

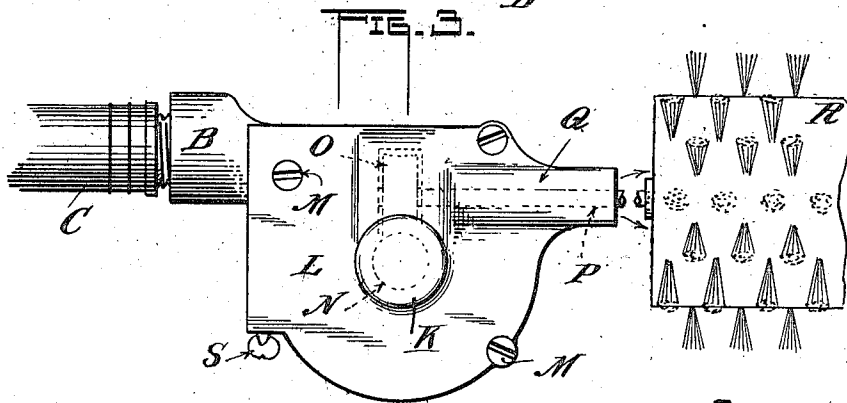
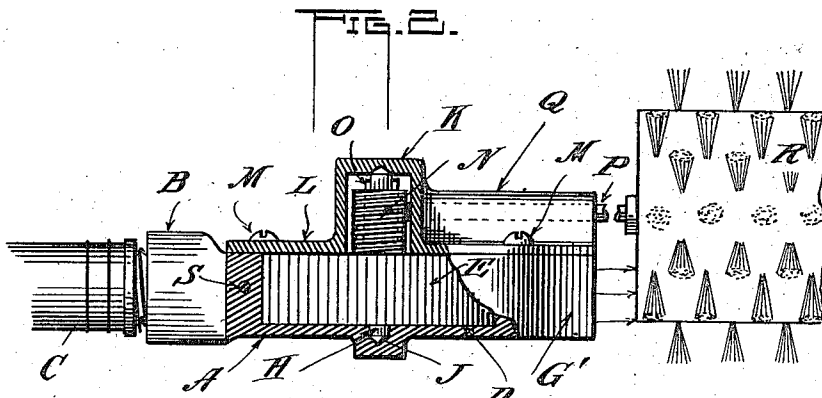
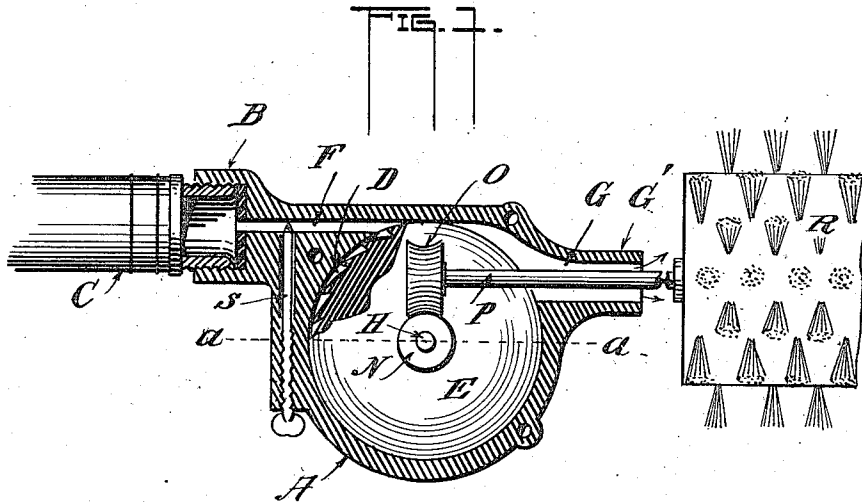
S. M. McLAUGHLIN & H. A. GAINER.

VEHICLE WASHER.

APPLICATION FILED MAY 18, 1914.

1,210,962.

Patented Jan. 2, 1917.



WITNESSES -

Eunice Beckum.

Marie Dacey

INVENTORS

Samuel M. McLaughlin,

Henry A. Gainer,

By L. M. Hurlon Atty.

UNITED STATES PATENT OFFICE.

SAMUEL M. McLAUGHLIN AND HENRY A. GAINER, OF MINIER, ILLINOIS.

VEHICLE-WASHER.

1,210,962.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, SAMUEL M. McLAUGHLIN and HENRY A. GAINER, citizens of the United States, residing at Minier, in the county of Tazewell and State of Illinois, have invented certain new and useful Improvements in Vehicle-Washers; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in vehicle washers.

It relates more particularly to a rotatable brush or like device driven by means of a water wheel inclosed in a device to be held in the hand and connected with a hose or other conductor for water under pressure.

