March 24, 1925. 1,530,691

F. J. PARSONS

WHISTLE OPERATING MECHANISM

Filed Dec. 2, 1922

Fig. 1.

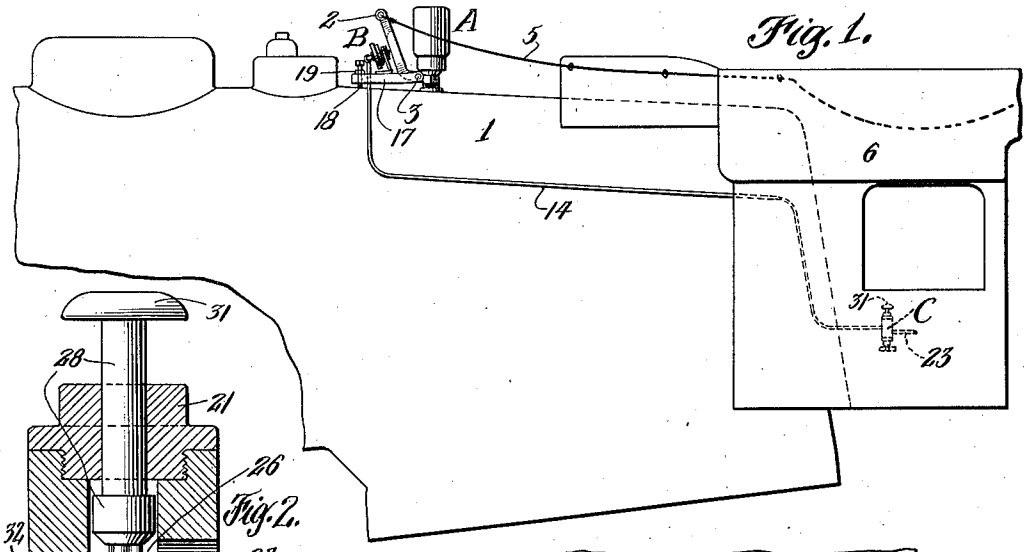


Fig. 2.

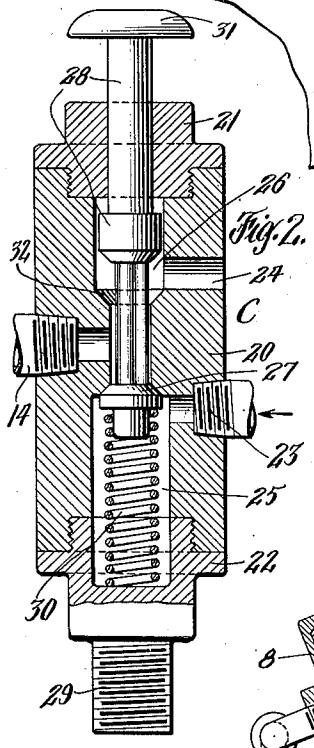
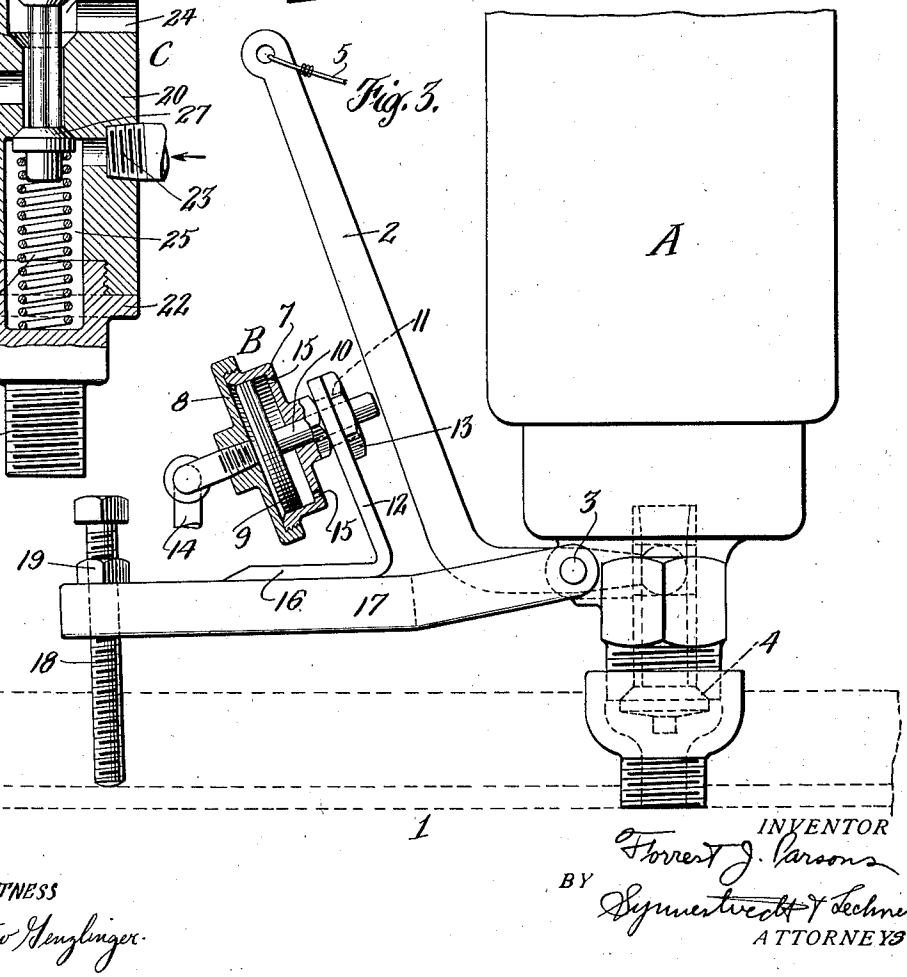


