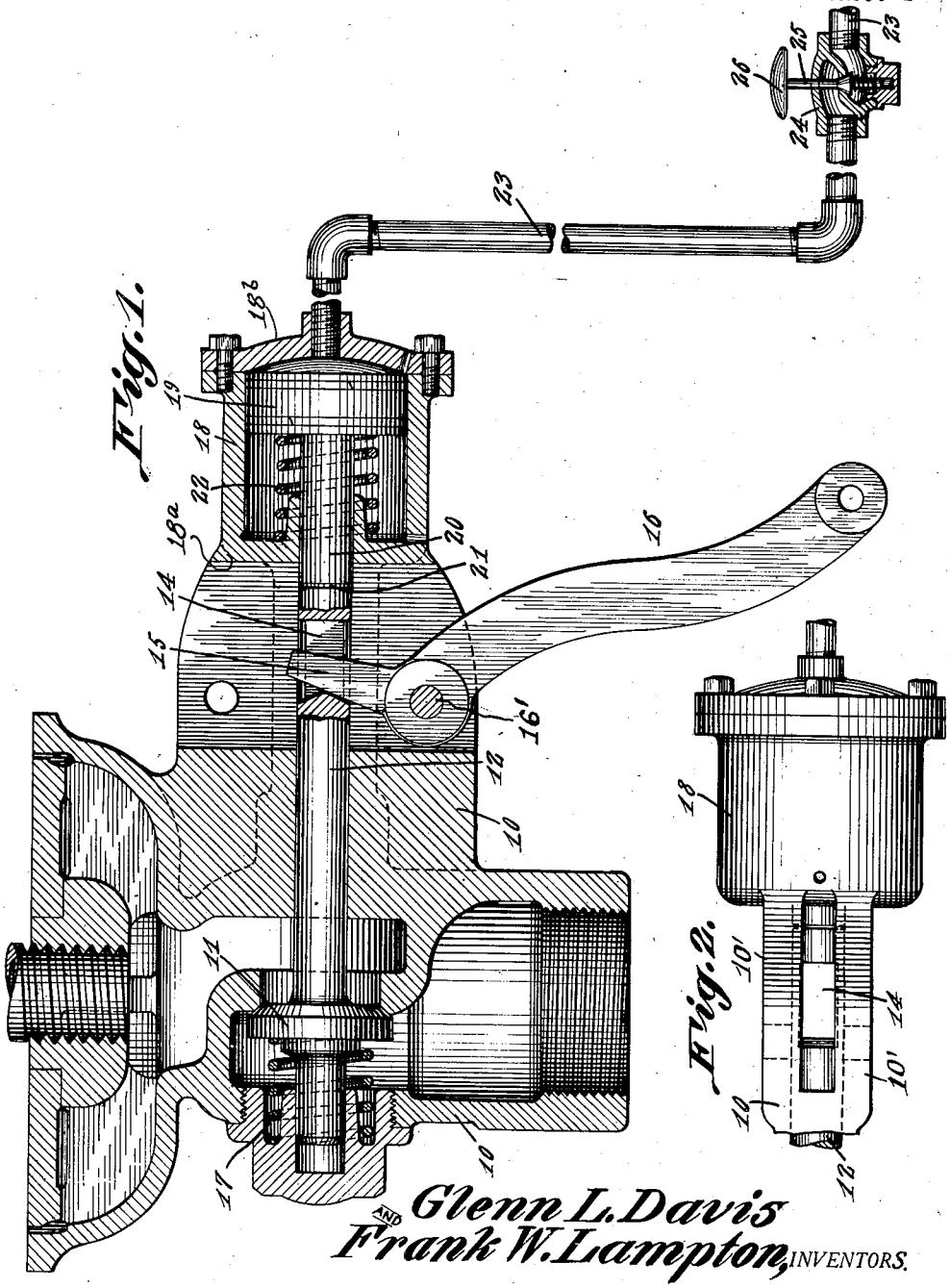
Nov. 10, 1925. 1,561,412

G. L. DAVIS ET AL

WHISTLE OPERATING MECHANISM

Filed Dec. 3, 1924 2 Sheets-Sheet 1



Glenn L. Davis
AND
Frank W. Lampton, INVENTORS.

