No. 873,649. PATENTED DEC. 10, 1907.

W. W. ALLEN & J. METZGER.

SWITCH STAND.

APPLICATION FILED MAR. 19, 1907.

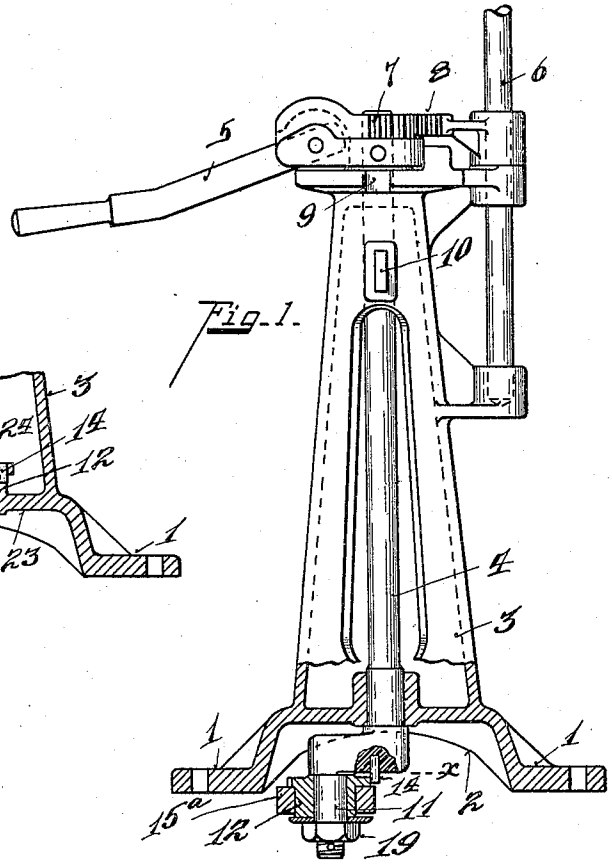

Fig. 1.

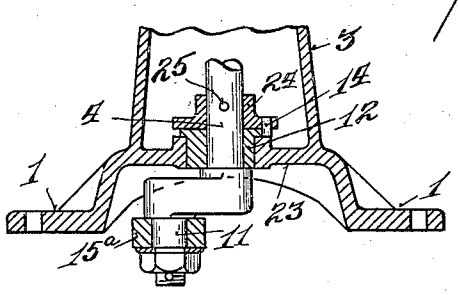

Fig. 2.

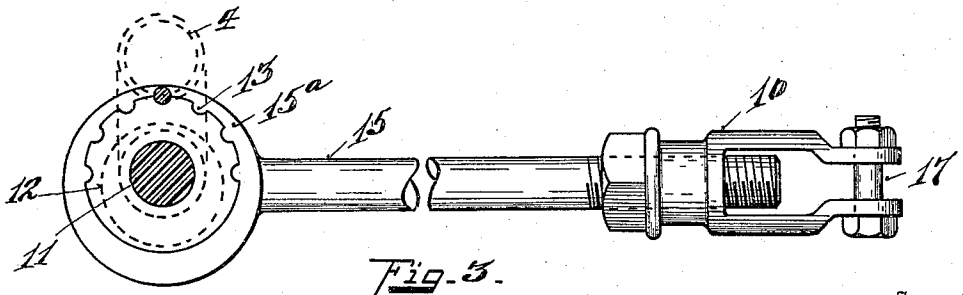

Fig. 3.

Inventors

William W. Allen

John Metzger

By Wood & Wood

Attorneys

Witnesses

Chas. B. Kaiser

Leo O'Donnell

UNITED STATES PATENT OFFICE.

WILLIAM W. ALLEN AND JOHN METZGER, OF CINCINNATI, OHIO, ASSIGNORS TO THE WEIR FROG COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

SWITCH-STAND.

No. 873,649. Specification of Letters Patent. Patented Dec. 10, 1907.

Application filed March 19, 1907. Serial No. 363,311.

To all whom it may concern:

Be it known that we, WILLIAM W. ALLEN and JOHN METZGER, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Switch-Stands, of which the following is a specification.

Our invention relates to means for adjusting the throw of an ordinary railway switch by adjusting the throw of the crank.

