Feb. 18, 1958 S. G. SUHAN 2,823,451

MOBILE SUPPORTING CARRIAGE FOR AUTOMATIC WASHING MACHINES AND THE LIKE

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Fig-1

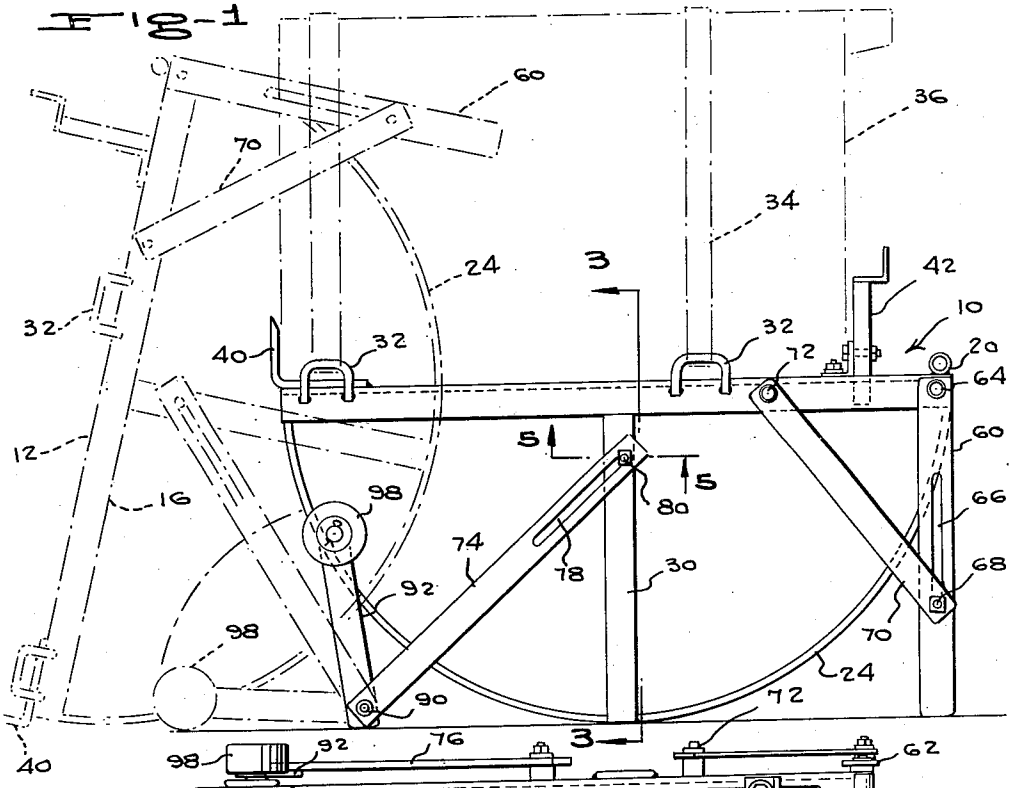
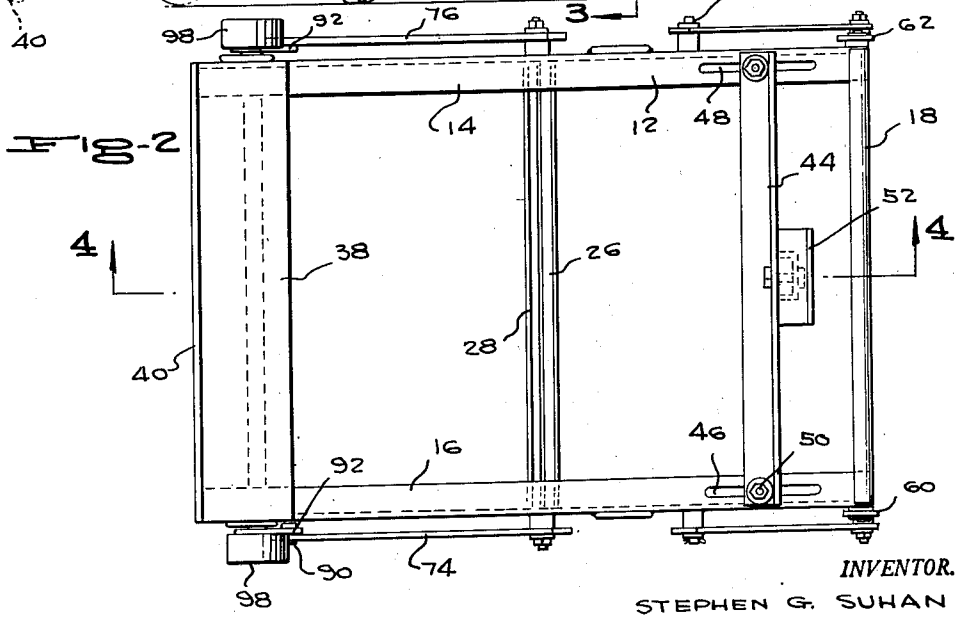


