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2,732,846

AUTOMATIC CAR SPRAYING APPARATUS

Filed Nov. 22, 1952

3 Sheets-Sheet 1

Fig. 1.

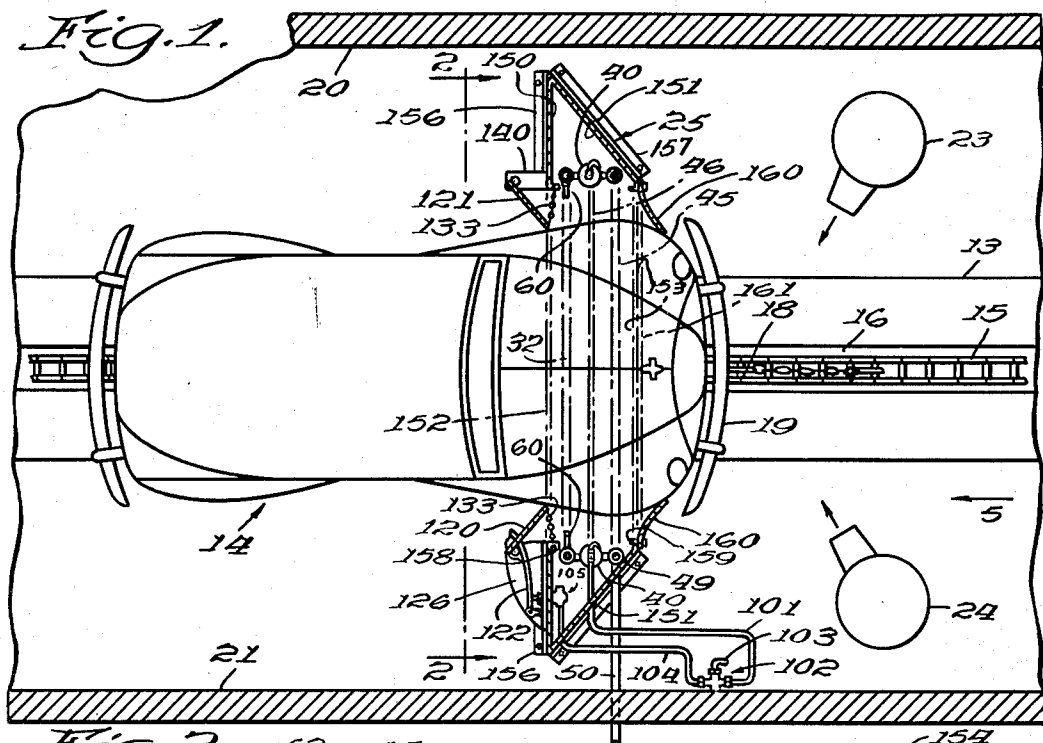


Fig. 2.

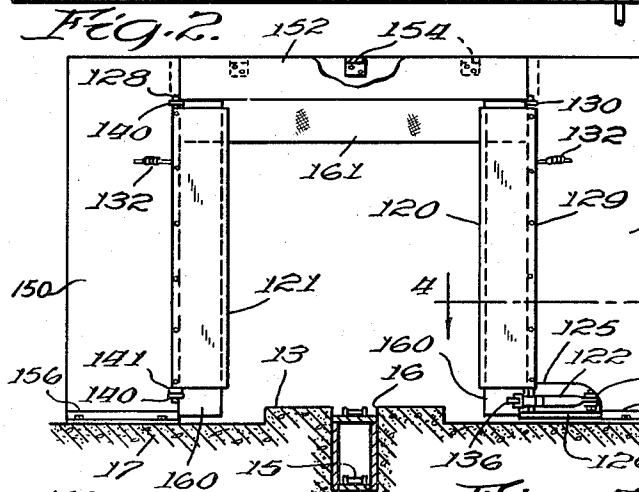


Fig. 3.

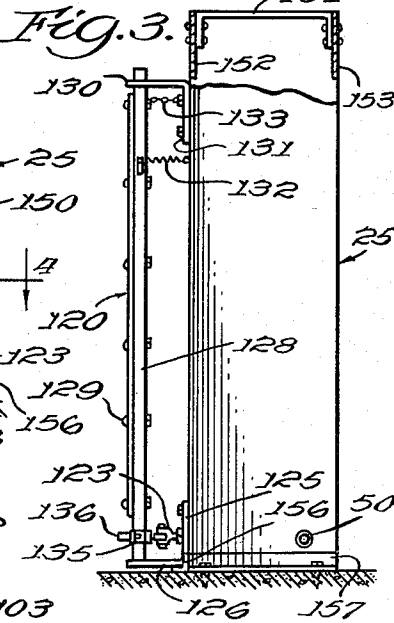
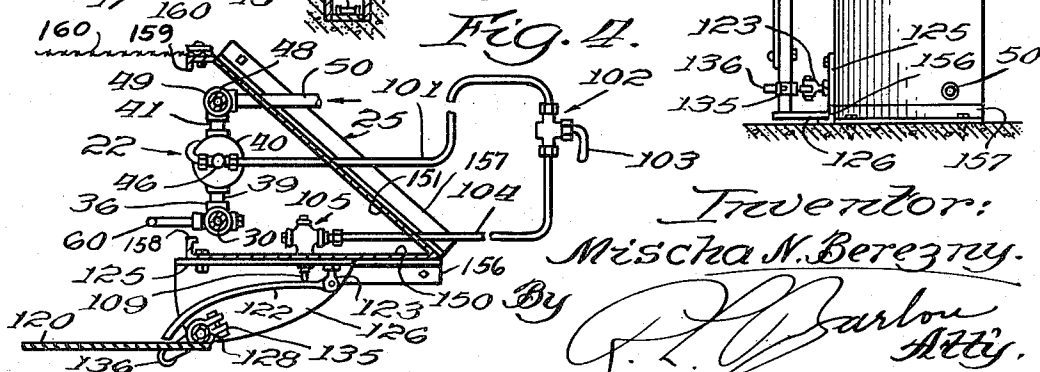


Fig. 4.



