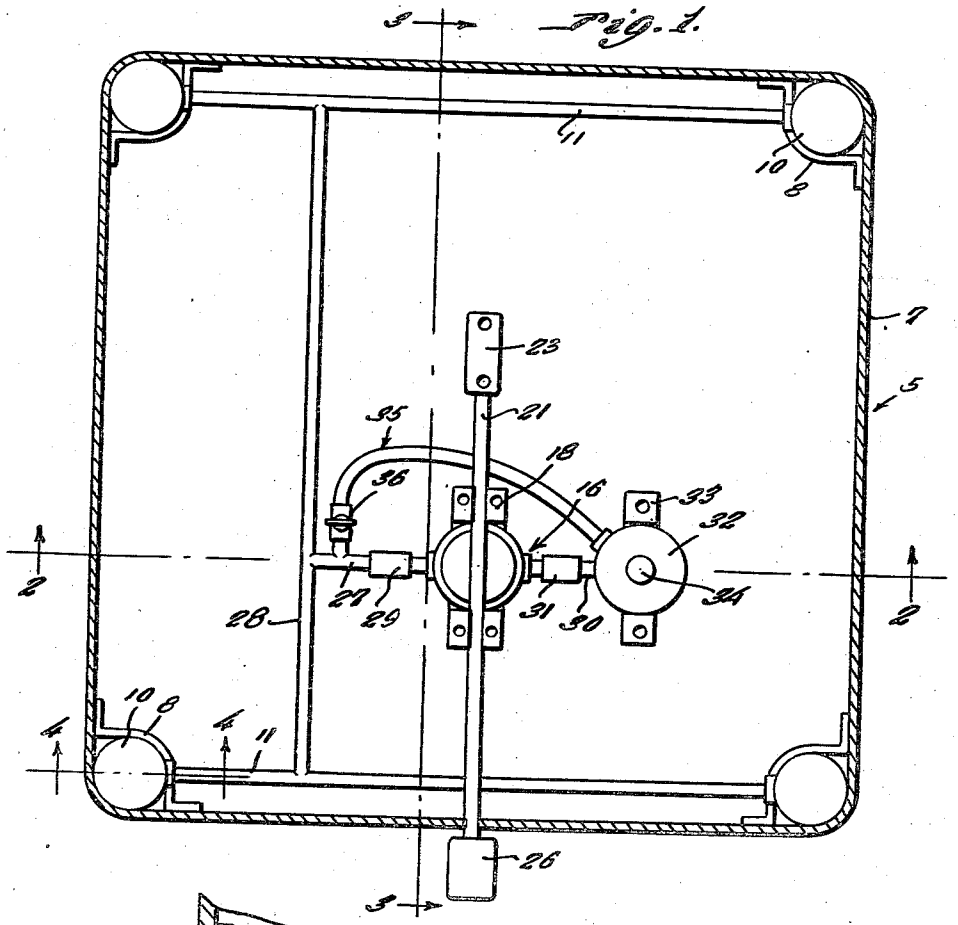
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HYDRAULIC JACK FOR REFRIGERATORS AND THE LIKE

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Fig. 1.



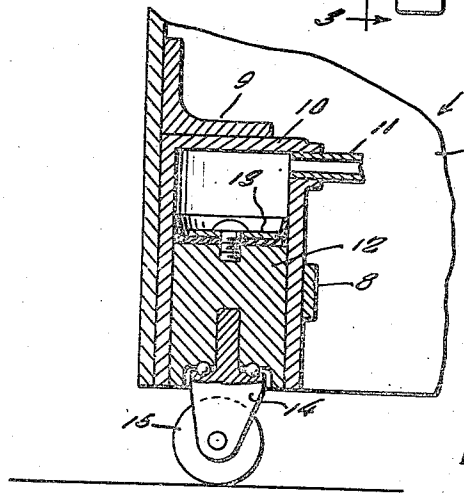


Fig. 4.

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Fig. 2.

