

(No Model.)

D. L. VOLKER.

PUMP.

No. 370,666.

Patented Sept. 27, 1887.

Fig. 1.

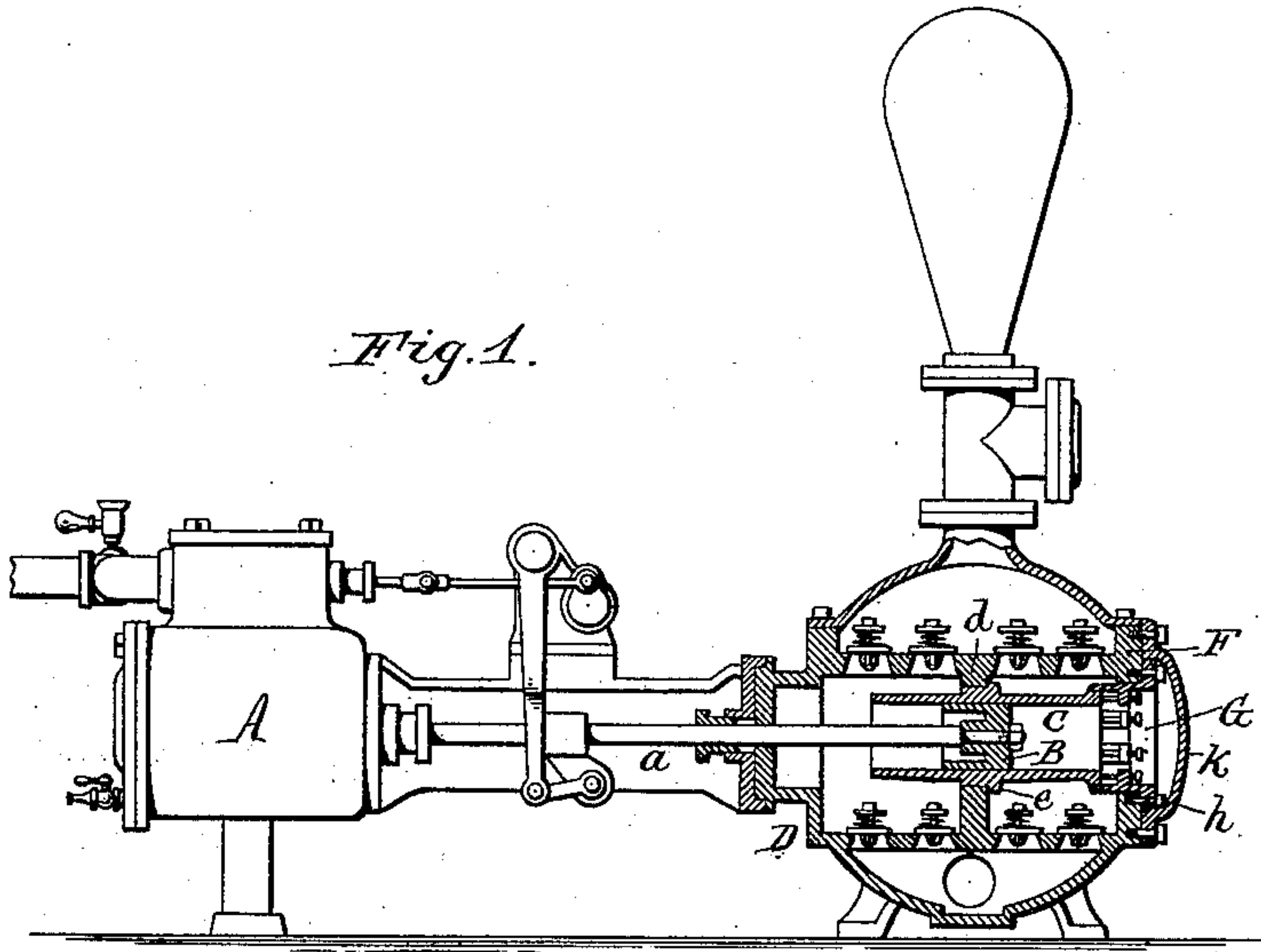


Fig. 2.

