

1,058,849.

Patented Apr. 15, 1913.

Fig. 1.

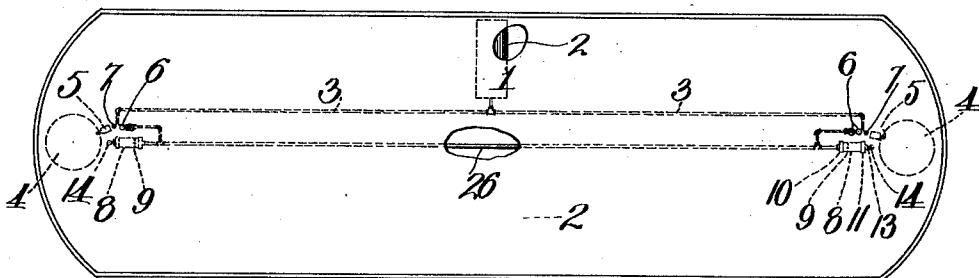


Fig. 2.

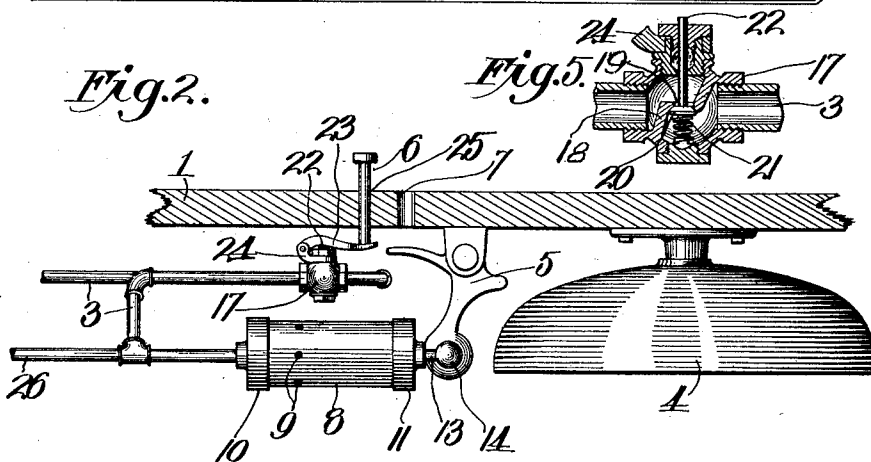


Fig. 5.

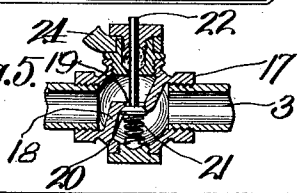


Fig. 3.

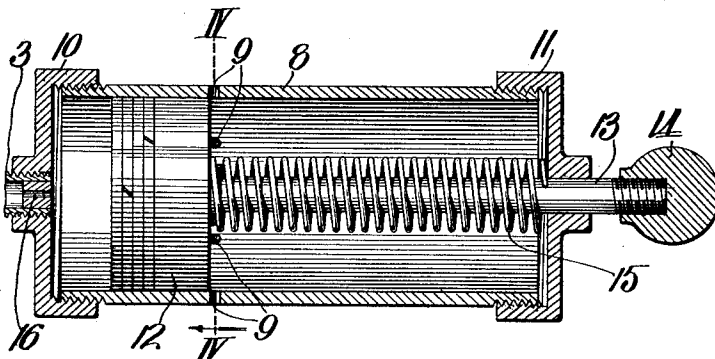
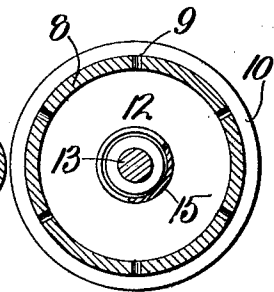


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES C. CREWSON, OF KANSAS CITY, AND EVANDER A. CREWSON, OF VERSAILLES,
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GONG-RINGING DEVICE.

1,058,849.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed May 9, 1910. Serial No. 560,281.

To all whom it may concern:

Be it known that we, CHARLES C. CREWSON and EVANDER A. CREWSON, citizens of the United States, residing, respectively, at
5 Kansas City, in the county of Jackson, and Versailles, Morgan county, State of Missouri, have invented certain new and useful Improvements in Gong-Ringing Devices, of which the following is a specification.

10 This invention relates to pneumatic gong-ringing devices and our object is to produce a device of this character which can be caused to make a single stroke or a multiple stroke.

15 A further object is to produce a device of this character of simple, strong, durable and cheap construction and which can be easily and quickly secured to a car in proper relation to the gong thereof without disturbing or interfering with the ordinary striker.

20 With these objects in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which—

Figure 1, is a plan view of the bed of a
30 conventional type of street car equipped with a pneumatic gong ringing device embodying our invention. Fig. 2, is a vertical section of a part of a platform of the car equipped with the gong, the ordinary gong
35 striker, and a gong ringing device embodying our invention. Fig. 3, is a central, vertical longitudinal section of the cylindrical casing of the gong ringing device. Fig. 4, is a section on the line IV—IV of Fig. 3. Fig.
40 5, is a central vertical section of the valve controlling the supply of air under pressure to the casing of the ringing device.

