

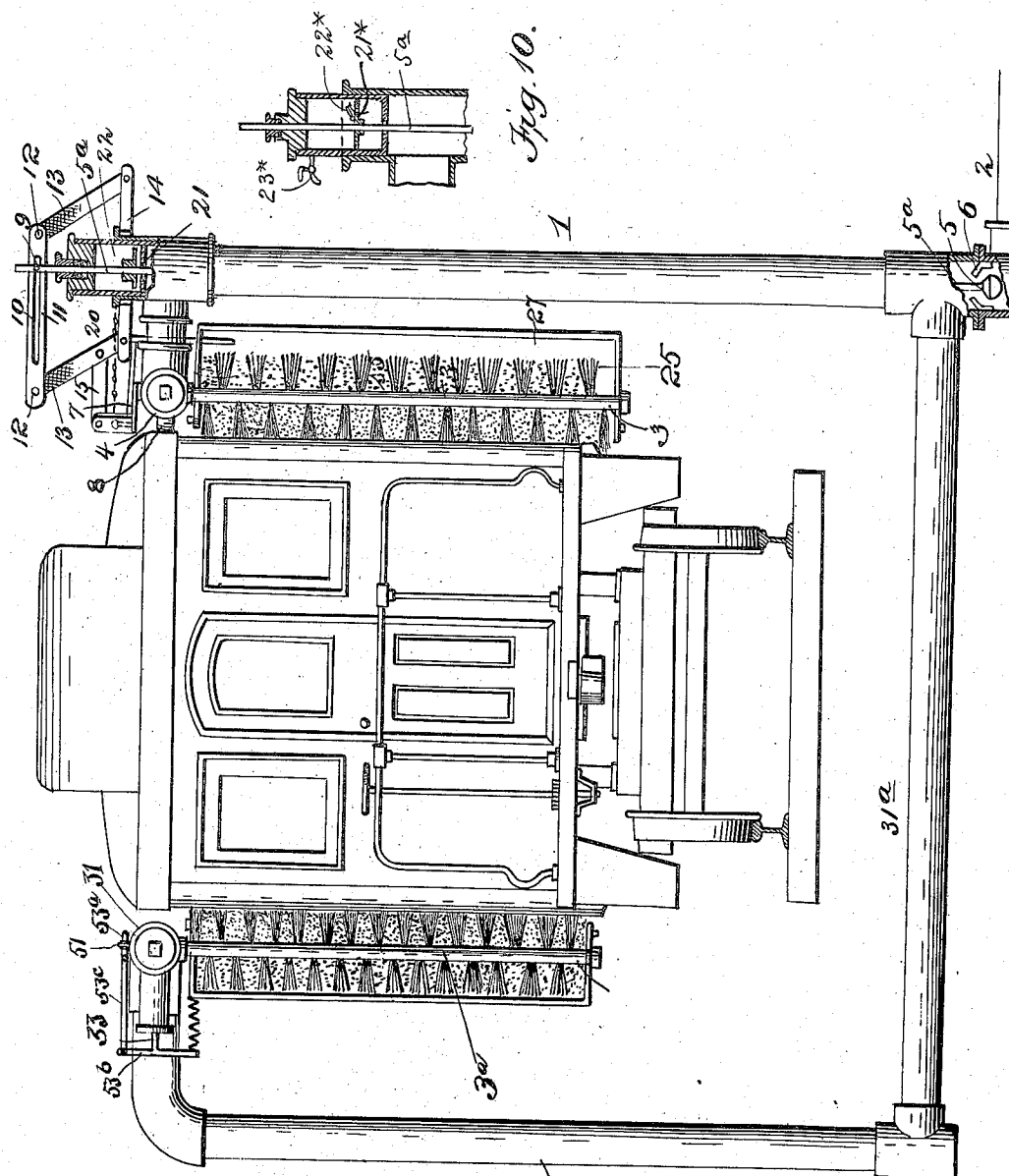
No. 894,920.

PATENTED AUG. 4, 1908.

H. M. TURNER.
CAR CLEANING APPARATUS.

APPLICATION FILED SEPT. 29, 1902. - RENEWED DEC. 30, 1907.

4 SHEETS—SHEET 1.



WITNESSES:
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Fig. 1.

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No. 894,920.

