April 8, 1924. 1,489,955

A. I. MADRISS

SCRUBBING AND MOPPING MACHINE

Filed Aug. 18, 1921 3 Sheets-Sheet 1

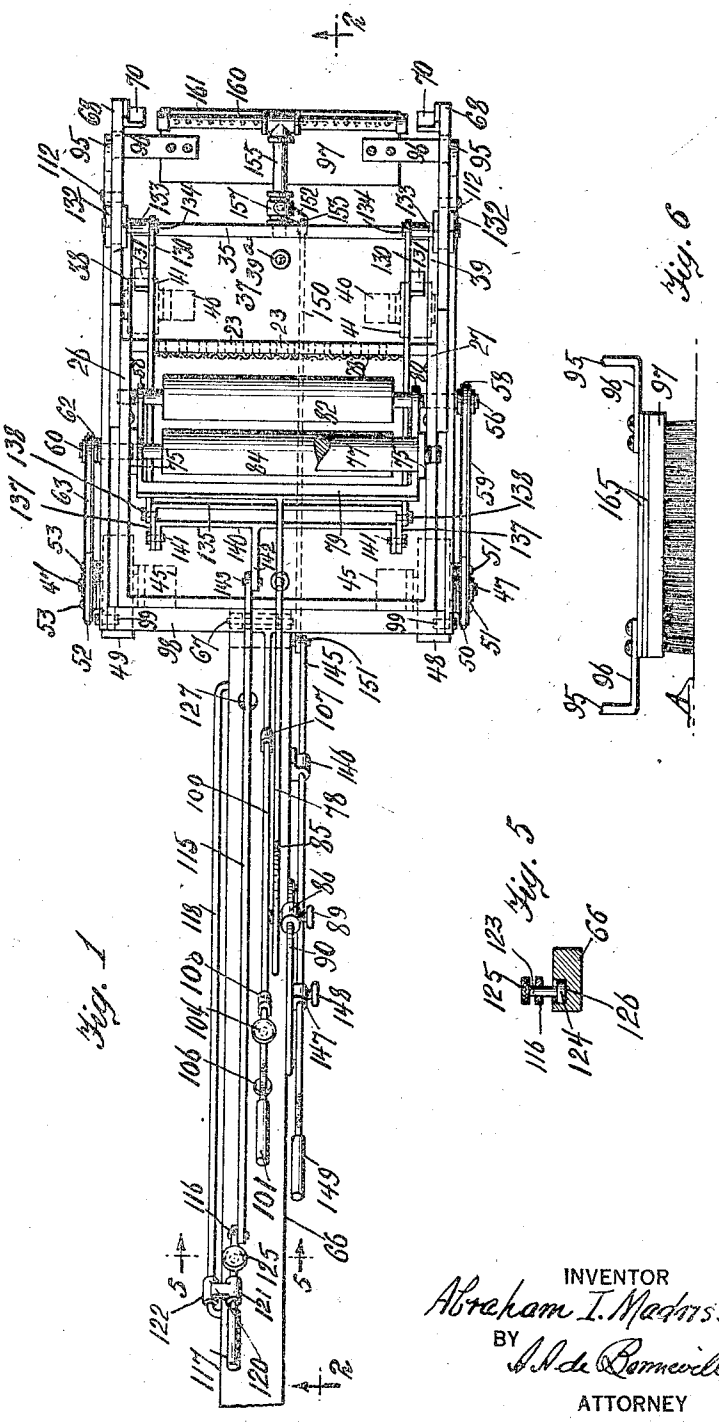


Fig. 1

Fig. 6

Fig. 5

INVENTOR
Abraham I. Madriss
