V. H. SKIFF & F. COIT.

PNEUMATIC SIPHON-PUMP.

No. 184,987. Patented Dec. 5, 1876.

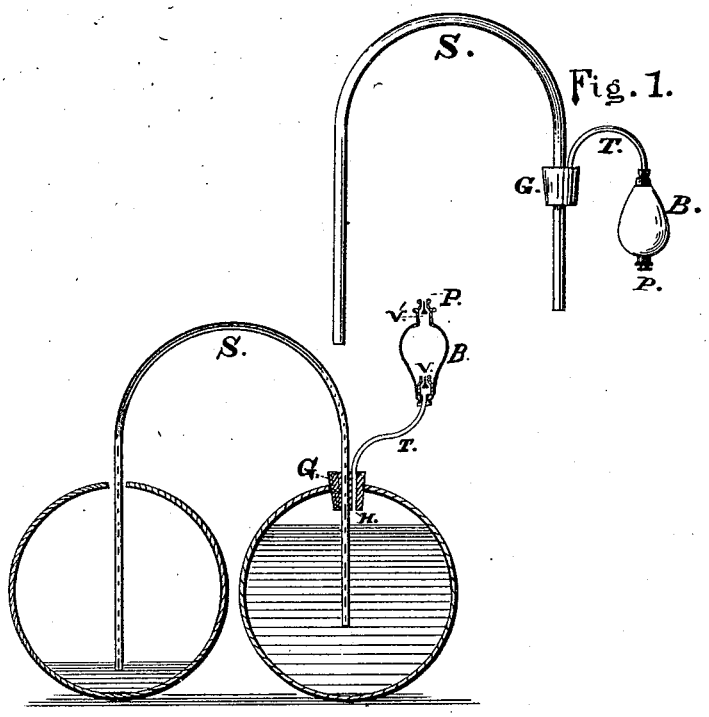

Fig. 1.

Fig. 2.

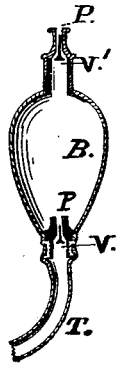

Fig. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

VALENTINE H. SKIFF, OF NEW YORK, AND FRANKLYN COIT, OF BROOKLYN, N. Y.

IMPROVEMENT IN PNEUMATIC SIPHON-PUMPS.

Specification forming part of Letters Patent No. **184,987**, dated December 5, 1876; application filed June 19, 1876.

To all whom it may concern:

Be it known that we, VALENTINE H. SKIFF, of the city, county, and State of New York, and FRANKLYN COIT, of the city of Brooklyn, county of Kings and State of New York, have invented a new and useful Improvement in Pneumatic Siphon-Pumps, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings.

The object of our invention is to pump or decant fluid from one barrel or other air-tight vessel into another on the same or on different levels, by the combination in one instrument of the pneumatic pump, the graduated bung, and the flexible siphon tube, as shown in Figure 1 of the accompanying drawing.

B is a hollow rubber bulb or bellows, such as is employed in pneumatic and other pumps. At the top is a valve, V′, arranged so as to admit air from without, and detain it when the bulb is pressed. At the bottom is the valve V, which is similar. At the bottom it has attached an ordinary rubber or other like tube, connected by an air-tight joint with the graduated bung G, in line with the smaller perforation H in the bung, so that when the graduated rubber bung is inserted firmly in the bung-hole of a barrel, the air will pass into the barrel, and distribute its pressure on the surface of its fluid contents. While pressure continues, the bulb-valve V or V′ remains closed, and the fluid of the barrel is forced into and through the siphon-tube S, which may have its longer external end inserted in the adjoining empty barrel, as shown in Fig. 2, in sectional view. By the action of the siphon the fluid will be deported or transferred from one vessel into the other, on well-known principles, until the levels in the two are approximated more or less. If the full barrel is on a higher level than the one to be filled, after sufficient use of the pneumatic pump has been made to start the siphon, the remaining work of deportation will be performed by the siphon. If the levels are the same, or that of the full barrel is lowest, the action of the pneumatic pump must be kept up, and the work of transfer or deportation by performed thereby.

In order that the siphon should act alone under such circumstances air must be admitted into the barrel. This we accomplish by means of the arrangement of the valves V V′, which, when the pressure is relieved from within, drop, and permit free ingress of air, and therefore the free action of the siphon. The valves V V′ are shown in Fig. 3, in the position to admit air freely through the passages P P.

When the bulb B is in the position shown in Fig. 1, the valves V V′ drop down upon their seats, and tend to check the ingress of air and the action of the siphon.

The bung G is graduated for the purpose of fitting bung-holes of various sizes, and, being of rubber, when forced into the hole, engages with its edges tenaciously.

The bung may be made of any other material which will effect an air-tight joint with the bung-hole. The siphon-tube S must project through the bung far enough to reach the bottom of the fluid to be removed. The bulb B is also provided with the valve V at its bottom, opening into the air-tube T, which also permits the passage of the air to supply the vacancy created by the siphon in the barrel.

Instead of the bulb B, where any considerable amount of pumping is to be done, we propose to substitute an ordinary hand or foot bellows, similarly provided with inward-opening valves V V′, and connected with the tube T.

We claim as our invention—

The combination of a pneumatic force-pump and a flexible siphon-tube, with a bung for insertion in a close vessel, for the purpose of forcing air into the vessel, generating pressure therein, and causing the siphon to begin to act in deporting its fluid contents, and also admitting air freely through the pump, while the siphon is acting, substantially as shown.

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Witnesses:
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