

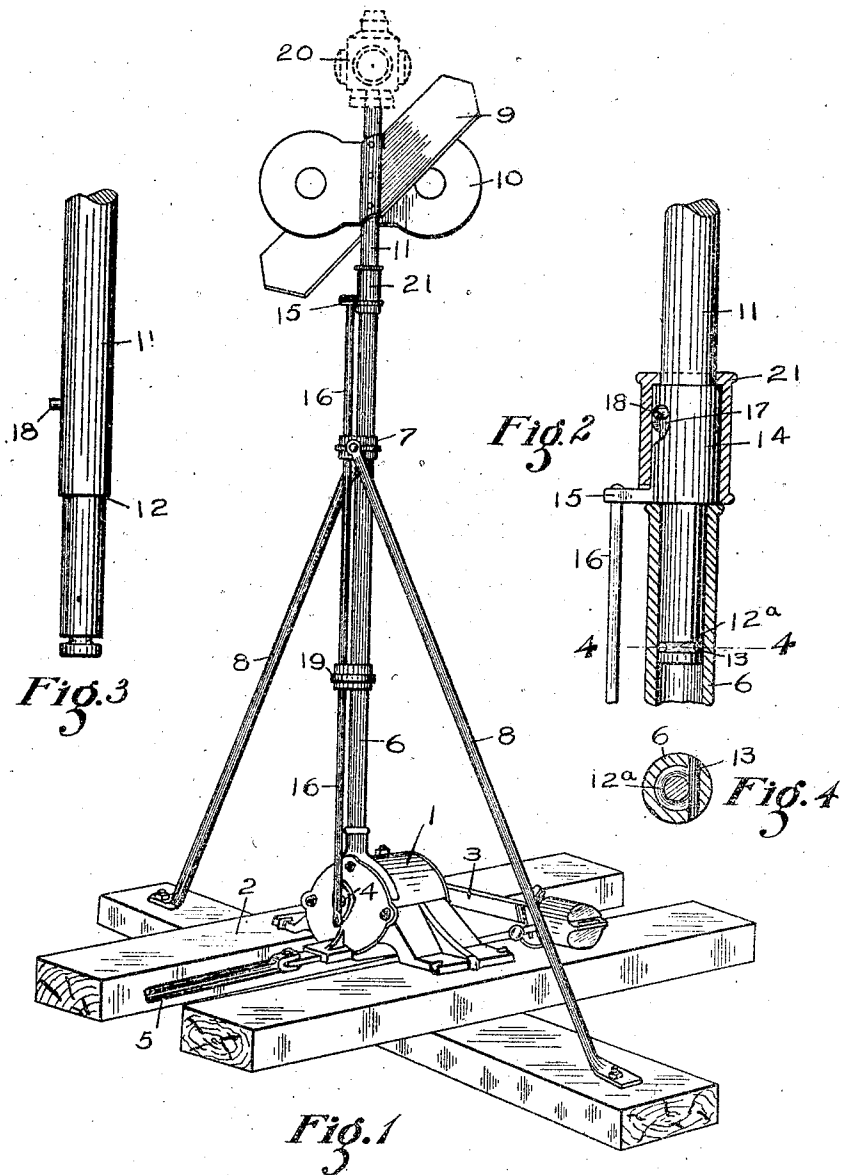
No. 876,830.

PATENTED JAN. 14, 1908.

H. C. ODENKIRK.

SWITCH STAND AND SIGNALING DEVICE THEREFOR.

APPLICATION FILED OCT. 15, 1906.



WITNESSES.

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HARRY C. ODENKIRK, OF CLEVELAND, OHIO.

SWITCH-STAND AND SIGNALING DEVICE THEREFOR.

No. 876,830.

Specification of Letters Patent.

Patented Jan. 14, 1908.

Application filed October 15, 1906. Serial No. 338,929.

To all whom it may concern:

Be it known that I, HARRY C. ODENKIRK, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Switch-Stands and Signaling Devices Therefor, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to signal devices for use in connection with railway switch stands, particularly such stands as are shown in my Patents Nos. 628,281 and 628,282, granted to me July 4th, 1899.

In said switch stands I employ an oscillatory cam for moving back and forth the switch points, said cam being mounted in the switch stand so as to lie in a horizontal direction. To the axis or shaft of this cam I attach means for operating the switch signals or targets, and my present invention relates particularly to the means which I employ for operating these signals.

In the drawings forming part of this application, Figure 1 is a perspective view showing a form of switch stand which is illustrated in the patents above referred to, said switch stand having my invention connected thereto. Fig. 2 is a detail view, partly in section and partly in elevation, of a cam member and its connections for oscillating the signals. Fig. 3 is a detached sectional view of the lower end of the stem upon which the signals are mounted, and Fig. 4 is a sectional view taken through Fig. 2 on the line 4—4.

As is well understood in the art, these signals are intended to indicate the condition of the railway track as to the location of trains in the vicinity of said switches. When the signal is turned so as to show one form of indication, it is understood that the track is clear, whereas if the signal is turned at right angles to its former position, this signal will display a danger sign. Inasmuch as these signals are subject to all kinds of weather, it is necessary that they be protected to the fullest possible extent against the elements, and that they be positive and certain in their operation.

