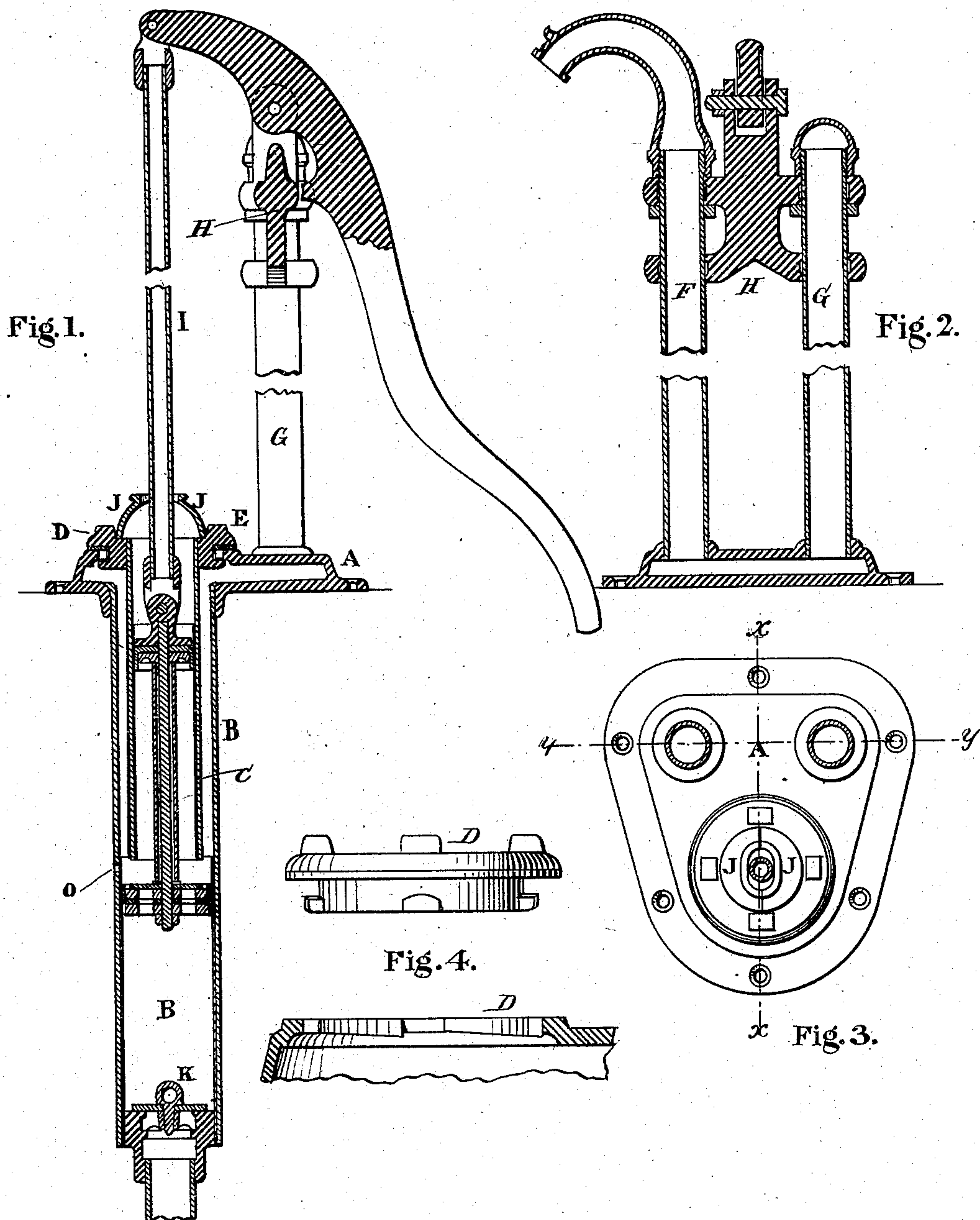


(No Model.)

B. C. VANDUZEN.
Pump.

No. 241,572.

Patented May 17, 1881.



Witnesses:

Wm. H. H. Knight
Fred F. Church.

