July 28, 1959 G. R. TOMPKINS 2,896,857

WASHING APPARATUS

Original Filed Oct. 28, 1955

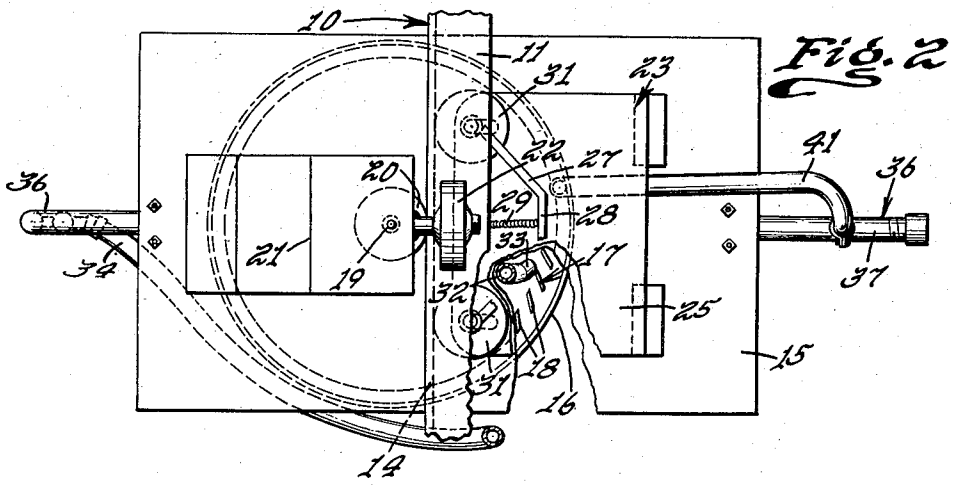


Fig. 2

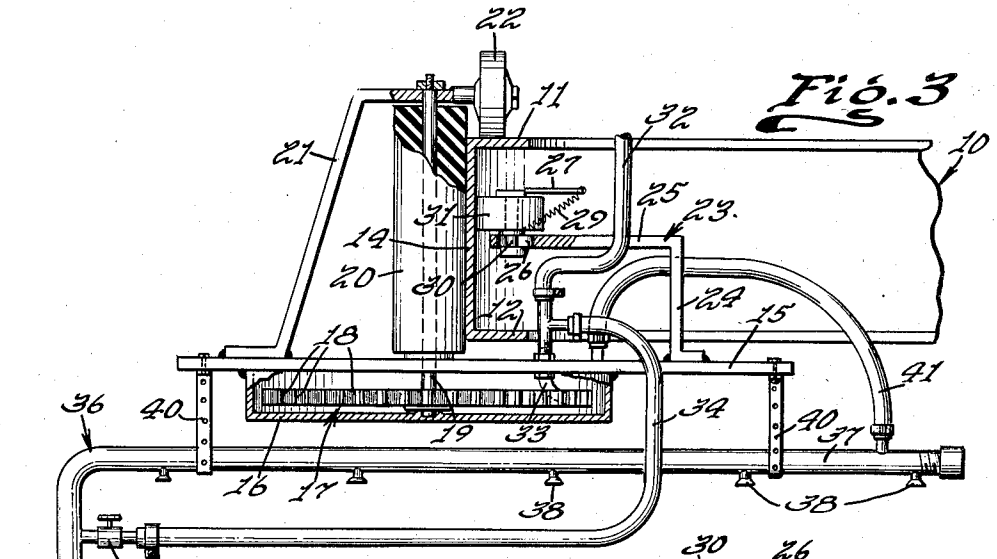


Fig. 3

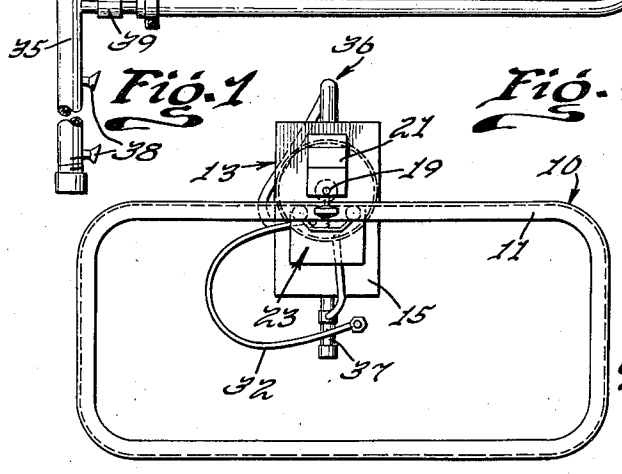


Fig. 1

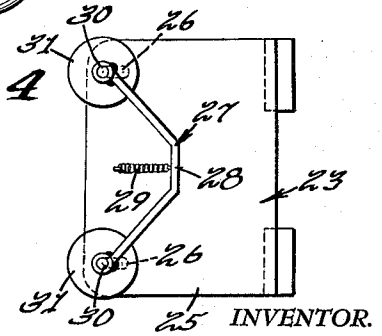


Fig. 4

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WASHING APPARATUS

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Substituted for abandoned application Serial No. 543,455, October 28, 1955. This application October 22, 1956, Serial No. 617,596

