No. 694,210. Patented Feb. 25, 1902.

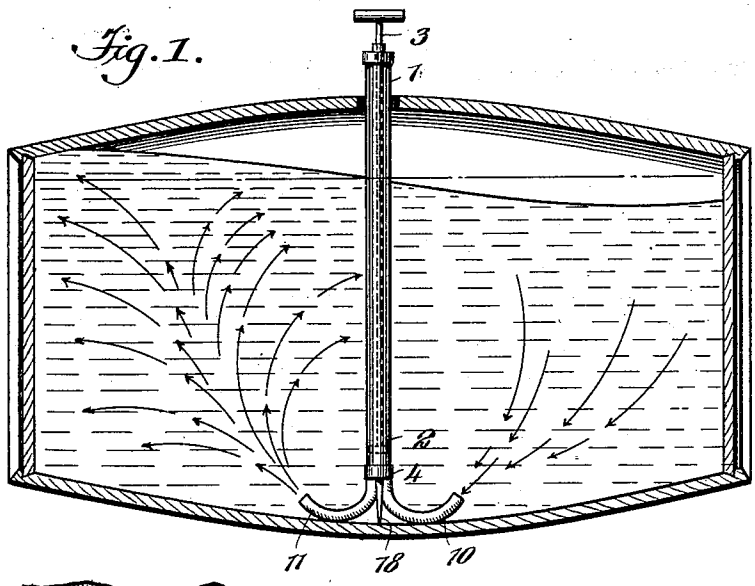
H. F. C. SOELLNER.

MIXING PUMP.

(Application filed May 17, 1901.)

(No Model.)

Fig. 1.



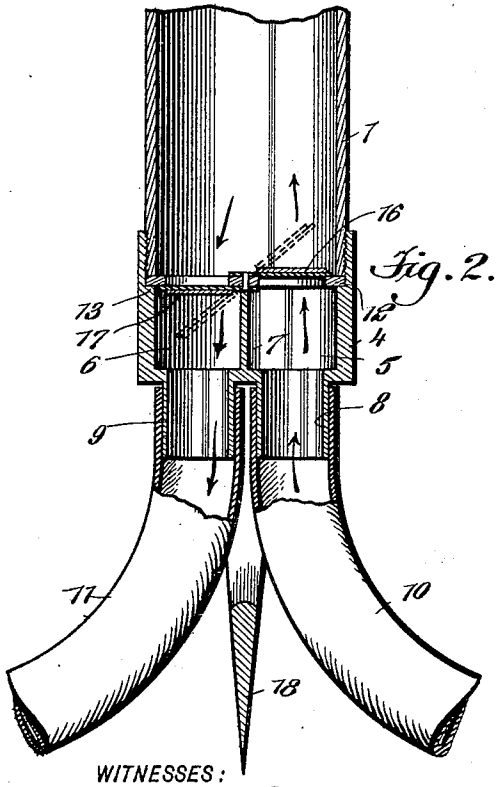


Fig. 2.

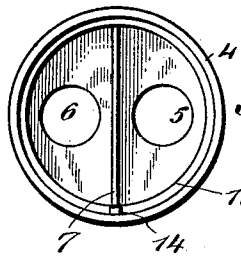


Fig. 3.

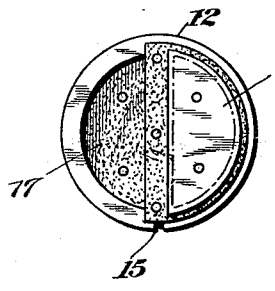


Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

HERMAN F. C. SOELLNER, OF BROOKLYN, NEW YORK.

MIXING-PUMP.

SPECIFICATION forming part of Letters Patent No. 694,210, dated February 25, 1902.

Application filed May 17, 1901. Serial No. 60,727. (No model.)

To all whom it may concern:

Be it known that I, HERMAN F. C. SOELLNER, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Mixing-Pump, of which the following is a full, clear, and exact description.

This invention relates to improvements in devices for mixing liquids in barrels or casks, the object being to provide a single-cylinder pump so arranged that it may be passed through the bung-hole of the vessel and operating to thoroughly mix the contents of the vessel.

