J. L. McCLELLAN.

EXTRACTOR AND CAPSULE SYRINGE

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1,074,965. Patented Oct. 7, 1913.

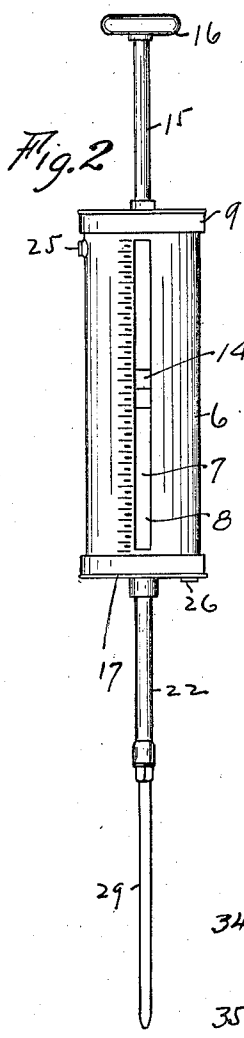


Fig. 2

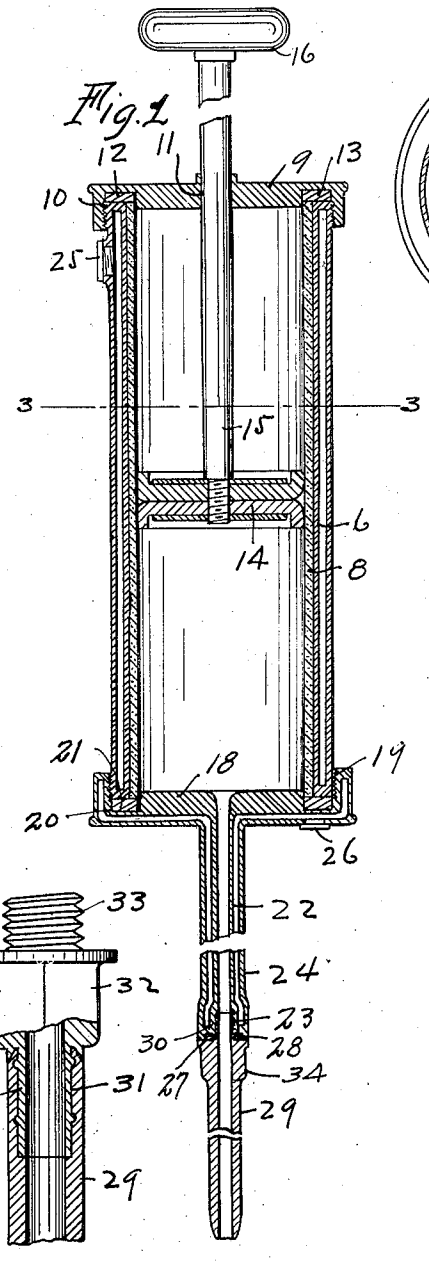


Fig. 1

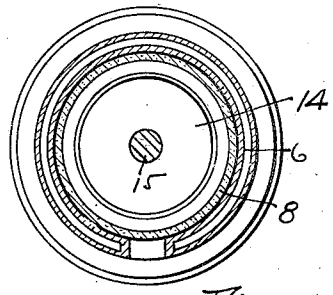


Fig. 3

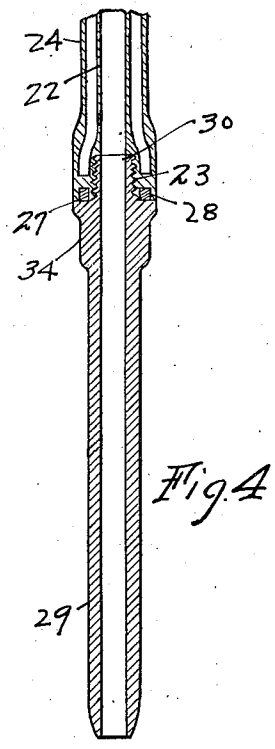


Fig. 4

Fig. 5

WITNESSES

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EXTRACTOR AND CAPSULE SYRINGE

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Application filed August 16, 1912. Serial No. 715,421.

To all whom it may concern:

Be it known that I, JOHN LOONER McCLELLAN, a citizen of the United States, residing at Rockford, in the county of Spokane and State of Washington, have invented new and useful Improvements in Extractor and Capsule Syringes, of which the following is a specification.

My present invention relates to an improved extractor and capsule syringe especially designed for the breeding of horses.

The principal objects of my invention are to provide a syringe so constructed that the contents of the syringe may be brought to a desired temperature and so maintained for a desired length of time, and also to so construct the ejecting nozzle base portion that the substance ejected, in passing therethrough, is brought more minutely to that degree of temperature desired.

