

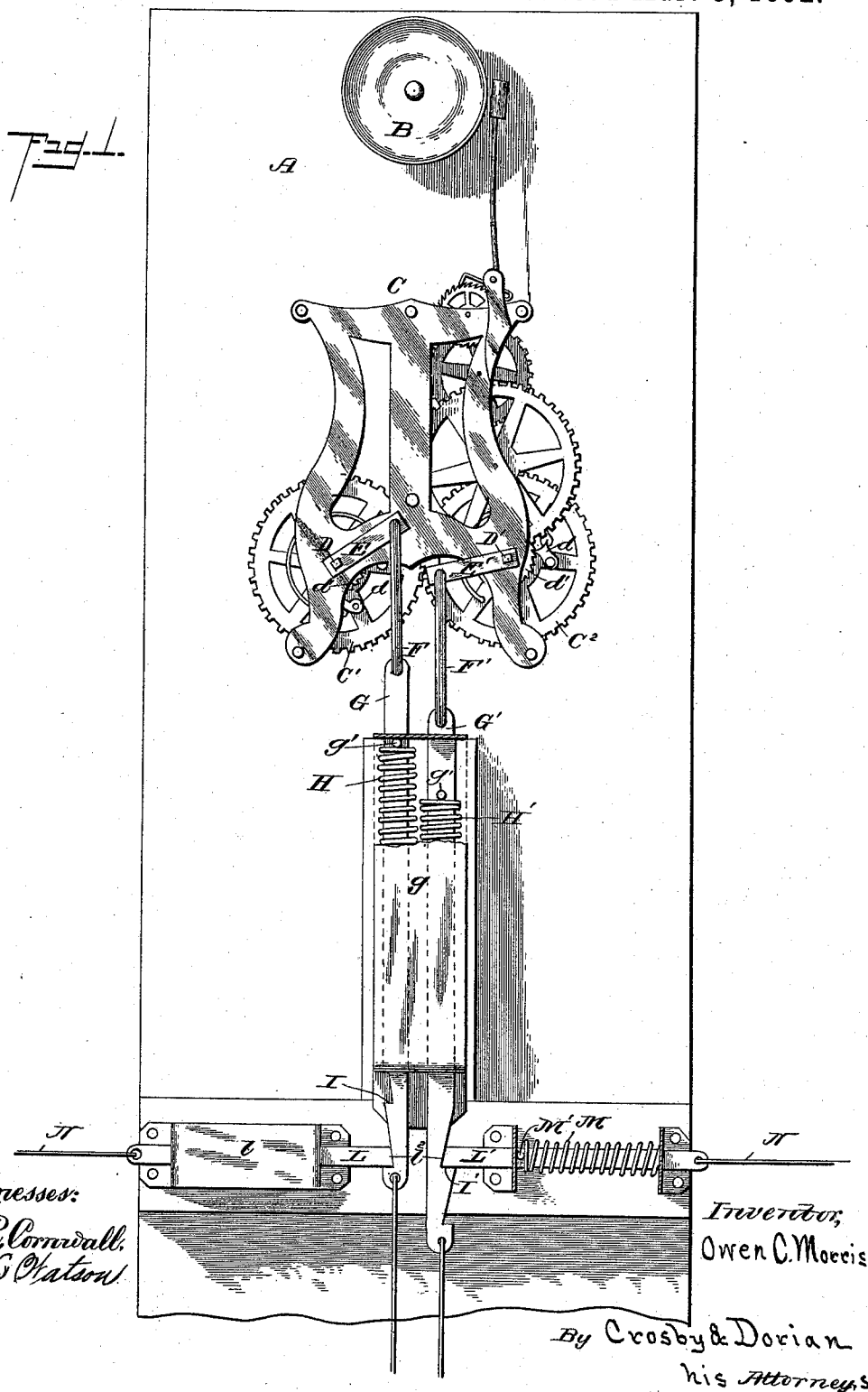
(No Model.)

3 Sheets—Sheet 1.

O. C. MORRIS.
RAILWAY SIGNAL.

No. 470,436.

Patented Mar. 8, 1892.



