(No Model.) 2 Sheets—Sheet 1.

R. TITCOMB.

SAND DISTRIBUTING MACHINE.

No. 379,256. Patented Mar. 13, 1888.

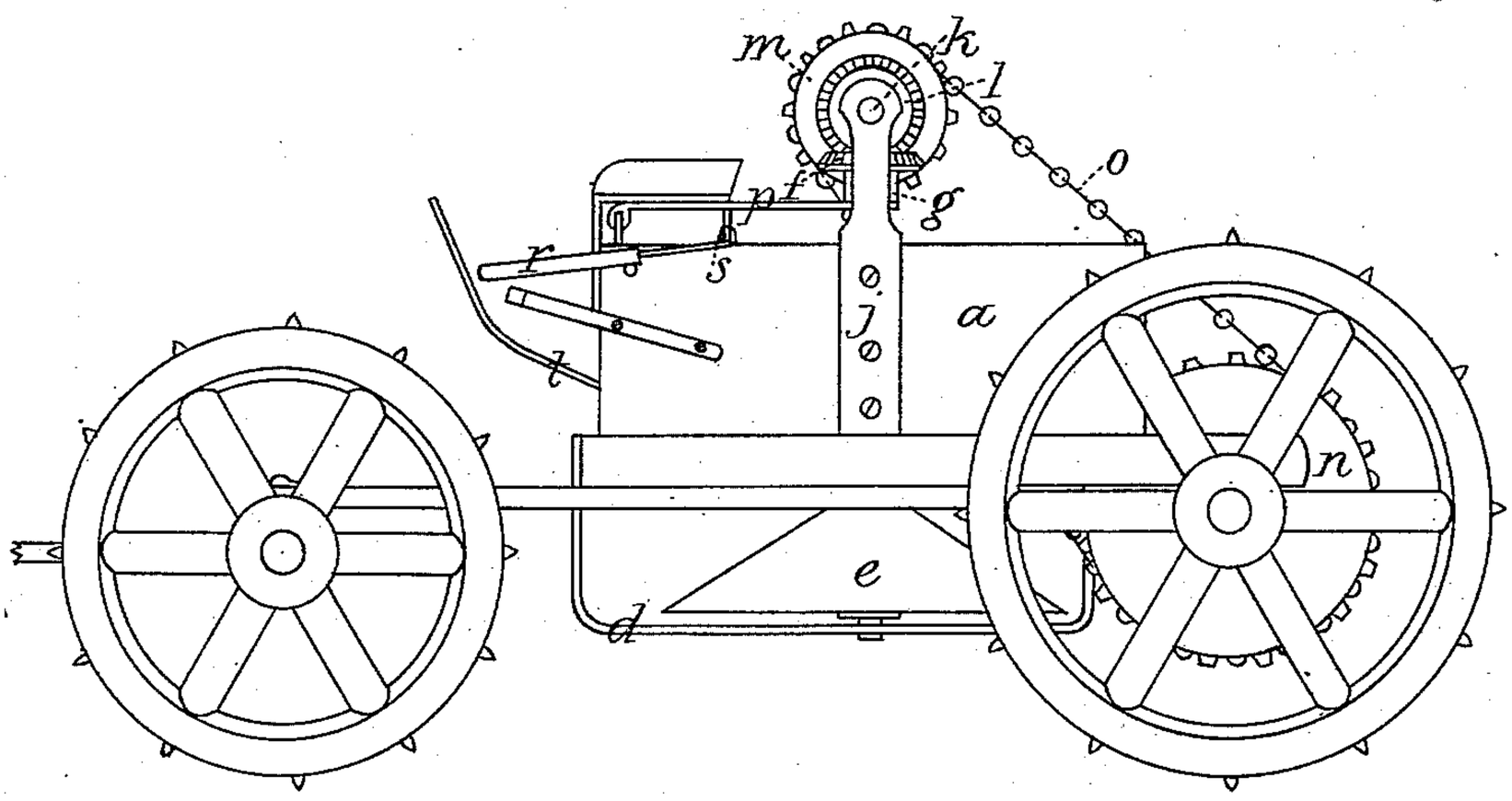

FIG. 1.

