

C. M. BOWMAN.
Crossing Signal for Railways.

No. 98,342.

Patented Dec. 28, 1869.

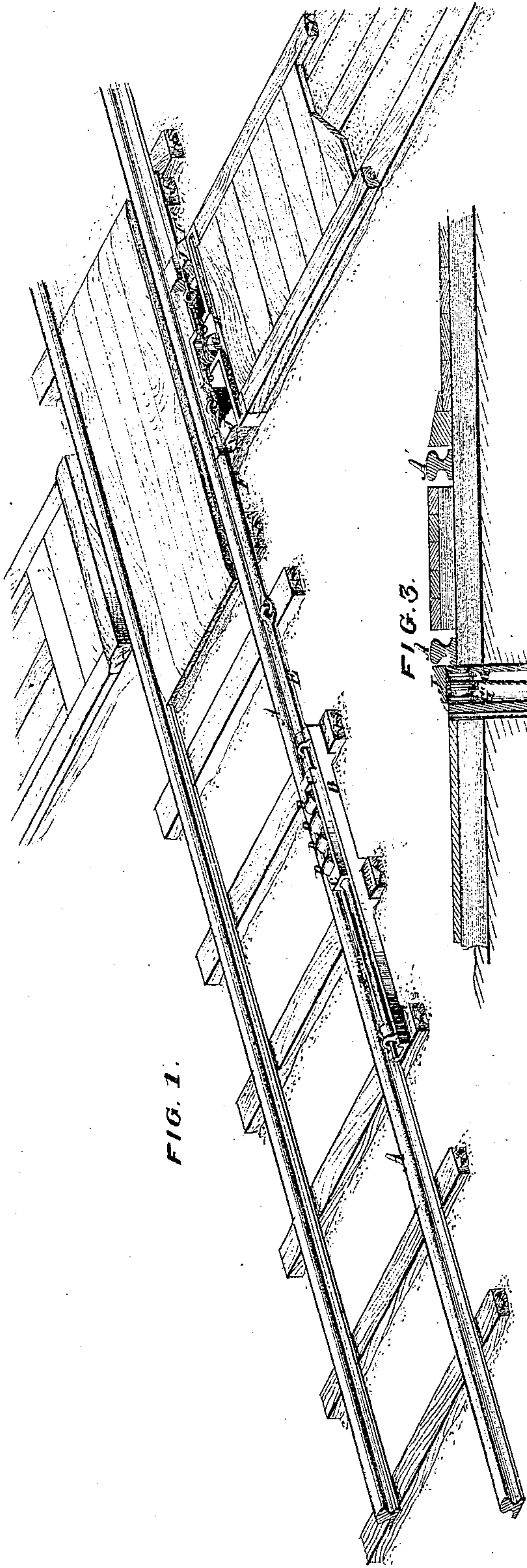


FIG. 1.

FIG. 3.

