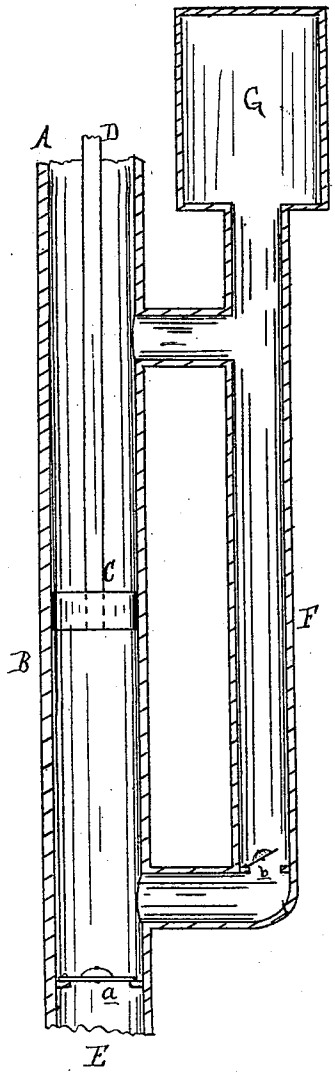
(No Model.)

C. J. HAMILTON.

PUMP.

No. 270,789. Patented Jan. 16, 1883.



Attest:
T. Drague
E. W. Andrews

Inventor:
Clarence J. Hamilton
By Thos. J. Sprague
Atty.

N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

CLARENCE J. HAMILTON, OF PLYMOUTH, MICHIGAN.

PUMP.

SPECIFICATION forming part of Letters Patent No. 270,789, dated January 16, 1883.

Application filed August 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE J. HAMILTON, of Plymouth, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Pumps; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, which forms a part of this specification.

The nature of this invention relates to certain new and useful improvements in the construction of pumps particularly designed to be operated by windmills.

The invention consists in the peculiar construction, arrangement, and various combinations of the parts, all as more fully hereinafter set forth.

In the accompanying drawing, in which my invention is shown in a vertical central section, A represents the stand-pipe, in which is formed the pump-cylinder B, and which is provided with a piston or plunger, C, at the lower end of the pump-rod D, which extends upward through the stand-pipe, and is reciprocated by the windmill or other suitable means.

E represents the suction or inlet pipe, extending below the cylinder B, and between them is placed a valve, *a*.

F is a short stand-pipe connected with the cylinder B, near the lower end thereof, and is again connected with the cylinder near its upper end, as shown, while the upper end of the pipe F terminates in an air-chamber, G. Near the lower end of this pipe F is arranged a valve, *b*.

In operation, on the upward stroke of the plunger, water is drawn into the cylinder through the suction-pipe. On the return or down stroke the water in the cylinder closes the valve *a*, and is forced into the stand-pipe F, through the same, and back into the stand-pipe A, above the plunger, the expansion of the air in the air-chamber causing a continuous flow of water into the main stand-pipe during the return or downward stroke of the piston.

It will be observed that on the downward stroke the only function performed by the piston is to force the water in the cylinder below it into the pipe F, but that on the upstroke it replenishes the water in such cylinder by suction, while it also lifts the column of water standing above it in the stand-pipe, causing it to discharge at the spout or upper end. By this construction I am enabled to use a much lighter pump-rod than in those constructions wherein the pump-rod must force the plunger down and push the column of water in the stand-pipe ahead of it.

I am aware of Patent No. 213,309, and do not claim anything shown therein.

What I claim as my invention is—

1. A pump wherein the pump-cylinder is provided with a solid plunger, in combination with a water-way outside of such cylinder, and a valveless air-chamber constructed to force water into the pump-cylinder above the plunger, substantially as described.

2. In combination with a pump-cylinder, B, and plunger C, the pipe F, communicating with said cylinder above and below the plunger, the valveless air-chamber G, communicating directly with the pipe F, and constructed and arranged to force the water into the pump-cylinder above the plunger, and the valves *a b*, substantially as specified.

CLARENCE J. HAMILTON.

Witnesses:

H. S. SPRAGUE,

E. W. ANDREWS.