

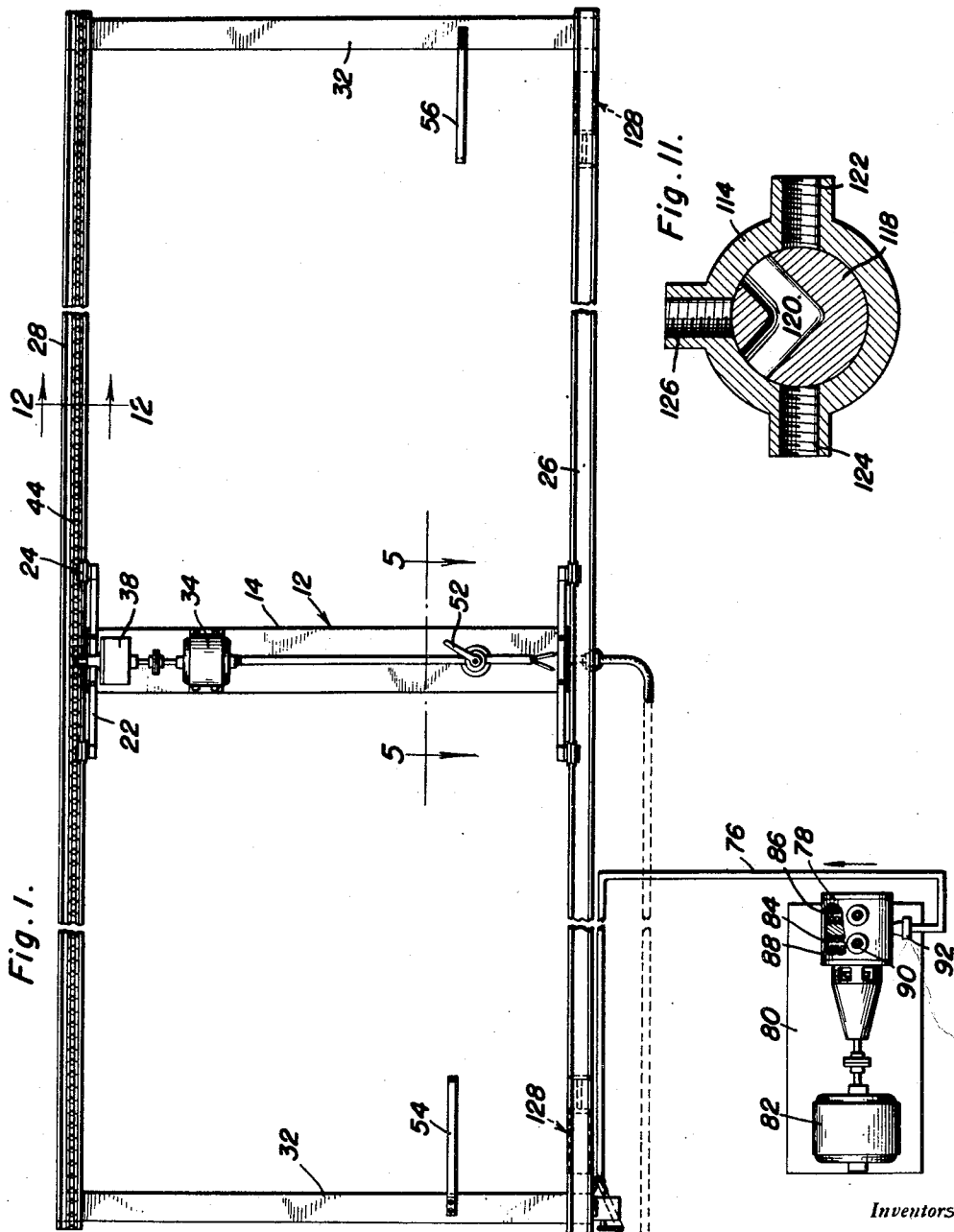
March 8, 1955

A. E. MERANCY ET AL
AUTO CAR WASHING MACHINE

2,703,579

Filed Nov. 25, 1949

6 Sheets-Sheet 1



By

Chance A. O'Brien
and Harvey B. Jacobson
Attorneys

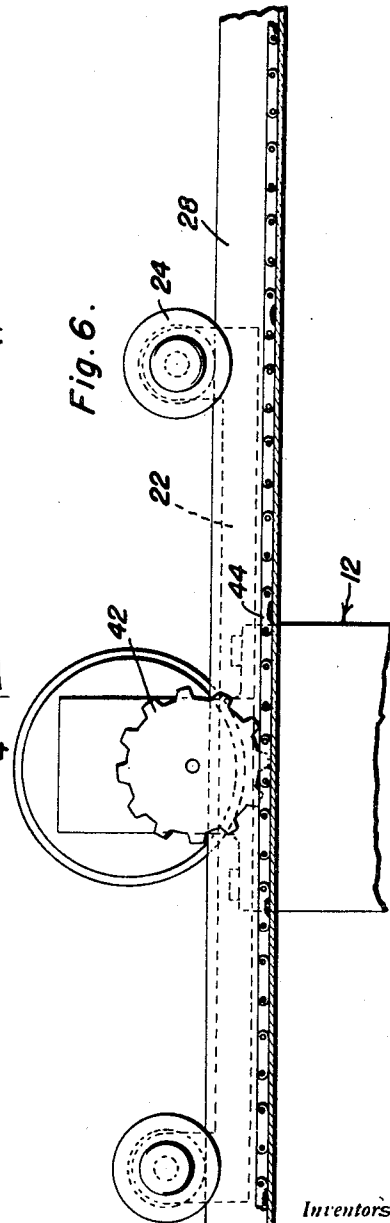
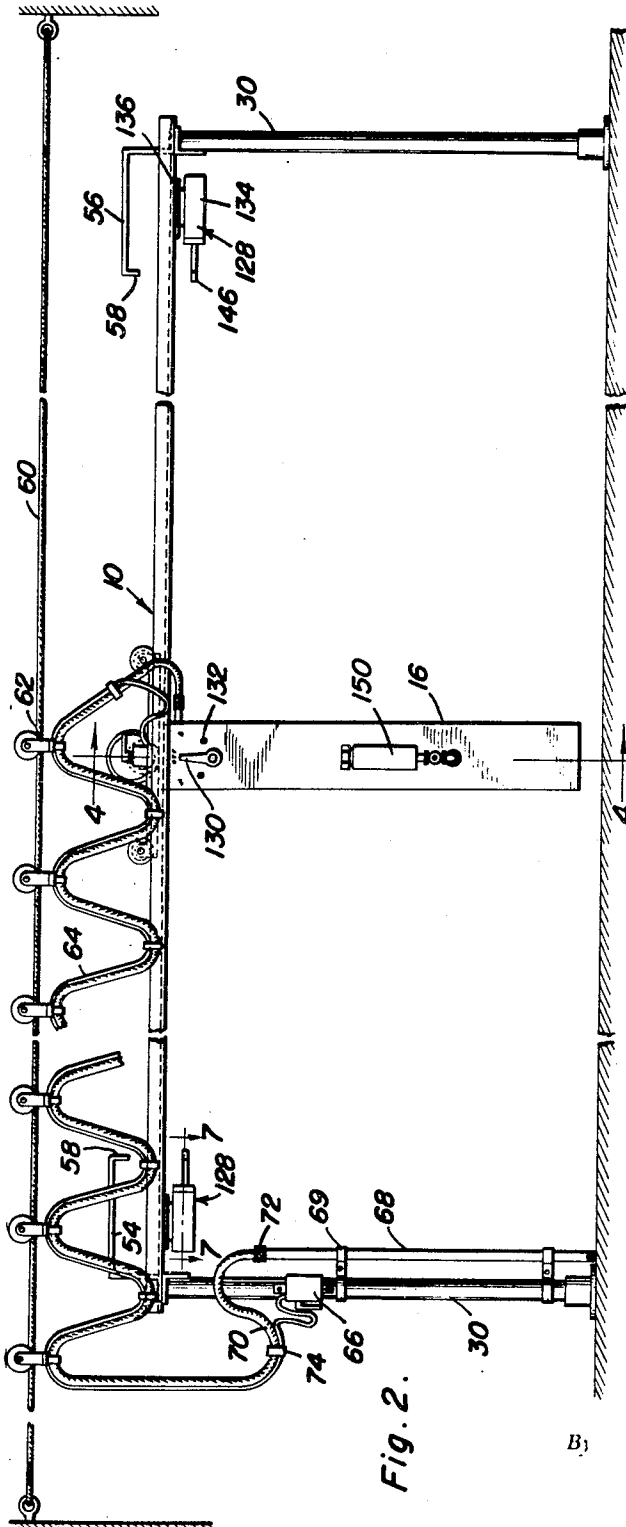
March 8, 1955

A. E. MERANCY ET AL
AUTO CAR WASHING MACHINE

2,703,579

Filed Nov. 25, 1949

