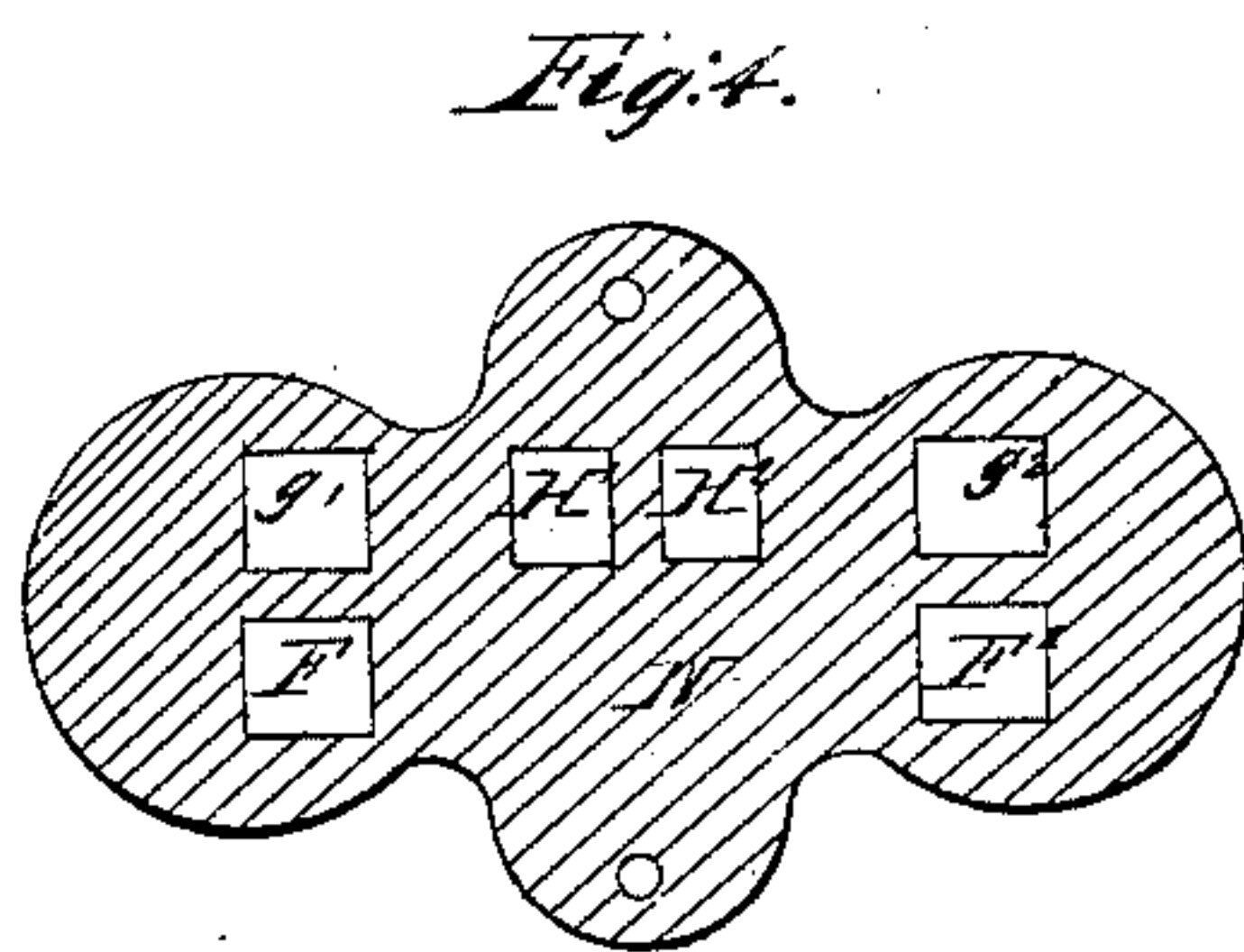