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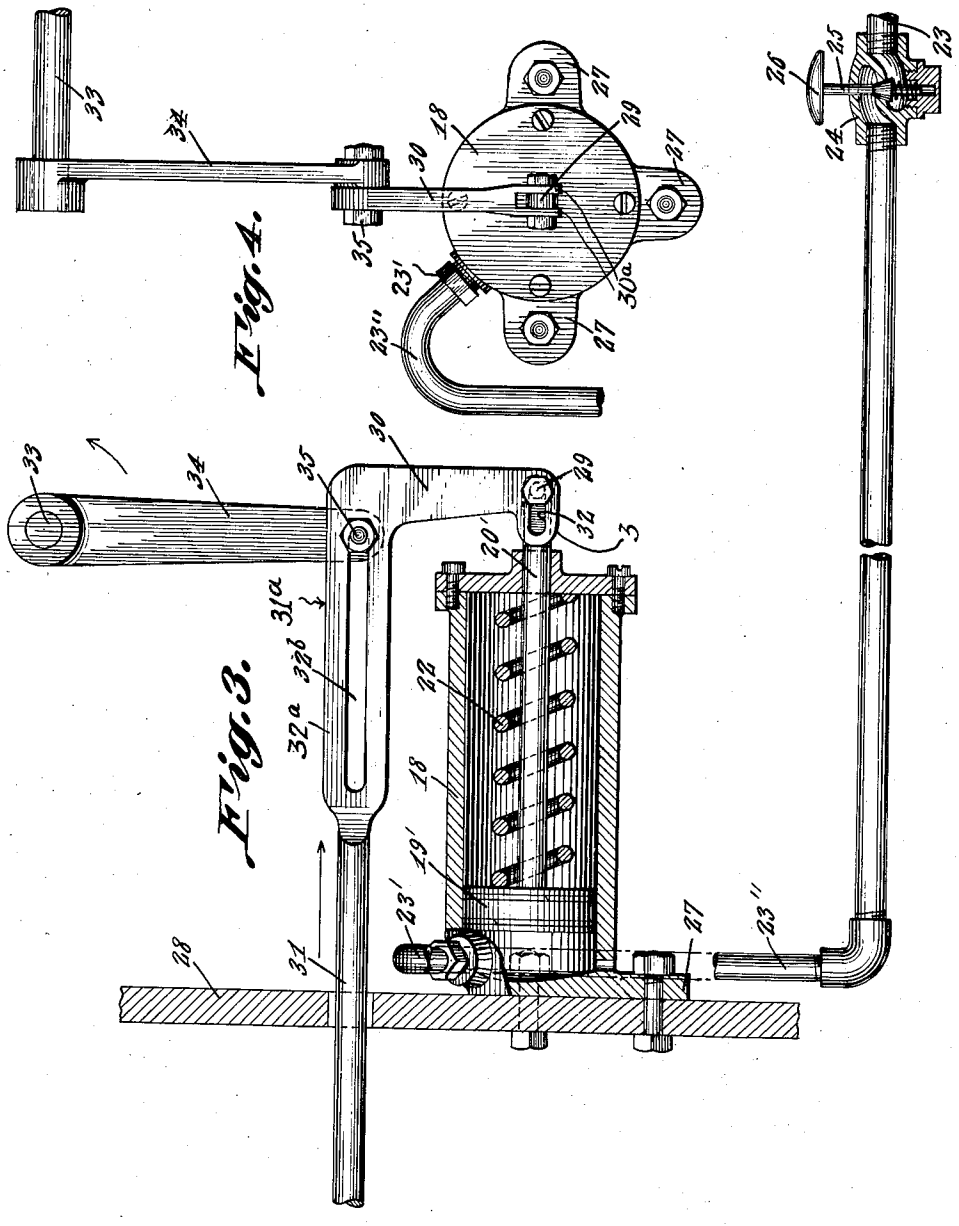


Fig. 4.

Fig. 3.

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Patented Nov. 10, 1925. 1,561,412

UNITED STATES PATENT OFFICE.

