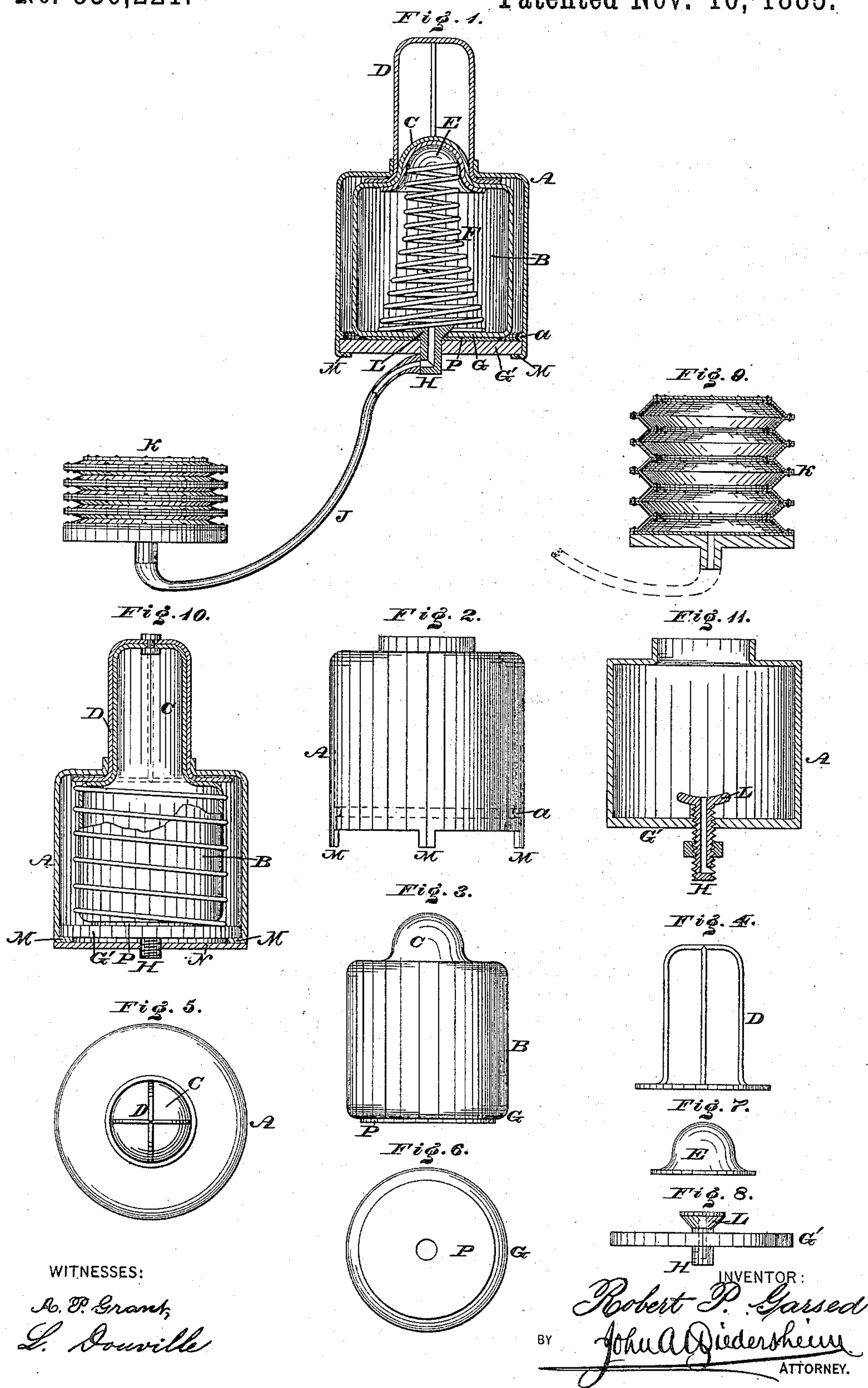


(No Model.)

R. P. GARSED.
PUMP.

No. 330,221.

Patented Nov. 10, 1885.



UNITED STATES PATENT OFFICE.

ROBERT P. GARSED, OF NORRISTOWN, PENNSYLVANIA.

PUMP.

SPECIFICATION forming part of Letters Patent No. 330,221, dated November 10, 1885.

Application filed October 10, 1883. Serial No. 108,573. (No model.)

To all whom it may concern:

Be it known that I, ROBERT P. GARSED, a citizen of the United States, residing at Norristown, in the county of Montgomery, State of Pennsylvania, have invented a new and useful Improvement in Pumps, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a partial vertical section and side elevation of a pump embodying my invention. Figs. 2, 3, 4, 7, and 8 are side elevations of detached portions thereof. Fig. 5 is a top or plan view of the right-hand portion of Fig. 1. Fig. 6 is a bottom plan of the pump-barrel. Fig. 9 is a vertical section of an inflatable body employed. Figs. 10 and 11 are vertical sections of modifications.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a pump of novel and inexpensive construction, the same being easily operated, occupying small space, and possessing other advantages, as will be hereinafter fully set forth.