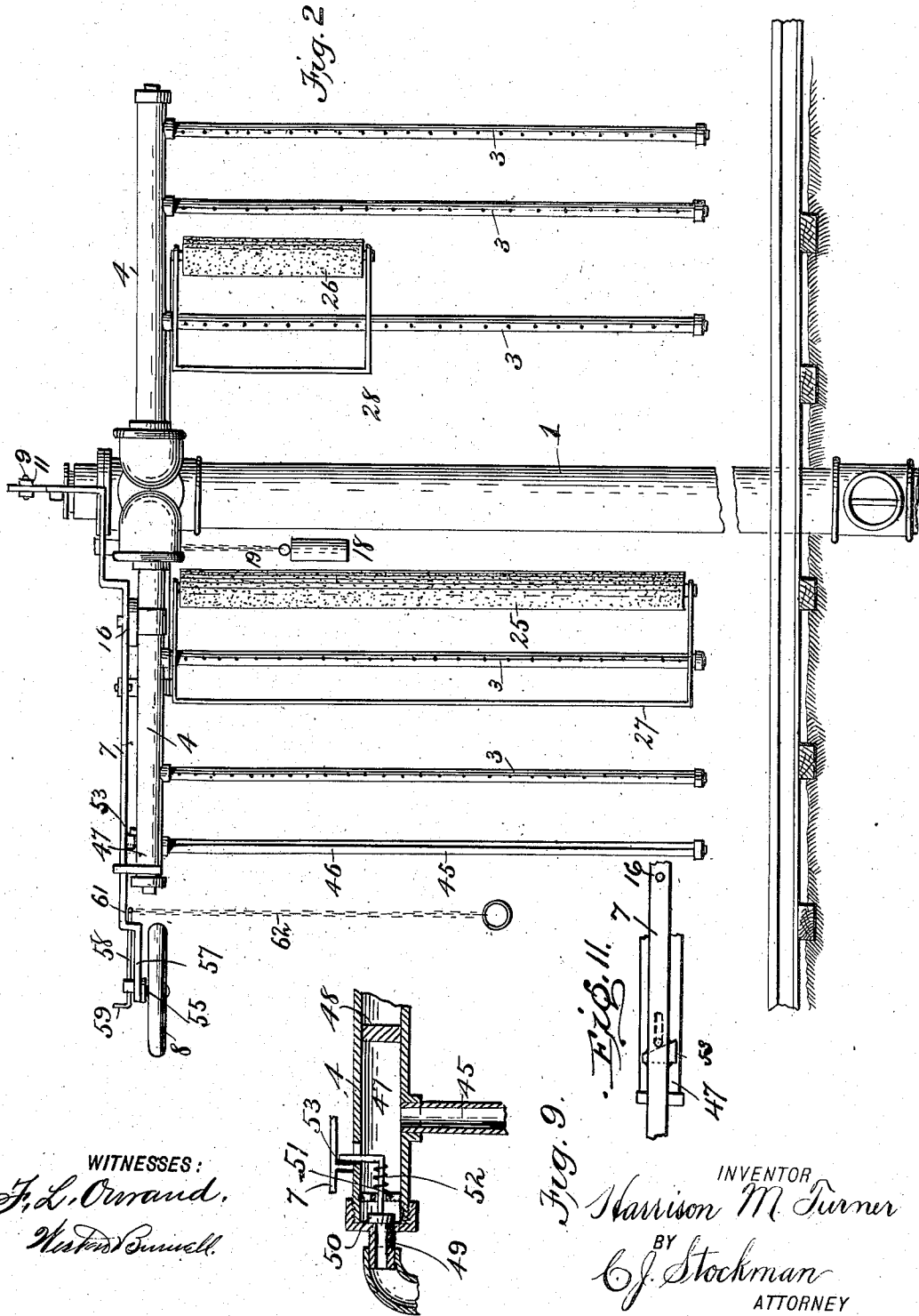
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4 SHEETS—SHEET 2.



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Fig. 9.

Fig. 11.

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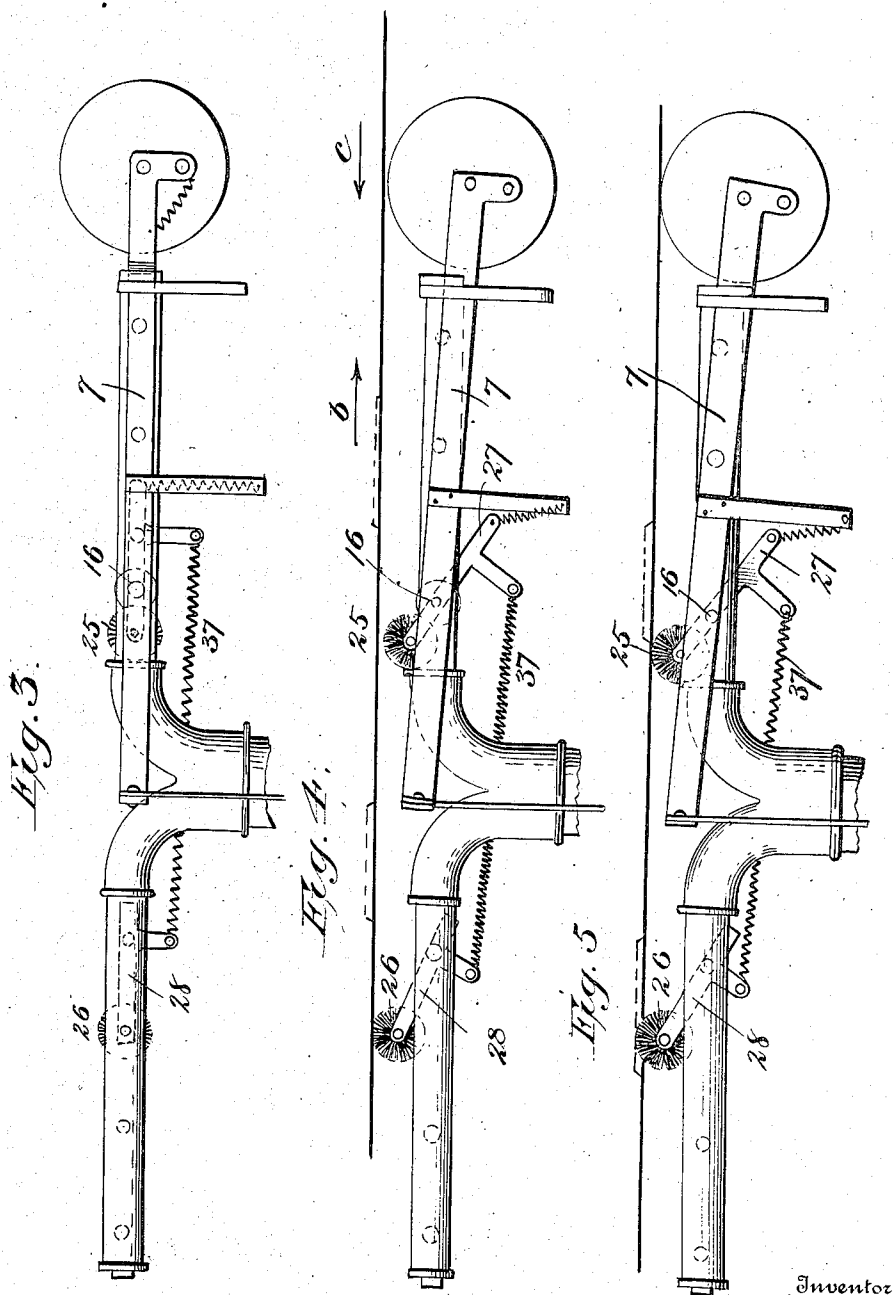
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4 SHEETS—SHEET 3.



