

No. 649,282.

C. A. DRYER.
EJECTOR PUMP.

Patented May 8, 1900.

(No Model.)

(Application filed Feb. 10, 1900.)

Fig. 1

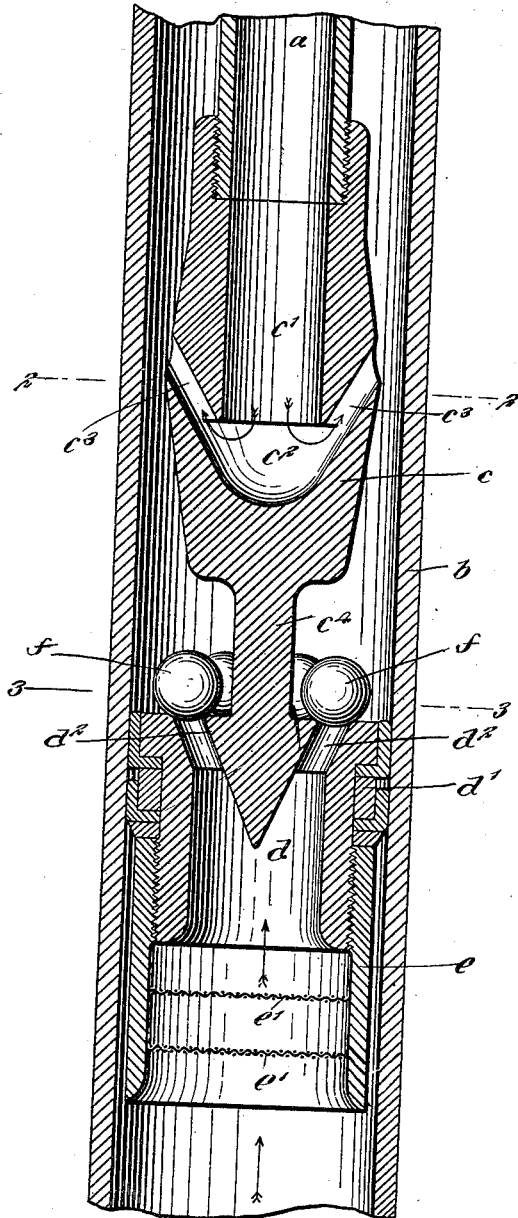


Fig. 2

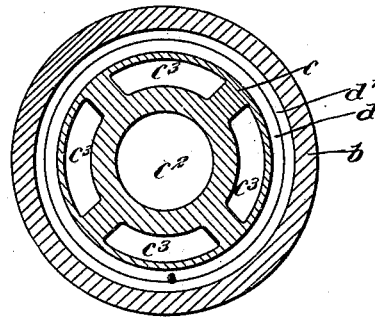
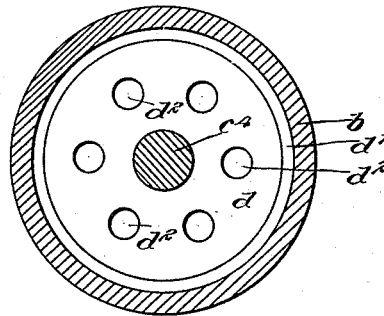


Fig. 3



WITNESSES:

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CHARLES A. DRYER, OF CHAMPAIGN, ILLINOIS.

EJECTOR-PUMP.

SPECIFICATION forming part of Letters Patent No. 649,282, dated May 8, 1900.

Application filed February 19, 1900. Serial No. 5,709. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. DRYER, a citizen of the United States, and a resident of Champaign, in the county of Champaign and State of Illinois, have invented a new and Improved Pump, of which the following is a full, clear, and exact description.

This invention relates to a pump adapted especially to deep-driven wells and which comprises certain special features of construction enabling me to more effectively employ a fluid-jet as the motive force.

This specification is the disclosure of one form of the invention, while the claims define the actual scope thereof.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional view of the invention in use. Fig. 2 is a section on the line 22 of Fig. 1, and Fig. 3 is a section on the line 3 3 of Fig. 1.

The pump comprises a supply-tube *a*, which is adapted to be let down into the well-tube *b* and connected with any suitable source of fluid-supply under pressure. The lower end of this pipe *a* is threaded into a head *c*, which has a longitudinal passage *c'* therein, forming a continuation of the tube *a*, this passage *c'* discharging into a chamber *c²*, from which pass diagonal upwardly-disposed orifices *c³*, discharging into the well-tube *b*. The fluid under pressure as it passes down the pipe *a* enters the chamber *c²* of the head *c* and is discharged into the well-tube through the orifices *c³*, thus creating an upward suction in the pipe, which serves to raise the liquid in the well-tube.

The head *c* is joined rigidly to a valve-casing *d* by a shank *c⁴*, and this valve-casing *d* is provided with suitable packing *d'*, forming a hermetic connection between the valve-casing *d* and the inner walls of the pipe *b*, such packing being held in place by a collar *e*, threaded on the casing *d*, as shown. This collar *e* projects below the casing and is provided with strainers *e'* for preventing substances from rising into the pump to clog the same. The valve-casing *d* has a number of passages *d²* therein, through which the water passes upward above the valve-chamber, and these passages *d²* are commanded by ball-valves *f*, seated on the valve-chamber, as shown.

As the partial vacuum is created in the well-tube above the valve-chamber the water is drawn through the valve-chamber to a point above the same, from whence it is forced up the well-tube, as explained, the valves *f* preventing the fall of the water back through the valve-casing.

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

1. A pump, comprising a valve-casing, a valve commanding the passage in the casing, and a head attached to the casing above the same and comprising a chamber having communication with a source of fluid-supply, the head also having a passage conducting a jet of fluid from the head.

2. A pump, comprising a valve-casing with a passage therein, a valve commanding the passage, and a head connected with the valve-casing and having communication with a source of fluid-supply, the head having a discharge-passage for directing a jet of fluid from the head.

3. A pump, comprising a head in communication with a source of fluid-supply, and formed with a chamber and one or more diagonally-disposed passages conducting fluid-jets from the head, a valve-casing; a shank connecting the valve-casing with the head, and a valve commanding a passage in the valve-casing.

4. A pump, having a valve-casing, a collar mounted on the valve-casing and projected beyond the same, and a strainer carried by the projected portion of the collar.

5. A pump, comprising a head in communication with a source of fluid-supply, and formed with a discharge-passage for conducting a fluid-jet from the head, a shank in connection with the head, a valve-casing held by the shank, and a valve commanding a passage in the casing.

6. The combination of a valve-casing, a packing surrounding the same, a collar serving to hold the packing in place and projected from the casing, and a screen held by the projected portion of the collar.

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

CHARLES A. DRYER.

Witnesses:

W. H. TARRANT,
WM. F. ASTER.