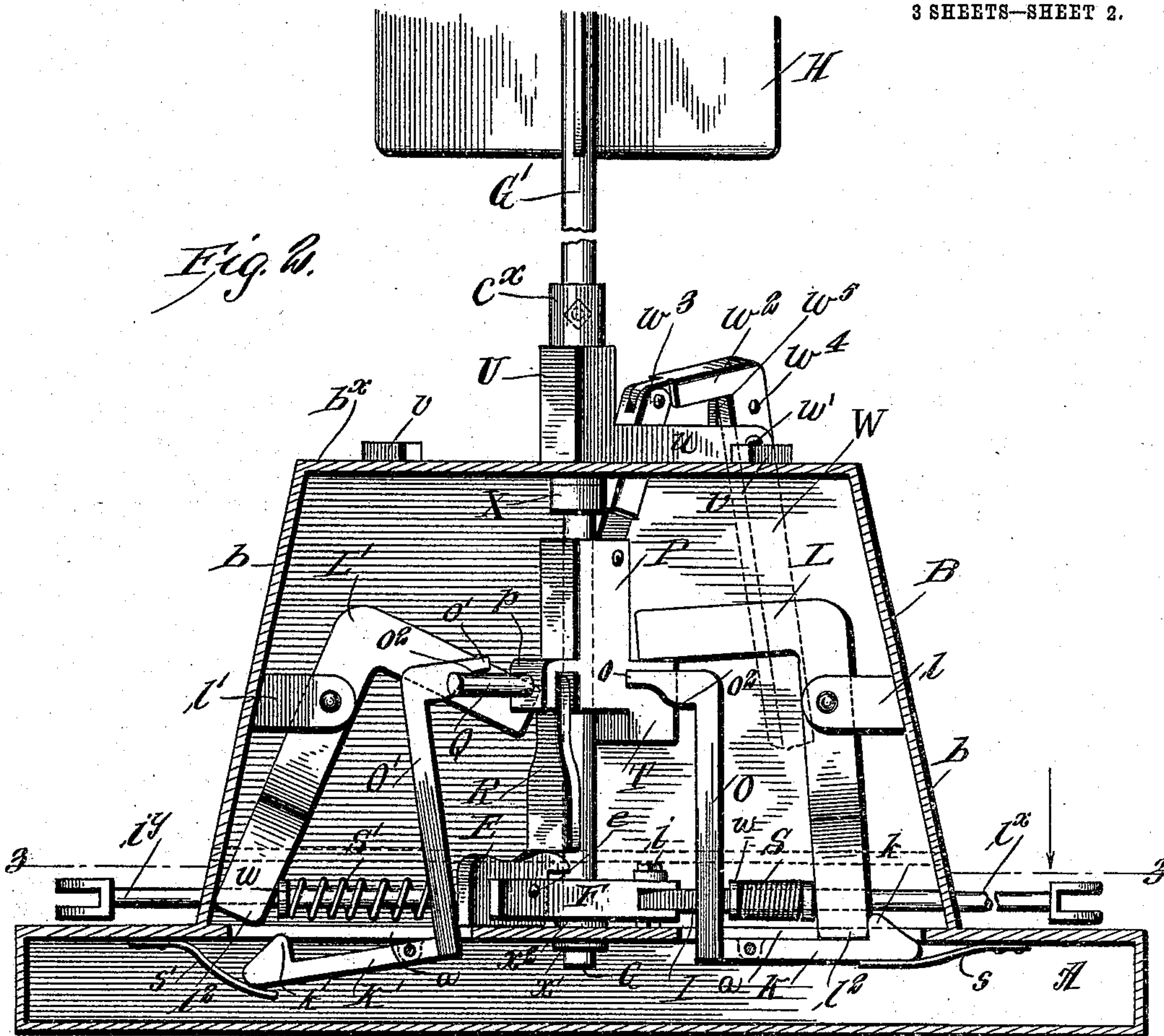
INVENTOR
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