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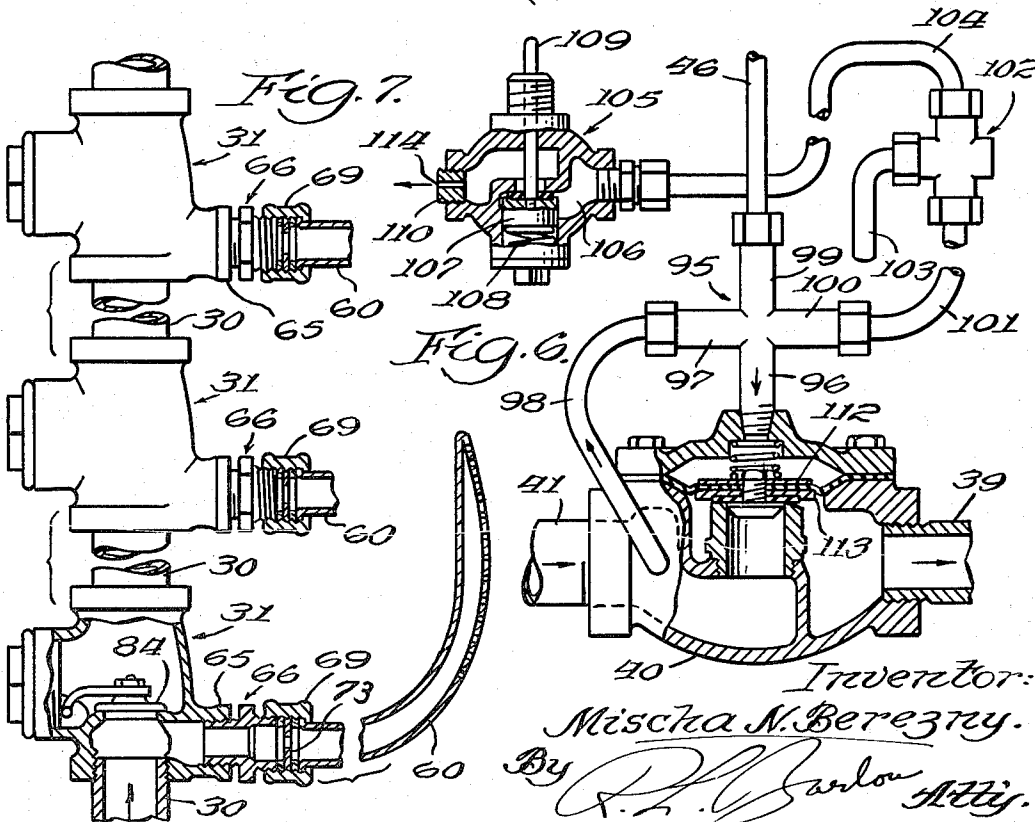
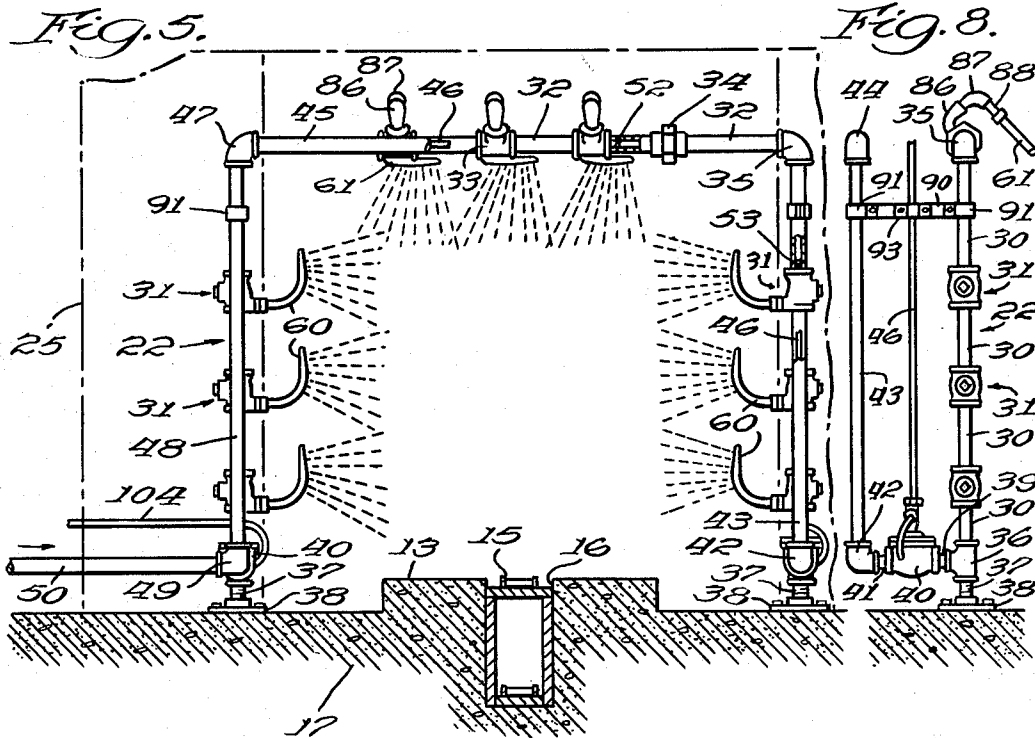
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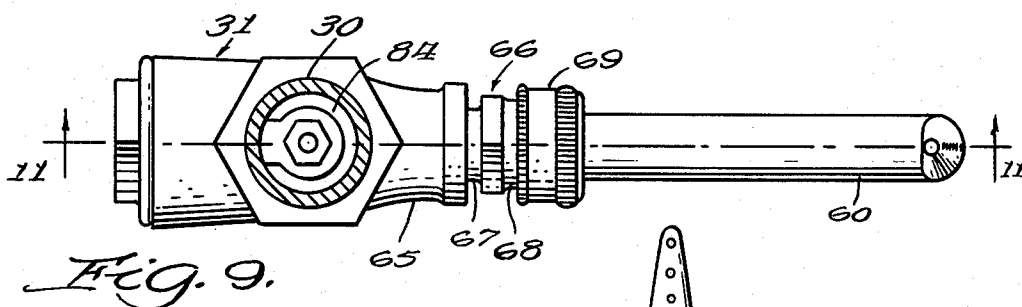


