

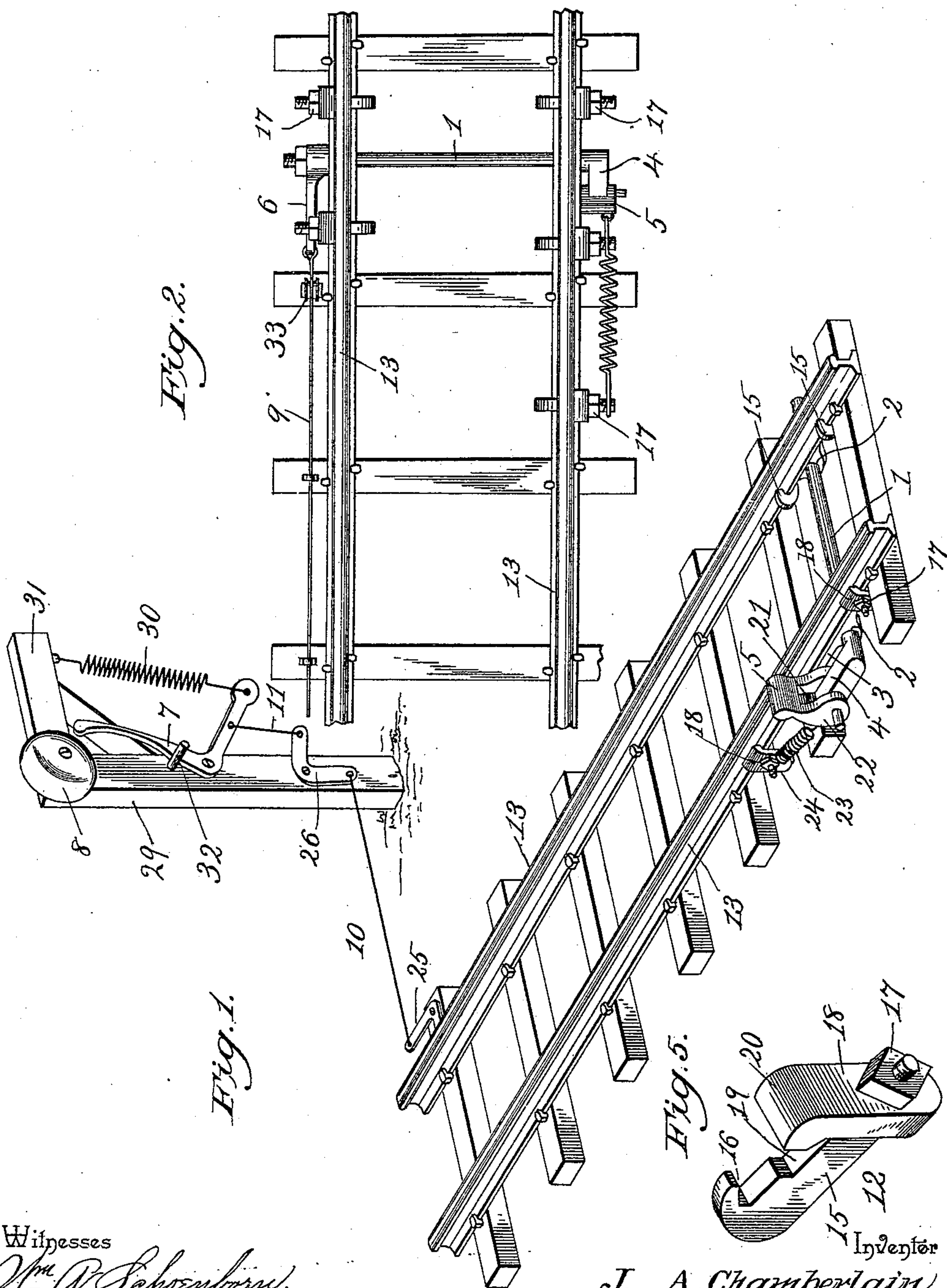
(No Model.)

2 Sheets—Sheet 1.

J. A. CHAMBERLAIN.
ALARM BELL TRIP.

No. 472,030.

Patented Apr. 5, 1892.



Witnesses
Wm. A. Schoenborn.
H. F. Riley

By his Attorneys,

C. A. Snow & Co.

J. A. Chamberlain.

Inventor

(No Model.)