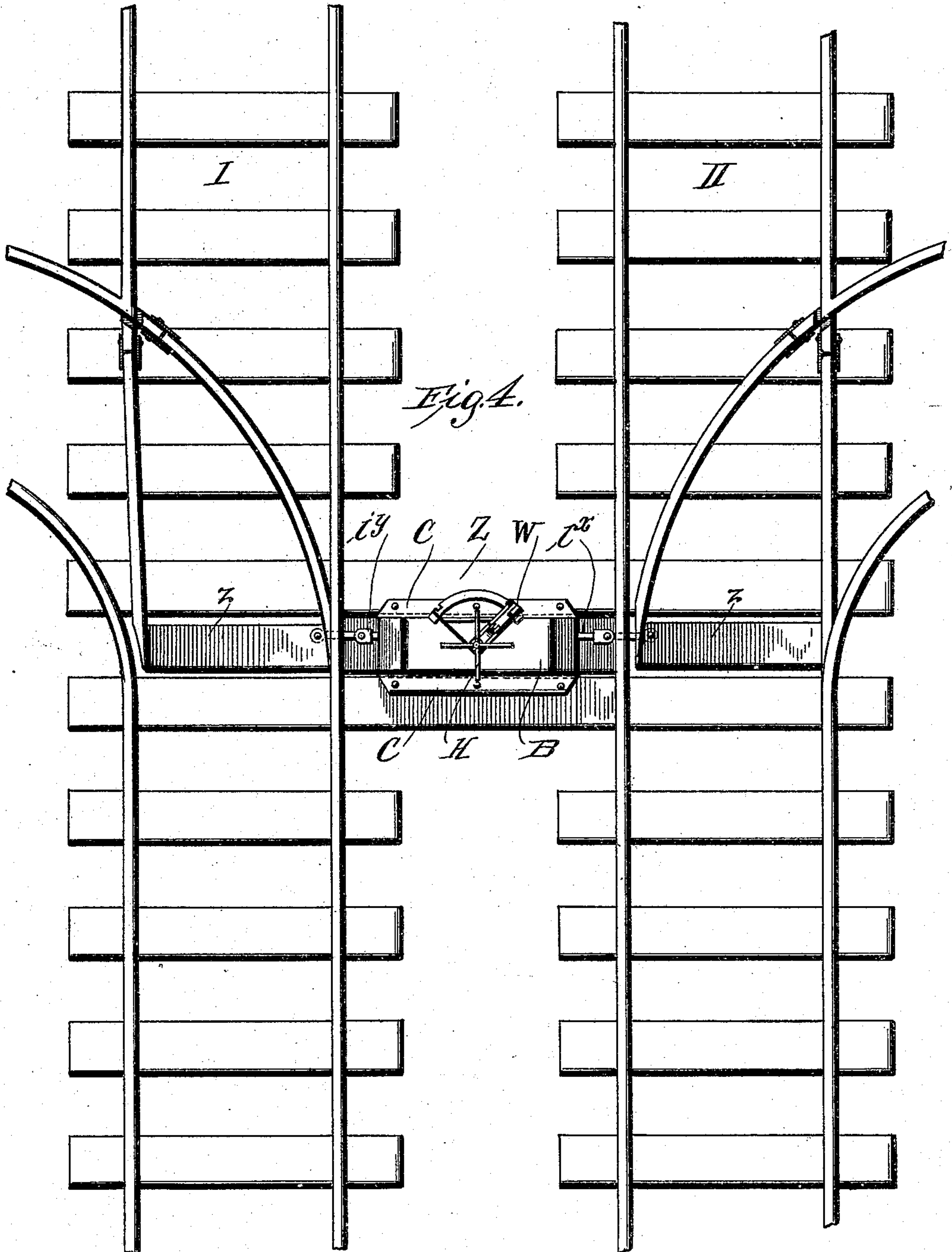
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UNITED STATES PATENT OFFICE.

