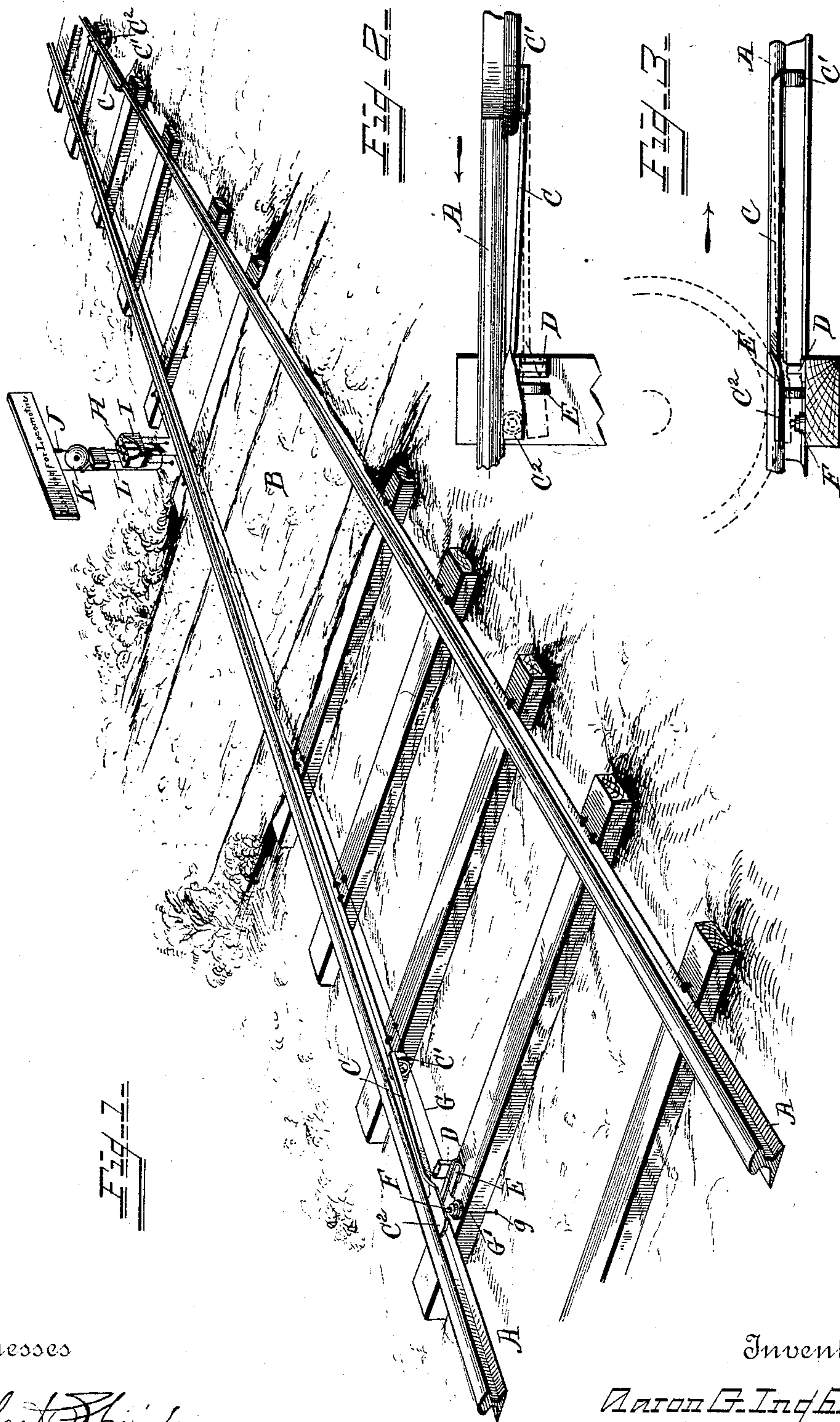


(No Model.)

A. G. INGRAM.
RAILWAY ALARM.

No. 390,081.

Patented Sept. 25, 1888.



Witnesses

Albert Speiden.
G. W. Fallock.

Inventor

Naron G. Ingram.

By his Attorneys

Anderson & Myere

UNITED STATES PATENT OFFICE.

AARON G. INGRAM, OF OMAHA, NEBRASKA.

RAILWAY-ALARM.

SPECIFICATION forming part of Letters Patent No. 390,081, dated September 25, 1888.

Application filed September 27, 1887. Serial No. 250,815. (No model.)

To all whom it may concern:

Be it known that I, AARON G. INGRAM, a citizen of the United States of America, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Railway-Alarms, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to electric alarms for use at road-crossings of railroads; and it has for its object to provide means whereby a bell will be rung at the crossing on the approach of a train of cars as a warning to persons intending to cross the track.