6 Sheets-Sheet 2



Inventors
Arthur E. Merancy
Thomas Weisz

Alvanice A. O'Brien
and Harvey D. Jacobson
Attorneys

March 8, 1955

A. E. MERANCY ET AL
AUTO CAR WASHING MACHINE

2,703,579

Filed Nov. 25, 1949

6 Sheets-Sheet 3

Fig. 3.

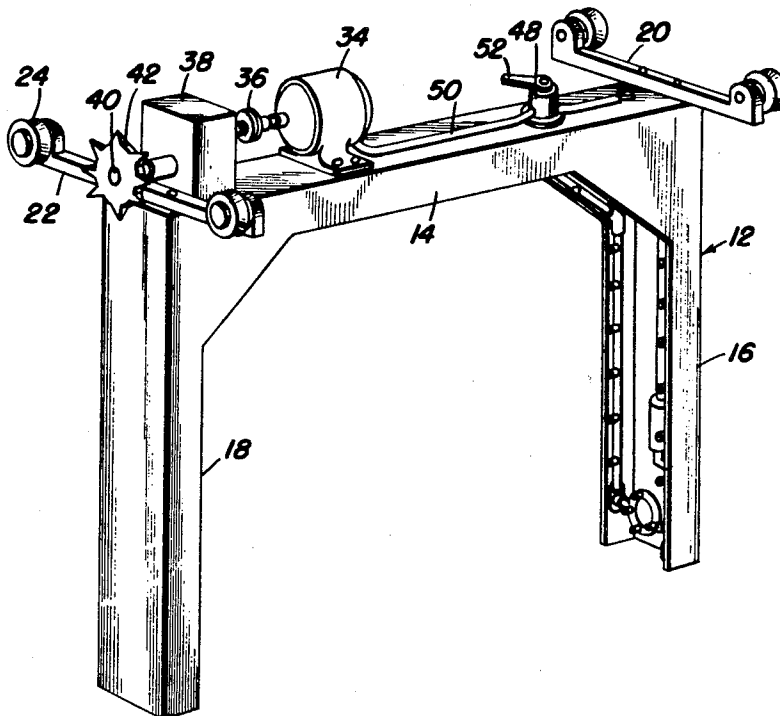


Fig. 12.

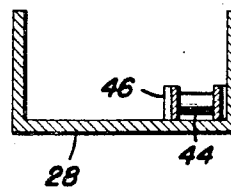
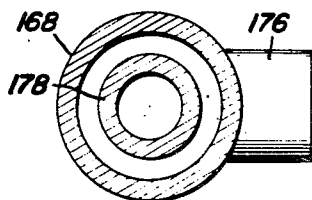


Fig. 10.