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Fig. 3

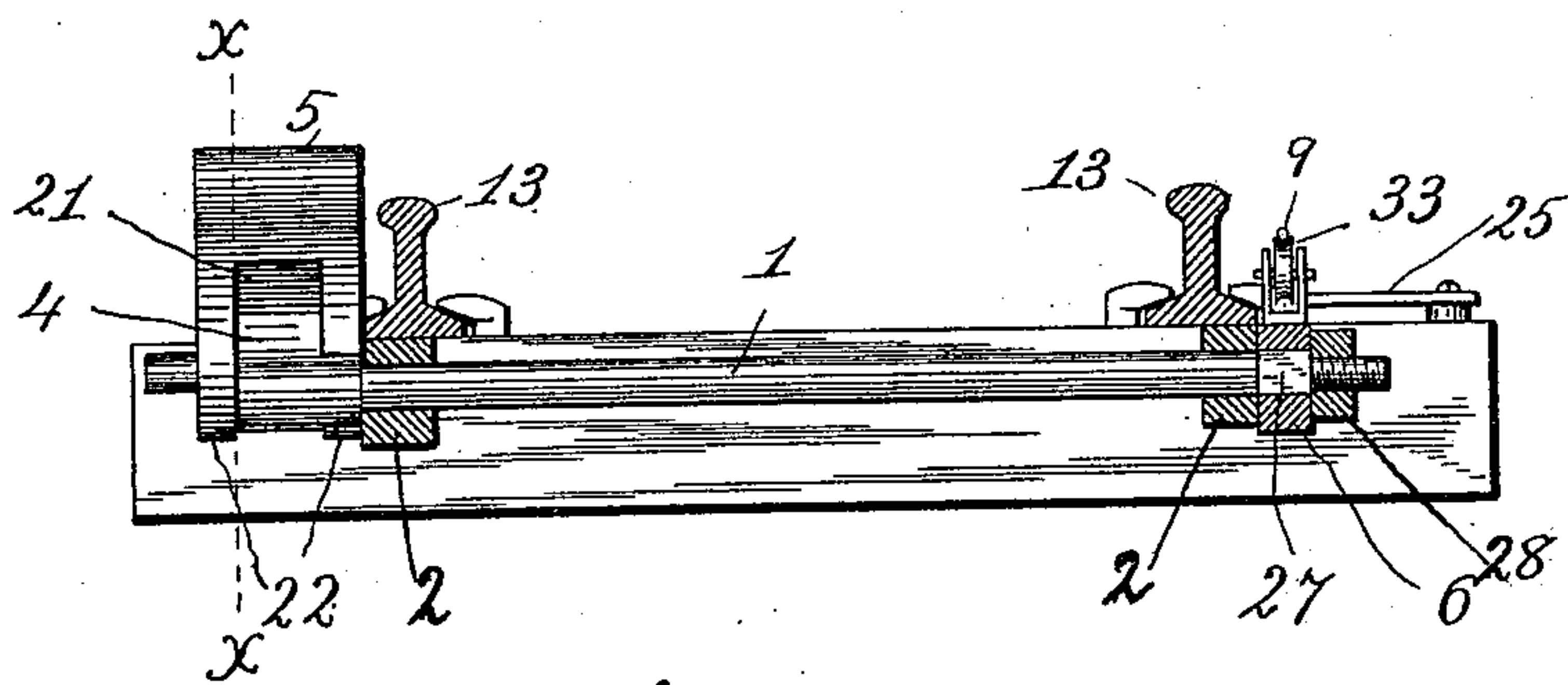
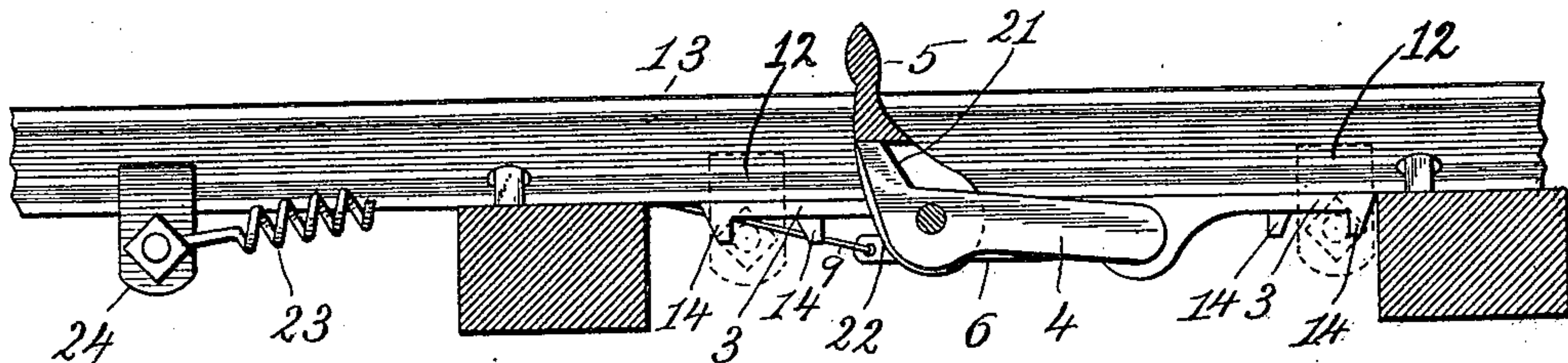


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN A. CHAMBERLAIN, OF KENNARD, NEBRASKA.

ALARM-BELL TRIP.

SPECIFICATION forming part of Letters Patent No. 472,030, dated April 5, 1892.

Application filed August 26, 1891. Serial No. 403,783. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. CHAMBERLAIN, a citizen of the United States, residing at Kennard, in the county of Washington and State of Nebraska, have invented a new and useful Alarm-Bell, of which the following is a specification.