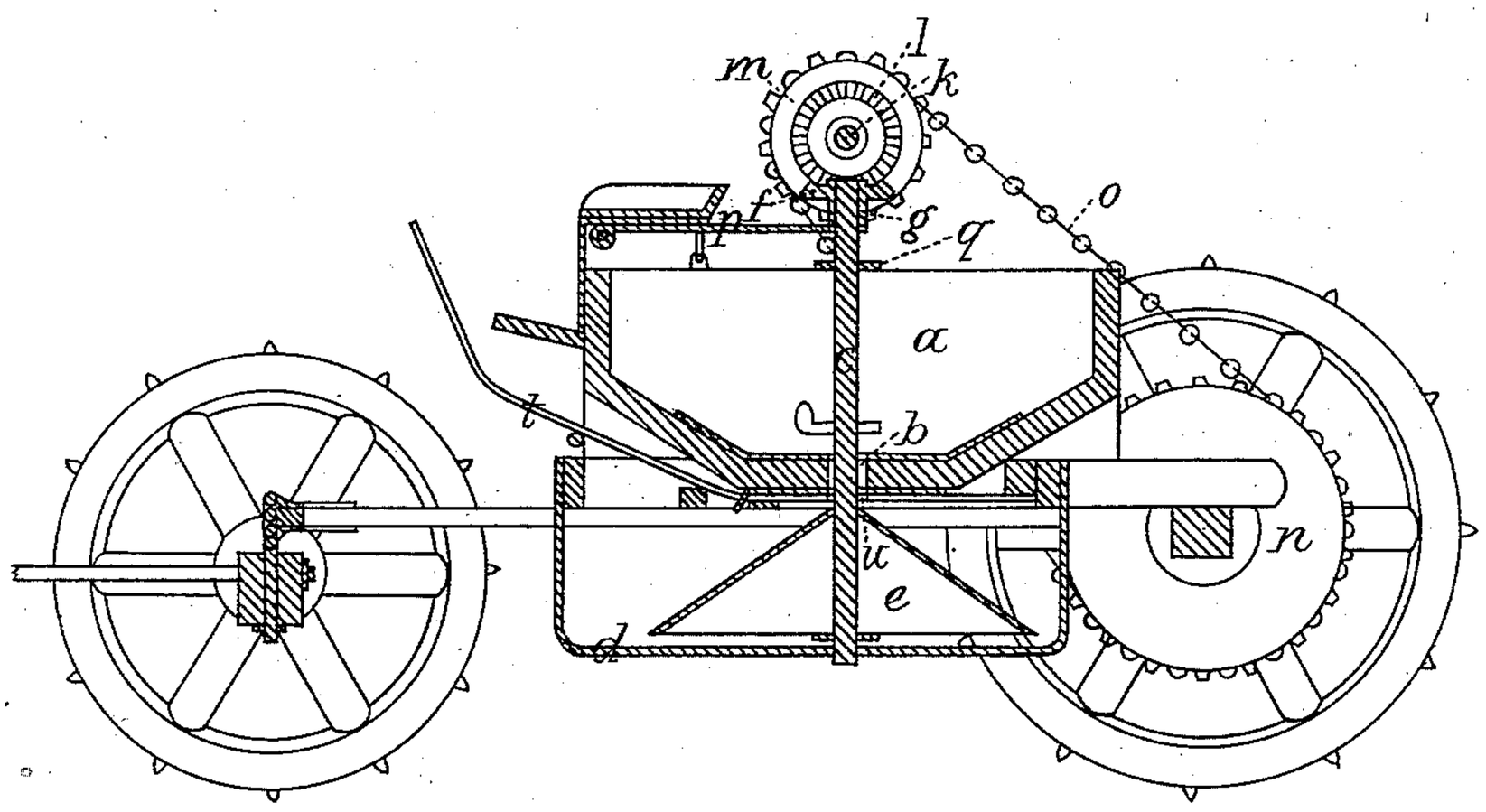

FIG. 2.

WITNESSES:

A. L. Carleton.

Chas. H. Kimball.

INVENTOR:

Roscoe Titcomb.

per atty,

Elgin Merrill.

(No Model.) 2 Sheets—Sheet 2.

R. TITCOMB.

SAND DISTRIBUTING MACHINE.

No. 379,256. Patented Mar. 13, 1888.

