Oct. 20, 1925.

1,557,629

J. E. TAYLOR

WATER CONVEYER

Filed June 17, 1924

2 Sheets-Sheet 1

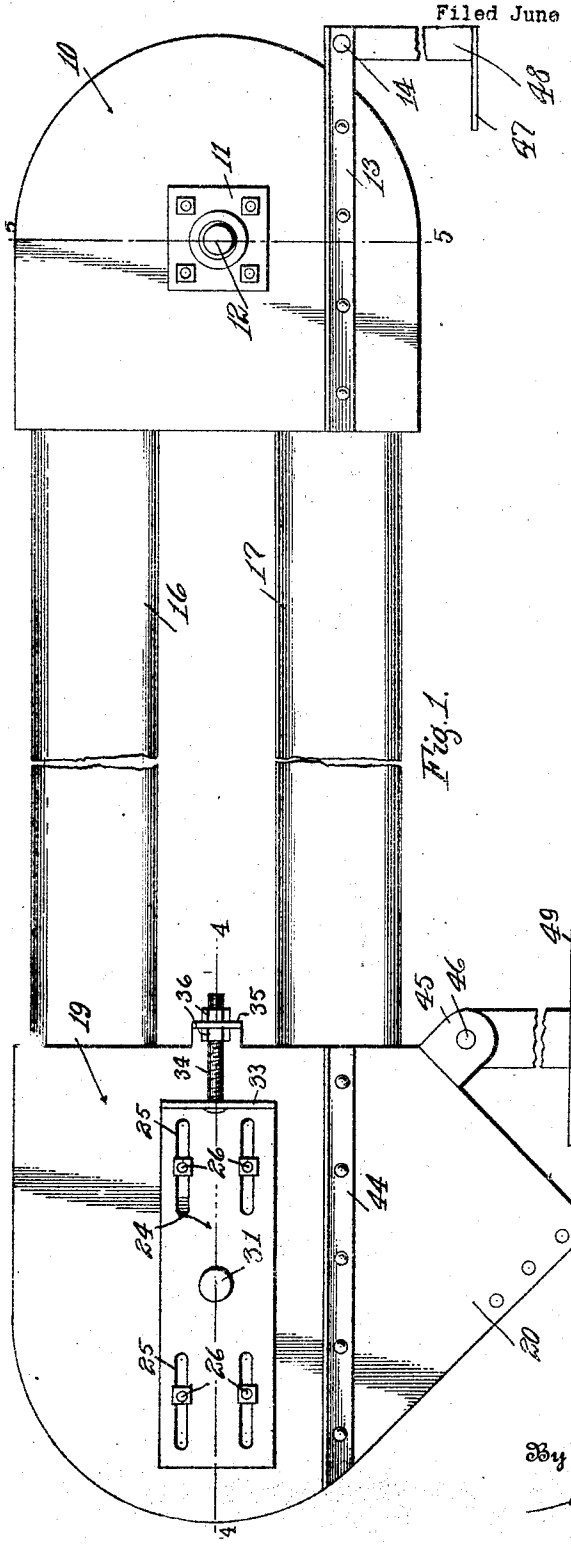


Fig. 1.

