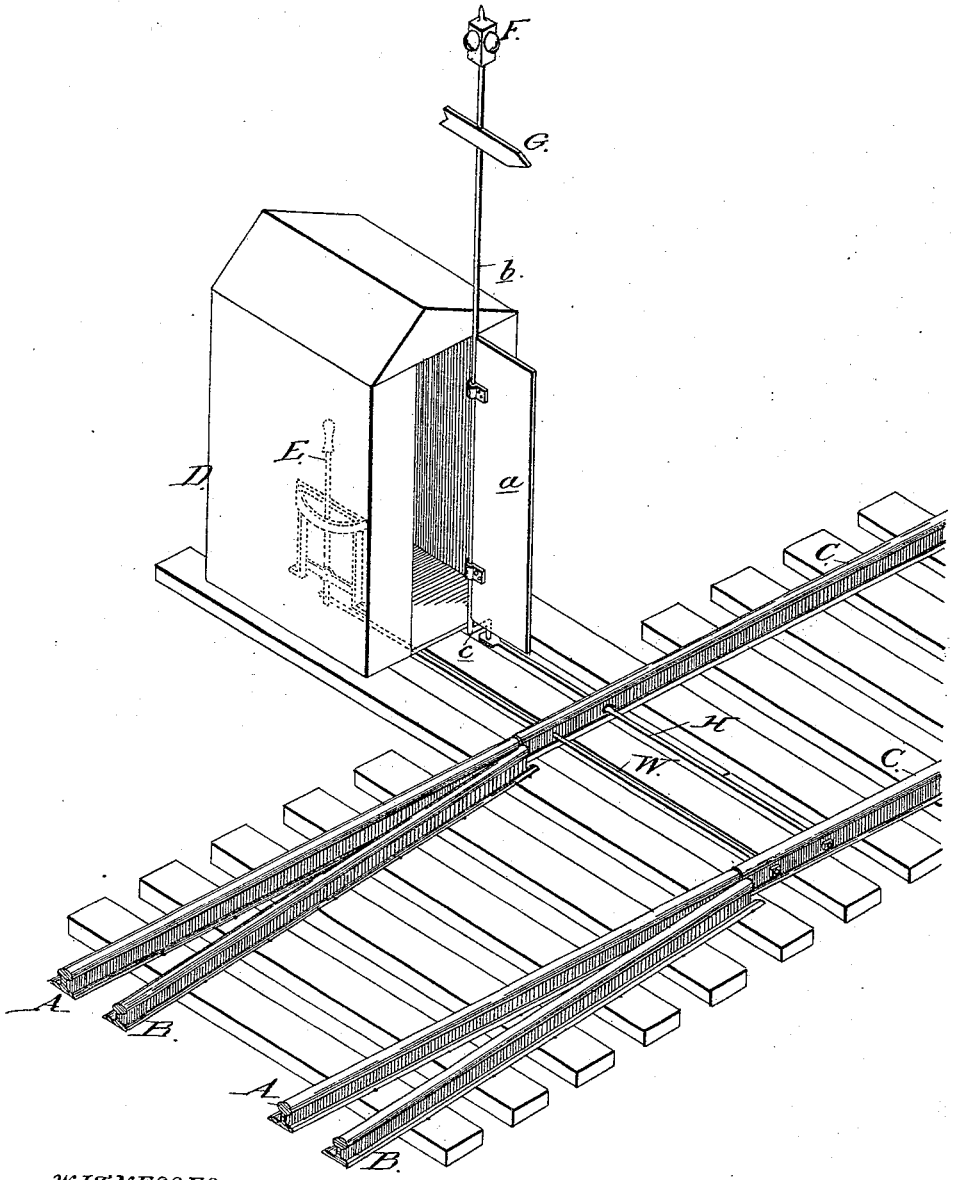
(No Model.)

C. A. HERB & H. MEYER.

SWITCH SIGNAL.

No. 490,387. Patented Jan. 24, 1893.



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UNITED STATES PATENT OFFICE.

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SWITCH-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 490,387, dated January 24, 1893.

Application filed October 11, 1892. Serial No. 448,542. (No model.)

To all whom it may concern:

Be it known that we, CHARLES A. HERB and HENRY MEYER, of Alton, in the county of Madison and State of Illinois, have invented certain new and useful Improvements in Switch-Signals, as set forth in the accompanying drawing, forming part of this specification, in which the figure represents a portion of the main and switch rails of a line of railway and showing a cage with its doorway open and connected with the switch rails.

Our invention relates to that class of devices adapted for railway purposes for rendering the liability of misplacing a switch a remote contingency and our invention consists of the construction and combination of devices which we shall hereinafter fully describe and claim.

To enable others skilled in the art to which our invention appertains to make and use the same we will now describe its construction and indicate the manner in which the same is carried out.

In the said drawing A represents the rails of the main line, B the switch rails and C the throw rails. At one side of the line of road is a cage or box D for the switchman's use and which may be portable or not as desired, the said cage or box having a hinged door *a* by which the switchman may enter and leave the same. From the throw rails C a bar or rod W, or equivalent device runs to the interior of the cage and is connected with a lever E by which the said rails may be shifted to align themselves with the rails of the main line or switch as desired and as is usual in this class of structures. The hinge or axis about which the door *a* turns is formed by a vertical rod *b* suitably journaled by straps or otherwise, and has its lower end bent to form a crank *c* while the upper end of this rod extends some distance above the roof of the cage or box and carries at its end a signal lamp F, while on the rod below the lamp is a target or index G for indicating to engineers the condition of the track at that point. The crank *c* is connected with one end of a second rod H whose opposite end is in turn connected with the throw rails C. From this description it will be seen that the throw rails being normally in line with the track rails of the main line, the arrangement of the parts is such that the door to the cage is normally open.

The operator entering the cage for the purpose of throwing the rails C to open the switch, the movement of these rails acting through the rod H and crank *c* will close the door and turn the rod *b* or axis of the door so that the target will be parallel with the line of road, and will also bring the red light of the signal lamp into view to warn engineers of trains approaching on the main line that the said line was not clear.

When the rails C have once been moved to open the switch, and the door closed as described, it is impossible for the switchman to leave the cage without first operating the lever within the same and throwing the rails C to open up the main line. Thus the door *a* opens and closes by the movement of the throw rails, and as the door is connected with these rails by a separate rod H, it will be manifest that should the rod which connects directly with the lever become broken or inoperative by frost or otherwise, and the switchman throw the lever and believe that he had re-connected the main line, and then attempt to leave the cage, he would discover that the door *a* had not opened. This would be an unerring indication of the switch not having been moved and that the same was still open and the danger signals disclosed.

The switchman cannot forget or fail to reconnect the main line, as he cannot possibly leave the cage without the switch being closed and the main line open; in other words he can only leave by placing the rails in the condition in which he found them on entering the cage.

Unauthorized persons could not enter the cage and throw the rails maliciously, and leave the cage without resetting the rails; and the liability of accident occurring by trains approaching the switch unseen is reduced to a minimum.

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

The combination with main and switch rails, and throw rails adapted to be aligned with the

main and switch rails, of a cage at one side of the rails having a door provided with a rod or axis about which it turns, said rod having a crank formed at its lower end and having its upper end extended and provided with a lamp signal and target, a rod leading from the throw rails and a lever within the cage connected therewith, and a second rod connected with the crank of the rod or axis of the door and also with the throw rails whereby the door is automatically opened and closed by the movement of the throw rails, substantially as herein described.

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