BY A. N. de Bonneville
ATTORNEY

April 8, 1924. 1,489,955

A. I. MADRISS

SCRUBBING AND MOPPING MACHINE

Filed Aug. 18, 1921 3 Sheets-Sheet 2

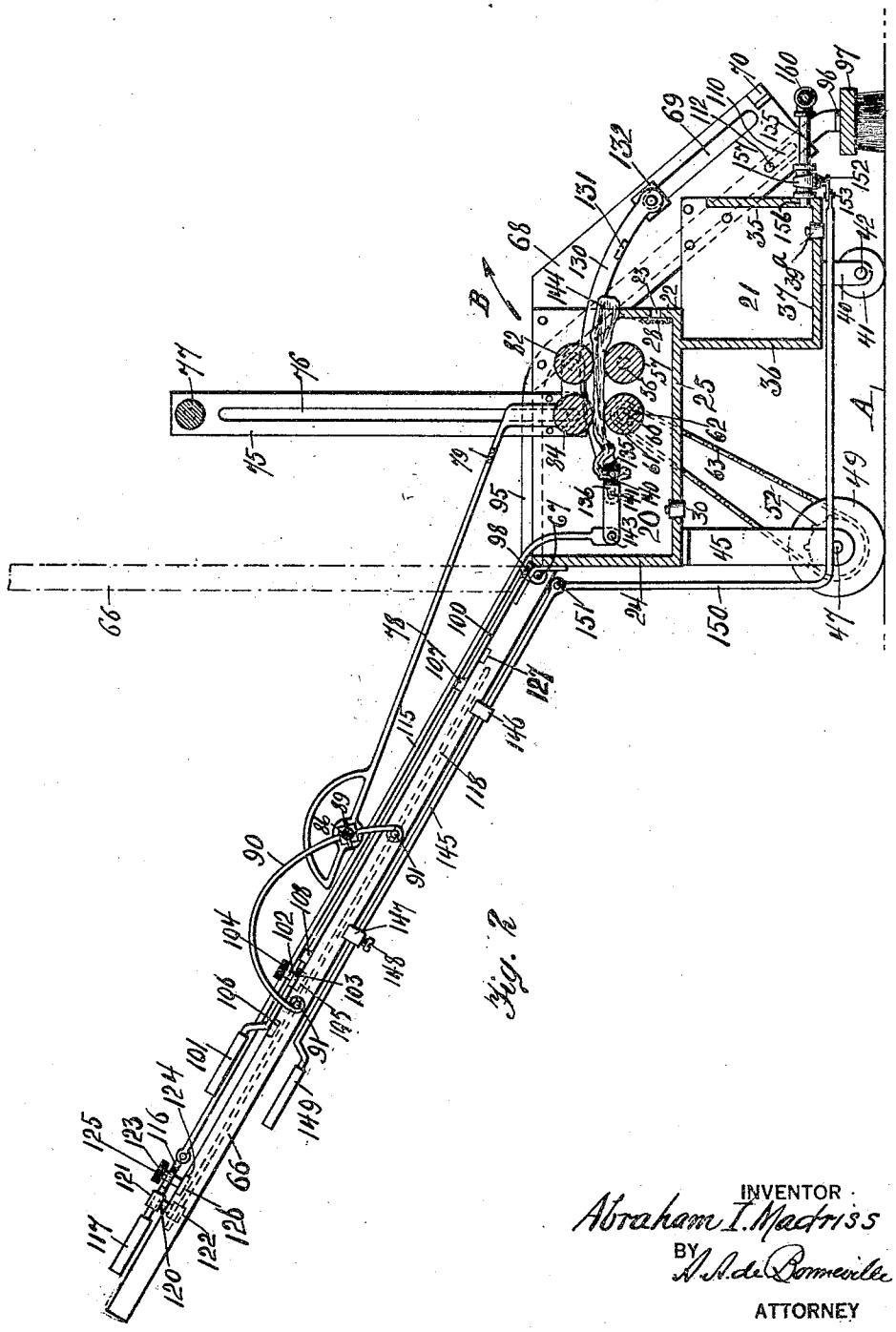


Fig. 2.

