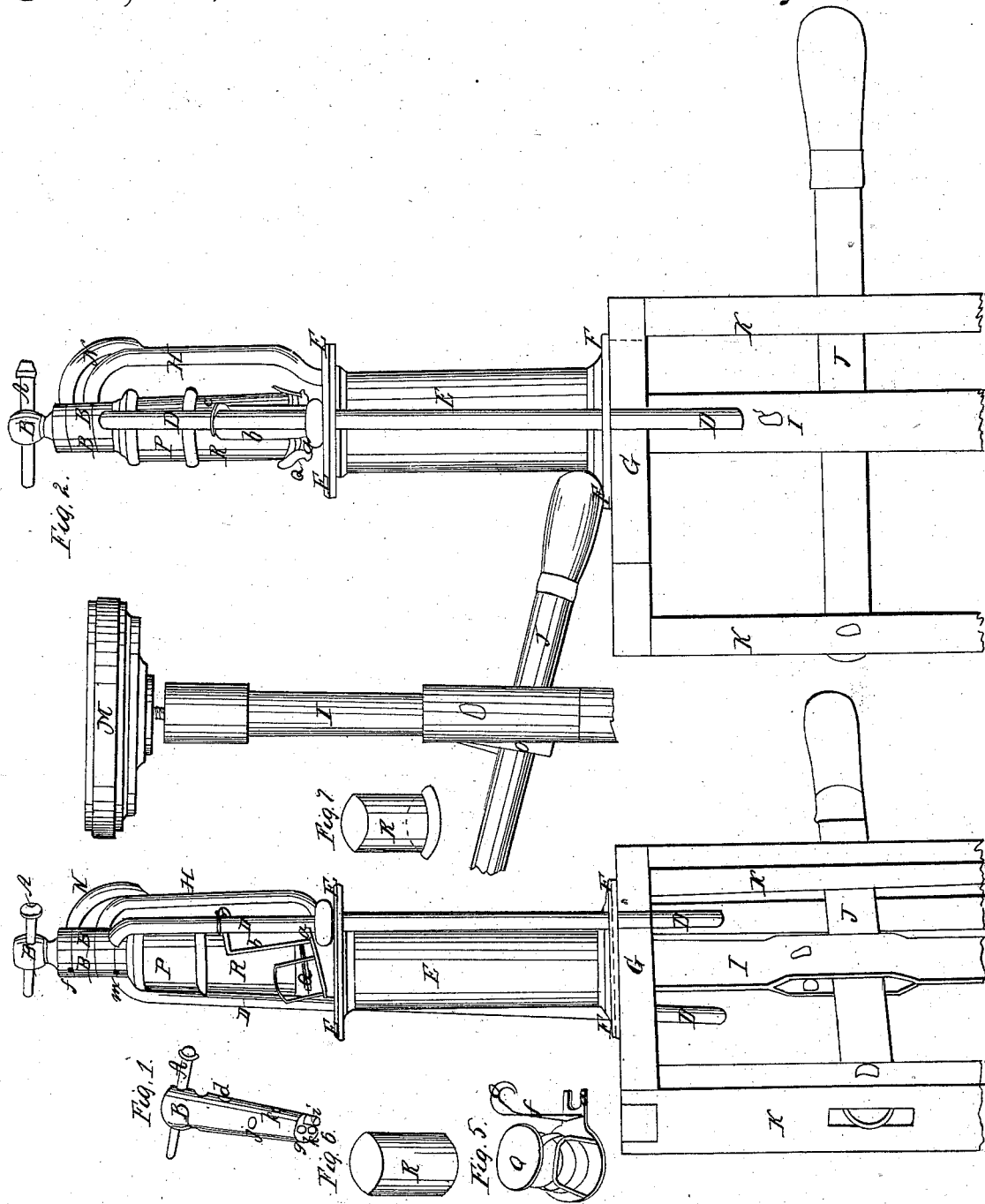


H. Rodgers,

Pump Lift,

N^o 2,779,

Patented Sept. 17, 1842.



UNITED STATES PATENT OFFICE.

