

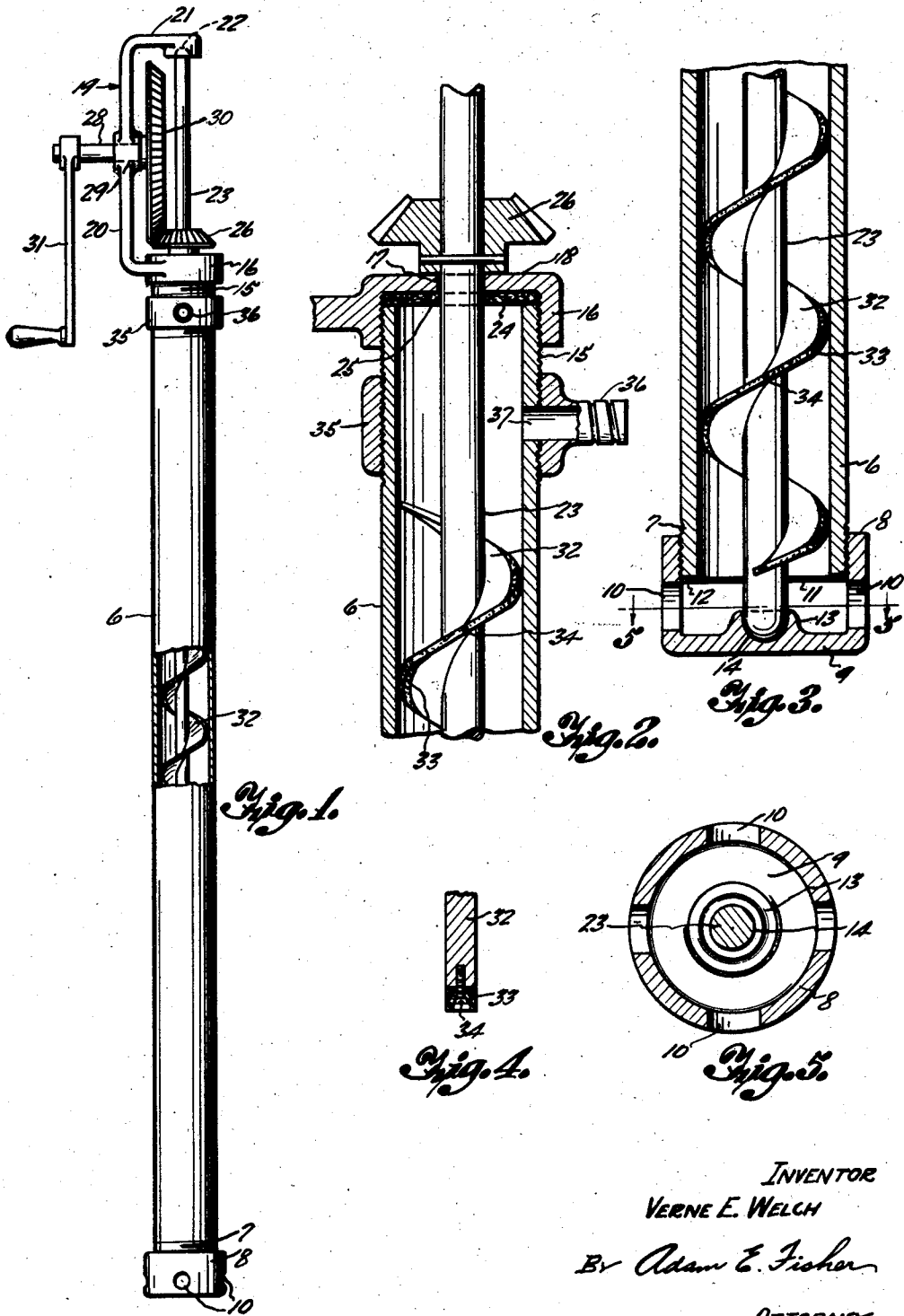
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1,966,325

PUMP

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1,966,325

PUMP

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1 Claim. (Cl. 103—89)

My invention relates to improvements in pumps and the main object is to provide in a simple and efficient form a pump suitable for insertion into a barrel or container of oil, gasoline or other liquid to elevate and dispense the contents as needed.

Another object is to provide a pump of this kind including a slender elongated barrel or cylinder adapted for removable insertion into and through the usual filler opening in a barrel or container of oil or the like, the said cylinder containing a spiral or screw conveyor running from top to bottom with its shaft projected through the closed upper end of the cylinder and adapted to be rotated by a crank and gear assembly mounted on the cylinder, and there being inlet ports at the bottom of the cylinder and a dispensing outlet near the top.

A further object is to provide in a pump of this kind a spiral conveyor in which the outer edge or face of the blade thereof is covered with a leather or similar sealing strip whereby an efficient and close fit is obtained with the walls of the cylinder thus making the pump suitable for pumping gasoline, kerosene and other thin or aqueous liquids.