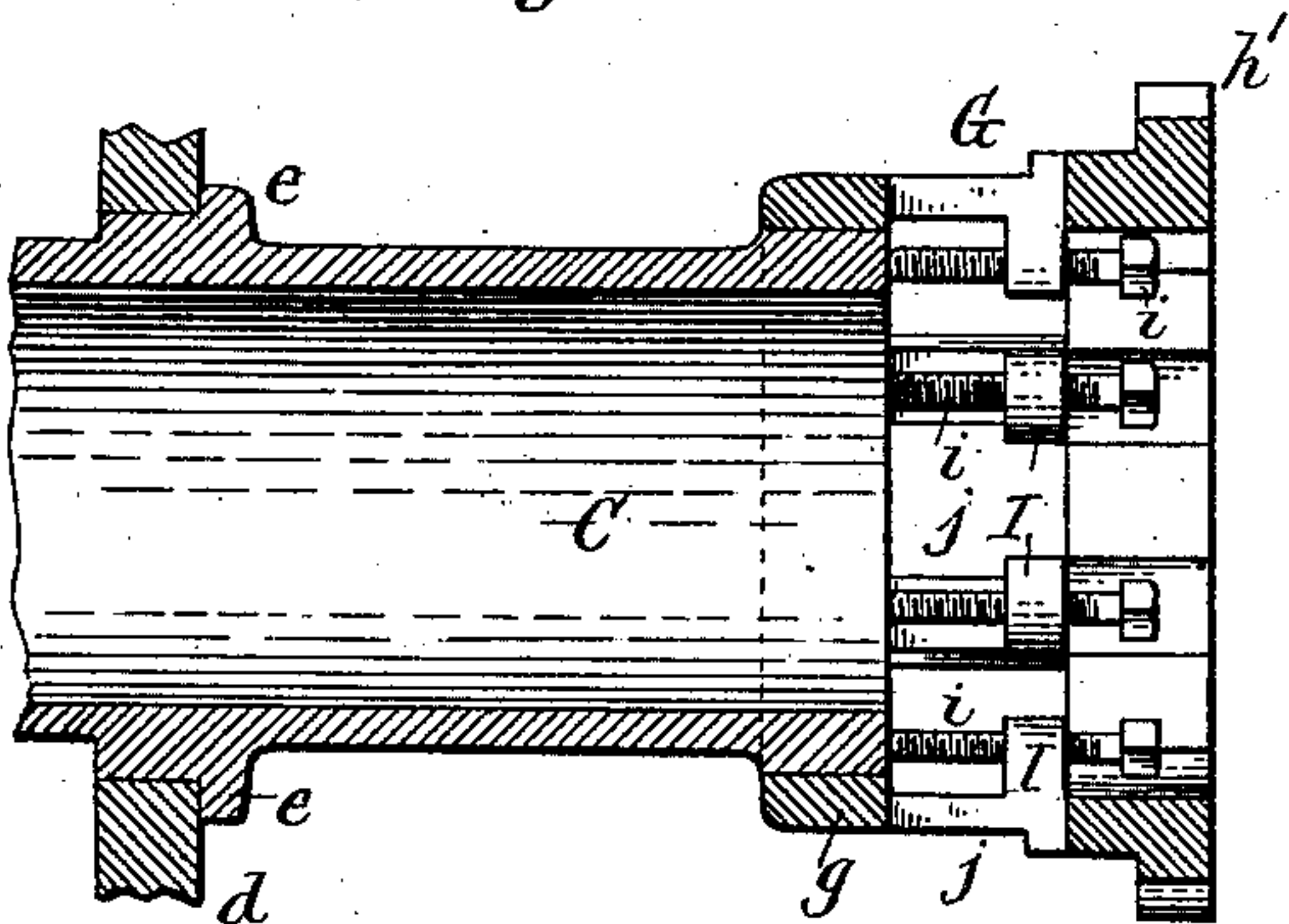


Fig. 3.

