

(No Model.)

O. J. TRUE & H. H. HOUGHTON.

AUTOMATIC SWITCH STAND.

No. 271,999.

Patented Feb. 6, 1883.

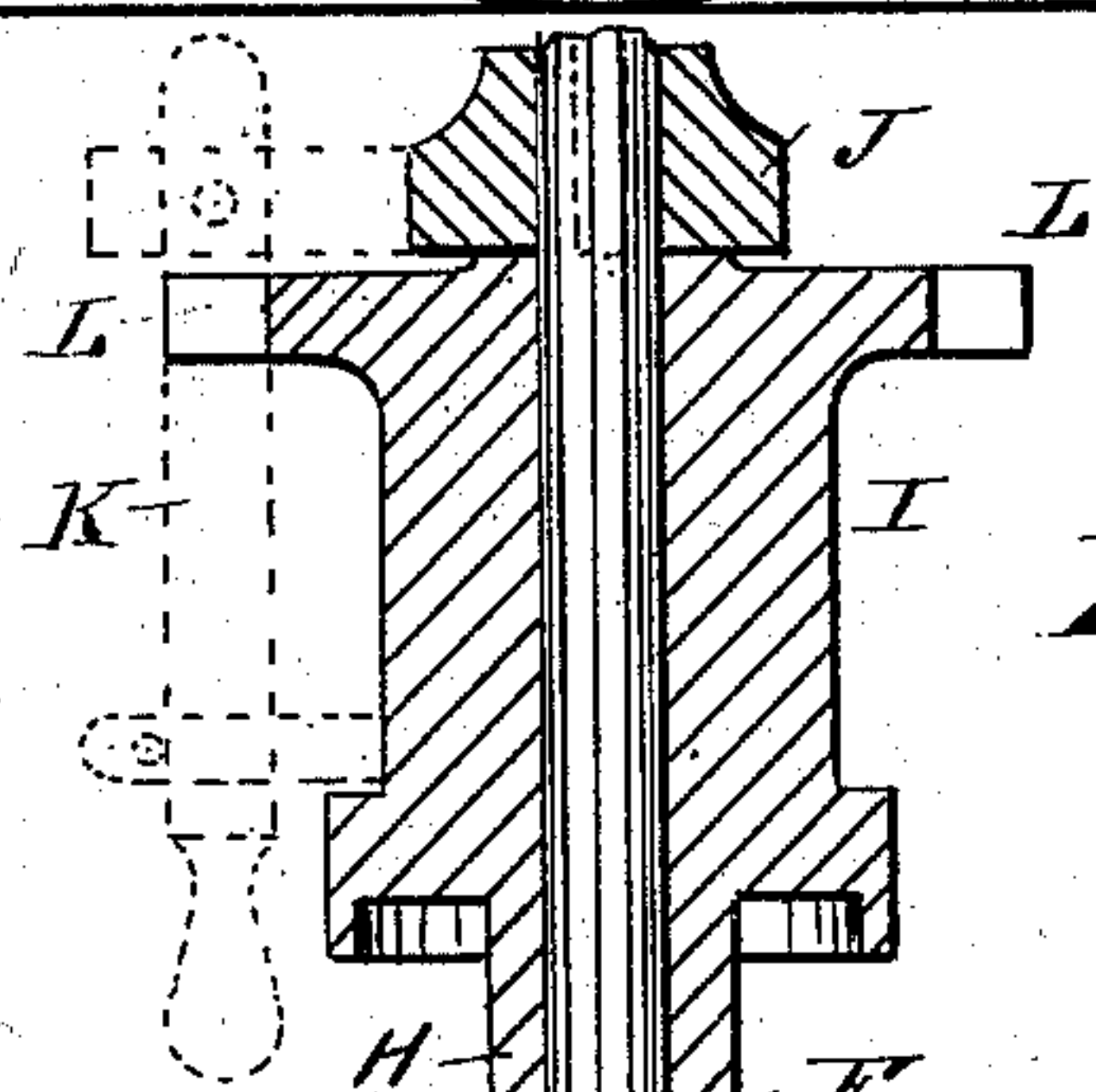
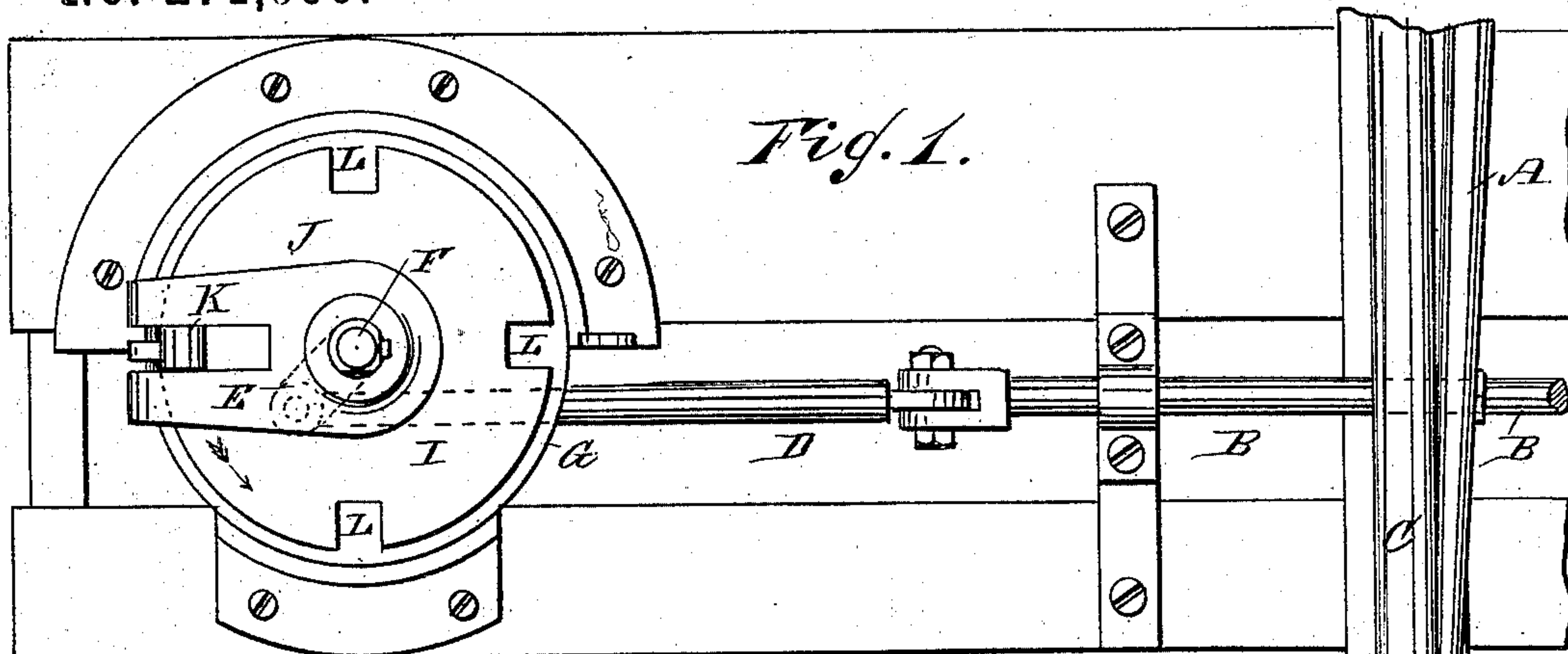
