No. 673,595. Patented May 7, 1901.

# A. W. CASE.

## FLUID CONVEYER.

(Application filed July 17, 1899.)

(No Model.)

*Fig. 1*

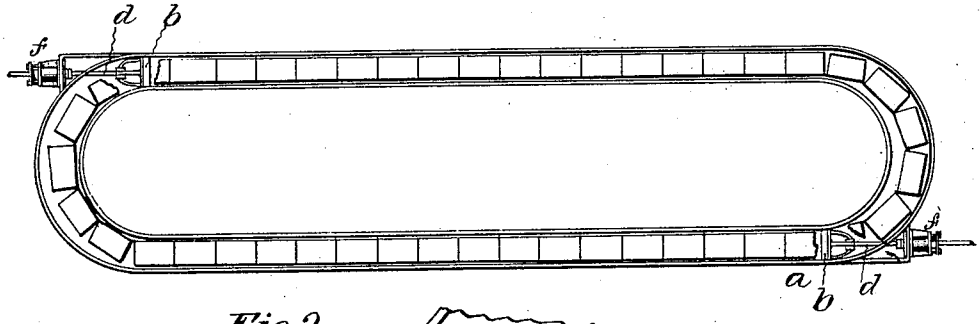



*Fig. 2*

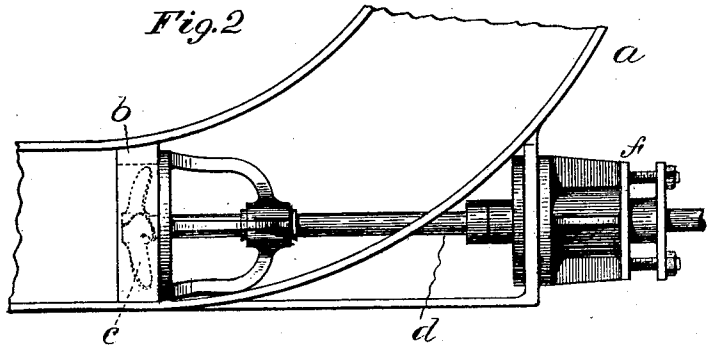



*Fig. 4.*

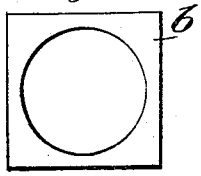
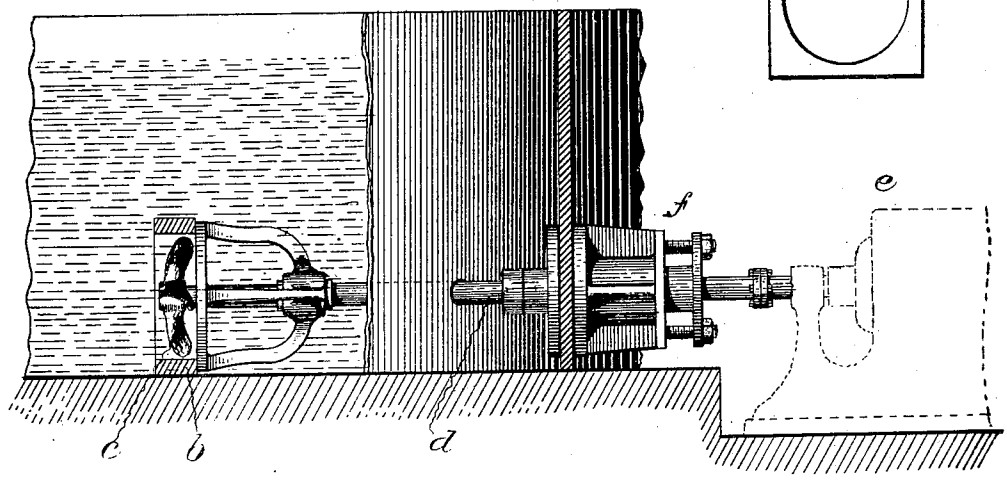



*Fig. 3*




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# UNITED STATES PATENT OFFICE.

