

(No Model.)

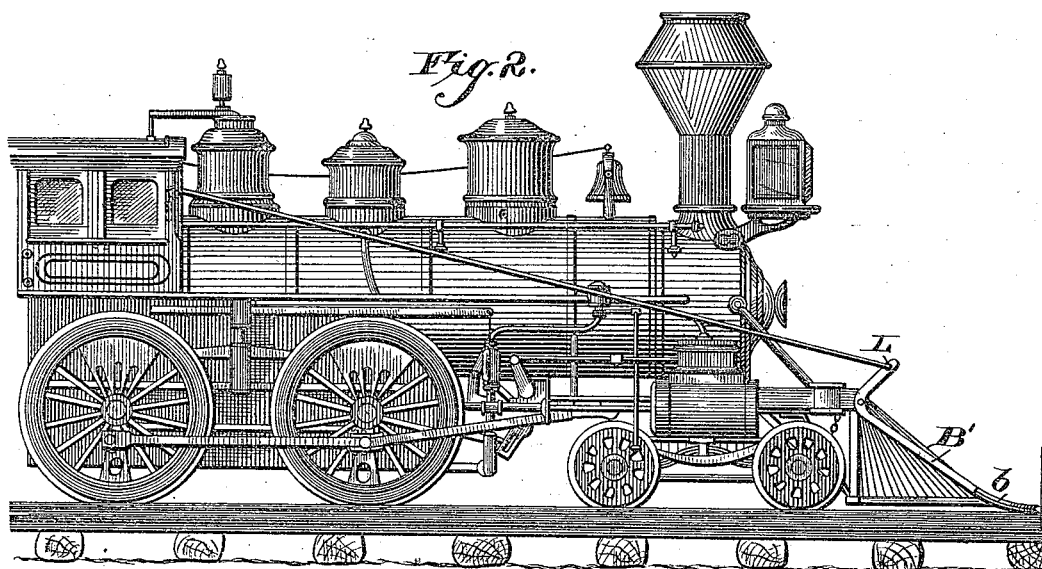
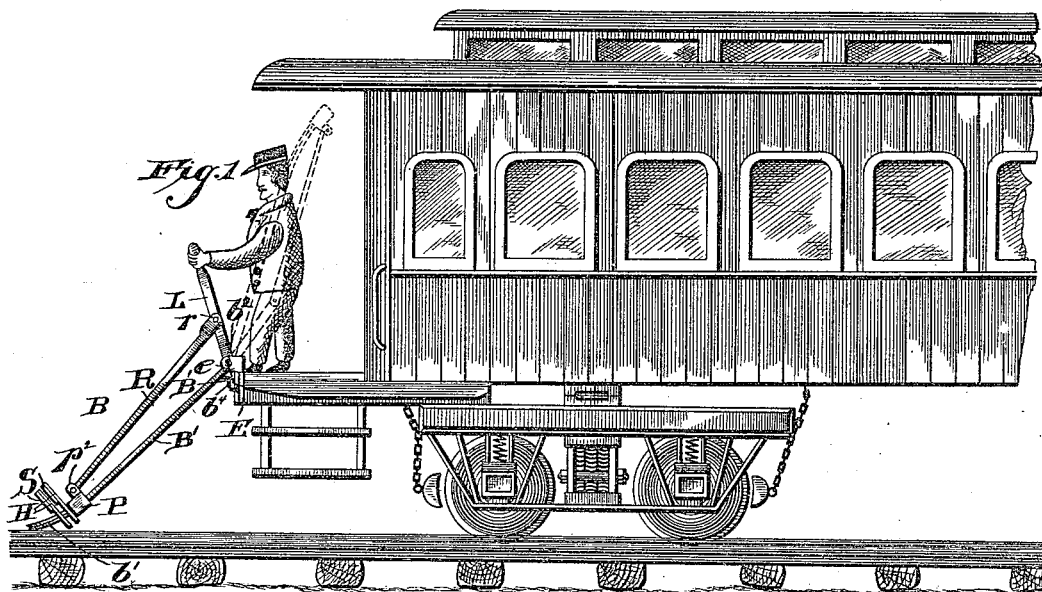
2 Sheets—Sheet 1.

Q. J. HOKE.

MEANS FOR CONTROLLING THE MOVEMENTS OF RAILROAD TRAINS.

No. 438,160.

Patented Oct. 14, 1890.