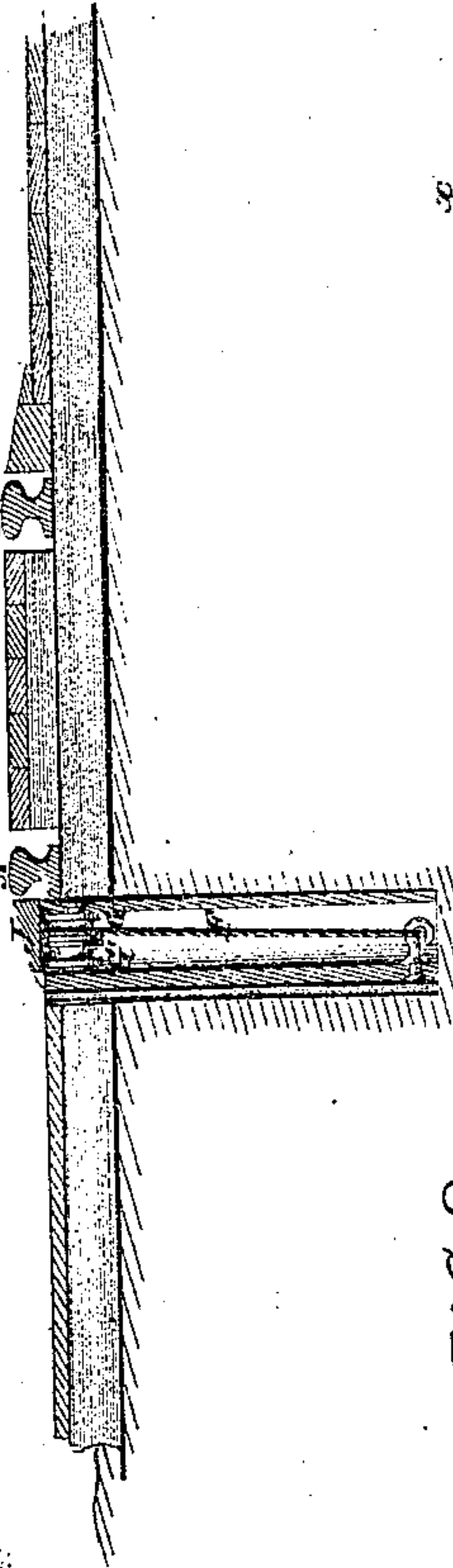
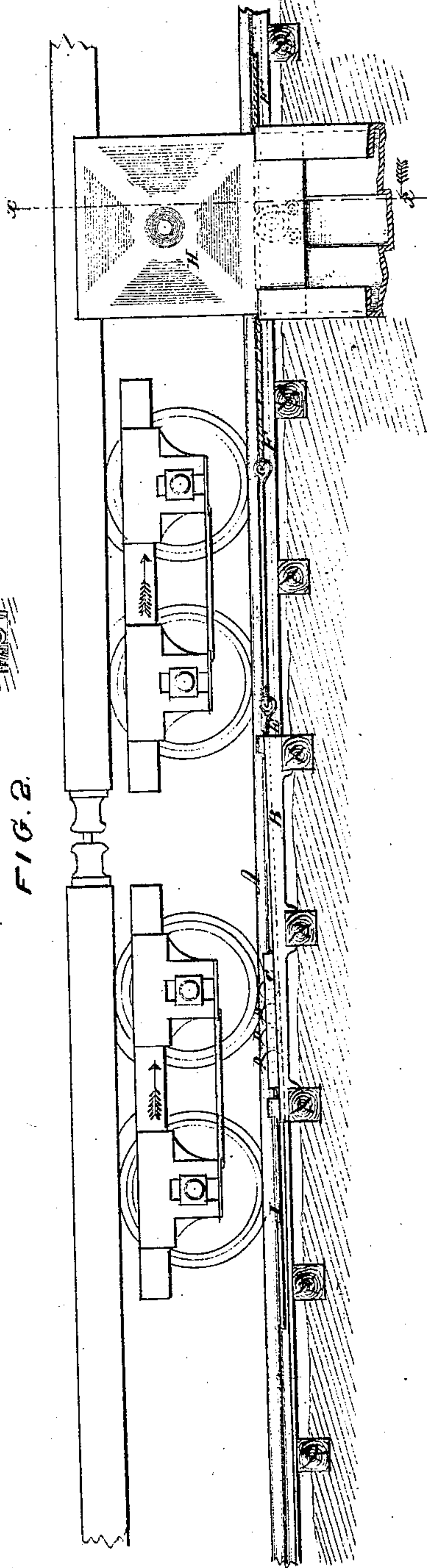


FIG. 2.



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CHARLES M. BOWMAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 98,342, dated December 28, 1869.

IMPROVEMENT IN CROSSING-SIGNALS FOR RAILWAYS.

The Schedule referred to in these Letters Patent and making part of the same.

I, CHARLES M. BOWMAN, of Washington, in the District of Columbia, have invented a new and useful Crossing-Signal for Railways, which is described as follows:

Nature and Objects of the Invention.