Inventors

Arthur E. Merancy
Thomas Weisz

By

Alvanice A. O'Brien
and Harvey B. Jackson
Attorneys

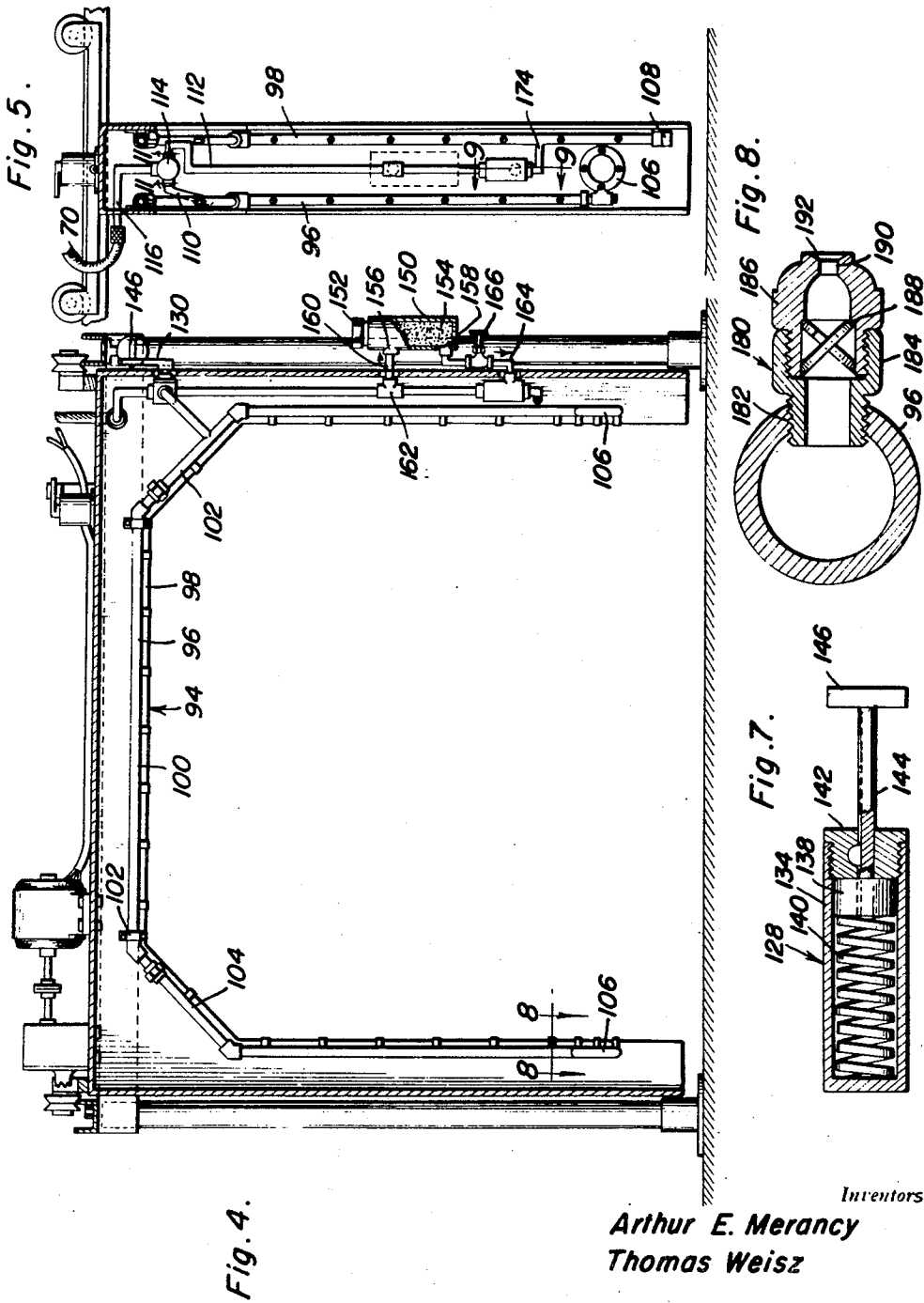
March 8, 1955

A. E. MERANCY ET AL
AUTO CAR WASHING MACHINE

2,703,579

Filed Nov. 25, 1949

6 Sheets-Sheet 4



Inventors

Arthur E. Merancy
Thomas Weisz

By

Albion A. O'Brien
and Harvey B. Jacobson
Attorney

March 8, 1955

A. E. MERANCY ET AL
AUTO CAR WASHING MACHINE

2,703,579

Filed Nov. 25, 1949

6 Sheets-Sheet 5

Fig. 9.

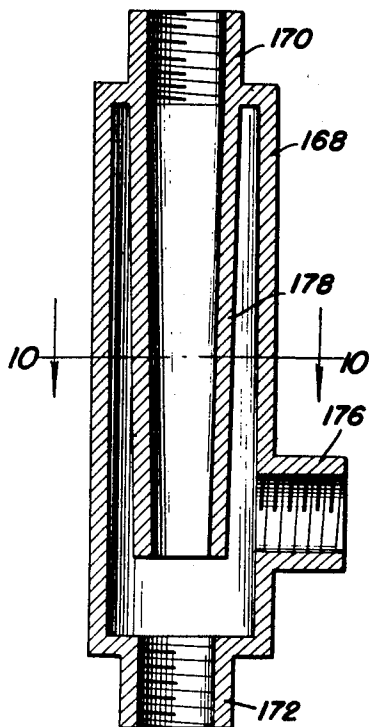


Fig. 16.

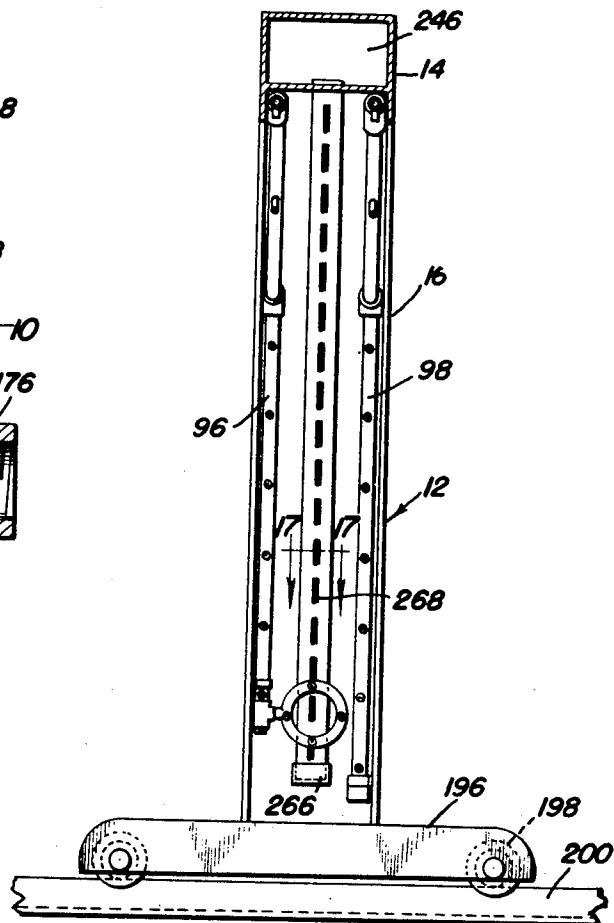
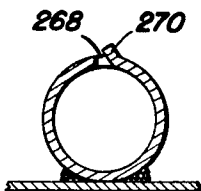


Fig. 17.



