No. 849,772. PATENTED APR. 9, 1907.

G. E. CORDEAUX.

BOTTLE PUMP.

APPLICATION FILED AUG. 1, 1906.

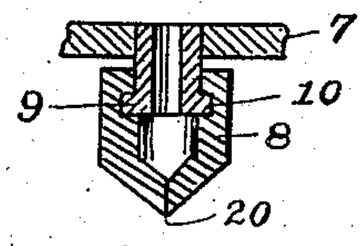

Fig. 5

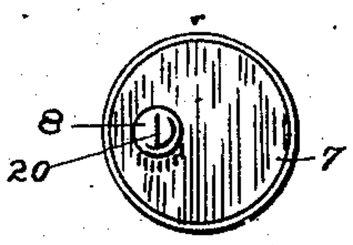

Fig. 4.

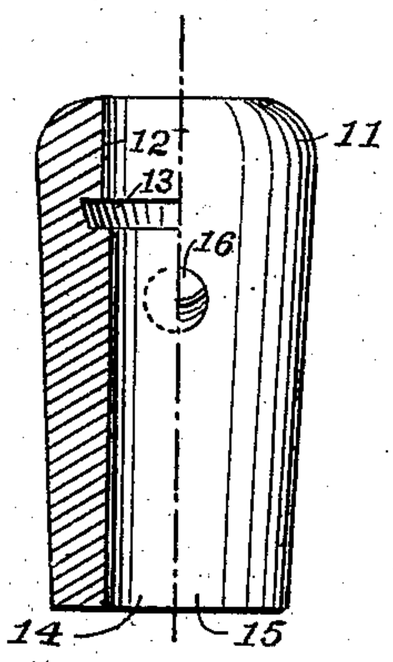

Fig. 3.

Fig. 1

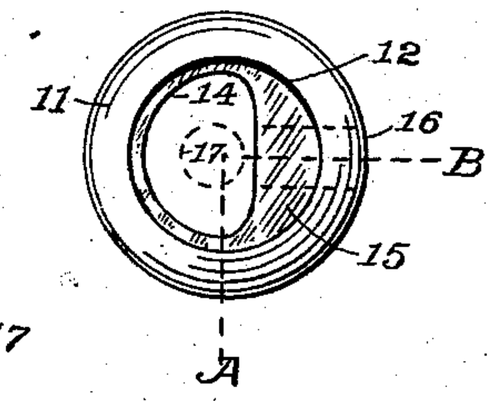

Fig. 2

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BOTTLE-PUMP.

No. 849,772. Specification of Letters Patent. Patented April 9, 1907.

Application filed August 1, 1906. Serial No. 328,681.

To all whom it may concern:

Be it known that I, GASTON E. CORDEAUX, a citizen of the United States, and a resident of the city, county, and State of New York, have invented certain new and useful Improvements in Bottle-Pumps, of which the following is a specification.

My invention relates to improvements in bottle-pumps of that class more particularly adapted for drawing acid from carboys, the objects being to provide simple yet effective interchangeable parts consisting of a powerful air-pressure pump and of a novel stopper for the bottle, as will be more fully hereinafter described.

In the accompanying drawings, which form part of this specificaton, Figure 1 is a side elevation of my improved pump, the stopper and lower part of pump being shown in central section. The stopper is shown inserted in the mouth of a bottle, the part below the neck being broken away. Fig. 2 is a plan view of the stopper. Fig. 3 is a cross view of the stopper shown in Fig. 1, being shown in section on line A B of Fig. 2 as seen from the side B. Fig. 4 is the bottom of the pump, and Fig. 5 is an enlarged sectional view of a simple air-check valve.

Similar reference-numbers indicate similar parts in the several views.

The pump is of ordinary construction, having a cylinder 2, plunger 3, flanged washer 4, cap 5, and handle 6. The disk base 7 is of novel construction, the disk extending beyond the periphery of the cylinder and being slightly beveled, so as to afford a better hold in the stopper.

