

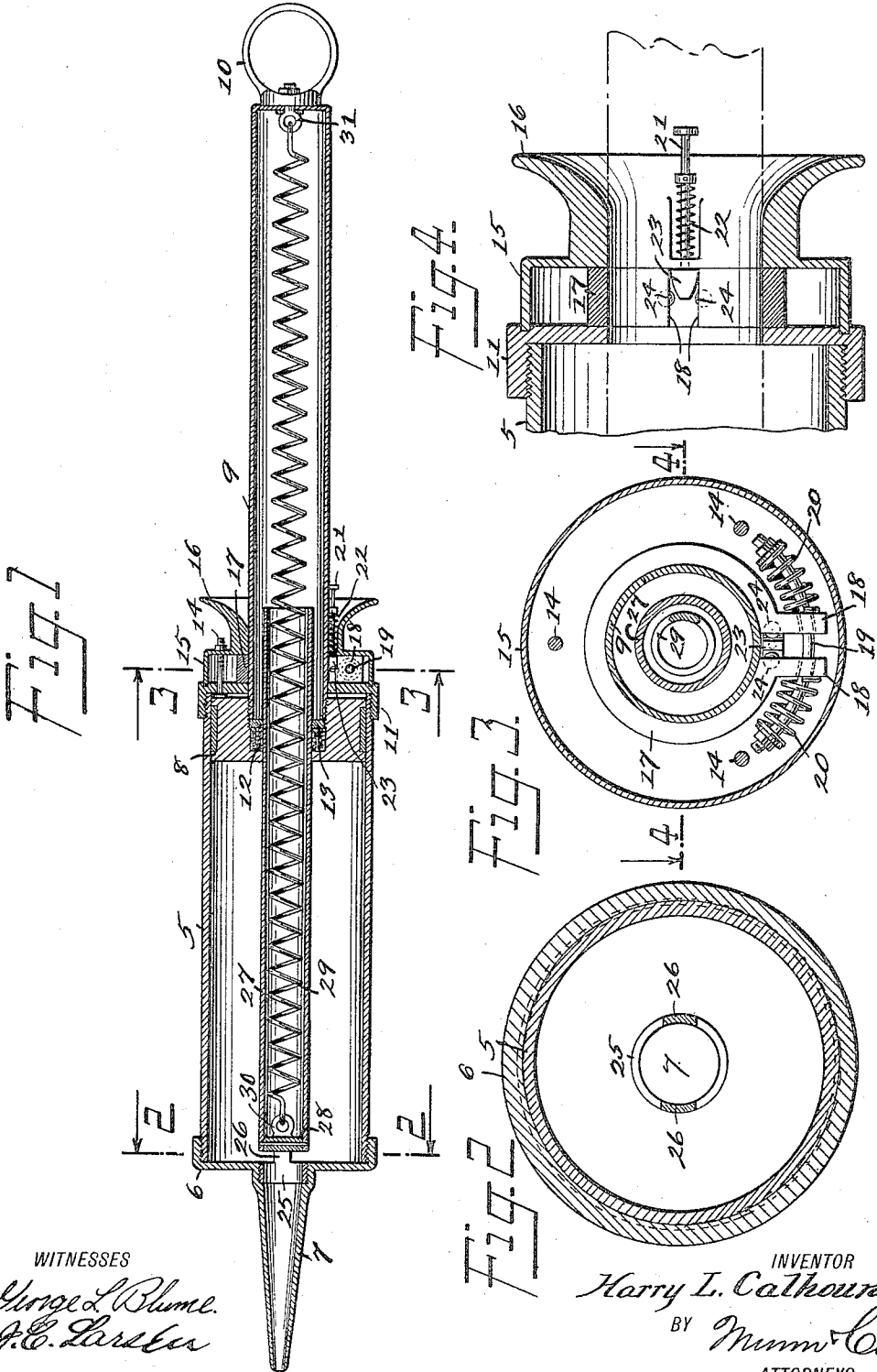
H. L. CALHOUN.

SYRINGE.

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1,123,990.

Patented Jan. 5, 1915.



WITNESSES

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UNITED STATES PATENT OFFICE.

HARRY L. CALHOUN, OF DOW, ILLINOIS.

SYRINGE.

1,123,990.

Specification of Letters Patent.

Patented Jan. 5, 1915.

Application filed August 12, 1914. Serial No. 856,363.

To all whom it may concern:

Be it known that I, HARRY L. CALHOUN, a citizen of the United States, and a resident of Dow, in the county of Jersey and State of Illinois, have invented certain new and useful Improvements in Syringes, of which the following is a specification.

My invention relates to syringes, particularly to the type used for dosing or inoculating animals, such as horses, cows, and the like, and the main object thereof is to provide a syringe which is provided with means for automatically discharging the contents, and with means for manually controlling said discharge means, whereby a person may manipulate a syringe of relatively large size with one hand while being free to employ the other for other purposes.