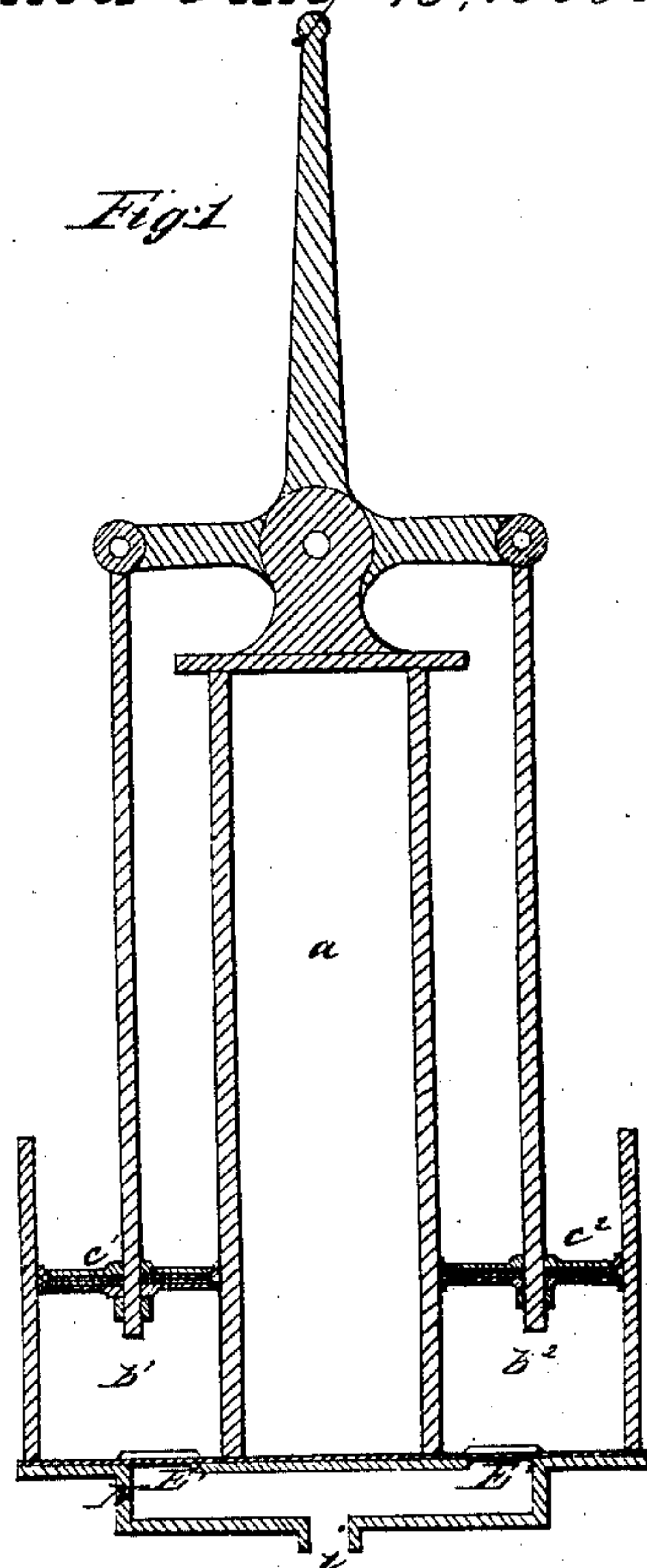
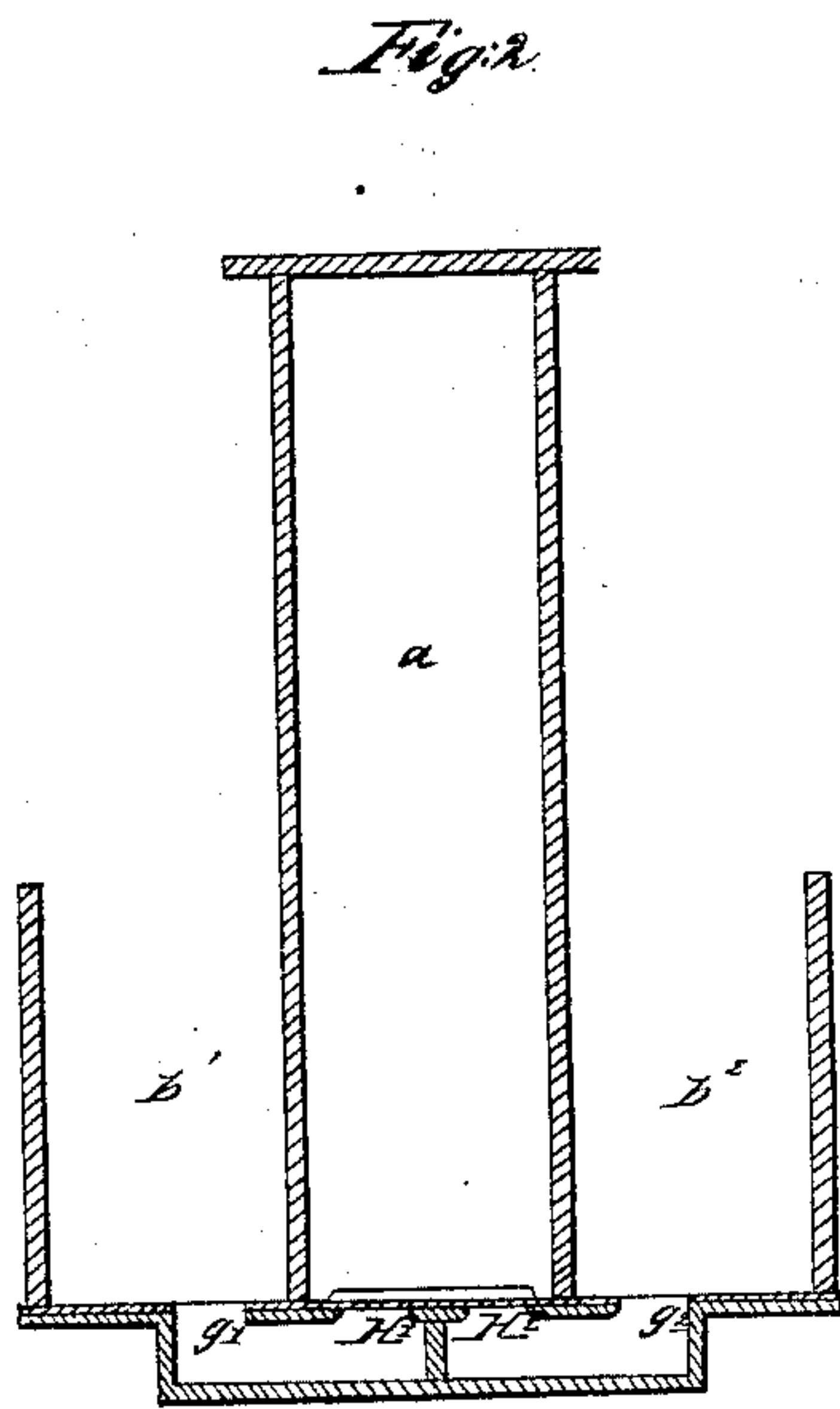