ALFRED WELLS CASE, OF HIGHLAND PARK, CONNECTICUT.

## FLUID-CONVEYER.

SPECIFICATION forming part of Letters Patent No. 673,595, dated May 7, 1901.

Application filed July 17, 1899. Serial No. 724,188. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED WELLS CASE, a citizen of the United States, and a resident of Highland Park, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Fluid-Conveyers, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

My invention relates to the class of devices for conveying articles from one point to another; and the object of my invention is to provide a device of this class that shall be simple and effective in its method of operation. One form of device by the use of which this object may be obtained is illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of an apparatus embodying my improvement. Fig. 2 is a detail plan view, on enlarged scale, of the tank or fluid-way as to a portion thereof. Fig. 3 is a detail view, in vertical section, through the tank or fluid-way on enlarged scale. Fig. 4 is a detail view, on enlarged scale, showing the diaphragm.

In the accompanying drawings the letter *a* denotes a tank, or what may be termed an "endless fluid-way." This may be of any desired form of construction, preferably oblong, and at a suitable point within this tank is arranged a diaphragm *b*. Any suitable number of diaphragms may be employed, as desired, each diaphragm extending, preferably, from the bottom of the tank upward such distance as to allow floats located within the tank to be carried with their burdens over the diaphragms without interfering therewith, and each dam or diaphragm may be of such thickness as circumstances may suggest in any given case.

It is designed that the tank or fluid-way shall contain a body of fluid, as water, and floats, as shown in Fig. 1, are supported in the body of water in sufficient numbers, preferably, to extend around the entire length of the tank and nearly, if not quite, touch each other, so that the movement of one shall impart movement to the entire number of floats supported within the tank.

Within the diaphragm *b*, or in close proximity thereto, a propeller *c* is mounted in suitable bearings, the shaft *d* of which extends to any suitable point, preferably without the tank, where it is connected with a motor *e*. In the form shown the shaft extends through a suitable stuffing-box *f*. This diaphragm extends across the tank from side to side, and the propeller is preferably of a size to occupy the greater part of the distance crosswise of the tank.

In the operation of the device the fluid is drawn by the propeller from one side of the diaphragm to the opposite side, and the diaphragm acts as a wall that creates a higher level of the water on its "front" side than at the "back," these terms being considered with reference to that direction in which the current of fluid has been started by the propeller. The flow of fluid being started forward, that part at the lower level located back of the diaphragm flows to the point at which a higher level in front of the propeller has been created, the fluid by the action of the propeller being drawn through the diaphragm or dam, thus maintaining the flow and causing the floats to be carried around the tank.

While there is illustrated herein a diaphragm or dam with an opening therethrough through which the fluid is circulated, I do not desire to limit myself to such construction of dam, as good results may be obtained in other forms of construction of this part of the device.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a fluid-conveyer, in combination, an endless fluid-way containing fluid, a diaphragm located in the fluid-way, and means for drawing the fluid from one side of the diaphragm to the opposite side.

2. In a fluid-conveyer, in combination, an endless fluid-way containing fluid, a diaphragm extending across the tank at a point below the level of the surface of the fluid, and means for drawing the fluid from one side of the diaphragm to the opposite side.

3. In a fluid-conveyer, in combination, an endless fluid-way containing fluid, a diaphragm extending across the fluid-way at a point below the level of the surface of the fluid, a propeller operating in connection with the diaphragm, and means for rotating the propeller.

4. In a fluid-conveyer, in combination, an endless fluid-way containing fluid, a diaphragm located in the fluid-way and having an opening therethrough, and means for circulating the fluid through the diaphragm from one side to the opposite side thereof.

5. In a fluid-conveyer, in combination, an endless fluid-way containing fluid, a diaphragm located in the fluid-way and having an opening therethrough, a propeller operating in connection with the diaphragm, and means for rotating the propeller whereby fluid is circulated through the diaphragm from one side to the opposite side thereof.

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Witnesses:
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