Fig. 10.

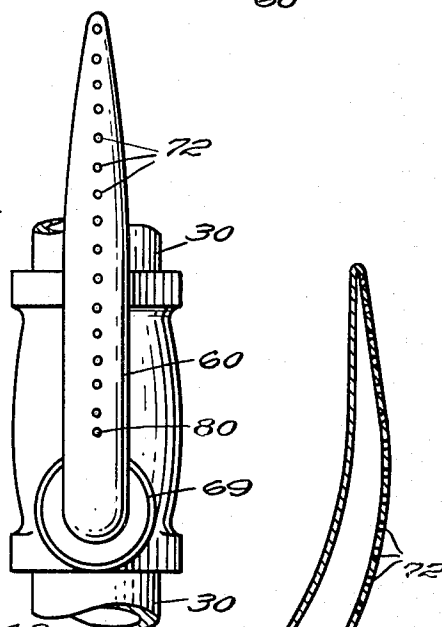


Fig. 11.

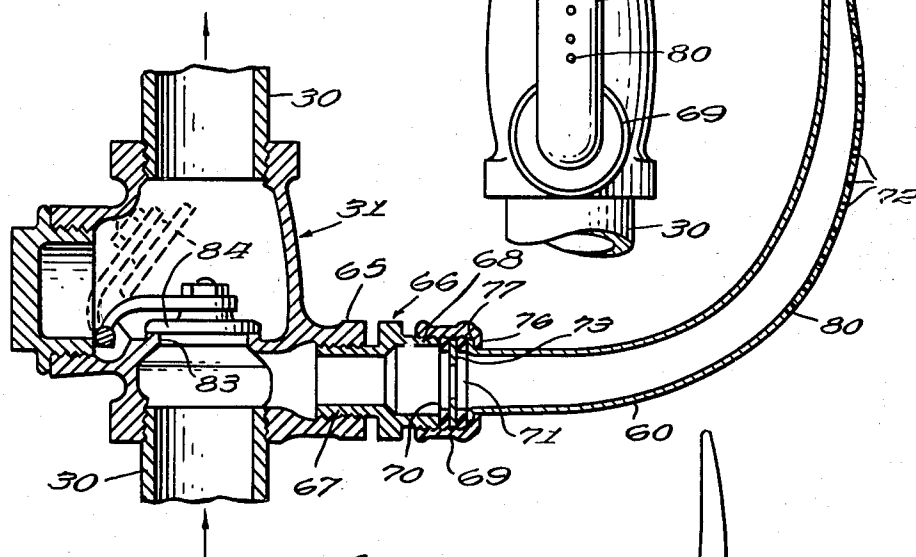
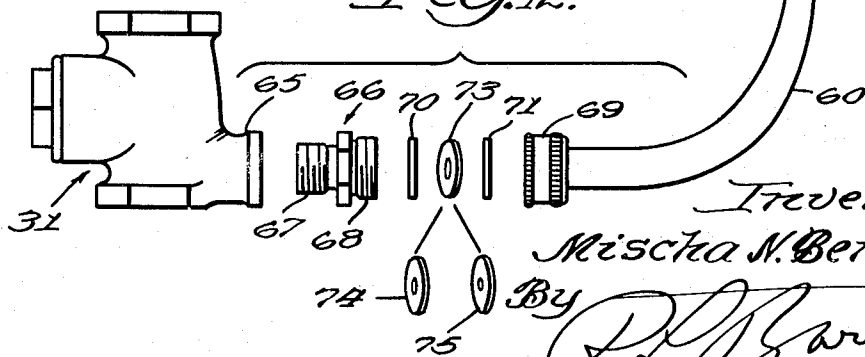


Fig. 12.



