

(No Model.)

2 Sheets—Sheet 1.

C. F. STREET.
SPRING TONGUE SWITCH.

No. 490,323.

Patented Jan. 24, 1893.

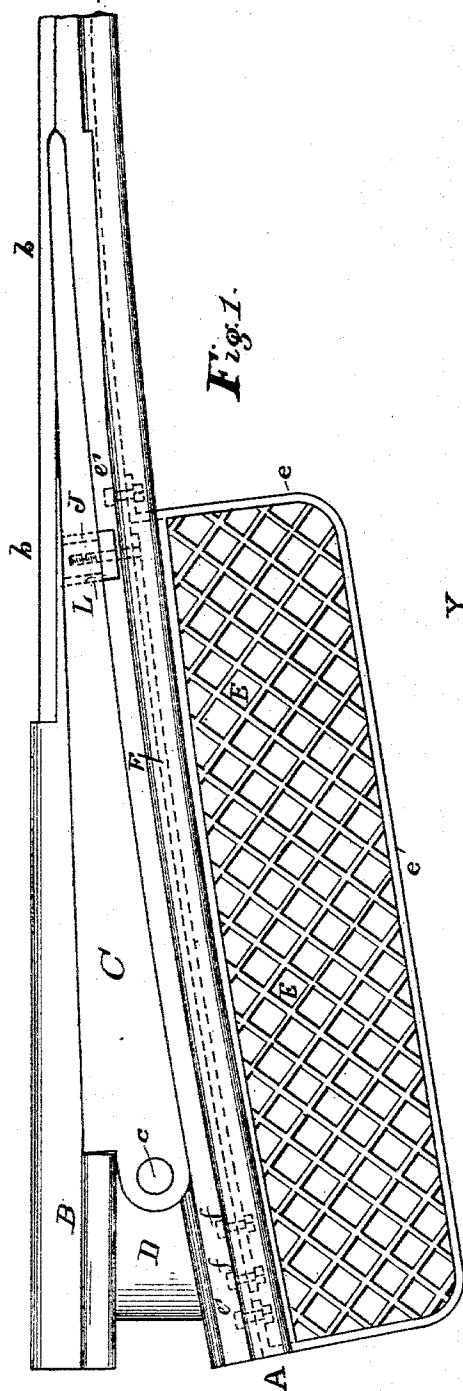


Fig. 1.

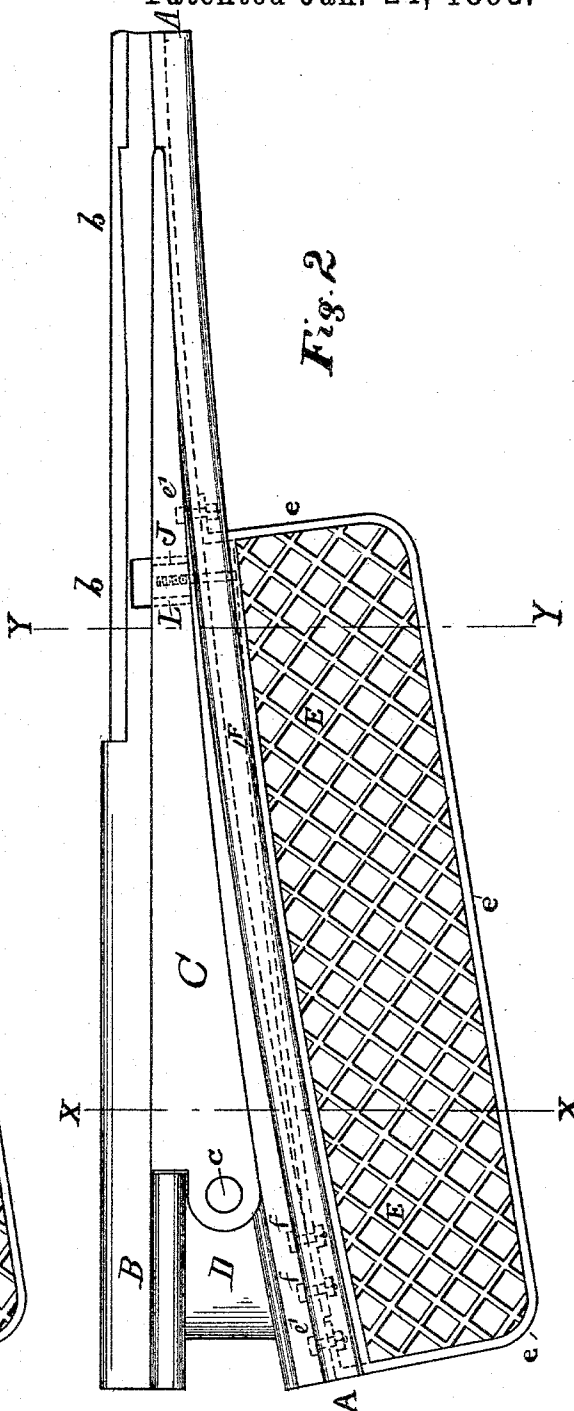


Fig. 2.