In the said drawing where like reference characters identify corresponding parts in
45 all the figures, 1 indicates a street car of conventional or any preferred type, 2 indicates the customary air-tank arranged below the body of the car and 3 is a pipe leading from the tank, which pipe may be that for
50 distributing the air for the operation of the air brakes, not shown, or may be a special distributing pipe for the operation of our gong ringing device hereinafter described, and the car as usual is equipped preferably
55 at each end with a gong 4, a pivoted striker

5, and a foot pin 6, which may occupy the usual opening 7 for the purpose of enabling the motorman or conductor to cause the striker to sound the gong.

The gong ringing device is constructed as
60 follows:—8 is a small casing preferably in the form of a cylinder provided with one or more perforations 9, at a suitable point and with a pair of heads 10 and 11 closing
65 the ends of the cylinder with an air-tight relation, and fitting slidably and with a substantially air-tight relation in the casing is a plunger 12, having a stem 13, extending
70 slidably through head 11 and provided at its outer end by preference with a head 14, adapted, as hereinafter explained, to strike the gong, and mounted upon said stem 13 within the casing and bearing at its opposite ends against head 11 and the plunger
75 is a spring 15, which when not compressed by an overpowering force, holds the piston between the perforation or perforations 9 and the head 10. The cylinder is preferably supported in any suitable manner with the
80 head 14 of its plunger stem adjacent to and at one side of the striker 5, if the latter is left in position, and communicates through head 10, with the discharge end of pipe 3, the passage of the pipe at such end being
85 reduced at 16, to considerably less than that of perforations 9, so that air may instantly escape from the latter when free to do so, for a purpose hereinafter explained. At a point adjacent to striker 5 and between the tank and the casing, pipe 3, is equipped with
90 a valve 17, of well known form, that is to say, the casing of the valve has a partition or diaphragm 18, provided with a valve-seat opening 19 and a valve 20 held against the seat under the pressure of the air from
95 the tank and of a spring 21, though the latter is relied upon chiefly to reseal the valve. The stem 22 of the valve extends up through the casing of the same and underlies a short lever 23, pivoted to an arm 24, secured to the
100 valve casing, the free end of said lever underlying the pin 6 when the latter occupies an opening 25 in the floor of the car adjacent to opening 7.

On reversible cars, that is those which do
105 not describe a loop at the end of the line, it is necessary to provide means at each end of the car by which the motorman shall be enabled to operate the gong. The preferred arrangement is to duplicate the equipment,
110

and if it is desirable to enable either the motorman or the conductor to operate both gongs simultaneously, the duplicate pipes 3, may be connected near their respective casings by a pipe 26. Assuming that the motorman or conductor desires to give the gong a single tap, he depresses and instantly releases the pin 6, the depression resulting in unseating the valve and permitting air to enter the casing through head 10 to force the plunger forward until its rear end clears the perforation or perforations 9, and the head 14 strikes the gong, the release of the pin permitting the valve to be resealed by the spring 21, and cut off the supply of air to the casing 8 to permit the pressure on the plunger to be relaxed by the escape of the air through said perforation or perforations, it being obvious that as such pressure is thus reduced the spring 15, which was compressed by the advance of the plunger, returns the latter to its original position where it remains owing to the reseating of the valve 20. If an emergency arises and it is desired to strike the gong a number of times in quick succession, the pin is held depressed to hold the valve open. As a result of this action the air advances the plunger until the pressure is relaxed by the escape of air from the casing through perforation or perforations 9, when the spring 15 represses and thereby causes the plunger to again close the perforation or perforations, this being instantly followed by the readvance of the plunger by the air from pipe 3 and then the spring again represses the plunger as the second escape of excess air occurs, the actions described being repeated in rapid succession as long as the valve is held unseated, that is to say as long as the valve is held unseated the plunger vibrates sufficiently to alternately open and close communication between the air-supply pipe and the atmosphere.

45 With a gong ringing device of this character, the gong can be sounded in the ordinary way for ordinary use and in emergencies may be caused to produce a sound which

will be bound to attract attention and thus act as a warning. For instance, the gong may be sounded once as a signal when a car is approaching. When the car stops and passengers are descending therefrom and another car approaches from the opposite direction, the motorman of the stationary car may operate the gong with the multiple stroke and thus warn the passengers who have left his car that it is dangerous to cross the track. It will be apparent of course that this device may be employed with advantage in other connections.

From the above description it will be apparent that we have produced a gong ringing device possessing the features of advantage enumerated as desirable and we wish it to be understood that we do not desire to be restricted to the exact details of construction shown and described as obvious modifications will suggest themselves to one skilled in the art.

Having thus described the invention what we claim as new and desire to secure by Letters Patent, is:

The combination with a car, a pair of gongs attached to the car near opposite ends thereof, a cylindrical casing near each gong and provided intermediate its ends with air-escape perforations, a pipe connecting the casings, plungers in the casings, provided with stems projecting through the casings at the ends thereof adjacent the gongs, springs normally holding the plungers between the said perforations and said pipe, a compressed fluid tank secured to the car, a branched pipe leading therefrom to the first-named pipe, a valve for and normally closing each branch pipe, and a pin for opening each of said valves.

In testimony whereof we affix our signatures, in the presence of two witnesses.

CHARLES C. CREWSON.
EVANDER A. CREWSON.

Witnesses:

HELEN C. RODGERS,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."