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AUTOMATIC CAR SPRAYING APPARATUS

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Application November 22, 1952, Serial No. 322,069

21 Claims. (Cl. 134—45)

This invention relates to improvements in automatic car spraying apparatus.

More specifically speaking, the present invention relates to an apparatus of the above stated character which is provided with an improved means to conserve the quantity of water required to perform successive car washing operations.

A further object is to provide improved means for the automatic turning on and off of the water delivered to the car spraying apparatus, as one of the water conserving features of the apparatus.

A still further object is to provide improved means for shielding the attendant from having blown onto him the spray delivered by the apparatus.

Also, it is a specific object of the invention to provide an improved door structure, automatically operated by advancing cars to turn on and off the spray, said door structure being of a character which safeguards marring the portions of the car which contact with them.

Other objects, advantages and features of invention will hereinafter appear.

Referring to the drawings, wherein is shown a reduced to practice embodiment of the invention, now in use in the trade,

Fig. 1 is a plan view of the improved mechanism, with parts shown in transverse section, operatively associated with an automobile in the process of being washed.

Fig. 2 is a transverse section, the plane of which is indicated by line 2—2 in Fig. 1.

Fig. 3 is a side elevation of the device, shown on a larger scale, a portion being broken away to disclose underlying structure.

Fig. 4 is an enlarged, fragmentary, horizontal cross section, the plane of section being indicated by line 4—4 in Fig. 2.

Fig. 5 is a front elevational view with parts broken away to disclose structure otherwise hidden from view, the foundation being shown in section, and fragments of the hood in phantom lines.

Fig. 6 is an enlarged, fragmentary, somewhat diagrammatical view of the control valves and piping, with portions of some of the valves broken away to disclose interior construction.

Fig. 7 is a fragmentary, enlarged front elevational view of the spray stand pipe shown at the left in Fig. 5, parts being shown in vertical midsection.

Fig. 8 is a complete, right hand side elevation of the parts shown in Fig. 5, this structure being duplicated on the opposite side of the rack.

Fig. 9 is an enlarged, transverse sectional detail on a plane superjacent one of the nozzles shown at the left in Fig. 5.

Fig. 10 is a right hand elevation of the parts shown in Fig. 9, only a fragment of the pipe being shown.

Fig. 11 is a vertical section on line 11—11 of Fig. 9.

Fig. 12 is an extended elevation of the parts shown in Fig. 11 with a plurality of washers having different sized apertures, perspectively shown.

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Referring to the drawings and speaking first of generalities, in Figs. 1, 2 and 5 is shown a raised trackway 13 which guides the wheels of the car 14 being washed. The car is towed by the endless moving chain 15 mounted in the channel 16 formed in the concrete floor 17, a suitable connection 18 being provided in the present instance to connect the bumper 19 of said car to the slow moving chain 15. In Fig. 1 walls 20 and 21 are shown between which the vehicles pass during the washing operation.

There may be two or more shower racks. The one shown in the drawings is generally designated 22. They are spaced at intervals longitudinally of said walls, and the car being washed passes through them. The first of these racks through which the cars pass is for the initial washing operation to remove foreign matter such as sand, grit, dust and dirt in general. The second is to remove the soapy coat manually or automatically applied between racks, and the third or last spray rack, when three are used, is utilized for the rinsing operation, which immediately precedes the drying operation effected by the blowers 23 and 24 as the car emerges from the hood, generally designated 25, which includes within its angle the spray delivery means at its side of said trackway.

The description of the shower rack 22 will in the main be directed to Figs. 5—8, although portions thereof will be found also in some other views. Starting with Fig. 8 it will be seen that the vertical shower pipes at the right and left side of the rack are composed of a plurality of pipe sections 30 with intervening check valves 31, and the overhead horizontal shower pipe is composed of a plurality of pipe sections 32 with intervening T's 33, two of the latter pipe sections being joined together by a coupling 34. L's 35 connect the upper ends of said vertical shower pipes to the horizontal shower pipe and thusly this portion of the wash rack will be seen to consist of a conduit simulating that of a large inverted rectangular U.

Each lower limb section 30 of the U is threaded into one end of a T 36, the opposite end of each T having one end of a section of pipe 37 screwed thereinto. The opposite end of each pipe 37 is screwed into a circularly flanged plate 38 which, in turn, is secured to the foundation floor 17.

Into the lateral outlet of each T 36 is screwed a nipple 39 which, in turn, is connected to one end of a standard "Hytrol" valve 40. The opposite ends of each of said valves 40 have screwed into them a nipple 41 at its side of the rack 22.

At the right side of the rack a horizontal nipple 41 connects with an L 42 into the horizontally positioned outlet of which is screwed a vertical pipe 43 which parallels the check valve or spray conduit composed of pipe sections 30 and check valves 31. It will be seen in Fig. 8 that pipe 43 extends to the height of the check valve conduit where an L 44 connects the latter to a horizontal overhead pipe 45, which also parallels the overhead spray conduit which unites the two limbs of the aforesaid U.

In Fig. 5 said pipe 45 is shown broken away so as to expose two of said T's 33, coupling 34, L 35, and the vertical pipe 43 is broken away so as to expose the top check valve 31. Breaking away pipes 43 and 45 as stated exposes a portion of pipe 46 which vents the "Hytrol" valve 40, the latter vent pipe also paralleling the check valve conduit in a spaced relation thereto as shown in Figs. 5 and 8.

