J. A. BROADFIELD.

PNEUMATIC BULB FOR HORNS.

APPLICATION FILED OCT. 22, 1910.

994,118. Patented June 6, 1911.

Fig. 1.

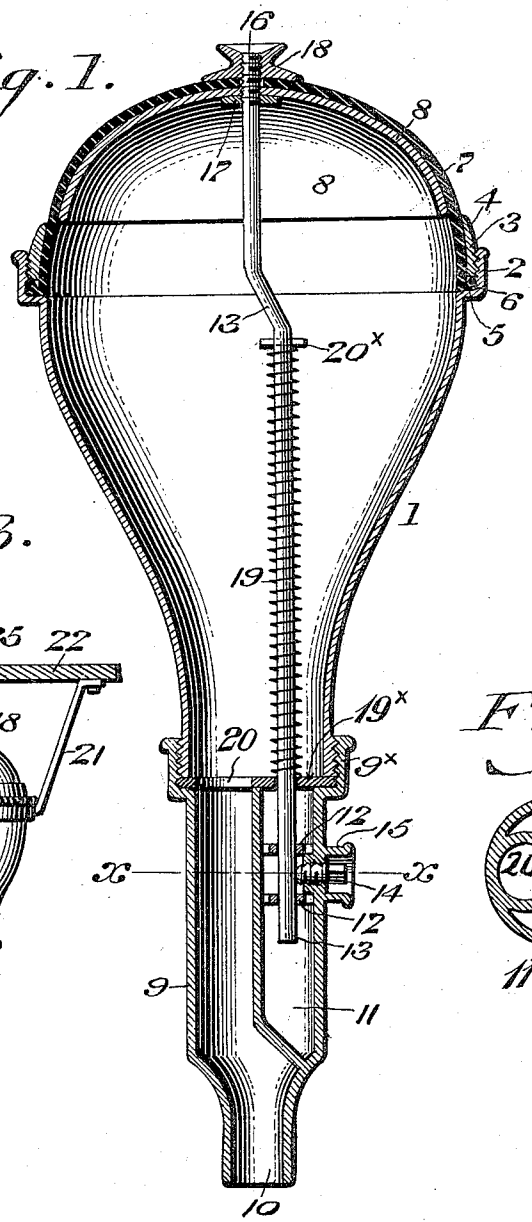


Fig. 3.

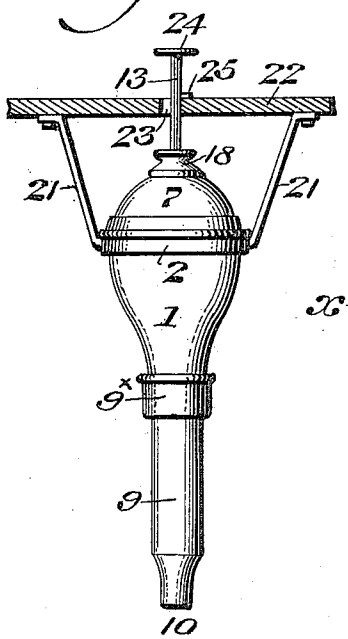
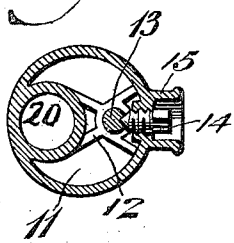


Fig. 2.



WITNESSES

P. F. Nagle.

L. Douville.

INVENTOR

BY John A. Broadfield.

Wiedersheim & Fairbanks.

ATTORNEYS

UNITED STATES PATENT OFFICE.

JOHN A. BROADFIELD, OF PHILADELPHIA, PENNSYLVANIA.

PNEUMATIC BULB FOR HORNS.

994,118. Specification of Letters Patent. Patented June 6, 1911.

Application filed October 22, 1910. Serial No. 588,421.

To all whom it may concern:

Be it known that I, JOHN A. BROADFIELD, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Pneumatic Bulb for Horns, of which the following is a specification.

This invention relates to a novel form of pneumatic bulb for signal purposes and more particularly to a means for locking such a bulb, whereby the same may be rendered inoperative at desired times.

It is well known in bulbs for operating horns for automobiles, motor boats and the like, that the exposed position of the bulb renders it very easy for anyone to press the same and operate the signal and especially where the device is used on automobiles, boys and others in the street are constantly pressing the bulb and causing annoyance and disturbance to persons in the vicinity. Furthermore, this constant use of the bulb for a purpose not contemplated, multiplies the normal use of the bulb many times and it soon becomes useless and has to be replaced by a new one at some expense.

In my present invention, I have devised a novel type of bulb, from which air may be expelled readily and efficiently for signal purposes and which at the same time embodies a novel locking device whereby the owner thereof may temporarily place the bulb out of commission and make it impossible for anyone to use the same for sounding the signal.

It further consists of other novel features of construction, all as will be hereinafter set forth.

For the purpose of illustrating my invention, I have shown in the accompanying drawings one form thereof which is at present preferred by me, since the same has been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of these instrumentalities as herein shown and described.

Figure 1 represents a longitudinal section through a bulb embodying my invention. Fig. 2 represents a section on line x—x, of Fig. 1. Fig. 3 represents a side elevation of a modification showing the bulb adapted for foot-operation.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings: 1 designates a suitable shell or casing, preferably of metal, and of suitable contour to form a portion of a bulb for horn operating purposes. The shell 1 is provided with an annular flange 2, having screw threads 3, for coöperation with a ring 4 adapted for screw threaded engagement with the said flange 2. It will be noted that this flange 2 forms a shoulder 5, upon which is seated a gland member 6 preferably integral with a diaphragm member 7, this latter in the present instance being of rubber, but which, of course, may be of any suitable flexible material, to accomplish the desired end. This gland construction forms a leak tight joint and prevents the escape of air to the exterior of the bulb. This diaphragm 7 extends preferably above the ring 4 in order that it may be suitably pressed to expel the air from the interior thereof.