Referring to the drawings, A represents a casing or cylinder, formed of suitable metal, and sustaining within it the pump-barrel B, formed of rubber or other flexible material. The upper end of said barrel, at the center thereof, is bulged upwardly, as at C, said bulge protruding through the opening at the top of the casing A, and to the said bulge is secured a handle or push, D, which is adapted to pass through the said opening at the top of the casing, and made of tubular or skeleton form, corresponding with the shape of the bulge at the top of the barrel. On the inner face of said bulge is fitted a cap, E, which coincides with said inner face of the bulge, and has bearing against it the upper end of a spring, F, which is inclosed in the barrel and has its base resting on the bottom G thereof. In the bottom G of the barrel is a tube or passage, H, which also passes through the bottom of the casing A, whereby the fluid may be admitted to or discharged from the barrel, the outer end of said passage having connected with it a tube or pipe, J, which is in communication with a bellows or inflatable body, K. The inner or upper end of said passage

H, which is within the barrel is formed with or has secured to it a perforated head or button, L, for the attachment of the bottom of the barrel, it being noticed that said bottom is provided with a small aperture, so that when it is stretched the aperture enlarges sufficiently to pass over the head, and when allowed to contract it closes around said head and forms a tight joint between the parts, and also holds the bottom of the barrel on the bottom of the casing, it also being seen that the spring F is of conical form, so that when its coils are compressed they close around the head or button without obstructing the bore of the passage H, and fold so as to lie one within the other and occupy a vertical space equal to the height of said button, thus occasioning economy in the length of the spring and height of the pump.

On the inner face of the casing, near the bottom thereof, is an annular bead or shoulder, a, against the lower edge whereof abuts the bottom G' of the casing, and in order to prevent downward displacement of said bottom the lower end of the casing is formed with clips M, which are bent up under the bottom G' and serve to sustain the same. In Fig. 10 the bottom rests on the clips or a flange on the lower edge of the casing, and the passage H is threaded to engage with a disk or spider, N, whereby said bottom and disk or spider may be screwed together and the bottom tightly clamped in position.

In Fig. 11 the head or button is movably connected in position, so as to adjust the same relatively to the thickness of the coils of the spring F, and for other purposes requiring such adjustment. The bottom of the barrel has secured to it a disk or piece, P, of rubber or other suitable material for re-enforcing the same.

In Fig. 10 the bulge is elongated, and has its upper end fastened to the handle or push of the pump, and a spring encircles the barrel, the same resting on the bottom of the casing and bearing against the lower end of the handle or push D, the cap E being unnecessary.

If desired, a small orifice may be made in the top of the barrel to admit air thereinto, said orifice being closed by the cap E when the barrel is being depressed.

It will be seen that by depressing the handle or push D the barrel is compressed, whereby the fluid is forced through the pipe J to the body K, thus inflating the latter and moving the head thereof in one direction. The bulge C and form of the handle or push D, which encircles said bulge, prevent the top of the barrel striking the head L, thus guarding the same from injury. When the handle or push is let go, the spring restores the barrel to its normal condition and the fluid is withdrawn from the body K, thus contracting the latter and imparting motion to the head in the reverse direction. The reciprocating motions of the head are availed of for various purposes, such as the operation of a bell-ringing device, wherein the hammer is actuated by mechanism to which motion is imparted by a pinion with which engages a rack attached to the head.

The bellows K is made of sections riveted together, whereby I may employ for the same stiffer, tougher, and stronger material than when made in the ordinary way.

If desired, the pump-barrel may be made of bellows form with evenly collapsing folds.

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

1. A flexible pump having a bulged head, in combination with a casing, a tapering spiral spring contained in said pump, a button inserted within the barrel of said pump and retaining said pump in place, and a plunger working toward said button, said plunger and

button being adapted to fit one within the other, substantially as set forth.

2. A pump-casing having a perforate button inserted in the bottom thereof, in combination with a pump-barrel, the said perforate button being also inserted in the bottom of the said pump-barrel, a plunger having a bulged head, the base of the said head being of greater diameter than the said button, and a pipe connected to said button, substantially as and for the purpose set forth.

3. The pipe J and bellows K, in combination with a button, L, provided with a passage communicating with said pipe J, a casing, a pump-barrel within which said button extends, a plunger, and a spring contained within said barrel, substantially as described.

4. A pump-casing having an opening in its top, in combination with a barrel having a bulged head fitting said opening, a handle attached to said barrel, and a rounded button securing said barrel to said casing, substantially as described.

5. A flexible pump-barrel having a rounded or bulged head, a plunger constructed to fit said head, a spring contained within said barrel, a casing inclosing said barrel, and an outlet and inlet pipe communicating with the interior of said casing, substantially as set forth.

R. P. GARSED.

Witnesses:

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