The object of the invention is to provide a powerful form of washer involving novel construction which includes a rotatable brush arranged to turn at a high speed into which water can be discharged and in which the cost of manufacturing the device may be kept quite low.

Still another object is to construct a device of very simple form that can be assembled and disassembled by anyone and that will be low in cost of manufacture.

With these objects in view as well as directing the invention to certain details of construction we shall proceed to the description of the invention, aided by the accompanying drawing forming a part of this application, in which,

Figure 1 is a horizontal section of the vehicle washer showing a brush and a shaft for carrying it and a water wheel and parts in connection with it. Fig. 2 is a side elevation of the device showing parts in vertical section taken on line *a a*, Fig. 1, and Fig. 3 is a plan of the complete device.

A represents the body of the device which may be a casting or which may be formed from sheet metal. It has a part B to which to attach a hose C, there being a recess D in the body to receive a water-wheel E of any approved form, there also being a passage F through which the water from the hose C is discharged against the periphery of the wheel E to drive it, the water being discharged through a large outlet G in a nozzle G'.

The wheel E is supported in any suitable manner by means of its shaft H one end of

the latter resting in a suitable socket J in the bottom of the casing while its other end, which is considerably longer, has a bearing in a housing portion K of a cap or cover plate L secured upon the top of the casing by means of screws M, for example. The said housing K incloses a worm N secured relative to the shaft H and the wheel E and said housing also incloses a worm wheel O secured on a shaft P which has its bearing in a portion Q of the said cover plate L, as shown in Figs. 2 and 3.

A brush R is secured on the shaft P and as shown in Fig. 2 receives remote from the shaft the discharge of water from the nozzle G'.

S is a needle valve which is adjustable in the casing A its point extending into and across the passage F for controlling the flow of water passing therethrough. Said needle valve is arranged in such a way that it is entirely protected by the casing and cannot become injured or bent by rough usage. The ends of the shaft H of the water wheel are preferably conical and rest in sockets of similar form so that the water-wheel will turn quite freely and therefore will set up the very least resistance to its rotation. The flow of water through the passage F upon the wheel will rotate the latter at an extremely high speed together with the worm, and its rotation results in a high speed of rotation of the brush through the worm wheel O and shaft P and as the operator can force the brush with more or less pressure upon the surface to be cleaned as he holds the device in his hand said brush will perform a very thorough cleaning of the surfaces.

The water leaving the nozzle G' issues under a considerable pressure and is discharged directly into the bristles of the brush which in the rotation of the latter is carried upon the surface being cleaned.

The water wheel E preferably lies entirely within the casing A in the socket D provided for it, while the worm which rotates with it extends outside the case. The cover plate L carries the shaft P together with the worm wheel O and the brush R and includes the housings already described to tightly inclose the worm and the worm wheel.

It is observed that the construction is extremely simple and the large diameter of the water wheel E and the comparatively small diameter of the worm and worm wheel pro-

duces great power at the brush R and the latter can perform very heavy duty, the resistance produced in applying the brush firmly to the surface being cleaned being insufficient to stop the rotation of said wheel.

Preferably the shaft or arbor H is provided with the coned ends to rest in the correspondingly cupped recesses as described so that the least amount of friction will be present. All of the parts are readily reached since by the removal of the cover plate L the wheel E is laid bare and can be easily lifted out and replaced on occasion and the narrow channel of passage F can be readily cleared of obstructions, and the brush and its shaft and the worm wheel all come away with said cover plate. This makes an exceedingly simple device, novel in form, and of a compact structure.

Having thus described our invention we claim:—

In a vehicle washer, the combination of a substantially flat body having a shallow circular recess, said body including a passage lying tangentially to the said recess and communicating at one end with the same, the other end of said passage terminating in a threaded bore at the edge of said body for attachment to a hose, said body also including a discharge opening communicating with said recess, a water wheel lying in said

recess and provided with projections adapted to successively receive a jet of water from said passage, a shaft on which the water wheel is mounted, the same having conical ends, the said body having a conical socket at the bottom of the recess to receive one end of said conical shaft, a worm mounted on the shaft, a cover-plate for said body having a recess therein to receive into it the said worm, there being a conical socket at the bottom of said recess to receive the other conical end of the shaft, a shaft journaled in said cover-plate perpendicular to the shaft of the said water wheel and provided with a worm-wheel to mesh with said worm, the said recess in the cover-plate receiving said worm also receiving said worm wheel, and a brush secured on the last named shaft and lying opposite the discharge opening to receive the water discharged from said discharge nozzle, the brush and its shaft and the worm-wheel being removable from the body with the said cover-plate, and means to secure the latter to the said body.

In testimony whereof we affix our signatures in presence of two witnesses.

SAMUEL M. McLAUGHLIN.
HENRY A. GAINER.

Witnesses:

L. M. THURLOW,
N. N. McLAUGHLIN.