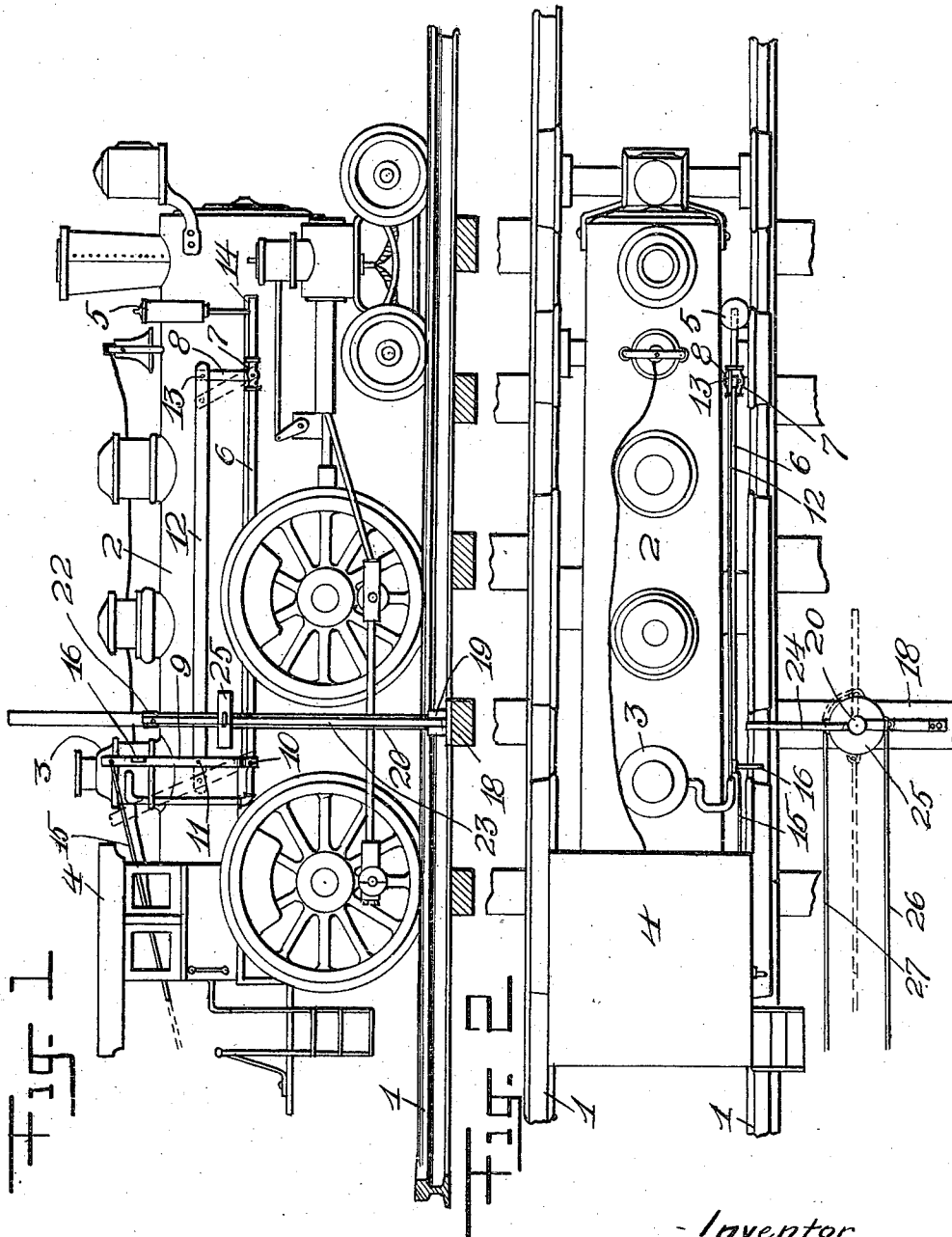


J. W. JOHNSON.
RAILWAY SIGNAL.
APPLICATION FILED FEB. 24, 1910.

987,371.

Patented Mar. 21, 1911.

