

No. 699,004.

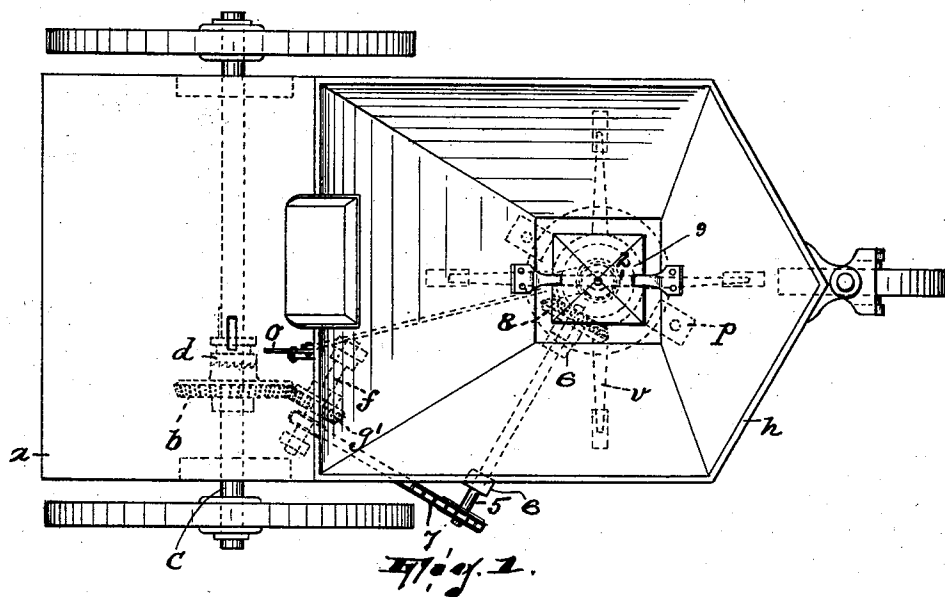
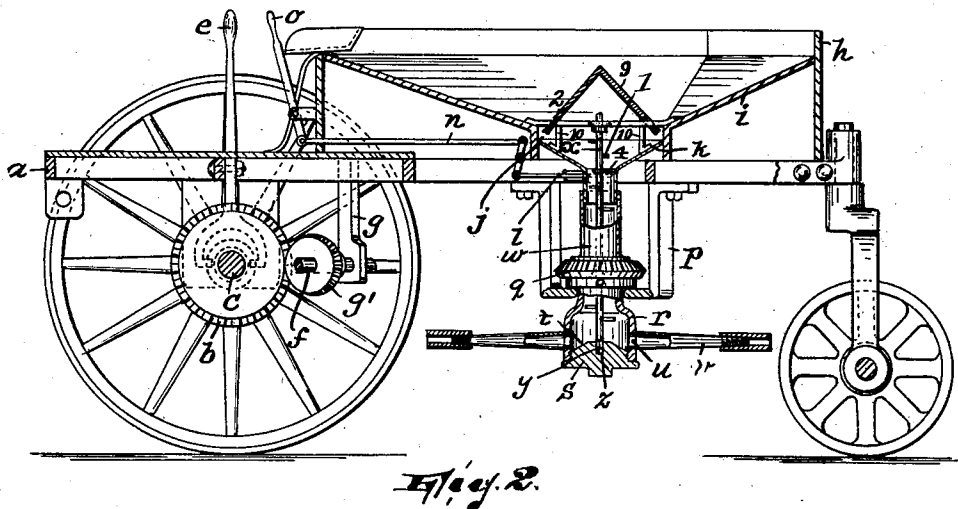
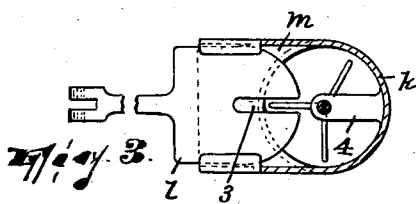
Patented Apr. 29, 1902.

C. F. O'NEIL.

SAND SPRINKLING MACHINE.

(Application filed Dec. 31, 1901.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

CORNELIUS F. O'NEIL, OF PATERSON, NEW JERSEY.

SAND-SPRINKLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 699,004, dated April 29, 1902

Application filed December 31, 1901. Serial No. 87,946. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS F. O'NEIL, a citizen of the United States, residing in Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Sand-Sprinkling Machines; and I do hereby 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 characters of reference marked thereon, which form a part of this specification.

Where it is necessary to sand a slippery pavement or sprinkle any road or other surface of considerable area with sand, the operation is at present usually effected manually, which means a great waste of time and labor.

The object of this invention, therefore, is to provide simple and effective automatic means for sprinkling or throwing sand on streets, roadways, and the like.

A further object of the invention is to so construct the mechanism that it may be readily adjusted to and removed from any vehicle, but preferably a street-sweeping machine.

My invention is fully illustrated in the accompanying drawings, wherein corresponding parts are designated by like reference characters, and wherein—

Figure 1 is a top plan view of a street-sweeping machine provided with my sanding mechanism. Fig. 2 is a view in side elevation of what is seen in Fig. 1, with the rear wheel of the machine removed and certain parts shown in section and others broken away; and Fig. 3 illustrates a detail of the invention.

