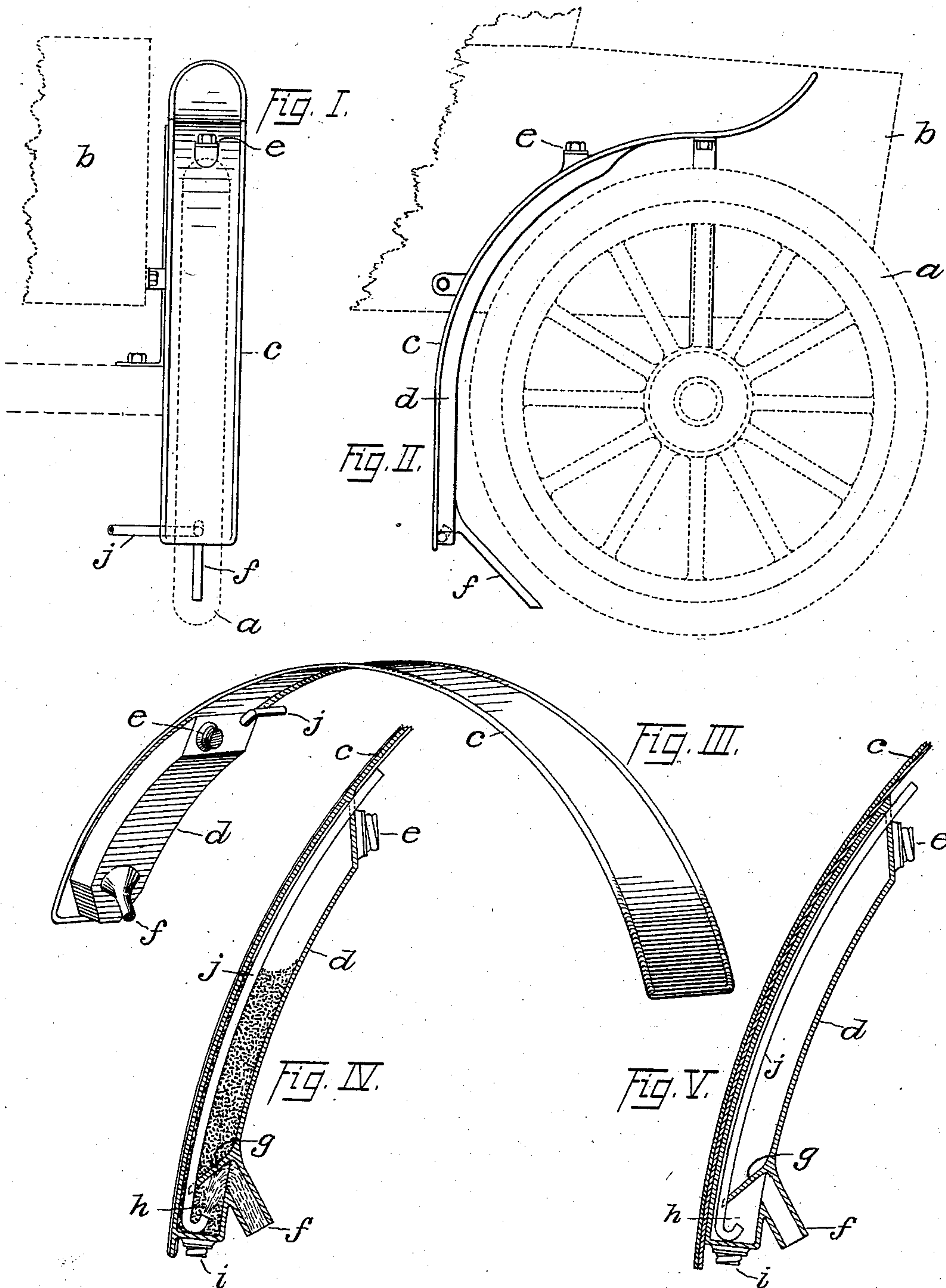


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PATENTED DEC. 8, 1903.

W. LINTERN.
WHEEL GUARD AND SANDER.
APPLICATION FILED MAR. 4, 1903.

NO MODEL.



Witnesses:
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UNITED STATES PATENT OFFICE.

WILLIAM LINTERN, OF WESTPARK, OHIO, ASSIGNOR OF ONE-FOURTH TO
EDWARD J. REDMOND, OF CLEVELAND, OHIO.

WHEEL GUARD AND SANDER.

SPECIFICATION forming part of Letters Patent No. 746,116, dated December 8, 1903.

Application filed March 4, 1903. Serial No. 146,240. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM LINTERN, a citizen of the United States, residing at Westpark, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Wheel Guards and Sanders, of which the following is a specification.

The present invention relates to wheel-guards and apparatus for distributing sand under the wheels of motor-vehicles.

The object of my invention is not only to provide a wheel guard and sander for all sorts of motor-vehicles, but also to produce a thoroughly practical and efficient device for carrying sand and supplying the same to the roadway under the traction-wheels as needed, which sanding device will also perform the functions of a mud-guard over said wheels. In other words, the prime object is to produce a device capable of combining the functions of both roadway-sander and wheel-guard.

Further objects are to provide a sander for motor-vehicles in proper position for successful operation which will distribute sand effectively and economically, which is adaptable to any desired shape of mud-guard, and which does not present an unsightly appearance or require special attachment.

