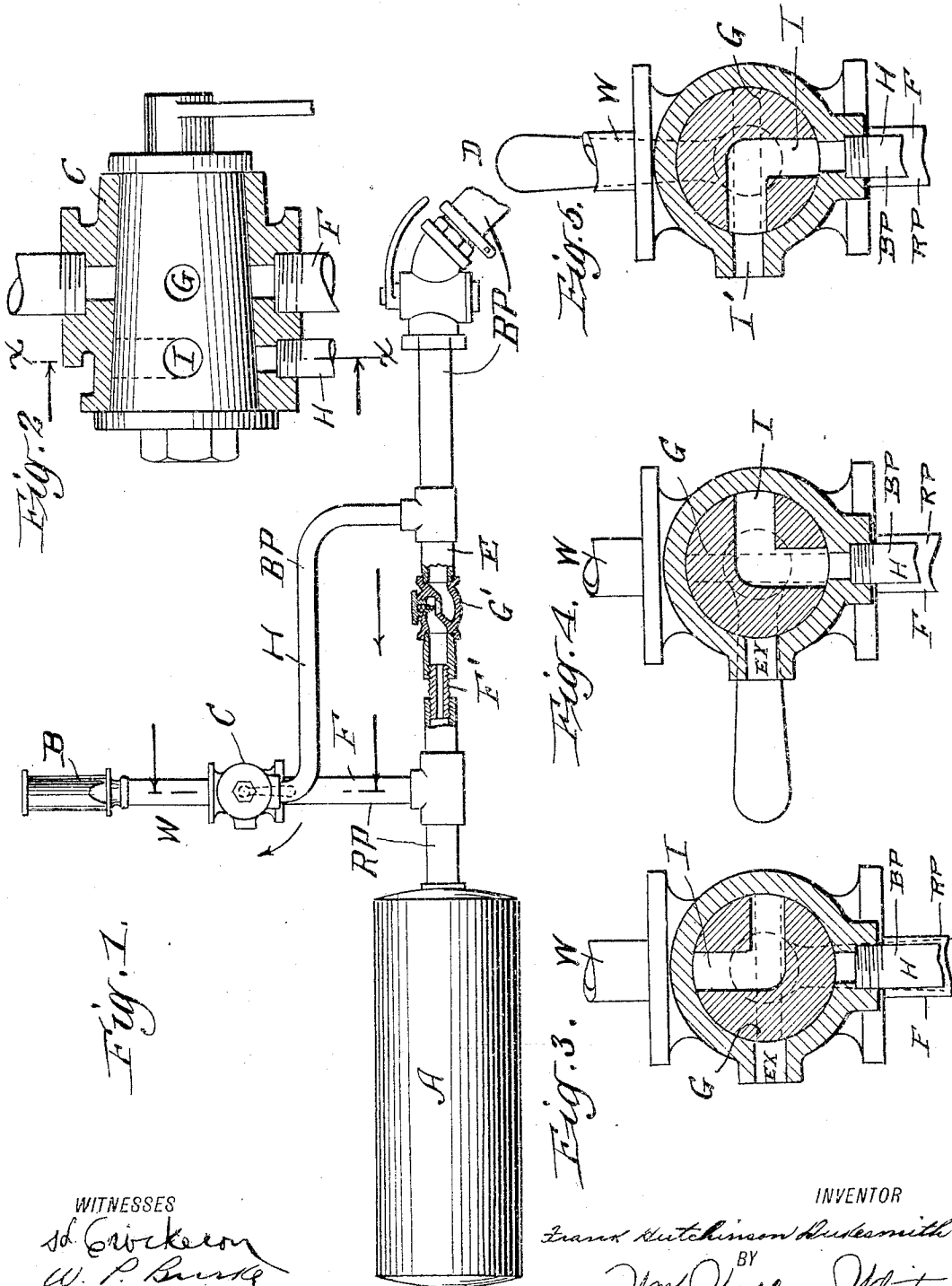


F. H. DUKESMITH.
AIR BRAKE SIGNALING DEVICE.
APPLICATION FILED JULY 9, 1909.

959,122.

Patented May 24, 1910.



WITNESSES
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FRANK HUTCHINSON DUKESMITH, OF MEADVILLE, PENNSYLVANIA, ASSIGNOR TO THE
GENERAL RAILWAY EQUIPMENT COMPANY, A CORPORATION OF MAINE.

AIR-BRAKE SIGNALING DEVICE.

959,122.

Specification of Letters Patent.

Patented May 24, 1910.

Application filed July 9, 1909. Serial No. 506,758.