Inventors

Arthur E. Merancy
Thomas Weisz

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

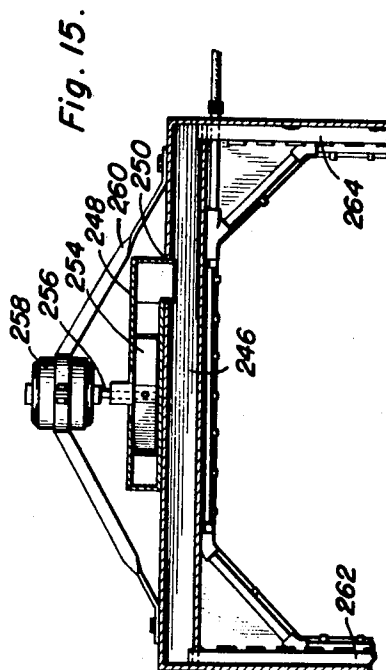
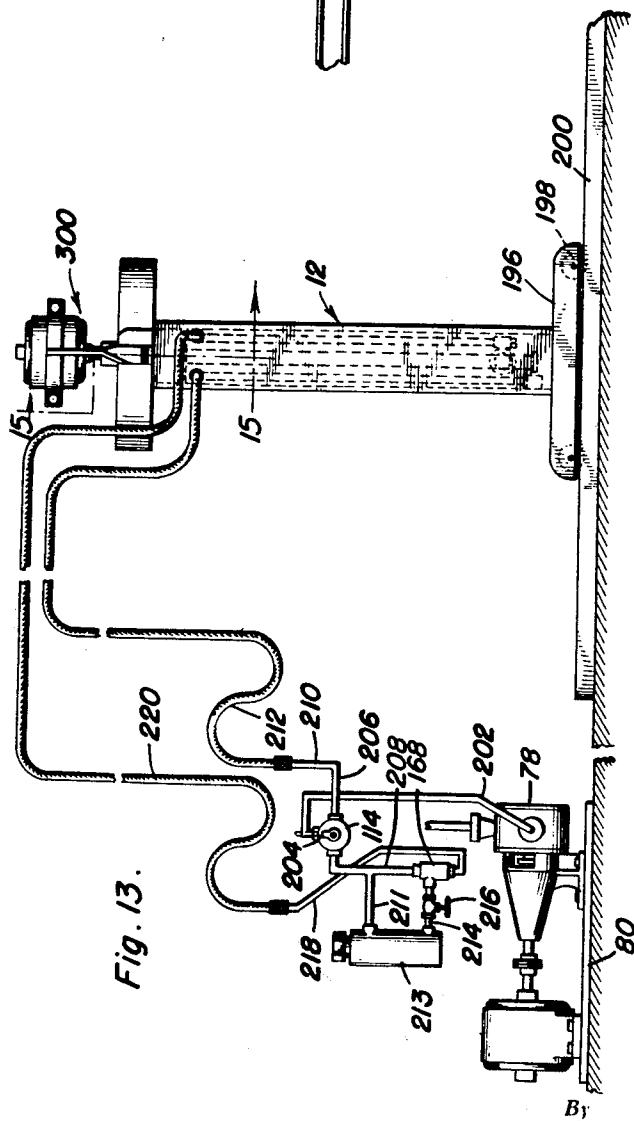
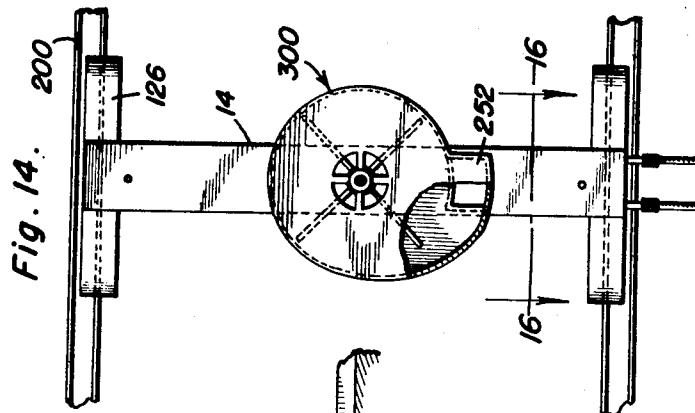
March 8, 1955

A. E. MERANCY ET AL
AUTO CAR WASHING MACHINE

2,703,579

Filed Nov. 25, 1949

6 Sheets-Sheet 6



Inventors

Arthur E. Merancy
Thomas Weisz

By *Clarence A. O'Brien*
and Harvey B. Jacobson
Attorneys

1

2,703,579

AUTO CAR WASHING MACHINE

Arthur E. Merancy and Thomas Welsz, Ansonia, Conn.;
said Merancy assignor to said Welsz

Application November 25, 1949, Serial No. 129,392

15 Claims. (Cl. 134—58)

This invention appertains to a washing apparatus, and more particularly is directed to novel improvements in automobile washing machines.

A primary object of the instant invention is to automatically and sequentially wash, rinse and dry a stationary vehicle.

Another important object of this invention is to provide a compact, sturdy and efficient automobile washing unit that can be easily and inexpensively installed in any vehicle service station and can be conveniently and inexpensively operated and maintained.

Automobile washing units, which are presently being manufactured, consist of frames adapted to encompass a vehicle and supporting a fluid circulating system, the frames being supported for manual propulsion over the vehicle and the circulating system incorporating jet spray design features, the force of pressure of which is created through the use of compressed air. A pressurized spray is obtained by first creating a stored supply of compressed air in a compressed air storage chamber and thence, through the means of controlled valves, releasing the compressed air and allowing it to exert itself on a reservoir of water stored in a tank connected with the circulating system. The water, thus placed under pressure, is forced through the unit circulating system and permitted to escape through a series of perforations in the circulating system to perform the cleaning operation. In a similar manner or through the use of valve controls, a quantity of detergent is introduced into the system to provide a wash fluid.

However, considerable difficulties, from a standpoint of operation and maintenance cost, are experienced by garage operators in employing these units and include (1) a limited quantity of stored water, necessitating discontinuance of operations at frequent intervals for the purpose of replenishing the water supply; (2) a limited quantity of compressed air, again necessitating discontinuance of operations, when this pressure is reduced below that required for efficient operation; (3) the requirement of manual labor for moving the unit over the vehicle to perform the cleaning operation; (4) a relatively low pressure operation of the unit, resulting in an inferior wash job.

