(No Model.) 2 Sheets—Sheet 1.

R. E. TERRY.

RAILROAD SWITCH.

No. 522,359. Patented July 3, 1894.

Fig. 2.

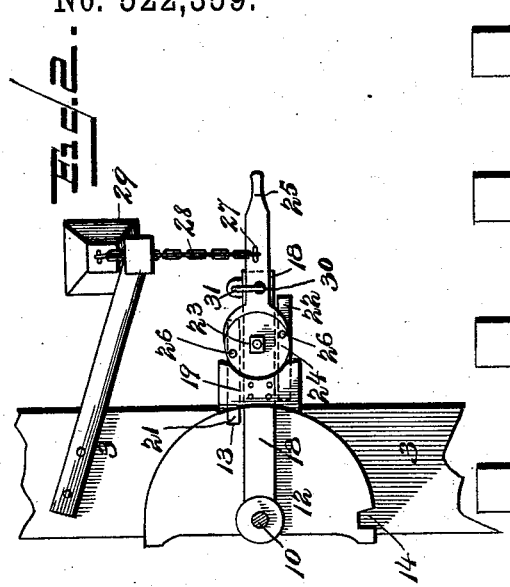

Fig. 1.

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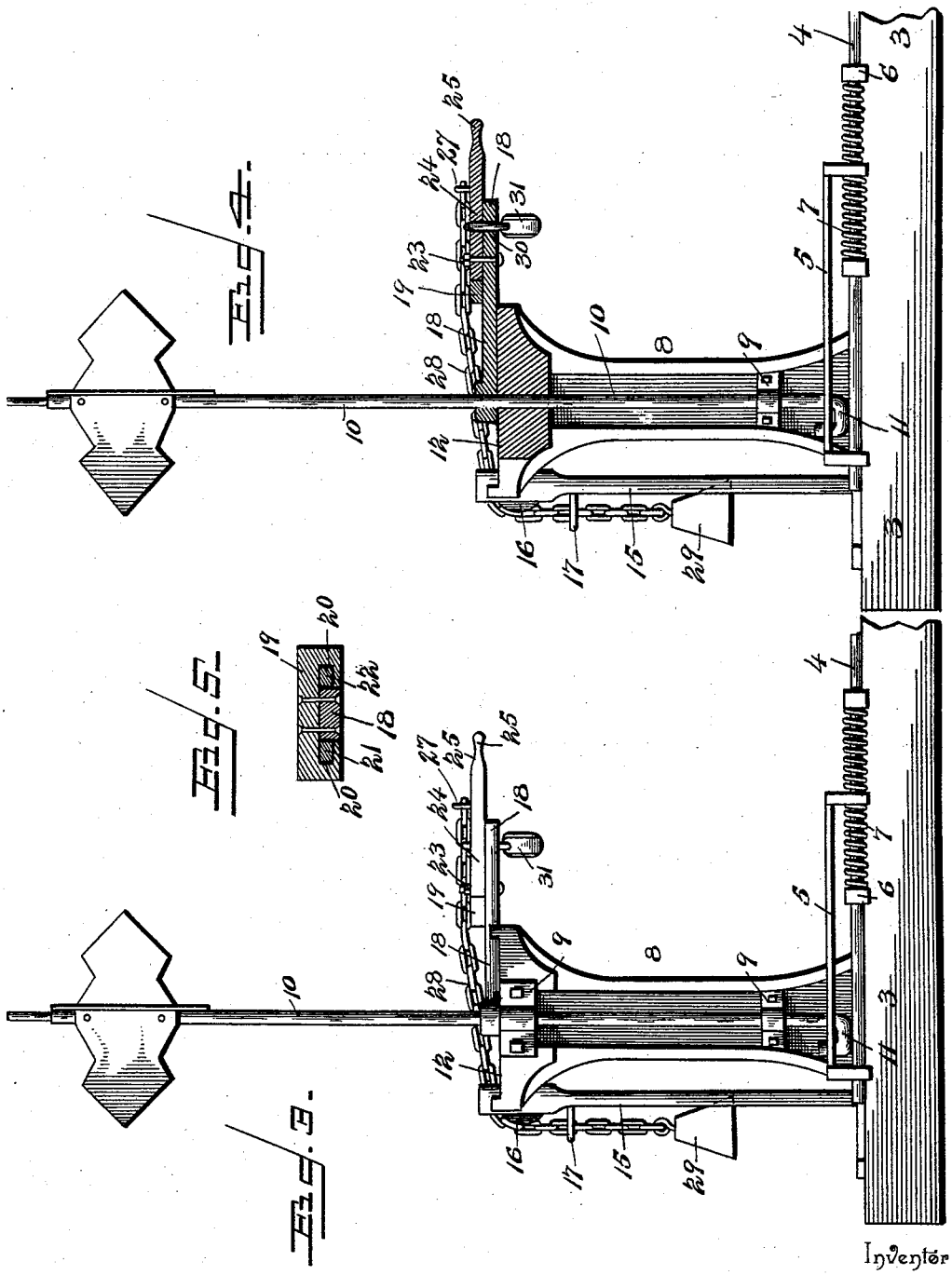

Inventor

Robert E. Terry,

Witnesses,
E. K. Stewart,
M. S. Duvall.