Witnesses:

Henry G. Dietrich

B. W. Summers

Inventor:

Quinton J. Hoke.

per

Henry M. Hoke

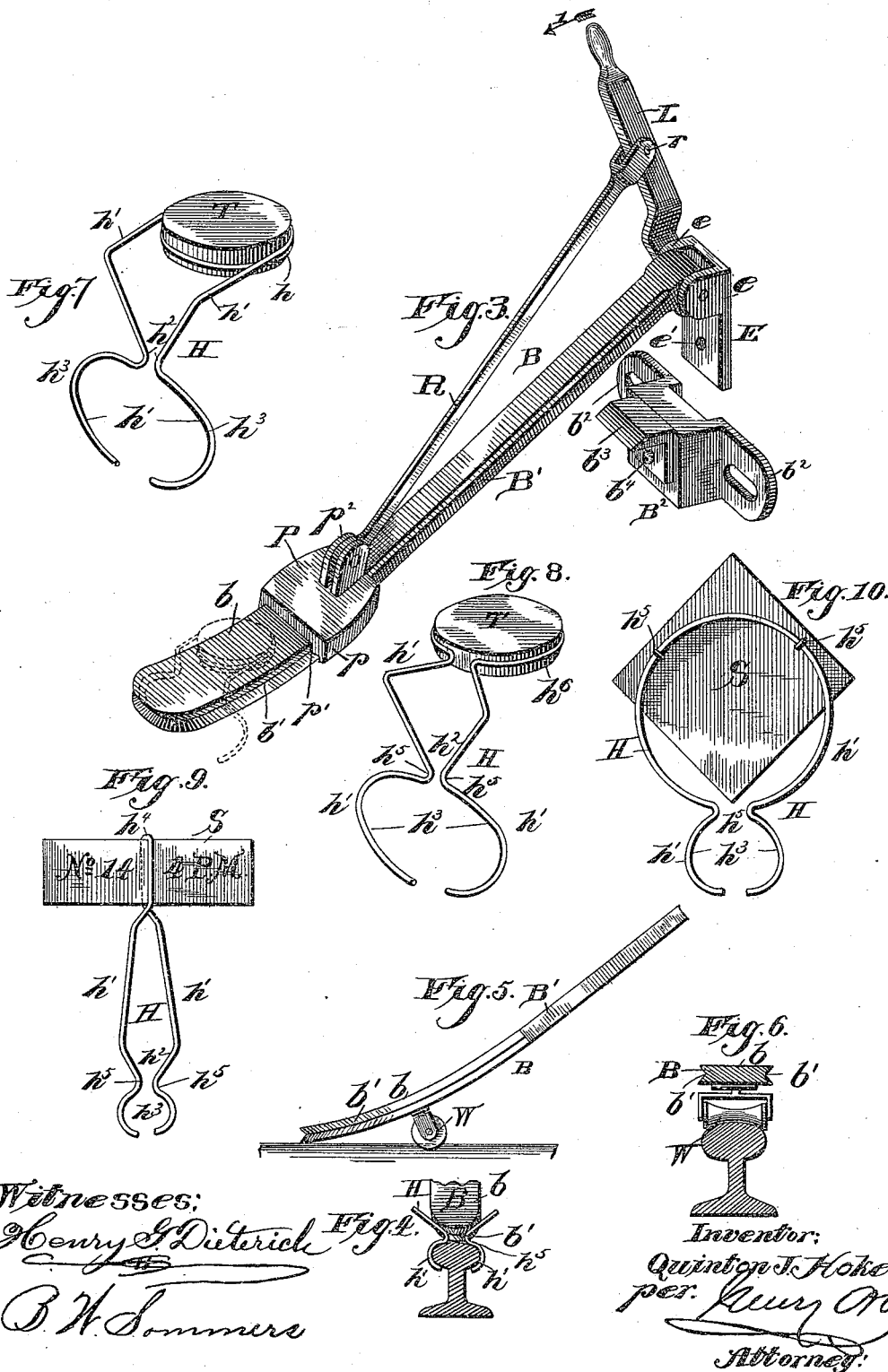
Attorney:

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Fig. 4.

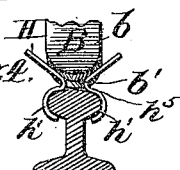


Fig. 6.
Inventor:
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UNITED STATES PATENT OFFICE.

QUINTON JEROME HOKE, OF YORKVILLE, SOUTH CAROLINA, ASSIGNOR OF ONE-HALF TO PAUL R. BRATTON AND J. ROBERT LINDSAY, BOTH OF SAME PLACE.

MEANS FOR CONTROLLING THE MOVEMENTS OF RAILROAD-TRAINS.

SPECIFICATION forming part of Letters Patent No. 438,160, dated October 14, 1890.

Application filed June 3, 1890. Serial No. 354,182. (No model.)

To all whom it may concern:

Be it known that I, QUINTON JEROME HOKE, a citizen of the United States, residing at Yorkville, in the county of York and State of South Carolina, have invented an Improvement in Means for Controlling the Movements of Railroad-Trains, of which the following is a specification.

