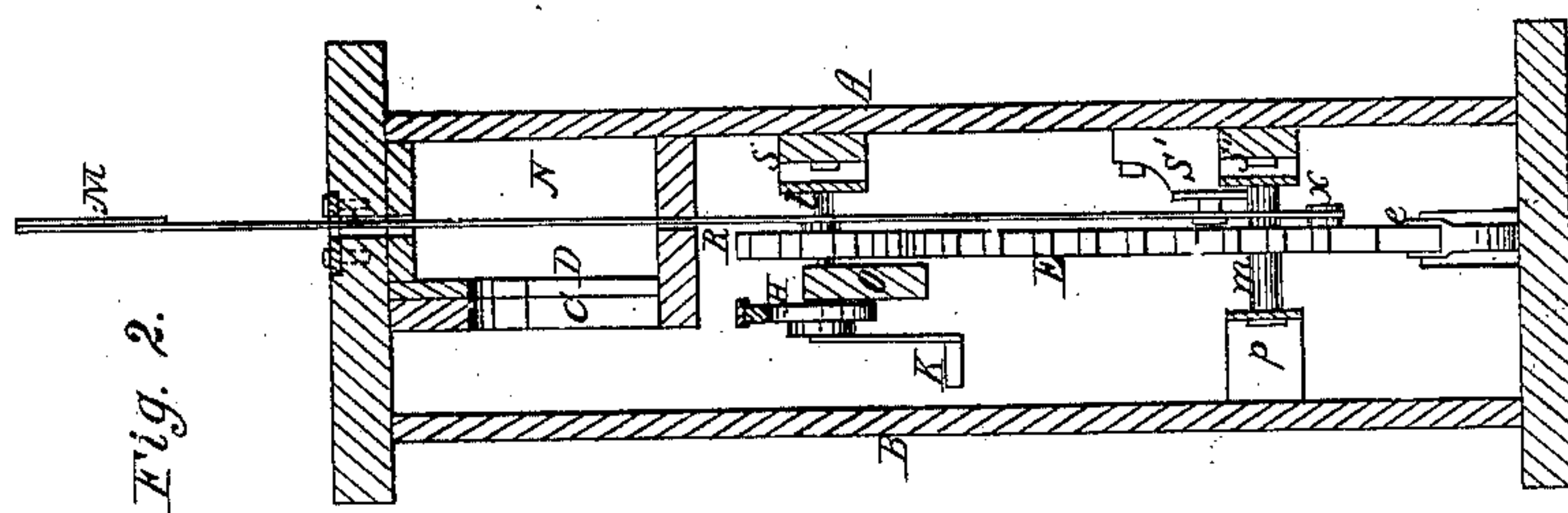


*H. Maxell & E. & H. Fessler,*

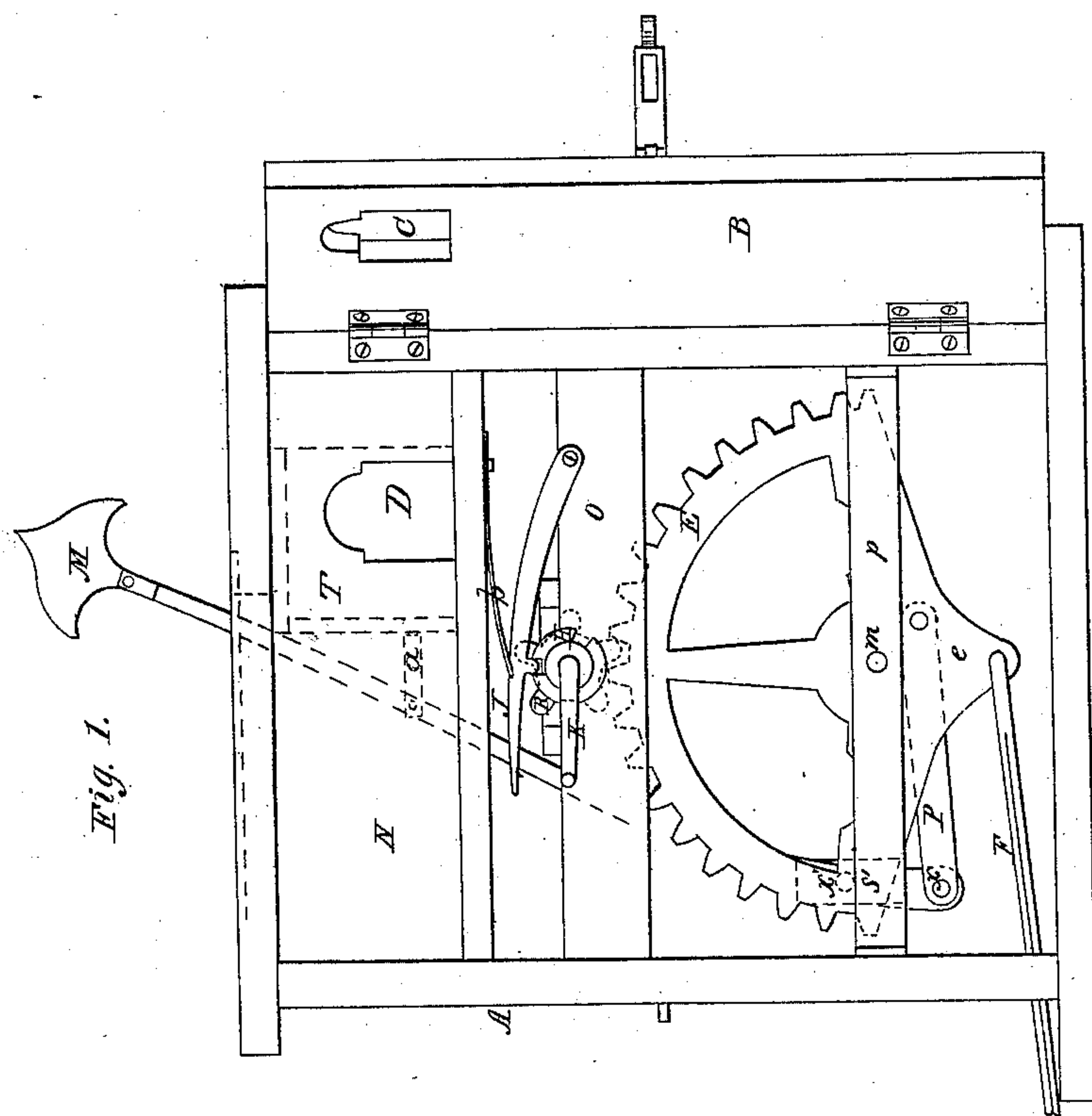
*Railroad Switch,*

*N<sup>o</sup> 57,744,*

*Patented Sept. 4, 1866*



*Fig. 2.*



*Fig. 1.*

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# UNITED STATES PATENT OFFICE.

H. MAXELL, E. FESSLER, AND H. FESSLER, OF CANTON, OHIO.

## IMPROVED RAILROAD-SWITCH.

Specification forming part of Letters Patent No. 57,744, dated September 4, 1866.

*To all whom it may concern:*

Be it known that we, H. MAXELL, EMANUEL FESSLER, and HENRY FESSLER, of Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Railroad-Switches; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

In the drawings hereto annexed and forming a part of this specification, A represents the switch-box. This box is made of wood, and is set at the side of the railroad-track and at right angles thereto.

B represents the door of the switch-box, which is provided with suitable hinges and fastenings and opens from the track. On the inner side of the switch-box, and near the top of the same, is formed an oblong box, N, which box has an opening near the door of the switch, as there is also a similar opening or window in the back of the switch-box. Door B is provided with an opening or window of the same size, and when said door is closed the opening C is directly opposite the one in box N and switch-box A. The object of these windows will be hereinafter set forth.

O is a bar, which is secured to the sides of the switch-box and placed a short distance beneath the bottom of box N and at about center-way between the door B and back of switch-box A. Directly behind this bar, and secured to the switch-box, is a block, S, Fig. 2.

*t* is a shaft, which is secured to the center of bar O upon its upper side and to the block S. Upon this shaft, and between bar O and block S, is a small ratchet-wheel, R, while upon the outer end of said shaft, and between the door B and bar O, is a small metallic wheel, H, with three or more square notches in the same.

K is a crank attached to the wheels H and R and shaft *t*, for the purpose of revolving the same.

J represents a metallic lever, which is secured to the rear portion of the bar O, and is

provided with a small catch to catch in and secure the wheel H. (See Fig. 1.) This lever is held in the notch of the wheel H by a spring, *d*, which is secured to the under portion of box N, and resting upon the lever J, heretofore described.