When horses or cattle are to be dosed, it is first necessary to open the mouth of the animal to a certain degree, thus requiring one hand of a person, the other hand holding the filled syringe, the fingers around the barrel and the thumb on the piston-rod, but, in the struggles of the animal, such person may be compelled to use both hands temporarily to subdue the animal, thereby releasing his piston actuating grip on the syringe, and, when the animal is subdued, he must again arrange the syringe in position to discharge the contents, this possibly being repeated many times, and it is highly probable that he will in the meantime have spilled a large part of the contents of the syringe.

By means of my syringe, however, the person is not put to the necessity of placing his finger or thumb on the piston rod, nor is he compelled to search with his thumb for the end of such rod, as with the present syringes, for the reason that the discharge of the contents of the syringe is automatic, all that the operator has to do is to control the same by means of a button arranged close to his gripping fingers, and he may thus use a syringe of such size as would require both hands in conventional syringes.

My invention is fully described in the following specification, of which the accompanying drawings form a part, in which the separate parts are designated by the same reference characters in each of the views, and in which:—

Figure 1 is a central, longitudinal, section taken through a syringe constructed in accordance with my present invention, ready

for discharging the contents; Fig. 2 is a section taken on the line 2—2 of Fig. 1; Fig. 3 is a section taken on the line 3—3 of Fig. 1; Fig. 4 is a section taken on the line 4—4 of Fig. 3, with certain interior parts removed to show a detail.

In the drawings forming a part of this application I have shown a present preferred form of embodiment of my invention, comprising a barrel 5 having a cap 6 screw-threaded on one end thereof and provided with a nozzle 7, a piston 8 movable by means of a hollow rod 9 having a ring 10 on its outer end, and a cap 11 through which said rod passes, said piston having a stuffing-box 12 and a retaining ring 13, as is clearly shown in Fig. 1.

Secured to the cap 11, by means of suitable screws or bolts 14, is a bell-casing 15 provided with a flanged rim 16 adapted to be gripped by the fingers, the thumb being in the ring 10 in the conventional syringes to discharge the contents, but this is not necessary with my syringe, and said casing 15 incloses a split-ring 17 having ears 18 through which passes a segmental shaft 19 having two coil-springs 20 thereon, one on each side of the split in the ring, and bearing on the corresponding ears, said springs serving to force said ears toward each other and thus cause the split-ring to bind on the piston stem 9 and hold the same in place with respect to the barrel, longitudinally thereof.

Slidable in the bell flange of the casing 15 is a plunger 21 normally held in outward position by means of a spring 22 and carrying a wedge-shaped head 23 at the inner end thereof, in line with and closely adjacent the split in the split-ring 17 and, when said plunger is forced inwardly by the thumb of the operator, the head 23 enters the said split and forces the ears 18 apart, against the action of the springs 20, ball bearings 24 making this operation very easy, and the split-ring 17 is released from the piston rod 9, permitting the same to move as will be later explained.

Screw-threaded, in the form illustrated, into the nozzle 7 is a band 25 provided with two lugs 26 secured, in desired manner, to a tube 27 passing through the piston 8, said tube being closed at its outer end as shown at 28, and within the said tube is a coil-spring 29 connecting the outer end thereof with the ringed end of the piston rod by

means of eyes 30 and 31, the tendency of said spring being to draw the said rod and piston 8 downwardly into the barrel 5 to force the contents of the latter through the nozzle 7.

It will thus be seen that, after the barrel has been charged in the usual manner, all that is necessary for the operator to discharge the contents of the barrel is to force the plunger 21 inwardly, thereby permitting the spring 29 to draw the piston into the barrel, and this valve movement is under absolute control of the operator as he may easily regulate the degree of pressure on the said plunger and, said plunger being in close proximity to the finger gripped bell flange, he does not need to waste time feeling for the end of the piston stem when he has the animal in a receptive position or mood.

While I have shown certain details of the construction, I do not limit myself thereto, but may make changes thereover, within the scope of the following claims, as will be understood.

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

1. A syringe, comprising a barrel, a hollow piston therein, a hollow rod thereon, a

spring passing through the piston and secured in said barrel and in said rod for drawing said piston into said barrel, and manual means for controlling the degree of piston movement.

2. A syringe, comprising a barrel, a hollow piston thereon, a hollow rod thereon, a spring passing through the piston and secured in said barrel and in said rod for drawing said piston inwardly of said barrel, finger grips on said barrel, and manual means adjacent said grips for controlling the degree of piston movement.

3. A syringe, comprising a barrel, a hollow piston therein, a hollow rod thereon, a spring passing through the piston and secured in said barrel and in said rod for drawing said piston inwardly of said barrel, a spring tension collar around said rod, and exterior means for manually expanding said collar to control the movement of said rod and piston.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY L. CALHOUN.

Witnesses:

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