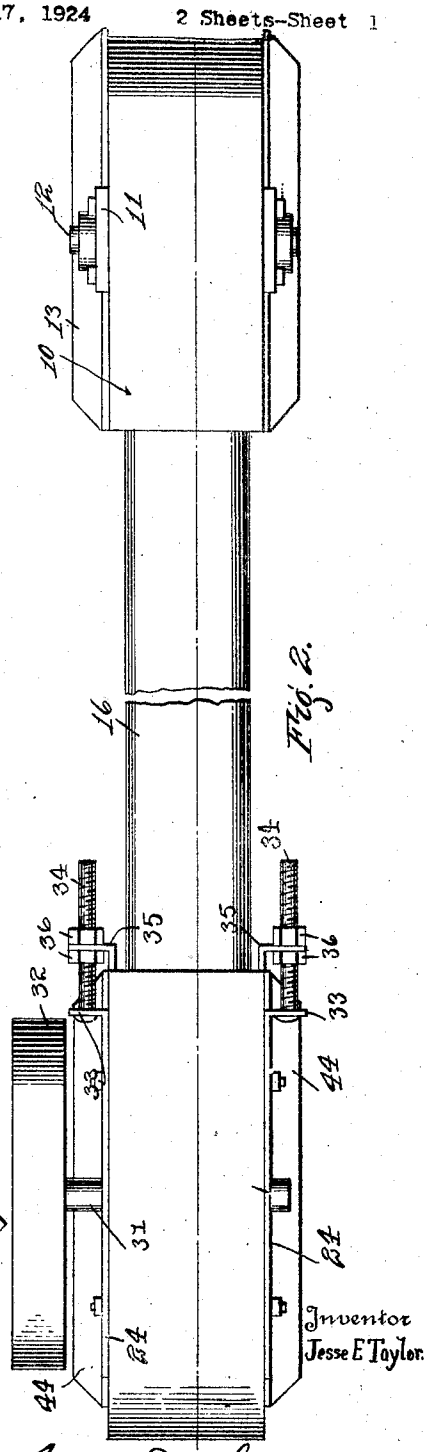


Fig. 2.

Inventor
Jesse E Taylor

By Horace C. Sanders
Attorney

Oct. 20, 1925.

