(No Model.) 2 Sheets—Sheet 1.

C. LLOYD.

RAILROAD ALARM SIGNAL.

No. 264,719. Patented Sept. 19, 1882.

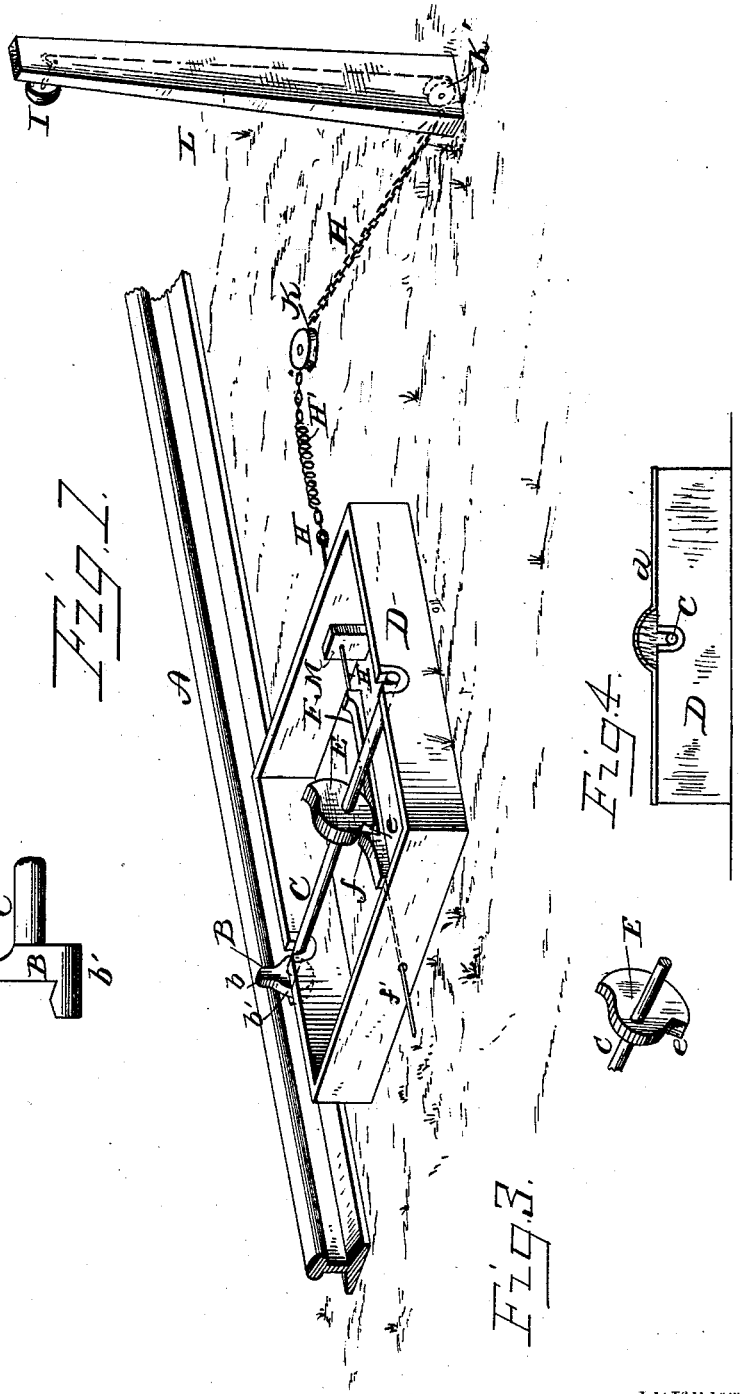

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES

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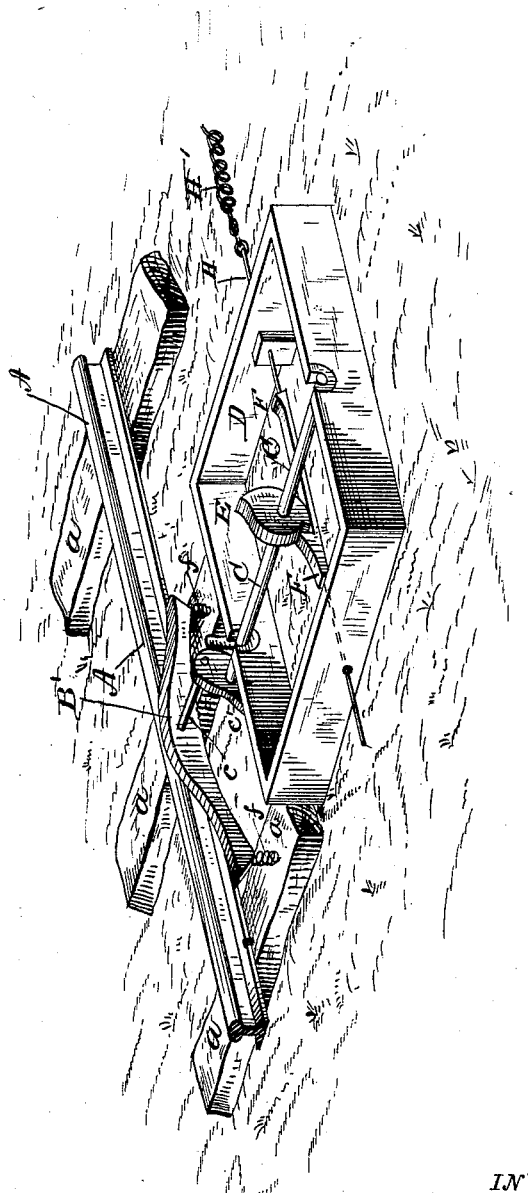

Fig. 5.

