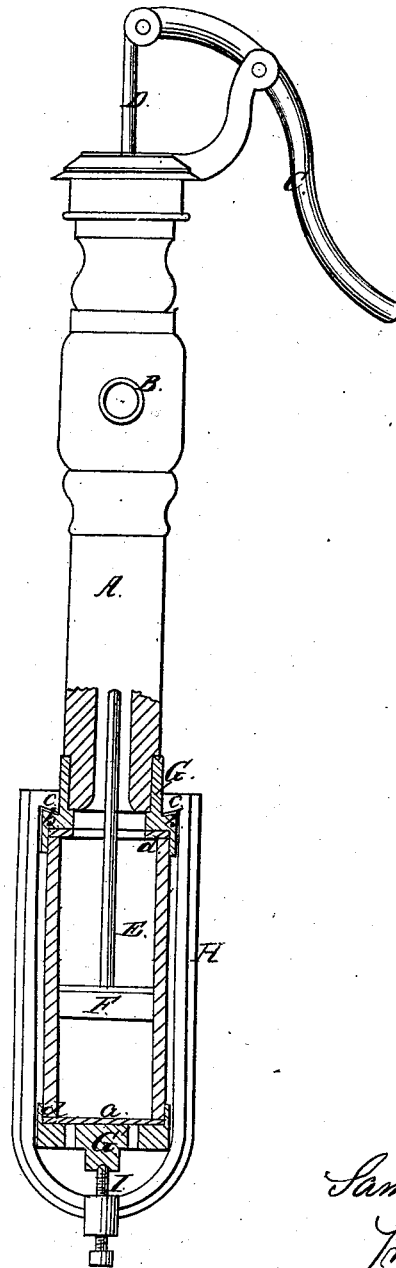


*S. Vance,*

*Pump Cylinder.*

*N<sup>o</sup> 52,346.*

*Patented Jan. 30, 1866.*



*Witnesses*  
*M. B. Livingston*  
*Thos. T. Welch*

*Inventor*  
*Samuel Vance*  
*per Munn & Co.*  
*Attys*

# UNITED STATES PATENT OFFICE.

SAMUEL VANCE, OF NEWBURYPORT, MASSACHUSETTS.

## IMPROVEMENT IN PUMPS.

Specification forming part of Letters Patent No. 52,346, dated January 30, 1866.

*To all whom it may concern:*

Be it known that I, SAMUEL VANCE, of Newburyport, in the county of Essex and State of Massachusetts, have invented a new and Improved Pump; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The drawing represents a vertical section of my invention.

This invention relates to a new and useful improvement in that class of pumps which are provided with glass cylinders and are designed to be submerged in the bottom of the well or reservoir from which the water is to be drawn or raised. Glass is a superior material for the cylinders of pumps of this class, as it is not affected by corrosion or rust, and forms a smooth hard surface for the piston to work in contact with, so that it will not be injured by wear, at least not in a very long period of time. The difficulty, however, attending this class of pumps has been the connecting of the heads to the cylinder so as to be water-tight, and at the same time admit of the former being readily detached from the latter when the piston requires to be withdrawn from the cylinder for repairs, and the ready attachment of the heads to the cylinder when the piston is repaired, as well as the firm connection of the glass cylinder with the pump-stock. This difficulty, it is believed, has been fully obviated by my invention, which consists in securing the heads to the glass cylinder and the latter to the pump-stock by means of a yoke or clamp and a screw, arranged in the manner substantially as hereinafter set forth.

A represents a pump-stock, provided at its upper end with a nozzle, B, through which the water escapes, and also provided with a brake or handle, C, to which the piston-rod D is attached. These parts may be constructed and arranged as usual, or in any proper way.

E represents the glass cylinder in which the piston F works. The upper end of this cylinder is fitted in a socket, G, secured on

the lower end of the pump-stock, and the lower end of said cylinder is fitted in a similar socket, G'. These sockets may be constructed of iron galvanized or otherwise coated with zinc, to prevent oxidation, or some other metal may be used which will not be affected by corrosion or rust.

The lower socket, G', is perforated, and provided at its inner side with a check-valve, a, and the upper socket, G, is tubular to admit of the pump-stock communicating with said cylinder, as shown clearly in the drawing.

The upper socket, G, is firmly secured to the pump-stock A, and it is provided with a shoulder, b, slightly inclined at its upper surface, for the ends c c of a yoke or clamp, H, to fit or catch over, the lower part of the yoke or clamp extending in semicircular or curved form underneath the lower socket, G', and having a screw, I, passing through it, which bears against the center of the under side of the socket G', and by screwing up which the sockets are made to bind or press firmly on the ends of the glass cylinder, and the latter also firmly secured to the pump-stock.

Packing d is interposed between the ends of the glass cylinder and the sockets in order to prevent leakage. The piston F may be of usual or any proper construction. Thus by this simple means the cylinder may be readily disconnected from its sockets or heads, and also readily detached from the pump-stock, and the cylinder fitted in the sockets or heads and tight joints formed without any difficulty whatever and by any person of ordinary ability.

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

The securing of the glass cylinder E to the sockets or heads G G', and to the pump-stock A by means of the yoke or clamp H and screw I, arranged in the manner substantially as and for the purpose herein set forth.

The above specification of my invention signed by me this 11th day of October, 1865.

SAML. VANCE.

Witnesses:

M. M. LIVINGSTON,  
C. L. TOPLIFF.