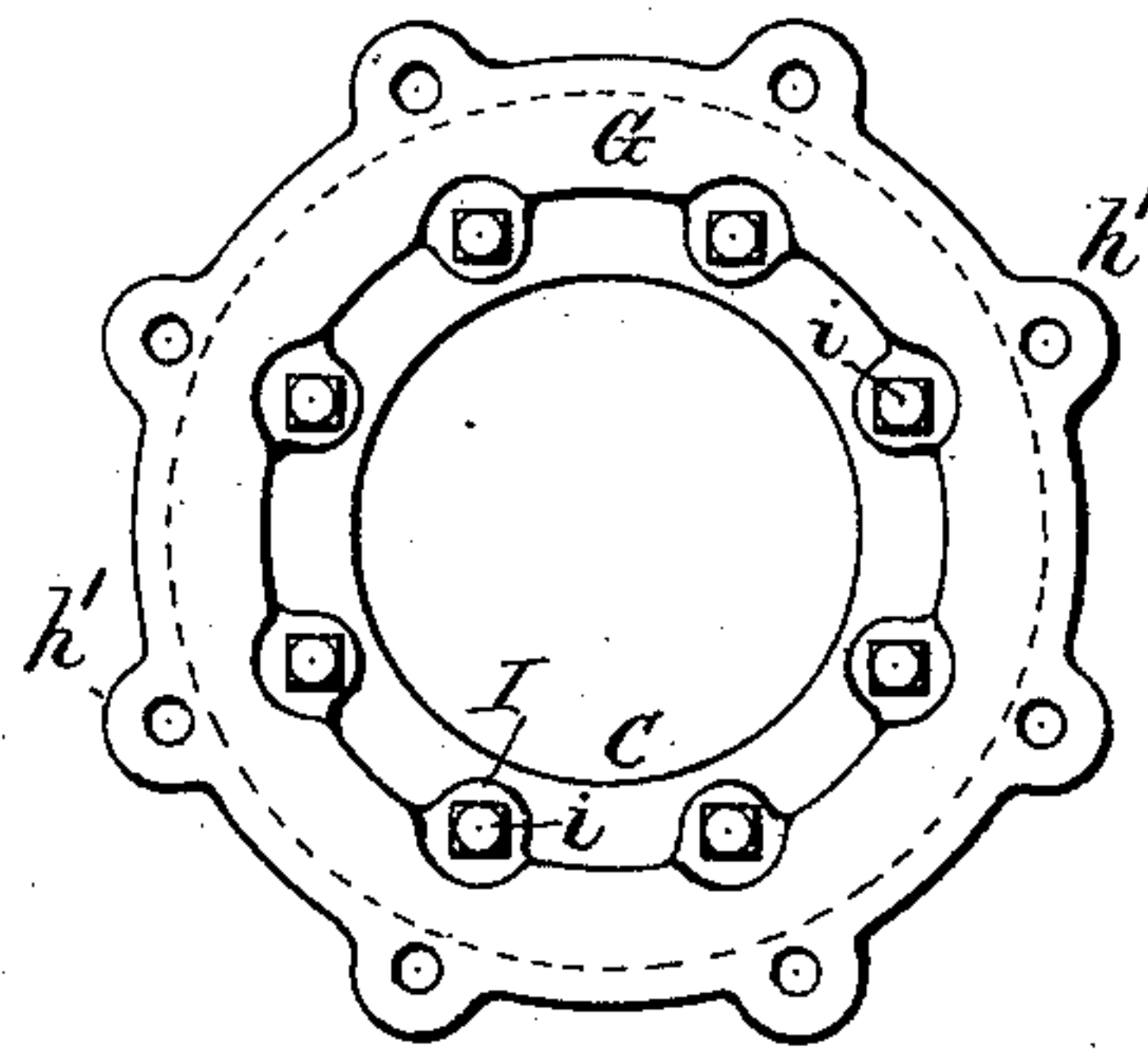
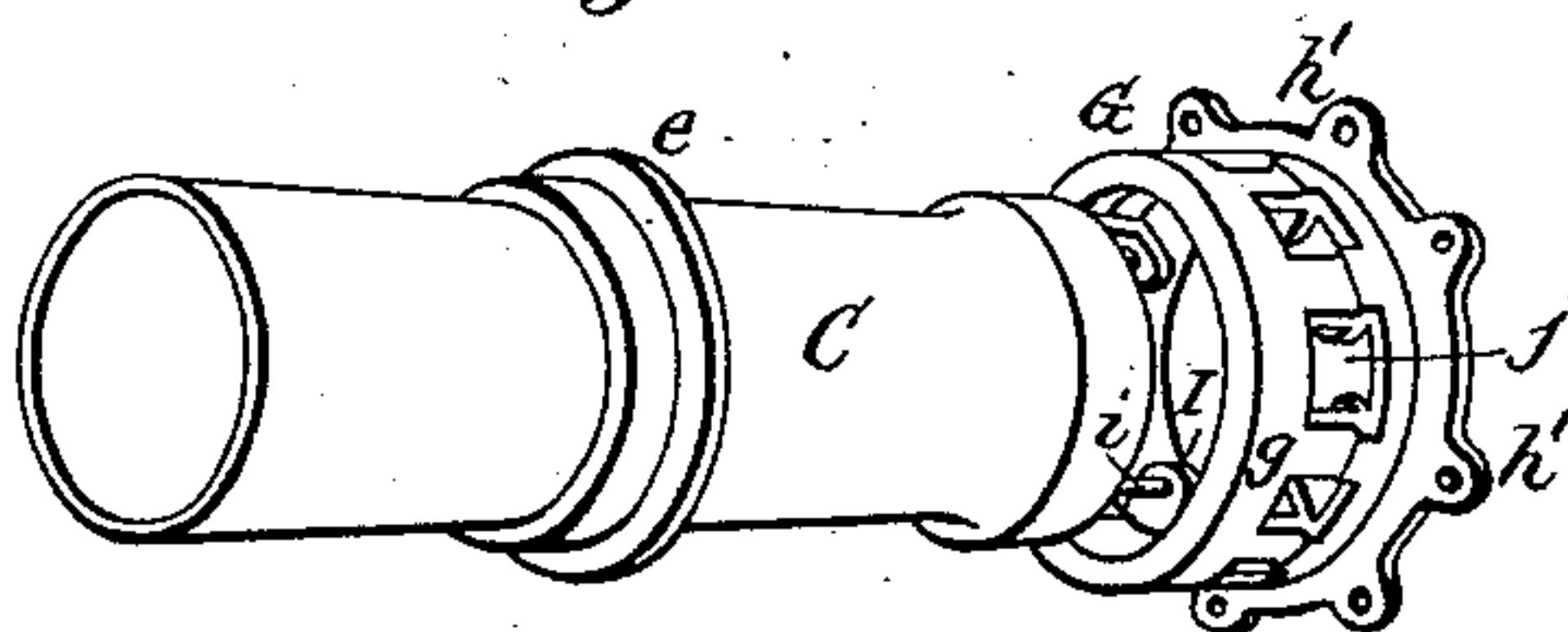


