

H. H. SIMS, J. M. HATCH & J. M. TURRENTINE.

BLOCK SIGNAL SYSTEM.

APPLICATION FILED MAR. 16, 1909.

935,614.

Patented Sept. 28, 1909.

2 SHEETS—SHEET 1.

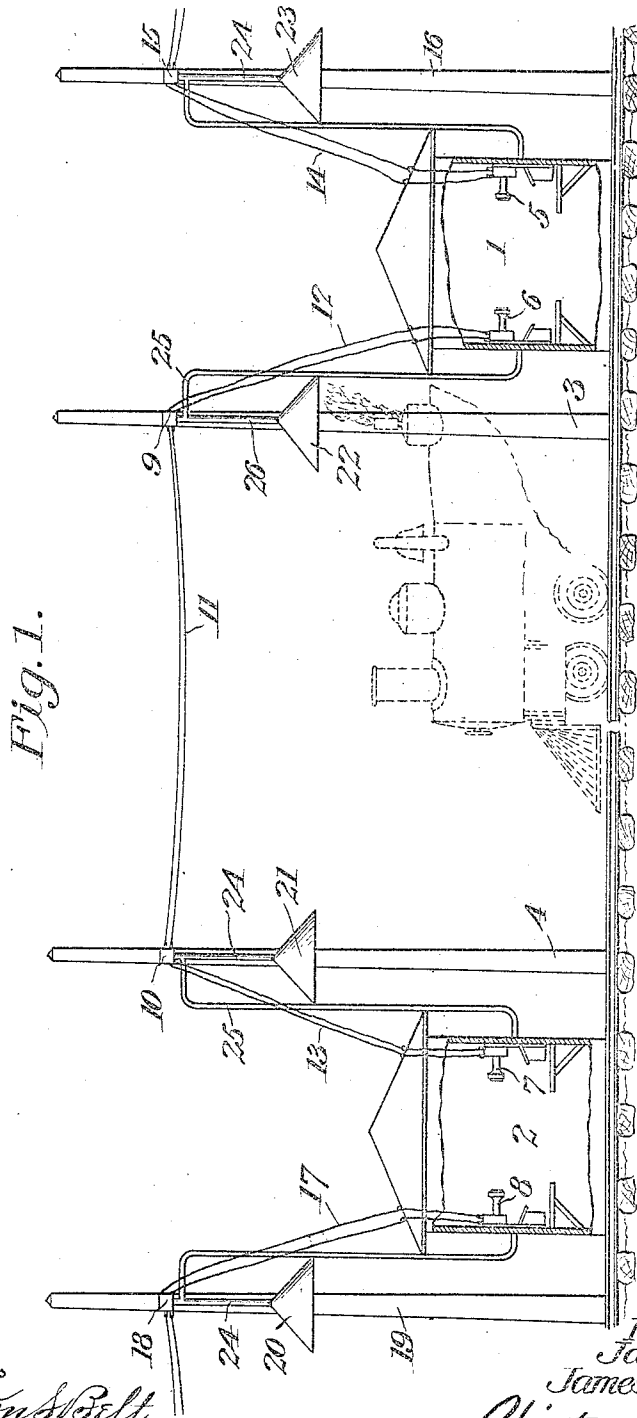


Fig. 1.

Witnesses

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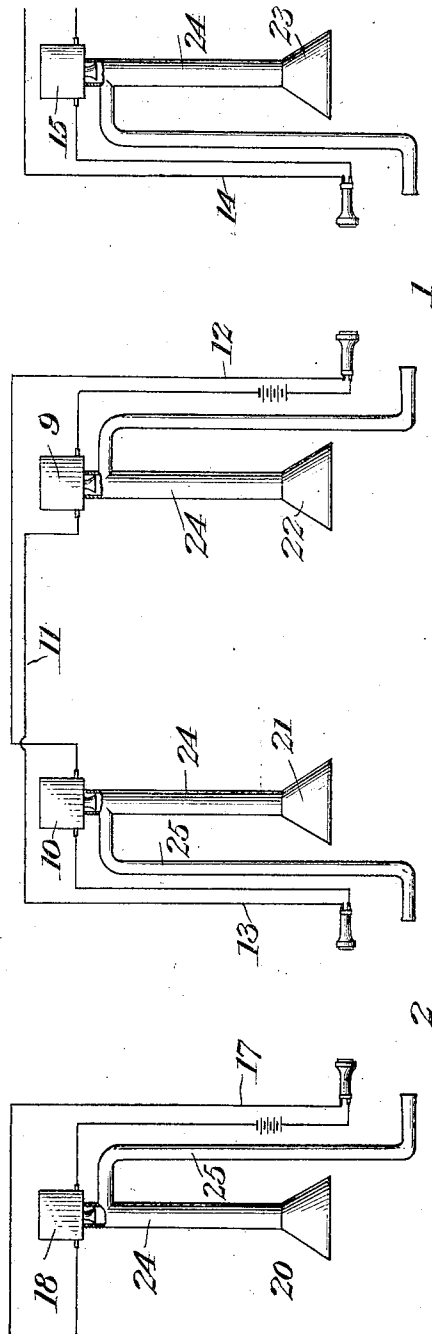
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2 SHEETS—SHEET 2.