Referring to the drawings, Figure 1 is a side elevation of a portion of a car, showing the torpedo or signal placer at the rear end of the platform. Fig. 2 is a side elevation of a locomotive, showing the take-up device for taking up the signals from the track. Fig. 3 is a perspective view of my improved torpedo-placer and of the bracket for supporting the same. Fig. 4 is a sectional detail view. Fig. 5 is a view of a portion of the placer-bar, showing the same provided with a guide-roller. Fig. 6 is a sectional detail view thereof. Figs. 7 and 8 show by perspective views different forms of torpedoes, and Figs. 9 and 10 an elevation of two forms of signal-holders.

The invention relates to apparatus for placing signal-torpedoes or signals on railroad-tracks, and it has for its object to provide a simple apparatus for placing the signal-torpedoes or the signals.

The further object of my invention is to provide means whereby visible signals instead of audible signals, or both, may be employed for either night or day service, and whereby such signals may be taken up by the engineer and the indices thereon taken cognizance of.

To these ends the invention consists in the structural features of the apparatus and in the combination of its parts in conjunction or combination with signal-holders of peculiar construction, so that they may be readily placed on the track or taken up, as will now be fully described, reference being had to the above-described drawings, in which like letters indicate like parts whenever such may occur in the various figures shown.

The apparatus consists in a signal-carrier B, adapted to be lowered to or elevated from one of the rails of the track, usually the rail at the right of the engineer. This carrier B consists of a bar B', provided at one end

with a flat and slightly-curved carrier-shoe *b* of approximately the same width as the rail. The end of the shoe *b* is curved and more or less pointed, and has a V-shaped groove *b'* extending along its sides and around its end. (See Fig. 3.) This bar B' is pivoted in lugs or ears *e*, formed on a plate E, in which is also formed a recess *e'*.

Upon the pivot of the bar B' is rigidly secured a hand-lever L, that is connected with a push or placer plate P, that has overhanging sides *p*, provided with a V-shaped inwardly-projecting rib *p'*, that fits into the groove *b'* of the shoe *b*, so as to freely slide thereon and be properly guided in its movements to and from the end of the shoe. As more clearly shown in Fig. 3, the placer-plate P has lugs or ears *p'*, between which is pivoted one end of the rod R, whose other end is forked and pivotally connected to the lever L, as shown at *r*, so that the same lever serves the purpose of lowering the placer-bar B' to or lifting it from the track, as well as for operating the placer-plate P, as will be readily seen, so that but four pieces—the bar B' and plate P, a lever, and a connecting-rod—constitute the entire apparatus. Inasmuch as the shoe is curved and the plate has a limited reciprocating movement thereon, said plate on reaching the limit of its movements will bind and allow the lever to exert leverage on the bar.

The bar B is free to turn on its pivot, and if desired both the bar B and lever L may be loose on the pivot.

The shoe *b* of the signal-carrier may be of any desired length within certain limits to carry a number of signals, either torpedoes or others, or both, and is secured to the rear platform of the rear car of a train by means of the bracket B², the ears *b*² of which are slotted horizontally, so as to admit of its proper adjustment relatively to the rail, and on the front of the bracket B² is secured a bearing *b*³, that serves to support the carrier-bar B' when lowered to the rail, the screw *b*⁴, by means of which the bearing *b*³ is secured to the bracket, being of such length as to take into the recess or hole *e'* in the pivot-plate E,

thus securing the signal-placer at the same time. The bracket B^2 may, however, be constructed so as to form a socket of such length as to properly hold the apparatus, and the screw may be dispensed with, the pivot-plate E being made of a corresponding length, and in either construction the bearing b^3 may form an integral part of the bracket B^2 .

The object of these devices is to provide means for the ready removal of the apparatus. It will readily be seen that when a signal or a plurality of signals are placed on the carrier-shoe, as shown in dotted lines in Fig. 3, and the lever moved in the direction of the arrow l such signal can be pushed off the shoe through the medium of the placer-plate P onto the rail, or when the carrier carries more than one signal these may be pushed off one after another, as desired or required, when the apparatus is lowered, as shown in Fig. 1.

When the carrier-bar is in its operative position, its rounded end will barely touch the rail, and to obviate wear at that point I may provide the shoe with a wheel W , adapted to fit the rail-head, as shown in Figs. 5 and 6.

After the signal has been placed on the rail the apparatus may be raised up to a vertical position and tilted back toward the car to prevent its falling down again, or means may be provided to lock the apparatus to the platform-railing.

The holders H for the signals may be variously constructed, but should all be provided with (more or less) elastic clamping-arms, and these arms should be so formed as to be applied to the carrier-shoe b and spread thereby. The holders may be constructed of steel wire or ribbon or brass wire or ribbon or similar (more or less) elastic or springy metal.

