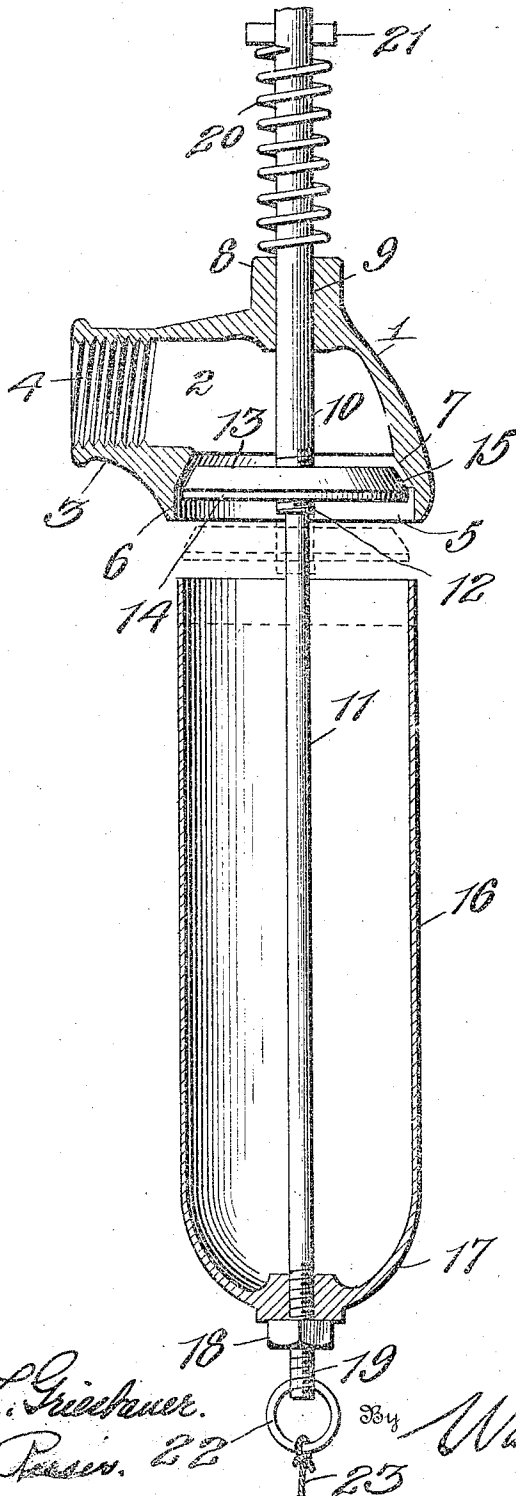


H. G. WEAVER.
 COMBINED MUFFLER CUT-OUT VALVE, WHISTLE, AND SAFETY ALARM VALVE.
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1,004,833.

Patented Oct. 3, 1911.



Witnesses

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HENRY GRADY WEAVER, OF EATONTON, GEORGIA.

COMBINED MUFFLER-CUT-OUT VALVE, WHISTLE, AND SAFETY ALARM-VALVE.

1,004,833.

Specification of Letters Patent.

Patented Oct. 3, 1911.

Application filed August 20, 1910. Serial No. 578,131.

To all whom it may concern.

Be it known that I, HENRY G. WEAVER, a citizen of the United States, residing at Eatonton, in the county of Putnam and State of Georgia, have invented certain new and useful Improvements in Combined Muffler-Cut-Out Valves, Whistles, and Safety Alarm-Valves, of which the following is a specification, reference being had to the accompanying drawings.

This invention is an improved cut out valve, whistle and signal valve for use on automobiles driven by internal combustion motors, the object of the invention being to provide a device of this character which when in use is connected to the exhaust pipe between the engine and the muffler, and may be employed for blowing the whistle, for cutting out the muffler and also as a safety valve which relieves the pressure of dangerous explosions and notifies the driver that the engine is not running properly.

The invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

The accompanying drawing is a central sectional view of a combined muffler, cut-out valve, whistle and safety valve constructed in accordance with my invention.

The valve casing 1 which may be of the form here shown, or of any other suitable form is provided with a chamber 2, at one side of which is a tubular arm 3 which is internally threaded as at 4 for the reception of the threaded end of a short pipe to connect the said valve casing to the exhaust pipe of an internal combustion motor, at a point between the engine or motor and the muffler.