5 Claims. (Cl. 239—185)

This invention relates to washing apparatus, and more particularly to an apparatus for use in washing vehicles, being a substitute for my application Serial No. 543,455, filed October 28, 1955, now abandoned.

The object of the invention is to provide a washing apparatus which includes a movable carriage that is adapted to travel around a trackway due to the pressure of the water so that all of the various surfaces of the vehicle can be thoroughly and effectively washed.

Another object of the invention is to provide a water powered vehicle washing apparatus wherein a carriage revolves or travels around the vehicle to spray water under pressure to all of the various surfaces of the vehicle so that the dirt or other foreign matter will be readily removed from the vehicle.

A further object of the invention is to provide a vehicle washing apparatus which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Fig. 1 is a plan view illustrating the vehicle washing apparatus of the present invention,

Fig. 2 is an enlarged plan view of the carriage, with parts broken away and in section,

Fig. 3 is a view taken at right angles to the view shown in Fig. 2, and with parts broken away and in section, and

Fig. 4 is a plan view illustrating the bracket and rollers.

Referring in detail to the drawings, the numeral **10** designates a track which is continuous as shown in Fig. 1, and the track **10** may be U-shaped in cross section as shown in Fig. 3, so that the track can include upper and lower flanges or walls **11** and **12**, and a vertically disposed web or wall **14**. Movably mounted on the track **10** is a carriage **13** which includes a plate **15** that is positioned below the track **10**. Secured below the plate **15** in any suitable manner, as for example by welding, is a hollow casing **16** which has a rotatable turbine wheel **17** rotatably mounted therein. The turbine wheel **17** is provided with a plurality of impeller blades or vanes **18**, Fig. 2.

A shaft **19** has its lower end connected to the turbine wheel **17**, and a roller **20** which may be made of yieldable material such as rubber is mounted on the upper portion of the shaft **19**. A support member **21** has its lower end secured to the plate **15**, while the upper end of the support member **21** engages the top of the shaft **19**. A guide wheel or roller **22** is journaled on the end of the support member **21**, and the guide wheel **22** engages the top flange **11**, Fig. 3.

There is further provided a bracket which is indicated generally by the numeral **23**, and the bracket **23** includes a vertically disposed portion **24** which may be secured to the plate **15**. The bracket **23** further includes a horizontally disposed portion **25** which is provided with a pair of slots **26**, Fig. 4. A cross piece **27** includes an intermediate offset portion **28**, and a coil spring **29** has one end connected to the offset portion **28**, while the other end of the coil spring **29** is connected to the bracket **23**. Shaft members **30** are movably mounted in the slots **26**, and rollers or wheels **31** are mounted on the shaft members **30** and engage the inner surface of the web **14**.

There is further provided a conduit **32** which is adapted to be connected to a suitable source of water under pressure, and the conduit **32** has its inner or lower end **33** arranged contiguous to the blades **18** of the turbine wheel **17**. A conduit **34** leads from the conduit **32** to the vertical portion **35** of an L-shaped tube **36**, and the tube **36** also includes a horizontal portion **37**. A plurality of spray nozzles **38** may be secured to the tube **36** for the egress therethrough of water onto the vehicle, and a manually operable valve **39** may be interposed in the conduit **34**. Clamps or brackets **40** may be provided for securing the tube **36** to the plate **15**. A conduit **41** leads from the casing **16** to the horizontal portion **37** of the tube **36**.

From the foregoing, it is apparent that there has been provided an apparatus which is especially suitable for use in washing vehicles such as automobiles. In use, the track **10** can be supported in any suitable manner, and the conduit **32** can be connected to a suitable source of water supply under pressure, and the conduit **32** may be provided with a universal joint. Then, as the water passes through the conduit **32**, it impinges against the blades **18** of the turbine wheel **17** to thereby rotate the wheel **17**. As the wheel rotates, the shaft **19** rotates and this in turn rotates the roller **20** and since the roller **20** bears against the web **14**, the carriage **13** which includes the plate **15** will travel all around the track **10**. The water will then leave the casing **16** and pass out through the conduit **41** and enter the horizontal portion **37** of the tube **36**. Also, some water will pass through the conduit **34** into the vertical portion **35** of the tube **36** and this water will issue out the spray nozzles **38** onto the automobile to thereby clean the automobile. Thus, the automobile will be sprayed with water from a moving member so that all surfaces of the vehicle will be cleaned. The rollers **31** are urged against the inner surface of the web **14** by means of the spring **29** so that the rollers **31** coact with the roller **20** to insure that the carirage will travel around the trackway. The valve **39** can be manually controlled as desired.

