March 22, 1949. J. W. McCONAGHY 2,464,936

SUPPORTING DEVICE FOR PUMPS

Filed Sept. 24, 1946

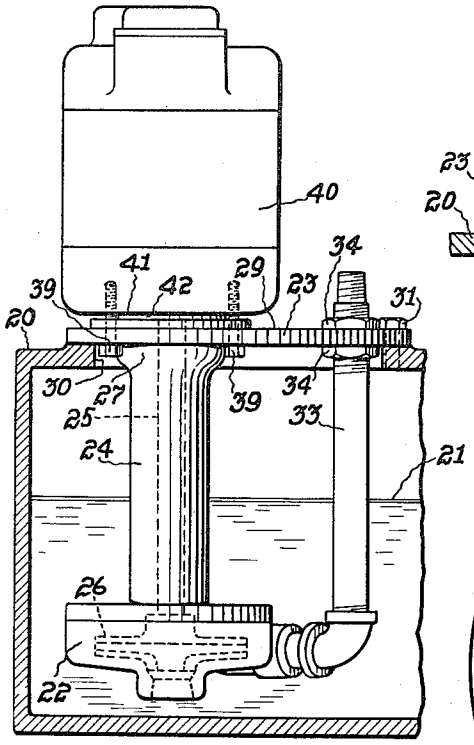


FIG.-1.

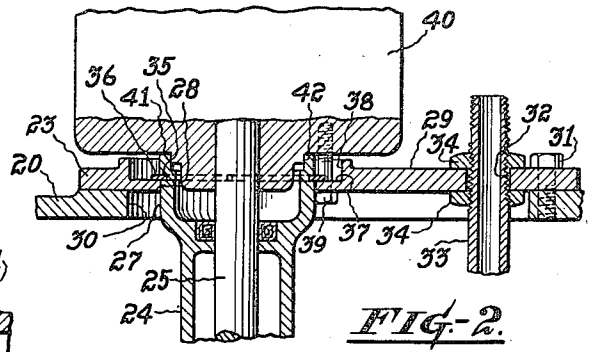


FIG.-2.

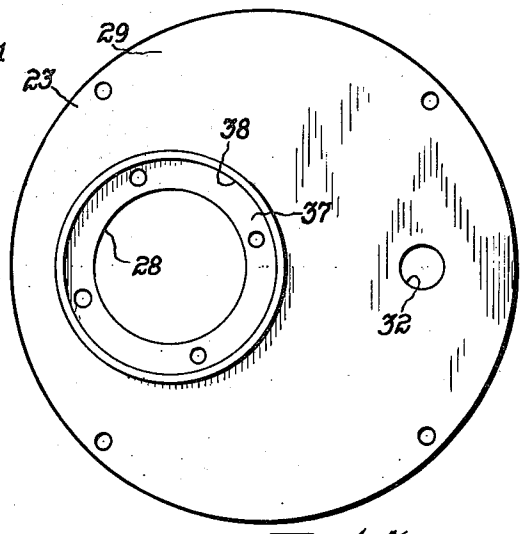


FIG.-3.



FIG.-5.

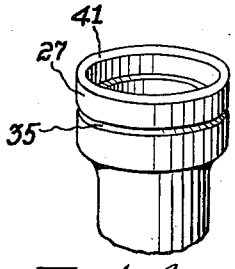


FIG.-4.

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SUPPORTING DEVICE FOR PUMPS

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3 Claims. (Cl. 103—218)

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This invention relates to supporting devices, and more particularly to a supporting device for pumps of the vertical centrifugal type.

One object of the invention is to effect a rigid connection between the pumping mechanism and the support therefor, and

Another object is to enable the pumping mechanism and the supporting device to be expeditiously connected to and disconnected from each other.

Other objects will be in part obvious and in part pointed out hereinafter.

In the drawings accompanying this specification and in which similar reference numerals refer to similar parts.

Figure 1 is a side elevation of a supporting device constructed in accordance with the practice of the invention and a pumping mechanism secured thereto,

Figure 2 is an elevation, partly in section, of the supporting device and portions of the pumping mechanism,

Figure 3 is a top plan view of a detail, and

Figures 4 and 5 are perspective views of details of the supporting device.

Referring more particularly to the drawings, 20 designates a container for liquid 21 having submerged therein a pump 22 that is held in operative position by the supporting device, designated in general, by 23.

The pump 22 is of the centrifugal type. It is suspended from the supporting device 23 and has a tubular extension 24 that encases the shaft 25 for the pump impeller 26. The upper end 27 of the extension 24 is somewhat enlarged and has a slide fit in an aperture 28 in a plate 29 serving as a cover for an opening 30 in the container 20 to which it may be secured by bolts 31.

The aperture 28 is located in an off-center position in the plate 29 and the plate is provided with a second aperture 32 for the discharge conduit 33 of the pump. The portion of the discharge conduit extending through said aperture 32 is threaded externally for the accommodation of lock nuts 34 that seat against the top and bottom of the plate 29 to assist in connecting the pumping mechanism rigidly to the plate.

The extension 24 is also secured firmly to the plate 29 and accordingly has an external annular groove 35 for the accommodation of a split spring

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ring 36 that seats on the bottom surface 37 of a depression 38 in the upper surface of the plate 29. The portion of the ring 36 lying outside of the extension is clamped against the surface 37 by bolts 39 that extend through the plate 29 and are threaded into the casing of the motor 40 driving the impeller for drawing the end of the motor against a seating surface 41 at the upper end of the extension. The casing of the motor 40 is preferably provided with a boss 42 that lies in the enlarged end of the extension to maintain the motor coaxial with the pump impeller 26.

In assembling the pumping mechanism on the supporting device, the enlarged portion 27 of the extension and the discharge conduit 33 are first inserted in the apertures 28 and 32. The split ring 36 is next placed in the groove 35 and the bolts 39 are then placed in the plate 29 and threaded into the casing of the motor 40. The motor casing is thereby drawn firmly against the seating surface 41 and the split ring is pressed against the surface 37 to secure the extension to the plate 29. The nuts 34 may then be clamped against the both sides of the plate 29 for holding the discharge conduit 33 rigid with respect thereto.

From the foregoing description it will be readily apparent to those familiar with devices of the character to which the present invention pertains that the supporting device may be connected to the pumping mechanism with a minimum expenditure of effort and time and that the connection thus effected will remain rigid throughout prolonged periods of operation of the pumping mechanism.

I claim:

1. In a supporting device for a pump having an extension and a motor for driving the pump, a support plate for the pump having an aperture to receive the extension, a member removably and interlockingly engaged with the extension to seat upon the plate, and a common means for securing the motor to the extension and for clamping the member against the plate.

2. In a supporting device for a pump and a motor for driving the pump, an extension for the pump having a recess therein, a support plate for the pump having an aperture to receive the extension, a seating surface on the extension for the motor, a seating member removably and in-

terlockingly engaged in the recess of the extension to seat upon the plate, and a common means for securing the motor to the seating surface and for clamping the seating member against the plate.

3. In a supporting device for a pump having an extension and a motor for driving the pump, a support plate for the pump having an aperture to receive the extension, a seating surface on the end of the extension for the motor, a resilient split ring in the outer surface of the extension to seat upon the plate, and bolts in the plate threaded into the motor for securing the motor to the seating surface and for clamping the split ring against the plate.

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