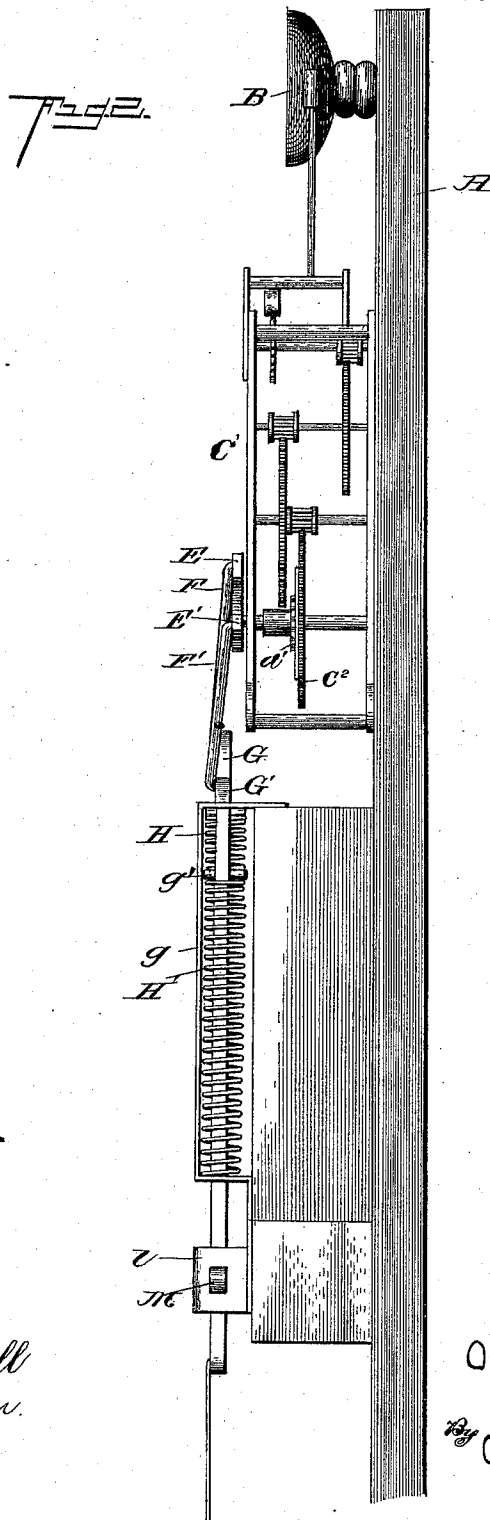
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3 Sheets—Sheet 2.

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RAILWAY SIGNAL.

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Patented Mar. 8, 1892.



Witnesses:
F. R. Cornwall
A. L. Chaston.

Inventor,
Owen C. Morris
By Crosby & Dorian
his Attorneys

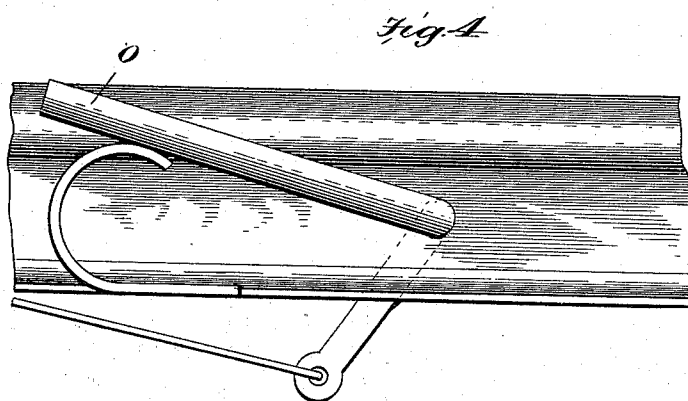
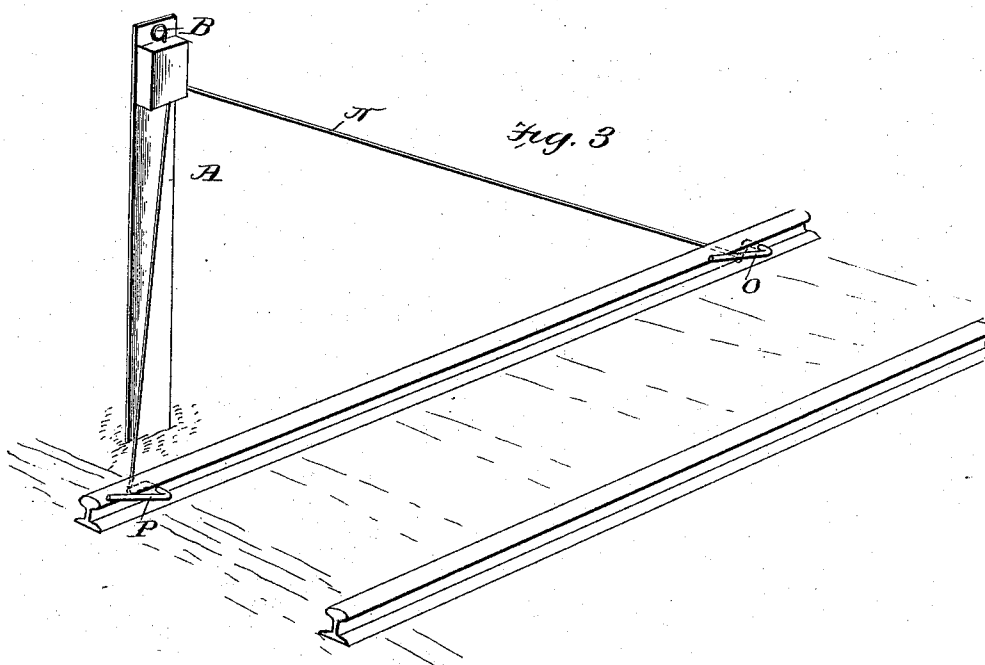
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O. C. MORRIS.
RAILWAY SIGNAL.

No. 470,436.

Patented Mar. 8, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

OWEN C. MORRIS, OF PHOENIX, MARYLAND.

RAILWAY-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 470,436, dated March 8, 1892.

Application filed September 3, 1891. Serial No. 404,660. (No model.)