8 designates a plate conforming in contour to the shape of the diaphragm 7 and preferably snugly fitting thereagainst in order to prevent movement of the diaphragm when the device is in locked position.

9 designates a tubular extension preferably having a screw thread connection 9^x to the shell 1 and provided with an air outlet nozzle 10 by which the air is conducted to the tube leading to the horn. As here shown, this extension 9 is provided with a chamber 11 at one side thereof having guide strips

12 fixedly secured therein and adapted to permit a sliding movement therethrough of a rod 13.

14 designates in the present instance, a set screw suitably threaded in the extension 9 and adapted to contact with the rod 13 in order to lock the same against sliding movement and prevent operation of the horn at certain times. It is to be understood that I do not wish to be limited to the exact set screw locking means here shown, as various clamping devices may be employed to perform the same function and that here shown is merely for purposes of illustrating a preferred form. As here shown, I provide a boss 15 on the extension 9, adjacent the set screw 14 which acts as a guide for suitable key or the like, by which the set screw is operated. The rod 13 is fixedly secured to the diaphragm 7, in the present instance having a screw threaded end 16 passing through the plate 8 and diaphragm 7 and held by a washer 17 and a nut 18, the latter being exterior of the diaphragm and forming a button by which the diaphragm may be operated.

19 designates a spring secured on the rod 13 and having, in the present instance, a bearing at one end against a plate $19^{\times}$, through which the rod 13 passes, the said plate $19^{\times}$ preferably being suitably secured between the shell 1 and extension 9 and being provided with an opening 20 to permit passage of air to the nozzle 10. The opposite end of the spring 19 abuts a lug $20^{\times}$ or the like on the rod 13 whereby the spring acts to maintain the rod 13 and its adjuncts in operative position.

In Fig. 3 I have disclosed a modified form of my device supported by suitable brackets 21 beneath the floor 22 or the like and in which latter an opening 23 is provided, through which the rod 13 passes and carries on the end thereof, a foot pedal 24. It will be noted that the opening 23 is of sufficient dimensions to permit a lug 25 to pass therethrough when in alinement therewith, the said lug being secured to the rod 13 and performing the function of a lock. In the position shown in Fig. 3, operation of the rod 13 cannot take place since the lug 25 is turned so as to engage the surface of the floor 22, while if desired to bring the horn into operation, the rod 13 is turned to permit the lug to pass through the opening 23.

In the operation of the device, the set screw 14 is normally out of engagement with the rod 13 and any pressure upon the diaphragm 7 will cause air to be forced from the shell or casing 1 to the opening 10 to operate the horn. Should it be desired to prevent movement of the rod 13, the set screw 14 is turned into engagement with the rod, thereby fixing the same relative to the sliding members 12. Pressure at this time on the nut 18 will not cause any movement of the rod 13 and consequently the diaphragm 7 cannot move and there is no operation of the signal. It will also be seen that since the plate 8 is also secured to the rod 13, the exposed portion of the flexible diaphragm cannot be pressed in for operating the signal.

It will now be apparent that I have devised a complete unitary structure capable of performing the function described and which is particularly advantageous for use in connection with automobiles and motor boats. Should it be necessary to leave the car for any time the set screw 14 or like lock, employed may be moved into engagement with the rod 13 whereupon any trespassers will find it impossible to operate the bulb to blow the horn.

It will now be apparent that I have devised a novel and useful construction of a pneumatic bulb for horns, which embodies the features of advantage enumerated as desirable in the statement of the invention and the above description, and while I have, in the present instance, shown and described a preferred embodiment thereof which has been found in practice to give satisfactory and reliable results, it is to be understood that the same is susceptible of modification in various particulars without departing from the spirit or scope of the invention or sacrificing any of its advantages.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. In a device of the character stated, the combination of a pneumatic bulb with a rod secured thereto and means to lock said rod to prevent operation of said bulb.

2. In a device of the character stated, the combination of a pneumatic bulb comprising a shell or casing and a diaphragm secured to said shell or casing, and means to lock said diaphragm to prevent operation of said bulb.

3. In a device of the character stated, the combination of a pneumatic bulb comprising a shell or casing and a diaphragm secured thereto, a rod secured to said diaphragm and means to lock said rod to prevent movement of said diaphragm.

4. In a device of the character stated, the combination of a pneumatic bulb comprising a shell or casing and a diaphragm secured thereto, a rod secured to said diaphragm, means to guide said rod and means to lock said rod to prevent movement of said diaphragm.

5. In a device of the character stated, the combination of a pneumatic bulb compris-

ing a shell or casing and a diaphragm secured thereto, a rod secured to said diaphragm, with means to lock said rod, and means to prevent movement of said diaphragm when said rod is in locked position.

6. In a device of the character stated, the combination of a pneumatic bulb comprising a shell or casing and a diaphragm secured thereto, a rod secured to said diaphragm, with means to lock said rod, and a plate contacting with said diaphragm to prevent movement thereof when said rod is in locked position.

JOHN A. BROADFIELD.

Witnesses:
ROBERT M. BAER,
C. D. MCVAY.