The primary aim and purpose of the instant invention is to eliminate the above defects and to obviate the inconveniences in having to cease the cleaning operation to refill the water storage tanks and to employ the air pump for the period required to restore the proper pressure in the air storage chamber and to eliminate a varying and reducing water pressure, caused by use of the compressed air system in a garage for other purposes.

In general, a meritorious feature of this invention resides in the use of a directed constant flow of water from a utility connection into a turbine pump, which forms a part of the unit assembly, so that the water is driven through a circulating system mounted on a frame encompassing the vehicle at pressures up to 300 lbs. per square inch. Thus, the pressure remains uniform and constant during the entire washing operations. The water is conveyed by the pump unit to a spray loop which is mounted on a traversing spray frame. The spray frame is suspended from overhead tracks or mounted on floor tracks and adapted to be automatically reciprocated over the vehicle. A detergent is introduced into the circulating system, responsive to the rate of flow of the water in the system and control means is provided therefor, the con-

2

trol means being either manually operated or automatically actuated, responsive to movement of the frame.

These and ancillary objects and other structural features of merit are attained by this invention, the preferred embodiments of which are set forth in the following description and illustrated in the accompanying drawings, wherein:

Figure 1 is a top plan view of an automobile washing unit, constructed in accordance with the principles of this invention and featuring an automatically controlled, power driven frame;

Figure 2 is a side elevational view thereof;

Figure 3 is a view in perspective of the frame, illustrating the drive and supporting means therefor;

Figure 4 is a transverse sectional view taken on line 4—4 of Figure 2;

Figure 5 is a vertical sectional view taken on line 5—5 of Figure 1 and showing one side of the frame in elevation;

Figure 6 is an enlarged fragmentary elevational view of the means provided for moving the frame;

Figure 7 is a longitudinal vertical sectional view of the stop means provided at the opposing ends of the overhead tracks and taken on line 7—7 of Figure 2;

Figure 8 is an enlarged sectional view taken on line 8—8 of Figure 4, illustrating the spray nozzle construction;

Figure 9 is an enlarged vertical sectional view taken on line 9—9 of Figure 5 and showing the means provided for introducing a controlled quantity of detergent into the circulating system;

Figure 10 is a transverse sectional view taken on line 10—10 of Figure 9;

Figure 11 is a detail sectional view taken on line 11—11 of Figure 5 and showing the means for controlling the sequential washing and rinsing operations;

Figure 12 is a transverse sectional view taken on line 12—12 of Figure 1;

Figure 13 is a side elevational view of another embodiment of this invention, this embodiment being mounted on floor tracks and optionally power-driven or manually propelled over a vehicle;

Figure 14 is a top plan view, illustrating a blower unit mounted on the frame;

Figure 15 is a transverse sectional view taken on line 15—15 of Figure 13;

Figure 16 is a vertical sectional view taken on line 16—16 of Figure 14; and

Figure 17 is a transverse sectional view taken on line 17—17 of Figure 16.

Attention is first directed to Figures 1 through 12, for a more particular description of the general features, incorporated in all of the washing units, and the specific details incorporated in the overhead-mounted, power-driven and automatically controlled washing unit.

The washing unit, generally designated as at 10, includes an inverted, U-shaped portable frame 12 of channel shaped construction, which consists of a top or web portion 14 and depending parallel leg sections 16 and 18. Carriages 20 and 22 are secured transversely on the opposing ends of the top section and are provided with rotatably journaled rollers 24.

Elongated channel members 26 and 28 are mounted in parallelism and held in a raised horizontal plane by floor-mounted vertical supports or standards 30 secured to the opposing ends of the channel bars. The channel bars are secured in lateral displacement by transverse rigidifying or bracing bars 32 secured between the opposing pairs of end standards 30.

The channel bars 26 and 28 serve as supports for the carriages 20 and 22 and the inner upstanding legs of each of the bars form trackways for the rollers 24, which are mounted thereon. The frame is thus suspended from the overhead bars and adapted to be reciprocated thereon and to encompass a vehicle parked below.

A reversible electric motor 34 is mounted on the top section 14 of the frame and connected by means of a clutch 36 to a gear reduction unit 38 from which a rotating drive shaft 40 laterally extends. A sprocket wheel 42 is secured on the terminal of the shaft and is engaged with an elongated taut chain or rack bar 44. The rack

3

bar 44 is mounted on the web of the channel bar 28 and retained thereon by elongated supporting strips 46.

A switch 48 is mounted on the top section 14 and the electrical conductors 50 for the motor extend from the switch. A lever 52 projects laterally from the switch box and actuates the movable contact members in the switch, the lever being automatically operated, responsive solely to either predetermined movement of the frame or the extreme movement of the frame on the trackways. Thus, bars 54 and 56 may be secured to the transverse brace bars 32 and disposed in longitudinal alignment, the bars terminating at their inner ends in downwardly extending angular extensions 58 adapted to contact the lever 52. Of course, microswitches or any other type of switch means and actuating means may be utilized, so that the movement of the frame may be automatically controlled, responsive solely to the movement thereof in either direction on the trackways.

A cable 60 may be suspended overhead to support roller-mounted brackets 62, within which the conductors 64, covered by insulating material, are mounted and extend from a hand-operated primary control switch 66 mounted on one of the standards 30. An elongated pipe 68 is secured by brackets 69 to the same standard and is disposed parallel therewith. A flexible pipe or tubing 70 is secured by a coupling member 72 to the upper end of the pipe and is carried by the brackets 62, the tubing being secured to the insulating conductors by rings 74, so that they may be unitarily supported and carried by the brackets 62, as the frame is moved toward and away from the pipe 68 and the switch box 66.

Connecting pipes 76 extend between the pipe 68 and a turbine pump 78. The pump 78 is mounted on a platform 80 positioned adjacent to the frame and is driven by a prime mover 82. The pump includes double impellers 84 and 86 mounted in a housing 88 which is provided with twin inlets 90. The connecting pipes 76 are connected to the outlet 92 and thereby communicate the pump with the pipe 68. The inlets are suitably connected with a water supply main and the pump functions to materially raise the pressure above the normal pressure of city water and to force the water through the flexible pipe 70 and into the circulating system carried by the frame.