1,557,629

J. E. TAYLOR

WATER CONVEYER

Filed June 17, 1924

2 Sheets-Sheet 2

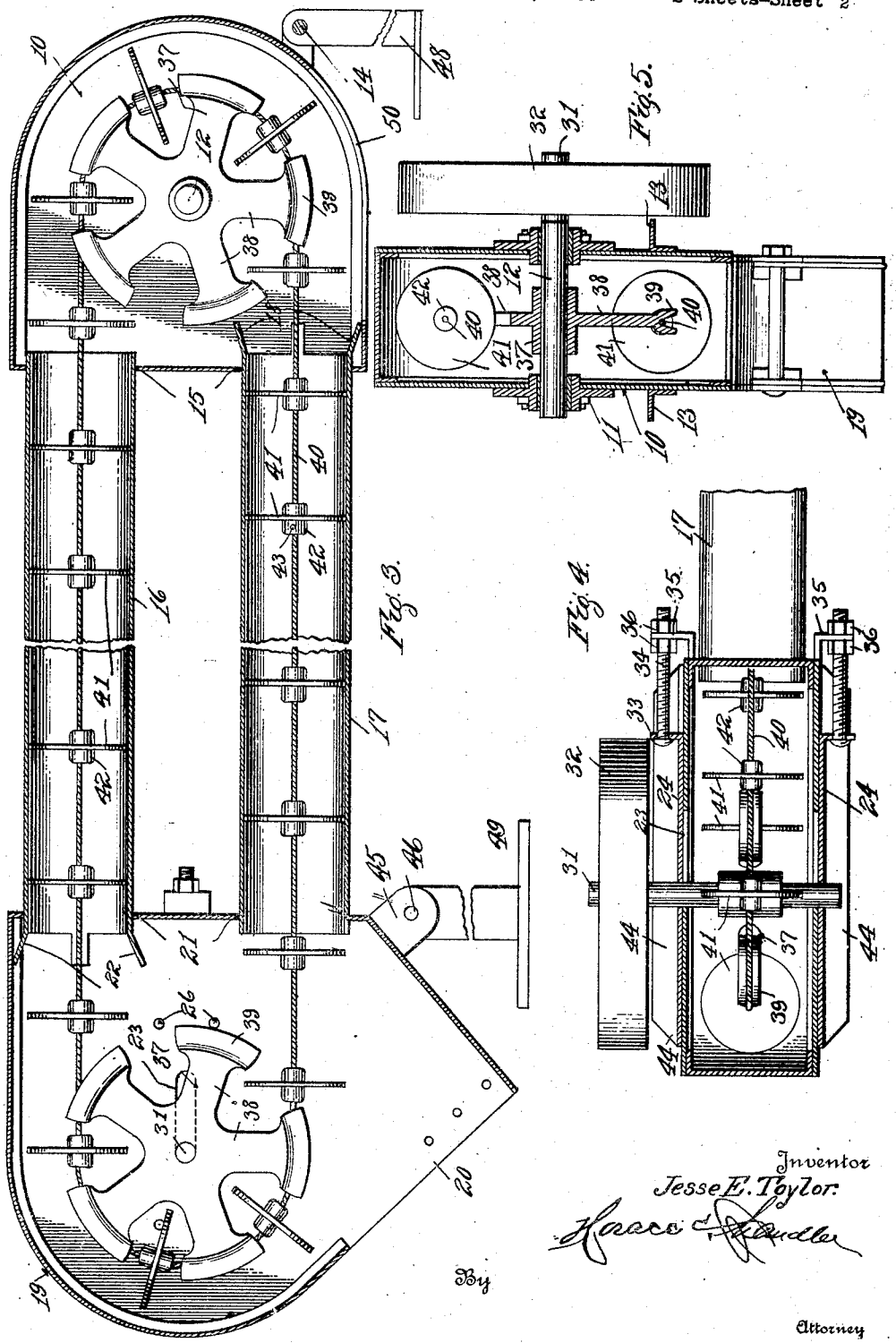


Fig. 3.

Fig. 5.

Fig. 4.

Inventor

Jesse E. Taylor.

Horace C. Handler

By

Attorney

Patented Oct. 20, 1925. 1,557,629

UNITED STATES PATENT OFFICE.

JESSE E. TAYLOR, OF VALIER, MONTANA, ASSIGNOR OF ONE-FOURTH TO LENA B. TAYLOR AND ONE-FOURTH TO GEORGE W. TAYLOR, SR., BOTH OF VALIER, MONTANA.

WATER CONVEYER.

Application filed June 17, 1924. Serial No. 720,672.

To all whom it may concern:

Be it known that I, JESSE E. TAYLOR, a citizen of the United States, residing at Valier, in the county of Pondera, State of Montana, have invented certain new and useful Improvements in Water Conveyers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to new and useful improvements in pumps, and particularly to the type of pumps which include an endless series of pistons.

One object of the invention is to provide a device of this character which is simple in construction, and which is durable and effective in its operation.

Another object is to provide a device of this character wherein the endless chain of pistons are positively guided into the water conveying tubes, at both ends of the pump.

Another object is to improve the construction of the end members of the conveyer tubes, and the means for supporting said ends.

Other objects and advantages will be apparent from the following description when taken in connection with the accompanying drawing.

In the drawings:

Figure 1 is a side elevation of a pump made in accordance with the present invention.

Figure 2 is a top plan view of the same.

Figure 3 is a vertical longitudinal sectional view on the line 3—3 of Figure 2.

Figure 4 is an enlarged longitudinal sectional view on the line 4—4 of Figure 1.

Figure 5 is an enlarged vertical transverse sectional view on the line 5—5 of Figure 1.

Referring particularly to the accompanying drawings, 10 represents a housing which is approximately semi-circular in outline, and has the bearings 11 mounted on the opposite sides thereof for rotatably supporting the ends of the transverse shaft 12. Secured to the opposite flat side faces of the housing are the longitudinally extending angle bars 13, the outer ends of which support the ends of a transverse rod or shaft 14. One end of the housing is curved, while the other end is flat, and in this flat end there are formed openings 15 within which are secured the corresponding ends of two conveying tubes 16 and 17. The said end of the tube 17 is formed with a plurality of diverging fingers 18, which serve as guides for the endless series of pistons which will later be described.

