

UNITED STATES PATENT OFFICE.

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SIGNAL-OPERATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 567,716, dated September 15, 1896.

Application filed October 7, 1895. Serial No. 564,864. (No model.)

To all whom it may concern:

Be it known that I, JOHN LAWRENCE KEEFE, a citizen of the United States, and a resident of Dover Plains, in the county of Dutchess and State of New York, have invented certain new and useful Improvements in Signal-Operating Devices, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to means for operating signals at railway-stations or similar places; and the object thereof is to provide a novel and useful apparatus for this purpose, by means of which a signal located at a station on a railway-line may be operated from different points along the line; and with this and other objects in view the invention consists in the construction, combination, and arrangement of parts hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a side elevation of my improved apparatus, showing the method of the operation thereof; Fig. 2, a side view of the device which I employ for operating a signal; Fig. 3, an end view thereof, and Fig. 4 a side view of a modified form of construction.

In the practice of my invention I provide a signal-operating device, comprising a bar A, at each end of which is a vertical yoke or loop B, which are pivotally connected with the ends of the bar A, and, if desired, ordinary links may be attached to the yokes or loops B. Secured to or formed integral with the bar A is a segmental or curved bar C, which is adapted to serve as a support or way for a wheel D, which is mounted thereon, and from which depends a yoke E. The opposite ends of the curved bar or support C are curved upwardly and downwardly, as shown at F, and connected with the bar A, or formed integral therewith, as hereinbefore described, and I also prefer to pivotally connect with the ends of the bar A yokes G, which are preferably curved outwardly and downwardly, as clearly shown in Fig. 2, and these yokes are designed, if employed, to serve as balances, or as a means of attachment for the guide ropes or stays.

In operation the signal-operating device is suspended at any predetermined point adjacent to a station, and connected with the lower end of the yoke E is a guide or chain K, which is extended around pulleys k^1 and around a pulley k^2 , from which point it is connected with the signal-arm of a semaphore or other signal device, (not shown,) but as will be readily understood by those familiar with railway-signal apparatus. Connected with each of the yokes or loops B is a chain or cord L, each of which is passed over a pulley M and carried along the track to any predetermined point, as N, said points being preferably located at switches, and in the accompanying drawings the lever O represents a switch-lever, and the lever O' represents a lever for operating one of the chains or cords L, and the other chain or cord is carried along the track to another switch or any predetermined point, where it is connected with an operating-lever similar to the lever O'. It will therefore be understood that my improved apparatus is operated as follows: By releasing one of the chains or cords L, attached to the yoke B, that end of the device is lowered and the roller D runs downwardly into the curved portion of the curved rod C, releasing the chain K and permitting the weighted lever which operates the semaphore to descend, which in turn raises the signal to a horizontal position, the operation of the semaphore being as usual.

In Fig. 4 I have shown a device by means of which I may employ at least four of the chains or cords L, and thus operate a signal from at least four different points along the track. This arrangement constitutes a duplication of the device shown in Fig. 2, said device being arranged side by side, as clearly shown in said Fig. 4, and suspended therefrom is another of said devices similar to that shown in Fig. 2, one of the yokes or loops B being connected with one of the curved bars or supports by means of a roller which rests thereon and the roller D being mounted upon the curved bar or support C of the lower device. It will be understood that the three operating-signal devices shown in Fig. 4 are each separate and independent in their construction and that the lower one is suspended from the upper two, and in operation a sig-

nal cord or chain is connected with each of the loops or yokes B, which are pivotally connected with the bar A of the upper two operating devices, as clearly shown in said Fig. 4.

5 My invention is not limited to the exact form, construction, and arrangement of the various parts thereof as herein shown and described, and I therefore reserve the right to make all such changes therein and modifications thereof as fairly come within the scope of the invention.

Having fully described my invention, I claim and desire to secure by Letters Patent—

15 1. A device for operating railway-signals, comprising a bar to which is secured or in connection with which is formed a curved or segmental support, on which is mounted a roller or wheel which is adapted to be connected with a signal, said bar being also provided with loops or yokes which are pivotally connected therewith, and which are adapted to be connected with chains or cords which are extended along the track to predetermined points from which the device is operated, substantially as shown and described.

2. In a device for operating a railway-signal from a switch or other point, a switch-operating device, comprising a curved or segmental support, on which is mounted a roller, said support being also provided with loops or yokes pivotally connected therewith, substantially as shown and described.

3. In an apparatus for operating a railway-signal, the combination of a curved or segmental support, a roller mounted thereon, a yoke connected with the roller, a chain connected with said yoke and extending to the signal, loops or yokes pivotally connected with the support, and provided with chains

or cords, which extend along the track to a predetermined point, substantially as shown and described.

4. In an apparatus for operating a railway-signal, the combination of a curved or segmental support, a roller mounted thereon, a yoke or similar device connected with said roller, a chain or cord connecting said cord with the signal, other yokes or loops pivotally connected with the support, and provided with chains or cords which are passed over pulleys from which the support is suspended, said cords or chains being carried along the track from predetermined points from which the signal is operated, substantially as shown and described.

5. In an apparatus for operating a railway-signal, the combination of two curved or segmental supports, each of which is provided with two vertical loops or yokes pivotally connected therewith, a chain or cord connected with each of said vertical loops or yokes, and carried along the track to predetermined points, a third curved or segmental support which is suspended by rollers or wheels from the first two, and a roller or wheel mounted on said last-named support, provided with a yoke or loop with which is connected a chain or cord, which is connected with the signal, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 2d day of October, 1895.

JOHN LAWRENCE KEEFE.

Witnesses:

FRANK HART,

JOHN JOSEPH DONOVAN.