INVENTOR
Abraham I. Madriss
BY
A. S. de Bonneville
ATTORNEY

April 8, 1924. 1,489,955

A. I. MADRISS

SCRUBBING AND MOPPING MACHINE

Filed Aug. 18, 1921 3 Sheets-Sheet 3

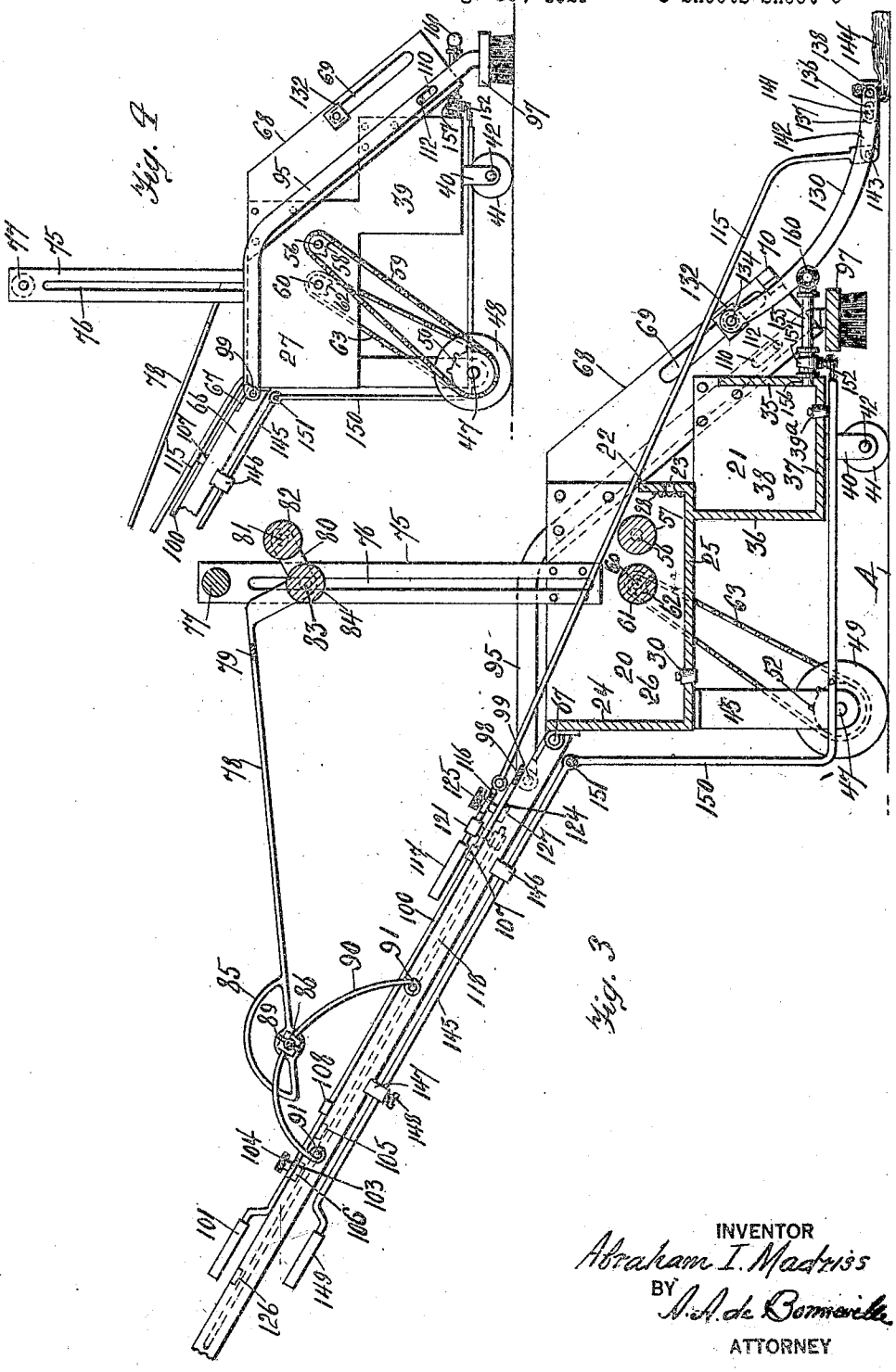


Fig. 3

INVENTOR
Abraham I. Madriss
BY
A. A. de Bonneville
ATTORNEY

Patented Apr. 8, 1924. 1,489,955

UNITED STATES PATENT OFFICE.

ABRAHAM I. MADRISS, OF BROOKLYN, NEW YORK.

SCRUBBING AND MOPPING MACHINE.

Application filed August 18, 1921. Serial No. 493,404.

To all whom it may concern:

Be it known that I, ABRAHAM I. MADRISS, citizen of Russia, and resident of the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in a Scrubbing and Mopping Machine, of which the following is a specification.