8 is an air-check valve composed of a flanged nipple 9 and a rubber "teat-valve" provided with an interior annular groove 10, whereby it is fastened on the flanged nipple.

20 is a slit which opens by pressure from pump, but closes when outer pressure is against it.

The stopper 11, which is somewhat longer than an ordinary one, is preferably made of flexible rubber or other suitable material, being tapering in form and having a longitudinal opening therethrough. The upper end of the stopper has a round central opening 12 for the reception of the pump. Below the opening is an annular groove 13, to receive the disk base 7. Below this groove 13 the opening through the stopper is reduced in size and assumes an irregular oval shape 14, one side of the wall being thickened, as shown at 15. Through this thickened portion a downwardly-curved side opening 16 is provided for the purpose of affording a communication and passage-way for the hose or tubing 17, which tightly fits into said side opening. This hose or tubing extends down into the bottle 18, which contains the liquid 19. The dotted circle in Fig. 2 shows this hose when in position within the opening 14 of the stopper.

Such being the construction of my improved bottle-pump, the operation is as follows: We will assume that it is desired to draw acid from a carboy. The hose having been drawn through the stopper so that the length within the carboy reaches near the bottom, the free end of the tube (shown by broken and dotted connecting-lines) is led to where the acid is to be discharged or used. The stopper is inserted in the carboy. The pump is inserted into the top opening of the stopper, which will yield, owing to the nature of the material, the disk engaging the annular groove and bottoming on the thickened part of the stopper, as shown in Fig. 1, the air-check valve being in the opening 14 and free to act. To force out the acid, the stopper is held down firmly with one hand near the base of the pump, and a few downward strokes of the plunger by means of the handle will compress the air above the acid and compel it to rise up into and through the hose, the air-check preventing the escape of the pressure upon the acid. To stop the flow of the acid, either withdraw the stopper from the bottle or remove the pump from the stopper. If the latter is done, a common stopper (not shown) can be inserted in both the upper opening of the bottle-stopper and in the free end of the hose, when the fumes will be confined within the carboy. The bottom of the disk 7 may be coated with asphaltum, wax, or any suitable acid-resisting medium. If the air-check valve should become inoperative, it can be quickly replaced by a perfect one. The pump being of the usual construction, the cap can be unscrewed and the flanged washer or packing be examined or replaced when repairs are needed, and owing to the powerful air-pressure which this style of a pump is capable of producing the action of the completed device

is positive. No part is liable to get out of order; but if it does such parts are quickly replaced with perfect ones.

What I claim as new is—

1. In a liquid-dispensing device, a piston-pump provided with a disk base, said disk base extending beyond the periphery of the cylinder of said pump and adapted to engagement within a bottle-stopper adapted to seat said pump.

2. In a liquid-dispensing device a piston-pump provided with a disk base, said base extending beyond the periphery of the cylinder of said pump, a check-valve extending outwardly from said pump, the said disk base being adapted to engage an annular inner groove of a bottle-stopper substantially as described.

3. In a liquid-dispensing device, a stopper having a longitudinal opening therethrough and having an interior annular groove, part of said opening being round in cross-section above the interior annular groove and part of said longitudinal opening below said annular groove being of a smaller area than said round opening, said stopper also having a side opening communicating with the interior of said stopper, a tubing extending from the interior of said stopper through the said side opening, and an air-pressure pump adapted to be seated within the said round opening of said stopper, substantially as described.

4. In a liquid-dispensing device the combination of a piston-pump having a disk base which extends beyond the periphery of the cylinder of said pump, a hollow stopper adapted to seat said pump, and provided with a side opening and a hose or tubing extending through said hollow stopper from the center to and through said side opening below said pump, substantially as described.

Signed at New York city, in the county of New York and State of New York, this 31st day of July, A. D. 1906.

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Witnesses:

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