

W. S. OWEN.

Linings for Pump-Cylinders.

No. 145,895.

Patented Dec. 23, 1873.

Fig. 1.

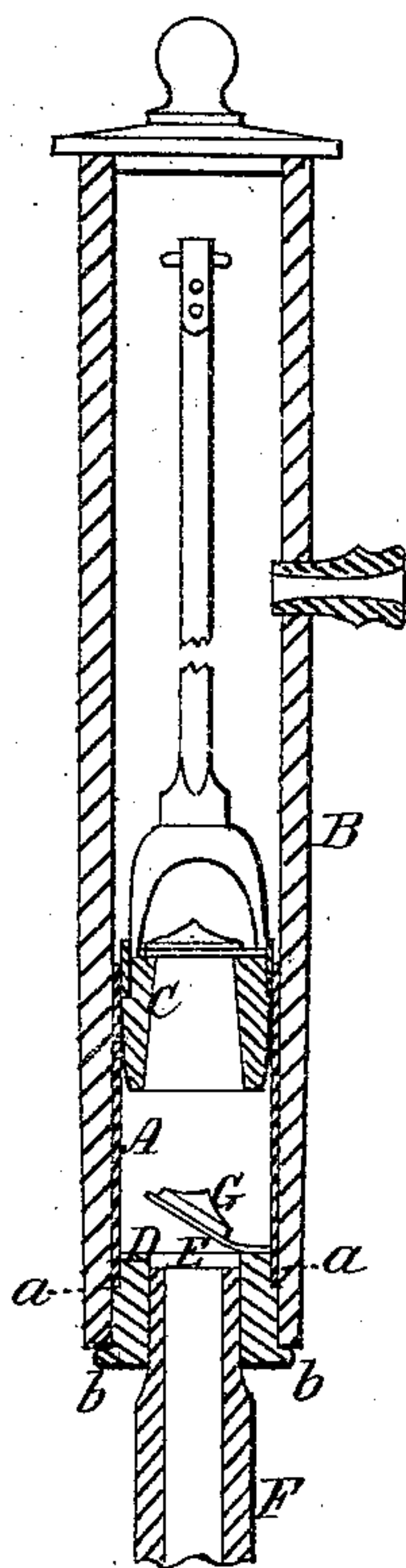


Fig. 2.