GLENN L. DAVIS AND FRANK W. LAMPTON, OF SPRINGFIELD, MISSOURI.

WHISTLE-OPERATING MECHANISM.

Application filed December 3, 1924. Serial No. 753,696.

To all whom it may concern:

Be it known that we, GLENN L. DAVIS and FRANK W. LAMPTON, citizens of the United States, residing at Springfield, in the county of Greene and State of Missouri, have invented certain new and useful Improvements in Whistle-Operating Mechanism, of which the following is a specification.

This invention relates to devices for operating whistle sounding devices, more particularly to the whistles of locomotives and the like, and has for one of its objects to improve the construction and increase the efficiency and utility of devices of this character.

Another object of this invention is to provide a device of this character, which may be manually operated, or operated by air or steam under pressure without interference between the operating means.

With these and other objects in view, the invention consists in certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims, and in the drawings illustrative of the preferred embodiment of the invention—

Fig. 1 is a sectional view of the improved device.

Fig. 2 is a bottom plan view of a part of the improved device.

Fig. 3 is a sectional detail illustrating a modification in the construction.

Fig. 4 is an end view of the parts shown in Fig. 3.

In operating locomotives in cases of emergency, the engineer is frequently called upon to quickly and simultaneously operate the throttle valve, the air brake mechanism, and to sound the whistle as an alarm, and this calls for very quick action, and the principle object of the present invention is to so arrange the whistle sounding mechanism that it can be actuated by the engineer without distracting his attention from his other and more important duties. The whistle operating mechanism is so arranged that it can be operated by a pull lever of the usual construction, or by employing steam or air under pressure, and preferably operative by the pressure of the foot or other part of the body of the engineer, thus obviating the necessity for him to remove his hands from the throttle and air brake lever.

The device embodying this invention is designed to form a part of the whistle body, which whistle body is indicated generally by the numeral 10. This body is of the conventional type and is shown in section to show the interior construction thereof, and working transversely through this body to control a valve 11 arranged therein, is a valve stem 12 which extends a substantial distance beyond the side thereof and is provided with a transverse slot 14 therein adjacent the outer end.

Extending from the side of the body 10 is a pair of relatively broad spaced parallel webs 10′, which join at their outer ends with the inner end 18^a of a horizontally arranged cylinder 18, the central portion of which cylinder is in alignment with the valve stem 12 as shown.

Working longitudinally of the cylinder is a piston 19 carrying thereon the rod or stem 20 which passes through the base 18^a and normally abuts the outer end of the valve stem 12. Positioned about the piston rod within the cylinder 18 is a spring 22 which normally maintains the piston 19 at the outer end of the cylinder, allowing the spring 17 to maintain the valve 11 closed under all normal conditions.

Passing through the removable head 18^b of the cylinder 18, is a pipe line 23 which leads to the cylinder from a valve 24 the stem 25 of which carries the broad head 26 as shown. This valve is adapted to be placed in any convenient location within an engine cab where it can be operated by the occupants of the cab without trouble.

Extending transversely between the webs 10′, is a pivot pin 16′ upon which an operating lever 16 is mounted. This operating lever projects from between the webs and is adapted to have a pull cord, not shown, secured to the free end thereof so that the lever may be manipulated manually. The head of the lever where it is pivoted between the webs 10′ has a finger 15 formed thereon which finger is adapted to extend through the slot 14 in the valve stem 12, to actuate the valve stem and valve.

It will be seen from this description that

upon the opening of the valve 24 by pressing upon the head 26 steam, compressed air or other fluid actuating element will be allowed to enter the cylinder 18 and force the piston 19 forwardly to actuate the valve stem and valve 11 and 12 thus opening the whistle valve in the usual manner. Due to the slot 14 in the valve stem 12 the stem can move without the manual control lever 16. When the engineer desires to operate the whistle manually, the control lever can be pulled thus causing the finger 15 to actuate the valve stem 12 and the stem may be moved forwardly to open the valve 11 leaving the stem 20 and thus operating independently of the piston and piston stem 19 and 20.

The portion of the device which connects the cylinder 18 and body or casing 10 is in the form of spaced webs 10′, as shown in Figure 2, which not only serve as connecting means between the cylinder and casing, but also as guides to the lever member 15—16, the pivot 16′ of the lever passing through the webs, as shown.