Taking up the drawings for a more detailed description, 1 represents the outside casing of a switch stand, which may be of any approved construction but which, as shown, is of the type set forth and described

in my afore-mentioned patents. Said switch stand is secured to the ties 2 of the railway track, not shown.

3 is the operating lever for turning the cam within the switch stand, said lever being secured to one end of the shaft upon which said cam is mounted, the shaft at its opposite end being provided with a disk or crank 4 outside the casing 1.

5 is the operating bar or connecting rod which joins the mechanism within the casing 1 to the switch points of the railway track, the construction being such that as the lever 3 is oscillated through 180°, the said rod 5 will be moved back and forth to open or close the switch.

Mounted upon the switch stand casing is a signal post 6, which may be of any desired length, dependent upon the location of the switch stand. This post, which is preferably of tubular metal, as is shown in Fig. 2 of the drawing, is provided above the switch stand with a collar 7, to which may be attached brace rods 8 for strengthening the signal posts.

The signal blades 9 and 10 are secured to a staff 11, which staff is journaled in the upper end of the signal post 6, as shown in Fig. 2. The staff is formed with a shoulder at 12, so as to provide a bracing for the upper end of the signal post. In order to hold the staff within the signal post, it is provided near its lower end with a circumferential groove 12^a, through which passes a pin 13 that is extended transversely through the signal post, as shown in Fig. 4. Loosely surrounding the staff 11 just above the upper end of the signal post is a cam sleeve 14, said sleeve having an arm 15, to which is secured the upper end of a connecting rod 16, said rod extending downwardly and being connected to the crank or disk 4 on the switch stand shaft. As said shaft is oscillated, the rod 16 will be raised and lowered, which operation will also raise and lower the sleeve 14 about the staff 11. This sleeve is provided on one side with a spiral cam or slot 17, into which slot projects a pin or stud 18 that is secured to the staff 11. The rod 16 is guided in its vertical movement by the collars 7 and 19 on the signal post, so that the said sleeve 14 will be prevented from rotating by said rod. It will be seen therefore that when the collar 14 is lifted, the cam slot 17 will engage with the pin 18 and will thus oscillate the staff 11, to which is connected the signal blades 9 and 10 as

well as the signal lantern 20. The pitch of the cam slot is such that as the collar 14 is moved from one extreme position to the other the staff will be rocked through 90°. In order to cover the sleeve 14, the cam slot 17 and the pin 18, I employ a casing 21 which, at its upper end, snugly fits the staff 11 and extends over and about the sleeve 14, said casing moving up and down with said sleeve. By this means, the operating parts for the signals are protected from the weather.

From the above construction, it will be seen that I have provided a signal operating mechanism that is simple and light in its construction; that has no parts that are liable to get out of order; that is positive and certain in its operation, and that is thoroughly protected from the elements.

An obvious modification of the above-described construction would consist in transferring the cam slot 17 to the staff 11 and the pin or lug 18 to the sleeve 14. Other details in the construction shown may be changed without departing from the spirit of my invention, and the following claims are not intended to be limited any further than the prior art necessitates.

Having thus described my invention, I claim:

1. In a railway signaling device, a staff upon which the signal is mounted, a sleeve surrounding said staff, said sleeve being provided with a cam slot, a pin or lug projecting from said staff into said cam slot, and means for moving said sleeve longitudinally of said staff and for preventing said sleeve from rotating, said movement of the sleeve causing the cam slot to engage the said pin or lug and thus turn the staff to operate the signal.

2. In a railway signaling device, a staff upon which the signal is mounted, a sleeve surrounding said staff, said sleeve being provided with a cam slot, a pin or lug projecting from said staff into said cam slot, means for moving said sleeve longitudinally of said staff and for preventing said sleeve from rotating, said movement of the sleeve causing the cam slot to engage the said pin or lug and

thus turn the staff to operate the signal, and a protecting casing for said sleeve.

3. In a railway signaling device in combination with a switch stand, a member to which the signal is attached, a second member movable with respect to said first mentioned member, a cam on one of said members, a lug on the other member projecting into the path of movement of said cam, a shaft in the switch stand, and means connecting said shaft with the second member for moving the same, said movement resulting through the engagement of the cam and lug in operating the signaling device.

4. In a switch stand and signal, a horizontal shaft, a crank or disk on said shaft, a signal post, a signal staff journaled in said post, a sleeve surrounding said staff above the post, said sleeve being provided with a cam groove, a pin or lug carried by the signal staff and projecting into said cam groove, and a rod connecting said crank or disk with the said sleeve, whereby, when the switch stand shaft is oscillated, the sleeve will be moved up or down and the cam slot and pin will rotate the signal staff.

5. In a switch stand and signal, a horizontal shaft, a crank or disk on said shaft, a signal staff having a groove in its lower end, a signal staff journaled in said post, a pin passing through said post and into said groove for holding the staff in position, a sleeve surrounding said staff above the post, said sleeve being provided with a cam groove, a pin or lug carried by the signal staff and projecting into said cam groove, and a rod connecting said crank or disk with the said sleeve, whereby, when the switch stand shaft is oscillated, the sleeve will be moved up or down and the cam slot and pin will rotate the signal staff.

In testimony whereof, I hereunto affix my signature in the presence of two witnesses.

HARRY C. ODENKIRK.

Witnesses:

S. E. FOUTS,
G. A. MYERS.