H. CONRAD.

Railroad Switch Signals.

No. 157,496. Patented Dec. 8, 1874.

Fig. 1

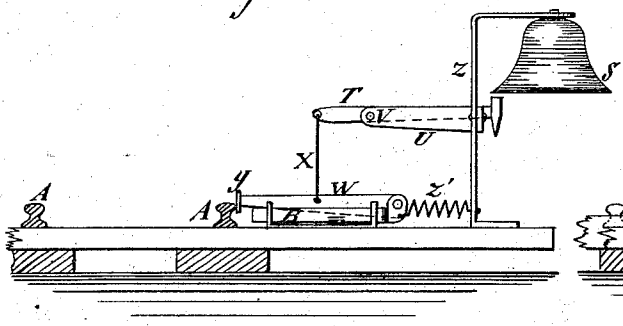


Fig. 2

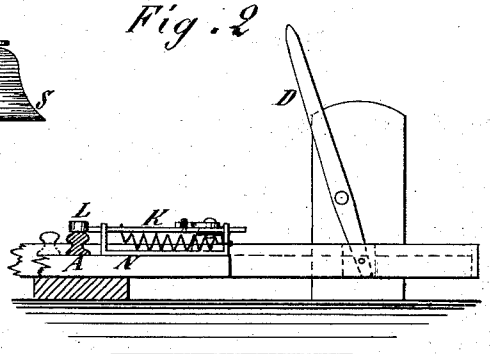
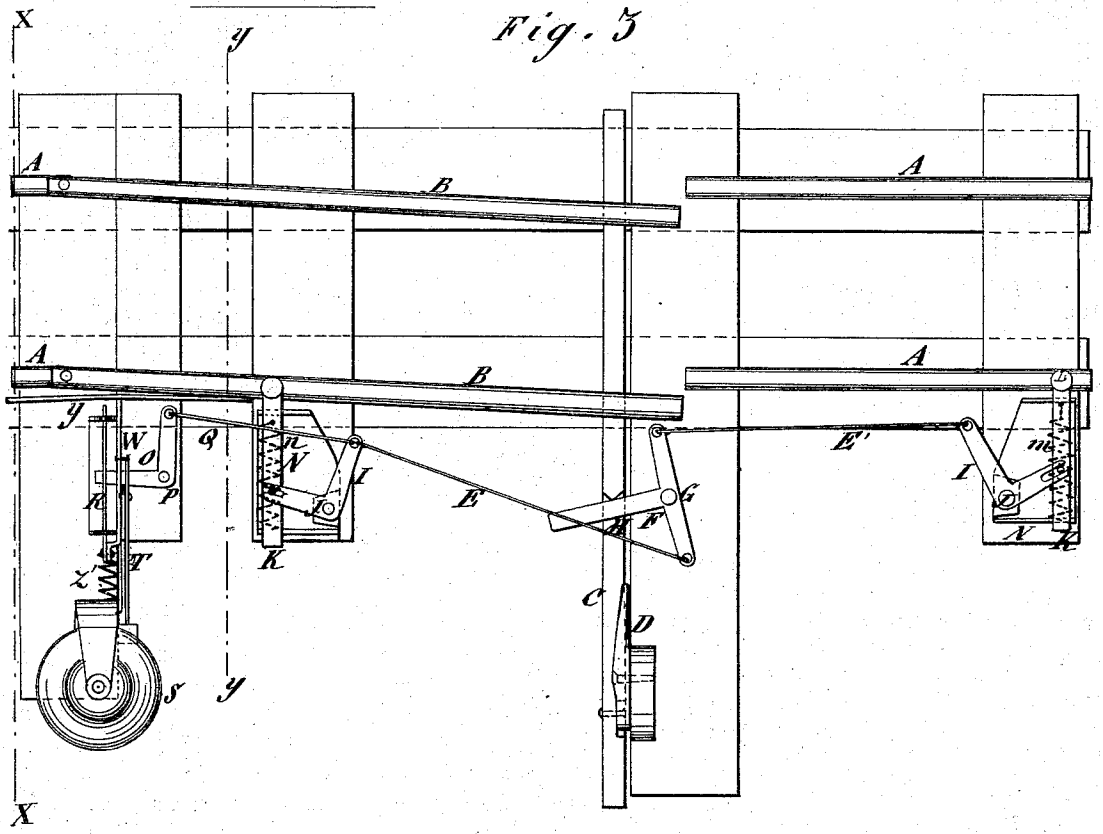


Fig. 3



WITNESSES:

C. Neveux

A. F. Terry

INVENTOR:

H. Conrad

BY

Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HIRAM CONRAD, OF YORK, PENNSYLVANIA.

IMPROVEMENT IN RAILROAD SWITCH-SIGNALS.

Specification forming part of Letters Patent No. **157,496**, dated December 8, 1874; application filed October 24, 1874.

To all whom it may concern:

Be it known that I, HIRAM CONRAD, of York, in the county of York and State of Pennsylvania, have invented a new and useful Improvement in Railroad Switch-Signals, of which the following is a specification:

The invention consists in making an alarm-signal on a railroad by a torpedo moved by the switch-bar, as hereinafter described and claimed.

Figures 1 and 2 are cross-sections of the track, looking from the lines *x x* and *y y* of Fig. 3. Fig. 3 is a plan view, showing the switch and the signaling device.

Similar letters of reference indicate corresponding parts.

A represents the stationary rails. B B are the switch-rails. C is the switch-bar, and D is the switch-lever.

The signal is made by either exploding torpedoes on the rail by the passing locomotive, or by ringing a bell, which may be done by the locomotive or by the switch.

E E′ are wires, which may extend to any desired distance (in each direction) from the switch. These wires are attached to the ends of the T-bar F. This T-bar is pivoted at the point G, and the T works in the recess H of the switch-bar. I I are bell-cranks, pivoted at J J, to which the other end of the wires are attached. One of the arms of each bell-crank is slotted, which allows them to take hold of the pins in the torpedo-slides K K. These slides work at right angles with the track, and are allowed to slip onto the rail and carry each a torpedo, L, when the switch is operated. *m* are spiral springs around these slides, arranged so as to hasten the back motion of the slides when the switch is turned in a reverse direction. N N are stationary plates, to which the bell-cranks and springs are attached, and which guide the torpedo-slides. O is a bell-crank, pivoted at P, which is operated by the wire Q, which wire is an extension of the wire E. The other arm of this bell-crank engages with the slide R. S is the bell, and T is the handle of the bell-hammer, which handle is pivoted to the arm *u* at *v*, and connected with the bar W, which is moved with the slide R, by the connecting-rod X.

When the switch is operated, the end of the handle is drawn down by its connection with the bar W, and rings the bell.

The same result may be produced by means of the false rail Y, which is connected with the bar W. This rail is arranged higher than the true rail, and in contact with it, so that the wheel will run over it and depress it, and consequently depress the bar W and ring the bell. The bell is elevated on the stand Z, as seen in the drawing, so that the hammer strikes upward. Z′ is a spiral spring arranged to draw back the slide, the bar W, and the false rail.

By the above-described arrangement, it will be seen the signal may be given either by ringing the bell or by exploding torpedoes on the rail, or both may be done simultaneously, as may be desired, or as the exigencies of the case may require.

I do not claim spiral springs specially for producing the back motion, as other springs may be used; nor do I claim the precise arrangement shown of the other parts, as variations may be made without departing from my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A railroad-signal consisting of one or more torpedoes, when the same are moved onto the rail by the movement of the switch, as shown and described.

HIRAM CONRAD.

Witnesses:
SIMON AURAND,
EDWIN SWENGEL.