Fig. 3.



INVENTOR
Forrest J. Parsons
BY
Symmentvecht & Lechner
ATTORNEYS

WITNESS
Gustav Henglinger.

Patented Mar. 24, 1925. 1,530,691

UNITED STATES PATENT OFFICE.

FORREST J. PARSONS, OF LIMA, OHIO.

WHISTLE-OPERATING MECHANISM.

Application filed December 2, 1922. Serial No. 604,460.

To all whom it may concern:

Be it known that I, FORREST J. PARSONS, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented certain new and useful Improvements in Whistle-Operating Mechanism, of which the following is a specification.

This invention relates to mechanism for operating whistles and is particularly useful in connection with the steam whistles on locomotives.

It has for its principal object the provision of a simple and efficient motor actuating means for application to the usual whistle rigging. More specifically stated it has for its object the provision of a fluid actuated mechanism for operating the whistle which can be conveniently applied directly to existing equipment without the necessity of altering or dispensing with any of the usual whistle parts. This makes it possible to operate the whistle by hand should occasion arise.

A further object of the invention is to provide a conveniently adjustable whistle actuating motor means which can be movably mounted adjacent the usual whistle lever or in fact one which could be pivotally supported adjacent said lever upon the same pin which fulcrums the lever itself.

Still another object of the invention is the provision of a valve for controlling the motor means which can be located at a convenient point within the cab within easy reach of the engineer, there being a connection between this controlling valve and the motor means adjacent the whistle lever, this valve being so designed as to enable the engineer to give a mild blast of the whistle or a heavy blast as occasions or conditions demand. Further objects of the invention will appear in connection with the description of the accompanying drawing wherein:

Fig. 1 is a partial side elevation of the rear end of a locomotive illustrating my improved whistle operating mechanism applied thereto; Fig. 2 is a vertical central section on a greatly enlarged scale through my improved controlling valve; and Fig. 3 is a fragmentary side elevation on an enlarged scale of the whistle itself showing my improved motor means in section applied thereto.

It is of course unnecessary to limit my invention to use in connection with a locomotive whistle although it is particularly adapted for this purpose and I have chosen to illustrate it in preferred form in such an association. The whistle A is applied near the top of the boiler 1 and can be sounded by pulling rearwardly on the operating whistle lever 2. The lever is pivoted upon the pin 3 and when moved as aforesaid it depresses the stem of the valve 4 thereby permitting steam to pass up from the boiler into the body of the whistle A. The usual hand operating cord 5 extends back into the cab 6.