In said drawings, *a* designates a street-sweeping machine from which the brush thereof and the brackets for said brush have been temporarily removed. The machine is provided, as usual, with a bevel-gear *b*, carried on the main axle *c* and adapted to be connected thereto for rotation therewith by a clutch *d*, controlled by a lever *e*. As usual, the machine is also provided with a counter-shaft *f*, suspended by brackets *g* from the frame and carrying a beveled pinion *g'*, which meshes with the gear *b*, said shaft *f* being the

shaft from which the brush when in use gets its motion.

On the frame of the machine rests a receptacle or hopper *h*, the bottom walls *i* of which slope toward a common point, where is formed an opening *j*. In this opening is fitted a funnel *k*, the passage through which is controlled by a valve or damper *l*, adapted to slide in a guiding projection *m* of said funnel. By a link-motion *n* the valve or damper is connected with a lever *o* for operating it.

p designates a stirrup which is suspended from the frame and which provides a bearing for a beveled pinion *q*. This pinion is secured to the upper end of a box or chamber *r*, which has an opening at the bottom normally closed by a plug or head *s*, which is screwed into the box or chamber and has its inner end conical in form, as at *t*. Said box or chamber is formed with side openings *u*, from which project tapering nozzles *v*. Should the sand or other material get clogged in this box or chamber, which, with its nozzles, is designed to serve as the distributing device, it may be removed by taking out the plug *s*. At the same time since the inner end of the plug is conical in form it tends to cause the sand to fall toward the openings *u* and not collect in the bottom of the chamber. The gear *q* also carries a sleeve *w*, which receives the lower or discharge end of the funnel *k*.

In order to insure against the sand becoming clogged while passing through the funnel, cylinder, and chamber, I extend through them a shaft *x*, which has its lower end squared, as at *y*, and projecting into a squared recess *z* in the plug *s*, and on this shaft place blades or breakers *1*. The upper end of this shaft has bearings in the cross-piece *2*, carried by the hopper *h*. To prevent the shaft *x* interfering with the damper *l*, the latter is formed with a slot *3*, and in order that this slot when the damper is closed may be covered the funnel *k* carries a blade *4*, designed to overlap the slot. By means of a shaft *5*, journaled in brackets *6* and connected with the counter-shaft *f* by a sprocket-and-chain arrangement *7* and a beveled pinion *8*, carried by said shaft *5* and engaging the gear *q*, the box or chamber *r*, sleeve *w*, and shaft *x* and its breakers may be rotated. Since the sand will have a tendency to clog in the open-

ing of the hopper, I prefer to partially cover said opening with a tapered or pyramid-shaped guard 9, mounted on supports 10.

In order that the throwing range of the nozzles *v* may be varied according to the area of the surface which is being sanded, I provide the said nozzles with auxiliary nozzles or tips, which may be of varying lengths, detachably secured to the nozzles *v*, so as to be interchanged at will.

It will be unnecessary to describe the operation of the mechanism other than to say that the vehicle being in motion and the damper open the sand will pass from the hopper into the box or chamber, to be there distributed by centrifugal action as the parts rotate.

The arrangement and construction of the parts of my sanding mechanism are such that with the minimum labor and inconvenience and the loss of a practically inconsiderable amount of time the brush of the machine and the sanding mechanism may be interchanged the one for the other.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In combination, with a vehicle-frame, a hopper arranged on said frame and having a discharge-opening in the lower portion thereof, the lower walls of said hopper being inclined toward said opening, a rotary receptacle arranged under said opening, a stationary funnel interposed between the hopper and said receptacle and projecting into them at its ends, means for securing said receptacle detachably to the frame, and means for rotating said receptacle, substantially as described.

2. In a distributing mechanism for sanding-machines, the combination of a suitable frame, a rotary box or chamber, means for supporting said box or chamber in the frame,

a removable plug having its top or inner end of conical form constituting the lower wall of said chamber, and discharge-nozzles projecting laterally from said box or chamber immediately above said plug, substantially as described.

3. The combination of a vehicle-frame, a hopper arranged on said frame and having an opening in its bottom portion, the bottom walls of said hopper being inclined toward said opening, a pyramidal guard arranged over said opening and spaced from said hopper at the sides thereof, a rotary receptacle arranged in said frame under said opening and having lateral discharge-openings, a shaft revoluble with said receptacle and projecting up into said hopper, breakers carried by said shaft at spaced points substantially throughout the length of said shaft, and means for rotating said receptacle, substantially as described.

4. The combination of a vehicle-frame, a hopper arranged on said frame and having an opening in its bottom portion, a rotary receptacle arranged in said frame under the opening of the hopper and having lateral discharge-openings, a sleeve surmounting said receptacle, a funnel interposed between said sleeve and the hopper and projecting into said sleeve and the opening in said hopper, a shaft revoluble with said receptacle and projecting up into the hopper through said sleeve and funnel, and laterally-projecting nozzles for said receptacle communicating with the openings therein, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 23d day of December, 1901.

CORNELIUS F. O'NEIL.

Witnesses:

ROBERT J. POLLITT,
ALFRED GARTNER.