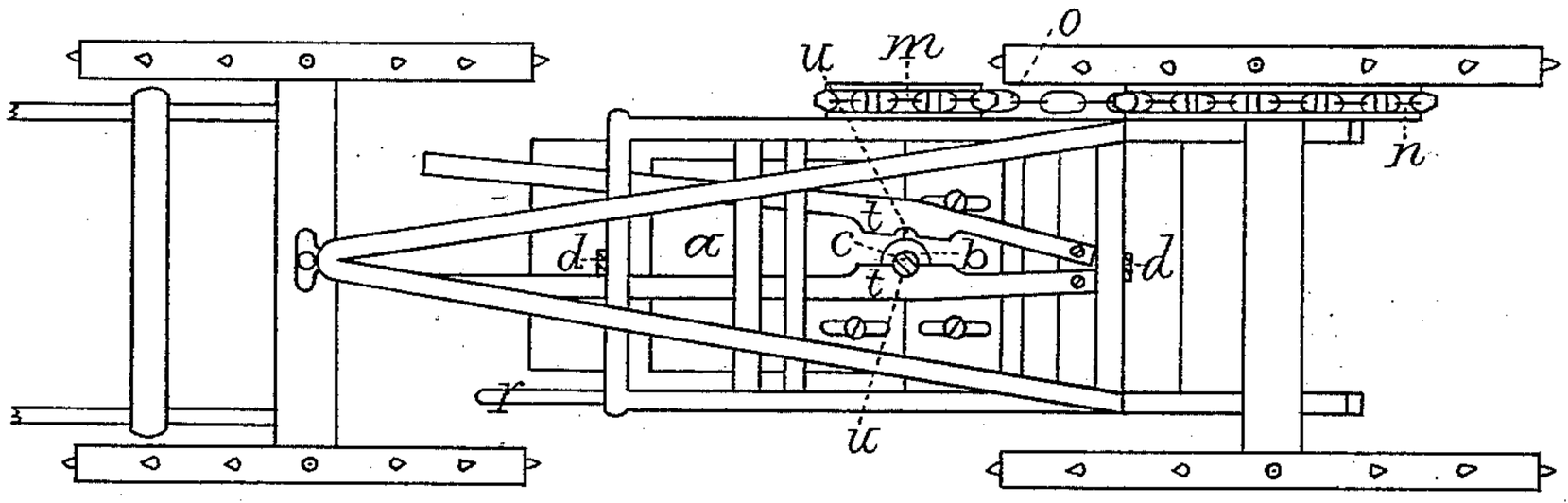

FIG. 3.

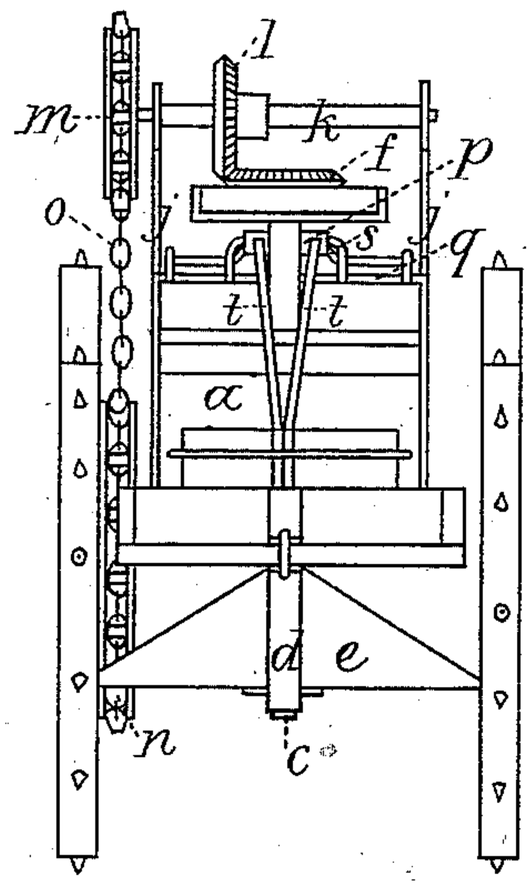

FIG. 4.

WITNESSES:

C. L. Carleton.

Chas. H. Kimball.

INVENTOR:

Roscoe Titcomb.

per atty.

Elgin Verrill.

UNITED STATES PATENT OFFICE.

ROSCOE TITCOMB, OF NORTH YARMOUTH, MAINE.

SAND-DISTRIBUTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,256, dated March 13, 1888.

Application filed July 16, 1887. Serial No. 244,539. (No model.)

To all whom it may concern:

Be it known that I, ROSCOE TITCOMB, of North Yarmouth, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Sand-Distributing Machines; and I 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a side elevation. Fig. 2 is a longitudinal section through the center. Fig. 3 is a bottom plan. Fig. 4 is a front elevation.

Same letters show like parts.

My invention relates to sand-distributing machines, and is designed to secure a rapid and even distribution of sand on icy sidewalks. It is also well suited to spread ashes and other fine fertilizers. My device may be mounted and used as a hand-machine or in a manner suitable for horses or other draft-animals.