HENRY RODGERS, OF MORAVIA, NEW YORK.

LIQUOR-PUMP.

Specification of Letters Patent No. 2,779, dated September 17, 1842.

To all whom it may concern:

Be it known that I, HENRY RODGERS, of the village of Moravia, in the county of Cayuga and State of New York, have invented a new and useful Improvement in Pumps for Raising Liquids, which improved pumps I denominate the Detached Hydraulic Pump; and I do hereby declare that the following is a full and exact description thereof.

The object of my improvement is to cause one pump to serve for the raising of two kinds of liquid from a cellar or other apartment, containing barrels or other reservoirs having in them the kinds of liquid which are to be raised and delivered in a store or bar room or other place where they may be wanted, through tubes, without the liquid passing through, or into the body or main cylinder of the pump.

The body of my pump consists of a metallic cylinder of such capacity as may be required, and this is to be furnished with a piston; the rod of which extends downward through the lower end of the cylinder, and is worked by a lever under a counter, or in any other convenient situation. From the head or cap of the upper end of the main cylinder ascends a tube which enters the side of a metallic faucet through an aperture therein, and which said faucet is open at the top, and from two sides of which last mentioned cylinder descends two tubes which pass through the caps of the first mentioned cylinder and thence one to pass through the floor, and are to be connected respectively with the barrels or other vessels, cisterns or wells from which the liquors or other liquids are to be raised. In the upper end of the faucet there is inserted a spigot or key, which is to be turned like that of a common cock, and which by the position it is made to occupy will determine the kind of liquor or other liquid to be drawn and will direct its discharge into the vessel which is to receive it. To the lower end of the said faucet which is also open, is firmly attached a tubular glass also open at both ends, below which is a detached movable tubular glass or other vessel closed at the lower end and placed upon a movable stool with a spiral wire spring bottom, by which the upper end of this tube which is open, is or may be pressed up against the lower end of the tube above so as to make the joint air tight and into which last mentioned tubular glass or other

vessel the liquor, water or other liquid raised by the pumps is to be discharged, which may be moved when filled or when it has received as much of the liquid as is desired.

In the accompanying drawing Figure 1, is a perspective oblique view of the apparatus exhibiting all the tubes in their proper position.

E is the cylinder in which the piston M being shown on a larger scale in Fig. 3, is worked. The piston is to be leathered or otherwise packed and made to fit the cylinder in the usual way. The lower end I of the piston rod works through a hole in a cross piece which is attached to the frame K (but which does not appear in the drawing) and is operated by means of a lever J connected to the rod I by jointed straps or links O in a manner well known to machinists. G may represent a counter upon which the cylinder is supported, and F, F, flanges by which it may be fastened down.

E, E is the outer edge of the cap or cover of the cylinder, which is shown as widened out to sustain the pipes D, D, which pass through it. The upper end of the faucet B, B, has a hole or opening through its center to receive the key or spigot B, said key or spigot being shown on a large scale at Fig. 4, from openings in this faucet proceed the tubes or pipes D, D, which are to descend into the casks or other vessels, or wells or cisterns containing the liquors or water to be raised. In the cap or cover of the cylinder is a hole or opening from which ascends the tube or pipe H which passes into the faucet B, B, through a hole or opening therein at right angles with the tubes D, D, and a little above them.

N, is a tube or pipe passing from a hole or opening in the tube H, a little below the curve therein, up into the faucet B, B, directly over the entrance of the tube H.

P, is a tubular glass firmly and closely attached to the lower end of the faucet B, B.

