C. D. HILL.

PRESSURE GAGE ALARM.

APPLICATION FILED NOV. 10, 1909.

960,920. Patented June 7, 1910.

Fig. 1.

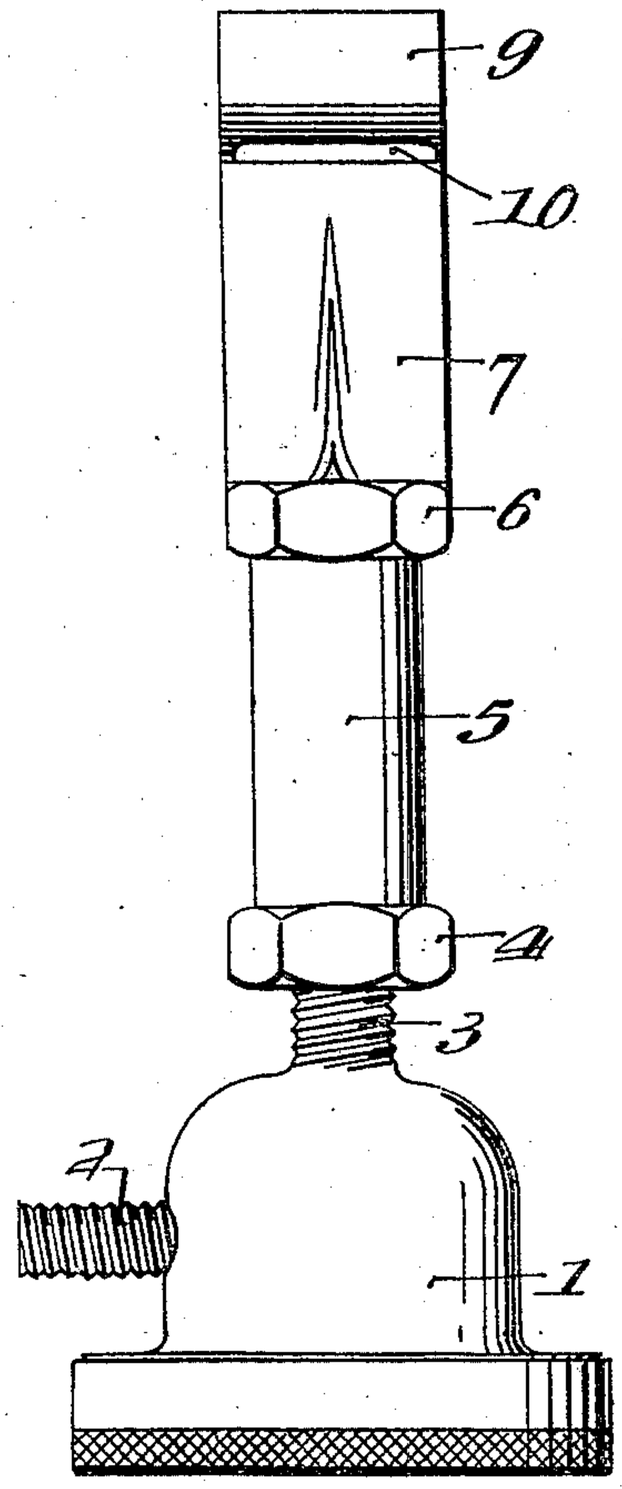


Fig. 2.

