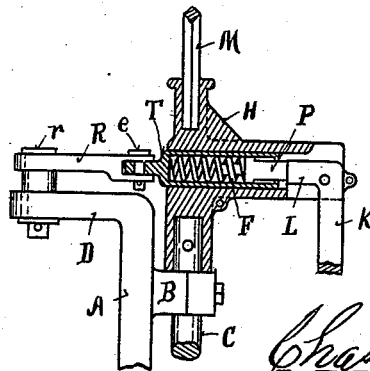
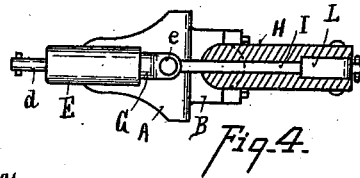
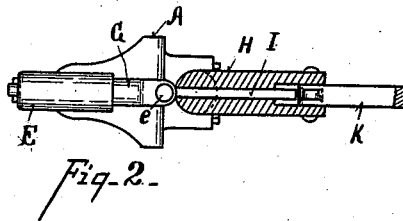
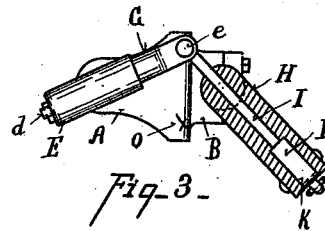
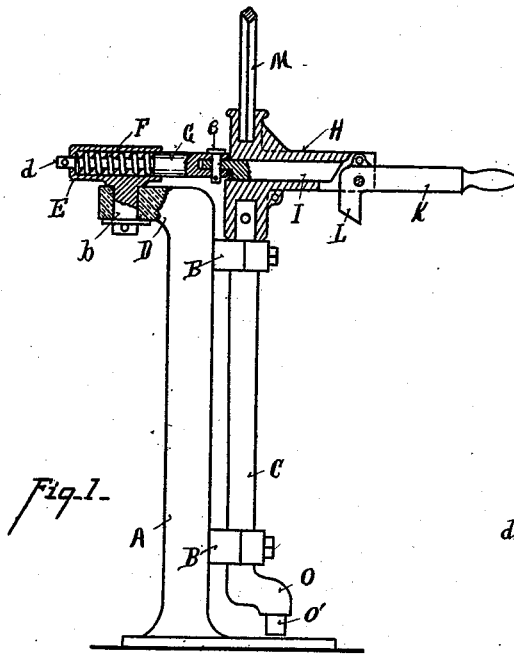


(No Model.)

C. PARTINGTON.
SWITCH STAND.

No. 523,592.

Patented July 24, 1894.



Attest—
C.W. Miles.
Oliver B. Kaiser.

Fig-5.

Inventor—
Chas Partington—
by Wood & Bond, atty.

UNITED STATES PATENT OFFICE.

CHARLES PARTINGTON, OF NEWPORT, KENTUCKY.

SWITCH-STAND.

SPECIFICATION forming part of Letters Patent No. 523,592, dated July 24, 1894.

Application filed March 13, 1894. Serial No. 503,492. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PARTINGTON, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Switch-Stands, of which the following is a specification.

My invention relates to that class of switch stands which is known to the trade as automatic.

One of the objects of my invention is to provide a stand in which the tension of the spring is upon the switch rail to hold it close to the main rail in whichever position it is thrown.

Another object of my invention is to make a cheap as well as effective stand.

The various features of the invention are fully set forth in the description of the accompanying drawings making a part of this specification, in which—

Figure 1 is an elevation partly in section, of my switch stand in position for being moved by the hand lever. Fig. 2 is a top plan view, partly in section, of the parts in this position. Fig. 3 is a top plan view, partly in section, showing the parts locked in position to be moved by the wheels of the train. Fig. 4 is a top plan view partly in section, showing the position of the parts at the center of movement when the switch is being moved by the wheels of the train. Fig. 5 is a modified form of construction.

A represents the frame of the switch stand.

C represents the crank shaft.

B represents brackets rigidly secured to the stand forming part of the journal bearings of the crank shaft.

D represents the cap or top of the stand.

The action of the spring is obtained by attaching it to a link composed of two pivotally connected link arms, one of which moves horizontally in the head H, and the other one of which is pivotally connected with the switch-stand. I have shown two forms of construction; the preferred form is shown in Figs. 1, 2, 3 and 4, and the modified form is shown in Fig. 5, which transfers the spring from the outer link arm to the inner one, housing it in the head H instead of housing it on the switch stand.

E represents the spring housing provided with a tenon *b* which journals in the cap D.

F represents the spring seated in the housing.

G represents one of the link arms which reciprocates in the bore of the spring housing. *d* represents the stem of said link arm projecting through said housing and secured by a pin; the spring F is coiled around this stem inside of the housing.