Q is a stool with a spiral spring bottom, the lower part of which extends out at one side and terminates in forks, and from which rises a perpendicular shaft on the head of which is a hook fitted to pass around one of the tubes D, and may be attached to the pump by the forks about the tube just above the cylinder and passing the hook on the upper end of the shaft around the same tube higher up. This stool so attached may

have a rotatory motion like that of a common crane. This stool may be seen on a larger scale at Fig. 5, *a*, being the forks, *b*, the shaft, *c*, the hooks. Upon this stool may be placed a common glass tumbler *R* or other glass or metallic tubular vessel closed at the lower end, the upper end being nicely fitted to the lower end of the tubular glass *P*. The tumbler *R* should then be pressed down upon the stool *Q* so that it may pass under the lower end of the tube *P*, and when thus, the spring in the bottom of the stool will hold the two in close contact. This stool and tumbler may be called detachments, or detached parts of the machine. Figs. 6 and 7 are drawings of the tumbler and other tubular vessels that may be used. In the key or spigot *B* is a hole *d*, made through it transversely, so far down from the head that when the spigot is inserted in the faucet *B*, *B*, and the pin *A*, that passes through the head of the key, being brought over the tube *N*, the hole *d*, through the key will coincide with the opening of the tube *N*, in the faucet, and also with another hole or opening *f*, in the opposite side of the faucet *B*, *B*, allowing air to escape from the cylinder *E*, when the piston *M*, is raised.

In the bottom of the key or spigot *B*, are three holes *g*, *h*, *i*, which pass up so far as to intersect with a like number of holes or openings made in the sides of the key marked *j*, *k*, *l*, (but the hole *l* is not seen in the drawing of the spigot *B*.) and when the spigot *B* is placed in the faucet *B*, *B*, and the pin *A*, brought over the tube *N*, the holes or openings *j*, *k*, *l*, will coincide with the openings in the tubes *D*, *D*, and *H*, into the faucet *B*, *B*.

When the pump is to be used, the piston *M*, is to be raised and brought into contact with the underside of the cap of the cylinder, the key *B*, being so turned as to bring the hole *d*, in coincidence with the opening of the tube *N*, and the opposite hole or opening *f*, in the faucet *B*, *B*, through which the air forced out of the cylinder will pass out. The key *B*, must then be turned around so as to bring the hole *j*, to coincide with the opening of the tube *H*, into the faucet *B*, *B*, and the hole *k*, to coincide with the opening of one of the tubes *D*, into the faucet *B*, *B*, and this must be the tube, the lower end of which is in the cask or other vessel or well or cistern from which the liquor or water is desired to be raised, and this will be regulated by the direction in which the key is turned. The piston is then

to be brought down by depressing the lever *J*, when the air contained in the chamber composed of the tumbler and the tubular glass *P*, will rush up through the opening *h*, in the key *B*, and then through the hole *j*, in the side of the key *B*, into the tube *H*, and through that into the cylinder *E*, to supply the vacuum there created and the liquid desired to be raised will be forced up the tube *D*, and will be thence discharged through the openings *k*, and *i*, in the key *B*, into the tumbler and when the desired quantity has been received into the tumbler or other vessel (and which may be ascertained by looking through the tubular glass *P*.) the key *B*, may be turned so as to bring the hole *k*, therein to coincide with the opening *m*, in the faucet *B*, *B*, when the air will rush into the chamber composed by the tubular glass *P*, and tumbler and fill the vacuum there, when the liquid in the tube *D*, will fall back into the cask or other reservoir from which it was taken, and the stool *Q* may be turned around so that the tumbler *R*, may be removed. Fig. 2 is a drawing of the whole pump, presenting a side view, and exhibiting one of the tubes *D*, and the tubes *H* and *N*.

Having thus fully described the nature and operation of my machine for raising two different kinds of liquids from two distinct reservoirs by means of one pump, what I claim therein as new and desire to secure by Letters Patent, is—

The manner in which I raise the liquor, water or other liquid through the tubes *D*, *D*, without its passing through or into the cylinder in which the piston is worked, by means of exhausting the air contained in the chamber constructed by bringing the upper edge of the tumbler or other vessel in close cooperation with the lower edge of the tubular glass, and thereby causing the liquor, water, or other liquid to rise up the said tubes and discharge itself into such tumbler or other vessel, enabling the piston to be worked in oil, and thereby saving it and the inside of the said cylinder from corrosion, and the liquor, water, or other liquid raised, from the impurities necessarily engendered or secreted in all other pumps. The whole apparatus being constructed, arranged and operating substantially as herein described.

HENRY RODGERS.

Witnesses:

LEONARD O. AIKIN,
S. E. DAY.