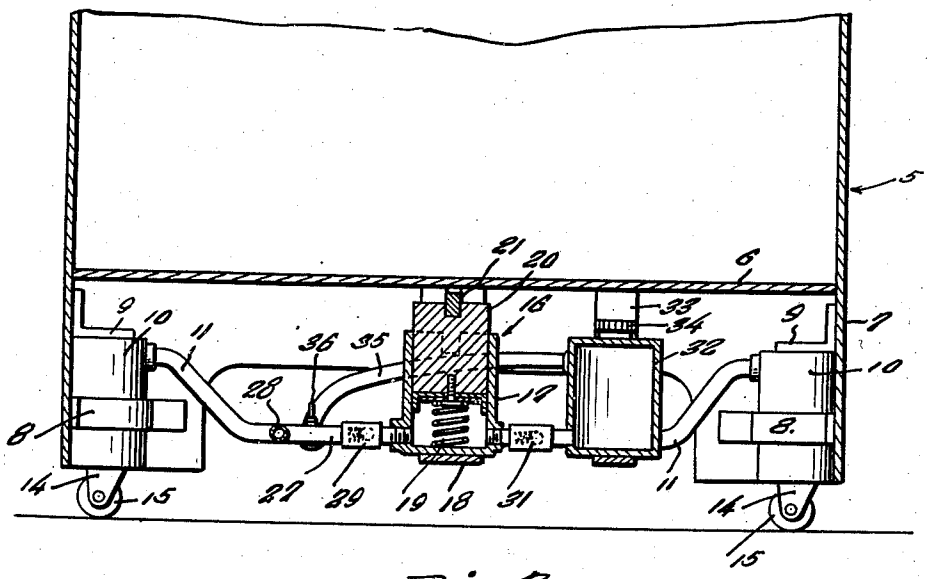
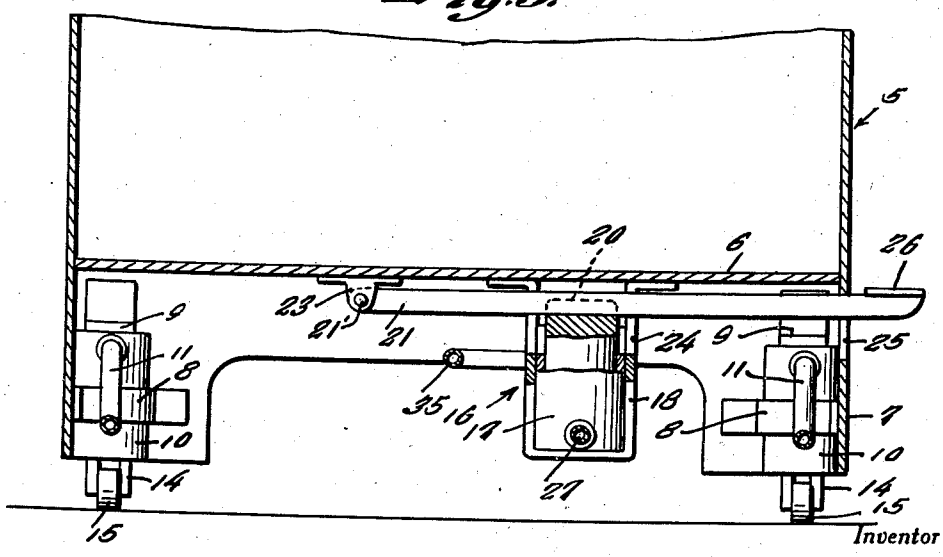


Fig. 3.



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HYDRAULIC JACK FOR REFRIGERATORS AND THE LIKE

Leonard J. Engel, East Moline, Ill., assignor of one-third to August J. Ross, and one-third to Emiel J. Meyers, both of East Moline, Ill.

Application April 1, 1939, Serial No. 265,591

1 Claim. (Cl. 60—52)

The present invention relates to weight transference and hoisting and lowering means for comparatively cumbersome and bulky structures such as kitchen stoves, refrigerators and the like, and has reference in particular to an arrangement which may be unitarily and collectively referred to as a hydraulic jack assembly, the purpose of the invention being to hoist the refrigerator to a point clear of the floor so that it may be transported and shifted from place to place, and then gently lowered to its regular stationary position.

Manifestly, my chief aim is to generally and specifically improve upon somewhat analogous constructions utilized in other lines of endeavor by bringing into being a structurally improved and refined arrangement characterized by simplicity, economy, compactness and convenience and the ability to adequately serve in accomplishing desired results with utmost and reliable satisfaction.

In reducing to practice the preferred embodiment of the inventive concept, I have perfected a concentrated structural assemblage so designed and arranged as to enable it to be built into refrigerators and housed and confined in such a way as to aptly serve as ingenious means for functioning as needed equipment in handling a heavy and somewhat ponderous structure, such as an ice-box, refrigerator and the like.

In addition to appropriate selection and coordination of parts, other features and advantages of the invention will become readily apparent from the following description and the accompanying illustrative drawings.

In the drawings, wherein like numerals are employed to designate like parts, and wherein the preferred embodiment of the invention is pictorially illustrated:

Figure 1 is a horizontal sectional view through the base or skirt portion of a conventional refrigerator showing the jack and associated parts as constructed in accordance with the principles of this invention.