To all whom it may concern:

Be it known that I, FRANK HUTCHINSON DUKESMITH, a citizen of the United States, residing at Meadville, Pennsylvania, have invented new and useful Improvements in Air-Brake Signaling Devices, of which the following is a specification.

One object of my invention is to provide means whereby the trainmen may signal the engineer from the rear of the train by means of a predetermined code of whistle signals.

Another object of the invention is to provide means whereby the members of the crew may set the brakes from the rear of the train.

In the accompanying drawings, Figure 1 is a side elevation of so much of an air brake system as is necessary for a full understanding of my invention; Fig. 2 is a sectional view through the hand operated controlling valve looking in the direction of the arrows indicated in Fig. 1; Figs. 3, 4 and 5 are cross sectional views on the line X—X of Fig. 2, looking in the direction of the arrows, but showing the valve in different positions.

In these drawings, A is a supplemental reservoir to which is connected, by suitable piping, F, and W, a whistle B the pipe F forming a part of the reservoir pipe R P. In the pipe connection is interposed a controlling valve C. The supplemental reservoir is connected with the train pipe or brake pipe B P through a pipe E, which has therein a pressure reducing nipple F' and a check valve G'. This pressure reducing nipple allows the pressure from the train pipe to flow into the supplemental reservoir or air tank at the same rate that it would when feeding an ordinary auxiliary reservoir, and the purpose of the check valve is to hold the air in the supplemental tank A when the train pipe pressure is reduced, as, for instance, when the brakes are being applied; that is, this check valve G' will then prevent the pressure from the tank A from flowing back into the train pipe when the pressure therein is reduced. A pipe H forming part of the brake pipe B P extends to the valve C. This pipe is controlled by a port I in the said valve so that, in one position, as shown in Fig. 5, the pipe H, forming a part of the brake pipe B P, may be connected with the outer air for the free discharge of the train pipe pressure for setting

the brakes. This valve C is also provided with a port G, which serves to connect the supplemental tank A with the whistle B. This port is indicated in dotted lines in Figs. 3, 4 and 5. In Fig. 4 it is shown in position to allow the air to pass from the tank A through the pipe W to the whistle for sounding the same. At this time the port I is closed, and the escape of train pipe pressure is thus prevented. By manipulating this valve to bring the port G into position for permitting the escape of the air from the tank A to the whistle, the train man may give any desired predetermined number of signals by sounding the whistle. When the signaling is over, the pressure in the tank A will be restored by the automatic opening of the check valve G' and the passage of the train pipe pressure through the nipple F' into the tank A.

When it is desired to set the brakes, it is simply necessary for the train man to operate the valve C so that the port I will be set as in Fig. 5, to connect the pipe H with the escape port I'. This will permit the train pipe pressure to be reduced, and the brakes will be set. At this time, however, the signal port G will be closed, as indicated in Fig. 5 in dotted lines, and the signaling pressure will be held within the tank by the closing of the check valve G'. By this arrangement it will be observed that the members of the crew can signal the engineer even after the pressure has been reduced in the train pipe, for the reduction of such pressure does not, in itself, affect the maintenance of pressure in the supplemental reservoir A and, consequently, the whistle B can be sounded at any time.

I claim as my invention:—

1. In combination with a brake pipe, a supplemental tank, a whistle connected with the tank, a controlling valve in said connection, and a discharge connection for train pipe pressure controlled by the said valve, substantially as described.

2. In combination with a brake pipe, a supplemental tank, a whistle connected with the tank, a valve controlling the said connection a check valve between the tank and the train pipe, a pipe between the train pipe and the controlling valve, said controlling valve serving to permit or prevent the escape of air from the train pipe, substantially as described.

3. In combination with a train, a train
pipe extending between the engineer's cab
and a distant point of the train, fluid op-
erated signaling means at said distant
5 point, a supplemental reservoir for contain-
ing fluid under pressure operatively asso-
ciated with said signaling means, means for
controlling the flow of fluid from said reser-
voir to said signaling means for operating
10 the latter, a conduit extending between said
train pipe and said reservoir, a check valve
interposed in said conduit, and adapted to
prevent the flow of fluid from said reser-

voir to said train pipe when the pressure
in the latter falls below a predetermined 15
point, said conduit comprising a portion
having a reduced cross section interposed
between said check valve and said reservoir.

In testimony whereof I have signed my
name to this specification in the presence of 20
two subscribing witnesses.

FRANK HUTCHINSON DUKESMITH.

Witnesses:

WM. WALLACE WHITE,
ELLA L. GILES.