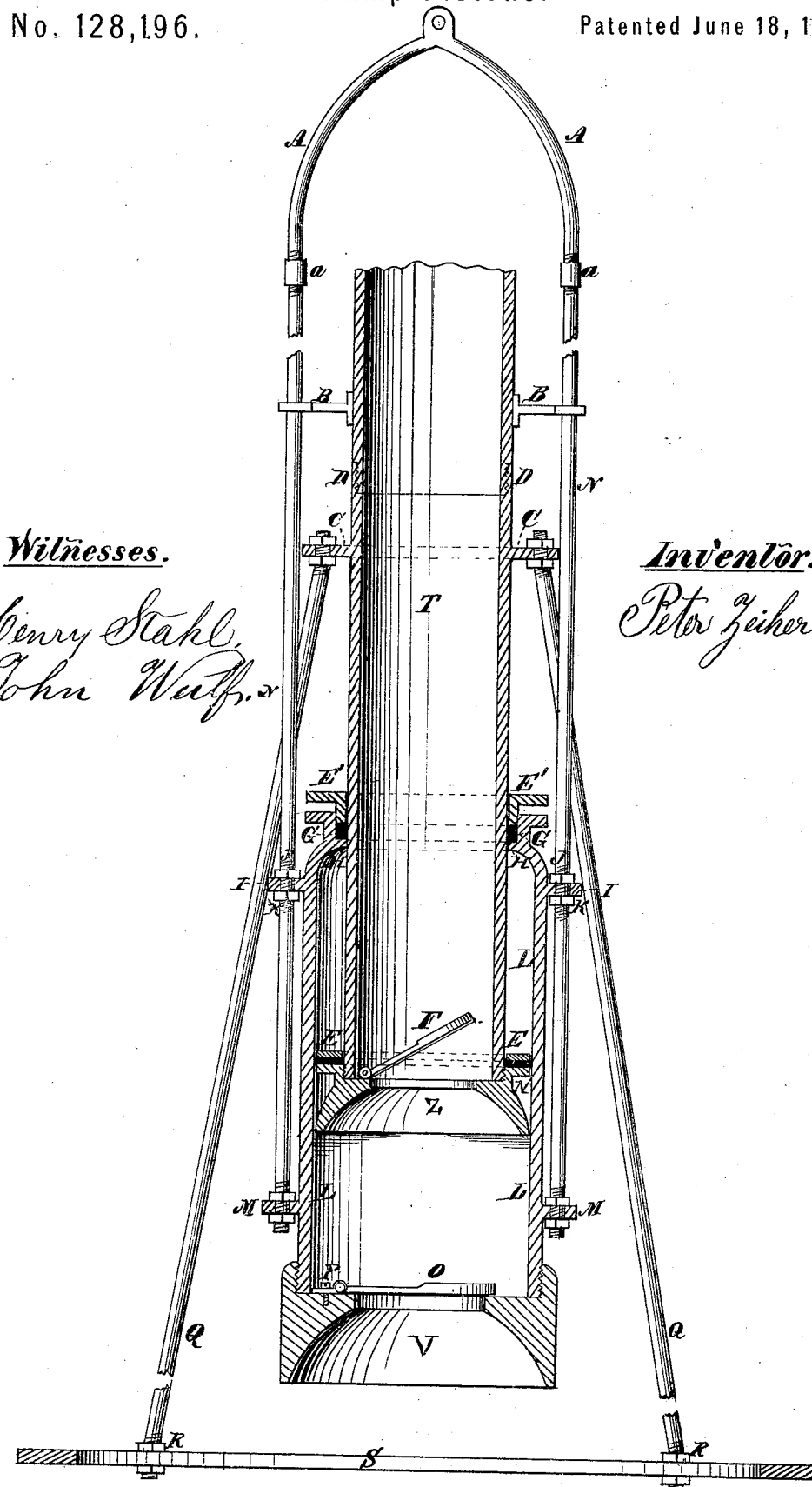


P. ZEIHNER.
Pump-Pistons.

No. 128,196.

Patented June 18, 1872.



Witnesses.

Henry Stahl,
John Waff.

Inventor.

Peter Zeihner.

