

(No Model.)

J. L. MORRIS & J. P. NACE.
TRIP FOR AUTOMATIC RAILWAY SWITCHES.

No. 492,042.

Patented Feb. 21, 1893.

Fig. 1.

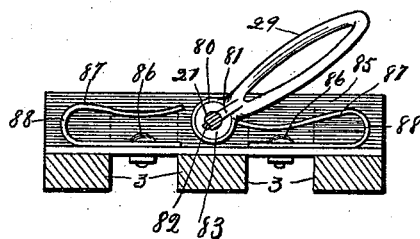
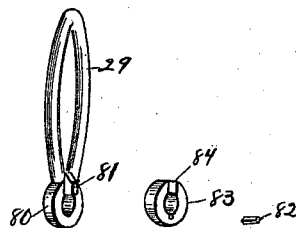


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOSEPH L. MORRIS AND JOHN P. NACE, OF LAWRENCE, KANSAS.

TRIP FOR AUTOMATIC RAILWAY-SWITCHES.

SPECIFICATION forming part of Letters Patent No. 492,042, dated February 21, 1893.

Application filed February 19, 1892. Serial No. 422,073. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH L. MORRIS and JOHN P. NACE, of Lawrence, Douglas county, Kansas, have invented certain new and useful Improvements in Trips for Automatic Railway-Switches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to that class of switch mechanism for railways in which the switches are automatically thrown by passing railway trains or railway vehicles, and more particularly to the general type of automatic railway switches embraced in Letters Patent No. 470,696, granted to us March 15, 1892.

The objects of our invention are to provide means for insuring contact between the automatic switch-operating levers and the operating attachments upon the railway vehicles, and thus avoid all possibility of the trains or vehicles passing said levers without operating the same.

To the above purposes, our invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that our invention may be fully understood, we will proceed to describe it with reference to the accompanying drawings, in which:

Figure 1 is a partly sectional elevation of our device. Fig. 2 is a detached perspective view of the improved switch-throwing lever and its operating collar.

In the said drawings, 3 designates the ties or sleepers which may be of any suitable or preferred form or material and upon which suitable rails are laid and secured in the usual or any preferred manner.

29 designates one of the switch-throwing levers, this lever being of elongated and preferably skeleton form, although it is permissibly of solid form and is tapered inwardly toward its outer end as shown. The inner end of said lever is formed with a hub or boss 80 which surrounds the end of the shaft 21, and immediately above this hub or boss with a lug 81 which projects from the outer side of the lever. Upon the rock-shaft 21 adjacent to the outer side of the lever 29 is rigidly se-

cured (by a key 82, or equivalent means) a ring or collar 83 having a recess or opening 84 to receive the described lug 81. The outer end of the shaft 21 is journaled in the vertical portion of a bearing 85 which is preferably of L-shape in cross section and upon the horizontal portion of this bearing are bolted or otherwise suitably secured as at 86, the lower horizontal ends of two retaining springs 87. The upper parts of these springs are of approximately S-form and are united to their lower horizontal portions by U-shaped bends 88. It will thus be seen that the springs 87 lie at opposite sides of the lever 29 and their lower parts extend away from the shaft 21, while their upper parts extend toward said shaft, and that their upper extremities come at times into contact with opposite sides of the inner end of said lever adjacent to the hub or boss 80 thereof. It will be further seen that the upper ends of the springs 87 are entirely free and disconnected from the hub and lever, the latter thus being permitted to have a certain amount of movement entirely independent of the springs. Now, when the lever 29 is thrown in one or the opposite direction by a suitable projection upon a locomotive or other railway vehicle, the springs 87 prevent the lever from assuming a horizontal position, and retain it in an upwardly inclined position as shown in Fig. 1, so that a railway train or vehicle approaching the lever from the opposite direction will not fail to engage the lever as required.

From the above description, it will be seen that we have produced means which are simple, strong, durable, and inexpensive in construction, and direct and reliable in operation, and which, furthermore, prevent all possibility of the trains passing the levers in either direction without operating the same.

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

1. An automatic railway switch-mechanism, comprising a rock-shaft for operating a switch, a collar secured rigidly upon said rock-shaft and having a radial marginal recess or opening, a rock-arm or lever secured upon the rock-shaft and having a stud or lug to engage said recess or opening, a standard

or bearing for the shaft and a pair of oppositely disposed horizontal leaf-springs secured to the standard or bearing and at their upper ends freely and separately engaging the lower
5 sides of the rock-arm or lever at opposite sides thereof, so as to retain said lever in partly raised condition, substantially as set forth.

2. An automatic railway switch-mechanism, comprising a rock-shaft for operating a
10 switch, a collar secured rigidly upon said rock-shaft and having a marginal radial recess or opening, a rock-arm or lever of skeleton and tapered form, secured upon the rock-
15 shaft adjacent to the collar and having a lateral lug or stud to engage the recess or opening of the collar, a standard or bearing for the rock-shaft, of approximately L-form in

cross-section, and a pair of oppositely disposed retaining-springs located at opposite
20 sides of the rock-arm and secured at their lower ends to the said standard, and also freely and separately engaging at their upper
ends, opposite sides of the rock-arm, so as to retain the same in partly raised condition; 25
the springs extending first away from and then toward the rock-arm, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

JOSEPH L. MORRIS.
JOHN P. NACE.

Witnesses:

H. C. WHEELER,
MURDO MOODY.