By this means the lever is prevented from lateral displacement, or lateral swaying movement.

Figures 3 and 4 disclose a modification of the structure shown in Figures 1 and 2, in this modification the power cylinder with which the piston 19 is arranged is not formed as a part of the whistle body but is a separate unit and is designed to be placed in any convenient location upon the engine. In this structure there is shown a cylinder 18′ having formed at one end the laterally projecting ears 27 through which securing bolts are adapted to be passed to secure the cylinder to a wall 28 or in any other convenient location. Leading into the forward end of the cylinder 18 through the connection 23′, is a fluid pressure line at 23″, which may lead from a valve such as that indicated at 24 and having the stem 25 and head 26 thereon.

Within the cylinder 18′ there is located the piston 19′ mounted upon the stem 20′ which extends through the rear end of the cylinder and which carries thereon the laterally extending pin or bolt 29. A spring 22′ surrounds the stem 20′ and normally acts to maintain the piston 19′ in the forward end of the cylinder.

Extending from and designed to operate the engine whistle valve, is a rod 31 having at the rear end the flattened substantially L-shaped portion indicated generally by the numeral 31ª. The L-shaped portion comprises a long member 32ª which is connected to the rod 31 and a short member 30 and at the outer end of the angled portion 30 there is formed a pair of spaced inwardly extending portions 30ª which, are substantially parallel with the portion 32ª, and each of these portions 30ª is longitudinally slotted as indicated at 32. The outer end of the stem 20′ is positioned between these slotted portions 32ª and the securing or pivot bolt 29 carried by the stem is passed through the slots and is designed to ride therein.

The arm 32ª of the L-shaped member, is longitudinally slotted as indicated at 32ᵇ, and located in and extending through this slot is a bolt 35 carried at the outer end of an arm 34 which is mounted upon the shaft 33 and is designed to oscillate with the oscillation of the shaft. A pull cord or other manually controlled means, not shown, is to be attached to this shaft 33 to cause the oscillation of the same end of the arm 34 carried thereby.

It will be readily seen that when the whistle valve is to be mechanically operated through the use of structure shown in Figures 3 and 4, that upon the opening of the valve 24, steam, compressed air or other under pressure is admitted to the cylinder 18′ and causes the piston 19′ to move outwardly or toward the rear end of the cylinder. This movement of the piston and piston pin 20′ will cause the L-shaped member 31ª to be forced backwardly drawing upon the rod 31 and operating the valve of the whistle. The pin 35 will ride in the slot 32ᵇ of the long arm 32ª and the manually operable means will not be disturbed.

As the valve is to be manually operated, the pull cord, which is not shown, is actuated to oscillate the arm and shaft 33 and 34 and this oscillation of the arm and shaft will cause the pin 35 to be drawn backwardly to pull upon the L-shaped member 31ª thus pulling the rod 31 and opening the valve. The pin 29 carried by the piston stem 20′ will thus ride in the slots 32 of the members 30ª and the piston 19′ and attached piston pin 20′ will not be disturbed.

The improved device is simple in construction, can be inexpensively manufactured, and applied without material structural change to whistle devices of various construction.

The preferred embodiment of the invention is disclosed in the drawings and set forth in the specification but it will be understood that modifications within the scope of the claimed invention may be made in the construction without departing from the principle of the invention or sacrificing any of its advantages.

Having thus described the invention what is claimed is:

A valve operating mechanism, comprising, in connection with a valve body having a valve stem projecting therefrom and provided with a slot adjacent its outer end, a pair of relatively broad parallel spaced webs formed upon and extending from said body, one on each side of said slotted stem

end, a cylinder mounted upon and connecting the outer ends of said webs, a piston in said cylinder, a stem carried by said piston and abutting, at its free end, said valve stem end, means for conveying power to said cylinder, a manually controlled lever having one end pivotally mounted between said webs, and an extension carried upon said pivoted end and extending into and having free movement in the slot in said valve stem.

In testimony whereof, we affix our signatures hereto.

FRANK W. LAMPTON.
GLENN L. DAVIS.