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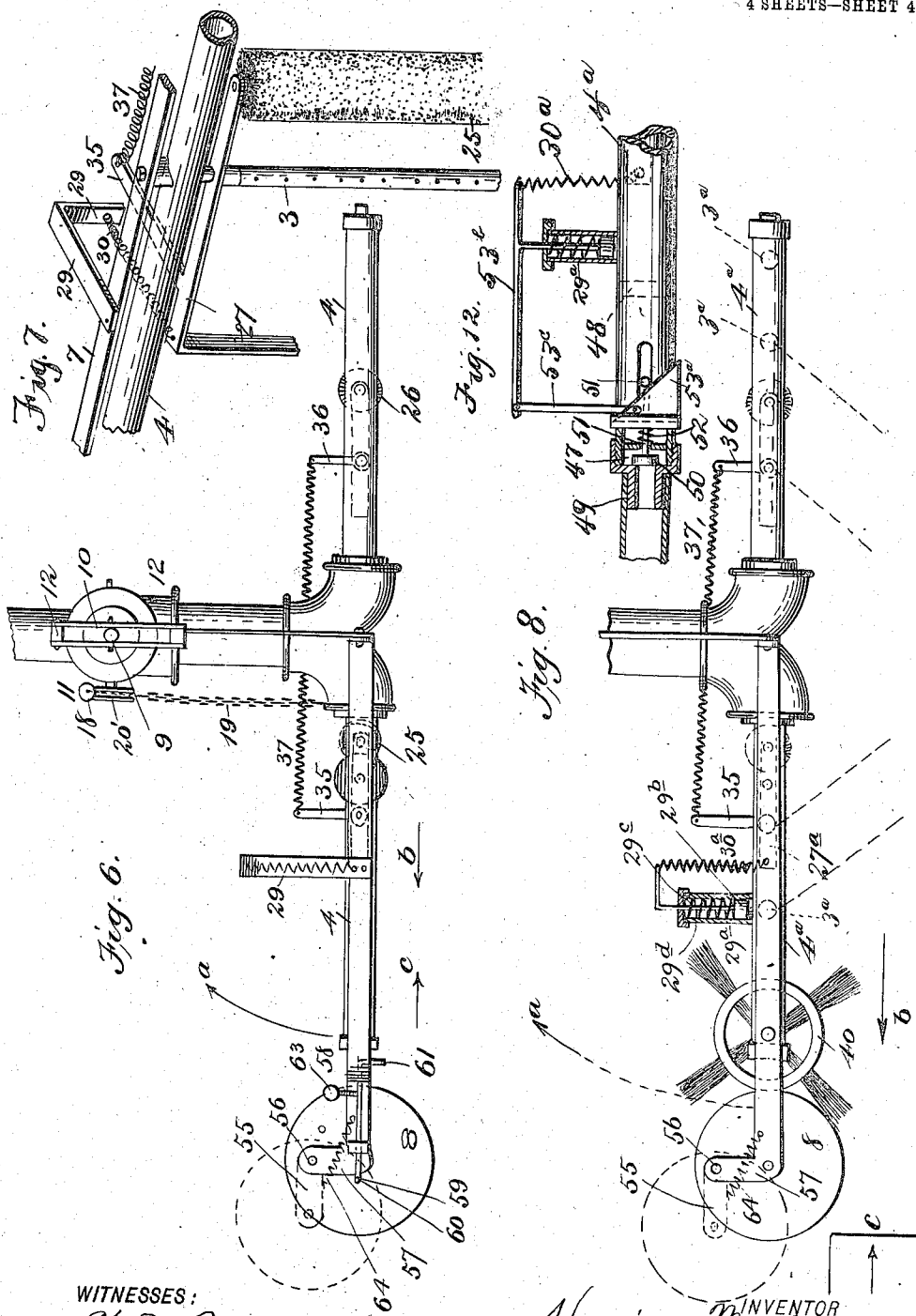
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

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CAR-CLEANING APPARATUS.

No. 894,920.

Specification of Letters Patent.

Patented Aug. 4, 1908.

Application filed September 29, 1902, Serial No. 125,330. Renewed December 30, 1907. Serial No. 408,696.

To all whom it may concern:

Be it known that I, HARRISON M. TURNER, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Car-Cleaning Apparatus; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in apparatuses for cleansing the exteriors of railway and other cars and consists in certain peculiarities in the construction of parts and in certain novel combinations and arrangements of elements substantially as hereinafter described and particularly set forth in the subjoined claims.

Among the important objects of the present invention the following may be specially mentioned, namely first, the provision of a cleansing means for the exteriors of railway and other cars, having valve-controlled water-supplying means and brushes, with means by which the valve thereof will be opened and the brushes adjusted into operative position, simultaneously or approximately so; second, the provision of a cleansing apparatus for the exteriors of railway and other cars wherein the turning on of the water and the adjustment of the brush or brushes into operative position will be automatically controlled by the car to be cleansed thereby; third, the provision, in a car cleansing means, of brushes for cleansing the sides of the car body and the car windows, respectively, so connected with each other that in the adjustment of the same into working position movement imparted to one will be transmitted to the other, and one will have movement relatively to the other whereby they may accomplish their respective functions without interfering with each other. These and other objects and advantages of the invention are accomplished by the construction shown in the accompanying drawings, in which:—

Figure 1 is an end elevation of a car cleaning system embracing the improvements with a car in position to be cleaned. Fig. 2 is a side elevation of one side of the system.

Figs. 3, 4 and 5 are plan views showing different positions of the brush-adjusting parts assumed thereby in the adjustments of the brushes into operative positions. Fig. 6 is a plan view showing the normal positions of the parts and also showing in full and dotted lines respectively, the head adjusted into and out of operative position. Fig. 7 is a perspective view particularly showing the connection between the actuating lever and the brush frame. Fig. 8 is a plan view showing a different construction of means for adjusting the brush frame into operative position. Fig. 9 (Sheet 2), is a detail view of a different dusting means, and Fig. 10 is a view showing a different means for slow bleeding. Fig. 11 is a detail plan view of a part of the lever and branch pipe, showing the wedge on the lever for opening the air valve, and Fig. 12 is a detail view showing a preferred means for operating the air valve automatically when the lever 7 is not employed.

The same reference characters designate the same parts in the several views.