At a suitable distance from the housing 10 there is disposed a second similar housing 19, except that this latter housing has a discharge spout 20 in its lower side. The flat end of the housing 19 is provided with openings 21 within which are secured the adjacent ends of the tubes 16 and 17. This end of the tube 16 has the diverging guide fingers 22, similarly arranged to the fingers 18, and for a similar purpose. Formed through the opposite sides of the housing 19 are the elongated slots 23, and slidable on the outer faces of these sides of the housing are the plates 24. Each of the plates 24 is formed with four longitudinally extending slots 25 which receive the bolts 26 carried by the side of the housing. Secured to the inner face of each plate 24 is a smaller plate 27, and formed on the exposed face of this smaller plate is a boss 28 which projects through the slot 23, and which boss is provided with an internal bushing 29. On the opposite side of the smaller plate 27, and projecting through the plate, is a shorter boss 30. Rotatably supported at its opposite ends in the said bosses 28, and with one end projecting beyond the side of the housing 19, is a transverse shaft 31, said projecting end being provided with a pulley wheel 32, for receiving power from any suitable source, although gears may be substituted for the pulley without changing the invention. One end of the slidable plate 24 is formed with an angularly extending and apertured flange 33 in which is rotatably engaged the adjacent end of a screw 34. Carried by the inner flat end of the housing 19, and projecting beyond the opposite sides of the housing, are the apertured ears 35 through which the said screw 34 is engaged, nuts 36 being engaged on the screw on opposite sides of the ear, for the purpose of moving the screw longitudinally to adjust the plate 24, and thereby move the shaft 31 longitudinally of the housing.

Secured on each of the shafts 12 and 31, within the respective housings 10 and 19, is

a wheel 37, which has the radiating spokes 38 each formed on its outer end with a longitudinally grooved and arcuate rim section 39. An endless cable 40 is engaged around these segmental rim sections, of both wheels 37, and each lap passing longitudinally through one of the tubes 16 and 17. Disposed along the cable, at regularly spaced intervals, are the disks 41, each having a central hub portion 42 through which the cable passes, set screws 43 being engaged in the hubs for engagement with the cable to maintain the disks in proper position. The spaces between the ends of adjacent rim sections 39 are adapted to receive the disks 41, as the cable travels around said wheels.

On opposite sides of the housing 19 are secured the longitudinally extending angle bars 44, similar to the bars 13, but the bars 44 do not extend beyond the housing as do the bars 13. Secured to the discharge spout 20, adjacent the tube 17, are the apertured ears 45, and disposed transversely of the housing, and through the said ears, is a rod or shaft 46. A plate 47 is disposed beneath the outer end of the housing 10 and has a pair of upstanding apertured ears 48 which register with the apertured ends of the bars 13, and receive the ends of the rod 14 therethrough. A similar plate 49 is disposed beneath the inner end of the housing 19 and has the apertured ears for the reception of the ends of the rod 46. These plates 47 and 49 are adapted to be secured to any suitable foundations, one of which is located on the bottom of a river, stream, or like body of water, while the other is adapted to be disposed on shore at the required and desired height above the water, and with its discharge spout in position to discharge into a flume, or other means of conveying the water to a point of use or storage.

In the lower side of the housing 10 there is formed an inlet opening 50 by means of which water enters the housing and the lower end of the tube 17, in position to be engaged and carried up through said tube, by the disks 41, as the cable travels around the wheels 37.

By means of the plates 24, and the screws 34, the shaft 31, and the wheel 37, carried thereby, may be moved to regulate the tension of the cable 40. The fingers 18 and 22 guide the disks into the tube ends.

What is claimed is:

The combination with the wheel casing of one end of a chain pump, said casing having a longitudinal slot in each side wall and spaced openings adjacent the ends of said slots, the ends of the said side walls being provided with laterally directed apertured ears, of a plate disposed longitudinally on a side wall of the casing in covering relation to said slot and openings, said plate having a central opening alining with the slot and arranged to receive a shaft end therein, said plate having longitudinal slots alining with said openings, securing means through the last-named slots and said openings, one end of the plate having a laterally directed apertured flange, and an adjusting screw disposed through said apertured ear and said apertured flange.

In testimony whereof I affix my signature.

JESSE E. TAYLOR.