

J. NORMAN.
Pump Valves.

No. 133,880.

Patented Dec. 10, 1872.

Fig. 2.

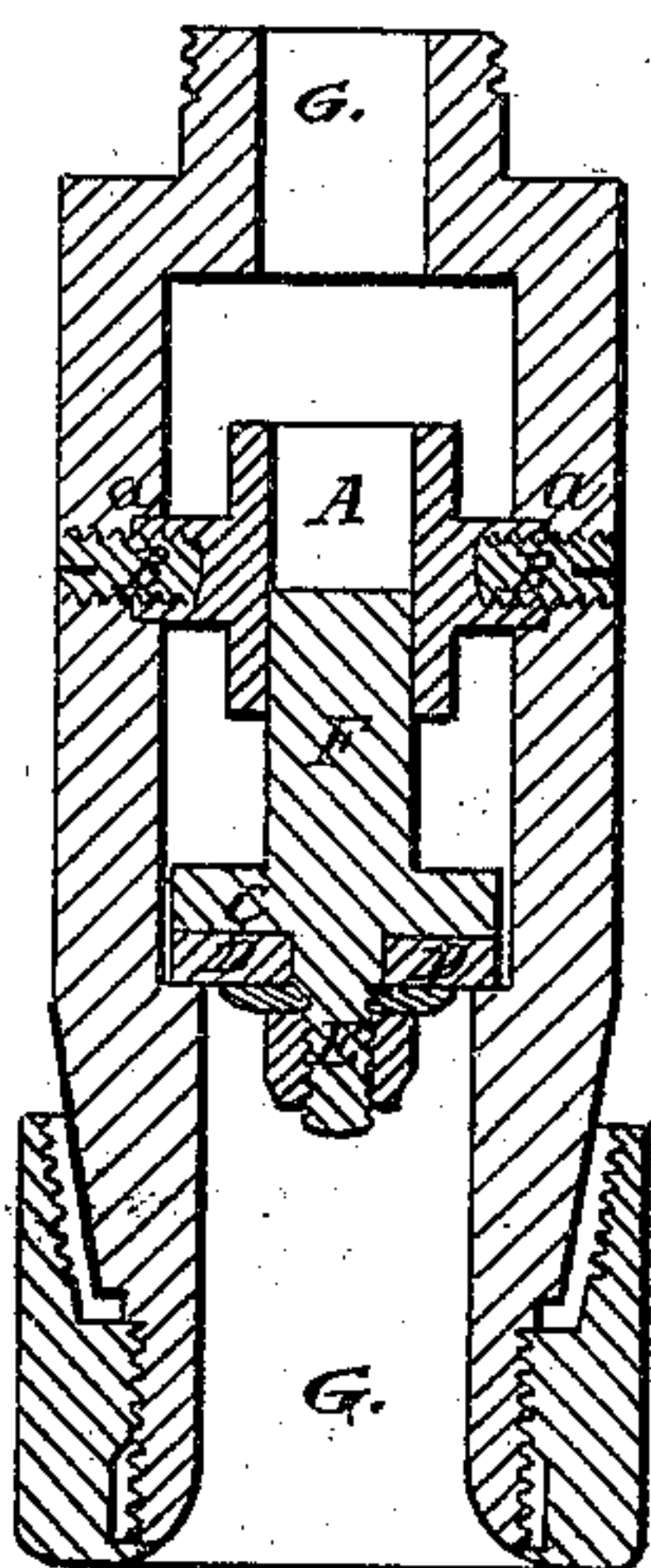


Fig. 1.