Now continuing with pipe conduit 45, it will further be seen in Fig. 5 that the end of this pipe opposite its connection with L 44 is joined to an L 47 which also has screwed into it one end of the vertically extending pipe 48. Pipe 48 has its other end screwed into a fitting 49 which not only connects with the main water supply pipe 50, but which also has a lateral outlet which connects with the nipple 41 as shown in Fig. 4. Thus it will be

seen the supply conduit composed of pipes 48, 45 and 43 also parallels the aforesaid vent conduit and check valve spray conduit and is located in a spaced relation to said vent conduit as shown in Fig. 8.

The reason for this dual or branch feed water supply will be evident when it is pointed out that pipe 32 has a plug 52 in it and that pipe 30 has a plug 53 in it so that it is necessary to provide a flow of water to feed the three check valves at the left, the three T's at the top of Fig. 5 as well as the three check valves in the vertical spray conduit on the right of Fig. 5, no water being necessary to fill the dead conduit space between plugs. The presence of the plug 53 superjacent to the check valve 31 renders the latter functionally useless, but said valve is used in order to avoid cutting different pipe lengths on each side of the inverted U-shaped structure, maintain symmetry, and to provide a support for the nozzle carried by said check valve without adding an extra fitting and without altering the pipe section in which the plug is located to provide a level top run in the piping. The presence of said plug 53, in the combination of the two short vertical pipes and the long overhead pipe keeps air out of the pipe line and prevents a back and forth surge of the water in the piping.

Taking up again the U-shaped spray rack conduit it will be seen that three spray nozzles 60 are provided for the vertical limb of the U on the left, three spray nozzles 60 for the vertical limb of the U on the right and three spray nozzles 61 for the horizontal run of the U.

The mounting of the nozzles 60 on the right and left limbs of the U are the same and may be seen most clearly in Fig. 7 and in larger detail in Figs. 9-12. Also the construction of the check valve 31 and nozzle 60 are clearly set forth in said figures to which the following description applies.

The check valve 31 is a standard check valve with the exception that the lateral outlet 65 has been added for the purpose of screwing into it the nipple 66. Said nipple has a pipe thread end 67 which screws into the outlet 65 of the check valve and a pipe thread end 68 which has screwed onto it the securing means 69, which firmly attaches the nozzle 60 to said end 68.

In order to make the joint between the nozzle and nipple leakproof a gasket 70 is provided adjacent the nipple, and a gasket 71 is provided adjacent the mouth of the nozzle; and in order to provide for spray to be delivered through the aperture 72 of the nozzle with different intensities, washers 73, 74 and 75 having different sized apertures are selectively interposed between said gaskets 70 and 71.

To facilitate making the aforesaid joint leakproof, the internally threaded tubular nut 69 has an internally directed annular flange 76 which grips an external circumferential flange 77 around the mouth of the nozzle 60 as the nut 69 is advanced into its secured relation with the nipple 66.

It will be noted in Fig. 11 that the nozzle 60 consists of an enlarged cone shaped body which is bent through substantially a right angle with the tip of the cone directed upwardly and inwardly of the U in the mounted position. Also in the mounted position of said nozzle, the lowest aperture 80 of the plurality of apertures 72 lies in a horizontal plane which is spaced above the level of the valve seat 83 in the check valve, so that when the liquid supply is shut off all the water that could be lost will be that which occupies the upturned portion of the nozzle above the hole 80 after the valve 84 has automatically moved to its sealing relation with its seat 83.

Referring to certain other details of structure, which aid in maintaining the arrangement of the triple U-shaped feed piping 48, 45, 43, vent pipe 46 and spray rack 22 in parallelism, there is provided a tie plate or strip 90 to the ends of which are fastened similar clamps 91 which, as viewed in Fig. 8, embrace pipes 43 and 30 on the right of the spray rack and pipes 48 and 30 on the left side.

A clamp 93 secured to said plate 90 also secures the vertical runs of pipe 46 at each side of the rack in fixed position.

The mounting of the nozzles 61 on the overhead, horizontal shower pipe composed of pipe sections 32 consists in using certain fittings to provide for maintaining the sections full of water and at the same time bring about a more effective spray directed downwardly on the tops of moving cars, rather than the way they are arranged on the sides. To accomplish this purpose the lateral openings of the T's 33 are each placed at a forward, upward inclination and, as is seen in Figs. 5 and 8, have screwed into each of them a street L 86. L 86, in turn, has screwed into it a similar L 87. Into the L 87 is, in turn, screwed a nipple 88, and onto nipple 88 is screwed the tubular securing means 69 which attaches the nozzle 61 in its mounted position. Nipple 88, being the same construction as nipple 66 shown in Fig. 11, and nozzle 61 being the same as nozzle 60, also shown in Fig. 11, no further description is necessary to make it clear how the nozzles 61 are secured in their mounted position with respect to nipples 88.

There are several advantages resulting from a conduit-check valve-nozzle construction of the above described character. Important among these are the conservation of water in arid areas, the saving in time resulting from having a device which functions immediately when turned on, and the ability to turn out a greater number of washed cars in a given time. This peculiar mounting and assembly to provide a more efficient cleansing of the top portion of the advancing car being washed will be more clearly understood when it is further pointed out that the tangential impact of the water gives a better scrubbing action, and also there will be less likelihood of the overhead nozzles being contacted by cars whose height is above normal limits.