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## PUMP.

SPECIFICATION forming part of Letters Patent No. 370,666, dated September 27, 1887.

Application filed February 28, 1887. Serial No. 229,146. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL L. VOLKER, of the city of Buffalo, in the county of Erie and State of New York, have invented a new and  
5 useful Improvement in Pumps, of which the following is a specification.

This invention relates to that class of pumps in which the pump piston or plunger works in a horizontal cylinder which is seated midway  
10 between its ends in a vertical partition secured in the pump-casing. The horizontal cylinders of this class of pumps are liable to work loose and get out of line.

The object of my invention is to securely  
15 hold the horizontal cylinder in the pump-casing and to render the pump more convenient and serviceable in other respects; and my invention consists of the improvements which will be hereinafter fully set forth, and pointed  
20 out in the claim.

In the accompanying drawings, Figure 1 is a sectional elevation of a pump provided with my improvements. Fig. 2 is a vertical section of the rear end of the pump-cylinder and its  
25 supporting sleeve. Fig. 3 is an end elevation thereof. Fig. 4 is a perspective view thereof.

Like letters of reference refer to like parts in the several figures.

A represents the steam-cylinder, of ordinary  
30 construction; *a*, the piston-rod; and B the pump piston or plunger secured thereto. C is the horizontal pump-cylinder in which the plunger B works, and which is open at both ends. D represents the pump-casing, and *d*  
35 the vertical partition formed in the same and supporting the cylinder C, the latter being provided with an external collar, *e*, which bears against the rear side of the partition *d*. All of these parts are old and well known.

40 F represents the head at the rear end of the pump-casing; and G represents a sleeve, which is seated in an opening in the head F and projects inwardly therefrom, so as to surround with its inner annular portion, *g*, the rear por-  
45 tion of the pump-cylinder C. The sleeve G is

secured to the head F by screws or bolts *h*, passing through ears *h'* on the sleeve.

I represents lugs formed on the inner side of the sleeve G, and *i* are set-screws arranged in said lugs and bearing with their inner ends  
50 against the rear end of the cylinder C and pressing the collar *e* of the latter firmly against the partition *d*.

*j* represents an annular row of openings or passages formed in the sleeve G, outside of the  
55 inner annular portion, *g*, thereof, for the passage of the liquid into and from the rear end of the cylinder C. The sleeve G supports the rear end of the cylinder C, which latter is in this manner provided with two supports, 60 whereby it is securely held in position in the pump-casing and prevented from working out of line. The outer end of the sleeve G is covered by a cap, *k*, which is secured to the head F of the pump casing. Upon removing the  
65 cover *k* the plunger B can be withdrawn without disturbing the sleeve G. Upon removing the latter the pump-cylinder C can be withdrawn. When the lower portion of the cylinder C becomes worn, the cylinder can be  
70 turned in the partition to present a fresh surface to the most intense action of the plunger.

I claim as my invention—

The combination, with the pump-casing provided with a partition, *d*, of a pump-cylinder supported in said partition and provided  
75 with a collar, *e*, a sleeve, G, secured to the end of the pump-casing and provided with a ring, *g*, which surrounds the end of the pump-cylinder and with internal lugs, I, and set-  
80 screws *i*, working in said lugs and bearing against the end of the pump-cylinder, substantially as set forth.

Witness my hand this 16th day of February, 1887.

DANIEL L. VOLKER.

Witnesses:

JNO. J. BONNER,

GEO. J. BUCHHIET, Jr.