To all whom it may concern:

Be it known that I, OWEN C. MORRIS, a citizen of the United States, residing at Phoenix, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Railway-Signals; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in railway-signals; and it consists in the construction and arrangement of parts hereinafter described, and definitely pointed out in the claims.

The object of my invention is the provision of improved means for actuating an audible or visible signal to be located adjacent to a railway-crossing for indicating the approach of a train. This object I attain by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate corresponding parts in the several views, and in which—

Figure 1 is a front elevation of the signal-actuating mechanism. Fig. 2 is a side elevation of the same. Fig. 3 is a view of a signal with the track connections, and Fig. 4 is a view of the track connections.

In the drawings, A represents a support for the signal, which may be of any desired or well-known form. The signal B, as shown, is a bell, the clapper *b* of which is actuated by a clock mechanism C of any desired form, but by preference a "striking clock mechanism" containing two spring-actuated driving-wheels *C'* *C''*, mounted on shafts D D', which extend through the frame and are squared on their outer ends. The wheels *C'* *C''* are loosely mounted on the shafts and are rotated in one direction only with the shafts by the interposition of spring-pawls *d* on the wheels, engaging ratchet-wheels *d'*, keyed on the shafts.

Rigidly secured on the outer ends of the shafts D D' are crank-arms E E' at right angles to the shafts and approaching each other. These arms have pivotally connected at their outer ends connecting-links F F', which are pivotally secured to the upper ends of verti-

cally-movable slides G G', mounted in a frame *g*, secured to the support A, their ends passing above and below the frame. Sleeved on the slides G G', within the frame *g*, are spiral springs H H', their lower ends abutting against the lower end of the frame and their upper ends against lateral lugs or stops *g'* on the slides, so that as the slides are forced down the springs are compressed between the frame and lugs. The outer edges of the lower projecting ends of the slides are formed with stops I I', with right-angled upper edges and the uppermost with a long inclined lower edge of a length sufficient to allow the springs H H' to spread until the lugs are at or near the top of the frame *g*.

L L' are two horizontal bolts slidingly secured in brackets *l l'* on the support and framed with inclined engaging ends *l''*, which engage the stops I I' on the slides, both ends of the bolts extending beyond the brackets, as shown.

Sleeved on the bolts L L' are coiled springs M, their outer ends abutting against the outer brackets and their inner ends against lateral pins M' on the bolts, so that as the bolts are drawn back the springs are compressed, and thereby normally tend to force the bolts back against the slides. Cables or wires N are connected to the outer ends of the bolts and to suitable tripping-levers O, located beside the track. These levers O are so inclined that the wheels of a passing train will strike the same, forcing their inner ends down in one direction and their opposite ends in the other direction, thereby drawing the wires N back and consequently the bolt to which the wire is attached, thus releasing the slide and permitting the spring thereon to force the same up, and thereby form the motive power for the clock mechanism.

As the train reaches the crossing the levers P are struck, which are connected with the lower ends of the slides, and, operating in a manner similar to levers O, they draw the slides down, and the bolts again engage over the steps and lock the slides, so that the signal is ready for the following train.

I preferably place under the levers suitable C-springs of sufficient strength to prevent persons or animals from operating the signal. By inclining the steps I on their under sides

the pressure of the bolts on the slides is gradually diminished as the tension of the springs on the slides weakens. The movement of the slides is thereby regular, as the pressure of the bolts prevents a too rapid movement when the slides are disengaged therefrom, it being understood that the signal is to be operated some distance from the crossing and will continue to be sounded after the train has left the levers O and until the levers P are struck.

I am aware that many minor changes in the construction and arrangement of the parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

1. In a signal, the combination, with a signal, of a clock mechanism for actuating the same, a spring for actuating the clock mechanism, a slide for compressing the spring, a catch for the slide, and levers for actuating the catch and for drawing the slide down to compress the spring, substantially as described.

2. In a railway-signal, the combination, with a signaling device, of a motor consisting of a clock mechanism, a spring outside of the clock mechanism, a slide, connections between the slide, spring, and clock mechanism, means for actuating the slide to compress the spring, retaining means for the slide, and means for

actuating said retaining means to release the slide, substantially as described.

3. In a railway-signal, the combination, with a signaling device, of a clock mechanism for actuating the same, a vertically-moving slide connected with the clock mechanism, a spring for forcing the slide up, a spring-actuated bolt for engaging the slide to retain the same in a lower position against the tension of the spring, a lever for drawing the bolt back, and a lever for drawing the slide down, substantially as described.

4. In a railway-signal, the combination, with a train of gear and a signal, of a crank-arm connected with a gear, a spring connected with the arm, means actuated by a passing train for compressing the spring, a trip for retaining the spring in a compressed state, and means actuated by a passing train for releasing the trip, substantially as described.

5. In a signal, a clock mechanism, a slide attached to the driving-shaft thereof, a spring on the slide, a lever for drawing the slide down, a spring-actuated bolt engaging the slide for retaining the same in the lower position, and means for releasing the slide.

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

OWEN C. MORRIS.

Witnesses:

S. BRASHEARS,
BESSIE SLATER.