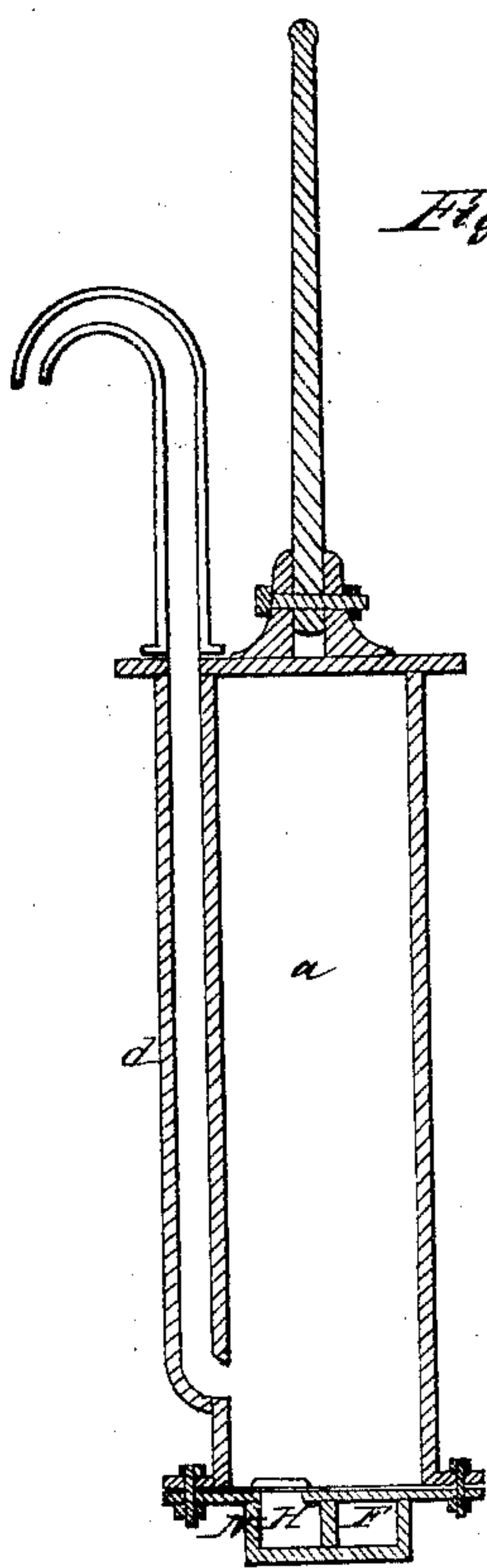


