PATENT SPECIFICATION

Application Date: Mar. 5, 1921. No. 7147/21. **180,450**

Complete Left: Aug. 12, 1921.

Complete Accepted: June 1, 1922.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Sounding Devices Actuated from Internal Combustion Engines.

I, GEORGE CONSTANTINESCO, of "Carmen Sylva," Beechwood Avenue, Oatlands Park, Weybridge, in the County of Surrey, a subject of the King of Great Britain and Ireland, do hereby declare the nature of this invention to be as follows:—

The present invention relates to sounding devices such as motor horns operated by the suction of internal combustion engines.

In such sounding devices when actuated by the suction of the engine it has been found that when the throttle is fully opened the quantity of air drawn into the engine is so great that insufficient suction may be produced to sound the horn efficiently.

The object of the present invention is to construct the apparatus in such a manner that a reservoir at reduced pressure is provided which can be drawn on to sound the horn at periods when the position of the throttle is such that the suction available for the horn is insufficient.

The invention consists in combining with the engine-operated sounding device a reservoir communicating both with the engine and with the sounding device controlled by a valve which is constructed so that during normal running a vacuum is produced in the reservoir by drawing air through small apertures, while when the suction from the engine to the horn is insufficient the valve opens giving a passage of sufficient area to actuate the sounding device by the suction in the reservoir.

The invention further consists in a valve of the fluid operated type controlling the passages from the engine to the sounding device and from the reservoir to the sounding device arranged so that when the suction in the engine is normal the valve between the engine and sounding device is open and the valve between the reservoir and sounding device is closed, small apertures being provided in the latter valve by which air is exhausted from the reservoir by the engine suction.

The invention further consists in the improved means for actuating suction-operated sounding devices hereinafter described.

In carrying the invention into effect according to one example, I provide a cylindrical chamber having at one end a connection to the engine, at the other end a connection to the reservoir and at the side in a mid position a connection to the trumpet. Two inwardly projecting shoulders are provided in the cylinder forming valve seats, and the two valves mounted on a single spindle are controlled by air pressure. When the suction in the engine is normal the valve between the engine and horn is drawn off its seat and the valve between the trumpet and reservoir is in contact with its seat. The suction of the engine is thus available at the trumpet and also serves to draw air through the reservoir through the small apertures in the reservoir valve. Should

the suction in the pipe leading to the engine fall the valve between the engine and horn closes down on its seat and the valve between the reservoir and horn opens, so that the reservoir vacuum is available at the trumpet. By this means it is ensured that whatever may be the momentary suction produced by the engine, there is always a reservoir by which air can be drawn through the horn to sound it for the desired period.

Dated this 4th day of March, 1921.

W. TYLER ADAMS,
87, Victoria Street, S.W,
Agent for the Applicant.

COMPLETE SPECIFICATION.

Improvements in and relating to Sounding Devices Actuated from Internal Combustion Engines.

I, GEORGE CONSTANTINESCO, of "Carmen Sylva," Beechwood Avenue, Oatlands Park, Weybridge, in the County of Surrey, a subject of the King of Great Britain and Ireland, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to sounding devices such as motor horns operated by the suction of internal combustion engines.

In such sounding devices when actuated by the suction of the engine it has been found that when the throttle is fully opened the quantity of air drawn into the engine is so great that insufficient suction may be produced to sound the horn efficiently.

The object of the present invention is to construct the apparatus in such a manner that a reservoir at reduced pressure is provided which can be drawn on to sound the horn at periods when the position of the throttle is such that the suction available for the horn is insufficient.

The invention consists in combining with the engine-operated sounding device a reservoir communicating both with the engine and with the sounding device controlled by a valve which is constructed so that during normal running a vacuum is produced in the reservoir by drawing air through small apertures, while when the suction from the engine to the horn is insufficient the valve opens giving a passage of sufficient area to actuate the sounding device by the suction in the reservoir.

The invention further consists in a valve of the fluid operated type controlling the passages from the engine to the sounding device and from the reservoir to the sounding device arranged so that when the suction in the engine is normal the valve between the engine and sounding device is open and the valve between the reservoir and sounding device is closed, small apertures being provided in the latter valve by which air is exhausted from the reservoir by the engine suction.