1 designates a standpipe preferably employed in the apparatus as a part of the water-supplying system; said standpipe being connected with the pipe 2, which opens into the bottom thereof and is connected with a suitable source of water supply. A discharge pipe 3, or, preferably, a series of discharge pipes as shown, are connected with the standpipe 1 and supplied thereby with the water which assists the brushes hereinafter described to cleanse the exterior of the car. When said series of discharge pipes are employed they project from branch pipes 4 arranged to have communication with the standpipe 1.

A suitably located valve 5 controls the supply of water to the discharge pipes. The opening of this valve to permit supply of water to the discharge pipe or pipes is accomplished by a suitable means which preferably includes a lever 7 pivoted at a suitable place and connected with the valve so that when turned pivotally it will open said valve. Said lever is well adapted to support a head 8 arranged to be engaged by the car to be cleansed and to be pushed aside thereby, thus turning the lever 7 and forcing the valve 5 from its seat, whereby the turning on of the water is controlled automatically by the car to be cleansed. Any suitable means may be employed for transmitting movement from

said lever 7 to the valve. The one shown in the accompanying drawing is well adapted to the purpose. It comprises a stem 5^a for the valve, extended to the outside of the standpipe and having lateral pins 9 which engage elongated slots 10 formed in arms 11 which are arranged at opposite sides of the upper end of said stem, said arms being connected with each other at their ends, as shown at 12, and being carried by levers 13, 13 pivotally connected with the same at their upper ends and pivoted to suitable supports 14 at their lower ends. A link 15 connects the lever 7 with one of said levers 13. In this construction, the lever 7 is fulcrumed between its ends, at 16. It will be seen that when the head 8 is struck and pushed aside by the car to be cleansed, the power end of said lever 7 is caused to move in the same direction, thus turning the other end of the lever and moving the link in the direction of the arrow, *a*, thereby moving the arms 11 bodily and in the arc of a circle and causing the same to impose pressure on the stem 5^a and depress the valve 5 from its seat 6. The parts are held in this position while the car is engaged with the head 8, and to automatically return the parts to their previous positions when said car has passed from the position in which it is being cleansed, a weight 18 connected with the lever 7 by a cord or chain 19 passing over a pulley 20 may be employed.

To obviate the necessity of reopening the valve by each car of a train to be cleansed, any suitable means are preferably provided for retarding the closure of the valve, which means may desirably be composed of a piston 21 mounted on the valve stem 5^a and located in a chamber 22 arranged above the standpipe 1; said chamber having provision for slow bleeding. It will be observed that space is provided around the valve stem 5^a for the passage of water from the standpipe 1 into the chamber 22 and that the diameter of the piston 21 is less than that of the chamber 22, whereby, when the valve 5 is open, water will flow from the standpipe 1 into the chamber 22 and above the piston 21, and as the piston ascends the water above the same will slowly return to the standpipe. In Fig. 10 a different means for the same purpose is provided, wherein the piston 21* has a flap valve 22* which will be raised by the pressure of the water and permit water to flow into the portion of the chamber above said piston, and said chamber has a cock or valve 23* leading from it through which the water is slowly forced by the upward movement of the piston. The upward movement of the stem 5^a will thus be resisted by the pressure of the water exerted on the piston 21 carried by said stem, which pressure is slowly reduced by the provision of the small outlet from said chamber.

The structure thus far described is similar to that shown, described and claimed in my copending application No. 125,329 for which reason it is not claimed herein, *per se*.

The discharge outlets of the pipes 3 are preferably such as to discharge the water in jets, as it is intended in the present invention to employ brushes 25 and 26 therewith to clean the cars, but said outlets may be otherwise constructed without departing from the spirit of the invention.

The brush 25 is designed to clean the side of the car body and it is therefore of a length approximately equal to the height of said body: and said brush 26 is intended to clean the car windows and is of a length and so arranged as to adapt it to be projected into the window frame. These brushes are normally located out of operative position and may be held in said normal position by any suitable means which will adapt them to be adjusted into operative position. They are carried by pivoted frames 27 and 28, respectively, which are operated to turn them into and out of operative position. With the construction of water conducting and discharge pipes hereinabove described, said frames may desirably be swiveled on the discharge pipes 3 so as to be supported thereby and to turn thereon.

A very advantageous feature of the present construction consists in turning the brushes automatically into operative position simultaneously with the opening of the valve 5. Two means for this purpose are shown in the accompanying drawings as examples of means suitable for the purpose. In the first of said means (shown best in Figs. 3—7, inclusive) one of the brush-carrying frames is connected with the valve-operating lever 7 and turned thereby, and in the other construction shown best in Fig. 8 the frame is connected with means which are operated to turn said frame by the pressure of water when the valve is open.

Referring to said first construction, it will be seen that the lever 7 is provided with an arm having a depending portion 29 connected with the end of the frame 27 remote from the brush 25, so that when the portion of said lever which carries said arm is moved outward away from the car track or car the end of the frame connected will move in the same direction, thus carrying said brush toward said track and car. In order that said frame may partake of both inward and outward movements of said lever and at the same time be properly held in its work notwithstanding irregularities in the surface to be cleansed thereby, without requiring that the bristles be flexed or bent to an undesirable extent, the means which connects its frame 27 with the arm 29 is preferably in the form of a spring or elastic rod 30 which will transmit movement from one to the other

when both are free to move and will yield to permit one to have movement relatively to the other when pressure is imposed on said one in a direction in which the other is held against moving. The frame and lever thus move together in the adjustment of the parts into and out of operative position and at the same time said brush is held firmly to its work and yields to irregularities therein and effectively reaches every part of the surface to be cleansed thereby. The other of said examples of means which may be employed for turning the brush frame automatically into operative position is shown best in Fig. 8 upon reference to which it will be seen that the branch pipe 4^a from which the discharge pipe 3^a extends is provided with a lateral chamber 29^a in which there is located a piston 29^b, the stem 29^c of which is projected to the outside of the chamber and is provided within said chamber with a spring 29^d which presses the piston toward the inlet end of said chamber. The outer end of the stem 29^c is connected with the frame 27^a (shown in dotted lines) by the elastic rod or spring 30^a. It will be seen that when the valve 5 in the standpipe is opened to permit water to flow to said branch pipe 4^a and discharge pipes 3^a, the pressure of the water will be exerted on the piston 29^b and will overcome the power of the spring 29^d and force the piston outward and consequently cause said piston through its stem 29^c and the rod 30^a to pull upon the frame 27^a and adjust the brushes into working position. When the water pressure is reduced or ceases, the spring 29^d becomes operative to return the piston, brush frame and connected parts to their respective original position.

