

Wallis & Swearingen,

Bellows Pump,

N^o 60,098.

Patented Nov. 27, 1866.

Fig. 1.

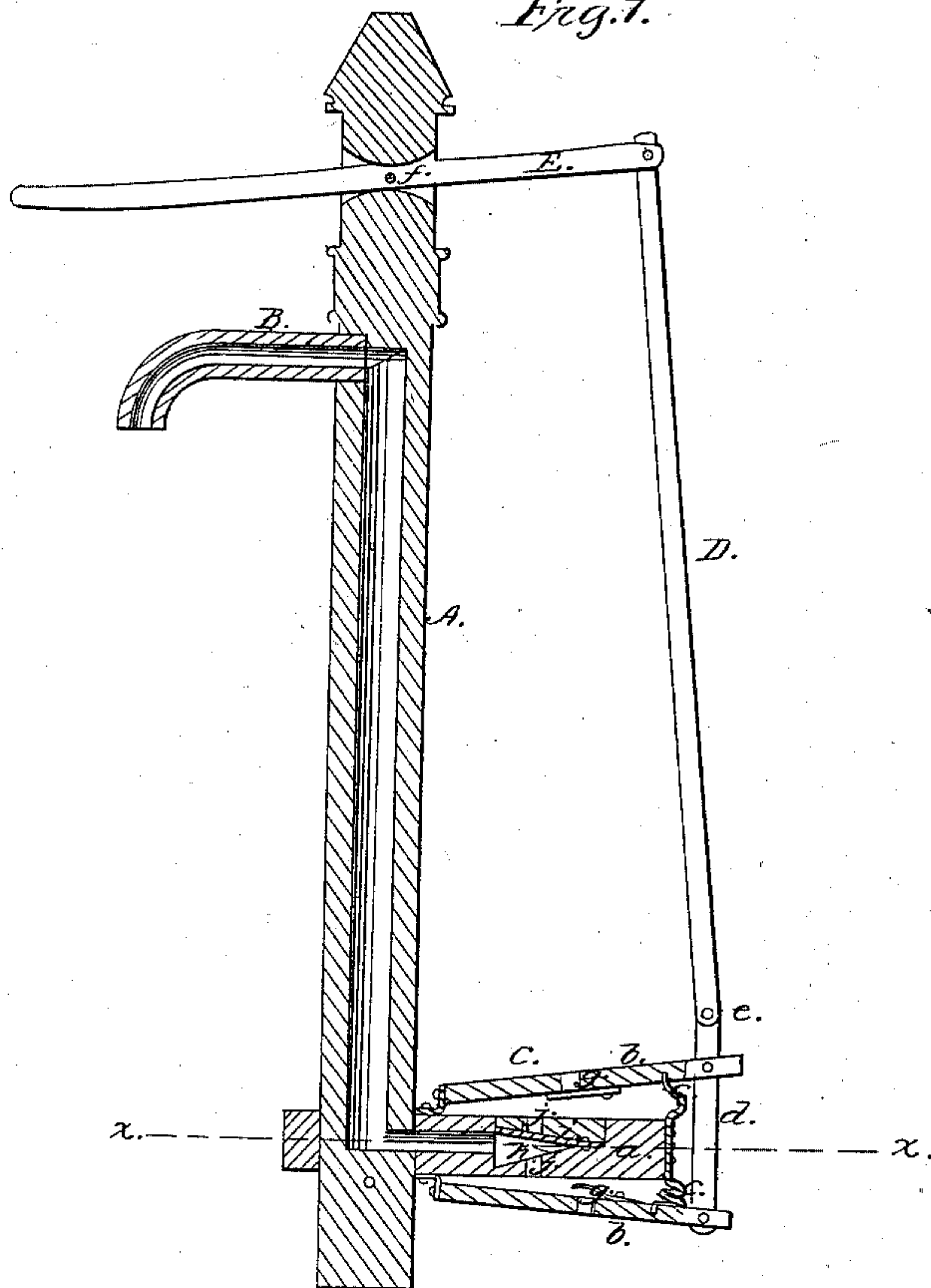
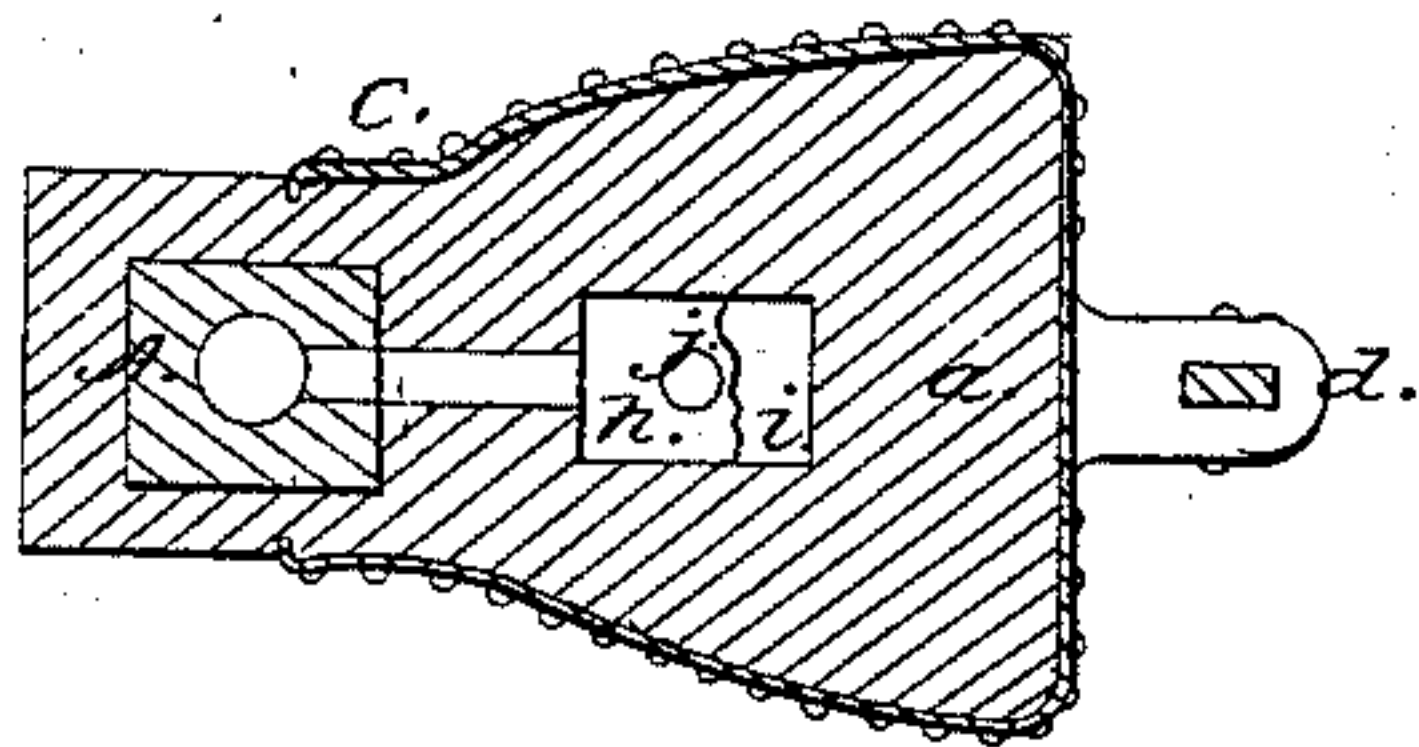