The invention further consists in the improved means for actuating suction-operated sounding devices hereinafter described.

Referring to the accompanying drawings;

Figure 1 shows the general arrangement of the improved sounding device applied to the engine;

Figure 2 is a section through the valve.

In carrying the invention into effect as illustrated, the sounding device *a* is mounted in any convenient position, and is connected to the controlling device *b* and actuating device *c d*, which may be of the type described in my Specification No. 181,103 of even date herewith. The side of the controlling device *b* to which the sounding device *a* is attached is connected to the side connection *e* of the valve, so that this connection on the valve leads through the controlling device to the trumpet. The valve is in the form of a cylindrical chamber *f* having at one end a connection *g* to the induction pipe *h* of the engine, and at the other end a connection *k* to a reservoir *l*. Two inwardly-projecting shoulders *o*, *p* are provided in the cylinder forming valve seats, and the two valves *r s* mounted on a single spindle *t* are controlled by air pressure. When the suction in the engine is normal the valve *r* between the engine and horn is drawn off its seat and the valve *s* between the trumpet and reservoir is in contact with its seat. The suction of the engine is thus available

at the trumpet and also serves to draw air from the reservoir through the small apertures *u* in the reservoir valve. Should the vacuum in the pipe leading to the engine fall, for example, when the throttle is fully opened, the valve between the engine and horn closes down on its seat and the valve between the reservoir and horn opens, so that the reservoir vacuum is available at the trumpet. By this means it is ensured that whatever may be the momentary suction produced by the engine, there is always a reservoir by which air can be drawn through the horn to sound it for the desired period.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An engine-operated sounding device having combined therewith a reservoir communicating both with the engine and with the sounding device controlled by a valve which is constructed so that during normal running a vacuum is produced in the reservoir, while when the suction from the engine to the horn is insufficient the valve opens giving a passage of sufficient area to actuate the sounding device by the suction in the reservoir, substantially as described.

2. In apparatus as claimed in Claim 1, a valve of the fluid-operated type controlling the passages from the engine to the sounding device and from the reservoir to the sounding device arranged so that the suction in the engine is normal the valve between the engine and sounding device is open and the valve between the reservoir and sounding device is closed, small apertures being provided in the latter valve by which air is exhausted from the reservoir by the engine suction, substantially as described.

3. The improved means for actuating suction-operated sounding devices hereinbefore described.

Dated this 12th day of August, 1921.