Fig-2



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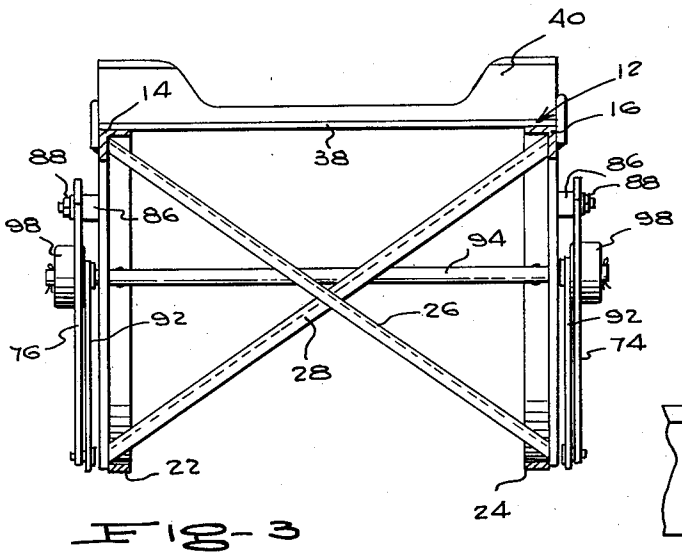


Fig-3

Fig-5

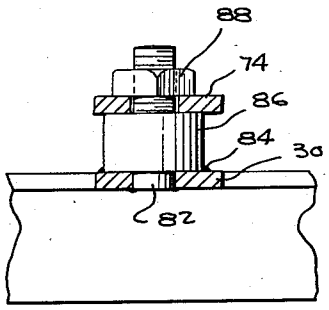
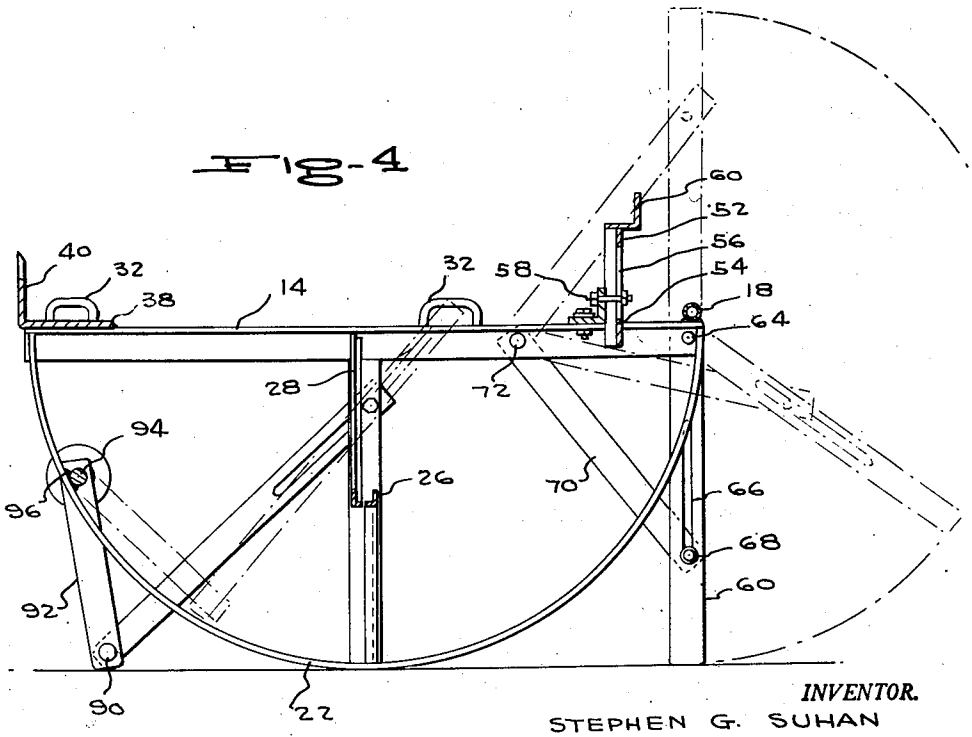