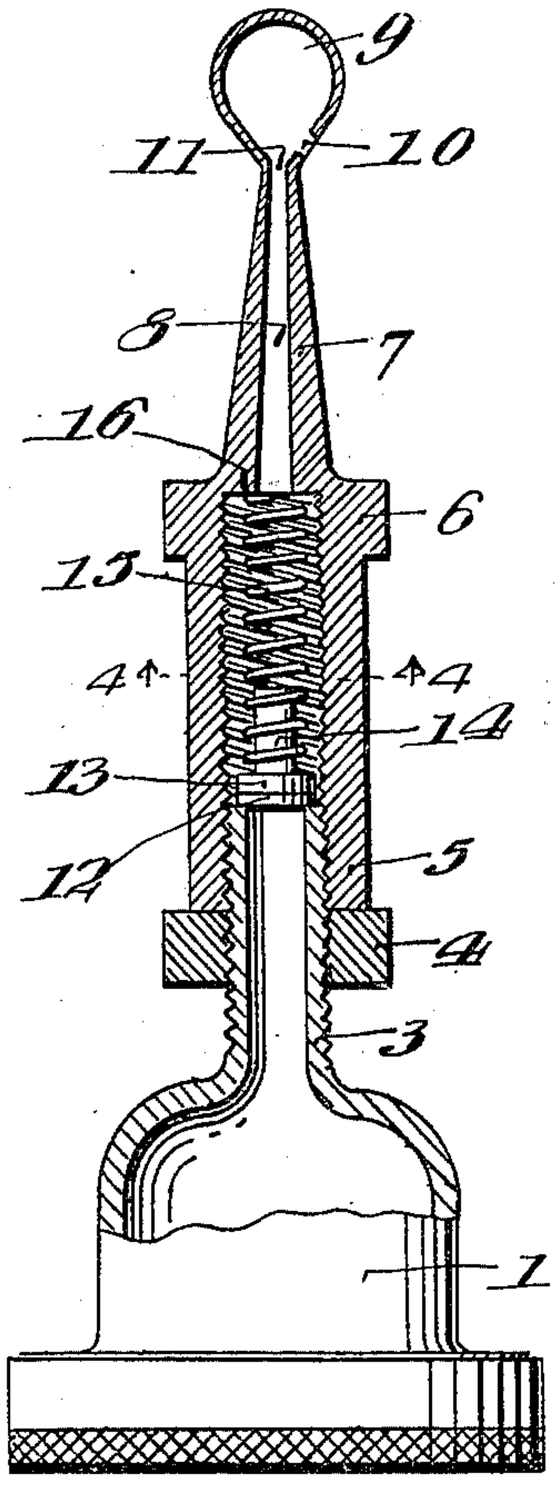


Fig. 3.

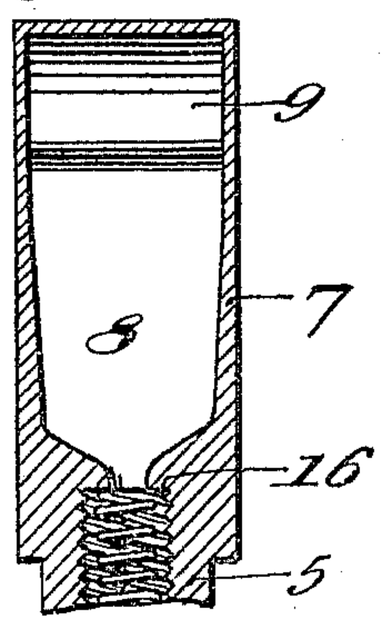
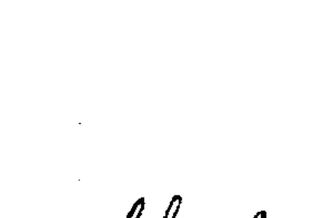


Fig. 4.



Witnesses

A. M. Whitmore.

J. M. Dyo.

Inventor

Charles D. Hill,

by E. B. Whitmore,

Attorney

UNITED STATES PATENT OFFICE.

CHARLES D. HILL, OF CLIFTON SPRINGS, NEW YORK.

PRESSURE-GAGE ALARM.

960,920. Specification of Letters Patent. **Patented June 7, 1910.**

Application filed November 10, 1909. Serial No. 527,262.

To all whom it may concern:

Be it known that I, CHARLES D. HILL, of Clifton Springs, in the county of Ontario and State of New York, have invented a new and useful Improvement in Pressure-Gage Alarms, which improvement is fully set forth in the following specification and shown in the accompanying drawings.

This invention relates to certain new and useful improvements in alarm signals or pressure gage alarms designed for use in connection with pneumatic pumps, in order to automatically sound an alarm when a given pressure has been attained. In many instances, as for instance, filling an automobile or bicycle tire, it is essential that a predetermined pressure be not exceeded or injury to the tire will result. The subject-matter of the present invention contemplates a whistle attachment, with means for adjustment according to any desired pressure, so that when such pressure is attained, the alarm will be sounded.

I aim further at improvements in the details of construction, whereby simplicity and efficiency are attained and the improvement readily applied to bases or foundation pieces of the usual construction.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be particularly pointed out in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the numerals of reference marked thereon, form a part of this specification, and in which—

Figure 1 is an elevation showing the application of my improvement. Fig. 2 is a substantially central vertical section through the same with a portion of the base shown in elevation with a part broken away. Fig. 3 is an enlarged sectional detail taken at right angles to Fig. 2. Fig. 4 is a cross section on the line 4—4 of Fig. 2, looking down.