With the above and other objects in view the invention resides in the novel construction and arrangement of parts as hereinafter set forth and claimed, reference being had to the accompanying drawing wherein:

Figure 1 is a side view of my pump, a medial portion of the cylinder being shown as broken away in section.

Figure 2 is an enlarged vertical section of the upper part of the barrel and associated parts.

Figure 3 is a similar view of the lower end portion of the barrel and associated parts.

Figure 4 is a further enlarged cross section through the outer portion of the blade of the spiral conveyor showing the sealing strip and method of mounting.

Figure 5 is a section along the line 5—5 in Figure 3.

Referring now with more particularity to the drawing my invention comprises a barrel or cylinder 6 formed of a piece of pipe or tubing of suitable length and diameter so that it may pass through the usual filler opening in an oil or fuel barrel (both not shown) and reach the bottom thereof with yet a part of the end of the cylinder projecting from the opening. At its lower end the cylinder 6 is threaded at 7 to receive a bottom cap 8, the head or closed end 9 of which is spaced a considerable distance from the end of

the cylinder as shown whereby inlet apertures 10 provided in the annular shell of the cap will admit liquid to the cylinder. A screen 11 is provided over the end of the cylinder and secured thereto at its margins 12 by spot welding or any other suitable means and acts to filter or strain the liquid admitted to the cylinder. A boss 13 is provided centrally on the inner face of the cap head 9 and has a rounded socket or bearing 14 for a purpose to be described.

The upper end of the cylinder 6 is threaded at 15 to receive a top cap 16 which has a control aperture 17 in its head 18 concentric with the axis of the cylinder and aligned with the socket 14. A yoke or fork 19 is cast integrally with the top cap 16 or is separately formed and secured thereto and in either event comprises an upstanding arm 20 and angularly and inwardly turned bearing arm 21 having a socket or bearing 22 in its underside in alignment with the aperture 17 and socket 14, the said arm 21 being spaced outward by the arm 20 a substantial distance from the upper end of the cylinder. A pump shaft 23 is journaled at its ends in the sockets 14 and 22 and passes through the aperture 17 where it is packed by a sealing washer 24 secured over the upper end of the cylinder and held in place by the cap 16 and having an aperture 25 passing said shaft.

A beveled pinion 26 is secured, to the pump shaft 23 adjacent the top cap 16. A crank shaft 28 is journaled at 29 through the arm 20 of the yoke 19 at a medial point and carries at its inner end a beveled gear 30 meshing with the pinion 26 and at its outer end a crank 31 by which said crankshaft may be turned. This of course rotates the pump shaft 23 in the cylinder.

The pump shaft 23 carries a screw or spiral conveyor blade 32 extending from just above the screen 11 to a point adjacent the top cap 16, this blade being of itself of such width or radius as to fall considerably short of contact with the inner peripheral face of the cylinder. A sealing strip 33 of leather or some similar resilient and wear resisting material is secured around the edge of the blade 32 by countersunk screws 34 and fills in the space to and contacts the face of the cylinder. As the pump shaft 23 is rotated in the manner recited the conveyor blade will of course carry the liquid in which the pump is submerged upward through the cylinder, the very fine and efficient fit between the conveyor and cylinder wall obtained by the use of the sealing strip 33 acting to more efficiently pump and carry the liquid upward as will be

understood, this being of particular advantage where the liquid is gasoline or some similar material of a thin consistency.

A collar 35 is threaded down over the threaded upper end of the cylinder 6 to a point below the cap 16 and has a diametrically extended tubular nipple 36 communicating with the interior of the cylinder by an outlet opening 37. The liquid forced upward in the cylinder will emerge from this opening 37 and may be conducted away or drawn off for any purpose by a hose or tube (not shown) of any suitable form attached to the nipple 36.

The device as described is of particular utility in pumping out the contents of oil, gasoline or other fuel barrels but it is apparent that many other uses are possible. While I have herein set forth a certain preferred embodiment of my invention it is understood that I may vary from the same in minor structural details so as best to construct a practical device for the purposes intended not departing from the spirit of my

invention and within the scope of the appended claim.

I claim:

In a pump, an elongated tubular cylinder, a lower cap mounted on the lower end of the cylinder and with its end spaced from the end of the cylinder, the cap having apertures in its side beneath the end of the cylinder and having a central socket in its inner end face, an upper cap mounted on the upper end of the cylinder and having a central aperture, a pump shaft journaled down through the aperture in the upper cap and rounded at its lower end to seat in the socket in the lower cap, a spiral conveyor blade on the shaft within the cylinder and clearing the inner walls thereof, a resilient sealing strip secured along the outer edge of the blade and engaging the inner wall of the cylinder, means for rotating the pump shaft and blade, and an outlet in the cylinder adjacent the upper end of the cylinder.

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