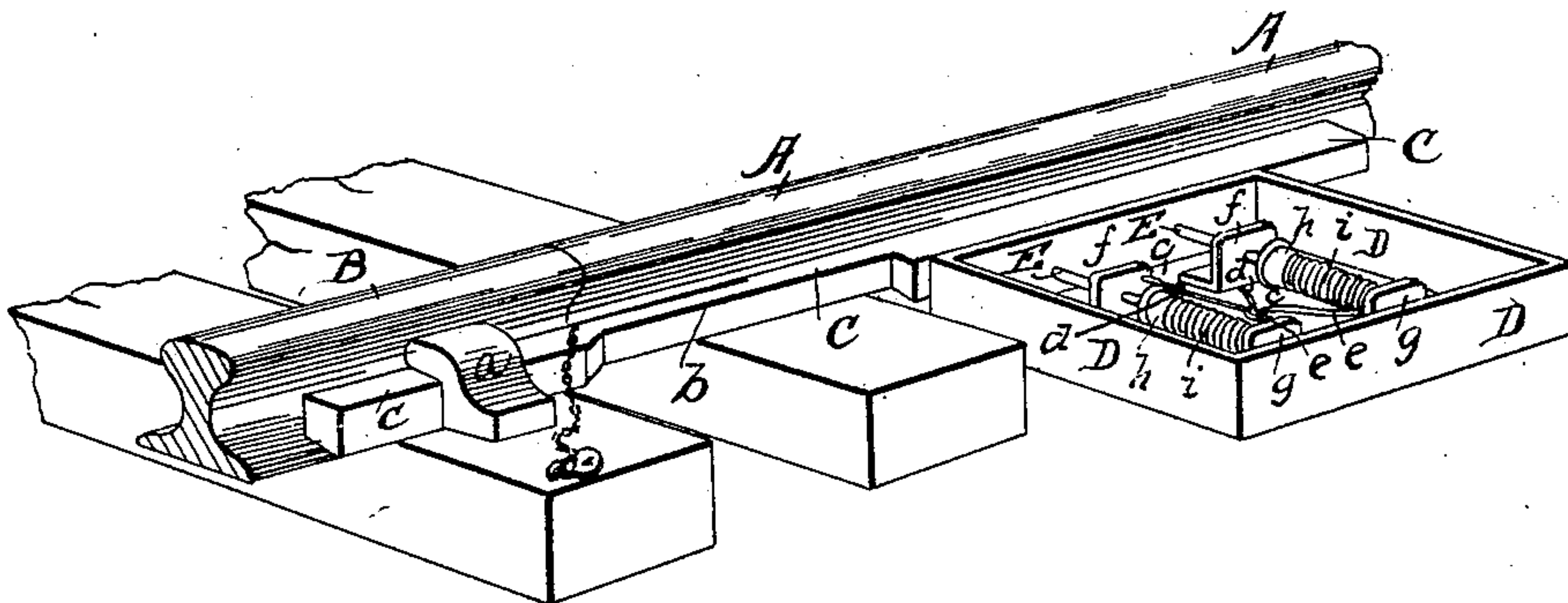


T. S. HALL.
CONNECTION FOR DRAWBRIDGE SIGNALS.

No. 90,743.

Patented June 1, 1869.



Witnesses:
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THOMAS S. HALL, OF STAMFORD, ASSIGNOR TO HALL'S ELECTRIC RAILWAY-SWITCH
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Letters Patent No. 90,743, dated June 1, 1869.

IMPROVEMENT IN CONNECTIONS FOR DRAWBRIDGE-SIGNALS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS S. HALL, of Stamford, Fairfield county, Connecticut, have invented a new and improved Drawbridge-Signal Connection; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents a perspective view of my improved drawbridge-connection for signals.

The object of this invention is to so construct and arrange the fastening-device of a drawbridge, that the same, when closed, will interrupt the current through the wires of an electric battery, while, when open, it will cause a connection between the same to be established, and a circuit produced. Thereby an automatic signal is produced for warning railroad-trains approaching the bridge, from either side, when the bridge is open, while, when it is closed, the signal of danger will not be displayed.

The invention consists, first, in using the key or wedge of a bridge for operating a signal, which will indicate that the bridge is open.

The invention consists also in applying the wire-ends to lugs, that are contained in a box placed close to the key or wedge, by which the bridge-rails are locked to the ground-rails, and which are connected by sliding pins.

These pins are, by springs, forced against one edge of the key or wedge, and have shoulders, that are brought in contact with the lugs when the key is withdrawn or opened, as in that case the ends of the pins are forced by the springs into a recess formed in the key.

A current is established whenever the shoulders strike the lugs, that is to say, whenever the recess of the key is brought opposite the ends of the pins.

A, in the drawing, represents a portion of a rail on the ground.

B is the contiguous rail in the drawbridge.

The two rails are held in line, and the bridge is more or less locked by a sliding-bolt or key, C, which works in a guide-strap or chair, *a*, formed on the bridge.

In the outer side of the key or slide C is formed a recess or depression, *b*, or a slot or aperture, having bevelled ends, as shown.

The wires *d e*, from the battery, are both conducted to a box, D, through the insulated bottom, *c*, of the same, and to metallic lugs, *f g*, projecting therefrom.

I may arrange two pairs of lugs in each box, as in the drawing, to operate signals at both ends of the

bridge, although, in most cases, only one set of them will be used on each end of the bridge.

The lugs *f g*, standing on the insulated bottom, *c*, cause the circuit through the wires *d e* to be interrupted.

Through the two lugs *f g*, that belong to one set of wires, is fitted a sliding pin, E, which rests in insulated bearings, or is itself insulated, and which carries a metallic shoulder, *h*, as shown.

A spiral spring, *i*, is mounted on each pin E, between the shoulder *h* and the lug *g*, and tends to force the end of the pin toward the rail. The pin E fits through an aperture of the box D, and against the face of the key C.

When the key is drawn out, to open the bridge, the pin E is, by the spring *i*, forced out into its recess *b*, whereby the shoulder *h* is brought in contact with the lug *f*.

Metallic connection is then established between *f* and *g*, and the circuit through the wires *d e* established, so that a signal may, by suitable mechanism, be operated by such current on either side of the bridge, to warn approaching trains. As soon as the bridge is closed, and the key C locked, the current will be interrupted.

When but one set of lugs *f g* and wires *d e* is arranged in the box D, the signal can only be worked directly on one side of the bridge.

It is evident that the key may, instead of the recess, have a projecting part, to push the pin E when the bridge is open. In that case, the shoulder on the pin will be pushed against the lug *g*.

It is also evident that the key may be connected in any other suitable manner with an electric or merely mechanical signal-apparatus.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. Applying the key or wedge of a drawbridge to operate automatically an electric or mechanical signal, as set forth.

2. The apparatus for closing circuits, to operate signals in the vicinity of drawbridges, consisting of the key C and of the box D, having the lugs *f g*, slide-pin E, the shoulder *h*, and spring *i*, or their respective equivalents, all arranged and operating substantially as herein shown and described.

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Witnesses:

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