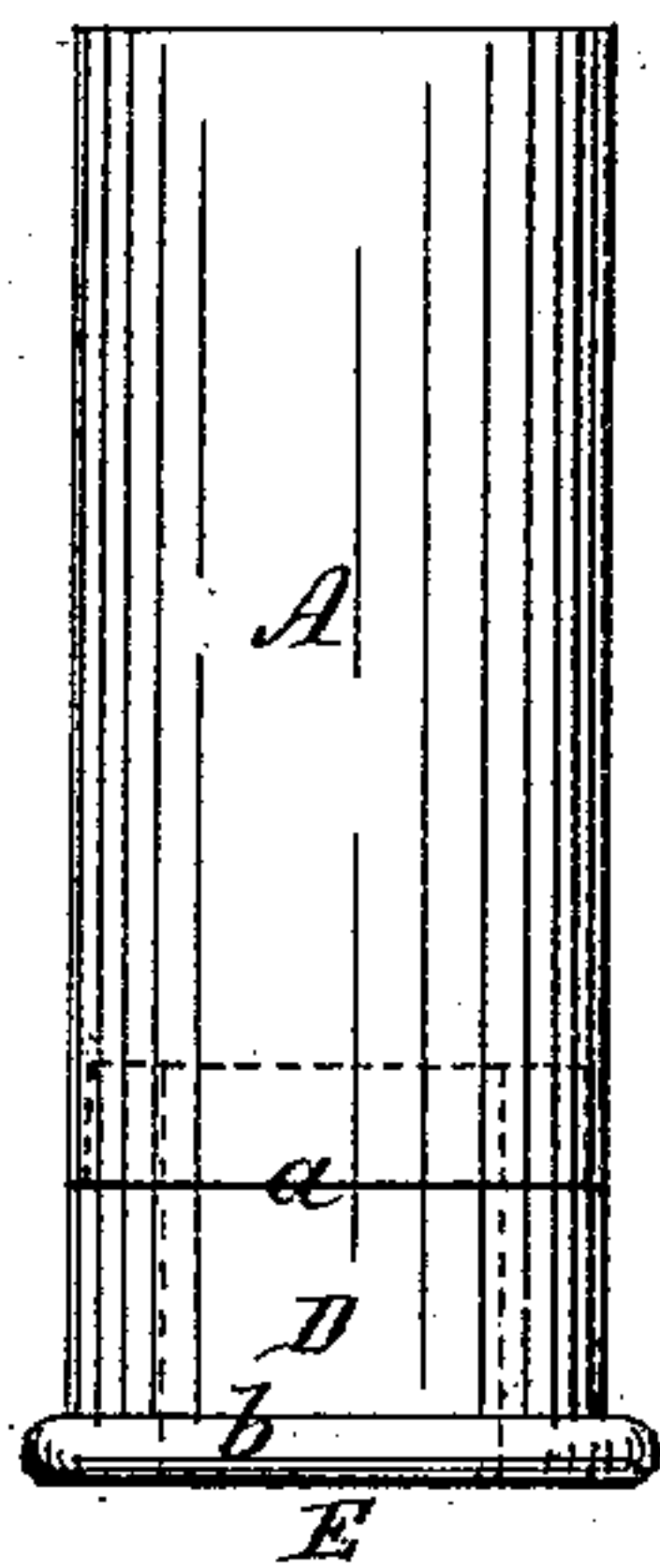
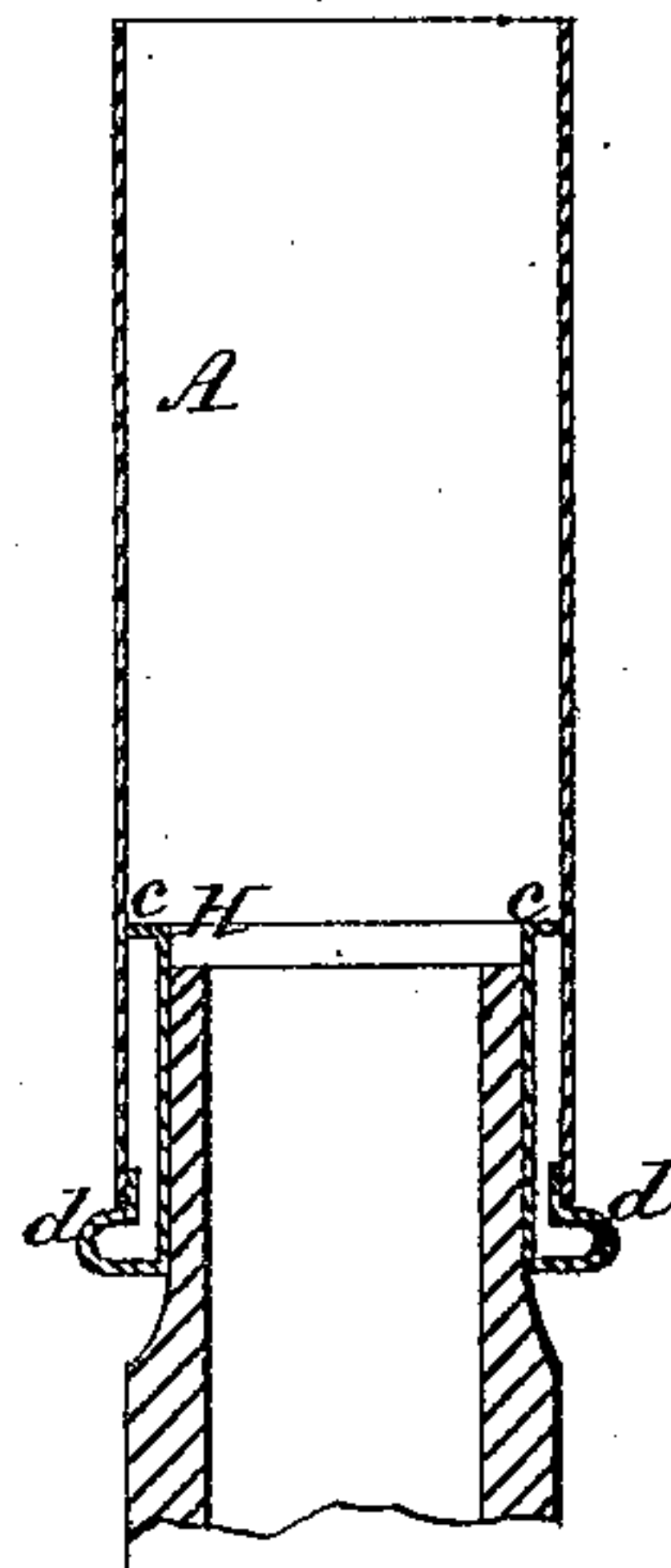