A circulating system 94 carried by the frame includes a pair of substantially U-shaped conduits or spray loops 96 and 98, one being provided for the wash fluid and the other for the rinse fluid. As seen in Figure 4, the upper portion of the spray loops includes a straight horizontal section 100 secured by brackets 102 to the top of the frame, the straight section of tubing being provided at its opposing ends with downwardly and outwardly directed extensions 102 and 104 to which the legs of the spray loops are coupled. The opposing legs of the spray loop 96 terminate above the lower ends of the frame legs and are coupled to circular spray pipes 106. It is to be especially noted that the circular spray pipes 106 are mounted on the frame so as to be in alignment with the wheels of a vehicle, as the frame is moved over the vehicle. Thus, the circular spray pipes are especially designed and secured to the ends of the legs of the spray loop 96 for the purpose of spraying the wheels of a vehicle. Also, it is to be noted that the sections 102 and 104 of both of the spray loops 96 and 98 are positioned in angular relation to the top section 100, which would overlie the roof of the vehicle, in order to spray the side edges of the vehicle with greater force. The ends of the legs of the spray loop 98 are provided with caps 108 and the spray loop 98 is formed similar to the spray loop 96 and secured to the frame by similar brackets 102.

Connecting pipes 110 and 112 are secured to a valve block 114 which also receives a connecting pipe 116 from the flexible tubing 70. The connecting pipes 110 and 112 connect the spray loops with the tubing 70 and the pump. Thus, water is forced by the pump through the tubing 70 into the connecting pipe 116 and through the valve block 114 into either the pipe 110 or the pipe 112, depending upon the desired operation, either washing or rinsing.

As seen in Figure 11, the valve 114 includes a two port valve core 118 having a V-shaped dual port 120. Threaded outlets 122 and 124 are formed on the housing and are in transverse alignment, the same being intersected by a vertical inlet 126. The pipe 116 is secured

4

to the inlet 126 and the pipes 110 and 112 are secured to the outlets 124 and 122, respectively. The valve shown in Figure 11 is in an "off" position, and it can be seen that by rotating the valve clockwise, the entire output of the pump will be directed through the pipe 112, whereas a counterclockwise rotation of the valve core will result in the water being forced through the spray loop 96.

Means is provided for automatically actuating the valve, responsive solely to the movement of the frame on the trackways and includes actuating means 128 carried by the channel bar 26 and disposed at the opposing ends thereof. The actuating means is adapted to operate a lever 130 positioned on the exterior of the frame legs 16, as seen in Figure 2. Stop pins 132 are provided to limit the rotating movement of the lever and to properly align the ports in the valve core with the inlet and the selected outlets.

The actuating means 128 includes a cylinder 134, which is mounted by a bracket support 136 to the under side of the channel bar 26 on opposite ends thereof. A piston 138 is slidably mounted in the cylinder and a coil spring 140 is interposed between the closed end of the cylinder and the inner face of the piston. A cap member 142 is threadingly secured in the open end of the cylinder and the piston rod 144 is slidably extended therethrough, the rod terminating in a transverse head 146. The head 146 is adapted to contact the lever 130, as the frame is moved relative to either end of the trackway to rotate the valve core in the opposite direction.

As stated above, the spray loop 98 constitutes the wash line and means, therefore, is carried by the frame and interposed between the spray loop and the conduit 112 for admixing a detergent with the water. The means is preferably operative responsive solely to the rate of flow of the water through the conduit 112. Thus, a vertical tank or reservoir 150 is provided, the upper end 152 being removable and constituting a closure member, so that the tank may be filled with granular detergent 154. The tank is provided, adjacent its upper end, with an inlet 156 and an outlet 158 is formed at the lower end thereof.

A horizontal small pipe section 160 is secured at one end to the inlet 156 and is connected to the conduit 112 by a T-coupling 162. An S-shaped pipe section 164 is connected at its upper end to the outlet 158 and is provided with a hand valve 166.

As seen in Figures 5 and 9, the end of the conduit 112 is carried to a block 168, the same being formed at its opposing ends with axially reduced, internally threaded coupling collars 170 and 172. The lower end of the conduit 112 is threaded in the upper coupling collar 170. A connecting pipe section 174 connects the lower end 172 of the block with the spray loop 98.

A laterally extending, internally threaded collar 176 couples the end of the pipe section 164 to the block. The block 168 functions as an admixing chamber and the detergent is drawn through the line 164.

A tube 178 is formed concentric with the block 168 and is positioned therein, the tube extending integrally from the upper end of the block and terminating at the lower end of the collar 176. The tube is axially aligned with the collar 170 and with the conduit 112 but is tapered inwardly relative to its lower end and is gradually restricted.

It can be seen that a small amount of water will enter through the pipe 160 to the upper end of the tank or reservoir 150 and will exert a pressure upon the detergent therein. The rate of flow of the detergent through the line 164 can be controlled by the hand valve 166 but it is responsive solely to the greater flow of the water through the tube 178 in the block 168. Thus, as seen in Figure 9, the water passing through the tube 178 will create a suction at the inner end of the collar 176 and the detergent will be pulled in through the line and collar and admixed with the water and passed therewith through the line 175 into the spray loop 96.

Each of the spray loops is provided with straight spray nozzles 180, the spray nozzles extending laterally inwardly from the spray loops and being mounted in straight transverse openings 182 formed in the inner surfaces of the loops. The spray nozzles include a body 184, which is threaded in the openings 182 and a nozzle head 186 having spirally arranged vanes 188 formed therein, with the axial passage in the head terminating

in a discharge orifice 190. The discharge orifice 190 tapers outwardly at its outer end in a frusto-conical pattern 192 to thereby create a full cone spray pattern.

Attention is directed to Figure 13, wherein another embodiment of the washing apparatus is illustrated. The embodiment is similar in operation and structure to the washing unit 10, above described, and includes the frame 12 having the spray loops 96 and 98 mounted thereon. However, instead of mounting the frame on overhead trackways, the lower ends of the legs of the frame are provided with transversely disposed carriages 196 having rollers 198 journaled at their terminals. The rollers are mounted on tracks 200 which are secured to the lower surface.

With this unit, the means for admixing the detergent with the water and the valve control and actuating means may be constructed similar to that disclosed above. However, manually controlled means may be provided and the controls may be mounted on a panel extending upwardly from the base 80 for the pump.

