E. V. LAMBETH.

SIGNAL ATTACHMENT FOR AIR BRAKE FEED VALVES.

APPLICATION FILED DEC. 28, 1920.

1,380,220.

Patented May 31, 1921.

2 SHEETS—SHEET 1.

Fig. 1.

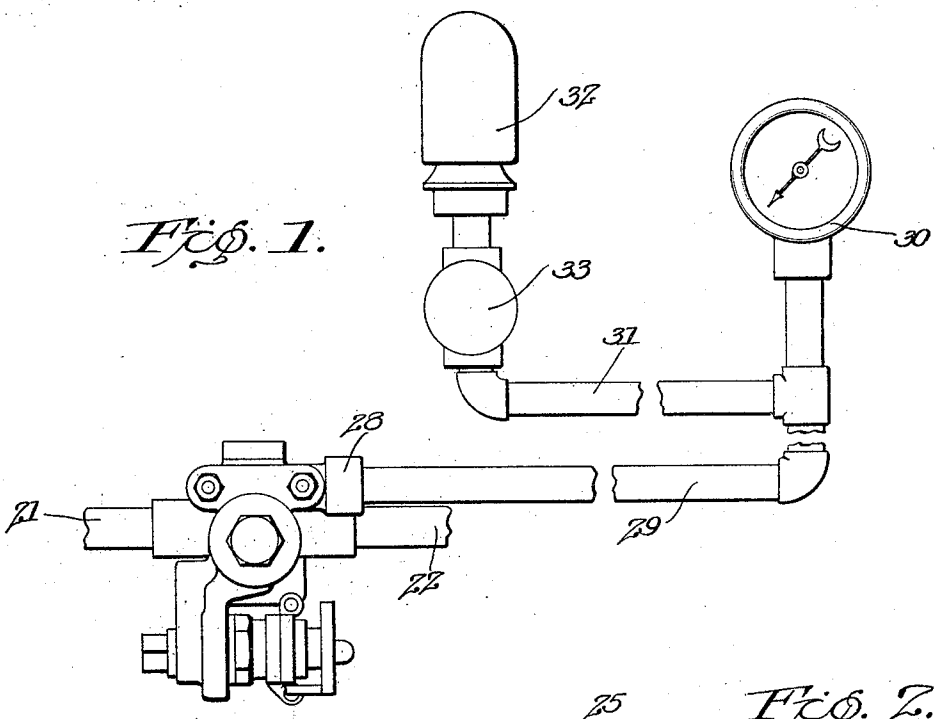



Fig. 2.

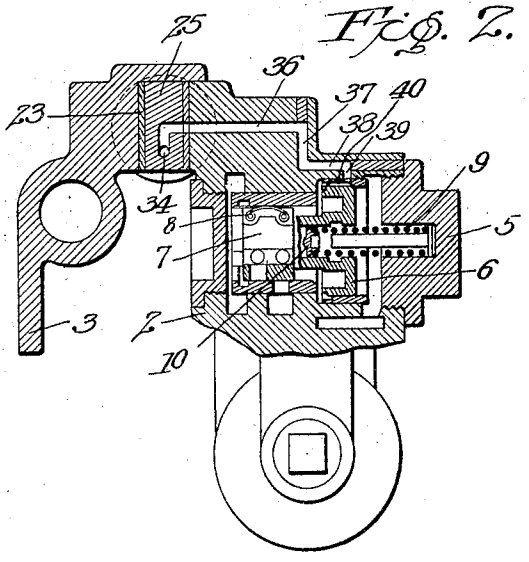
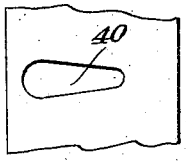



Fig. 5.




Edgar V. Lambeth,
INVENTOR

BY Victor J. Evans
ATTORNEY

WITNESS:

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2 SHEETS—SHEET 2.

FIG. 3.

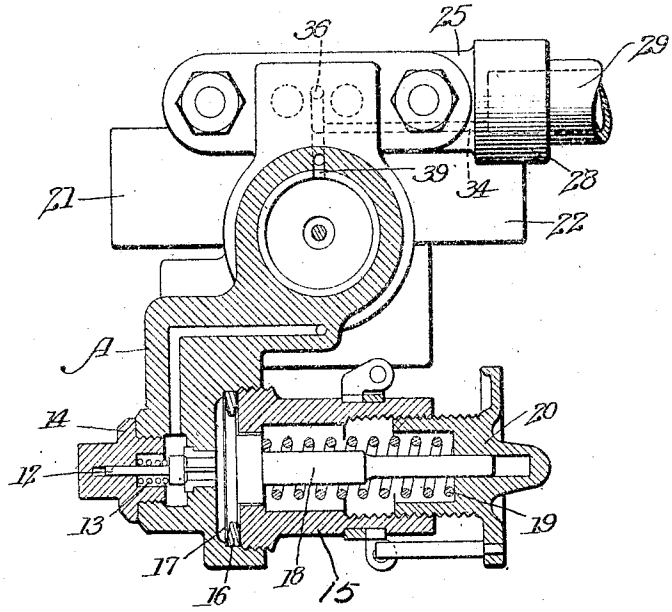
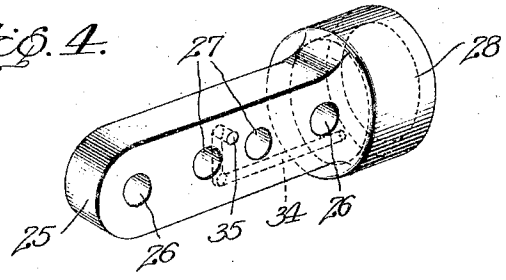



FIG. 4.