In Fig. 1 it will be noted that there is located at each side of the shower rack one of the aforesaid valves 40, and that in Fig. 6 the construction of this valve is shown. Since, as aforesaid, this valve is a conventional standard valve no detail description need be given here except to state that the manner in which it functions will be elaborated upon later in the description of the operation.

In Fig. 6 a cross fitting 95 is shown having one of its arms 96 externally screwthreaded and screwed into the valve operated side of the valve 40. Another arm 97 of the cross fitting 95 connects with a pipe 98 which communicates with the intake side of the valve 40. Arm 99 of one cross fitting 95 at one side of the rack has screwed into it one vertical limb of the U vent pipe 46, and arm 99 of the other cross fitting 95 at the other side of the rack has screwed into it the other vertical limb of the U pipe 46. The fourth arm 100 of the cross fitting 95 connects with a pipe 101, in turn, connected to a standard shut off valve 102 operated by handle 103. Valve 102 has screwed into it one end of a pipe 104 which is connected to a standard, normally closed pressure valve 105, whose normally closed chamber 106 is in constant communication with said pipe 104, and whose normally seated valve 107, under stress of spring 108, has a valve stem 109 protruding from the valve casing and operable by pressure from without to depress the valve 107 against the opposition of the spring 108 to open the valve and permit liquid to continuously flow from the vent plug 110 in the valve during the interim the valve 107 is held open.

Venting valve 105 in the manner aforesaid relieves the pressure against the diaphragm 112 caused by neutralization of the water pressure in pipe 98 from the main supply through conduit 41, and allows the diaphragm to elevate or unseat the valve 113 permitting flow into pipe 39 so long as the plunger valve 107 remains off its seat as a result of pressure applied against the stem 109, and some of the water flowing into valve 40 is deviated

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through pipe 98 and out through the aperture 114 in the vent plug 110. The vent pipe 46, which has already been mentioned, relieves the air pressure above the diaphragms of the "Hytrol" valves 40, being connected to each of these valves as shown in Figs. 6 and 8. This pressure relief is effected through the medium of the vent 114 (see Fig. 6), when a door of the vehicle being sprayed presses on the plunger 109. When said diaphragms are thus released flow of water to the spray assembly takes place through the medium of nipples 41 and 39.

In order to permit the passage of cars through the spray rack 22 without the spray being automatically turned on, as for example when the top of the car was down, the handle 103 may be manually turned to close valve 102 and prevent spray action when the plunger is depressed. The mechanism for automatically operating valve 105 will now be set forth in detail.

Two swingable doors 120, 121 are provided which are automatically opened by the cars to be washed as they enter the shower rack when being propelled by the slow moving tow mechanism 15. The door indicated 120 depresses the plunger 109 during the opening of the latter door to set the spray rack in operation through the medium of the pivoted arm 122. Said arm is pivoted to bracket 123 to swing in a horizontal plane in which the plunger lies so as to be contacted thereby at the time the bumper 19 starts opening the doors.

Pivoted arm 122 is bowed and somewhat resilient. It has a free end portion contactable by mechanism, later to be described, which immediately starts to depress it and place stress in the spring arm 122 as soon as the door starts opening.

Bracket 123 is secured to the vertical flange 125 of a rightangularly flanged bracket whose horizontal limb is numbered 126, said flange 125, in turn, being secured to the aforementioned shield or hood 25 which encloses the shower rack 22 on all sides except the one facing the passage along which the car moves.

Horizontal limb 126 of the latter mentioned bracket pivotally supports the lower end of the post 128 to which the door 120 is secured by a plurality of bolts 129, the upper end of said post being turnably mounted in the horizontal flange 130 of a right angle bracket whose vertical limb 131 is secured to the hood 25 in a vertically spaced relation to the already mentioned rightangular bracket whose vertical limb is numbered 125. A tension spring 132 assists in restoring the door 120 to normal position, and a chain 133 limits the swing of the door in opposition to the pull of said spring.

The aforementioned mechanism which depresses said spring arm 122, and, in turn, the plunger 109, consists of a wheel carried bracket 135 secured to the door post 128 in such a manner that as soon as the door starts in-swinging the roller 136 contacts the inner bowed face of the arm 122. The pivot of the arm 122 and the pivot of the post 128 of the door 120 are located in such a position relative to each other that the more the door 120 is swung in, the more the arm 122 is unbowed until the plunger 109 is fully depressed whence further in-swinging of the door only sets up additional stress in the arm 122.

Door 121 functions similarly to door 120 except that it does not operate any pressure valve in its movement. It is, however, provided with a chain and spring similar to the chain 133 and the spring 132 of door 120. It also has upper and lower supporting brackets 140 similar to bracket 130, 131, and a collar 141 surrounding the door post 128 and carried by the lower bracket supports door 121 in its journalled relation with the latter brackets.

The hood or shield casing 25 is a dual, V-shaped, open topped framework with the mouth of each V directed toward the vertical limbs of the shower rack 22. The sides 150 of the V's face the direction in which the car 14 is approaching and extends in a plane at right

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angles to the longitudinal axis of said car, while the sides 151 extend at an acute angle therefrom. Sides 150 are joined together at their tops by a panel 152 and sides 151 are joined together at their tops by a panel 153. Cross channel ties 154, preferably three in number, connect panels 152 and 153 together as shown in Fig. 3 to stabilize the open-topped structure.

