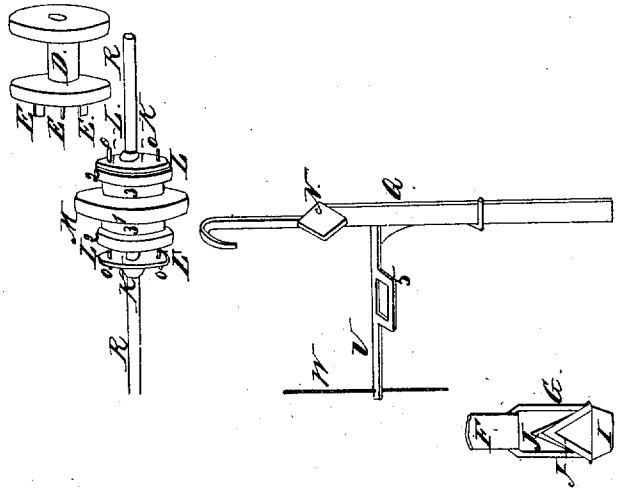
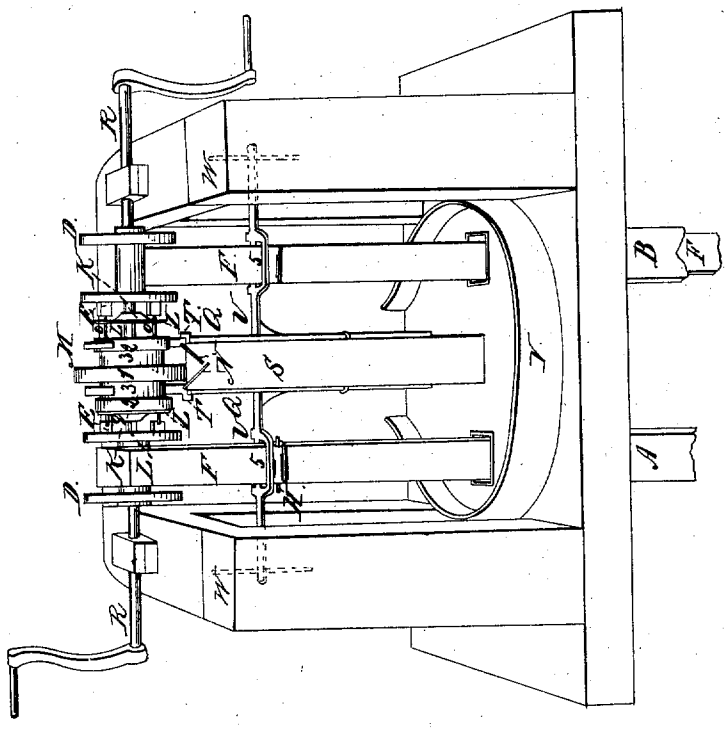
9061X

# T. Odiorne,

## Windlass Water Elevator.

Patented Aug. 27, 1835.





N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

Letters Patent

9061X No 518. Date of Issue 27th Aug 1838

Sherman Odierne

The Schedule referred to in these Letters Patent and making part of the same containing a description in the words of the said Sherman Odierne himself of his improvement in the construction of pumps &c applicable to ships and other purposes where a regular flow is desired.

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To all to whom these Presents shall come.

Be it known that I Sherman Odierne of Portsmouth in the County of Rockingham and State of New Hampshire have invented a new and useful improvement in the method of constructing rotary pumps for water applicable to ships or other purposes where a regular flow is desired, or where much water is required to be discharged by the method the most effectually calculated to save time and to equalize the power exerted and that the following is a clear and exact description of the construction and operation of the said machine so invented or improved by me. In the manner of applying my improvement, I place two pumps side by side, which may be either round or square, though I prefer the former ones and will designate them by the letters A A, in the annexed drawings which are intended to be referred to in the explanation of my plans. These pumps are intended to be worked by one and the same shaft K, which is to be turned in this case by one or more cranks, and they are to act alternately one only being operated on at a time, and yet a constant flow of water is kept up from the discharge. The machinery by which I effect this continued discharge is thus combined and constructed. K, represents the shaft having at each end a crank, D. The two cylinders or drums which work or revolve loosely on the shaft immediately over the pumps one end