This invention relates to a scrubbing and mopping machine. Among its objects is the production of such a machine whereby a mop can be spaced from the main portion thereof to operate in the corners of a room, and which can be wrung with the movements of the machine if desired. The brush of the machine can be raised out of contact with the floor. A main handle of the machine can be swung to a vertical position to save floor space when the machine is not in use.

The accompanying drawings exemplify one form of the scrubbing and mopping machine and of which Fig. 1 is a top plan view; Fig. 2 represents a section of Fig. 1 on the line 2, 2; Fig. 3 shows a section similar to Fig. 2 with the movable parts in a different position; Fig. 4 indicates a partial side view of Fig. 1; Fig. 5 shows a section of Fig 1. on the line 5, 5 and Fig. 6 shows a front view of some details.

The machine comprises an upper receptacle 20 and a lower receptacle 21. The receptacle 20 comprises the front wall 22 with the overflow openings 23, the rear wall 24, the bottom wall 25 and the side walls 26 and 27. A screen 28 is fastened to the front wall 22 over the openings 23. A detachable plug 30 is provided for an opening in the bottom wall 25. The receptacle 21 comprises the front wall 35, the rear wall 36, the bottom wall 37 and the side walls 38 and 39. A detachable plug 39^a is provided for the bottom wall 37. Similar journal brackets 40 are secured to and extend from the bottom wall 37 of the receptacle 21, and rollers 41 are journaled on pins 42 extending from the journal brackets 40. Similar brackets 45 extend from and are fastened to the bottom wall 25 of the receptacle 20. Pins 47 extend from the journal brackets and similar rollers 48 and 49 are journaled on the pins 47. A sprocket chain wheel 50 is journaled on the pin 47 of the roller 48 and fastened to the latter by means of screws 51. A sprocket chain wheel 52 is journaled on the pin 47 of the roller 49 and fastened to the latter by means of screws 53. A shaft 55 is journaled on the side walls 26 and 27 and has fastened thereto the roller 57. At one end of the shaft 56 is fastened the sprocket chain wheel 58. A sprocket chain 59 connects the sprocket chain wheels 50 and 58. A shaft 60 is journaled in the side walls 26 and 27 and has fastened thereto the roller 61. At one end of the shaft 60 is fastened the sprocket chain wheel 62. A sprocket chain 63 connects the sprocket chain wheels 52 and 62.

A main handle 66 is hinged to the wall 22 of the receptacle 20 by means of the hinge 67. A pair of similar inclined guide brackets 68 with the guide openings 69 have their upper ends fastened to side walls 26 and 27 of the receptacle 20 and are also fastened to the side walls 38 and 39 of the receptacle 21. Holding lugs 70 are fastened to and extend from the inner faces of the guide brackets 68. Vertical guide brackets 75 with the elongated guide openings 76 have their lower ends fastened to the inner faces of the side walls 26 and 27 of the receptacle 20. A handle bar 77 connects the upper ends of the guide brackets 75.

An operating arm 78 has formed thereon at one end the cross member 79 and from the latter extend the side members 80. A shaft 81 carrying the roller 82 and a shaft 83 carrying the roller 84 are journaled in the side members 80. An operating handle 85 is formed with the arm 78. A lug 86 with an axial opening is pivoted to the arm 78 and is provided with a clamping screw 89. A guide bracket 90 has its ends fastened to one side of the handle 66 by means of pins 91. The guide bracket 90 extends through the opening of the lug 86 and by means of the clamping screw 89 the outer end of the arm 78 can be clamped in different positions on the guide bracket 90 and thereby locate the rollers 82 and 84 either in their lowered position as shown in Fig. 2 or in their raised position as shown in Fig. 3.

A pair of arms 95 have formed at their lower end the brackets 96, and to the latter is fastened the scrubbing brush 97. A cross-member 98 is hinged to the upper ends of the arms 95 by means of the pins 99. An operating arm 100 extends from the cross-member 98 and has connected thereto at its upper end the operating handle 101. A latch is indicated with the pin 102, the latch plug 103 and the operating disc 104. The

pin 102 extends through an opening in the arm 100. The plug 103 can lock with a cavity 105 in the handle 66 when the arm 100 is located in its lowered position to cause the bristles of the brush 97 to touch the floor to be brushed as shown in Figs. 1, 2 and 4, and can be locked with a similar cavity 106 when the arm 100 is located in its raised position to raise the brush 97 from the floor as indicated in Fig. 3. Guide clamps 107 and 108 are fastened to the handle 66 and partly extend around the operating arm 100 to guide it. Openings 110 are formed in arms 95 and they engage guide pins 112 extending from the brackets 68, to slidably connect them thereto.