By Wis Attorneys.

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UNITED STATES PATENT OFFICE.

ROBERT EMETT TERRY, OF MOBILE, ALABAMA, ASSIGNOR OF ONE-FOURTH TO JOHN C. STEELE, OF SAME PLACE.

RAILROAD-SWITCH.

SPECIFICATION forming part of Letters Patent No. 522,359, dated July 3, 1894.

Application filed October 26, 1893. Serial No. 489,171. (No model.)

To all whom it may concern:

Be it known that I, ROBERT EMETT TERRY, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented a new and useful Railroad-Switch, of which the following is a specification.

My invention relates to improvements in railroad-switches, and has particular reference to improvements in the switch-stand.

The objects of my invention are to provide a switch-stand, the same being so constructed as to automatically operate to close the switch after being operated for the purpose of opening the same, thus avoiding accidents by reason of switches left open by negligence of the attendant. Furthermore, to provide for a convenient means of holding the switch open during the passage of the train from the main-track to the siding, or vice versa; and finally, for locking automatically the said switch in a closed position after the same has been released by the attendant who has opened it.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a plan-view of a railroad-switch, the same having a stand constructed in accordance with my invention, located at one side thereof, said switch being shown as open. Fig. 2 is a plan-view of the switch-stand, the same being shown in the position it occupies when the switch is closed. Fig. 3 is a detail in elevation of the switch-stand. Fig. 4 is a vertical transverse sectional-view of the same. Fig. 5 is a transverse section through the block and bolts.

Like numerals of reference indicate like parts in all the figures of the drawings.

In Fig. 1 I have designated the rails of the main-track as 1, and the switch-rails as 2, which rails are, as usual, supported by the cross-ties 3, one of which is projected beyond the track some distance to form a base for the stand. The switch-rails are connected by the usually operated switch-rod 4, upon which is located the yoke 5, at opposite sides of one of the terminals of which, are located upon said rod 4, stops or shoulders 6, between which and the aforesaid terminal of the yoke are interposed stiff coiled-springs 7.

The switch-stand has a frame 8 of the usual construction, and has journaled vertically therein in bearings 9, the target-shaft 10, whose lower end is bent to form a crank 11, which loosely engages with the aforesaid yoke 5, so that movement upon the part of the shaft will, through the medium of its crank, be transmitted to the yoke, and from thence in a yielding manner to the switch-rod 4.

The upper end of the switch-stand has the usual locking-table 12, which is provided with notches 13 and 14, the former being located near the middle of the edge of the table and the latter near the end thereof.

At one side of the switch-stand upon the base 3 I secure a post 15, the same being located eccentrically with relation to the semi-circular table 12, and at the upper end of this post I locate a loose pulley 16, adapted to freely rotate upon its axis. Below the pulley a staple 17 projects from the post. Fixed upon the target-shaft or mast 10 is the switch-lever 18, which as usual, projects beyond the curved edge of the table 12, and through the medium thereof, the said masts may be turned or partially rotated. A block 19, is mounted upon the arm 18 beyond the edge of the table 12, and through this block extends the outer end of the arm 18. At each side of the arm 18 the block is provided with bores 20 in which locking-bolts 21 and 22 are mounted for loose movement. Pivoted concentrically, by a bolt 23, to the arm 18 beyond the block, is a disk 24, from which projects, at one side, a rigid hand-lever 25, the outer end of the hand-lever being shaped to form a grip. The disk 24 is eccentrically pivoted by bolts 26 which reciprocate both of the locking bolts 21 and 22, so that when the lever 25 is oscillated the disk will likewise be oscillated, and its bolts 21 or 22, in accordance with the direction of rotation of said disk, will be shot into either of the openings or notches 13 or 14 in accordance with the position of the lever 18.

Connected by a staple or other fastening 27 to the handle 25, and therefore eccentrically located with relation to the locking-disk 24, is one end of a chain 28, the said chain ex-

tending over the grooved pulley 16 and depending through the guide-staple 17 of the post 15, and having attached thereto and suspending a weight 29.

