W. G. DAWSON.

WASHING MACHINE.

APPLICATION FILED SEPT. 18, 1919.

1,349,370. Patented Aug. 10, 1920.

Fig. 1.

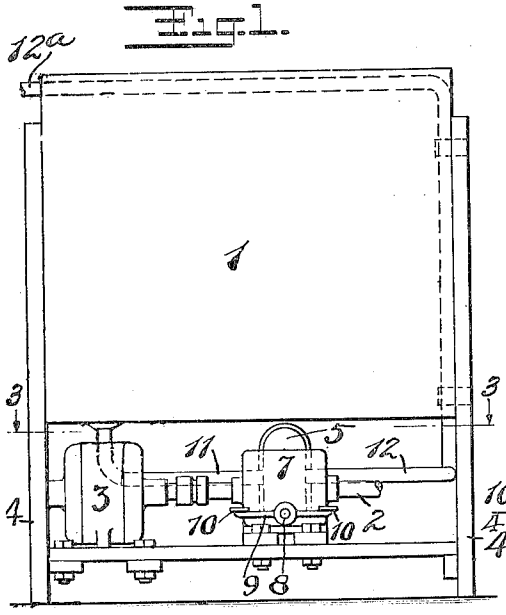


Fig. 2.

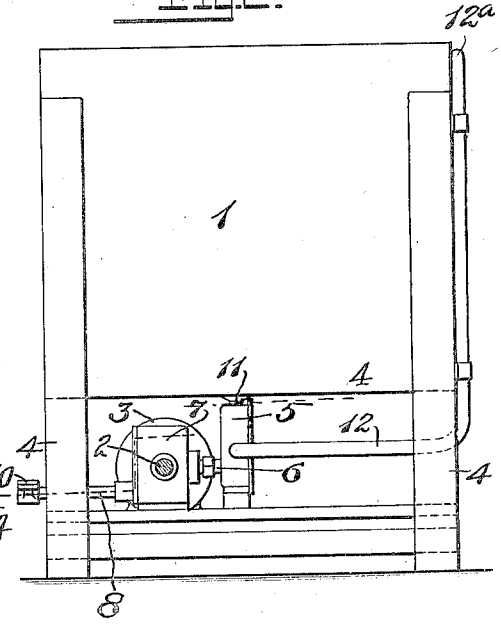
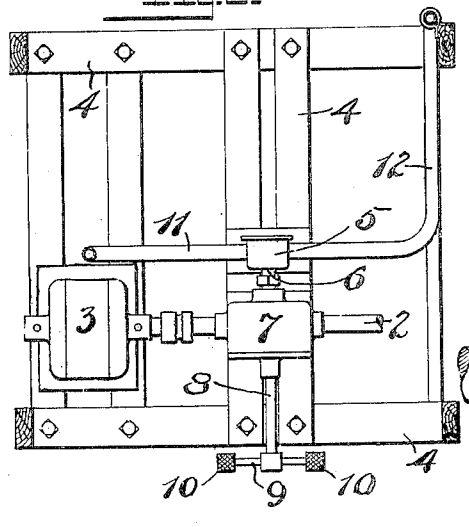


Fig. 3.



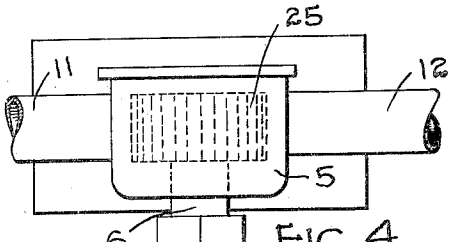
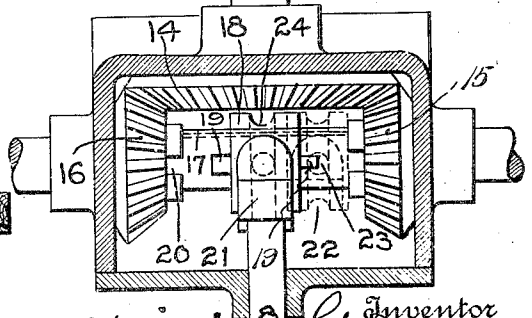


FIG. 4



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WASHING-MACHINE.

1,349,370. Specification of Letters Patent. Patented Aug. 10, 1920.

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To all whom it may concern:

Be it known that I, WILLIAM G. DAWSON, a citizen of the United States of America, residing at Mount Vernon, New York, have invented a new and useful Washing-Machine, of which the following is a specification.

My invention relates to improvements in washing machines and the like, the object being to provide certain improvements whereby the machine may be quickly filled and emptied, thereby saving time and labor, the said work being mechanically done and depending in no way upon gravity for either operation.

Another object is to provide a machine which may be quickly emptied and the liquid conducted to a level higher than that of the machine.

In the accompanying drawings:

Figure 1 is a side elevation of my invention as applied to a washing machine.

Fig. 2 is an end elevation thereof.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary section taken substantially in the plane of the line 4—4 of Fig. 2.