An arm 115 has pivoted to its upper end the bar 116 and the latter has attached thereto the operating handle 117. A guide rod 118 has its ends fastened to one side of the handle 66. A guide bracket 120 is indicated with the sleeves 121 and 122. The sleeve 121 is fastened to the bar 116 and the sleeve 122 is slidably supported on the guide rod 118. A latch is indicated with the pin 123, the latch plug 124 and the operating disc 125. The pin 123 extends through an opening in the bar 116. The latch plug 124 can lock with a cavity 126 in the handle 66 as shown in Figs. 1, 2 and 5 when the arm 115 is in its raised position and with a similar cavity 127 when the arm 115 is in its lowered position as shown in Fig. 3. A pair of curved arms 130 have extending from their inner faces the clamping lugs 131. Cross heads 132 are slidably supported in the guide openings 69 and have each extending from their inner faces the plugs 133 to which are pivoted one end of each of the curved arms 130 by means of the pivots 134. To the other ends of the arms 130 is fastened the U shaped cross bracket 135 having the elongated openings 136 in its side members 137, by means of the screws 138. A second U shaped cross bracket 140 is adjustably fastened to the brackets 135 by means of the screws 141 and has extending therefrom a longitudinal arm 142 which is pinned to the operating arm 115 by means of the pin 143. A mop 144 is clamped between the brackets 135 and 140.

An operating arm 145 is slidably guided in the guide brackets 146 and 147 extending from the lower face of the handle 66. A clamping screw 148 for the bracket 147 enables the arm 145 to be clamped in different positions. An operating handle 149 is provided for the upper end of the arm 145. An angular shaped link 150 has one end pinned to the arm 145 by means of the pin 151, and an arm 152 is pinned to the lower end of the link 150 by means of the pin 153. Outlet piping 155 extends from an opening 156 in the wall 35 of the receptacle 21 and has connected thereto a plug valve 157. The arm 152 is connected to the plug of the plug valve 157. A spray pipe 160 with openings 161 is connected to the piping 155.

Fig. 6 shows a front view of the brush 97 with fragmentary portions of the arms 95 with their brackets 96. Shims 165 are interposed between the top of the brush and the brackets 96 to enable the brush to be clamped in proper operative position after the bristles thereof become worn.

To use the machine for scrubbing the floor indicated by the line A the scrubbing brush 97 is located in its lowered position as indicated in Figs. 2 and 4. To obtain this position for the brush 97, the operating handle 101 of the operating arm 100 is moved downwardly until the latch plug 103 is seated in and locked with the cavity 105, as indicated in Fig. 2. At the same time the operating handle 117 is moved to its uppermost position, so that the latch plug 124 is seated in and locked with the cavity 126 as indicated in Fig. 2. This locates the curved arms 130 in their raised position with the mop 144 bearing on the rollers 57 and 61. At the same time the rollers 82 and 84 are located in their lowered position bearing on the mop 144 by lowering the operating arm 78 and locking it in position by means of the clamping screw 89. Water and soap or other cleaning fluid are placed in the lower receptacle 21 and the plug of the valve 157 is turned to its open position by means of the operating handle 149. The machine is now moved on the floor by means of the handle 66 and the brush 97 scrubs the floor while water issues from the openings 161 of the spray pipe 160. At the same time the rotations of the roller 48 are transmitted to the roller 57 and the rotations of the roller 49 are transmitted to the roller 61 and thereby the mop 144 is run between the said rollers 57, 61 and 82, 84 the latter being in their lowered position. By this means the water is pressed from the mop 144 and drops into the upper receptacle 20, and from the latter flows through the screen 28 and overflow openings 23 into the lower receptacle 21. The openings 23 are above the bottom wall 25 and thereby the dirt of the water in the receptacle 20, is allowed to settle in the bottom thereof the said receptacle with openings 23 forming a trap.