In practice, it will be seen that the weight acting through the medium of the chain 28, which is eccentrically connected to the lever 25, will cause said lever to oscillate in the direction of the post 15 or toward the weight, thus causing the lever and the arm 18 to swing toward the weight, whereby the bolt 21 of said lever being brought opposite the notch 13 in the locking-table will be caused to enter said notch, and hence the parts will be maintained in this position, which, as shown, retains the switch as closed and the main-track open.

When it is desired to side-track a train or to permit a train to pass from the side-track to the main-track, and it is thus necessary to open the switch, the attendant grasps the handle 25 and swings the same away from the weight, causing the disk 24 to oscillate and withdraw the bolt 21 from the notch 13. A further movement serves to swing the lever 18 toward the opposite end of the table against the influence of the weight 29, and when the bolt 22 is out of the notch 14 the said bolt will pass into said notch so that the switch may be maintained open by small exertion upon the part of the attendant, and until the train passes on or off the siding. The instant, however, the attendant releases the lever 25 the weight operates to cause said lever 25 to oscillate, thus withdrawing the bolt 22 from the notch 14 and bringing the bolt 21 against the edge of the table 12. The arm 18 continues its movement until the bolt 21 reaches the notch 13, when it engages therewith, and the movement of the arm is arrested so that the switch is automatically closed as soon as released, and no accident can occur by reason of a switch negligently left open. I prefer also to provide the arm 18 near its outer end and the lever 25 with corresponding perforations 30, and am thus enabled to apply the hasp of a lock 31 to these two members when the switch is in a closed position, so as to prevent any tampering therewith by unauthorized persons.

From the foregoing description, in connection with the accompanying drawings, it will be seen that I have provided a very simple device that may be applied to the switch-stands now in use, or be built with them as desired, and which will positively automatically close and lock the switch after the same has been released from its open position, thus avoiding any possibility of accidents by reason of switches negligently left open.

I do not limit my invention to the precise details of construction herein shown and described, but hold that I may vary the same to any degree and extent within the knowledge of the skilled mechanic.

Having described my invention, what I claim is—

1. The combination with the main and switch-rails, and switch operating-rod, of a switch-stand, a lever pivotally mounted upon the stand, reciprocating bolts loosely connected eccentrically with the lever at opposite sides of its pivot, a pulley supported at one side of the stand, a chain passed over the pulley and carrying a weight at one end and at its other end eccentrically connected with the lever, substantially as specified.

2. The combination with switch-rails and main-rails, of a stand-frame arranged at one side thereof, a target-shaft arranged in the stand and operatively connected with the switch-rod, a post located eccentrically with relation to the switch-stand, a pulley carried thereby, an arm connected rigidly with the shaft for movement over the table of the stand which latter is provided with notches, a switch-arm rigidly mounted on the shaft above the table, a block mounted upon the arm and at opposite sides of the same provided with openings, a disk concentrically pivoted upon the arm beyond the block, bolts loosely mounted in the openings in the block and eccentrically pivoted to the disk, a hand-lever extending from the disk, a chain eccentrically connected at one end to the hand-lever and passed over the pulley, and a weight connected to the opposite end of the chain, substantially as specified.

3. The combination with switch-rails and main-rails, of a switch-stand arranged at one side thereof, a target-shaft arranged in the stand and operatively connected with the switch-rod, a post located eccentrically with relation to the switch-stand, a pulley carried thereby, an arm connected rigidly with the shaft for movement over the table, of the stand which latter is provided with notches, a switch-arm rigidly mounted on the shaft above the table, a block mounted upon the arm and at opposite sides of the same provided with openings, a disk concentrically pivoted upon the arm of the block, bolts loosely mounted in the openings in the block and eccentrically pivoted to the disk, a hand-lever extending from the disk, a chain eccentrically connected at one end to the hand-lever and passed over the pulley, a weight connected to the opposite end of the chain, and lock-receiving perforations formed in the lever and the arm, substantially as specified.

4. The combination with the switch and main-rails, and the switch-stand operatively connected therewith, of a locking-bolt carried by the switch-arm and adapted to engage the notches in the table of the switch-stand, and means for automatically swinging the arm to a position for closing the switch and operating the bolt thereof, substantially as specified.

5. The combination with the switch and main-rails and stand, of a lever mounted upon the arm of the stand, a locking-bolt carried thereby and adapted to engage with notches in the table of the stand for locking the switch open or closed, and means for nor-

mally drawing said lever in a direction so as to disengage the bolt from the notch that is occupied when the switch is open and for forcing it into the notch occupied thereby when the switch is closed, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT EMETT TERRY.

Witnesses:
THOMAS J. HENRY,
WINFIELD S. LEWIS.