Figures 2 and 3 are sectional views taken at right angles to one another on the lines 2—2 and 3—3 respectively of Figure 1.

Figure 4 is an enlarged vertical sectional view through one of the hoisting and lowering jacks, this being on the section line 4—4 of Figure 1.

Referring now to the drawings by distinguishing reference characters, the refrigerator is unitarily denoted by the numeral 5. I will utilize the numeral 6 to designate the elevated bottom and 7 to designate the depending wall or skirt, this defining a chamber for the concealed and out-of-the-way jack and operating structure. Mounted in each corner of this jacking chamber and held in place by an embracing band 8 and a stop bracket 9 is a hydraulic or fluid receptive cylinder 10. This is of appropriate dimension and receives a hydraulic fluid through a delivery pipe 11. Slidably mounted in the cylinder and projectable through the open bottom is a piston 12 provided with appropriate packing means 13. A fork bracket 14 is swivelly mounted in the piston and provided with a roller or the like 15 whereby to provide the desired self-acting swivel caster. Thus is had a simple caster mounted on a reciprocatory fluid pressure actuated piston.

Attention is called now to the centrally arranged pump means 16. This comprises a cylinder 17 suspended in a U-shaped stirrup or bracket 18 hung from the bottom 6. A piston is slidable in this cylinder and its packing cup operates against a return spring 19. The exposed upper end of the piston is bifurcated, the furcations 20 serving to provide a receptive pocket or kerf for the foot controlled lever 21. The lever is pivoted as at 21' in a suitable hanger bracket 23 as shown in Figure 3. It operates through slots 24 in the limbs of the U-shaped bracket 18. It projects out through an opening 25 in the wall or skirt where it terminates in a foot-piece or pedal 26. Here it may be conveniently actuated by the human foot. Leading from the bottom of the pump cylinder 17 on one side is a feed branch 27 communicating with a distributing pipe 28, the latter being attached to the delivery lines 11 leading to the respective corner jacks. An appropriate ball check valve 29 is mounted in the branch line 27. On a diametrically opposite side the cylinder 17 is provided with a second branch line 30 having an appropriately mounted ball check valve 31 therein. The line or branch 30 is connected with a master cylinder or reservoir 32, this being suspended in a hanger bracket 33 also of U-shaped form. The numeral 34 merely designates a filler plug or cap to supply the system with an appropriate fluid. I have yet to mention the return pipe 35 leading to the top of the reservoir or master cylinder 32 and connected with the branch 27 to the left of the check valve 29. At this point is a regulating and cut-off valve 36 of appropriate construction.

In practice it is obvious that the system is charged with an appropriate fluid, there being a sufficient supply in the reservoir or master cylinder 32 to effectively accomplish the desired

result. When the foot pedal and piston 20 is reciprocated the fluid is sucked in from the tank or cylinder 32 into the cylinder 17 and forced out through the check valve 29 into the delivery pipes 28 and 11. Thus the four corner jacks are simultaneously actuated to project the casters to a point below the lower edge of the skirt 7. Hence, the refrigerator 5 is bodily lifted above the floor so that it can be shoved or transported from place to place. The cut-off valve 36 is regulated to accomplish this. When the cut-off valve 36 is again opened the fluid returns to the master cylinder 32 and the piston 12 and casters recede completely into the cylinders 10. This allows the box or refrigerator to come down directly on the floor in an obvious manner. Consequently, the weight of the refrigerator can be transferred to the jack for lifting purposes with requisite expediency.

It is thought that the description taken in connection with the drawings will enable a clear understanding of the invention to be had. Therefore, a more lengthy description of the same is thought unnecessary.

While the preferred embodiment of the invention has been shown and described, it is to be understood that minor changes coming within the field of invention claimed may be resorted to if desired.

I claim:

Means for raising and lowering a body having a bottom and a depending skirt extending below the bottom, said means comprising hydraulic jacks supported from inner wall parts of the skirt below the bottom, a hanger depending from the bottom, a vertically arranged cylinder supported by the hanger and having its top open, a piston in the cylinder, spring means in the cylinder normally holding the piston with its upper end against the bottom, said skirt having a slot in its upper part, a pedal lever pivotally connected with the bottom and engaging the top of the piston and passing through the slot and having a pedal at its outer end, a second hanger depending from the bottom, a reservoir carried thereby, a pipe having a check valve therein connecting the reservoir to the lower end of the cylinder, pipe means connecting the lower end of the cylinder with the jacks and having a check valve located adjacent the cylinder, a return pipe having one end connected with the pipe means adjacent to and spaced outwardly of the last-mentioned check valve, the other end of the return pipe being connected with the top of the reservoir, and a manually operated valve in the return pipe.

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