Thus far the construction has been described with reference to cleansing one side of the car only at a time, which would necessitate reversal of the car to clean the other side thereof. It is not altogether essential to the present invention, although it is preferred, that means be employed at the other side of the track for cleaning the side of the car presented thereto, and when said means are employed they may without departing from the spirit of the invention be wholly independent of each other, and they may be of similar or different construction. What is considered to be the most practical arrangement, however, is to provide, at the other side of the track, branch pipes 31 connected with the water supply system above the valve 5 by pipes 31^a and 31^b, the former of which extends from said branch pipe and is embedded below the track. Thus, the opening of the valve will cause the pipes at both sides of the track to be supplied. Discharge pipes 3^a, which may be similar to those above described, extend from said branch pipes 31. The brushes at this side of the track may be similar to those above described and be car-

ried by frames which may be operated by a lever and head similar to those above described, but it is preferably operated by the pressure of water in the branch pipes 31 to which end said branch pipe is provided, as shown at 33; with a suitable device for said purpose. The means for this purpose, shown in Fig. 1, are identical with the device for a similar purpose, shown in Fig. 8.

The frames 27 and 28 are connected by means of the arms 35 and 36 and connecting device 37, whereby the movement imparted to the frame 27 will be transmitted to the frame 28 and the two thus caused to move together. In order that these two frames may move variably so that they may accomplish their respective functions without being interfered with by each other, the connecting device 37 is engaged with the arms 35 and 36 at different distances from the pivotal points of the brush frames respectively, its point of connection with the arms 35 being farther from the pivotal place of the frame 27 than is the place of its connection with the arm 36 from the pivotal place of the frame 28, whereby the brush-carrying end of said frame 28 moves somewhat faster than the brush-carrying end of frame 27, and during the same period of movement as that of said frame 27 will travel sufficiently farther than the same to adapt its brush to enter the window casing and reach the glass therein while the other frame carries its brush into engagement with the side of the body of the car. With a rigid connection device 37 between the arms 35 and 36, if the brush 26 strikes the side of the car-body instead of a window thereof its movement will be stopped thereby before the brush 25 reaches its operative position and before the lever 7 reaches its full extent of travel, and it will stop or interfere with the movement of said parts; and to overcome this disadvantage without preventing the movement of brush 26 into its effective working position, said connection 37 is elastic as shown. It is shown as a spring which normally is open and inactive and is stiff enough to transmit movement from arm 35 to arm 36 and cause the brush 26 to move into operative position simultaneously with brush 25. When, however, the brush 26 has reached the side of the car body before the brush 25 has reached its working position, the movement of the former is stopped by its engagement with the car while the brush 25 continues its movement until it also reaches said side and is stopped thereby. During its said continued movement the spring 37 yields and is compressed, thus attaining a tension which is sufficient to force the brush 26 into the window casing and into engagement with the window therein when the movement of the car being cleaned has brought said window opposite said brush. This yieldable con-

necting means also permits the brush 26 to ride into and out of the several window-casings of the car, the spring thereof being put under tension as the car rides out of one casing sufficient to force it into the succeeding casing and it also tends to hold the brush 25 to its work.

A dusting adjunct operating on the car in advance of the brushes above described is preferably employed. Said dusting adjunct, as in my application No. 125,329, referred to, may be a rotative brush 40 provided with a roller to be rotated by frictional contact or other suitable connection with the head 8 (which latter is shown as a roller which will obviously be rotated by frictional contact with the car to be cleansed) as shown in Fig. 8; or said dusting adjunct may be compressed air, or other dry fluid under pressure. When compressed air, for example, is utilized as the dusting adjunct, which, however, is not broadly claimed herein, for the reason that it is shown, described and constitutes the preferred and claimed form of dusting means in my aforesaid copending application, a discharge pipe, or discharge pipes 45 are provided therefor, which are approximately of a length equal to the height of the car body and preferably have continuous longitudinal discharge apertures 46 in the walls thereof through which the air will be forcibly ejected in a continuous sheet which will strike the side of the car from top to bottom. With the water-supply pipes above described, it will be desirable to continue the branch pipes 4 4^a and 31 so as to provide at the end of each of the same a chamber 47 divided from the water-conducting port thereof by a wall 48, said chamber having at its outer end a suitable air-nipple 49 through which the compressed air from any suitable source, not shown, is supplied thereto. The chambers are each supplied with a suitable air-valve 50 which may be located at the inlet thereto, for controlling the discharge from the discharge pipes. To cause the air valve to be opened automatically when a car is in position to be cleansed and to be closed automatically when said car has passed out of said position, the means now to be described, or any means suitable for the purpose, may be employed:—

The air valve is provided with a stem 51 having a spring 52 thereon for pressing the valve to its seat and it is moved from its seat automatically by the engagement with the up-turned end of its stem 51 of a wedge-shaped device which is moved to bring its wider portion into engagement with said up-turned end of the stem when it is desired to open the valve and is moved in the reverse direction to permit the spring to seat said valve. When the brush-frame 27 is connected with the lever 7 (see Figs. 2, 9 and 11) said wedge, designated 53, is attached to said lever: but when said brush-frame is operated by the

pressure of water through the means for said purpose illustrated in Fig. 1 at the side of the system which does not contain said lever and also in Fig. 12; the wedge shaped device (53^a) may be suitably connected with the piston stem 29^c for example by the means shown in said figures which comprise a link 53^c pivoted to said wedge 53^a at one end and having its other end pivoted to a lateral extension 53^b from said piston stem 29^c.