Fig. 2.



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UNITED STATES PATENT OFFICE.

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BLOCK-SIGNAL SYSTEM.

935,614.

Specification of Letters Patent. Patented Sept. 23, 1909.

Application filed March 16, 1909. Serial No. 483,734.

To all whom it may concern:

Be it known that we, HERBERT H. SIMS, JAMES M. HATCH, and JAMES M. TURRENTINE, citizens of the United States, residing at Raleigh, in the county of Wake and State of North Carolina, have invented new and useful Improvements in Block-Signal Systems, of which the following is a specification.

This invention relates to block signal systems, the object of the invention being to provide a simple, reliable and effective signaling system which by the exercise of ordinary care and diligence will enable head-on and rear-end collisions to be prevented, the mechanism hereinafter described insuring the delivery of the sound of the whistle of a locomotive engine to the keeper of one of the stations or block houses, each block in the system being provided at its opposite ends or terminals with such stations or block houses.

With the above general object in view, the nature of which will more fully appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts as herein fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a side elevation partly in section, illustrating the block signaling system of this invention. Fig. 2 is an enlarged diagrammatic view of the system.

Referring to the drawings, 1 and 2 designate stations at the opposite ends of a block defined by the poles 3 and 4, which are arranged partly adjacent to the stations, the latter being shown in the form of block houses in each of which is arranged a pair of telephonic receivers, the station 1 being provided with receivers 5 and 6 and the station 2 being shown as provided with receivers 7 and 8.

At a suitable elevation on the pole 3 there is arranged a telephonic transmitter 9 while on the pole 4 at the opposite end of the block is arranged another transmitter 10, the transmitters 9 and 10 being connected by the necessary wiring indicated at 11, and the transmitter 9 being connected to the receiver 6 by wires 12 while the transmitter 10 is connected to the receiver 7 by wires 13. The receiver 5 is connected by wires 14 to another transmitter 15 on a pole 16 forming

the entrance to the block at the right, while the receiver 8 is connected by wires 17 to a transmitter 18 on a pole 19 forming the entrance to the block on the left of Fig. 1.

Associated with each of the transmitters above referred to is a sound-receiving or gathering funnel or funnels being shown at 20, 21 and 22 and also 23 and each of said funnels being connected by a tube 24 and a sound box of the overhead transmitter so as to convey the sound directly into the transmitter box, the funnels referred to being arranged at a suitable elevation over the track and above the top of a moving train so that the engineer may blow the whistle just as the locomotive is passing under the funnel. The branch tube 25 leads from the tube 24 between the transmitter and the sound receiving funnel leads downward into the adjacent block house as clearly shown in Fig. 1 so as to convey the sound through the tube into the adjacent block house while the same blast delivered to the tube 24 is transmitted over the wires to the transmitter at the opposite end of the same plug, whence the sound passes downward through the tube 25 thereof into the adjacent block house.

By now referring to Fig. 1, it will be understood that when the whistle of the locomotive is sounded under the funnel 22 the sound is carried through the tube 24 and branch tube 25 into the block house 1. At the same time the transmitter 9 operates to convey the sound along the wires 11 and 12 to the receiver 7 in the block house 2 so that the occupants of both of said block houses at opposite ends of the same block are notified as to the position of the train and are advised of the fact that the train occupies the block between said stations. When the train reaches the next station, the whistle is sounded into the funnel 21 and the sound passes through the tubes 24 and 25 into the adjacent block house 2, the sound also being transmitted through the wires 11 and 12 and the receiver 6 in the block house at the opposite end of the block, thereby notifying both of the station keepers that the train has passed out of the block. In this way, collisions may be practically avoided by ordinary care and diligence. In case of breakage of any of the wires between the transmitters 9 and 10, the ordinary telephonic or telephone connections may be employed until

the required repairs have been made in the system herein-above described.

We claim:—

1. In a block signal system, stations at opposite ends of each block, a telephonic transmitter and receiver at each station, wires connecting the same, and sound-receiving funnels connected with each transmitter and arranged over the track at an elevation above the moving train.
2. In a block signal system, stations and poles at opposite ends of each block, a telephone transmitter supported at an elevation on each pole, tubes leading downward from said transmitters, funnels attached to the lower ends of such tubes, and arranged over the track at an elevation above a moving train, wires connecting the transmitters at opposite ends of the block, and receivers at each station included in said wiring.
3. In a block signal system, stations and

poles at opposite ends of each block, a telephone transmitter supported at an elevation on each pole, a tube extending from each transmitter downward, a sound-gathering funnel connected to the lower end of each tube and arranged over the track at an elevation above the moving train, branch tubes leading from the aforesaid tubes downward to the block house of the adjacent station, a receiver at each station, and an electric circuit including said transmitters and receivers, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

HERBERT H. SIMS.
JAMES M. HATCH.
JAMES M. TURRENTINE.

Witnesses:

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