Thus, all of the controls will be mounted together, including switch means for controlling the electric motor for moving the frame back and forth over a vehicle and switch means for the blower unit 300, which will be more fully described.

The pump 78 is provided with dual inlet lines and with a single outlet line 202. The line 202 is similar to the line 76 and is secured to the inlet 126 of the valve block 114. However, a manually operated lever 204 is associated with the valve core 118 for rotating the same to communicate the line 202 with outlet line 206 or a line 208. The line 206 extends outwardly from the valve block and terminates in an upstanding end 210 to which a flexible tube 212 is coupled, the tube 212 carrying the rinse water or clear water and being secured at its other end to the spray loop 96.

The line 208 extends downwardly from the valve block and is provided with a lateral extension 211 which enters the upper end of detergent reservoir 213. An outlet line 214 extends from the lower end of the tank reservoir 213 and is disposed parallel with the pipe 211, the pipe 214 having a hand valve 216 disposed therein. The line 214 is coupled to admixing chamber 168, similar to that illustrated in Figure 9. A pipe 218 is secured to the lower end of the block 168 and the pipe 208 is communicated with the upper end thereof. The pipe 218 extends vertically and a flexible tubing 220 is coupled at one end to the upper end of the pipe 218 and at the opposing end to the spray loop 98. It can thus be seen that an operator can control the sequential washing and rinsing operations by means of the lever 204.

The same means illustrated and described with respect to the first embodiment of this invention may be utilized with this embodiment for reciprocating the same over a vehicle, or any means may be utilized for automatically moving the same. Of course, if desired, the frame may be manually moved back and forth and, for this purpose, hand grips may be secured to the legs of the frame at a convenient height.

Drying means 300 is carried by the frame and, for this purpose, the frame is formed at the top 14 with a chamber 246. A circular fan housing 248 is mounted on the top and connected by a vertical opening 250 with the chamber. The housing is formed with a tangential inlet 252 and the vanes 254 of a fan are rotatably disposed therein. The vanes are carried by a motor shaft 256 which extends vertically from an overhead motor 258. The motor is mounted above the frame by vertical standards 260, forming a bracket at their upper ends to encircle the motor and being bolted at the lower ends to the top of the frame. Vertical conduits 262 and 264 are carried by the legs of the frame and are disposed between the spray loops 96 and 98, the conduits communicating at their upper ends with the chamber 246 and having their lower ends provided with caps 266. The conduits are formed on their inner surfaces with vertically spaced openings 268 defined by outwardly struck portions 270.

Having described the invention, what is claimed as new is:

1. A vehicle washing apparatus for automobiles and the like comprising a horizontally disposed overhead supporting means, means mounting said supporting means in an elevated substantially horizontally extending position, an inverted substantially U-shaped spray unit,

means operatively connected to said supporting means and said spray unit supporting the spray unit on said supporting means for movement thereof along a predetermined path of travel over a vehicle to be washed, and means for moving said spray unit along said path of travel, said last named means comprising a prime mover carried by the spray unit, a drive element operatively connected to and driven by the prime mover and means carried by said supporting means and operatively engaged by the drive element for cooperating therewith to advance said spray unit on the supporting means.

2. A vehicle washing apparatus for automobiles and the like comprising a supporting means, means mounting said supporting means in an elevated substantially horizontally extending position, an inverted substantially U-shaped spray unit, means operatively connected to the supporting means and to the spray unit supporting the spray unit on said supporting means for movement thereof along a predetermined path of travel over a vehicle to be washed, and means for moving said spray unit along said path of travel, said last named means comprising a motor carried by the spray unit, a gear wheel operatively connected to and driven by the motor and a rack bar carried by the supporting means and disposed longitudinally therealong, said gear wheel being operatively engaged with the rack bar to advance the spray unit along said rack bar and the supporting means.

3. A vehicle washing apparatus as claimed in claim 2, wherein said motor is a reversible motor, a reversing switch carried by the spray unit and operatively connected to the motor, and means responsive to a predetermined movement of the spray unit relative to the supporting means for actuating the switch to reverse the motor.

4. A vehicle washer comprising a movable inverted U-shaped frame adapted to encompass the top and sides of a vehicle, guiding and supporting means for the frame, said frame including a web portion connecting spaced depending legs, each of the legs and the web portion being channel-shaped and having open sides opening towards the space between the legs, a spray pipe mounted on the frame within the legs and the web portion for conveying fluids under pressure, spaced spray nozzles on the pipe and directed laterally from the pipe for spraying a fluid into the space between the legs, drive means carried by said web portion for moving said frame, and means for controlling the flow of the fluids through the pipe.

5. A vehicle washer comprising a reciprocable inverted U-shaped frame adapted to encompass a vehicle, guiding and supporting means for the frame, fluid lines mounted on the frame for conveying fluids under pressure, spray nozzles extending laterally from the lines and disposed inwardly of the frame for spraying the fluids onto the surface of the vehicle, and means for selectively controlling both the flow and type of the fluids through the lines responsive to the reciprocation of the frame.

6. A vehicle washer comprising a movable inverted U-shaped frame, guide means for said frame, first and second fluid lines mounted on the frame for conveying fluids under pressure, spaced spray nozzles on the lines for spraying fluids carried by the lines onto the surface of a vehicle as the frame is reciprocated over the vehicle, valvular means for selectively directing a fluid into the first and the second lines, and means responsive to a flow of fluid through the first line for admixing a detergent therewith, said valvular means being responsive to the movement of the frame.

7. A vehicle washer comprising a movable inverted U-shaped frame, guide means for said frame, isolated first and second fluid lines mounted on the frame for conveying fluids under pressure, spray nozzles on the lines for spraying fluids carried by the lines onto the surface of a vehicle as the frame is reciprocated over a vehicle, means for selectively directing a fluid into the first and the second lines, means responsive to flow of a fluid in the first line for admixing a detergent therewith, and means responsive to the movements of the frame for controlling the operation of said directing means.

8. A vehicle washing apparatus comprising a movable inverted U-shaped frame, guide means for said frame, drive means including a reversible electric motor for reciprocating the frame in a rectilinear path over a vehicle, control means including an electric reversing switch for said motor, said control means being responsive to a pre-

7

determined movement of the frame, first and second conduits mounted on the inside of the frame, spray nozzles on the conduits, means for alternately and selectively directing a fluid into the conduits, said conduits being solely in communication with the last mentioned means, means for introducing a detergent into the first conduit, and control means for said directing means responsive to movements of the frame.