In the annexed drawings, *a* represents a hopper to hold the sand. Through the hopper and through a hole, *b*, in the bottom thereof passes a rotating vertical shaft, *c*. The shaft *c* is stepped in a band or frame, *d*, attached to the ends and extending under the body *a*. It is held upright and steady by passing through a plate, *q*, extending across the hopper. The band *d* also serves as a guard for the scatterer or drum *e*. The shaft *c* has fingers to stir the sand and prevent packing. To the lower end of the shaft *c* is attached the scatterer or drum *e*, of conical form, cone upward, which distributes the sand. On the other or upper end of the shaft *c* is placed a loose gear, *f*, having the shoulder *g* and in said shoulder a slot. A pin extends out from the shaft *c* and through the slot to prevent the loose gear *f* from turning without carrying with it its shaft *c*. The gear *f* may thus slide up and down on the top of the shaft *c*. To the sides of the hopper are attached the upright standards *j j*, which support a horizontal shaft, *k*. On the shaft *k* is a gear, *l*, arranged so as to engage its companion gear, *f*, *f* and *l* both being beveled. The shaft *k* extends out on one side beyond the standard *j*, and to the end thereof is affixed a sprocket or pulley wheel, *m*. To the hub of the rear carriage-wheel, on the same side as the pulley *m*, is rigidly attached a pulley-wheel, *n*. Over *m* and *n* runs a chain or band, *o*. The pulleys may be plain wheels and be operated by plain belting; but the better method is to have spurs on the wheels and a meshing chain band.

The operation of this part of my device is as follows: As the carriage moves along, the wheels turn and with them turns also the pulley *n*. The band or chain *o*, passing over the pulleys *m* and *n*, rotates the shaft *k*, and the gear *l*, meshing with the gear *f*, rotates the vertical shaft *c*, and consequently the drum *e* beneath the hopper. The hopper is made with sloping sides, and the sand runs through the hole in the bottom thereof upon the drum *e*. The sand-drum, revolving as described, by its centrifugal force spreads out the sand or other material evenly and to a considerable distance.

Attached to the hopper is a plate, *p*, in such manner that it may be made to swing upwardly or downwardly at will. Through the other end of the plate *p* passes the vertical shaft *c*, the plate being directly beneath the shoulder *g* of the gear *f* or under the gear *f* itself, so that when the plate is elevated it raises also the gear *f* until it meshes with the gear *l*. The plate *p* may be operated by any convenient mechanism, one of which is by placing under it and attached to the top of the hopper a rod, *s*, bent or set off in the middle, or directly beneath the plate. This rod is provided with a lever-handle, *r*, in such manner that when the handle is pressed forward and downward the bend or set-off in the rod *s* is turned up against the plate, and the plate in turn forces and holds up the gear *f* in contact with the gear *l*. When the bend or set-off in the rod *s* is turned down, the plate drops also, and the gear *f* falls away from the gear *l* by its own weight. The object of this mechanism is to disengage the shaft *c* when the machine is not in operation, as in coming and going from the sand-bank.

Beneath the hopper and pivotally attached to it are the two slides *t t*. These may be moved to the right or left. They extend forward and are there bent up in front, so as to be within easy reach of the driver. In the inner edges of these slides *t t* and opposite the shafts *c* are

made the semicircular places *u u*, so that when they are pressed toward each other they closely encircle the shaft *c*, cover up the hole *b*, and thus prevent the sand from running out of the hopper. When they are pressed apart, the hole in the hopper is uncovered. It is plain that the hole *b* can by this contrivance be readily graduated to the desired size. It is also plain that one side only need be opened at a time, if it is desired. The objects of these slides are to graduate the flow of sand and to shut it off when desired.

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

1. In a sand-distributing machine mounted on wheels and provided with a hopper, *a*, the combination of the pulley *n*, endless band *o*, pulley *m*, horizontal shaft *k*, beveled gears *l* and *f*, vertical shaft *c*, and drum *e*, affixed rigidly to and revolving with shaft *c*, all substantially as and for the purposes hereinbefore set forth.

2. The combination, with the pulley *n*, band *o*, pulley *m*, horizontal shaft *k*, beveled gear *l*, beveled gear *f*, having shoulder *g* and slot in said shoulder, vertical shaft *c*, drum *e*, and hopper *a*, of the plate or lever *p* and the bent rod *s*, having the handle *r*, all substantially as and for the purposes hereinbefore set forth.

3. The combination, with the pulley *n*, band *o*, pulley *m*, horizontal shaft *k*, beveled gears *l* and *f*, vertical shaft *c*, drum *e*, and hopper *a*, of the shut-off plates *t t*, having the semicircular holes *u u*, all substantially as and for the purposes hereinbefore set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ROSCOE TITCOMB.

Witnesses:
WM. H. AREDENNE,
GEO. A. CLARK.