I accomplish these purposes by constructing a wheel-guard hollow throughout all or a portion of its length to form a reservoir for sand and supplying the lower end thereof with a suitable trap having a conductor-pipe leading down into proximity to the under side of the wheel. Either pneumatic or mechanical means may be employed for discharging the sand; but I prefer the pneumatic system wherever it is practicable to install it and have shown a form of the last-named system herein. A hand or foot power air-pump is usually carried upon a motor-vehicle for inflating the tires, and such a pump can easily be attached to the vehicle and operatively connected with the traps of the sanding devices and also be provided with a hose-pipe for inflating the tires. A compressed-air reservoir may also be provided, if desired. In vehicles having a gas-engine the exhaust-gases can be used to operate the sanders, if desired, by tapping into the muffler at a point

that will give a small pressure and connecting through a valve to the sand-traps.

Practical embodiments of the invention are illustrated in the accompanying drawings, which form a part of this specification and in which similar characters of reference indicate corresponding parts in all the views.

Figure I of the drawings is a front elevation of a wheel-guard sander; and Fig. II is a side elevation of the same, showing the wheel and a portion of the vehicle in dotted lines. Fig. III is a perspective view of a modified form of the device, and Fig. IV is a sectional elevation of the lower end of Fig. III. Fig. V shows in sectional elevation an alternative construction in which the sand-reservoir is attached to a wheel-guard of the ordinary type.

The reference-letter *a* indicates one of the traction-wheels of the motor-vehicle, and *b* is the body thereof.

c is a wheel or mud guard attached to the vehicle in the usual or any suitable way. The forward and inner portion of said guard is made hollow, as shown at *d*, to form a reservoir for sand. The reservoir *d* may be made integral with said guard by casting, soldering, or other means, as in Fig. IV, or said reservoir may be made up complete and attached to the inner face of the guard in any suitable way, as shown in Fig. V. The latter construction is adaptable to guards made of leather or wood; but where metallic guards are employed the former construction is preferred. A filling-aperture *e*, provided with a screw-cap or other tight-fitting cover, is located in any convenient position upon or near the upper end of the reservoir *d*. A discharge-pipe *f* communicates with the reservoir through its inner face a short distance above its lower end and leads diagonally downward into proximity to the wheel and the roadway.

To prevent the sand flowing out of the reservoir when the device is not in operation, a trap or valve is required. This result I accomplish in the pneumatic system herein represented by means of the rib or retaining-plate *g*, located just above the orifice of the discharge-pipe *f*, extending diagonally down-

ward and terminating near the outer wall of the reservoir. Said rib supports the body of sand in the reservoir and prevents its flowing into the pocket *h* thereunder, except through the narrow aperture between the lower edge of the rib and the reservoir-shell. Thus the sand in the pocket *h* forms by gravity into its natural slope from the edge of the rib *g*, and if said edge is placed low enough in relation to the orifice of the discharge-pipe *f* the vibration of the vehicle will not cause the sand to spill over into the discharge-pipe.

An air-blast pipe *j* leads from a suitably-controlled compressed-air or gas supply upon the vehicle into the pocket *h* and has its discharging end so formed that the blast therefrom is directed toward the orifice of the discharge-pipe *f*, and the sand in the pocket normally covers the end of the pipe *j*. I prefer to lead said air-pipe up through the reservoir and out through its top, as shown in Figs. III, IV, and V; but where this construction is not convenient it may enter the reservoir at any other point.

In operation, as indicated in Fig. IV, the air-blast issuing from the pipe *j* carries up the sand from the layer which normally covers the end of said pipe into and through the discharge-pipe *f* to the roadway in front of the wheel, the layer being constantly replaced from the contents of the reservoir through the action of gravity.

An outlet *i*, closed by a suitable cap, is provided through which the contents of the reservoir may be discharged.

Having thus so clearly described my invention that those skilled in the art to which it appertains can make and use it, either in the form shown herein or under some modification thereof, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a motor-vehicle, of a suitable wheel-guard attached thereto

made hollow and adapted for containing sand, and means connected with said guard for distributing the sand contained therein to the roadway, substantially as set forth.

2. The combination with a motor-vehicle, of a suitable wheel-guard, a hollow reservoir upon the inner side of said guard suitable for containing sand, and means connected with said reservoir for distributing the sand contained therein to the roadway, substantially as set forth.

3. The combination with a motor-vehicle, of a hollow wheel-guard attached thereto forming a reservoir suitable for containing sand, a discharge-pipe leading from said reservoir, and operating means adapted to retain said sand within said reservoir and to discharge the same through said pipe when desired, substantially as set forth.

4. The combination with a motor-vehicle, of a hollow wheel-guard attached thereto forming a reservoir suitable for containing sand, a trap in the bottom of said reservoir, a discharge-pipe leading from said trap, and means for injecting an air-blast through the sand in said trap into said discharge-pipe, substantially as set forth.

5. The combination with a motor-vehicle, of a hollow wheel-guard attached thereto forming a reservoir suitable for containing sand, a trap in the bottom of said reservoir, a discharge-pipe leading from said trap, a blast-pipe leading into said trap having its outlet directed toward said discharge-pipe, and means for admitting pressure fluid into said blast-pipe, substantially as set forth.

In testimony whereof I affix my signature, in the presence of two subscribing witnesses, at Cleveland, Ohio, February 28, 1903.

WILLIAM LINTERN.

Witnesses:

JNO. T. SULLIVAN,
JOHN F. STRAUSS.