Edgar V. Lambeth,
INVENTOR

BY Victor J. Evans
ATTORNEY

G. F. Baker.
J. M. Foster
WITNESS:

# UNITED STATES PATENT OFFICE.

EDGAR V. LAMBETH, OF HOT SPRINGS, ARKANSAS.

## SIGNAL ATTACHMENT FOR AIR-BRAKE FEED-VALVES.

1,380,220. Specification of Letters Patent. **Patented May 31, 1921.**

Application filed December 28, 1920. Serial No. 433,618.

*To all whom it may concern:*

Be it known that I, EDGAR V. LAMBETH, a citizen of the United States, residing at Hot Springs, in the county of Garland and State of Arkansas, have invented new and useful Improvements in Signal Attachments for Air-Brake Feed-Valves, of which the following is a specification.

This invention relates to air brake systems, particularly to signaling device in association therewith, and has for its object the provision of a signaling device designed for association with the feed valve of an air brake system, this signaling device being located within the cab of the locomotive and apprising the engineer both by audible and visible signals of the condition in the brake line, that is if air leaks are existing.

An important object is the provision of a device of this character in which the visible gage and audible whistle which constitute the signaling devices are actuated by pressure from the main reservoir passing through the interior of the feed valve, the valve being formed with a passage or port leading to the signaling device and covered and uncovered by the piston of the valve whereby the actuation of the signaling devices will be entirely automatic.

An additional object is the provision of a device of this character which will be simple and inexpensive in attachment, highly efficient in use, positive in action, durable in service, and a general improvement in the art.

With the above and other objects and advantages in view, the invention consists in the details of construction to be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which—

Figure 1 is a diagrammatic view showing my signaling devices in association with the feed valve, the latter being in elevation,

Fig. 2 is a sectional view through the feed valve and showing the arrangement of my passageway therethrough,

Fig. 3 is a sectional view at right angles to Fig. 2, and

Figs. 4 and 5 are detail views.

Referring more particularly to the drawings, I have shown a feed valve A of a well known type which includes a valve body 2, a pipe bracket 3, cap nut 5, piston 6, supply valve 7 having a spring 8 associated therewith, a piston spring 9 having a top 10. The numeral 12 designates the regulating valve which has associated therewith a spring 13 engaging against a nut 14. The numeral 15 designates the spring box at one end of which is located a diaphragm ring 16 with which is associated a diaphragm 17 carrying a spindle 18 surrounded by a regulating spring 19 fitting within the hub of an adjusting hand wheel 20, this hub being screwed into the box 15 and being turnable in either direction whereby to vary the pressure of the spring 19. From this description it will be seen that the feed valve consists of two sets of parts, the supply and the regulating. The supply parts which control the flow of air through the valve consist of the supply valve 7 and its spring 8; the supply valve piston 6 and its spring 9. The regulating parts consist of the regulating valve 12, regulating valve spring 13, diaphragm 17, diaphragm spindle 18, regulating spring 19 and hand wheel 20.

The numeral 21 designates the air line and 22 designates the feed valve pipe. The numeral 23 designates the filler block interposed between the pipe bracket 3 and the valve body 2. All these parts are old and well known and their operation is readily understood by one skilled in the art.

In carrying out my invention I provide a member 25 shaped to fit between the body 2 and the filler block 23 and this member is formed with holes 26 for the passage of the studs which hold the body and filler block to the bracket 3, and is also provided with ports 27 which register with the ports already existing in the body and filler block. At one end this member 25 is enlarged, as shown at 28, and internally threaded for engagement therewithin of a pipe 29 which may be extended any necessary distance and which leads into the locomotive cab. Within the cab the pipe 29 is connected with a pressure gage 30 of conventional pattern and is connected with a branch pipe 31 carrying a whistle 32 and having interposed therein a choker 33.

In order to connect the pipe 29 with the internal mechanism of the feed valve I provide the member 25 with a small passage 34 which leads from the bore of the enlarged end 28 to a port 35 at the central portion of the member 25. Formed in the body 2 is

a horizontally extending passage 36 registering with the port 35 and leading at its end into the vertical passage 37 which has its upper end plugged, as shown. The lower end of the passage 37 leads into the horizontal passage 38 which has its outer end plugged, as shown, and leading from the passage 38 is a passage 39 extending downwardly and terminating in a port 40 within the piston chamber, as clearly shown. This port tapers at one end, as clearly shown in one of the detailed views, and is covered or closed by the piston 6 when the feed valve is closed.

In the operation of the device it will be seen that when the feed valve is opened to a greater or less extent pressure from the main reservoir entering the piston chamber will pass through the passages 39, 38, 37, 36, port 35, passage 34, and pipe 29 to the gage 30 and whistle 32, thereby giving a visible and audible signal, and it will be observed that the degree of movement of the indicator of the gage will apprise an experienced operator of whatever variations or fluctuations there are in the system.

From the foregoing description and a study of the drawings it will be apparent that I have thus provided a simply constructed and consequently inexpensive signaling device which may be readily associated with the feed valve of an air brake system and which will efficiently perform all the functions for which it is intended, the device being furthermore absolutely automatic in its action.

While I have shown and described the preferred embodiment of my invention, it is of course to be understood that I reserve the right to make such changes in the form, construction, and arrangement of parts as will not depart from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:

In an air brake system, the combination with a feed valve, its bracket, and the filler block disposed between the valve and the bracket; of signaling means including a member interposed between the valve and said filler member and formed with a socket at one end, a pipe connected with said socket and carrying a pressure gage and a whistle located at a remote point with respect to the valve, said member being formed with a passage leading into said socket and leading out through a port, and a valve being formed with a passage communicating at one end with said port and leading at its other end into the port formed in the wall of the valve piston chamber, the last named port being covered and uncovered by the piston in its movement.

In testimony whereof I affix my signature.

EDGAR V. LAMBETH.