Fig-4



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2,823,451

MOBILE SUPPORTING CARRIAGE FOR AUTOMATIC WASHING MACHINES AND THE LIKE

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3 Claims. (Cl. 29—288)

The present invention relates to improvements in supporting and carrying means for workpieces or similar articles and is particularly directed to a mobile supporting carriage for appliances, such as automatic washing machines, driers and the like.

A primary object of the present invention is to provide a mobile supporting device for supporting an appliance, such as an automatic washing machine or the like, whereby the machine may be easily serviced or repaired by a single workman.

Another important object of the present invention is to provide a supporting device for a workpiece, whereby the workpiece can be moved into different positions for more convenient and facile access to the workpiece by a serviceman.

Another important object of this invention is to provide a supporting means onto which an automatic washing machine or similar equipment may be secured and which supporting means may be adjusted to different angular positions to dispose the operating mechanism of the machine in convenient positions for ready access by a serviceman.

A further important object of this invention is to provide a supporting and transporting device for washing machines and the like, which device is extremely simple and compact in construction, and is made up of a small number of parts for economical manufacture and assembly and which is extremely durable in use.

The present invention comprehends the provision of a supporting frame, on which a machine, which is normally vertically disposed and has its operating mechanism located in the base portion, which is open, can be placed in a vertical position. The frame is provided with depending arcuate bars or rockers, which are adapted to be in ground engagement to permit the frame to be tilted from a vertical position to a horizontal position, so as to dispose the machine in a horizontal position and expose the working mechanism thereof. Ground-engaging stabilizing legs are pivotally carried by the frame and are adapted to be positioned in various angular relationship therewith so as to stabilize the frame in its horizontal position and prevent the frame from rocking on the arcuate bars. Roller means is carried by the arcuate bars adjacent one end thereof and is adapted to be in ground-engagement, when the supporting frame is in a substantially vertical position, so that the frame, with a machine supported thereon, can be easily transported.

The foregoing and ancillary objects are attained by this invention, the preferred embodiment of which is set forth in the following description and illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevational view of the supporting and transporting carriage of the present invention, showing the same in solid lines in a horizontal position and in dotted lines in a vertical position, with a washing machine shown in phantom lines mounted thereon;

Figure 2 is a top plan view of the supporting and transporting carriage;

Figure 3 is a transverse, vertical sectional view taken on line 3—3 of Figure 1;

Figure 4 is a longitudinal vertical sectional view taken on line 4—4 of Figure 2; and

Figure 5 is a detailed cross sectional view taken on line 5—5 of Figure 1.

Referring now more particularly to the accompanying drawings, the supporting and transporting carriage **10** includes a frame **12**, which is composed of transversely spaced, parallel angle irons **14** and **16**. The angle irons are coextensive in length and are disposed in parallelism and are connected at one end by a transverse rod **18**, which is suitably fixed thereto, as by welding **20**. The rod **18** constitutes a handle means, as will be described.

Arcuate bars **22** and **24** are provided and are connected at their ends to the opposing ends of each of the angle irons **14** and **16**. Suitable rigidifying means is provided and includes a pair of cross brace bars **26** and **28**, which extend between opposing angle irons and arcuate bars, as shown in Figure 3. The brace bars are connected at their lower ends to vertical brace bars **30**, which extend perpendicularly from the center of the arcuate bars to the center of the angle irons and are suitably secured thereo, as by welding.

Each of the angle irons is provided with integral upstanding, U-shaped keepers **32**, which are disposed in spaced relation on each of the angle irons. The keepers are formed on the angle irons in alignment transversely thereof and are adapted to support straps **34**, which are adapted to encircle a workpiece, such as the automatic washing machine **36**, shown in Figure 1.