2 SHEETS-SHEET 1



Witnesses
Morris L. Lamm
R. H. Butler

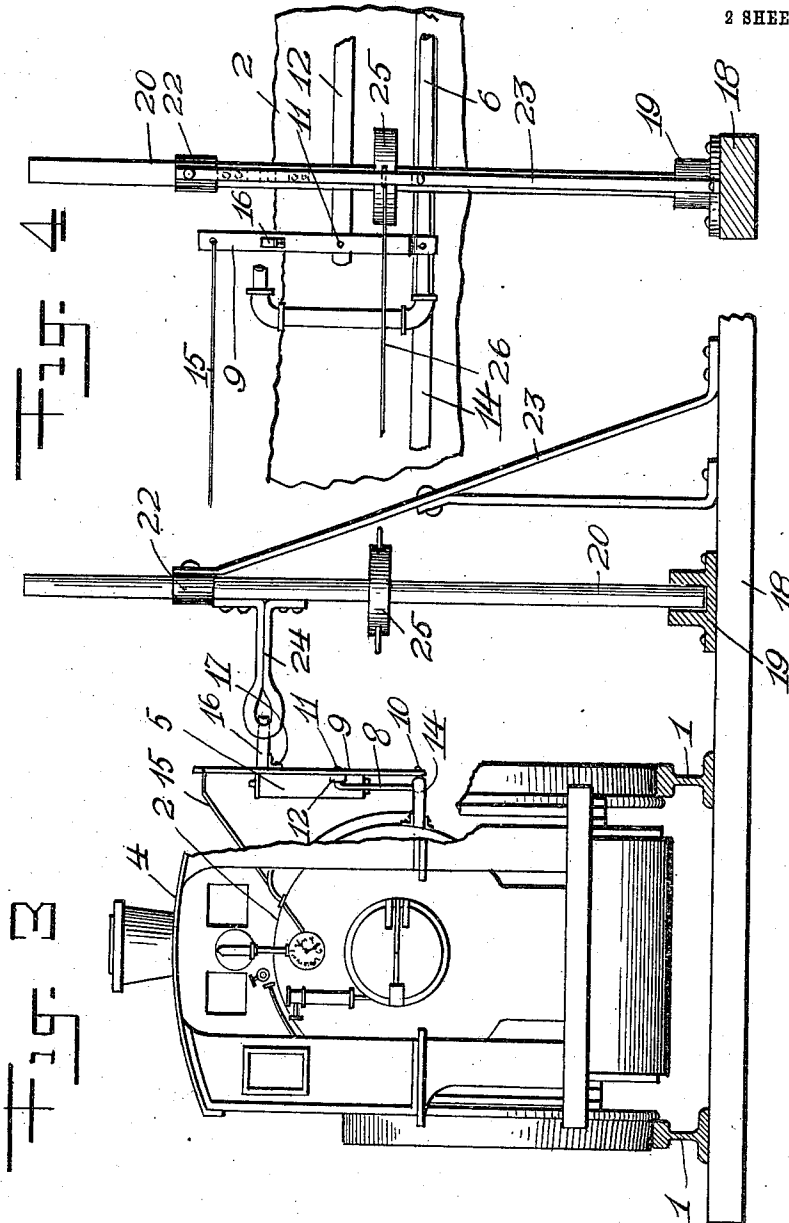
Inventor
JOHN W. JOHNSON,
By *A. C. Everett & Co.*
Attorneys.

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Witnesses
Morris Leslie
K. H. Butler

Inventor
JOHN W. JOHNSON,
By *A. C. Smith Co.*
Attorneys

UNITED STATES PATENT OFFICE

JOHN W. JOHNSON, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH TO WILLIS ROBINSON AND ONE-FOURTH TO WILLIAM ADER, BOTH OF PITTSBURG, PENNSYLVANIA.

RAILWAY-SIGNAL.

987,371.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed February 24, 1910. Serial No. 545,673.

To all whom it may concern:

Be it known that I, JOHN W. JOHNSON, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Signals, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to railway signals, and the primary object of my invention is to provide means in a manner that will be hereinafter set forth for sounding an audible signal, which will notify the engineer and fireman of a locomotive that a certain point has been passed and that the locomotive and the cars attached thereto are entering a danger zone, either caused by obstructions or weather conditions that prevent a train from safely proceeding.

Another object of the invention is to provide a whistle actuating mechanism that can be controlled by a tower operator and operated to notify the engineer and fireman of a locomotive that a signal as a semaphore arm has been passed and to further notify the crew or occupants of a train that the signal has not received the attention of the engineer or fireman should either of these parties be incapacitated during the operation of a train.

