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C. H. METZ

WATER EJECTOR

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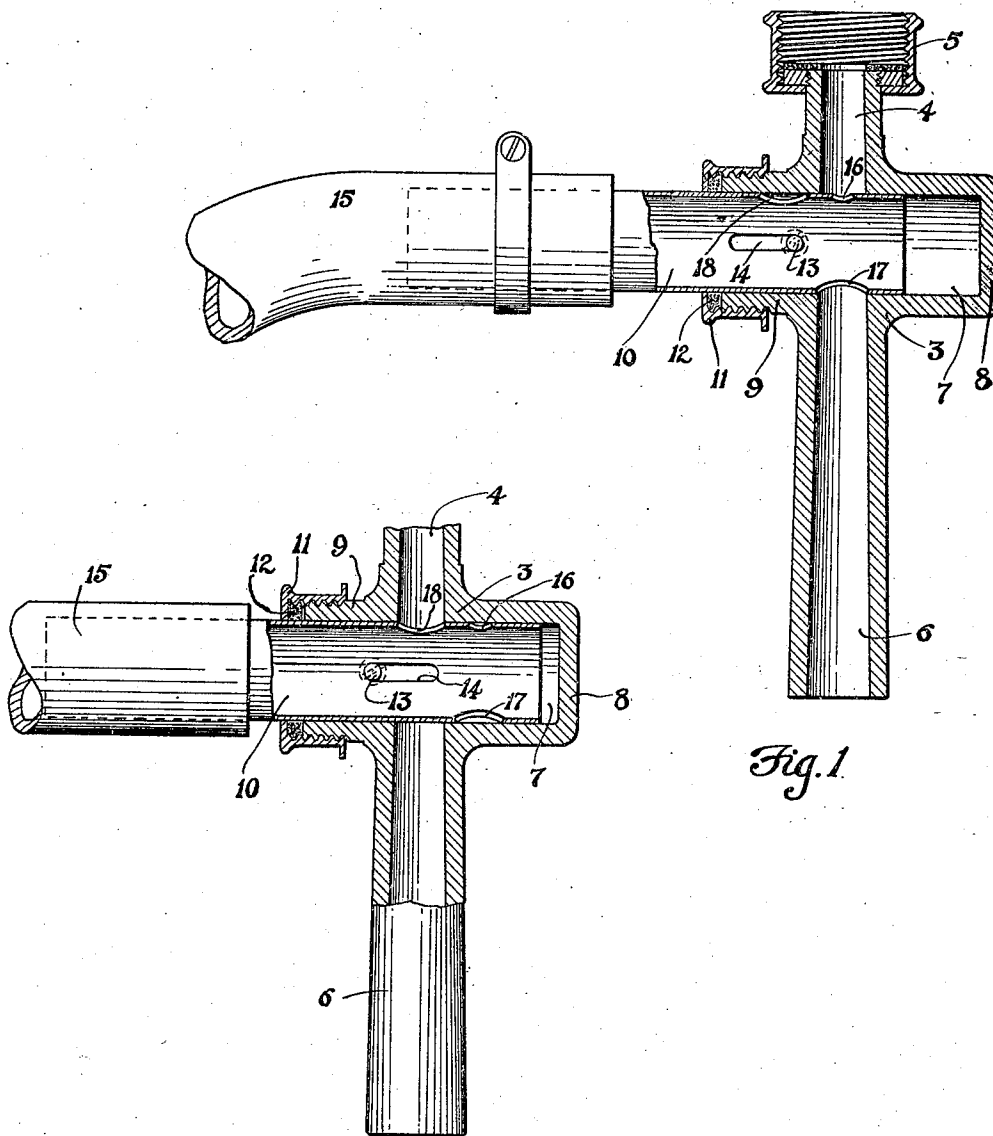


Fig. 1

Fig. 2

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CHARLES H. METZ, OF CANTON, OHIO, ASSIGNOR TO CLARA A. METZ, OF CANTON, OHIO.

WATER EJECTOR.

Application filed August 27, 1921. Serial No. 496,079.

To all whom it may concern:

Be it known that I, CHARLES H. METZ, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Water Ejectors, of which the following is a specification.

The invention relates to an ejector valve for water or other liquids which may also be used as a supply valve; and the object of the improvement is to actuate the valve by an endwise reciprocating movement as distinguished from a rotary movement.

A practical embodiment of the invention is illustrated in the accompanying drawings forming part hereof, in which—

Figure 1 is a side elevation section showing the valve in ejecting position; and

Fig. 2, a similar section showing the valve in supply position.

Similar numerals refer to like parts throughout the drawings.

The case 3 is in the form of a tubular cross, the upper inlet end 4 of which may be secured by a union socket 5 with a faucet or other source of water supply under pressure; and the lower outlet end 6 of which forms a discharge nozzle for water.

One transverse end 7 of the tubular cross is closed by a wall 8, and the other end 9 of the cross is open to receive the tubular valve 10, and is provided with a packing box 11 in which is located a suitable packing 12, for frictionally engaging the valve and sealing the opening of the case around the valve.

A guide and stop pin 13 extends inward from one side of the case and may be in the form of a screw or tapered pin driven through the side thereof; and a longitudinal slot 14 is provided in the same side of the valve for engaging the pin and guiding the valve from rotation and limiting its endwise movements.

Upon the outer free end of the valve is secured a hose 15 or other tubular extension which may extend to a tub or other receptacle, by means of which the valve is adapted to be pushed inward and outward in the cylindric seat formed by the cross tube of the case, within the limits permitted by the guide pin 13 and the slot 14.

A relatively small port 16 is provided in the upper wall of the valve and a larger

port 17 is provided in its lower wall; which ports are so alined with each other, that when the valve is pulled to its outward position as shown in Fig. 1, they will together aline with the inlet and outlet ends of the tubular case. It is evident that when water under pressure is supplied to the inlet end of the case, the same will pass downward in a small stream through the upper smaller port and thence downward through the lower longer port into the discharge nozzle, and will form a suction in the valve 10 and the hose 15 which will draw water from a receptacle into which the end of the hose may be immersed and will eject it through the outlet end 6 of the valve case.

A large port 18 is provided in the upper wall of the valve adjacent to the smaller port 16 in such a position that when the valve is pushed inward to the limit of its movement, this port will register with the upper end for the tubular case, and the other ports 16 and 17 will be closed by the cross end 7 of the case; so that when water is supplied under pressure to the upper end 4 of the case, the same will pass through the valve and will be discharged through the hose into a receptacle, as may be desired.

The valve 10 is neatly fitted into the seat formed by the cross tube of the case, and the packing 11 serves by frictional engagement to hold the valve in a given position; so that the valve can be operated from one position to another by merely pushing or pulling the same by means of the hose as a handle. It is furthermore evident that the position of the valve will not be affected by any twisting of the hose which may occur in the manipulation of the hose.

I claim:—

An ejector including a tubular cross case with a supply connection at its inlet end and a discharge nozzle at its outlet end, a tubular valve slidable endwise in the cross case with a hose extension on its outer end, means for guiding and limiting the endwise movement of the valve, differential ports in the valve alined with the inlet and outlet ends of the case when the valve is at one limit of its endwise movement, and another port in the valve alined with the inlet end of the case when the valve is at the other limit of the endwise movement.

CHARLES H. METZ.