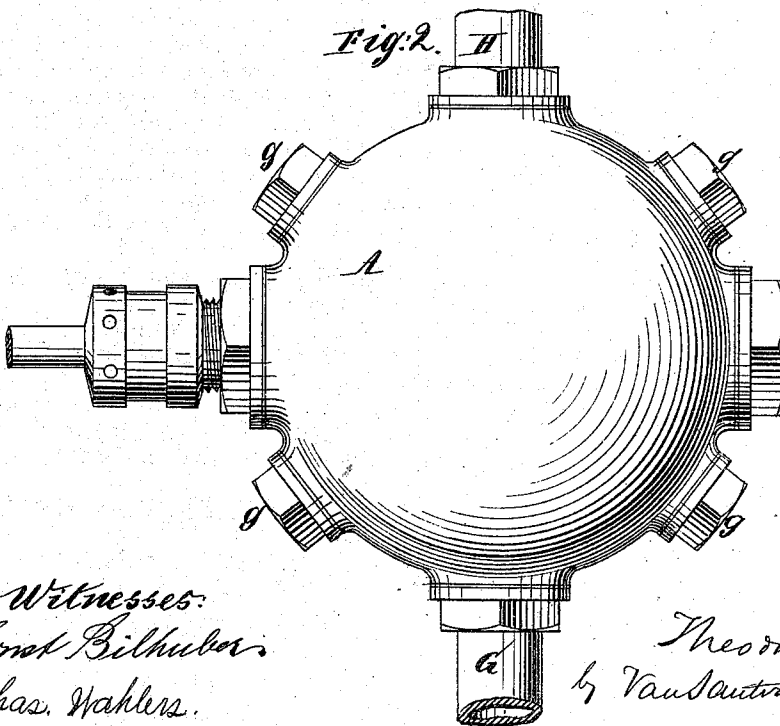
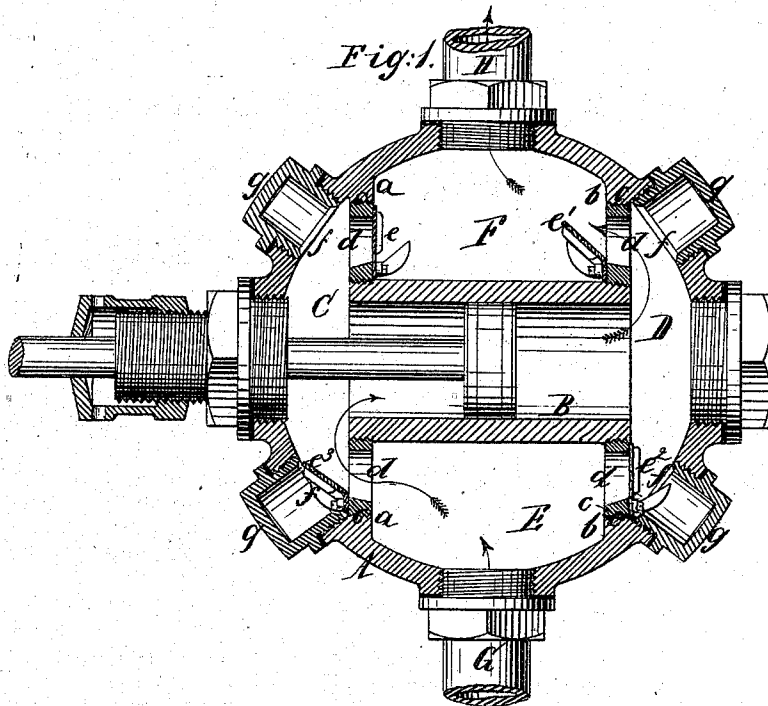


T. C. H. KRAUS.
Pumps.

No. 142,028.

Patented August 19, 1873.



Witnesses:
Ernst Bilhuber.
Chas. Wahlen.

Inventor:
Theodor C. H. Kraus
by Vansant & Hauff
his attys

UNITED STATES PATENT OFFICE.

THEODOR C. H. KRAUS, OF FISHKILL, NEW YORK.

IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. **142,028**, dated August 19, 1873; application filed July 23, 1873.

To all whom it may concern:

Be it known that I, THEODOR C. HERMAN KRAUS, of Fishkill, in the county of Dutchess and State of New York, have invented a new and useful Improvement in Pump-Cylinders; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a central section of my invention. Fig. 2 is a side view of the same.

Similar letters indicate corresponding parts.

This invention consists in a globe-shaped shell cast all in one piece with partitions, forming in the interior of said shell the cylinder, two valve-chambers, and the supply and discharge chambers, in such a manner that a pump-cylinder of great strength is obtained, which requires comparatively little labor in fitting, and through which the liquid passes freely and with comparatively little resistance, on account of the spherical shape of the shell. In the shell are made holes, which are closed by screw-plugs, and by removing these plugs easy access can be had to the valves and valve-seats.

In the drawing, the letter A designates a globe-shaped shell, which is cast in one piece, and in the interior of which is situated the cylinder B, the ends of which open into the valve-chambers C D. These valve-chambers are separated from the supply-chamber E and the discharge-chamber F by partitions *a* and *b*, and in these partitions are holes *c* to receive thimbles *d*, the surfaces of which form the seats for the valves *e e'* *e'' e'''*. These valves are hinged to the thimbles, as shown in Fig. 1,

and in the shell A are holes *f*, which are closed by screw-plugs *g*. By removing these plugs, the thimbles *d*, together with their valves, can be introduced and adjusted in the required position, and when the pump is in operation and one of the valves becomes deranged, easy access can be had to it by removing the appropriate screw-plug. The supply-chamber E communicates with the supply-pipe G, and the discharge-chamber F with the delivery-pipe H. By referring to Fig. 1, it will be seen that the sides of the valve-chambers and of the chambers E F form segments of the globe-shaped shell A, so that the liquid, which in its passage from one chamber to the other follows these curved sides, will meet with the least possible resistance, and my pump can, therefore, be operated with comparatively little power. Furthermore, on account of its spherical shape, the shell A possesses superior strength, and my whole pump-cylinder can be fitted up with comparatively little labor.

My pump-cylinder is intended particularly for direct-acting steam-pumps; but it can be used with advantage for any double-acting pump.

What I claim as new, and desire to secure by Letters Patent, is—

The spherical shell A, containing in its interior the cylinder B, valve-chamber C D, supply and discharge chambers E F, and valves *e e'* *e'' e'''*, to which access can be had by means of screw-plugs *g*, all constructed in the manner and for the purpose substantially as shown and described.

THEODOR C. HERMAN KRAUS.

Witnesses:

ERNEST E. TH. L. KRAUS,
JOHN B. BENZ.