ELIJAH E. STAGGS, OF HACHITA, TERRITORY OF NEW MEXICO.

AUTOMATIC SWITCH-STAND.

No. 930,897.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed December 31, 1908. Serial No. 470,208.

To all whom it may concern:

Be it known that I, ELIJAH E. STAGGS, a citizen of the United States, and a resident of Hachita, in the county of Grant and Territory of New Mexico, have made certain new and useful Improvements in Automatic Switch-Stands, of which the following is a specification.

My invention relates to switch stands and more particularly to that type of switch stands known as automatic switch stands, and it consists in the combinations, constructions and arrangements herein described and claimed.

An object of my invention is to provide a novel form of mechanism for automatically keeping the switch points up against the stock rail, thereby preventing accidents due to the leaving of the switch partly open.

A further object of my invention is to provide an automatic switch in which the target will always indicate the true condition of the switch. This obviates a grave danger which arises from the use of switch stands of the ordinary kind since with the present invention there must be a positive movement by some one who wishes the switch to be changed before the target will indicate such change. When the change has been made the target will be shifted to indicate the change and will be positively locked in its shifted position.

A further object of my invention is to provide novel mechanism for accomplishing the above results, which is comparatively simple in its nature yet certain of operation.

Other objects and advantages will appear in the following specification and the novel features of the invention will be particularly pointed out in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my invention, part of the exterior being broken away. Fig. 2 is a vertical sectional view showing the interior operating mechanism. Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2 looking in the direction of the arrow, and Fig. 4 is a view showing the application of my invention to a pair of tracks.

In carrying out my invention I provide a base A of wood or metal, upon which is a casing B. This casing has a two-fold purpose, one purpose being to support certain of the working parts and the other being for

the purpose of affording protection against the weather. It will be understood, however, that the supporting parts may not necessarily be in the form herein shown, and that any suitable form of support may be provided. Thus instead of the sloping sides b, b , shown in the drawing, I may have two wooden frame-posts, resting on the base A and supporting the top b^x . On either side of the casing are the flanges C provided with bolt holes c for the purpose of securing the stand to a firm support.

Within the casing, upon the base A, is located an arc-shaped block D, see Figs. 1 and 3. This block is for the purpose of locking a trigger E pivoted at e in a slot e' of a trigger carrier F. The trigger is provided with a pin e^2 , which is engaged by a leaf spring e^3 secured to the member F. The trigger carrier F is pivotally mounted on the target rod G, which extends through the top of the base, see Fig. 2, upwardly through the casing B and is connected to the extension G' by means of a collar c^x . The extension G' supports at its upper end the target H. The trigger carrier F is provided with a slot f at one end arranged to movably engage a bolt i carried by a rod I. The rod I has rounded extensions i^x and i^y on either end, which project through the sides of the casing B and are connected with the rails of the tracks on either side of the stand. Encircling each of the rods i^x and i^y are the spiral springs S and S', respectively, each being provided with the washers or heads w at their ends.

Within the casing are disposed the L-shaped levers L and L', being pivoted between the arms l and l' , which project from the side walls as clearly shown in the drawing. The bottom parts l^2 of these levers are forked to straddle the rods i^x and i^y , and they are arranged to engage the heads w of the springs S and S'. Pivotally secured to the under side of the top of the base A are the catches K and K', having the projections k and k' , which are adapted to project upwardly through the opening a in the base top, being normally held up by the springs s and s' . To the inner end of each of these levers there is an inclined arm O, O' provided with laterally projecting ends o, o' having curved cam surfaces o^2 on their under sides.

Surrounding the rod G and movable therealong is the carriage P. On one side of

the carriage is an L-shaped flange p through which there is a bolt or pin Q which forms the pivotal member for a loosely depending trip R . The opposite side of the carriage 5 is provided with a lug T ; as clearly shown in the drawing.

Above the casing B is located the handle frame U , which consists of an upright portion rotatably mounted on the rod G and a 10 laterally extending portion u which has a longitudinal slot to permit the entrance of the handle W , which is pivoted at u' and is provided with a laterally extending end w^2 , which is pivotally secured to a link w^3 that 15 extends through the slot and through the casing and is pivotally attached to the carriage P . The handle W is provided with a hole w^4 for the reception of a locking pin to hold the handle down as hereinafter de- 20 scribed. Upon the top of the casing is located an arc-shaped locking member V provided with stops v at the ends thereof and slots v' arranged to receive the handle W . The collar c^x , which forms a union between 25 the rod G and its extension G' , serves to keep the handle frame in position. The collar X on the rod G serves to limit the movement of the carriage P , while the collars x' and x^2 on the lower end of the rod G serve 30 to keep the latter in position.