A further object of the invention is to accomplish the above results by a signal that is simple in construction, inexpensive to install, applicable to various signal systems, useful as a fog alarm, and efficient as an alarm device for various purposes in connection with steam or street railways.

With these and such other objects in view as may hereinafter appear the invention consists of the novel construction, combination, and arrangement of parts to be hereinafter specifically described and then claimed.

Reference will now be had to the drawings forming a part of this application, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be varied or changed, as to the size, proportion, and manner of assemblage without departing from the spirit and scope of the invention.

Figure 1 is a side elevation of a locomotive equipped with the signal mechanism, showing a signal pole in position to actuate

the mechanism. Fig. 2 is a plan of the same. Fig. 3 is an enlarged end view of the locomotive and signal pole, and Fig. 4 is an enlarged elevation of a portion of the mechanism and the signal pole.

In the drawings the reference numeral 1 denotes a track upon which is adapted to travel a locomotive, comprising a boiler 2, a steam dome 3, a cab 4, a whistle 5 adapted to communicate with the steam chest 3 by a pipe 6, and a valve 7 carried by said pipe and adapted to control the admission of steam to the whistle 5, said valve having an operating crank 8.

9 denotes a lever pivotally connected, as at 10, to the pipe 6 and pivotally connected to said lever, as at 11, is a rod 12 adapted to be pivotally connected to the crank 8, as at 13, said rod extending along the boiler 2 above the running board 14. The upper end of the lever 9 is provided with a reach-rod 15 extending into the cab 4 and adapted to be manually operated to open or close the valve 7.

16 denotes an outwardly extending arm suitably secured to the lever 9, as at 17.

18 denotes a tie adapted to assist in supporting the track 1 and mounted upon said tie at the outer side of the track is a socket 19 for a vertical revoluble signal pole 20, the upper part of said pole extending through a sleeve 22 carried by a support 23 mounted upon the tie 18. The pole 20 adjacent to the sleeve 22 is provided with an outwardly extending actuating arm 24, and said pole beneath the arm 24 is provided with a circular operating head 25. Connected to this head are cables or chains 26 and 27 adapted to extend to a signal tower (not shown) under the control of an operator, the cables 26 and 27 being shifted by the operator of the tower to swing the actuating arm 24 into an active or inactive position. When the pole 20 is shifted to position the arm 24 in an active position and should the engineer or fireman of the locomotive fail to pay any attention to a "danger" or "caution" signal and should pass the same, the arm 16 will engage the arm 24, which has been locked by the operator locking the cables 26 and 27, consequently the lever 9 will be thrown to the dotted position shown in Fig. 1 of the drawings and the valve 7 opened through the medium of the rod 12 and the crank 8, thereby admitting steam to the whistle 5, which con-

tinues to sound an audible signal until the fireman or engineer of the locomotive has pushed upon the reach-rod 15 to restore the lever 9, rod 12, and crank 18 to its normal position. When the arm 16 engages the arm 24 it immediately is shifted to a plane below the arm 24, the arm 16 slides off of the arm 24 whereby it can pass under said arm without injuring either of said arms. When the track 1 is clear the operator of the tower can easily swing the arm 24 to an inactive position, and should foggy weather be encountered the operator of the tower can easily set the arm 24 in an active position and through the medium of the audible signal notify the engineer that the signal is to be continued until clear weather is encountered.

What I claim is:

20 In combination, a locomotive, a whistle, a longitudinally extending pipe communicating with said whistle and provided with

a vertical extension communicating with the steam dome of the locomotive, a valve in said longitudinal pipe for controlling the passage 25 of steam to the whistle and provided with a valve stem, a vertically-disposed arm connected to the stem, a longitudinally-extending rod for actuating said arm whereby the valve stem is actuated, a vertically-disposed 30 lever pivotally supported upon the longitudinal pipe and adapted when shifted to actuate said rod to open and close said valve, a laterally-extending arm projecting from said lever and adapted to be engaged by an 35 abutment whereby the lever will be shifted, and a rearwardly-extending reach rod connected to the lever for shifting the same.

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

JOHN W. JOHNSON.

Witnesses:

K. H. BUTLER,
WILLIAM ADER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