The carriage revolves around the vehicle and travels on the track **10**. The track **10** may have an oblong or rectangular shape and the plate **15** supports the L-shaped pipe or tube **36** which sprays or rinses one portion of the car at a time to thereby allow the operator to be free to sweep the interior of the car from the opposite side. If desired, an electric motor can be used to propel the device. The tube **32** may have a swivel connection connected thereto so that the hose can follow the carriage around the track. As the roller **20** rotates, the carriage moves since the roller **20** is held in contact with the track by the spring loaded rollers **31**. The water issuing out through the spray heads **38** is under lower pressure than the water supply because some of the pressure is lost in the motor. The valve **39** controls the passage of water and also regulates the speed of the water motor. With the present invention the number of personnel required to wash a car is greatly reduced and also the cost of the device is extremely small. The spring **29** provides sufficient give so that the device can go around corners of the track. The guide roller **22** helps keep the carriage in its proper position.

I claim:

1. A vehicle washing apparatus comprising a closed track having a horizontally disposed flange and a vertically disposed flange, a carriage movably mounted on

said track and adapted to be power driven and including a horizontally disposed support member, a casing secured to the lower surface of said support member, a turbine wheel rotatably mounted in said casing and including a plurality of blades, means for rotating said turbine wheel, a vertically disposed shaft extending upwardly from said casing and projecting through said support member, a roller mounted on said shaft and having driving engagement with the outer surface of said vertically disposed flange, a second support member secured to said first support and to the top of said shaft, a guide wheel journaled on said second support member and engaging said horizontally disposed flange, a bracket secured to said first support member and extending upwardly, shaft members on said bracket and having rollers mounted thereon engaging the inner surface of said vertical flange, and a generally L-shaped fluid discharge means mounted below said first support member and carried thereby.

2. A vehicle washing apparatus as defined in claim 1, said bracket having a pair of slots, said shaft members extending through said slots and supported and guided therein, and spring means acting upon said shaft members to urge said rollers and shaft and shaft members toward said vertical flange.

3. A vehicle washing apparatus as defined in claim 2 wherein said spring means takes the form of a cross piece extending between said shaft members and secured thereto, said cross piece including an intermediate offset portion and a coil spring having one end connected to said offset portion and its other end connected to said bracket.

4. In a vehicle washing apparatus, a closed track U-shaped in cross section and including upper and lower horizontally disposed flanges and a vertically disposed web, a carriage movably mounted on said track and including a horizontally disposed plate, a casing secured to the lower surface of said plate, a turbine wheel rotatably mounted in said casing and including a plurality of blades, a vertically disposed shaft extending upwardly from said casing and projecting through said plate, a roller mounted on said shaft and frictionally engaging the outer surface of said web, a support member secured to said plate and to the top of said shaft, a guide wheel journaled on said support member and engaging the uppermost flange, a

bracket secured to said plate and extending upwardly therefrom and said bracket including a vertically disposed section and a horizontally disposed section, there being a pair of slots in said horizontally disposed section of said bracket, shaft members extending through said slots and having rollers mounted thereon engaging the inner surface of said web, an L-shaped fluid discharge tube mounted below said plate, a plurality of spray nozzles connected to said tube, a cross piece extending between said shaft members and secured thereto, said cross piece including an intermediate offset portion, a coil spring having one end connected to the offset portion of said cross piece and its other end connected to said bracket, a first conduit adapted to be connected to a source of supply of water having its lower end arranged contiguous to the blades of said turbine wheel, said tube including a horizontally disposed portion and a vertically disposed portion, a second conduit leading from said tube, and a third conduit leading from said casing to the horizontal portion of said tube.

5. A vehicle washing apparatus for washing the top and side surfaces of the vehicle comprising a spray head mechanism having a generally L-shaped arrangement of spray nozzles and adapted to extend above and partly across the vehicle being washed and along the side thereof, an endless generally rectangular track corresponding generally to the length and width of the vehicle to be washed and adapted to be supported above the vehicle, carriage support means for said head mechanism movably mounted on said track, drive means in operative driving connection with said support means for moving said support means about said track and hence said head around the vehicle to be washed, said head mechanism depending below said track from said support means.

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