The invention will first be described with reference to the accompanying drawings and then pointed out in the claims.

Figure 1 of the drawings is a perspective view of the invention as applied to a railroad-track, and showing an alarm-bell mounted on a post at the crossing. Fig. 2 is a plan view illustrating the manner of not operating the bell as the train passes in one direction. Fig. 3 is a side elevation illustrating the manner of operating the bell as the train passes in the opposite direction.

Referring to drawings, A represents the railroad-rails, and B the crossing of the track.

C represents a spring to be acted on by the passing train to operate a push-button for the purpose of making and breaking electrical connection with a battery at or near the crossing, the said battery being in circuit with an alarm-bell, as hereinafter described. This spring consists of a strip of spring metal, one end of which is bent downward and bowed inward, as at C', the free end of this bowed portion being riveted to the web of the rail A, thus causing that end of the spring to stand some little distance from the rail. From this point the spring C inclines toward the rail, and its outer end is twisted at a right angle to the body of the spring, and is formed with a broad flange, C², the inner edge of which is flush with the inner side of the spring. Now it will be understood that as the bowed portion of the spring is rigidly secured to the rail, and that the body of the spring bears inward, the normal position of the inner edge of this flange will be nearly flush with and against the upper portion of the rail.

D represents a support for the spring as the latter is being pushed outward from the rail by the wheel-flanges, as hereinafter described, it being no higher than the lowest limit to which the spring will be depressed by the wheel-flanges. This support has flanges at its bottom, through which it is secured to one of the cross ties. The inner end of the support does not extend inward toward the rail far enough to permit the spring, when in its normal position, to rest upon it, its purpose, as above stated, being to support the spring only while the latter is being forced away from the rail.

Alongside of the support D, and also secured to the cross-tie, is a leaf-spring, E, the free end of which rests under the flange C² of spring C, for the purpose of returning said flange to its normal position after a train has passed.

F represents a push-button of any ordinary construction, secured to the cross-tie immediately under the flange C² of spring C.

G represents a wire, one end of which is connected with the button, the other end leading to and being connected with a battery, H, located in a box, I, attached to a post, J, at the crossing, and G' is the earth-wire, one end of which is attached to the button and the other end grounded, as at g. Above the battery H, on the same post, is secured an ordinary electric bell, K, in circuit with the battery by a wire, L, one end of which is grounded at a point not seen in the drawings.

It will be understood that, as by the above-described mechanism an alarm will be sounded only by a train moving toward the crossing, like mechanism must be placed at a suitable distance at each side.

The operation of my invention is as follows: As a train of cars approaches the crossing, the flanges of the car-wheels will successively strike the flange C² of spring C, as seen in Fig. 3, and depress that end of said spring, and thereby operate on the push-button F to close the circuit, and thus ring the bell. As the train moves away from the crossing, however, the flanges of the car-wheels will pass between the rail and the spring C and force the latter away from the rail, as seen in full and dotted lines in Fig. 2, so that the wheel-flanges will not strike the flange C² of the spring, and con-

sequently it will not be depressed, so as to operate the push-button. As the spring C moves away from the rail, it engages with support D and slides freely over its top, and also over the top of the leaf-spring E, and when the train has passed the spring C will resume its normal position.

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

1. The combination, with a railroad-rail, of a spring secured at one end to said rail in such a manner that the flanges of the car-wheels will not engage with that end, but will engage with the free end and depress it, a push-button under the free end of said spring, and an alarm-bell in electrical connection with said button, substantially as described, and for the purpose set forth.

2. The combination, with a railroad-rail, of a spring one end of which is bowed downward and inward and secured to said rail, its other end being formed with a flange which normally bears against the side of the rail, a push-button located beneath said flanged end of the spring, and an alarm-bell in electrical connection with said button, substantially as described, and for the purpose set forth.

3. The combination, with a railroad-rail, of

a spring one end of which is bowed downward and inward and secured to said rail, its other end being formed with a flange which normally bears against the side of the rail, a spring located under the free end of said flanged spring, a push-button, also located under the free end of said flanged spring, and an alarm-bell in electrical connection with said button, all as described, and for the purpose stated.

4. The combination, with a railroad-rail, of a spring one end of which is bowed downward and inward and secured to said rail, its other end being formed with a flange which normally bears against the side of the rail, a leaf-spring under the free end of said flanged spring, a support for said flanged spring in its lateral movement, a push-button beneath the free end of the flanged spring, and an alarm-bell in electrical connection with said button, substantially as described, and for the purpose set forth.

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

AARON G. INGRAM.

Witnesses:

ALBERT SPEIDEN,
G. W. BALLOCH.