

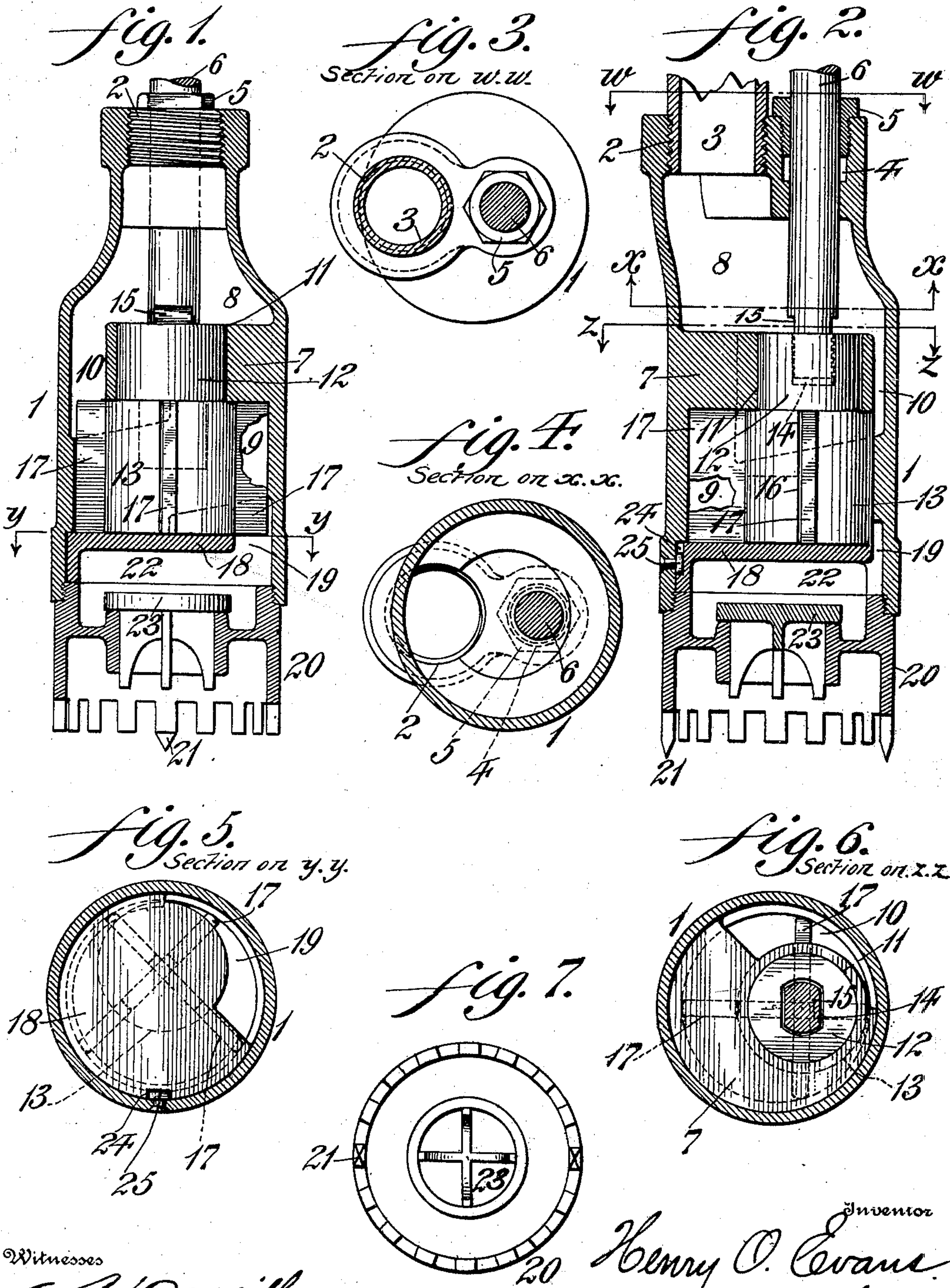
No. 746,482.

PATENTED DEC. 8, 1903.

H. O. EVANS.
ROTARY PUMP.

APPLICATION FILED JUNE 6, 1903.

NO MODEL.



Witnesses
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By

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UNITED STATES PATENT OFFICE.

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ROTARY PUMP.

SPECIFICATION forming part of Letters Patent No. 746,482, dated December 8, 1903.

Application filed June 6, 1903. Serial No. 160,284. (No model.)

To all whom it may concern:

Be it known that I, HENRY O. EVANS, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Rotary Pumps, of which the following is a specification.