W. TYLER ADAMS,
87, Victoria Street, London, S.W.,
Chartered Patent Agent.

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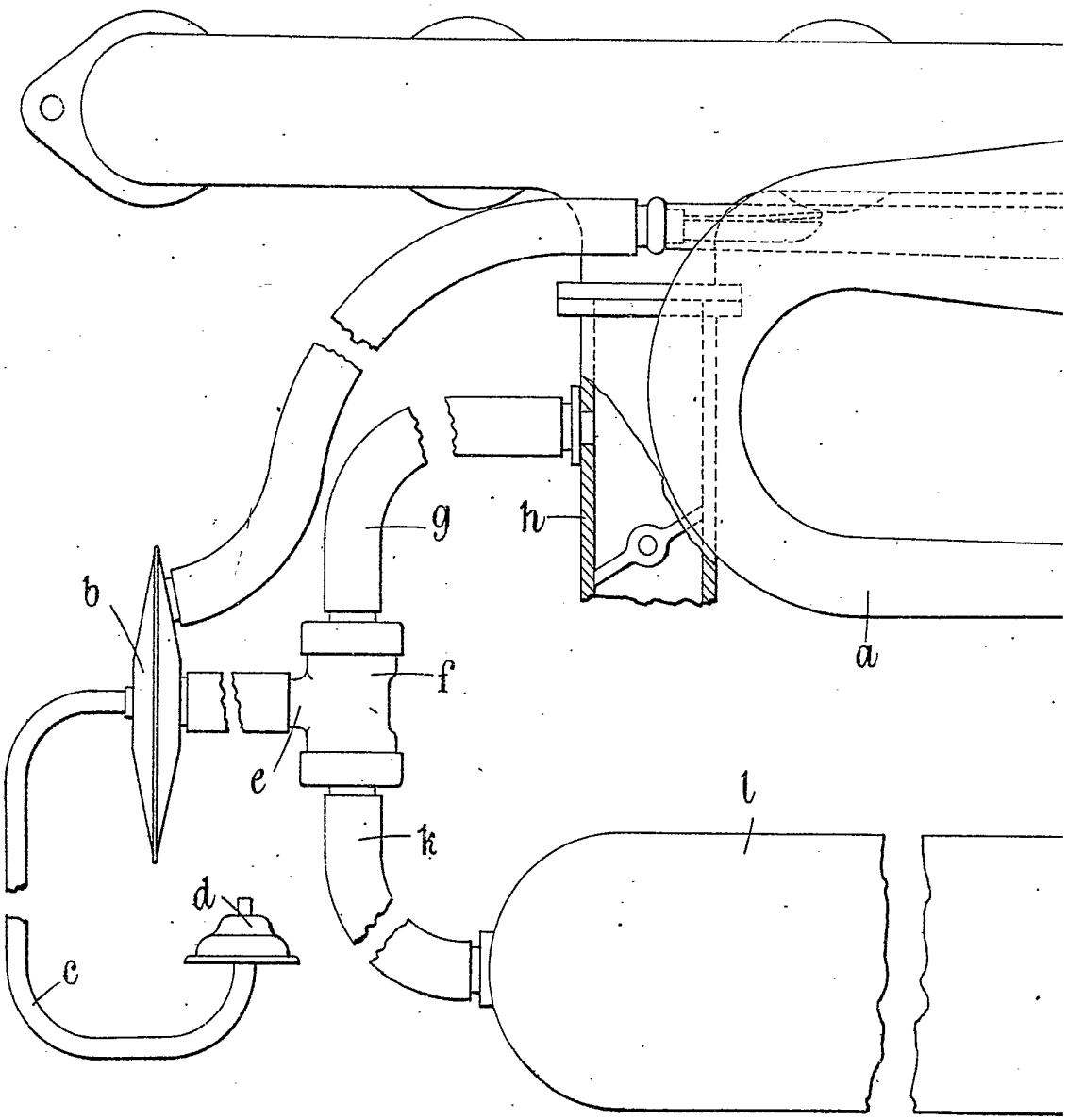
Fig. 1.



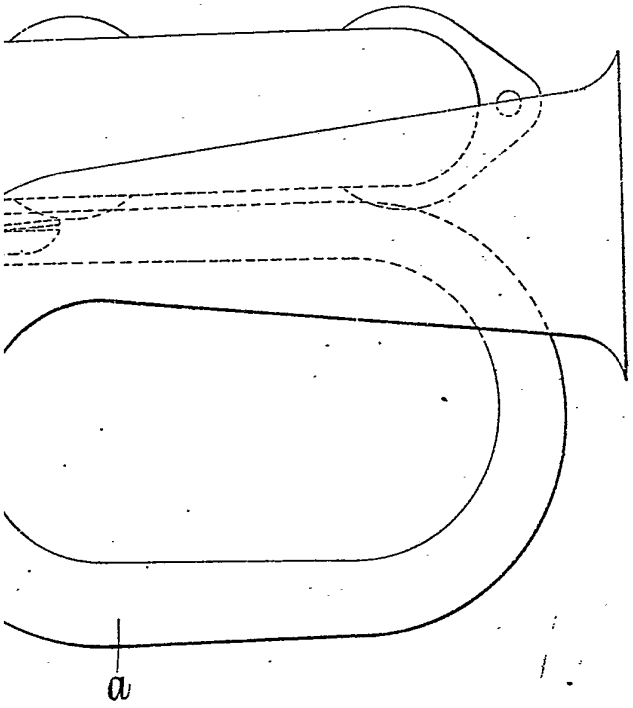
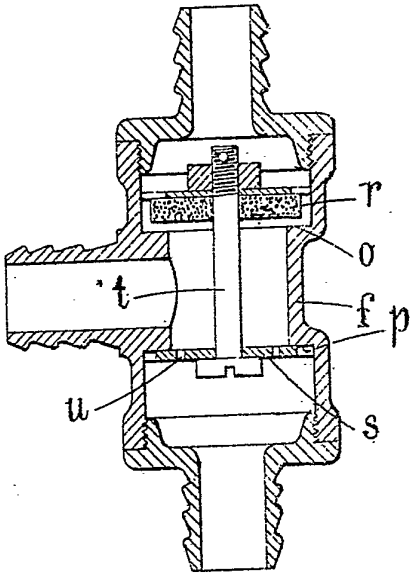
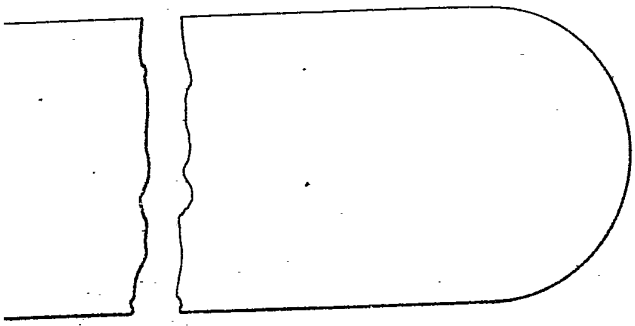