I will describe a mixing-pump embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional elevation of a barrel, showing a pump embodying my invention as in operating position. Fig. 2 is a sectional view showing the valve mechanism. Fig. 3 is a top plan view of the valve-casing, and Fig. 4 is a plan view of the valve.

The pump comprises a cylinder 1, of any suitable material, and in which operates a piston 2, having a piston-rod 3. Attached to the lower end of the pump-cylinder is a valve-casing 4, which is here shown as having an interior screw-thread to engage an exterior screw-thread on the cylinder. This valve-casing is divided into two chambers 5 and 6 by means of a partition 7, and the chamber 5 communicates with a nipple 8, while the chamber 6 communicates with a nipple 9. Attached to these nipples, respectively, are tubes 10 and 11 of flexible material—such, for instance, as rubber hose.

Arranged in the valve-casing is a valve-seat consisting of a disk 12, which is held between the end of the cylinder and an annular shoulder 13, formed on the inner side of the valve-casing, and it is further held from possible rotary motion or displacement by a lug 14 on said shoulder engaging in a notch 15 in the periphery of the disk. The valve-seat has an opening communicating with the chamber 5 and also an opening communicating with the chamber 6. The opening communicating with the chamber 5 is controlled by an upwardly-opening valve 16, and the opening communicating with the chamber 6 is controlled by a downwardly-opening valve 17. These valves are shown in the form of flap-valves and are each made semicircular. It is to be understood, however, that other forms of valves may be employed without departing from the spirit of my invention.

Extended downward from the valve-casing is a pointed rod 18, designed to engage with the lower side of a barrel, as indicated in Fig. 1, to support the end of the pump at a suitable distance above the lower portion of the barrel.

In operation the pump is to be inserted through the bung-hole of the barrel, as indicated, and when the rod 18 engages with the barrel the flexible tubes 10 and 11 will be forced outward, with their ends inclined slightly upward. By pushing the piston up and down a triple effect is the result in the mass of fluid contained in the cask or vessel. First, a certain quantity of fluid is taken away from one space and removed to another more or less distant from the former; second, this produces a lowering of the level of the fluid on one side and a raising of the same on the other side, and the result is a general flow of the fluid toward the inlet side, the inlet side being, as here shown, through the tube 10; third, as a small pressure on the piston is sufficient to force the fluid through the outlet a large number of small currents will be created, so as to cause a most thorough and energetic distribution of the fluid so forced out through the rest of the fluid. The pump stirs and mixes the whole quantity quickly, thoroughly, and in a perfect manner with little exertion on the part of the workman.

A pump embodying my invention will stir up and thoroughly mix fluids of the most different chemical natures and of varying specific gravity. It will cause a perfect dissolution and disintegration of salts, chemicals, oils, coloring and flavoring ingredients, and will also move and distribute insoluble additions, as bone-black.

The dimensions of the pump can be arranged to suit any given requirements, to fit into the one-inch hole of the smallest cask of

the liquor manufacturer, to answer the purpose of the druggist and manufacturing chemist, and, if built large and strong, will wash the gravel of placer-mines.

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

1. A mixing-pump, comprising a single cylinder, a piston for operating therein, a valve-casing removably attached to the lower end of the cylinder, said valve-casing being divided into two chambers, flexible pipes connecting with said chambers, a valve-seat consisting of a disk secured between a shoulder on the valve-casing and the lower end of the cylinder, said disk having an opening communicating with each chamber, an upwardly-opening valve carried by said valve-seat and controlling one of the openings thereof, and a downwardly-opening valve carried by said valve-seat and controlling the other opening of the seat, substantially as specified.

2. A mixing-pump, comprising a cylinder, a piston in the cylinder, a valve-casing secured to the lower end of the cylinder and divided by a vertical partition into two chambers, each having a valve-seat at its upper end and a nipple projecting from its bottom, an upwardly-opening valve on one of the seats and a downwardly-opening valve on the other seat, a flexible tube connected with each nipple, and a supporting-rod secured to the valve-casing and adapted to rest upon the bottom of the vessel in which the pump is arranged, the rod being of less length than the tubes, whereby the said tubes will lie upon the bottom of the cask or receptacle with their ends inclined slightly upward, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HERMAN F. C. SOELLNER.

Witnesses:

JNO. M. RITTER,

C. R. FERGUSON.