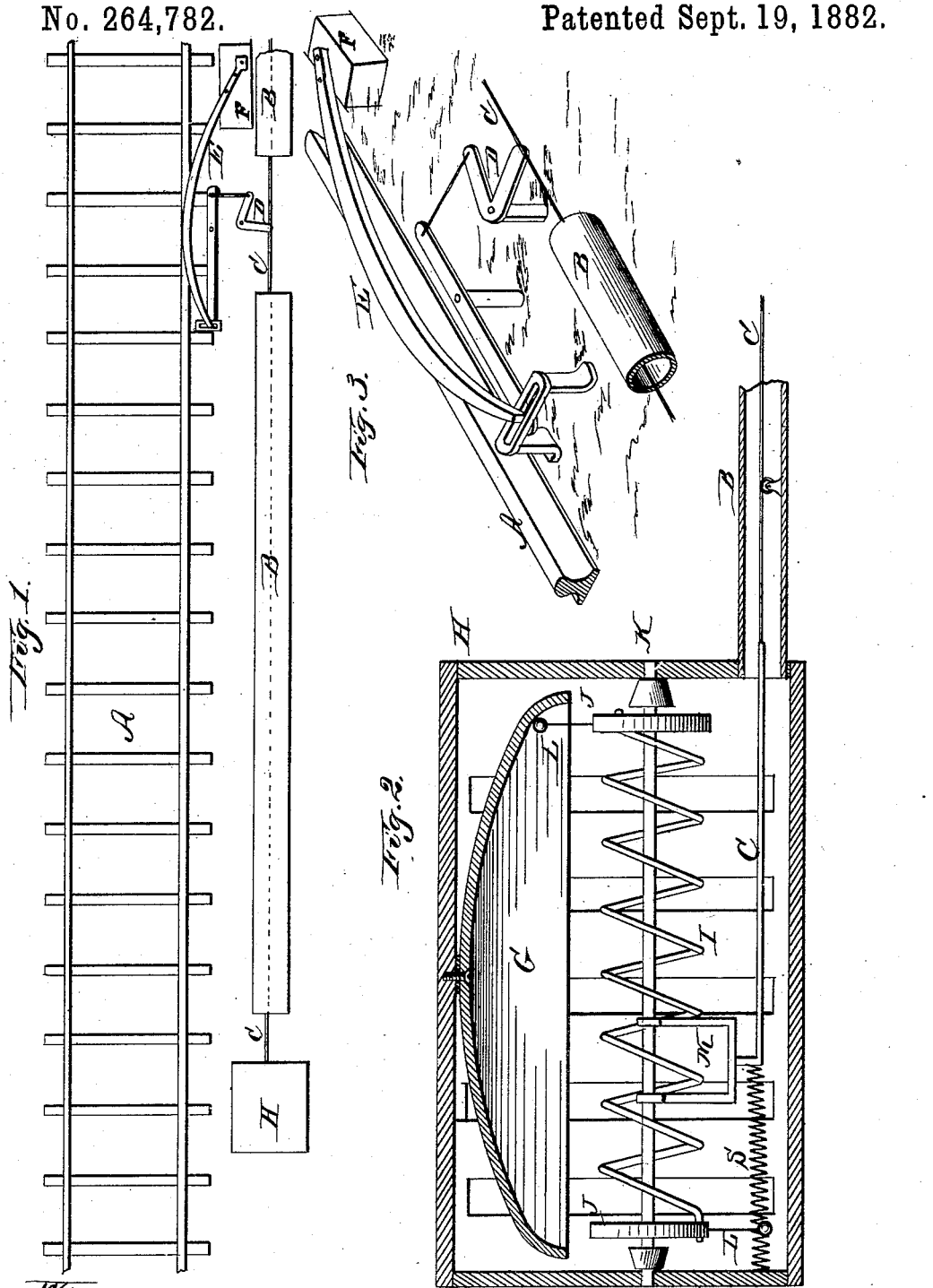
(No Model.)