It may sometimes be desirable to secure the device temporarily against being operated by a passing car, which is preferably accomplished by adjusting the head 8 out of the path of said car. To this end said head is, as shown, described and claimed in my copending application aforesaid pivoted on one end of a lever 55 the other end of which is pivoted at 56 to the free end of a lateral extension 57 from the free end of the lever 7. Normally the lever 55 underlies the extension 57 throughout its length, but it can be adjusted upon its pivot 56 to thereby carry the head out of the path of a passing car, as shown in dotted lines in Figs. 6 and 8. To lock it in the latter position there may be employed an axially movable bolt 58 having its ends bent in different directions, one, 59, to engage a perforation 60 in said head, and the other, 61, to attach an operating cord 62 to. A weight 63 will serve automatically to turn the bolt axially to its normal position when the end 59 of said bolt is disengaged from said head, and a spring 64 will automatically return and hold said lever 55 and head in their said normal positions.

Obviously, with the construction thus far described, a car approaching the device from the direction of the arrow *b*, when the parts are in their normal positions with the head 8 in the path of said car, will press upon said head and turn it with its lever 55 outward on the pivot 56, relatively to the lever 7, without moving the latter and hence without operating the valve 6. Thus said car will not be cleansed. But if it is desired automatically to cleanse cars approaching from either direction, the same may be accomplished by adjusting the bolt-end 59 downward across the path of the lever 55 thus preventing movement of said lever and the head 8 relatively to the lever 7 and locking the parts together so that the lever 7 will partake of the outward movement of the head when the latter is struck by a car approaching from the direction indicated by the arrow *c* as well as partake of the outward movement of said head when the same is engaged by a car approaching from the direction indicated by the arrow *b*.

It will be observed that the present application embodies separate instrumentalities for removing the loose dust upon, and the dirt adhering to the car side, respectively, and that said instrumentalities are arranged

in operative succession in the order named, along the length of the car to be cleaned, and that both of said instrumentalities are set into operation by mechanism operated by the car. The former of said instrumentalities, to wit, the dusting means, is preferably composed, as shown, of a dusting brush, but other means for the purpose may be employed without departing from the spirit of the invention in its broadest aspect; among which may be mentioned, means, such as shown, for ejecting compressed air or other dry fluid against the car. And the other of said instrumentalities, to wit, the cleaning means proper, in the particular embodiment herein shown to exemplify the invention, performs its function by scrubbing the car side, but other means for accomplishing the latter step of the cleaning operation are considered to be within the scope of claims which do not expressly include scrubbing means.

Having thus described the invention what is believed to be new and desired to be secured by Letters Patent, is:—

1. In a car cleaning apparatus, the combination of a brush normally located out of operative position, and means for automatically adjusting the brush into operative position, said means having a device actuated by the car to operate the same.

2. A car cleaning apparatus, comprising a pivoted brush-carrying frame, and an adjusting lever therefor, said lever being operated by the car to adjust said frame.

3. In a car cleaning apparatus, the combination of brushes for cleaning the side of a car body and the car windows respectively, pivoted frames carrying said brushes, a yieldable connection between said frames, said frames being normally adjusted to hold the brushes out of operative position, and means operated to adjust the same into operative position.

4. In a car cleaning apparatus, the combination of brushes for cleaning the side of a car body and the car windows respectively, pivoted frames carrying said brushes, means for adjusting one of said frames to carry its brush into and out of operative position, and a connection between said frame and the other frame for transmitting motion from one to the other.

5. In a car cleaning apparatus, the combination of brushes for cleaning the side of the car body and the car windows respectively, pivoted frames carrying said brushes, means for adjusting one of said frames, to thereby carry its brush into and out of operative position, arms extending from said frame and means connecting one of said arms with the other of the same, said connecting means engaging the arms at different distances from the pivots of the frames, respectively.

6. In a car cleaning apparatus, the combination of brushes for cleaning the side of the

car body and the car windows, respectively, pivoted frames carrying said brushes, means for adjusting one of said frames to thereby carry its brush into and out of operative position, arms extending from said frames and a yieldable connecting means for said arms engaging the same at different distances from the pivots of the frames, respectively.

7. In a car cleaning apparatus, the combination of a pivoted brush-carrying frame, and an adjusting means therefor, said adjusting means having a head arranged in the path of a car to be cleaned and provided with a yieldable connection with said frame.

8. In a car cleaning apparatus, the combination of a pivoted frame, a brush carried thereby, said frame and brush being normally retracted from cleaning position, and means for adjusting the same into operative position, said adjusting means having a head arranged to be operated by the car to be cleaned and connections between said head and frame.

9. In a car cleaning apparatus, the combination of pivoted frames, brushes carried thereby for cleaning the side of the car body and the car windows, respectively, means connecting one of said frames with the other, and adjusting means connected with one of said frames and having a head arranged in the path of the car to be cleaned.

10. In a car cleaning apparatus, the combination of pivoted frames, brushes carried thereby for cleaning the side of the car body and the car windows, respectively, yieldable means connecting one of said frames with the other, and an adjusting means connected with one of said frames and having a head arranged in the path of the car to be cleaned.

11. In a car cleaning apparatus, the combination of pivoted frames, brushes carried thereby for cleaning the side of the car body and the car windows respectively, arms extending from said frames, connecting means for the arms engaging the same at different distances from the pivots of the frames, respectively, and an adjusting means connected with one of said frames and having a head arranged in the path of the car to be cleaned.

12. In a car cleaning apparatus, the combination of pivoted frames, brushes carried thereby for cleaning the sides of the car body and the car windows respectively, arms extending from said frames, yieldable connecting means for said arms engaging the same at different distances from the pivots of the frames respectively, and an adjusting means connected with one of said frames and having a head arranged in the path of the car to be cleaned.

13. In a car cleaning apparatus, the combination with pivoted brush-carrying frames connected to move together, of means for au-

tomatically adjusting the same, said means having a lever provided with a head arranged in the path of the car to be cleaned.

14. In a car cleaning apparatus, the combination with pivoted brush-carrying frames connected to move together, of means for automatically adjusting the same under the control of the car to be cleaned, comprising a lever having connection with said frames and provided with a head arranged in the path of said car, and a returning means operating automatically in opposition to said lever.

15. In a car cleaning apparatus, the combination with water supplying means having a valve, and means operated to open said valve, of a brush normally located out of operative position and means for automatically adjusting said brush into operative position as said valve is opened.