The angle irons are connected at their ends, opposite to the handle rod **18**, by a flat plate **38**, which seats on and is welded to the upper surfaces of the angle irons. The plate **38** is formed at its outer end with an upstanding flange **40**, which constitutes an abutment against which the bottom end of the machine **36** fits. Adjacent the other end of the angle irons, an adjustable abutment means **42** is provided and includes an angle iron **44**, the horizontal flange of which seats on the upper surfaces of the angle irons **14** and **16**, which are provided with axial slots **46** and **48** to receive bolt assemblies **50** that are carried by the horizontal flange of the angle iron **44**. By such means, the angle iron **44** is adjustable longitudinally of the angle irons **14** and **16** in cooperation with the fixed abutment **40**. Adjacent its center, the adjustable abutment **42** is provided with a vertically adjustable section **52**, which includes a vertical plate **54**, that is formed with a vertical slot **56** to receive a bolt assembly **58**, which is carried by the vertical flange of the transverse angle iron **44**. The plate terminates at its upper end in an angle iron **60**, which has its vertical flange disposed parallel to the fixed abutment **40**. Thus, it can be seen that the movable abutment **42** is adjustable longitudinally of the frame and vertically thereof so as to cooperate with the fixed abutment **40** and clampingly engaging the opposing ends of various workpieces. The straps **34**, anchored to the keepers **32**, are adapted to encircle a workpiece. By such means, the workpiece is securely anchored onto the frame.

Means is provided for stabilizing the frame in its horizontal position so as to prevent the frame from rocking on the arcuate bars **22** and **24**, when the workpiece is being worked on or the machine **36**, for example, is being serviced or repaired. Such means includes a pair of legs **60** and **62**, which are pivotally secured, as at **64** to the vertical flanges of the angle irons **14** and **16**, adjacent the handle rod **18**. The legs are adapted to depend from the frame and are provided, intermediate their ends, with

axial slots 66, in which bolt assemblies 68 are adapted to slide. The bolt assemblies connect brace arms 70 with the legs. The brace arms 70 are connected at one of their ends, by the bolt assemblies 68, to the legs and are pivoted at their other ends to the vertical flanges of the angle irons 14 and 16, as shown in Figures 1 and 2. The brace arms 70 are pivotally secured to the angle irons 14 and 16 by a pivot assembly 72, which is shown in detail in Figure 5. In addition to the legs 60 and 62, the stabilizing means includes legs 74 and 76, which are carried by the vertical bars 30. The legs 74 and 76 extend downwardly and forwardly from the vertical bars 30 and are provided, adjacent their upper ends, with axial slots 78, in which pivot assemblies 80 are mounted. The assemblies 72 and 80 are identical in construction and, as shown in Figure 5, the assembly 80 includes a threaded shaft 82, which is securely welded, as at 84, to the bars 30. A bearing member 86 is circumposed on the shaft and the legs 74 and 76 slide against the outer end of the bearing. The nuts 88 are threaded on the shaft to lock the legs in adjusted positions.

The lower ends of the legs are pivotally attached, as at 90, to arms 92, which extend upwardly therefrom. The upper ends of the arms 92 are rotatably circumposed on an axle 94, which is welded as at 96 to the ground-engaging arcuate bars 22 and 24, adjacent one of their ends. Rollers 98 are rotatably mounted on the projecting end of the axle 94 and extend beyond the frame and the legs, as shown in Figure 3.

The work supporting and transporting device 10 is constructed for use with any workpiece, appliance or type of equipment and is adapted to support and transport such workpiece, appliance or equipment. However, it has been found that the device 10 is particularly adaptable for use in servicing automatic washing machines, such as the machine 36. In servicing such machines, which have their operating mechanism located at the base, it is necessary to up-end the machine in order to obtain access to the operating mechanism.