Witnesses:-
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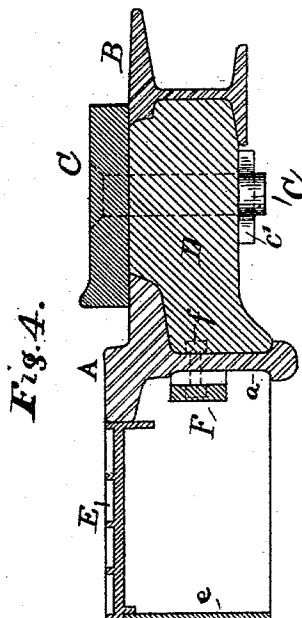
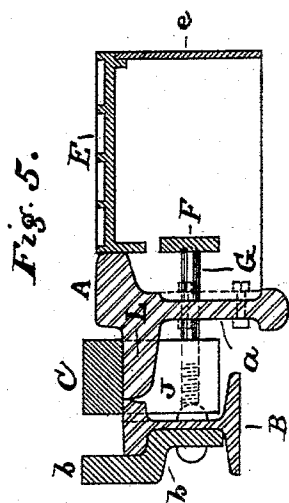
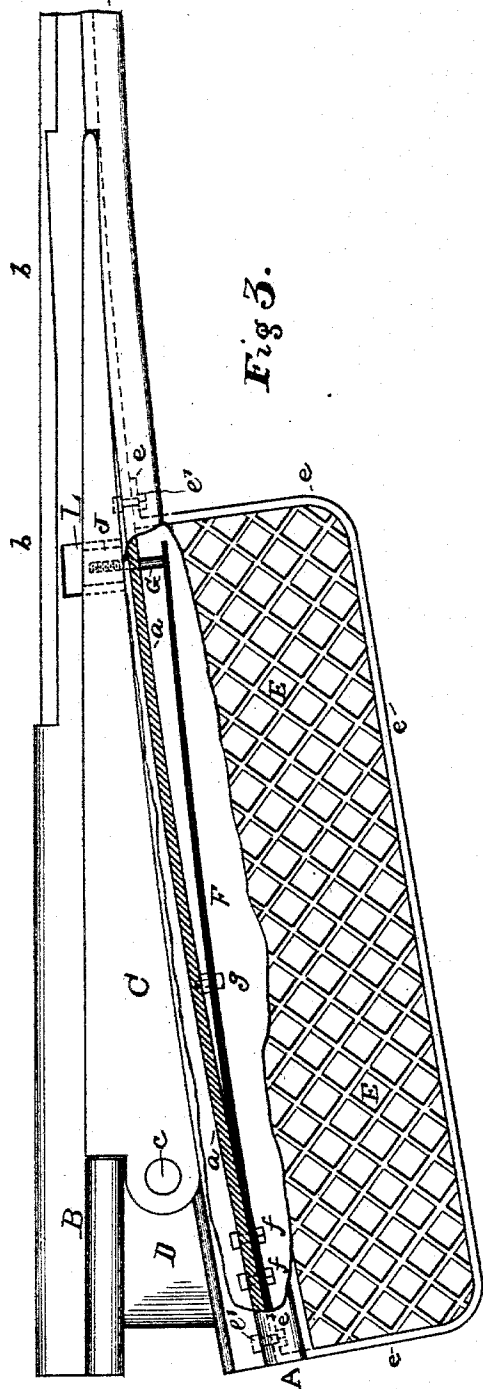
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Witnesses:

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Jennie Turner

Inventor:

C. F. Street
or P. R. Voorhes
Atty.

UNITED STATES PATENT OFFICE.

CLEMENT F. STREET, OF MILWAUKEE, WISCONSIN, ASSIGNOR TO THE
JOHNSON STEEL STREET RAIL COMPANY, OF KENTUCKY.

SPRING-TONGUE SWITCH.

SPECIFICATION forming part of Letters Patent No. 490,323, dated January 24, 1893.