In case it is desired to use the mop 144 instead of the brush 97, the said mop is located in its lowered position as shown in Fig. 3. To do this the rollers 82 and 84 are moved to their raised position as shown in Fig. 3 by raising the operating arm 78 and locking it in position by means of the clamping screw 89.

Next the arm 115 is located and locked in

its lowered position and at the same time the cross heads 132 are moved downwardly in the guide openings 69. While the cross heads 132 are sliding downwardly the curved arms 130 swing on the pivots 134 in the direction of the arrow B and the lugs 131 are brought to bear under the lugs 70 which maintain the arms 130 in their lowered position. The mop 144 is thereby spaced from the body of the machine and can enter the corners of a room. While the mop 144 is being used the brush 97 may be located in its raised position as indicated in Fig. 3 by means of the operating handle 101.

When the machine is not in use the mop 144 is located on the rollers 57 and 61. The rollers 82 and 84 are lowered to bear on the mop and the handle 66 is swung to its vertical position as shown in dotted lines in Fig. 2, and thereby the machine is folded to occupy but little floor space.

Having described my invention what I desire to secure by Letters Patent and claim is:—

1. In a machine of the character described the combination of a receptacle, rollers supporting the receptacle, a pair of rollers journaled in the receptacle, means to transmit rotation from the rollers outside of the receptacle to the rollers in the receptacle, an arm having a forked end pivoted in the machine over the receptacle, a pair of rollers journaled in the forked end of said arm, means to maintain the latter pair of rollers above and also adjacent to the first pair of rollers, a mop in the machine and means to position the mop on the floor to be mopped and also between the pairs of rollers, to wring the mop.

2. In a machine of the character described the combination of a pair of receptacles one above the other, the upper receptacle having openings to lead a fluid to the lower receptacle, brackets extending from and below each receptacle, a roller for each bracket, sprocket wheels turning with the rollers of the upper receptacle, a pair of shafts journaled in the side walls of the upper receptacle, a roller fastened to each of the shafts, a sprocket chain wheel fastened to each of the shafts of the upper receptacle, a sprocket chain connecting the sprocket chain wheel of each of the rollers of the upper receptacle and the sprocket chain wheels of the shafts journaled in the walls of the upper receptacle, means to detachably locate a second pair of rollers adjacent to the first pair of rollers in the upper receptacle and outlet piping leading from the lower receptacle.

3. In a machine of the character described the combination of a pair of receptacles one above the other, the upper receptacle having openings to conduct a fluid to the lower receptacle, rollers supporting the upper receptacle and rollers supporting the lower receptacle, rollers journaled in the side walls of the upper receptacle, means to turn the latter rollers with the rotations of the rollers supporting the upper receptacle, outlet piping extending from the lower receptacle, an operating arm slidably connected to the main handle, a valve in the outlet, piping and means to actuate the valve with the operations of the operating arm, the arm swinging with the main handle.

4. In a machine of the character described the combination of a pair of receptacles one above the other, a main handle hinged to the upper receptacle, guide brackets having guide openings extending from the side walls of the receptacles, cross heads slidably supported in the guide openings, a pair of arms with one end of each pivoted to the cross heads, a pair of cross brackets connecting the arms at the other end thereof, a longitudinal arm extending from one of the cross brackets, a mop clamped between the cross brackets, and an operating arm slidably supported on the main handle with one end thereof pinned to said longitudinal arm and swinging with said main handle.

5. In a machine of the character described the combination of a receptacle, a pair of rollers turning in the receptacle with the movements of the truck, a pair of vertical guide brackets extending from a pair of walls of the receptacle, a main handle hinged to a wall of the receptacle, a guide bracket supported on the operating handle, an operating arm with one end pivotally and adjustably connected to the guide bracket, a cross member at the other end of the operating arm, side members extending from the cross member and a pair of shafts with rollers journaled in the side members, one of said shafts guided in the guide brackets, the said operating arm swinging with the main handle.

Signed at the borough of Manhattan, city of New York, in the county of New York and State of New York, this 13th day of August, A. D. 1921.

ABRAHAM I. MADRISS.