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

Figure 1 is a side elevation, partly in section, of a switch-stand. Fig. 2 is a central vertical section of the base of the stand shown in Fig. 1, with the modification of the location of the adjusting eccentric. Fig. 3 shows the relation of the connecting rods with the adjusting eccentric, and provided with an adjustable clevis at the opposite end taken on line *x*, Fig. 1

1 represents the feet of an ordinary high switch-stand. 2 represents the arch between the feet. 3 represents the upright column of the stand. 4 represents the crank shaft. 5 represents the switch lever. 6 represents the target-rod. 7, 8, represent gears for moving the target-rod. 9 represents the notch into which the switch lever drops. 10 represents a lug engaging a slot in the switch lever for applying a pad lock to lock the lever in position. These parts are of the ordinary construction. The preferred form of construction and arrangement of these devices for adjusting the throw of the crank is shown in Fig. 1, in which:—11 represents an ordinary crank pin. 12 represents an eccentric sleeve mounted on the crank pin 11 and provided with a flange. 13 represents notches formed in the periphery of said flange. 14 represents a pin firmly fixed in the crank, depending and engaging one of the series of notches in the eccentric sleeve. 15 represents the connecting rod. 16 represents a clevis thereon. 17 represents a clevis bolt which engages with an orifice in the switch bar which ties the two switch rails together. 15ª represents the end of the connecting rod engaging over the eccentric sleeve 12, the connecting rod journaling on said eccentric sleeve.

When it is desired to increase or diminish the throw of the crank rod and the distance the switch rails are moved, the nut 19 on the end of the crank is removed This allows the connecting rod and eccentric to drop down so as to free the eccentric notch from contact with the keeper pin 14. The eccentric 12 may be then turned to bring any desired notch into locking relation with the said pin 14, when the eccentric and connecting rod are moved up and secured in place by the nut. By removing the clevis pin 16 the clevis may be turned and reëngaged with the switch-bar to either lengthen or shorten the connecting rod, as may be desired.

In Fig. 2, I have shown a modification of the mode of connecting the eccentric to the crank shaft. The eccentric sleeve 12 journals in the brace plate 23 of the switch-stand. 24 represents a collar on the crank shaft carrying the keeper pin 14 to engage in one of the notches of the eccentric sleeve 12. In this case, the connecting rod between the crank pin and switch-bar journals directly on the crank pin.

When it is desired to adjust the eccentric to a new position the pin 25 is driven out so that the collar 24 which holds the keeper pin may be lifted up to free its engagement with the eccentric. The eccentric may be then turned to bring any desired notch within the path of the keeper pin when the collar is lowered and pinned in position.

By the means herein shown and described, we are enabled to accurately adjust the throw of the switch bar, so as to insure a proper contact of the split switch rail to the fixed rails of the switch.

Having described our invention, we claim:—

1. In a switch-stand, a crank shaft and connecting rod, and an adjustable bushing adapted to be set to adjust the throw of the crank, substantially as described.

2. In a switch stand, a crank shaft, an eccentric sleeve mounted on said crank shaft, means for adjustably securing said eccentric sleeve to said crank shaft and a connecting rod journaled upon said sleeve, substantially as described.

3. In combination with a crank shaft of a switch-stand, an eccentric, notches in the periphery of the eccentric, a keeper pin carried by the crank shaft and projecting in the path of the eccentric notches, and means for

releasing the engagement of the keeper pin to allow the rotary adjustment of the eccentric, substantially as described.

4. In combination with a crank shaft of a switch-stand, an eccentirc, notches in the periphery of the eccentric, a keeper pin carried by the crank shaft and projecting in the path of the eccentirc notches, and a connecting rod journaled upon the eccentric hub, substantially as described.

5. In a switch-stand provided with a notched eccentric, a keeper pin engaging a notch in the eccentric, a connecting rod journaled upon the crank pin at one end and provided with a clevis threadedly engaged with the connecting rod, and a removable clevis pin forming a swiveled connection of the connecting rod with the switch-bar to which the switch-rails are connected, substantially as described.

In testimony whereof, we have hereunto set our hands.

WILLIAM W. ALLEN.
JOHN METZGER.

Witnesses:
OLIVER B. KAISER,
LEO O'DONNELL.