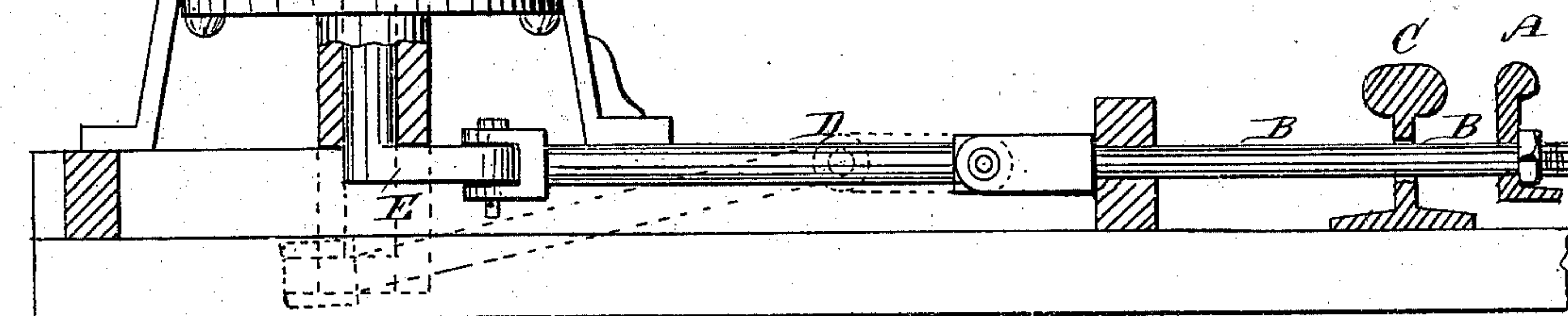
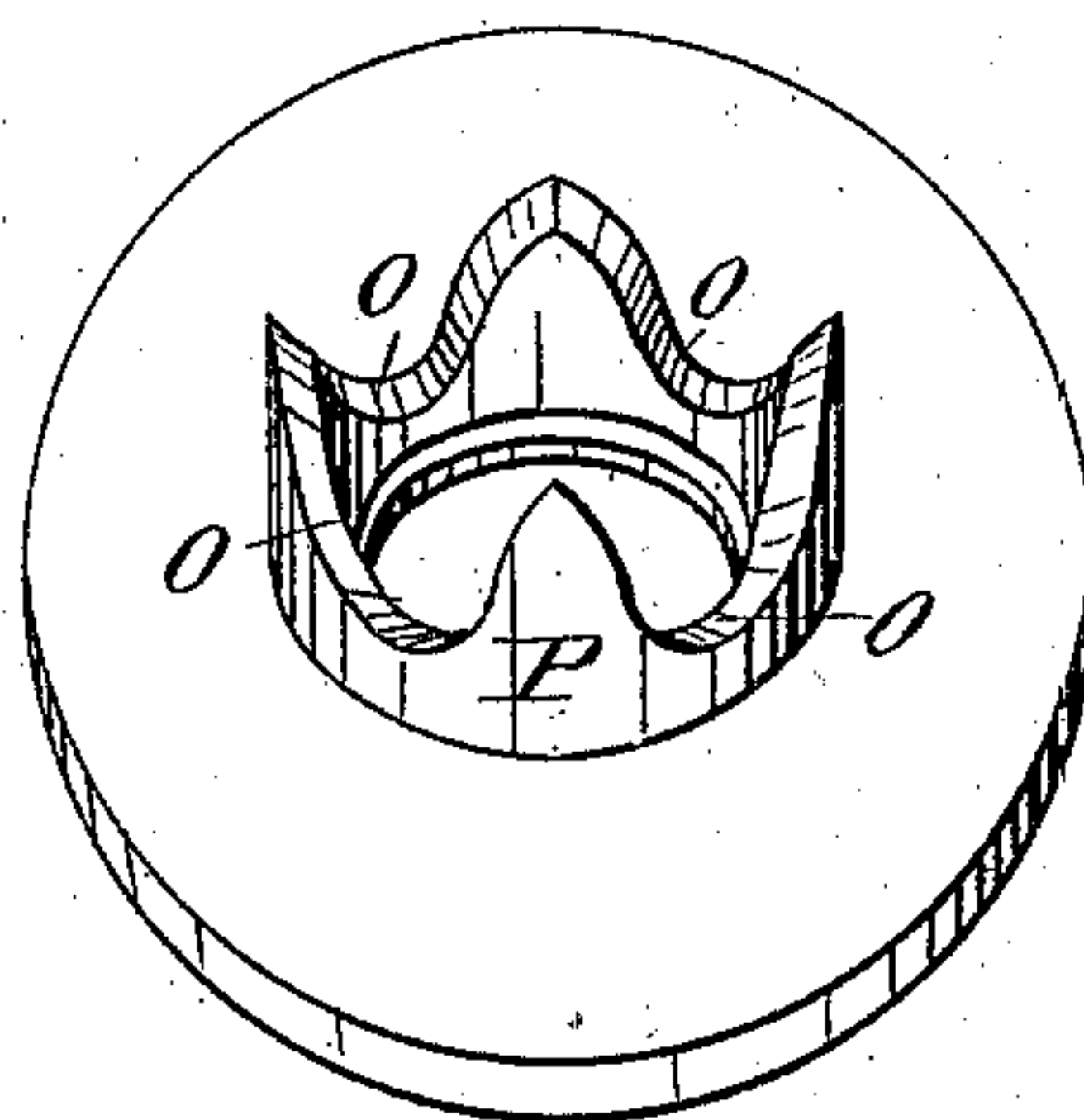