Many known flanges projecting at each end so as to retain the belt or chain (which descends into the pump) in its proper situation as it is wound upon the drum lest it should slip off there are also small projections or Cogs upon one end of each as at E, and there may be four in number. A small collar on the axis at the opposite end prevents them from sliding back too far in that direction, F represents the belt or chain, which is to descend as low into the pump as may be requisite for the dipper or box G to fill. It has also a small catch H secured to it at a certain distance below the cylinder such as may be proportioned to the height to which the water is intended to be raised by the dipper A. G the upper box or dipper which is made with a narrow base I of some heavy metal. The shape of this dipper is so constructed as to fit across the bore of the pump diagonally, the wings J unfolding outwards against the sides of the pump (where square ones are used) in ascending with their load of water, folding inwards when descending so as to permit the metal base to carry down the dipper by unwinding the chain until it has reached its lowest position in the pump and is again ready to ascend. The wings are made of leather, and faced on the upper face by metal plates (Copper is well adapted) K are two metal plates placed one on each end E of the cylinders at such a distance from said end as to just clear the projection from those ends, and these plates are secured to the axis so as to be immovable, and have two holes L one on each side of the axis of each plate. M, represent a clutch wheel which is to be placed between these plates K, thereby occupying the central space between them and over the pumps. The drawings will give the best idea of the form of the clutch wheel I have found most useful, though other shapes may be equally well applied, and in this one the central portion A has the diameter much greater than any other part so as to descend to the lips, or oblique plates N placed beneath it and the remaining portions of the wheel on each side the central one, have their diameters much

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decreased three at 2 being much less than that at the bottom
2 & the diameter is still decreased to form a groove 3. One end of
outer end of the part 2, are placed two pins O. projecting outwards
or towards the plate K, which they are intended to press forward
by the openings or holes L. left therein for that purpose far enough
strike on or to join against the projections or cogs E. on the work
gear with them and as the axis turns so will the cylinder turn
into which the pins are geared. These pins are also just long enough
to catch end of part 2. to allow them to be driven at one end; into
the holes of the plate K and entirely through, until the part 3. join
the plate K while those pins at the other end 2, are drawn out of
the plate K so far as to leave just enough to keep on by in the
plate so as still to have the clutch wheel forced round by the
revolution of the plates & the connection of the pins. That part
of the main axle R. upon which the clutch wheel slips backwards
and forwards may be either round or square Q Q. represent the
shipper rods for the shape of which I refer to the drawings
are let into the sides of the center post S next to the pumps
these retained but in such a manner as to allow them to
rise up or descend as required. The oblique plates or lips N.
slot and notch on the top of the center post S. are connected
with the shaft of the shipper rod, which is just there confined
by a small groove or catch I secured to the top of the post
and behind the lips. Above this part the rod rises and
bends over the clutch wheel at the part 2 which it encircles
partly or nearly half round like a hook of sufficient
width to fall into the groove 3 when required. There are
arms projecting from the rod at right angles and ex-
tending far enough beyond the drums D. to admit of
eye 5. underneath, for the belt or chain to run through
and also to admit a round hole 6. beyond the eye through
the end of the arm intended to slide up and down upon a

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shaft or reel VI descending from the frame work above, & intended to regulate the motion of the arms & eye in rising and falling, & represents a lip or basin round the top of the pump on the platform or deck intended to conduct the water to the discharging point. **Operation.** The power being applied by the crank the axis or shaft is turned which causes the revolution of the drum wheel is then in gear, this winds up the belt or chain & consequently draws up its dipper to the top of the pump when it discharges its water into the lip or basin on deck, at this moment the catch strikes against the eye and carries it up this of course raises the dipper rod and with the lip or oblique plane which is thus brought in contact with the larger diameter of the clutch wheel and striking it on the edge forces it over towards the opposite drum, at the same moment that the hook is raised out of the groove in which it lay to the top of the second length of diameter of the clutch wheel, which thus has an opportunity of slipping under the hook as the wheel shifts, and the pins being turned through the holes of the plate at the other end, the drum at that end falls into gear and the hook falling into place in the groove retains the clutch wheel steady during the revolution of that drum in order to raise its dipper and load. In the meantime the first drum being relieved from gear it revolves backwards by the weight of the dippers base (which dipper has been unchanged) & both dipper and belt descend to their lowest stations again, till the shifting of the clutch wheel once more, when the same operation commences on the other pump &c & thus one is always at work, and a uniform stream of water discharged thereby. What I claim as my own invention and not previously known

the above described machine — is not the principle
raising water by means of a rotary pressure, but for
improvement applied to a practical use, effected
a combination of various mechanical powers
ducing the effect of raising water by a peculiar
eration, and the various parts I claim the use of
s designate according to their letters viz. 1st The
plication of the drums D shaped with the projections E.
cogs thereon for the purpose and after the manner
scribed. 2d The clutch wheel K designed for the use
have set forth of gearing and ungearing the drums D
ough the form may be varied to answer the same
pose. 3d The shipper rods Q.Q shaped as I have
scribed them and to be used after the manner & for
e purpose already set forth in their various parts.

In Testimony that the above is a full and exact description of the Construction and modes of operation of my machine as invented or improved by me I have hereunto set my hand this fifteenth day of July eighteen hundred and thirty five.

Witnesses
H. N. Wharton
Wm. Stone

Thomas Odierne Esq
[illegible]

Sworn & Attested
(Seal)