My invention consists of an apparatus constructed and operating substantially as hereinafter described, by which an approaching train or locomotive will be made to raise a signal at a road-crossing or any other point where it is necessary to announce its approach, and the signal may itself constitute a gate to prevent vehicles or animals approaching the track at a time of danger.

The gate or other signal may slide down into a suitable pit or casing in the roadway, and be elevated by means of a chain or wire rope, which, being attached to the lower part of the gate, passes upward over a pulley near the level of the ground, and thence horizontally in close proximity to the outside of one of the rails, and is attached to a sliding truck, the wheels of which are of about the height of the railway-rail, and run on a slightly-inclined flat rail attached to the ties on the outside of the main rail, the parts being so arranged that the parts of the wheels of the locomotive and cars which project over on the outside of the rail, will run up on the wheels of the sliding truck, and the rotation of the driving-wheels of the locomotive, imparting rotation to the wheels of the truck, will run the latter backward in relation to the train, and thereby elevate the signal.

The rail on which the sliding truck runs is so inclined, that as the truck reaches the limit of its motion, the tops of its wheels are brought down to the level of the main rail, and the successive wheels of the train, preventing the truck rising above the rail, will retain the signal in its elevated position until the train has passed, as will be hereinafter more fully explained.

By duplicating the connections, the same signal may be used for trains moving in either direction.

Description of Drawings.

In the accompanying drawings-

Figure 1 is a perspective view of the apparatus, with the signal down.

Figure 2 is an elevation, showing the signal up.

Figure 3 represents a vertical section at $x x$, fig. 2.

Similar letters of reference indicate corresponding parts in the several views.

A A represent the rails of a common railway.

B is a tapering or inclined flat bar or rail attached to the ties, close on the outside of one of the main rails.

Upon the rail B runs a truck, which may consist of an open frame or slide, C, containing a number of wheels, D, arranged one in front of another, and of such a height that when the truck is in its normal position, at the highest part of its rail or track, its wheels will project slightly above the top of the main rail A, as shown in fig. 1.

Attached to the slide C is a rod, E, to which is connected a chain or wire cord, F, passing over a pulley, G, and attached to the lower part of a vertically-sliding gate, H.

A second pulley, G', may be employed to receive a second cord or chain, F', connected to a rod, E', which is intended to be attached to another truck of similar construction, to be acted on by trains coming in the opposite direction.

The present illustration shows a guide-rod, I, attached to the free end of the slide C.

This may be dispensed with by fitting the slide within a suitable box or casing, covering all but its upper surface, and serving at once to guide and to protect it.

J, fig. 3, represents a cap placed over the casing of the gate H.

This cap is omitted in fig. 1, in order to expose parts beneath.

In practice, the connecting-rods E will be enclosed within a suitable casing.

Operation.

The parts being at rest, in the position shown in fig. 1, if a train or locomotive approach the crossing, the driving-wheels, on running up on to the wheels D of the truck, will impart to the said wheels a backward rotation, carrying the truck backward, until, by reason of the inclination of the bar B, on which the truck runs, the wheels D are brought down to the level of the rail A, as shown in fig. 2.

This horizontal motion of the truck raises the gate H, and the downward pressure of the successive wheels of the train will hold the truck C D in the position represented in fig. 2, until the train has passed, when the gate H descends by its own gravity, drawing the truck again to the position shown in fig. 1, in readiness for the next train.

In order to prevent the release and descent of the signal between the successive car-trucks of a passing train, a number of the trucks C D may be employed at intervals along their connecting-rod E; or, if preferred, such successive trucks may be arranged at such intervals that the driving-wheels of the locomotive, passing over them in succession, will impart successive signals.

By the employment of a shaft running transversely to the railway, with pulleys attached to it, and sepa-

rate cords attached respectively to the gate and the several trucks C D, a single signal may be made to serve for trains coming in either direction on either track of a double-track railway.

Claims.

I claim, as my invention—

1. The truck or slide C D, adapted to be drawn by

the rotation of the locomotive-wheels, and to actuate a signal, H, of any suitable construction.

2. The inclined track or bar B, in combination with the truck or slide C D, for the purpose set forth.

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Witnesses:

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