H represents a head secured upon the crank shaft; it is provided with a way in which link arm I is supported and slides when the locking device is not applied. This link arm is hinged to the link-arm G by pivot *e*.

K represents the hand lever which is pivoted in a slot in the arm of the head outside the link arm I.

L represents a knee on the end of the hand lever the extreme end of which is preferably beveled to engage against the beveled end of the link arm I, so that when the hand lever K is dropped the link arm I is held rigidly in position. The beveling of the contact ends of these parts is not essential.

M represents a target rod which is inserted in the socket N at the top of the head H.

O represents the crank, and O' the crank pin on which the connecting rod of the switch bar journals.

In the modification shown in Fig. 5 I have reversed the position of the link; the link arm R swivels on the pin *r*, which is secured to the cap of the stand. The spring is applied to the opposite link arm T which slides in the head H; this is preferably made hollow and forms a housing for the spring.

P represents the spring compressing seat, the outer end of which engages with the knee of the hand lever K when the lever is dropped in position shown in Fig. 5. In this case when the crank shaft C is turned the arm T slides in the cap compressing the spring, the rod P being held stationary by the lever. When the lever K is raised the rod P moves with the arm T without compressing the spring.

Mode of operation: The switch stand is spiked in position, and adjusted so that when the link is in the position shown in Fig. 3, and the lever dropped so that its knee engages with the locking link arm, the strain of the spring is upon the crank shaft C, and assists in holding the switch rail in position. When the train approaches on the switch rail the

force of the train turns the crank shaft, compresses the spring and the central link joint moves from the position shown in Fig. 3 to the position marked o. If, now, it is desired to move the switch back into the original position by hand, the lever K is raised releasing its engagement with the spring compressing arm which is free to move backward in the head H into the position which was before occupied by the knee of the hand lever. The hand lever cannot be dropped until the full throw has been completed bringing the link arm back into position to allow it to engage with the knee of the lever. Of course an independent locking device might be used in place of the knee of the lever, but it would not be as convenient. It will be observed that by employing the link for compressing the spring, one arm of which swivels upon the switch stand itself a long distance from the link center thereby giving a considerable leverage to the crank shaft for compressing the spring, thereby allowing a much weaker spring to be employed than when a less leverage obtains.

The parts of which the stand is composed are of simple and easy construction, the working parts, except the spring, are journals, and are durable and are less liable to breakage and are not apt to stick as in a case where clutches are employed to slip under the tension of the spring. I at the same time obtain a proper housing for the spring.

Having described my invention, what I claim is—

1. The combination with a switch-stand A, and a crank-shaft C journaled thereupon, of a hollow head H mounted on the crank-shaft and carrying a target-shaft, a link composed of two pivotally connected link-arms, one of which is slidable back and forth within the said hollow head, and the other one of which is swiveled to the switch-stand, and a compressible spring connected to one of the link-arms, substantially as described.

2. The combination with a switch-stand A, and a crank-shaft C journaled thereto, of a hollow-head H mounted on the crank-shaft and carrying a target-shaft, a spring-housing E pivoted to the switch-stand, a link composed of two pivotally connected link-arms,

one of which is slidable back and forth within the said hollow head, and the other one of which extends into the spring housing, and a compressible spring arranged in said spring-housing and engaged with the link-arm extending thereinto, substantially as described.

3. The combination with a switch-stand, and a crank-shaft C, of a link composed of two arms one of which swivels upon the switch stand and the other one of which is slidable back and forth in the housing head H mounted upon the crank-shaft, a spring connected to one of said link arms and supported in a housing, and a locking device for locking one of the said link arms to the spring, whereby the spring is compressed by the movement of the crank-arm through the action of the link, substantially as specified.

4. In a switch stand, the combination of a link composed of two pivotally connected link arms one of which swivels upon the switch stand and the other one of which is slidable in a housing mounted upon the crank shaft, a spring connected to one of the link arms, and the knee lever adapted to engage with the link arm sliding in the housing H to lock the same against backward movement in said housing, substantially as specified.

5. In combination with the crank shaft C of a switch stand, the housing E swiveled thereon, the spring F, link arm G hinged to link I which is supported by and moves with the crank shaft and the knee lever K adapted to engage with and lock said arm I against longitudinal movement, substantially as described.

6. In a switch stand, in combination with the crank shaft C, the head H secured thereto, a link, one arm of which is swiveled to the stand, and the other arm supported by said head adapted to move longitudinally therein, and the knee lever locking said arm against longitudinal movement, substantially as described.

In testimony whereof I have hereunto set my hand.

CHARLES PARTINGTON.

Witnesses:

T. SIMMONS,
W. R. WOOD.