Fig. 3.



Witnesses:

*West Wagner,
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by Johnson & Johnson
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UNITED STATES PATENT OFFICE.

WILLIAM S. OWEN, OF OSKALOOSA, IOWA.

IMPROVEMENT IN LININGS FOR PUMP-CYLINDERS.

Specification forming part of Letters Patent No. **145,895**, dated December 23, 1873; application filed December 3, 1873.

To all whom it may concern:

Be it known that I, WILLIAM S. OWEN, of Oskaloosa, in the county of Mahaska and State of Iowa, have invented certain new and useful Improvements in Lift-Pumps, of which the following is a specification:

My invention relates to lift-pumps in which the plunger-valve works within a metallic lining for maintaining a tight joint. Various lining devices have been contrived and secured in the pump-stock in different ways for this purpose.

My improvement consists in providing the lower end of a cylindrical metallic lining with a separate cast-iron section, having its upper end recessed for fitting into the lining, and at its lower end a rim which fits against the end of the pump-stock when inserted therein, the said section having a bore of less diameter than the pump-lining, and serving to form a seat at its inner end for the fixed valve, and a socket at its lower end for the pump-pipe, thus utilizing the separate iron section to support the lining in position, hold the fixed valve, and form a connection for the pump-pipe with the stock, and making a very cheap and durable device for the purpose.

In the accompanying drawings, Figure 1 represents a vertical section of a pump embracing my invention; Fig. 2, an elevation of the lining and its valve-section, and Fig 3 a modification of the same.

The lining A is a cylinder of thin metal, inserted into the pump-stock B, and within which the plunger-valve C works, and is thereby prevented from getting loose by wear.

This lining is fitted upon an iron section, D, which has a recessed shoulder, *a*, for that purpose, and a lower flange or bead, *b*, which, when the section D is driven into the pump, fits against and is secured to the lower end of the stock. This plug D has a small bore, E, into which the pump-pipe F fits; and the fixed valve G is seated and secured upon the upper end of the section, and by this means is fitted in place with the pump-lining, being secured to the end of the section before the latter is fitted into the stock. The valve-section and lining are driven into the stock together, as the lining fits upon the shoulder *a* of the separate iron section.

Instead of the separate section, fitted as described, the valve-seat and pipe-opening may be made by means of a separate short cylinder, H, inserted into the lining A, with a bead or flange at both ends, the upper one, *c*, for the valve-seat, and the lower one, *d*, for the bearing and closed joint at the end of the stock. This inner piece H may or may not be soldered to the lining; but, being fitted therein like a telescope section, and secured to the pump-stock, must hold the lining in place. It may be used to refit old pumps.

I claim—

The pump-lining A having a separate section, D, for the fixed valve G and pump-pipe F, constructed and arranged for use as described.

W. S. OWEN.

Witnesses:

JOHN VANCE,
J. M. LOUGHRIDGE.