The hood 25 as a whole extends somewhat above the height of the shower rack and is secured in its upright position by angle irons 156 and 157 suitably secured to the framework and to the foundation on which the hood rests.

As seen in Fig. 1 the sides 150 and 151 forming the V framework have their free edges intumed to provide reinforcing flanges 158 and 159, respectively, to serve as a further stabilizer for the hood. Said flanges substantially aline with the intake ends of the nozzles 60.

The hood 25 not only serves for a shield for the spray rack as a whole, but it also provides a mount for the rubber doors 120 and 121 which prevent scratching of the cars as they contact them during their automatic opening by entering cars, and the same is true of the elastic panel doors 160 and drop curtain 161 operated by cars when leaving the hood.

The flexible doors 120 and 121 further protect workmen from being wetted by the spray while the blowers 23 and 24 are being operated to dry the car as it emerges from the hood, and the side panel doors 160 also aid in preventing the spray from the nozzles from being diverted from its normal path.

Usually two spray assemblies are provided for each car wash rack. The first spray assembly is used for pre-cooling and initially removing foreign matter from the car. The second spray assembly is for the final rinse. This pre-cooling is necessary when cars come in from the hot desert air and are additionally heated by the motor because they are then so hot that if the detergent is applied to them in that condition it has an injurious effect on the paint and gives the cars a streaked appearance, but pre-cooling of the cars prevents discoloring of the paint.

Between these two operations the car is soaped and washed by hand by an attendant at each side of the car. However, in some instances the latter operation is performed mechanically by rotating brushes or other mechanical methods in which soap or a detergent is supplied with the washing liquid. The intermediate spray assembly could also be supplied with impregnated detergent. Notwithstanding the final rinse is made by the final spray rack and although there is the same functioning by all the spray assemblies, the following description is particularly directed to the final rinse since here the blowers are introduced into the operation of drying the car.

When the last spray rack has been reached by the towing mechanism 15 or other driving or pushing means employed, the car bumper 19 contacts the flexible doors 120 and 121, or curtain control as the case may be, and the door 120 actuates the standard pressure valve 105 to cause it to relieve pressure on the diaphragm 112 of the conventional "Hytrol" valve 40, permitting water to pass through the valve as shown in Fig. 6 and thence to the spraying nozzles as already described.

If the car is an open top one, or if a car is dry and the spray rack for these or some other reason should not be operated, by turning the handle 103 of the valve 102 to closed position will prevent the spray from operating, although the controls be functioning just the same.

When the U-shaped spray rack is once filled with water it will remain so and unless some jar moves the rack, the vacuum in the feed pipe will keep the nozzles from dripping even though the level of the water in the nozzles be above the shut-off valves 84. This particular spray, owing to its peculiar construction, saves about 65% of

the water when compared with other devices used for the same purpose.

The doors 120 and 121 co-operate with the V-shaped hood which has been described to efficiently protect the workmen working on the car in a rearward, adjacent relation to the spray rack, the term "rear" being used in relation to the direction the cars advance.

I claim:

1. In an automatic car spraying apparatus, a spray rack comprising vertical and horizontal joined together pipes simulating an inverted rectangular U of such a size as to provide through it a passageway for cars being washed, vertically spaced apart check valves in the vertically joined pipes, each of said check valves being provided with a valve closure element and forming a part of the conduit for the passage of liquid through said vertical pipes for washing the cars, said check valves each having a lateral outlet below the valve closure element opening into the space defined by said inverted U spray rack, and a spray nozzle screwed into each said outlet, said nozzles each having a plurality of apertures through which the liquid supplied by said spray rack is sprayed onto the cars being washed by the apparatus.

2. The subject matter of claim 1 and the nozzles screwed into the vertical limbs of the U rack each having their apertures disposed above the level of the valve element of the check valve supplying liquid to them.

3. The subject matter of claim 1 and the first liquid supplied aperture in said nozzles being spaced slightly above the valve element of the check valve supplying the liquid thereto.

4. The subject matter of claim 1 and means for supplying two sources of liquid mediums to said spray rack formed by said U, one of said mediums supplying liquid to one vertical run forming the U and the other medium supplying liquid to the other vertical run and to the horizontal run of the U.

5. The subject matter of claim 1 and, a T in the horizontal run of the U-shaped rack, and spraying means carried by said T and positioned to spray water at a downward inclination upon cars being washed by said spray apparatus.

6. The subject matter of claim 5 and a plug in said horizontal run adjacent to said T and positioned to prevent down flow of water therefrom into one of the vertical limbs of the U forming the spray apparatus.

7. In an automatic car spraying apparatus, a trackway for cars to travel along while being washed, upstanding piping bordering each side of said trackway, spaced apart check valves comprising valve casings interposed at spaced apart intervals in said piping and forming portions of the passage therethrough, said valves allowing only upflow of water through said piping, and spray nozzles carried by and communicating with said valve casings below the check valves, said spray nozzles being positioned to spray water supplied by said piping onto cars advancing along said trackway.

8. The subject matter of claim 7 and, an upstanding spray plate shield at each side of said trackway, an upstanding, horizontally swingable door operable by the advancing cars, and means operatively connected with said door to turn on and off the spray supplied through said nozzles, said door extending the shielding area afforded by said spray plate shields.