Fig. 2.



Witnesses:
Wm. T. Brown.
Wm. Dean Overell

Inventor:
J. M. Wallis.
E. P. Swearington.
By Munn & Co.
Attys.

United States Patent Office.

IMPROVEMENT IN BELLOWS PUMPS.

J. M. WALLIS AND E. P. SWEARINGEN, OF MILTON, IOWA.

Letters Patent No. 60,098, dated November 27, 1866; antedated November 11, 1866.

SPECIFICATION.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. M. WALLIS and E. P. SWEARINGEN, of Milton, in the county of Van Buren, and State of Iowa, have invented a new and improved Pump; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical central section of our invention.

Figure 2, a horizontal section of the same, taken in the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved pump of that class which are submerged; and it consists in the employment or use of a pump constructed in form like a bellows, provided with valves and connected with a vertical eduction pipe, all being arranged as hereinafter set forth, whereby water may be elevated or forced up to the top of a well with the greatest facility. *A* represents a vertical eduction pipe, which may be constructed of wood, and provided near its upper end with a spout or nozzle *B*. *C* represents the pump attached to the lower end of the pipe *A*, and projecting laterally from it. This pump is constructed similar to a bellows, being composed of a central fixed plate *a*, having a flap, *b*, with a siding of leather, or other flexible material, *c*, attached to its upper and lower surfaces, as shown in fig. 1. These two flaps, *b b*, are connected at their outer ends by a link *d*, and the upper end of this link is connected by a pivot *e* with a rod *D*, the upper end of which is attached to a brake or handle *E*, which works on a fulcrum *f* in the upper end of the pipe *A*. (See fig. 1.) By this arrangement it will be seen that the flaps *b b* will, on operating the brake or handle *E*, be worked simultaneously, the lower flap approaching the plate *a*, while the upper one is raised up from it, and the lower flap descending from *a* while the upper one approaches it. Each flap *b* is provided with a valve *g* opening inward and within the plate *a*. There is a chamber, *h*, which communicates with the eduction pipe *A*, and is provided with a valve *i*, which, when the pump is in operation, alternately closes openings *j j*, which form a communication between the chamber *h* and the chambers formed by the flaps *b* and sidings *c*. (See fig. 1.)

From the above description it will be seen that when a flap, *b*, is moved from the plate *a*, its valve *g* opens, and the chamber within filled with water, while communication between the filling chamber and the chamber *h*, in *a*, is cut off by the valve *i*. Meantime the other flap, *b*, in approaching the plate *a*, has the water within it forced into chamber *h* and into the pipe *A*. Thus by this simple arrangement water may be raised to the top of a well with but a small stroke or vibration of a lever or brake. The use of metal may be avoided, and consequently the water will not be impregnated with iron rust, as is the case with the ordinary iron submerged pumps, the oxydizing of which soon renders them useless for household purposes, the rust imparting a very disagreeable taste to the water.

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

The pump, consisting of a double bellows, with a centre board *a*, having a chamber *h* and a valve guarding the openings *j j*, operated and combined with the pump stock substantially as described and represented.

J. M. WALLIS,
E. P. SWEARINGEN.

Witnesses:

JOHN W. CARR,
ROBERT RUSSELL.