Inventor:

Benj. C. Vanduzen
By Ed. Leesworth
His Attorney.

UNITED STATES PATENT OFFICE.

BENJAMIN C. VANDUZEN, OF CINCINNATI, OHIO.

PUMP.

SPECIFICATION forming part of Letters Patent No. 241,572, dated May 17, 1881.

Application filed November 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN C. VANDUZEN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Pumps; and I do hereby declare the following to be a full, clear, and exact description of the same, which will enable others skilled in the art to which my invention appertains to make and use it, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical transverse section through the line *x x*, Fig. 3. Fig. 2 is a side view through the line *y y*, Fig. 3. Fig. 3 is a top-plan view of the platform or stand, the discharge-pipe, air-pipe, and plunger-rod being shown in section; and Fig. 4 is a detached view of the coupling-joint.

Similar letters of reference denote like parts in the several figures of the drawings.

My invention has for its object to improve the construction and operation of force-pumps; and to this end it consists in the combination and construction hereinafter set forth.

In the accompanying drawings, A represents the stand or platform by which the pump is suspended for operation. It is cast hollow to form a requisite water-passage to the air-chamber and discharge-pipe, and with the enlarged central opening for the application and removal of the plungers.

B is the main cylinder suspended from the flange and extending into the well the requisite distance.

C is the small cylinder suspended from a coupling-ring, D, adapted to fit by a coupling-joint into the top opening of the stand, suitable packing, E, being employed between the joints. By turning the coupling the small cylinder, as well as the plungers, can be easily applied and removed from the main cylinder.

F and G are pipes rising opposite each other from the main platform, and each communicating with the interior of the latter, one pipe serving as a water-discharge and the other as an air-chamber, being connected at the top by a branched casting, H. By changing the nozzle and cap on these two pipes the pump may be converted into a right or left discharge.

The pump-handle is connected by a rod, I,

with the double plungers, and passes through a divided cap, J, which rests loosely upon the coupling, to exclude the dirt from the cylinders.

K is the lower valve, seated at the lower end of the main pump-cylinder in any convenient manner, so as to be easily removed from the top.

When in operation the plungers force and lift the water into the annular passage between the two cylinders B and C, thence into the hollow platform, and from the latter into the discharge, as will be readily seen. A small hole, O, in the side of the main cylinder serves to drain the pump when not in use, to prevent it from freezing. These cylinders may be lined with either copper or porcelain, to give them a smooth wearing-surface.

I do not claim in this application a suspended pump having its suspending platform or flange so made that the plungers and plunger-rod and lower valve can be lifted out without displacing the stationary pump-cylinder, discharge-pipe, or the suspending-flange itself; nor do I claim in this application a suspending-flange having an enlarged central opening closed by a removable guide-cap, as these features are claimed in another application filed of even date herewith.

Having thus described my invention, what I claim is—

1. The hollow base in combination with the main exterior cylinder and the smaller cylinder contained within the exterior cylinder, substantially as described, for the purpose specified.

2. The coupling-joint combined with the base and small cylinder, substantially as described, for the purpose specified.

3. The hollow base cast with the large central opening, in combination with the coupling-joint, small cylinder, and double plunger, substantially as described, for the purpose specified.

4. The hollow base in combination with the main exterior cylinder, small interior cylinder, and the discharge and air pipes, substantially as described, for the purpose specified.

5. The combination of the loose caps with the coupling-joint and pump-rod, substantially as described, for the purpose specified.

6. A main cylinder sustained within a suitable base, and an interior cylinder sustained

by a detachable coupling, in combination with the double plungers, an air-chamber, and discharge-pipe, substantially as described, for the purpose specified.

- 5 7. A detachable coupling supporting an interior pump-cylinder from a suitable base, in combination with a main cylinder of larger diameter, substantially as described, for the purpose specified.

The foregoing specification of my invention is signed by me this 22d day of October, A. D. 1880.

BENJAMIN C. VANDUZEN.

Witnesses:

E. A. ELLSWORTH,
JOSEPH COX, Jr.