16. In a car cleaning apparatus, the combination with water supplying means having a valve, of a brush normally located out of operative position, and adjusting means for said valve and brush, having a lever actuated to open the valve and adjust the brush into operative position.

17. In a car cleaning apparatus, the combination with water supplying means having a valve, of a brush normally located out of operative position, and adjusting means for said valve and brush, said adjusting means having a lever actuated to open the valve and adjust the brush into operative position and a head connected with said lever and arranged in the path of the car to be cleaned so as to cause said lever to be adjusted automatically by said car.

18. In a car cleaning apparatus, the combination with water supplying means having a valve, of a pair of brushes for cleaning the side of the car body and the car windows, respectively, pivoted frames carrying said brushes, connections between said frames for operating one from the other, and adjusting means for the valve and frame having a lever actuated to adjust the same.

19. In a car cleaning apparatus, the combination with water supplying means, having a valve, of brushes for cleaning the side of the car body and the car windows, respectively, pivoted frames carrying said brushes, connections between said frames for operating one from the other, and adjusting means for the valve and frames having a lever actuated to adjust the same and a head connected with said lever and arranged in the path of the car to be cleaned.

20. In a car cleaning apparatus, the combination with water supplying means, having a valve, of brushes for cleaning the side of the car body and the car windows respectively, pivoted frames carrying said brushes, yieldable connections between said frames, and adjusting means for the valve and frames having a lever actuated to adjust the same.

21. In a car cleaning apparatus, the combination with water supplying means, having a valve, of brushes for cleaning the side of the car body and the car windows respectively, pivoted frames carrying said brushes, yieldable connections between said frames, and adjusting means for the valve and frames having a lever actuated to adjust the same and provided with a head arranged in the path of the car to be cleaned.

22. In a car cleaning apparatus, the combination with water supplying means, having a valve, of brushes for cleaning the side of the car body and the car windows, respectively, pivoted frames carrying said brushes, and means for adjusting said brushes at different speeds with respect to each other.

23. In a car cleaning apparatus, the combination with water supplying means having a valve, of brushes for cleaning the side of the car body and the car windows respectively, pivoted frames carrying said brushes, and means for adjusting said frames at different speeds with respect to each other, said means having a head arranged in the path of the car.

24. In a car cleaning apparatus, the combination with water supplying means having a valve, of brushes for cleaning the side of the car and the car windows respectively, pivoted frames carrying said brushes, arms connected with said frames, a yieldable connection for said arms, engaged with the same at different distances from the pivots of the frames respectively, and means operated to adjust said frames and open said valve.

25. In a car cleaning apparatus, the combination with water supplying means having a valve, of brushes for cleaning the side of the car and the car windows respectively, pivoted frames carrying said brushes, arms connected with said frames, a yieldable connection for said arms, engaged with the same at different distances from the pivots of the frames respectively, and means operated to adjust said frames and open said valve automatically, having a lever connected with said valve and provided with a head arranged in the path of the car to be cleaned.

26. In a car cleaning apparatus, the combination of a pivoted brush-carrying frame, and an adjusting means therefor having a yielding connection therewith.

27. In a car cleaning apparatus, the combination of pivoted brush-carrying frames connected to move together, brushes in said frames of different lengths, and an adjusting means therefor having a yielding connection with one of said frames.

28. In a car cleaning apparatus, the combination of pivoted frames, a yieldable means connecting said frames together, brushes of different lengths in said frames, and an adjustable means therefor having a yielding connection with one of said frames.

29. In a car cleaning apparatus, the combination of pivoted frames having arms, a yieldable connecting means for said arms connected with the same at different distances from the pivotal points of the frames respectively, and an adjusting means therefor having a yielding connection with one of said frames.

30. In a car cleaning apparatus, the combination of a pivoted brush carrying frame, and an adjusting means therefor having a yielding connection therewith, with a water supplying means having a valve also connected with said adjusting means.

31. In a car cleaning apparatus, the combination of a pivoted brush-carrying frame, and a lever having a means arranged in the path of the car to be cleaned, said lever having a yielding connection with said frame, with a water supplying means having a valve connected with said lever.

32. In a car cleaning apparatus, the combination of pivoted frames, brushes of different lengths therein, a yieldable connection between said frames, an adjusting means for said frames having a yieldable connection with one of the same, and a water supplying means having a valve connected with said adjusting means.

33. In a car cleaning apparatus, the combination of pivoted frames, brushes of different lengths therein, a yieldable connection between said frames, a lever having a head arranged in the path of the car to be cleaned, a yieldable means connecting said lever with one of said frames, and a water supplying means having a valve connected with said adjusting means.

34. In a car cleaning apparatus, the combination with pivoted frames, brushes of different lengths therein, means connecting said frames with each other, operating to adjust one from the other at different speeds, means operated to adjust said brushes, and having a yieldable connection with one of the same, and a water supplying means having a valve connected with said brush-adjusting means.

35. In a car cleaning apparatus, the combination with pivoted frames having arms, brushes of different lengths in said frames, a yieldable connecting means having its ends engaged with said arms at different distances from the pivotal points of the frames, and a water conducting means having a valve, of an actuating lever, connections between said lever and valve and a yielding connection between said lever and one of said frames.

36. In a car cleaning apparatus, the combination with pivoted frames having arms, brushes of different lengths in said frames, a yieldable connecting means having its ends engaged with said arms at different distances from the pivotal points of the frames, and a water conducting means having a valve, of a

lever connected with said valve and having a head arranged in the path of the car to be cleaned, and a yielding connection between said lever and one of said frames.

37. In a car cleaning apparatus, the combination of a pivoted brush carrying frame, a lever for adjusting the same, said lever having a head arranged in the path of the car to be cleaned, a returning means for said lever and frame, and means for retarding the return thereof.

38. In a car cleaning apparatus, the combination of pivoted brush-carrying frames, brushes of different lengths therein, means for adjusting one of said frames by motion transmitted from the other of the same, a lever connected with one of said frames and having a head arranged in the path of the car to be cleaned, a returning means for said lever and frames, and means for retarding the return thereof.