The motor means B for operating the whistle comprises a cylinder 7 having a cap 8 and a piston 9 with a projecting stem 10 mounted for reciprocation in the cylinder, and for loosely engaging the lever 2. Such loose connection leaves the lever 2 free for independent manual operation. The cylinder is provided with a threaded extension 11 over which is placed the free end of a supporting bracket 12. A nut 13 can be screwed up against the bracket 12 to hold the entire motor means B in place.

Air is supplied to the left of the piston 9 through the pipe 14. This air moves the piston and its plunger to the right, the air to the right of the piston exhausting through the exhaust ports 15. The stem 10 comes against the lever 2 and pushes it rearwardly to open the whisle valve 4 in the manner already indicated.

The bracket 12 is preferably welded along its bottom leg 16 to the motor supporting member 17 which is pivoted to the pin 3 upon which the lever 2 operates. A threaded adjusting bolt 18 passes down through the outer end of the supporting member 17 to sustain the latter. This bolt 18 is adapted to contact with the shell of the boiler 1 and can be set in any desired position and then locked by means of the lock nut 19. By screwing the bolt 18 up or down it is possible to alter the relation between the stem of the motor means and the lever 2. In this way proper adjustment to suit all conditions can be made.

The controlling valve C comprises a valve body 20 with top and bottom closure members or caps 21 and 22 removably threaded thereon, the fluid pressure inlet 23, the outlet to pipe 14, an exhaust to the atmosphere 24, suitable chambers 25 and 26, the valve 27 and the combined operating plunger and valve 28. The lower cap member 22 is pro-

vided with a threaded extension 29 by means of which the operating valve as a whole may be secured in any desired position.

The valve 27 is normally held in closed position by means of the spring 30 so that fluid which can be supplied from any suitable source (not shown) cannot pass from the inlet 23 to the outlet pipe 14 or the exhaust port 24. When it is desired to blow the whistle the engineman pushes down upon the enlarged head 31 of the combined operating plunger and valve 28 and thereby opens the valve 27. Fluid pressure immediately flows through the outlet 14 and can also flow through the exhaust port 24 until such time as the engineman forces the valve 28 against its seat 32. Upon releasing the pressure upon the head 31 spring 30 will again close the valve 27 and the air in the pipe 14 and in the cylinder of the motor means B can exhaust through the port 24.

It will of course be understood that after the whistle has been sounded and pressure released from the left hand side of the operating piston 9 the lever 2 will force this piston to the left under the effect of the steam pressure acting upon the underside of the valve 4.

It will be noted that the whole mechanism is very simple and that it can easily be applied to the usual existing steam whistle equipment without in any way impairing the normal hand operation thereof. It should also be noted that the general arrangement of the controlling valve C makes it possible for the engineer to give either a mild or a heavy blast of the whistle as may be necessary. If the plunger 28 be pushed only part way down the operating fluid will flow partly through the pipe 14 to the operating cylinder and partly through the exhaust or bleed port 24 to the atmosphere, so that the operating lever of the whistle will be actuated to give but a mild blast. But if the plunger be moved all the way down, the valve at its base will close off exhaust to the port 24 and the full pressure of the operating fluid will be supplied to the operating cylinder to move the whistle lever its full travel to give a heavy blast. In actual operation it is a very easy matter for the engineer to gauge the degree of movement of the plunger 28 to give the blast he desires.

I claim:

1. The combination with a steam whistle and its operating lever, of motor means for actuating the lever, means for supporting the motor means pivoted at a point on the whistle rigging, and means for adjusting the supporting means to alter the operative relation between motor means and whistle operating lever.

2. The combination with a steam whistle and its operating lever, of motor means for actuating the lever, means for supporting the motor means, a common pin upon which lever and motor supporting means are pivoted, and means for adjusting the motor supporting means to alter the operative relation between motor means and lever.

3. As an article of manufacture, an operating device for a steam whistle comprising a support mountable on the pivot of the whistle lever, a fluid motor thereon with an actuating member for engaging said lever, and means for sustaining said support and adjusting it about the lever pivot to vary the relation of the motor to the lever.

4. The combination of a whistle, a pivoted operating lever therefor, a pull connection for manually rocking the lever, and a power motor for rocking the lever having a movable member adapted to bear against the lever at a point removed from the pivot, the pull connection and the motor being wholly independent of one another to permit operation by either.

In testimony whereof I have hereunto signed my name.

FORREST J. PARSONS.