In Figs. 7 and 8 I have shown two holders H especially adapted for torpedoes T , the holders being made of steel wire and the torpedoes held in a coil h thereof. The arm h' of the holder extends some distance rearwardly of the torpedoes, and is then bent substantially at right angles and made to converge, forming substantially a V , and from the point of nearest approach—namely, from the apex h^2 of the V —the arms h' are curved laterally to form clamping-arms, as at h^3 , adapted to clamp the rail-head, so that the torpedo T is held in a horizontal position slightly above the rail.

In Fig. 8 I have shown the torpedo held simply in a loop h^6 , formed by the wire instead of the coil. The bending of the arm h' into V shape forms a spring-clamp of the curved portion h^8 of the said arms that grasps the rail-head with sufficient force to keep the torpedo in proper position, and also provides a means for taking the same off, if so desired, as will be described hereinafter.

In Figs. 9 and 10 I have shown similar holders for other signals, said holders being so constructed as to project vertically above

the rail, so as to place the signal in full view of the engineer, the arms h' of the holder converging to the point h^2 and then diverging in the form of curved clamping-arms h^3 .

The signal S may be secured to the holder H in any desired manner. In Fig. 9 I have shown the signal S , which may be made of a piece of paper or paper-board or of a transparent paper or other material of sufficient rigidity held in a loop h^4 , formed in the wire holder.

In Fig. 10 I have shown a holder of substantially cylindrical form, made of ribbon metal, such as ribbon brass or steel, the diamond-shaped signal being secured thereto by wire fasteners h^5 or other means.

These signals may have any desired indices and may be of any desired color to impart any desired information to the engineer of a train following the one that placed the signals on the track. Under some conditions the use of torpedoes as a means for signaling is not desirable, and especially for day service a visible signal is under many circumstances preferable to an audible one.

In order to enable the engineer to ascertain the nature of the information conveyed by the signal other than that conveyed by its particular form or color, I provide means whereby the engineer is enabled to take these signals up, and these means consist simply of a bar B' , in all respects similar to the carrier-bar hereinbefore described, and a lever for operating the bar. This lever L may be connected by cord with the engineer's cab and operated by him to raise and lower the bar B' , as shown in Fig. 2, or the lever may form an integral part of the bar, which may also be the case when such bar is used as a carrier-bar for placing the signals on the rail, as will be readily understood.

In taking up a signal the engineer lowers the bar B' to the rail, the curved and more or less pointed end of the shoe b thereof striking the holder H at the point of greatest proximity of the arms h' thereof—namely, at the apex of the V —where said arms are bent approximately at a right angle, the angles h^5 entering the V -shaped groove of the shoe b , whereby the clamping-arms h^3 are spread and release their hold on the rail. The bar B may now be raised and the signal removed from the shoe and inspected.

It will be readily understood that the signal-placer may be employed as a take-up device.

I thus provide a simple means for controlling the movements of the trains, especially on single-track roads, which can be used in lieu of the more complicated ticket or staff system.

By means of the described devices the audible or visible signals may be placed on or taken off the track, whatever may be the speed of the train, or without materially slackening such speed.

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

1. A signal-placer comprising a bar adapted
5 to be attached to a car and to be lowered to
and raised from the track, and a placer-plate
having overhanging ribs that take into the
groove of the shoe, said plate having a to-and-
fro motion on the shoe-ribs, substantially as
10 described.

2. The combination, with a signal-support
consisting of a frame having (more or less)
elastic clamping-arms adapted to embrace a
rail and having the converging or V-shaped
15 portion h^2 , of a signal-placer comprising a bar
adapted to be lowered to or raised from the
track, said bar terminating in a flat shoe hav-
ing a groove extending along its sides and
around its end, adapted to engage the V-
20 shaped portion h^2 of the signal, and a placer-
plate provided with overhanging ribs adapted
to take into the groove of the shoe, said plate

having a to-and-fro motion on said shoe, sub-
stantially as and for the purpose specified.

3. A signal-placer consisting of the bar B' , 25
adapted to be pivoted to the end of a car and
terminating in a flattened shoe b , having a
V-shaped groove extending along its sides
and around its end, in combination with a
placer-plate P , having overhanging sides pro- 30
vided with an inwardly-projecting V-shaped
rib adapted to take into the corresponding
groove of the shoe, an operating-lever rigidly
secured to the pivot of the carrier-bar, and a
connecting-rod pivotally connected with the 35
placer-plate and lever, substantially as and
for the purpose specified.

In testimony whereof I have hereunto set
my hand this 26th day of May, A. D. 1890.

QUINTON JEROME HOKE.

Witnesses:

GEO. W. S. HART,
E. R. McELWEE.