Fig. 2.

Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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ELYRIA, OHIO.

AUTOMATIC SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 271,999, dated February 6, 1883.

Application filed October 12, 1882. (No model.)

To all whom it may concern:

Be it known that we, OLIVER J. TRUE, of Port Clinton, in the county of Ottawa and State of Ohio, and HENRY H. HOUGHTON, of Elyria, in the county of Lorain and State of Ohio, have invented a new and Improved Automatic Switch-Stand, of which the following is a full, clear, and exact description.

The object of our invention is to provide a new and improved switch-stand, which automatically replaces the tongues after the same have been displaced by a train coming from the siding or in the same direction on the main line, so that the switch will be in proper order for the next train running in the reverse direction of the train that has displaced the tongues.

The invention consists in a switch-stand provided with a vertical shaft for operating the switch, on which shaft is loosely mounted a weighted sleeve, which is provided with a stud or anti-friction roller resting on a V-shaped track or recess in a sleeve in the stand. Above the said weighted sleeve a forked plate is keyed on the shaft, and to the said plate a lever is keyed, by means of which the shaft can be operated, and which lever can then be passed into a notch in the weighted sleeve, whereby the said weighted sleeve will be locked on the vertical shaft, so that when a train moves the switch-tongues the shaft will be turned and the weighted sleeve raised, and as soon as the wheels have passed the tongues the descending weighted sleeve turns the shaft back again and brings the tongues back into the former position.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of our improved automatic switch-stand, showing the tongues set to conduct a train on the siding. Fig. 2 is a longitudinal sectional elevation of the same, with the tongues displaced. Fig. 3 is a perspective view of a notched plate for locking the switch automatically to the track opposite the one from which it has been thrown by the passing train.

The switch-tongues A (one of which is shown)

are connected in the usual manner or by a tie-rod, B, which tie-rod passes through the rail C and is pivoted to a connecting-rod, D, which is pivoted to a crank-arm, E, on the lower end of a vertical shaft, F, which is journaled in a standard, G, at the side of the track. The shaft F passes loosely through a sleeve or tube, H, which is contained in the standard G and is adapted to be moved vertically in the same. At its upper end the said sleeve H is provided with a heavy weight or block, I, which is adapted to rest on the top of the standard G. A forked plate, J, resting on the top of the block I, is keyed to the shaft F in such a manner that when the said plate is turned the shaft is turned with it. A lever, K, is pivoted between the shanks of the forked plate, and is adapted to pass into notches L L in the edge of the top plate of the block I. A beveled anti-friction roller, M, is held by a clip, N, in a recess in the sleeve H and rests against the downwardly-inclined edges of a V-shaped recess, O, in a sleeve, P, which projects upward from a horizontal partition in the lower part of the standard, and through which sleeve P the sleeve H passes loosely. If the switch is to be locked automatically in the position it has been placed into by a passing train, the sleeve P must be provided with two or more recesses, as shown in Fig. 3. Any suitable kind of signal or lantern can be secured to the upper end of the shaft F.

The operation is as follows: The switch is set as may be desired by turning the shaft F by means of the handle-lever K, and after the switch has been set the handle-lever is passed into the nearest or corresponding notch L of the block I, whereby the plate J and the block I will be locked together, so that the block I must turn with the shaft F, as the plate J is keyed on the shaft F. As shown in Fig. 1, the switch is set to conduct a train running in the direction of the arrow *a'* on the siding. If a train runs on the main line in the reverse direction of the arrow *a'*, the flanges of the wheel push the tongues A from the rails C, as shown in Fig. 2. If the tongues would remain in this position, the next train running in the direction of the arrow *a'* would not be guided on the siding—that is the switch would not be prop-

erly set; but if our above-described switch-stand is used the tongues will be brought back against the rails automatically. When the tongues are pushed from the rails the shaft F is turned and turns the plate J keyed thereon and the block I connected with the plate J by the lever K; but the roller M, which is at the bottom of the recess O, prevents the shaft from turning unless the roller runs up the edge of the recess O, whereby the sleeve H and the block I will be raised. As soon as the train has passed, the pressure on the tongues A is removed and the weight of the block I forces the sleeve H downward, thereby swinging the crank-arm E back again and drawing the tongues A against the rails C again, and thus setting the switch for the siding automatically—that is, bringing it back to the position it had before the train passed in the reverse direction. The switch-stand operates in a similar manner to always return the tongues to the desired position if the tongues are set for a clear main line.

If the switch is to be locked in the position into which it is thrown by a train running in the reverse direction of the arrow a' , the sleeve P (shown in Fig. 3) must be used, for then the roller M will run up the edge of one recess O and down the edge of the next recess to the bottom of the same, where it will be held by the weight of the block I, thus locking the switch in the position shown in Fig. 2. When it is desired to set the switch either open or closed by hand the lever K is to be disengaged from the notches L, when the shaft F can be turned independently of the sleeve and its weights to operate the switch.

In place of the anti-friction roller M, a stud can be provided; but we prefer to use the anti-friction roller.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a switch-stand, the combination, with a vertical switch-operating shaft, of a weight or block adapted to be locked thereto, substantially as and for the purpose set forth.

2. In a switch-stand, the combination, with the vertical switch-operating shaft, of a weighted sleeve surrounding the same, a roller on the said sleeve, and a V-shaped fixed track or guide, on which the said roller is adapted to run, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with the stand G, of the vertical shaft F, the weighted sleeve H I, the secured guide sleeve or track P, and devices for locking the sleeve H I on the shaft F, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the stand G, of the vertical shaft F, the weighted sleeve H I, the recessed guide-sleeve P, the forked plate J, keyed on the shaft F, and the lever K, pivoted to the plate J and adapted to pass into notches in the upper edge of the sleeve H I, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with the stand G, of the switch-operating shaft F, the weighted sleeve H I, the roller M, and the sleeve P, provided with a series of V-shaped recesses, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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