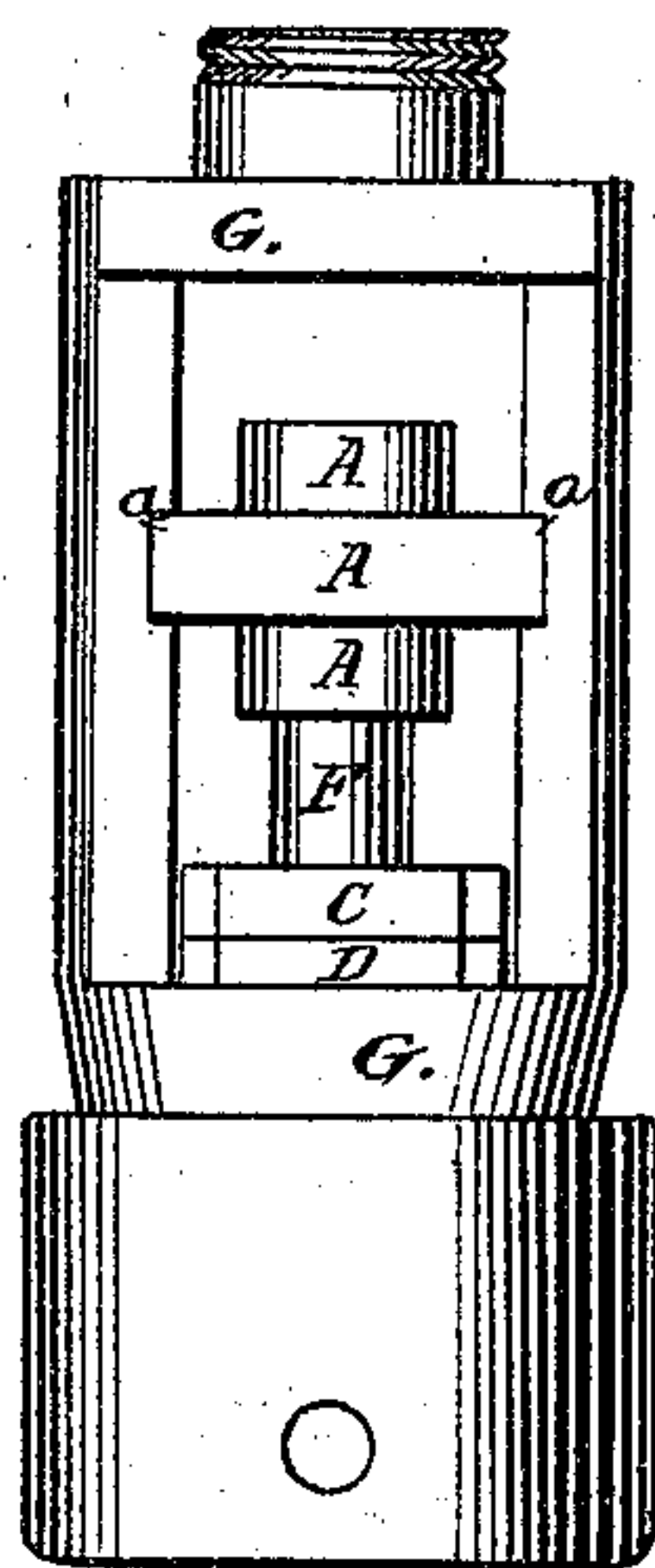


Fig. 3.

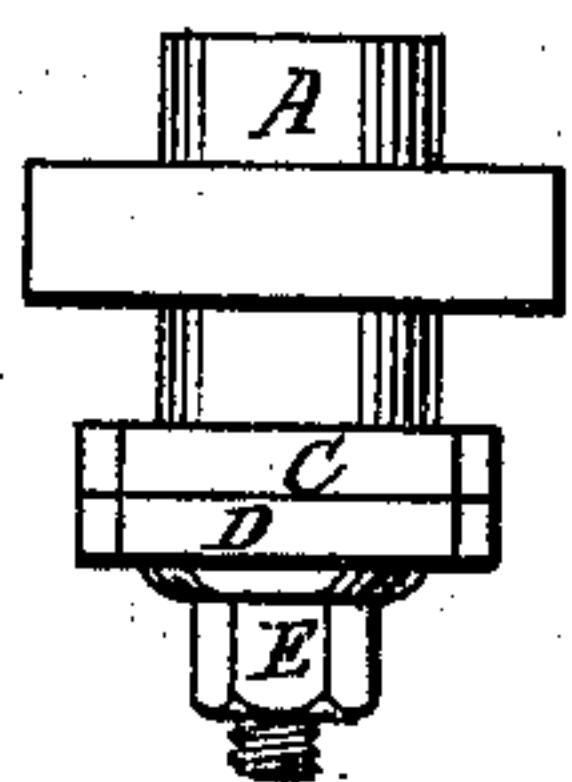
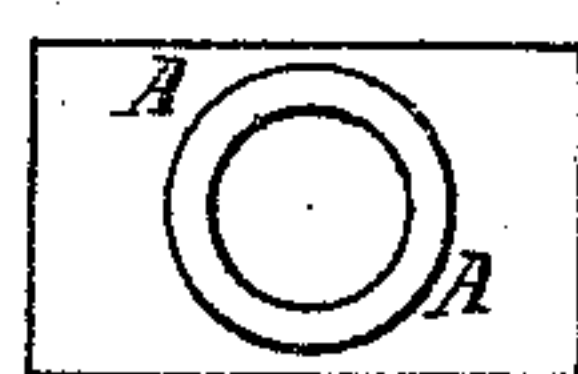


Fig. 4.



Witnesses:

*James
 Chapman*

Inventor:

James Norman

UNITED STATES PATENT OFFICE.

JAMES NORMAN, OF CHARLESTON, WEST VIRGINIA.

IMPROVEMENT IN PUMP-VALVES.

Specification forming part of Letters Patent No. 133,880, dated December 10, 1872.

To all whom it may concern:

Be it known that I, JAMES NORMAN, of Charleston, in the county of Kanawha and State of West Virginia, have invented certain Improvements in Pump-Valves, of which the following is a specification:

Figure 1 represents the box in which the valve-stem and guide are secured; Fig. 2, the transverse vertical section through center of box, valve-stem, and guide; Fig. 3, the guide and valve, with its stem in the guide; Fig. 4, the end view of the guide.

A is the guide, secured in the box, as shown in Figs. 1 and 2; B B, the screws entering through the box into the guide, and securing the latter, as shown; C, the valve, having leather D forming a close contact with the valve-seat, secured to the valve by screw E,

the said valve C being inside of the box and placed horizontally over the valve-seat. F is the stem, being of the same piece as the valve, the said stem being made either round, square, or flat. G G is the pump-box, containing recesses *a a*, in which the guide A is inserted and held by screws B B.

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

The removable guide A, when secured to the box G G by means of the recesses *a a* and screws B B, substantially as and for the purpose set forth.

JAMES NORMAN.

Witnesses:

J. SHIELDS,
E. R. MORGAN.