UNITED STATES PATENT OFFICE.

PETER ZEIHNER, OF POMEROY, OHIO, ASSIGNOR TO HIMSELF, JOHN RAHN,
JOHN WOLF, AND HENRY STAHL, OF SAME PLACE.

IMPROVEMENT IN PUMP-PISTONS.

Specification forming part of Letters Patent No. 128,196, dated June 18, 1872.

To all whom it may concern:

Be it known that I, PETER ZEIHNER, of Pomeroy, in the county of Meigs and State of Ohio, have invented certain new and useful Improvements in Pumps, of which the following is a specification, reference being had to the accompanying drawing.

Nature and Objects of the Invention.

The invention relates to a pump, provided with a hollow cylinder, working upon a hollow piston, the base of each being provided with an induction channel expanded at its base and valve, the cylinder operating vertically upon the piston and guide-rods; the object of the invention being to provide a means of elevating and discharging fluid or semi-fluid matter; also viscid and gross substances.

Description of the Accompanying Drawing.

The accompanying drawing is a vertical central section of a device embodying the elements of the invention.

General Description.

A in the accompanying drawing is the main guide to the aperture, in the crown of which the power may be applied. This guide is secured by the threaded sleeves *a* to the pump-rods N, which pass downward through the rim B, which is secured to the hollow piston T, which is provided with the rim C, connected with base-ring S by the rods Q. The piston T is fixed in a stationary position, its lower end being provided with the expanded induction-chamber Z, the lower superficies of which are conical, its lower edges being of sufficient circumference to fit between the valve O and the adjacent walls of the cylinder L. The upper part of the cap Z is provided with a hollow rim over the aperture, in the center of which is placed the valve F, which opens upward. The expanded induction-chamber Z is also provided on its outer circumference, near its upper edge, with a packing-rim, N, the edge of which impinges upon the inside of the cylinder L, and corresponds in size with the packing-flange E, secured to the lower end of the piston T. The collar E' consists of a

vertical hoop or band, having an internal horizontal rim, the hoop fitting within the upper upright flanges of the cylinder L, while the piston T passes through the aperture in the center of the rim. The cylinder L is hollow and of such circumference as to inclose the piston T and the expanded induction-chamber Z. It is secured to the pump-rods N, and rises and descends upon the piston T when the main guide A is operated. The lower part of the cylinder L is provided with the expanded induction-chamber V, the lower superficies of which are conical, the upper vertical, and similarly constructed to the corresponding parts of the expanded induction-chamber Z. It has likewise a valve, O, opening upward, but has not the packing-rim E. The upper part of the cylinder L is provided with the packing-rim H, against which the packing-rim E of the piston impinges when the cylinder is forced downward its full extent. The cylinder L is also provided at its upper and lower ends, respectively, with the flanges I and M, in which the pump-rods N are secured.

Operation.

The device being secured by the base-ring S in an upright and proper position, the cylinder L is forced down into the fluid to be elevated, the valve O is thus thrown open, and the cylinder becomes filled with the fluid. A contrary movement of the main guide A elevates the cylinder L, and the fluid therein closes the valve O. As the cylinder L is elevated the valve F is thrown open, and the fluid passes through the aperture in the expanded induction-chamber Z into the piston T, the cylinder is then forced downward which closes the valve F, and thus the fluid raised by the last upward movement of the cylinder is retained in the piston T, the operation being continued until the piston is full, when the fluid may be removed from the top thereof by a spout or other suitable means.

I am aware that telescopic cylinders, large at the base—which is the moving part—have been made and used; but the present invention is designed for elevating viscid semi-fluid and gross substances, and the improvements

it presents have relation thereto; and I hence claim—

1. The cylinder L, provided with the expanded induction-channel V, as shown and described, in combination with the piston T provided with the expanded channel Z, as shown and described, for the uses and purposes set forth.

2. The cylinder L, provided with the packing-rim H, expanded induction-channel V, col-

lar E', and operated by the pump-rods N, substantially as shown and described.

3. The piston T, provided with the packing-rim E, and expanded channel Z, substantially as shown and described.

PETER ZEIHNER.

Witnesses:

JACOB BIRD,
DEWITT TURNER.