J. B. SMITH.

RAILROAD SIGNAL.

No. 264,782. Patented Sept. 19, 1882.



Witnesses:
H. C. McArthur,
W. R. Keyworth

Inventor:
Jas. B. Smith.
per Alexander
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES B. SMITH, OF HACKETTSTOWN, NEW JERSEY.

RAILROAD-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 264,782, dated September 19, 1882.

Application filed April 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. SMITH, of Hackettstown, in the county of Warren and State of New Jersey, have invented certain new and useful Improvements in Railroad-Signals; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a plan view of my device applied to a railroad. Fig. 2 is a vertical section through the box containing the alarm mechanism, and Fig. 3 is a perspective view of the operating devices.

This invention relates to means for automatically transmitting by signals the movement of a train of cars from one station or from one crossing or switch-tender to another throughout the entire line, so that each train shall be reported correctly and positively.

The nature of my invention consists in the arrangement between tracks or alongside of the main-track rails, or in some cases alongside of the sidings, of a strong wire or cable, which shall be inclosed in tubular sections and suitably supported therein by grooved pulleys or by other equivalent mechanical means that will allow the said wire free endwise play, in combination with means whereby a train of cars running on the rails will at proper times indicate through said wire, on a gong, or bell, or signal, the exact position of an approaching train.

A designates a short section of railroad. B B B are tubes which are arranged outside of the track and embedded beneath the surface of the ground. These tubes or pipes may be of any desired length, and they are arranged parallel to the track.

C designates a steel wire which passes through the tubes B, and at suitable points between these tubes is connected to a bell-crank, D, that is pivoted to a post or other substantial object. Each bell-crank is connected in a suitable manner to one end of a bowed spring, E, the opposite end of which is rigidly secured to a post, F. This spring E is arranged in such a close relation to one of the rails of the track that the highest or bulging part of it will be pressed out by the wheels of a passing locomotive, and thus pull the steel wire C in one direction. When the locomotive or the train has passed the bowed spring will retract the steel signal-wire, and by means of a spring, S, the signal-wire is kept under tension. At each crossing of a road, or wherever it may be desired to sound an alarm warning persons that a train is approaching, I arrange in a suitable manner a gong, G, or a suitable signal, or both, and so connect the same to the steel wire C that every time this wire is pulled the gong will be sounded and a signal exposed to view. The gong G is secured in a suitable box, H, and it is struck by hammers L, fixed to the peripheries of disks J J. These disks are fast on a horizontal rotating or oscillating shaft, K, which has its bearings in the ends of the box H.

M designates a bifurcated slide which is hung from shaft K, so that it is free to be moved back and forth thereon by means of a helical rod, I, fixed rigidly by its extremities to the disks J J and coiled around the shaft K. The bowed spring E keeps the arms of the slide M in contact with the coils of the helix I, and the spring S will keep the signal-wire under constant tension by reacting against the spring E. When the spring E is struck by the wheels of a passing train the wire C will be pulled and the slide M moved in one direction on the shaft K. This will cause the shaft to rotate and throw the hammers L against the gong, thus sounding an alarm. As the wheels of the train release the spring E the spring S will pull back the wire C and its slide M, and thus cause the hammers to again strike the gong.

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

1. The combination, in a railroad-signal, of the bowed spring E, arranged in close longitudinal relation to one of the track-rails, with bell-crank D, pull-wire C, slide M, helix I, tension-spring S, and the necessary accessories for striking or sounding an alarm, all substantially as set forth.

2. In combination with the spring E, ar-

ranged to be struck by a passing train, the pull-wire C, its connections with said spring, the recoil or tension spring S, the slide M, shaft K, helix I, hammers L, and a gong, G, or other suitable sounder, substantially as described.

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

JAMES B. SMITH.

Witnesses:
J. C. ALLEN,
WM. ALLEN.