9. A vehicle washing apparatus comprising a movable inverted U-shaped frame, guide means for said frame, drive means for reciprocating the frame in a rectilinear path over a vehicle, first and second conduits mounted on the frame, a fluid supply conduit and a pair of branch conduits, means for selectively delivering a fluid from the supply conduit to either of the supply conduits, each of said first and second conduits being solely in communication with one of the branch conduits, spray discharge means operatively associated with the conduits, means responsive to flow of a fluid in one of the branch conduits to admit a detergent with such fluid, and means responsive to the movement of the frame for controlling the operation of said directing means.

10. In an automobile washing machine, a spray assembly including an inverted U-shaped movable frame including a web portion connecting spaced depending legs, said legs and the web portion being channel-shaped and opening towards the space between the legs, an inverted U-shaped spray pipe secured to the frame and disposed within the channel-shaped web portion and the legs, a pair of parallel spaced guide rails, a pair of guide and support wheels disposed adjacent the opposite ends of the web portion, means for rotatably mounting the wheels on the frame for rotation about axes parallel to the plane of the frame, a rack carried by one of the guide rails, a prime mover mounted on the top of the web portion, a pinion gear mounted for rotation on the frame, and means operatively connecting the prime mover to the gear for driving the latter.

11. The combination of claim 10, wherein said prime mover is a reversible electric motor, a reversing switch mounted on the web portion operatively connected to the motor, and means responsive to a predetermined movement of the frame relative to the rails for actuating the switch to reverse the motor.

12. In an automobile washing machine, a pair of inverted U-shaped pipes mounted in upstanding, parallel spaced relation to each other, each of said pipes comprising two upright legs and a web portion interconnecting the upper end portions of said legs, a plurality of spray nozzles mounted in said pipes in spaced relation therealong, a pair of parallel spaced guide rails disposed above the pipes, guide and support wheels disposed adjacent the opposite ends of the web portions of the pipes for supporting said pipes on said guide rails, means rotatably mounting the wheels on the pipes for rotation about axes paralleling the planes of the pipes, a prime mover mounted on the pipes and means driven by the prime mover for unitarily moving the pipes with the wheels traveling on the guide rails.

13. A vehicle washer comprising two substantially arch-shaped conduits mounted in upright parallel spaced relation to each other, each of said conduits comprising two upright legs and a cross-bar interconnecting the upper end portions of said legs, a plurality of spray nozzles mounted in said conduits in spaced relation therealong, said nozzles on each of said legs being directed toward the other leg of the respective arch-shaped conduit, and said nozzles on each of said cross-bars being directed downwardly, means including wheels mounted on the lower end portion of said legs for movably supporting said conduits for movement as a unit, and means for selectively feeding saponified liquid and rinsing liquid through respective ones of said conduits to said nozzles for discharge therefrom, said means comprising a pump, conduit means for feeding liquid to said pump, and other conduit means mounted between and carried by two of said legs and operatively connected between said pump

8

and said conduits for feeding liquid under pressure from said pump to said conduits, said other conduit means comprising a saponaceous agent-container, a by-pass conduit connected around said container, and valve means for selectively controlling the flow of liquid from said pump through said container and said by-pass conduit.

14. In a vehicle washer, two elongated track members disposed in parallel spaced relation to each other, two carriages mounted on said tracks, each of said carriages being mounted on a respective one of said tracks for reciprocation longitudinally thereof, a substantially arch-shaped frame mounted in upright position on said carriages and extending therebetween for movement therewith along said tracks, said tracks, said carriages and said frame being of such a size and so positioned relative to each other that a vehicle to be washed may be placed between said tracks in longitudinally extending parallel relation thereto and said frame may be moved back and forth across said vehicle in spaced relation thereto during movement of said frame with said carriages during reciprocation of the latter along said tracks, said frame including two substantially U-shaped conduits disposed in inverted parallel relation to each other on said carriages for spraying liquid on such a vehicle during such a movement of said frame thereover, and means for selectively feeding rinsing liquid and cleaning liquid to respective ones of said conduits, said means comprising a pump for feeding liquid under pressure, two conduit means mounted on and movable with one of said carriages, each of said two conduit means being connected to a respective one of said conduits, one of said two conduit means including a saponaceous agent-container, a valve operatively connected between said two conduit means and said pump for selectively feeding liquid from said pump into said two conduit means, and means for feeding liquid to said pump.

15. In a vehicle washer of the type including an arch-shaped frame for movement back and forth across a vehicle to be washed, said frame including two substantially U-shaped conduits mounted in inverted position in parallel relation to each other on said frame for feeding liquid onto such a vehicle during said movement of said frame, the combination of a liquid pump, said pump having an inlet and an outlet, a supply conduit connected to one of said U-shaped conduits, another supply conduit connected to the other of said U-shaped conduits, said other supply conduit comprising two branch conduits connected in parallel, one of said branch conduits including a saponaceous agent-container for feeding a cleaning agent into liquid passing through said other supply conduit, and conduit means including a valve member operatively connecting said outlet of said pump to said supply conduits, said valve member being operative to selectively control the feeding of liquid from said outlet of said pump into respective ones of said supply conduits.

References Cited in the file of this patent

UNITED STATES PATENTS

1,137,626	Jackson	Apr. 27, 1915
1,508,495	Bacharach	Sept. 16, 1924
1,720,332	Kehoe	July 9, 1929
1,798,428	Lindgren	Mar. 31, 1931
1,907,411	Timoney	May 2, 1933
1,921,675	Howell	Aug. 8, 1933
2,132,303	Lathrop	Oct. 4, 1938
2,347,781	Johnston et al.	May 2, 1944
2,372,205	Hertz	Mar. 27, 1945
2,440,157	Rousseau	Apr. 20, 1948
2,465,562	Hopper et al.	Mar. 29, 1949
2,471,721	Bunch	May 31, 1949
2,489,445	Benzuly	Nov. 29, 1949
2,676,600	Vani et al.	Apr. 27, 1954

FOREIGN PATENTS

274,546	Great Britain	July 15, 1927
384,418	Great Britain	Dec. 8, 1932