The foregoing description of the various parts of the device will be sufficient for a clear understanding of the operation thereof.

In Fig. 4 the switch stand is shown at Z 35 with the rods z^x and z^y connected to the movable rail plates z of the tracks I and II. In setting the switch the trigger E should be locked against the end of the block D . If the trigger E is toward the left as shown in 40 Fig. 3, then the handle W should be toward the right, as shown in Fig. 2. If the switch is in this position, then the tracks will be in the position shown in Fig. 4 and the target will be set accordingly. It will be observed 45 that the switch points are held tight up against the stock rail by means of the tension of the spring S , which will not permit the movable switch points to leave the stock rail even though the latter should spread.

In effecting the switching operation, the 50 handle W , which is in one of the slots v' , is raised, thereby forcing down the carriage P and raising the trigger E through the medium of the trip R . Under the action of 55 the spring S the switch is immediately operated and the track portions are shifted. During this operation the trigger carriage is thrown to the opposite end of the arc-shaped block, the trigger dropping into position and locking the mechanism. At the 60 same time the target is turned to indicate the changed condition. The handle W is now swung around to the opposite side until it comes in registration with the slot v' . 65 The handle is now pressed down until the

trip Q engages the cam-shaped surfaces of the retaining lever K of the L-shaped lever L , thereby releasing the latter. At the same time the lug T , which is now under the lever L' , forces the latter inwardly, thereby com- 70 pressing the spring S' and thus again setting the switch. The trip R is now in position immediately over the trigger E ready for a subsequent operation. In order to provide for the further prevention of accident, 75 the handle W may be locked in its shifted position by a switch lock or pin passed through the opening w^4 and through the upwardly extending end w^5 of the member u .

It will thus be seen that I have provided 80 a device in which the operation of the switch is effected by means of springs under tension and that the switch points are held always in close engagement with the stock rail by means of the action of these same springs. 85

I claim—

1. In a switch stand, a switch rod, springs carried by said rod for shifting the switch, a pair of levers arranged to engage said springs for setting the latter, a target rod, 90 a movable carriage disposed on said target rod, and arranged to operate either of said levers, and means for moving said carriage.
2. In a switch stand, a switch rod, coiled springs carried by said rod for shifting the 95 switch, a pair of forked levers arranged to engage said springs for setting the latter, a target rod, a movable carriage disposed on said target rod and arranged to operate either of said levers, and a handle for shift- 100 ing said carriage.
3. In a switch stand, a switch rod, coiled springs carried thereby for shifting the switch, a pair of forked levers for setting 105 said springs, a pair of spring-actuated catches for retaining said levers, a target rod, a carriage movable longitudinally of said target rod, means on said carriage for engaging either of said levers, an arm on said carriage for actuating said catches, and 110 a handle for operating said carriage.
4. In a switch stand, a switch rod, coiled springs carried thereby for shifting the switch, a pair of forked levers for setting 115 said springs, a pair of spring-actuated catches for retaining said levers, a target rod, a locking trigger for said rod, a carriage movable longitudinally of said target rod, means carried by said carriage for actuating said forked levers, an arm on said 120 carriage for actuating said catches, a depending trip for actuating said trigger, and a pivoted handle for moving said carriage.
5. In a switch stand, a switch rod, coiled springs carried thereby for shifting the 125 switch, a pair of forked levers for setting said springs, a pair of spring-actuated catches for retaining said levers, a target rod, a spring-actuated locking trigger for said rod, a locking block arranged to co- 130

operate with said trigger, a movable carriage disposed on said target rod, means carried by the carriage for actuating said forked levers, means carried by said carriage for actuating said spring catches, means carried by said carriage for actuating said spring trigger, a handle for moving said carriage, and a frame pivoted on said target rod and arranged to carry said handle.

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Witnesses:

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