Fig. 2.





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[This Drawing is a reproduction of the Original on a reduced scale]

Fig. 1.

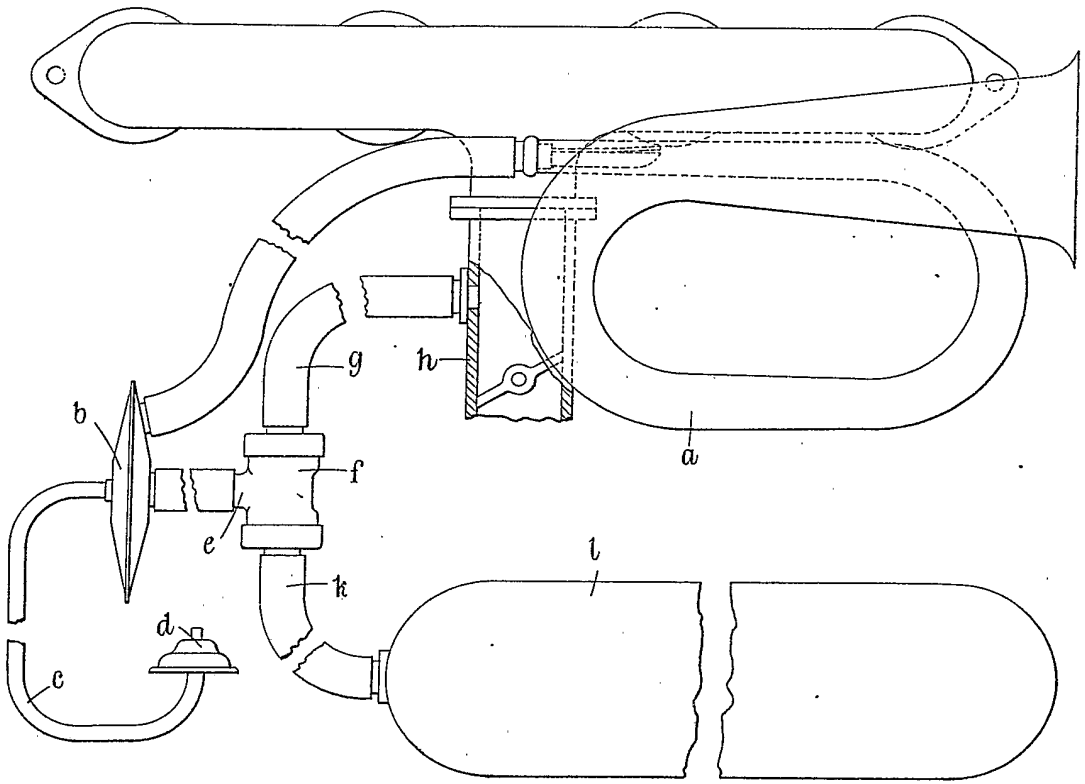
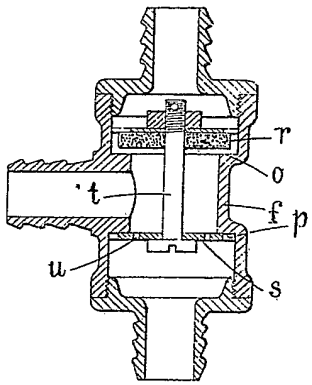


Fig. 2.



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