Application filed April 2, 1888. Serial No. 269,273. (No model.)

To all whom it may concern:

Be it known that I, CLEMENT F. STREET, of Milwaukee, Wisconsin, have invented a new and useful Improvement in Spring-Tongue Switches, which invention is fully set forth and illustrated in the following specification and accompanying drawings.

The object of this invention is to provide a spring-tongue-switch which shall be of simple construction, and having all its operating parts easily accessible, and capable of ready removal and renewal.

The invention will first be described in detail and then be fully set forth in the claim.

In the accompanying drawings, Figure 1, shows in plan a tongue-switch with the tongue thrown over to the left, looking from the heel of the tongue: Fig. 2, is a similar illustration, save that the tongue is thrown over to the right looking from the same direction above mentioned. Fig. 3, shows a view of the switch in plan, with part of its cover broken away, exposing the spring mechanism below. Fig. 4, shows a transverse section taken at the line *x x* through Fig. 2, looking to the left. Fig. 5, shows a transverse section taken at the line *y, y*, through Fig. 2, looking to the right.

In said figures the several parts are indicated by letters, as below described.

A, indicates a girder guard rail, and *a*, its web; B, a plain side-bearing girder-rail, and *b*, a guard-piece secured to its web, (Figs. 4 and 5).

C, indicates a movable tongue and *c*, the pivot or pin on which it is given its arc of vibration.

D, indicates the heel-block or chock through which the pin *c*, is passed and secured thereunder by means of the key *c'*, or otherwise, as may be preferred, the head of said pin being countersunk in the top surface of the tongue as shown in dotted lines, Fig. 4. The heel-block D, connects the two rails A and B, at their divergent ends as shown in Figs. 1, 2 and 3. A frame *e, e*, is attached by bolts *e', e'*, to the web of the girder-rail A, as shown in Figs. 1, 2 and 3. Said frame is provided with a cover-plate E, removable for entrance thereto, the frame itself being placed over a

brick well, or pit, provided with a suitable drainage pipe or pipes, (not shown) for leading the water entering such pit to any convenient sewer or elsewhere. A leaf, or flat bar, spring F, is attached at one of its ends to the web of the rail A, by stud-bolts or other suitable connections *f*, and said spring at its other end is connected to a lip or projection J, on the under side of the tongue C, by means of a bolt, rivet, or other suitable connection G. The tension of said spring is adjusted, or its slack taken up, by means of an adjusting bolt *g*, (Fig. 3) tapped into or otherwise secured to the web *a*, of the rail A.

From the construction above described it will be seen that the tongue C, is always held by the action of the spring F, to one side. A car approaching the point of said tongue toward its heel or pivot, is thus always forced to take one particular track. The wheel-flanges of the car running in the other direction from the heel or pivot automatically force the point of the tongue over to one side during their passage past said tongue, the spring F, closing the tongue or restoring it to its normal position after said passage of the car-wheel flanges. This same result of switching cars has usually been heretofore effected by what is termed a "thrown-over switch-piece" by which the cars are forced to always take one particular track by reason of a "kink" or throw in the switch-piece, which device causes jars in and straining of the cars. When, also, a thrown-over switch-piece becomes somewhat worn away, as is unavoidable after comparatively short use, its action becomes uncertain. In the case of a cable road such uncertainty might be fatal. Certainty, therefore, in this respect is a vital necessity for cable roads; a cable-car taking the wrong track would inevitably cause serious breakage of its cable connections or grip, if nothing worse happened. By the invention hereinbefore described, such disadvantages and dangers are eliminated, the spring being very durable, and its life of usefulness is prolonged by means of the adjusting or tension-bolt *g*. The removal of the old and replacement of a new spring is also so easily effected that there is no temptation to

leave the tongue in inefficient operative condition.

I do not herein broadly claim a spring-switch, nor the particular construction of switch *per se* herein shown, independently of the spring and frame-attachments, and although but two types of girder-rail, A and B are shown, I do not confine myself to any special type of girder-rail as any type of such rail can be used with the other parts shown and described; and if the frame *e*, be prolonged to act as a seat therefor, an ordinary flat stringer-switch-piece can be used, instead of girder-rails.

Having thus fully described my said improvement in spring tongue switches, as of my invention, I claim:

A spring-tongueswitch constructed of girder-rails, provided with a spring parallel to the web of one of said rails, connected at one end to said web, and provided with an adjusting bolt, having a bearing on said web, substantially as set forth.

CLEMENT F. STREET.

Witnesses:

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J. P. SCHUBERT.