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UNITED STATES PATENT OFFICE.

CLINTON LLOYD, OF WILLIAMSPORT, PENNSYLVANIA.

RAILROAD ALARM-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 264,719, dated September 19, 1882.

Application filed April 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, CLINTON LLOYD, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Railroad Alarm-Signals; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of the present invention; Fig. 2, details to show the trip; Fig. 3, detail of the actuating-wheel counterbalanced; Fig. 4, central sectional view to show construction of containing-box. Fig. 5 shows a modification of the trip mechanism.

This invention belongs to that class of devices known as "railway alarm-signals," and its peculiar object is to so construct and apply such mechanism to a railway-track as will cause the passing trains moving in one direction to sound an alarm indicating the approach of the train, while the train moving in the opposite direction will not actuate the mechanism of the alarm; and the novelty in the present instance consists in the detail of the construction, combination, and operation of the several parts whereby the desired result, as aforesaid, is produced, all as will now be more fully set out and explained.

In the accompanying drawings, A denotes one rail of a railway-track. The trip B is placed as close to the outside of said rail as is consistent with a free opportunity to swing back and forth, and is fixed on the end of shaft C. This shaft is mounted on suitable bearings in box D, which box or case is secured in any convenient way so as to have a permanent position. The trip B has a pointed upper end or top, *b*, which comes up alongside the tread of the rail, so that the wheels or trucks of the passing train will engage or strike upon it and cause it to turn or oscillate. Its lower end, *b'*, is quite heavy, and acts as a counterbalance to throw the trip back into a vertical position and hold it in that position when at rest.

In the box D the wheel E is fixed upon the shaft C. This wheel is irregular in outline, and has a projection or shoulder, *e*, on its periphery which is designed to engage on the projection *f* of the movable piece F, which piece is adjusted in ways or otherwise in the box or case D so as to come under the wheel E. This piece F can be moved by the action of the shoulder of E, as aforesaid, but will be retracted to its original position when the pressure of said projection is removed by the tension of the spring H' in the cord or chain H. This spring is a part of the said cord or chain which connects the piece F with the bell or alarm I, located conveniently near the place where the alarm of the approaching train is desired to be sounded, now indicated as on post L. As now illustrated, the line or connecting means passes over the pulley K, and thence to pulley K', whence it extends to the bell or alarm on L. The mere detail of arranging the connection beyond the use of the spring H' may be varied to suit convenience.

If desired, the trip B may be merely an upwardly-extending finger fixed fast upon the end of the shaft C, and in that case the shaft will pass eccentrically through wheel E, which wheel may also be made heavier at its lower side. This modification is generally indicated in Fig. 3.

I may use the mechanism by merely providing bearings for the ends of the shaft C; but I prefer to have a case or box, as now shown. This construction will keep the dirt out of the parts and prevent interference therewith or accident from carriage-wheels, &c. The box or case can have any suitable lid or cover, *d*, hinged or otherwise attached to it.

Under some circumstances I may prefer to use a trip like as is shown at B' in Fig. 5, which consists of an arched bar, supported at each end by the springs b^2, resting on the sleepers, or otherwise. The short shaft *c*, which extends from B', has at its ends the crank-arm *c'*, to which the shaft C is attached.

The operation of my device will be readily understood from the foregoing description.

When the device is ready for use, as is now shown in Fig. 1, the trip is in a vertical position and the actuating-wheel hangs with its projection in convenient relation to projection *f;* but if a trip such as is shown in Fig. 5 is used the curved upper face of the bar B′ projects slightly above the rail. Thus, when a train approaches from the left hand the wheels on that side of the locomotive and cars, impinging on the upper part of the trip, cause the shaft to revolve, and thus the wheel moves the sliding piece F back and causes the alarm to be sounded. When the train comes from the right and the wheels of the locomotive, &c., impinge on the trip, it and the wheel are merely oscillated, said wheel being so constructed, as above indicated, that its movement in this direction will not cause it to engage on F. At the outer end of piece F, where the line or connection is attached, is placed a rubber head or buffer, M, having its face toward the end of F, against which the end of F will strike when it rebounds after striking the alarm. Thus all jar and shock of the action of the wheel, sliding piece, &c., will be obviated. The rod *f*, attached to the rear of F and extending through the side of the case, will act as a guide to steady the movement of the sliding piece.

It will be noticed that the spring H′ will also be of very great advantage in preventing strain and wear, and also in keeping the connection line between the sliding piece and the alarm at the proper tension and accommodate all expansion and contraction of the bell-wire.

I propose, if it is found advantageous, to group at any desired place as many of these alarms as I may wish, so as to give a long-continued alarm. While I prefer to use a bell for giving the alarm, it is evident a flag or any ordinary signaling means can be used.

Having thus described my invention, what I consider new, and desire to secure by Letters Patent, is—

1. The combination of the trip B, shaft C, and wheel E with the slide F, chain or connection H, and alarm I, substantially as and for the purposes set forth.

2. In a railroad-signal, the combination of the sliding piece F, operated, as described, by means of the wheel E, with the chain or connection H, substantially as and for the purposes set forth.

3. In a railroad-signal, in combination with an automatically-adjusting means for actuating the signal, a buffer to deaden the jar of recoil of the parts, and a spring to keep the connection with the alarm at proper tension, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CLINTON LLOYD.

Witnesses:

O. H. REIGHARD,

THOMAS W. LLOYD.