9. The subject matter of claim 7 and, an upstanding spray plate shield at each side of said trackway, valve means carried by said shield at one side of said trackway, an upstanding, horizontally swingable door carried by each said shield at its side of said trackway and operable by the advancing cars, and means operatively connecting one of said doors with said valve means to automatically turn on and off the spray delivered by said nozzles, said doors extending the shielding area afforded by said spray plate shields.

10. In a car washing apparatus of the kind described,

in combination, a trackway for cars to travel along while being washed, upstanding piping bordering each side of said trackway, spray delivery means carried by and communicating with said piping and positioned to direct a cleansing spray of water against cars moving along said trackway, spaced apart check valves in said piping above the spray delivery means, said valves allowing only upflow of water through said piping, valve means comprising horizontally swingable doors to control the supply of water to said piping, means operated by cars advancing along said trackway to open said valve means thus causing said spray delivery means to direct a water spray against the cars being washed, blowers stationed on opposite sides of said trackway to blow air onto the cars emerging through said doors, and upstanding shield plates positioned to intercept said spray so as to confine it to a predetermined section of the space overlying said trackway to protect workmen working on the car rearward of the spray rack from spray deflected by said blowers.

11. In a car washing apparatus of the kind described, in combination, a trackway for cars to travel along while being washed, upstanding piping bordering each side of said trackway, spray delivery means carried by and communicating with said piping and positioned to direct a cleansing spray of water against cars moving along said trackway, spaced apart check valves in said piping above the spray delivery means, said valves allowing only upflow of water through said piping, valve means to control supply of water to said piping, means comprising horizontally swingable doors operated by cars advancing along said trackway to open said valve means thus causing said spray delivery means to direct a water spray against the cars being washed, blowers stationed on opposite sides of said trackway to blow air onto the cars emerging through said doors, and an upstanding hood which is V-shaped in plan stationed at each side of said trackway and including within its angle the spray delivery means at its side of said trackway to protect workmen working on the car rearward of the spray rack from spray deflected by said blowers.

12. In a spraying apparatus of the kind described, an upstanding water supply pipe, a plurality of spaced check valves, each of said check valves having a casing within the upper portion of which is a valve chamber which forms a part of the passage through said pipe, there being an upwardly facing valve seat surface underlying said valve chamber, said valve casing having a downward extension below said valve seat surface provided with a horizontally directed outlet portion and having below said outlet portion a screwthreaded aperture into which is screwed the portion of said upstanding pipe below said check valve casing, and a nozzle attached to said outlet portion and therethrough communicating with each of said valve casings and pipe, each of said spray nozzles having spraying apertures located at a higher level than said valve seating surface.

13. The subject matter of claim 12 and each of said nozzles being arcuate with a shank portion connected to said outlet portion.

14. In an automatic car spraying apparatus, a spray rack comprising vertical and horizontal joined together pipes simulating an inverted rectangular U of such a size as to provide through it a passageway for cars being washed, spray delivery means carried by and communicating with said vertical and horizontal pipes and positioned to deliver spray into the space bounded by said rectangular U, there being a corner portion of said rectangular U which is unoccupied by said spray delivery means, and a plug in the pipe at each end of said unoccupied space to prevent entrance of water thereinto.

15. In an automatic car spraying apparatus, an upstanding water supply pipe, a plurality of check valves spaced along said pipe, each of said check valves having a casing provided internally with an upwardly facing

valve seat; and a spraying nozzle having an intake end portion attached to said casing and communicating therewith at a point subjacent to said valve seat, said nozzle having a tubular portion which projects upwardly above said valve seat and which is provided with an upwardly and downwardly extending series of spray outlets, the lowermost of said outlets being at a higher level than said valve seat.

16. The subject matter of claim 15 and said spray outlets of said upwardly projecting tubular nozzle portion all being located in the side thereof which is farthest from said check valve.

17. The subject matter of claim 15 and said upwardly projecting nozzle portion being arcuate with its convex side directed away from said check valve, and said spray outlets being located in said convex side portion of said nozzle.

18. In an automatic car spraying apparatus, a trackway for cars to travel along while being washed, upstanding piping bordering each side of said trackway, spaced apart check valves interposed at spaced apart intervals in said piping and including valve casings which form portions of the passage therethrough, said valves allowing only upflow of water through said piping, and spray nozzles communicating with said piping below the check valves, said spray nozzles being positioned to spray water supplied by said piping onto cars advancing along said trackway.

19. In a spraying apparatus of the kind described, an upstanding water supply pipe, a plurality of spaced check valves, each of said check valves having a casing within the upper portion of which is a valve chamber which

forms a part of the passage through said pipe, there being an upwardly facing valve seat surface underlying said valve chamber, said valve casing having a downward extension below said valve seat surface provided with a nozzle having spraying apertures located at a higher level than said valve seat surface, said valve casing having below said outlet portion a screw threaded aperture into which is screwed a portion of said upstanding pipe below said check valve casing.

20. In an automatic car spraying apparatus, a trackway for cars to travel along while being washed, upstanding piping bordering each side of said trackway, a plurality of spray nozzles disposed at spaced intervals along said piping and connected therewith, a check valve connected with each of said spray nozzles to prevent drainage of water therefrom, said spray nozzles being positioned to spray water supplied by said piping onto cars advancing along said trackway.

21. The subject matter of claim 20, said piping comprising vertical and horizontal pipes forming an inverted U of such size as to provide through it a passageway for cars being washed.

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