In using the device 10, the frame is disposed in a vertical position and the machine 36 is moved, in its upright position, onto the fixed abutment 40. The movable abutment 42 is then adjusted, so as to clampingly engage the top of the machine and cooperate with the fixed abutment 40 in clamping the machine on the support frame 12. The machine is securely anchored to the frame by encircling the straps 34 about the machine. The device, with the machine atached to the frame, can be moved to a desired position by grasping the handle rod 18 and moving the frame on the rollers 98. The device is then moved to a horizontal position by pulling down on the handle rod 18 and causing the frame to tilt or rock about the arcuate bars 22 and 24. This disposes the frame in a horizontal position, with the machine 36 lying in a horizontal position, so that the bottom thereof is completely exposed. To stabilize the frame in such position, the legs 61, 62 and 74, 76 are locked in the position shown in Figure 1, so that the legs are in ground engagement and prevent the frame from rocking on the bars 22 and 24. After the operating mechanism of the machine has been serviced, the legs 74 and 76 are moved upwardly, into the dotted line position of Figure 4, and the legs 61 and 62 are swung upwardly into the dotted line position of Figure 4. The frame is then up-ended by pulling up on the handle rod 18, until the rollers 98 come into engagement with the ground. The frame, with the machine thereon, can then be transported to any desired location.

While the preferred form of this invention has been described and illustrated herein, other forms may be realized, as come within the scope of the appended claims.

What is claimed is:

1. A supporting stand for an automatic washing machine or the like comprising a frame having an upper side on which a machine may be placed on its side longitudinally of the frame, said frame having opposing sides and ends and an under side, means carried by the frame for securely anchoring the machine on the upper side thereof, arcuate ground engaging rocker bars secured to the frame adjacent the ends thereof and disposed longitudinally below the underside thereof to support the frame in a horizontal position, brace bars extending between the sides of the frame and the rocker bars, a handle means at one end of the frame for manually moving the frame into and from vertical and horizontal positions about the rocker bars, shaft means on the rocker bars adjacent the other end of the frame, rollers mounted on the shaft means and protruding below the rocker bars, stabilizing legs pivotally mounted on the shaft means at one of their ends and having opposing ends adapted to extend below the rocker bars for ground engagement, locking and adjusting arms pivotally connected to the stabilizing legs and means adjustably securing the arms to the brace bars for locking the stabilizing legs in adjusted angular relation and depending positions from the rocker bars when the frame is in a horizontal position.

2. A supporting stand for an automatic washing machine or the like, comprising a frame having an upper side on which a machine may be placed on its side longitudinally of the frame, said frame having opposing sides and ends and an underside, means carried by the frame for securely anchoring the machine on the upper side thereof, arcuate ground engaging rocker bars secured to the frame adjacent the ends thereof and disposed longitudinally below the underside thereof to support the frame in a horizontal position, brace bars extending between the sides of the frame and the rocker bars, a handle means at one end of the frame for manually moving the frame into and from vertical and horizontal positions about the rocker bars, shaft means on the rocker bars adjacent the other end of the frame, rollers mounted on the shaft means and protruding below the rocker bars, stabilizing legs pivotally mounted on the shaft means at one of their ends and having opposing ends adapted to extend below the rocker bars for ground engagement, locking and adjusting arms pivotally connected to the stabilizing legs and means adjustably securing the arms to the brace bars for locking the stabilizing legs in adjusted angular relation and depending positions from the rocker bars when the frame is in a horizontal position, said last means including locking elements on the brace bars and said arms having axial slots receiving said locking means.

3. A supporting stand for an automatic washing machine or the like comprising a frame having an upper side on which a machine may be placed on its side longitudinally of the frame, said frame having opposing sides and ends and an underside, means carried by the frame for securely anchoring the machine on the upper side thereof, arcuate ground engaging rocker bars secured to the frame adjacent the ends thereof and disposed longitudinally below the underside thereof to support the frame in a horizontal position, brace bars extending between the sides of the frame and the rocker bars, a handle means at one end of the frame for manually moving the frame into and from vertical and horizontal positions about the rocker bars, shaft means on the rocker bars adjacent the other end of the frame, rollers mounted on the shaft means and protruding below the rocker bars, stabilizing legs pivotally mounted on the shaft means at one of their ends and having opposing ends adapted to extend below the rocker bars for ground engagement, locking and adjusting arms pivotally connected to the stabilizing legs and means adjustably securing the arms to the brace bars for locking the stabilizing legs in adjusted angular relation and depending positions from the rocker bars when the frame is in a horizontal position, additional stabilizing legs pivotally mounted on the frame at the one end thereof and adapted to extend therefrom into ground engagement and locking bars pivoted to the frame and adjust-

ably connected to such legs for securing the legs in selected angular positions relative to the frame.

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