The invention relates to improvements in alarm-signals for railway-crossings.

The object of the present invention is to provide a simple and comparatively inexpensive signaling apparatus, which will be positive and reliable in operation and adapted to be readily attached to rails without drilling or boring the same.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a portion of a track provided with an alarm-signal constructed in accordance with this invention. Fig. 2 is a plan view. Fig. 3 is a transverse sectional view. Fig. 4 is a detail sectional view on line *xx* of Fig. 3. Fig. 5 is a detail perspective view of one of the clamps.

Referring to the accompanying drawings, 1 designates a rock-shaft journaled in bearings 2 of plates 3 and provided at one end with an integral arm 4, upon which is mounted a tripping-dog 5, and having at its other end a lever-arm 6, which is connected with a bell-hammer 7 of a gong 8 by wires 9, 10, and 11, whereby when the shaft 1 is rocked the gong will be sounded and will give warning of the presence of a train. The plates 3 are secured by clamps 12 to the lower faces of rails 13 and are provided at their ends with shoulders 14, contiguous to which are the clamps 12, which consist of a bolt 15, provided at one end with a shoulder 16 to engage the inner edge of the lower flange of the rail and having its outer end threaded and provided with a nut 17, which secures a clamping-plate 18 to the outer face of the rail, and the said bolt is provided intermediate to its ends with a recess 19 to receive the bearing-plate 3. The clamping-plate 18 has its upper end 20 bent inward and engaging the outer edge of the lower flange of the rail, and is adapted to be

forced into engagement with the same by the nut 17. By employing clamps the bearing-plates may be quickly secured to rails without the use of ordinary bolts and without drilling bolt-openings in the rails, which is decidedly advantageous.

The arm 4 of the rock-shaft is arranged on the outer side of the adjacent rail, and is provided at its outer end with a shoulder 21, which forms a support and a stop for the tripping-dog 5, which is bifurcated to form ears 22, arranged on opposite sides of the arm 4 and pivoted thereto. The tripping-dog which is pivoted to the arm 4 is arranged on the outer side of the rail and is operated by the rims of the wheels of a passing train moving toward the crossing. A train moving toward the crossing rocks the shaft 1 and rings the gong; but a train moving in the opposite direction carries the tripping-dog away from the shoulder 21 and does not rock the shaft. A spring 23, which has one end attached to the tripping-dog above the pivotal point and its other end secured to a clamp 24, holds the tripping-dog against the shoulder 21 in position to be operated by a passing train.

The wires 9, 10, and 11, which connect the lever-arm 6 with the bell-hammer 7, are connected by bell-crank levers 25 and 26, which change the direction of the wires. The bell-hammer 7 is L-shaped and is fulcrumed at its angle, and the lever-arm is provided with a rectangular opening 27 and is fitted on a squared portion of the shaft and is secured thereon by a nut 28. The bell-hammer is fulcrumed on a post 29, arranged a short distance from the track, and has one of its arms connected by a spring 30 with an arm 31 of the post. The other arm of the bell-hammer is arranged to engage the gong 8 and a stop 32 is provided and is arranged to be engaged by the bell-hammer before striking the gong, which throws the outer end of the striking-arm 32 against the gong, causing a sharp clear sound. The wire 9, which extends along the track and connects the lever-arm with the bell-crank lever 25 is guided by a pulley 33, secured to one of the cross-ties.

From the foregoing it will be seen that the signaling apparatus may be readily attached to the rails without drilling bolt-openings in the same, that by arranging the tripping-

dog at the outside of the rail the broad rim operates the dog instead of the flange, which might force it to one side or wedge itself between the dog and the rail, and that the tripping-dog and the rock shaft are returned to their normal position without sudden jerks.

What I claim is—

1. In an alarm-signal for railways, the rock-shaft and the plates in which it is mounted, combined with the clamp for attaching the plates to the under side of the rails, comprising the bolt, having one end threaded and provided at its other end with a shoulder adapted to engage the lower flange of the rail and having intermediate to its ends a recess, a plate having its upper end provided with a shoulder to engage a rail, and a nut arranged on the threaded end of the bolt, substantially as and for the purpose described.

2. In an alarm-signal for railways, the combination of a gong, a rock-shaft provided at one end with an arm 4, having a shoulder, a lever-arm arranged on the other end of the shaft, means for ringing the gong and con-

nected with the lever-arm, bearing-plates arranged on the lower faces of the rails and having the rock-shaft journaled in them and provided at their ends with shoulders, a tripping-dog having one end bifurcated and pivoted to the arm 4 and arranged to rest against the shoulder thereof, and a spring for holding the dog against the shoulder, substantially as described.

3. In an alarm-signal, the combination of the rock-shaft carrying the tripping devices to be actuated by the wheels of a passing train, the plates in which the rock-shaft is mounted, and the clamps for attaching the plates to the under side of the rails, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN A. CHAMBERLAIN.

Witnesses:

T. M. WRIGHT,
J. M. JENSEN.