39. In a car cleaning apparatus, the combination with water supplying means having a valve, of pivoted brush carrying frames, brushes of different lengths therein, means for adjusting one of said frames by motion transmitted from the other of the same, a lever connected with one of said frames and with said valve and having a head arranged in the path of the car to be cleaned, a returning means for said parts, and means for retarding the return thereof.

40. In a car cleaning apparatus, the combination of a pivoted brush carrying frame and its brush, a water supplying means having a valve and a valve stem, a chamber subjected to the pressure of water in said water supplying means, said chamber having provision for slow bleeding, a piston in said chamber, mounted on said stem, a lever, connections between said lever and stem, a head carried by said lever and arranged in the path of the car to be cleaned, connection between said lever and frame, and a returning means connected with said lever, said parts operating for the purposes and in the manner set forth.

41. A car cleaning apparatus, comprising a dusting means, a scrubbing means, and a common actuating means for the same controlled by the car to be cleaned.

42. A car cleaning apparatus, comprising a dusting means, a scrubbing means, and a common actuating means for the same, comprising a lever connected with the dusting and scrubbing means so as to control the operations thereof and provided with a device to be engaged by said car for causing said lever to be adjusted in one direction.

43. A car cleaning apparatus comprising separate dusting and cleaning instrumentalities, operating the former in advance of the latter, said cleaning instrumentality having a water supplying means and a brush, a lever

and means by which movement of said lever sets into operation said dusting and cleaning instrumentalities.

44. A car cleansing apparatus, comprising separate dusting and cleaning instrumentalities, operating the former in advance of the latter, said cleaning instrumentality comprising a pivoted brush-carrying frame and a water-supplying means having a valve; a lever, means operated by said lever for adjusting said valve from its seat, means for adjusting said frame when the lever is moved to open the valve, and means operated by the lever to operate said dusting instrumentality.

45. A car cleansing apparatus comprising separate dusting and cleaning instrumentalities, operating the former in advance of the latter, said cleaning instrumentality comprising a pivoted brush-carrying frame and a water supplying means provided with a valve; a lever connected with said valve and frame for adjusting the same, said lever having a head arranged in the path of the car to be cleaned, whereby it is adjusted by said car, and means whereby said lever operates said dusting instrumentality.

46. A car cleaning apparatus, comprising a cleaning mechanism, a rotary dusting brush, and means for operating said cleaning mechanism and brush, said operating means having a roller adapted to be rotated by the car being cleaned and to rotate said brush.

47. A car cleaning apparatus, comprising a cleaning mechanism, a rotary dusting brush having a roller, and means for operating said cleaning means, said operating mechanism having a roller adapted to be rotated by frictional contact with the car being cleaned and to transmit movement to the roller of said brush.

48. A car cleaning apparatus, comprising a cleaning mechanism, a rotary dusting brush, and adjustable means connected with said cleaning mechanism and brush for controlling the operation of both of the same.

49. A car cleaning apparatus, comprising a pivoted brush-carrying frame, a lever connected therewith and having a rotative head arranged in the path of the car to be cleaned, and a rotative dusting brush operated by said head.

50. A car cleaning apparatus, comprising water supplying means having a valve, a pivoted brush-carrying frame, and a rotative dusting brush, of a lever connected with said valve and controlling the adjustment of said frame, and a rotative head carried by said lever and arranged in the path of the car to be cleaned, said head being connected with said brush to rotate the same.

51. In a car cleaning apparatus, the combination with a pivoted brush-carrying frame, of a lever operated to adjust the same, a head carried by said lever and normally ar-

ranged in the path of the car to be cleaned and means for adjusting said head out of the path of said car.

52. In a car cleaning apparatus, the combination with a pivoted brush-carrying frame, of a lever operated to adjust the same, said lever having a lateral extension at one end, an arm pivoted at one end to said extension, a head carried by the other end of said arm and adjustable therewith, and a locking means for said head.

53. In a car cleaning apparatus, the combination with a pivoted brush-carrying frame, of a lever operated to adjust the same, said lever having a lateral extension at one end, an arm pivoted at one end to one end of said extension, a spring connecting said arm with the lever, a head carried by the other end of said arm and adjustable therewith, and a bolt on said extension for locking said head and arm in both of their adjustments relatively to said extension.

54. In a car cleaning apparatus, the combination with a pivoted brush-carrying frame and a water-supplying means having a valve, of a lever actuated to open said valve and to adjust said frame, a head carried by said lever and normally arranged in the path of the car to be cleaned and means for adjusting said head out of the path of said car.

55. In a car cleaning apparatus, the combination with a pivoted brush-carrying frame and a water-supplying means having a valve, of a lever actuated to open said valve and to adjust said frame, said lever having a lateral extension at one end, an arm pivoted at one end to said extension a head carried by the other end of said arm and adjustable therewith, a spring connecting said arm with said lever, and means for locking said head and arm in both of their adjustments relatively to said extension.

56. In a car cleaning apparatus, the combination with a water supplying means having branch pipes and discharge pipes projecting therefrom, of a brush carrying frame swiveled on said discharge pipe and means for adjusting said frame around the same.

57. In a car cleaning apparatus, the combination with a water supplying means having a discharge pipe projecting therefrom, and a valve for controlling the supply to said pipe, of a brush carrying frame swiveled on said discharge pipe, a lever connected with said valve for operating the same and means for adjusting said frame when said valve is operated.

58. In a car cleaning apparatus, the combination with a water supplying means having a discharge pipe projecting therefrom, and a valve for controlling the supply to said pipe, of a brush-carrying frame swiveled on said discharge pipe, and a lever connected with said valve and frame for adjusting both of the same.

59. In a car cleaning apparatus, the combination with a water supplying means having a discharge pipe projecting therefrom, and a valve for controlling the supply to said pipe, of a brush-carrying frame swiveled on said discharge pipe, a lever connected with said valve and having a head arranged in the path of the car to be cleaned, and means for adjusting said frame when said valve is operated. 15

10 60. In a car cleaning apparatus, the combination with a water supplying means having a discharge pipe projecting therefrom, and a valve for controlling the supply to said

In testimony whereof, I affix my signature, 20
in presence of two witnesses.

HARRISON M. TURNER.

Witnesses:

JOSIAH B. GATLINGTH,
E. S. FOOTE.