Like numerals of reference indicate like parts in the several views.

Referring to the drawings, 1 designates a base piece having screw-threaded nipple 2 and the threaded tubular portion 3.

4 is a nut adjustably mounted upon the screw-threaded tubular extension 3, while 5 is a hollow member internally threaded for engagement with the screw-threaded tubular member 3 and designed to bear at its end against said nut. This tubular member 5 is provided with a polygonal portion 6, for the purpose of receiving a wrench or other tool, whereby it may be turned firmly to place against the stop nut 4 on the threaded tubular extension 3 of the base portion 1. Beyond this polygonal portion is the extension 7 having a passage 8 therethrough, which communicates with a transverse hollow drum 9 at the extreme end thereof in which is a narrow rectangular opening 10 extending substantially the width of the hollow drum. The volume of escaping air passing into this drum passes through the long narrow opening 11 adjacent the said opening 10 which leads outwardly from the thin or flat portion of the whistle below the drum.

12 is a packing disk normally seated against the end of the tubular member 3 and 13 is the head of a core piece or the like 14, which head rests upon said disk, as seen clearly in Fig. 2.

15 is a spring encircling the stem of the core piece and bearing at one end against the head thereof and at the other end against the shoulder 16 formed within the bore of the tubular member 5 at the base of its flattened portion 7.

The mode of use will be apparent. The nut 4 is adjusted upon the threaded part 3 of the base piece so as to cause the latter to project farther or less distant into the tubular member 5. The end of this threaded part of the base piece rests squarely against the packing disk under the head of the core piece and the farther said threaded part enters the whistle part or tubular member 5, the more will the spring be compressed and the higher the pressure pumped into the tire before the alarm is sounded. The packing disk, pressed by the spring against the outlet end of the threaded part of the base, normally prevents the compressed air escaping through the whistle portions to sound the alarm. The pressure in the tire must be sufficient to push the packing disk against the action of the spring, off of the end of the threaded part in order for the compressed air to escape through and sound the whistle. The farther the threaded part enters the whistle portion, the more firmly will the spring be compressed and the higher the pressure before the alarm sounds. By adjusting the nut on the threaded part, so as to regulate the distance said part enters the whistle, the spring may be more or less com-

pressed to yield to a higher or lower pressure in the tire, as the case may be, or as it may be wished. The volume of escaping air, passing into the hollow drum 9, through the thin narrow opening 11, adjacent to the opening 10 in the drum and leading outward from the thin or flat portion of the whistle below the drum sounds the alarm.

The nearer the nut 4 is adjusted to the base piece, the greater the pressure to be obtained before the alarm is sounded. The farther away the nut 4 is placed from the base piece, the less the compression of the spring, and, consequently, the less the pressure within the tire before the alarm is sounded.

Modifications in details may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What is claimed as new is:—

1. In an alarm signal of the character described, an adjusting nut, a tubular member for coöperation therewith having a flattened extension with contracted opening and a transverse hollow drum communicating therewith and having longitudinal opening, a spring within the bore of said tubular member, a core piece acted upon by the spring, and a disk bearing against the head of the core piece.

2. The combination with a base piece having a threaded tubular extension, of a nut on said extension, a tubular member having threaded engagement with said extension and constructed to form a whistle, and a spring actuated closure for said extension confined within said tubular member and seated against the end thereof.

3. The combination with a base piece having a tubular threaded extension, of a nut adjustable on said extension, a tubular member adjustable on said extension and engaging said nut at one end, the other end having a transverse hollow drum with contracted opening communicating with the interior of said tubular member and a longitudinal outlet, a disk normally seated against the end of the tubular extension, a core piece seated against said disk, and a spring acting on said core piece.

4. The combination with a tubular base piece having a nipple communicating therewith and a tubular vertical exteriorly threaded portion, of a hollow member adjustably mounted on said threaded portion and terminating at its outer end in a transverse hollow drum with a narrow rectangular opening extending substantially the length of the drum and a spring seated disk controlling the escape of air from said base piece through the tubular portion and hollow member to said drum.

In witness whereof, I have hereunto set my hand this 4th day of November, 1909, in the presence of two subscribing witnesses.

CHARLES D. HILL.

Witnesses:
W. A. JUDD,
CHARLES F. BARRILL.