Further objects of my invention are to provide a flexible ejecting nozzle, operatively connected to the base, and relates to details of construction as hereinafter specifically set forth.

In the drawings, forming a part of this specification:—Figure 1 is a central longitudinal sectional view through a syringe embodying my invention. Fig. 2 is a side elevation of the same. Fig. 3 is a cross sectional view on the lines 3—3 of Fig. 1. Fig. 4 is an enlarged detailed sectional view through a portion of the nozzle and nozzle base. Fig. 5 is an enlarged detailed view partly in elevation and partly in section disclosing a modified means of mounting the flexible nozzle in connection with the nozzle base.

Similar characters refer to similar parts throughout the several views.

A cylindrical shell 6, having a hollow wall, exteriorly screw threaded at ends and provided with a graduated sight opening 7, suitably closed by transparent material, extending longitudinally thereof, is adapted to receive, in close contact with the inner periphery thereof, a transparent cylindrical shell 8, of substantially the same length as the cylindrical shell 6. The shells 6 and 8 constitute a jacketed cylindrical structure adapted to confine fluid laterally. A cap 9 is provided with an internally screw threaded annular flange 10, adapted to be screwed upon one end of cylindrical shell 6. This cap is provided with an aperture 11 concentric to the axis of the shell 8, and an annular recess 12 in the face from which the flange 10 protrudes. The recess 12 is of a depth adapted to receive a gasket 13, and a portion of the ends of shells 6 and 8, and is of a width to closely confine the shells 6 and 8 against the walls thereof, as clearly shown in the drawings. By this means the "hollow" in the wall of shell 6 is brought even with the face of the cap 9, or may extend into the recess 12 beyond such face, if such is desired.

Within shell 8 a piston 14, of any suitable design, is provided, having a rod 15 extending through aperture 11 in cap 9 to reciprocate the piston within the shell. A suitable handle 16 is provided at the end of rod 15 to facilitate actuating the same.

The end of cylinder 6, opposite from cap 9, is provided with what I hereinafter term a nozzle face 17. It is constructed to form a cap portion 18, similar to cap 9, in that it has an internally threaded flange 19 and annular recess 20, in connection with a washer 21, serving a purpose like the flange 10 in recess 12, respectively, of the cap, that is, to confine the fluid within the shell to the extent desired. From the cap portion 18 extends a tubular projection 22, in communication with the interior of shell 8, and having the end portion of its bore enlarged and internally screw threaded as at 23, for a purpose to be subsequently disclosed. The outer face of cap portion 18 and tubular projection 22 is jacketed, as by wall 24, and this jacketing may extend about flange 19. A screw threaded plug 25 permits access to the "hollow" of the wall of shell 6, and a similar plug 26, access to the "hollow" formed by jacketing 24, so that the heated fluid may be placed therein.

The outer end face of tubular projection 22 is provided with an annular recess 27, concentric to the enlargement 23 of the bore of the tube, this recess being adapted to receive a gasket 28.

The ejection nozzle 29, which is made of flexible material, may be provided with a screw threaded extension 30, to fit into recess 23 of extension 22, formed integral therewith, as shown in Figs. 1 and 4 of the drawings. By this construction a continuous duct is formed through extension 22 and nozzle 29 of uniform diameter.

In Fig. 5 I have shown a modified means

of mounting flexible nozzle 29, which latter, in this case, has an enlarged bore 31 at its end adjacent the end of extension 22, a nipple 32 being interposed between the two. This nipple includes a threaded portion 33 to fit into bore 23, a nut portion 34 to facilitate connection of parts, and tubular extension 35 fitting into bore 31 of nozzle 29, to which it is soldered or otherwise secured. A continuous duct is provided, of uniform diameter, from the interior of the shell 8 to the ejecting end of nozzle 29. When either form of nozzle mounting is used, the gasket 28 provides a fluid tight joint at the end of extension 22.

In operation, prior to ejecting the fluid from the shell 8, the material therein is made warm by introducting heated fluid, such as water, into the "hollow" of the wall of shell 6. Fluid, also of the desired temperature, is introduced into the "hollow" formed by jacketing 24, and as the fluid passes through the duct formed by extension 22, it is brought more minutely to the desired temperature before being ejected.

I claim:—

An extractor and capsule syringe comprising in combination, a cylindrical structure, a piston and piston rod for said cylindrical structure, a cap closing one end of said structure but permitting passage of said piston rod exteriorly of the latter, and a nozzle base for the other end of said cylindrical structure, including a cap portion, tubular extension having its duct in communication with the interior of said cylindrical structure, and a jacketing wall for said cap portion and tubular extension, adapted for the introduction of fluid thereabout, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN LOONER McCLELLAN.

Witnesses:

CHARLES P. CORY,

JAMES M. MATTERN.