E is a semicircular cog-wheel, which is secured to the block S<sup>2</sup>, attached to the back of switch-box A, (see Fig. 2,) and a longitudinal metallic bar, *p*. The cogs of this wheel mesh into the cogs of the small cog-wheel R. The under portion of this wheel E forms a metallic plate, which projects from directly under the shaft *m*, which supports the said wheel, to near the bottom of the switch. Connected with this plate *e* is a rod, F, which extends from the plate through an opening or slot at the bottom of the switch-box, and is attached to the rails that require switching.

P represents a metallic arm secured to the upper side of the plate *e*, and pivoted at *x* to the signal-shaft M. This shaft M is also pivoted to a block, S', as seen in Fig. 1 at *x'*, and extends above the entire switch-box there being slots in the box N and top of switch-box A to allow it to pass and to be worked back and forth in the same. At the upper extremity of this shaft there is an eccentric-shaped piece of metal, to show whether the switch is open or closed.

Within the oblong box N, and attached to the shaft M by a small bar, *a*, is the sliding signal, as seen in dotted lines at T. This signal, either by a lamp and reflector or a colored piece of wood or metal, and by means of the windows C and D, will show whether the switch is opened or closed.

It will be seen that by turning the crank K (when the lever J is thrown up) from the track, the cog-wheel R turns semicircular cog-wheel E, with rod F, and draws said rod and the track toward the switch-box, and draws the signal T within the box N, and leaves the windows open. While turning the crank toward the track the signal T is slid from the track, covering the windows C and D, and throwing the rod F, with track, from the switch-box, and throwing the eccentric on ex-



tremity of the shaft directly over the signal-windows.

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

1. The switch-box A, with inner box, N, and windows C D, with signal T, arranged in the manner substantially as and for the purposes set forth.

2. The semicircular wheel E, wheel R, wheel H, crank K, lever J, and spring b, arranged within the switch-box A, as and for the purposes herein specified.

3. The shaft M, attached to the wheel E by means of the arm P and metallic plate e, working the rod F, when arranged and used as and for the purposes set forth.

As evidence that we claim the foregoing we have hereunto set our hands in the presence of two witnesses.

HENRY MAXELL. [L. S.]

EMANUEL FESSLER. [L. S.]

HENRY FESSLER. [L. S.]

Witnesses:

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J. CREVOISIE, Jr.