My invention relates to rotary pumps such as are used in barrels or like receptacles.

It consists of means for insuring the delivery of a definite quantity of liquid by such pump without regard to the ullage of the barrel.

It further consists of novel details of construction, all as will be hereinafter set forth.

Figures 1 and 2 represent vertical sections, at right angles to each other, of a pump embodying my invention. Figs. 3, 4, 5, and 6 represent horizontal sections on the lines and in the directions indicated. Fig. 7 represents a bottom plan view of the device.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a casing having at its upper offset end an aperture 2 for connection with a pump-tube 3 and a second aperture 4, provided with a stuffing-box 5, through which passes a rod 6. An abutment 7 in the casing 1 divides the casing into discharge and pump chambers 8 and 9, connected by a semicrescent-shaped passage 10. Through the abutment 7 is an eccentrically-disposed cylindric opening 11, adapted to serve as a bearing for the reduced upper portion 12 of a piston 13. In the portion 12 is a recess 14, adapted to receive the shaved end 15 of the rod 6. Slots 16 through the body of the piston 13 are filled by blades 17, adapted to move snugly therethrough and to contact with the wall of the chamber 9. The base of the pump-chamber 9 is formed by a plate 18, having a peripheral recess 24, adapted to engage a pin 25 in the wall of the casing 1. A semicrescent-shaped passage 19 is formed between the edge of the plate 18 and the wall of the casing, the direction of its widening being the reverse of that of the passage 10. A cylindric foot portion 20 screws into the lower end of the casing 1, forming the lower

or suction chamber 22, and may have the ordinary spikes 21 for engaging the lower head of the barrel. The lower end of the chamber 22 is closed by a foot-valve 23 in the foot portion 20.

The operation is as follows: It will be understood that the device shown when in use is plunged to the bottom of a barrel of molasses, oil, or other liquid, that the pump-tube 3 and rod 6 extend out of the top of the barrel, and they are there provided with a suitable pump-spout and means for rotating the rod. As these features are well known in the art and form, *per se*, no part of my invention, I have not deemed it necessary to illustrate or further describe them. It will be seen that each rotation of the rod 6 turns the blade 17 in the chamber 9, the blades sliding smoothly through the slots 16 in the eccentrically-placed piston 13, the edges of the blades sweeping the walls of the chamber. Successive rotations of the rod will draw the liquid in the barrel through the foot-valve 23 into the suction-chamber 22 through the passage 19 into the pump-chamber 9, thence force it through the passage 10 into the discharge-chamber 8 and upward through the pump-tube 3. The foot-valve 23 will always act to prevent any return flow of the liquid, so that the casing 1 and tube 3 will after the first operation be kept full of the liquid up to the level of the discharging-point. This adapts my device for use with means for counting and registering the rotations of the rod 6, by which means the volume of liquid delivered may be measured. As such means form no part of the present invention, they are not here illustrated.

It is desirable that the diameter of the casing 1 be as small as is consistent with requisite capacity, so that the ordinary bung-hole of the barrel need not be enlarged. By offsetting the upper portion of the casing, as shown, I am able to center the rod 6 in the piston 13 without bulging the casing or increasing its size.

It is evident that various changes may be made by those skilled in the art which may come within the scope of my invention, and I

do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

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

1. A rotary barrel-pump provided at its lower end with a cylinder having substantially straight sides and with an offset portion above said cylindric portion, the greatest transverse diameter of which is not substantially greater than the diameter of said cylindric portion, said offset portion having an aperture for the insertion of a pump-tube and a second aperture adapted to pass a rotary rod.

2. In a rotary barrel-pump provided at its lower end with a cylindric casing having substantially straight sides and with an offset portion above said cylindric portion the greatest transverse dimension of which is not substantially greater than the diameter of said cylindric portion, a pump-tube connected with said offset, a rotary rod exterior of said tube and passing into said offset, an abutment and a

plate dividing said casing into a plurality of chambers, passages between said chambers and plate, and a piston between said abutment and said plate.

3. In a rotary barrel-pump provided at its lower end with a cylindric casing having substantially straight sides and with an offset portion above said cylindric portion, the greatest transverse dimension of which is not substantially greater than the diameter of said cylindric portion, a pump-tube connected to the upper end of said offset portion, a rotary rod exterior of said tube and passing into the upper end of said offset portion, an abutment and a plate dividing said casing into chambers, passages between said abutments and plate and the wall of said casing, an eccentrically-placed piston forming part of the wall of said passages and blades movable in said piston.

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