W. H. Davis,

Double-Acting Pump,

N<sup>o</sup> 24,797.

Patented July 19, 1859.



Witnesses.  
Edw. F. Brown  
Daniel Breed.

Inventor.  
Wm. H. Davis

# UNITED STATES PATENT OFFICE.

WM. H. DAVIS, OF AUSTIN, INDIANA.

## DOUBLE-ACTING PUMP.

Specification of Letters Patent No. 24,797, dated July 19, 1859.

*To all whom it may concern:*

Be it known that I, WM. H. DAVIS, of Austin, in the county of Scott and State of Indiana, have invented certain Improvements in Antifreezing Double-Acting Force-Pumps, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other pumps before known and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is a section through the air chamber cylinders plungers and bottom plate; Fig. 2, a section through the air chamber cylinder and bottom plate; Fig. 3, a cross section through the air chamber side pipe and bottom plate cut across the channels; Fig. 4, a top view of the bottom plate. The same letters represent the same part in the different sections.

Letter *a* represents the air chamber, *b*<sup>1</sup> *b*<sup>11</sup> the cylinders, *c*<sup>1</sup> *c*<sup>11</sup> the plungers, *d* the side or delivery pipe is the bottom plate, *F*<sup>1</sup> *G*<sup>1</sup> *H*<sup>1</sup> *F*<sup>11</sup> *G*<sup>11</sup> *H*<sup>11</sup> are valves, *E* *E*<sup>1</sup> is a subdivided channel in the bottom plate.

The nature of my invention consists in making and constructing a pump which consists of a long air chamber with cylinders at the lower end and side pipe up the side and a flange at the top and all in one piece of casting with the lugs that the lever works in. The bottom plate is another piece with channels through it as above described which is attached to the bottom of the air chamber and cylinders by 2 bolts, and one piece of leather contains all the gaskets and valves. This flange at the top of the air chamber is bolted to the under side of the platform that covers the well so that the

cylinders and valves are suspended by the long air chamber sufficiently low in the well to prevent freezing.

In this improvement all the difficulty heretofore existing and being the principal objection to double acting and in fact nearly all cast iron pumps is entirely overcome and a pump produced that has all the advantages of simplicity and durability and can be manufactured at a small cost.

The operation is as follows: If the lever be moved to the right plunger, *c*<sup>1</sup> will be raised and plunger, *c*<sup>11</sup> lowered. Consequently the valves, *F*<sup>1</sup> and *H*<sup>11</sup> will be opened and valves *F*<sup>11</sup> and *H*<sup>1</sup> will be closed and the water will flow from the induction pipe *i* through the opening, *F*<sup>1</sup> into the cylinder *b*<sup>1</sup> and forced from the cylinder *b*<sup>11</sup> through the holes *G*<sup>11</sup>, and *H*<sup>11</sup> into the bottom of the air chamber, and if the lever be reversed the plungers and valves will be reversed also, valves, *F*<sup>11</sup> and *H*<sup>1</sup> will open and valves *F*<sup>1</sup> and *H*<sup>11</sup> will close, so on alternately as the lever vibrates a continual flow of water is received at the induction pipe, *i* and discharged at the side pipe, *d*.

What I claim as my invention and desire to secure by Letters Patent is—

The construction and arrangement of the air chamber side pipe and cylinders and flange at the top all in one piece of casting for the purpose of suspending the cylinders sufficiently deep in the well to prevent freezing in combination with the bottom plate substantially as above set forth.

WM. H. DAVIS.

Witnesses:

EDW. F. BROWN,  
JOHN T. BERRS.