1 represents a tub or tank which may contain the usual machinery for performing mechanically the washing operation. 2 represents a driving shaft which is used in the operation of the washing machine. 3 represents an electric motor which constitutes the source of power. All of these parts are suitably carried on a frame 4—4. 5 represents conventionally a water pump preferably of the well known rotary gear type. 6 is a pump shaft. This shaft may be connected with and disconnected from the shaft 2 in such a manner that it may be rotated in either direction. 7 represents a clutch housing in which any appropriate clutch mechanism may be located, one form of clutch being hereinafter described, whereby the shaft 6 may be connected with the shaft 2 so as to rotate the former in one direction or the other without reversing the shaft 2. 8 is an operating shaft which leads into the clutch housing 7 for operating the clutch and reversing mechanism by tilting the shaft 8 in one direction or the other. 9 is a double ended lever having the pads 10—10 at opposite ends thereof so that by pressing the foot down on one or the other of the pads 10, the operating shaft 8 will be rocked in the desired direction to connect or disconnect or reverse the connection between the shaft 2 and the pump shaft 6. In Fig. 4 is shown a form of reversing gear and clutch mechanism. The pump shaft 6 projects into the clutch housing 7 and secured to the end of said shaft may be secured a bevel gear 14. The motor shaft 2 is shown as extending through the housing 7 and rotatably mounted on said shaft may be two bevel pinions 15, 16 each meshing with the bevel gear 14. Splined upon the shaft 2 within the housing 7 by means of the key 17 may be a collar 18 having projecting lugs 19 upon opposite sides for engagement with corresponding recesses as 20 in the bevel pinions 16. Secured to the shaft 8 within the housing is a collar 21 having an angular projection 22 carrying a pin 23 for engagement with a groove 24 in the slidable collar 18.

Assuming that the shaft 2 rotates constantly in one direction. If one of the pads 10 is depressed to oscillate the shaft in one direction to force the lugs 19 into engagement with one pinion 15, as shown by the dotted position in Fig. 4, the pinion 15 will rotate with the shaft 2 and rotate the pump shaft 6 through the bevel gear 14 in one direction. If the shaft 8 is oscillated in the other direction to cause the collar to engage the other pinion 16, the pump shaft 6 will be rotated in the other direction. When the shaft 8 is in the neutral position as shown in full lines in Fig. 4, the shaft 2 rotates the collar 18 but the pinions 15, 16 will not be rotated and the pump shaft 6 will consequently not rotate.

The pump 5 has been shown as a conventional gear pump, one of the gears being shown at 25. 11 is a pipe leading from the bottom of the tub or tank 1 into the pump 5, and 12 is a pipe leading from the other side of the pump and being provided with a free end 12^a. This pipe 12 is preferably flexible so that the end 12^a may be placed wherever convenient. For example, it might be placed in any water supply when it is desired to fill the tub 1, in which event the motor 3 would be started and the pump connected with the driving shaft 2 in such a way that the pump would draw water from the reservoir through the pipe 12 and deliver it rapidly into the tank 1 through the pipe 11. When the washing process has been completed and it is desired to renew the water in the tub, the end 12^a of the pipe is placed wherever it is desired to discharge the dirty water and the

pump 5 is connected with the shaft 2 so as to suck the water out of the tank through the pipe 11 and force it through pipe 12. It is thus seen that the pipe 11 is a combined filling and emptying pipe, and the pipe 12 is a combined suction and discharge pipe. By my invention no additional motor is required because the regular washing machine motor 3 may be used as a common source of power thereby not only cheapening cost but reducing the weight that the machine would otherwise have to carry. By the use of my improvement the tub 1 may be emptied very much quicker than were gravity alone relied upon. Furthermore, it should be borne in mind that these machines are usually placed upon a laundry floor and in the emptying of such a tub it is necessary to catch the dirty water in a proper catch basin and pour the same into the usual laundry tub where it flows out through the usual waste pipe. This operation of filling and emptying a pail has to be repeated several times to fully empty the tub 1 and is slow and laborious. By my improvement the end of the pipe 12 is merely placed in the wash tub or sink and the pump started in a direction to exhaust the water from tub 1, which operation is very quickly performed. As soon as the tub is empty and it is desired to refill the same, the end of the hose may be placed in one of the regular wash tubs which may already be filled with fresh water whereupon by reversing the operation of the pump 5 the water therein is exhausted and driven into the tub 1, this operation being performed very quickly. If desired the tub 1 may be filled from an ordinary spigot and my improved mechanism used only for emptying the tub 1.

From the foregoing, it will be seen that not only does my invention result in the saving of much time, but it also saves greatly in labor. I do not wish to be limited to the use of any particular form of pump 5 or clutch and reversing gear 7, since these may be modified in a great variety of ways, in fact, I claim no novelty in the particular form of either of these mechanisms in themselves.

What I claim is:

1. In a device of the character described, the combination of a tub, means for supporting the same, a pump supported adjacent said tub, means for driving said pump, a combined filling and emptying pipe connecting said pump and tub, a combined suction and discharge pipe connected to said pump and a reversible clutch mechanism connected to said pump for driving the latter in either direction whereby when the pump is driven in one direction water will flow through said suction and discharge pipe, pump and filling and emptying pipe into the tub for filling the latter and when the pump is driven in the other direction water will flow through said filling and emptying pipe, pump and suction and discharge pipe from the tub for emptying the latter.

2. In a device of the character described, the combination of a tub, means for supporting the same, a filling and emptying pump mounted adjacent said tub, a combined filling and emptying pipe connecting said pump and tub, a combined suction and discharge pipe connected to said pump and means for causing said pump to force water in either direction, whereby water may flow through both of said pipes and said pump for both filling and emptying the tub.

WILLIAM G. DAWSON