In the lower side of the casing, at right angles to the inlet arm 3, is an opening 5 having a cylindrical lower portion 6 and a frusto-conical upper portion providing an upwardly contracting valve seat 7. In the upper side of the casing concentric with the opening 5 is a boss 8 provided with a central opening 9 through which extends a vertically movable rod 10 which rod has a reduced lower portion 11 and a threaded portion 12 immediately above the shoulder formed by said reduced lower portion. A valve 13 which has the cylindrical lower portion 14 and a frusto-conical upper portion 15 is provided with a threaded opening 55 which is engaged by the threaded portion 12 of the rod so that the said valve is se-

cured to the said rod for movement therewith. A whistle bell 16 of the usual cylindrical form, with the open upper end and the closed semi-spherical lower end 17, is secured to the lower portion of the rod 10 and is held in place by means of a nut 18 which engages the threaded lower extremity 19 of said rod. The whistle bell has its upper open end, disposed a suitable distance below the valve and the said whistle bell is secured to the rod 10 for movement together with said rod, and said valve. A coil spring 20 on the upper portion of the rod 10 bears on the upper side of the boss 8, the upper portion of said spring being secured to the said rod by means of a key 21 which passes through said rod. The function of the spring is to normally lift the valve together with the rod and the whistle bell so as to cause the valve to close snugly in the seat 7.

A ring 22 is here shown at the lower end of the rod to which an operating cord 23 is attached. The said operating cord is in practice connected to a pedal or other suitable lever in the automobile vehicle, and passes over suitable direction elements and serves when the pedal is depressed to draw the rod 10 downwardly so as to move the whistle bell downwardly and also move the valve in the same direction, and thus open the valve from the valve seat. Assuming that the valve is thus depressed, a slight distance it will open only to a corresponding extent from the seat, and hence the exhaust gases which are under considerable pressure will escape through the casing 2, and past the valve, and in so doing will be deflected and formed by the said valve and the contacting seat, into a thin sheet which will be directed by the guide surface formed by the cylindrical portion 6 of the opening 5, downwardly into the whistle bell, and hence will sound the whistle.

In the event that the valve is depressed to a greater extent so that its cylindrical portion 14 gets below the cylindrical guide portion 6 of the opening 5, the exhaust gases will be discharged directly from the said opening 5, and deflected outwardly by the valve 13 without sounding the whistle and will be permitted to escape from the exhaust pipe without reaching the muffler, hence cutting the muffler out of operation.

Assuming that the valve is not manually operated, and that the engine is running, in the event of any explosions of undue force.

the resulting pressures in the chamber of the valve casing will cause the valve to open so as to vent surplus gases and also sound the whistle, thus not only relieving the pressure but also notifying the driver that the engine is not working properly.

I claim:—

1. In apparatus of the class described, the combination of a valve casing having a discharge opening provided with an inwardly contracting portion forming a valve seat, said valve casing being also provided with an inlet opening for connection with the exhaust pipe of an internal combustion motor, a rod mounted for vertical movement in, and through the casing, a valve on the said rod, a spring acting on said rod to normally close said valve against the said valve seat, and a whistle bell disposed exteriorly of the said valve casing, attached to the said rod, at a point spaced from the valve, and movable with said rod, and said valve.

2. In apparatus of the class described, the combination of a valve casing having a discharge opening provided with an inwardly contracting portion forming a valve seat, said valve casing being also provided with an inlet opening for connection with the exhaust pipe of an internal combustion motor, a rod mounted for vertical movement in and through the casing, a valve on the said rod, a spring acting on said rod to normally close said valve against the said valve seat, and a whistle bell disposed exteriorly of the said valve casing, attached to the said rod at a

point spaced from the valve, and movable with said rod, and said valve, and means to operate said rod, valve and whistle bell against the tension of the said spring.

3. In apparatus of the class described, the combination of a valve casing having a tubular arm on one side to connect the valve casing to the exhaust pipe of an internal combustion motor, said valve casing being further provided in one side with a discharge opening provided with an inwardly contracting portion forming a valve seat, that side of the said casing opposite said discharge opening being provided with an opening therethrough, a rod mounted for movement in the said opening, said rod projecting beyond the last named side of the casing and also projecting beyond the discharge opening thereof, a valve on the said rod and disposed in the said discharge opening, a spring on the rod, bearing against the side of the casing and serving to normally close the valve against the valve seat, and a whistle bell attached to the said rod, carried thereby and movable therewith and with said valve, the inner end of the whistle bell being spaced from the discharge opening of the valve casing.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

HENRY GRADY WEAVER.

Witnesses:

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