M. CHRISTIANSEN.

Improvement in Sand and Seed Ejectors.

No. 115,164. Patented May 23, 1871.

Fig. 1.

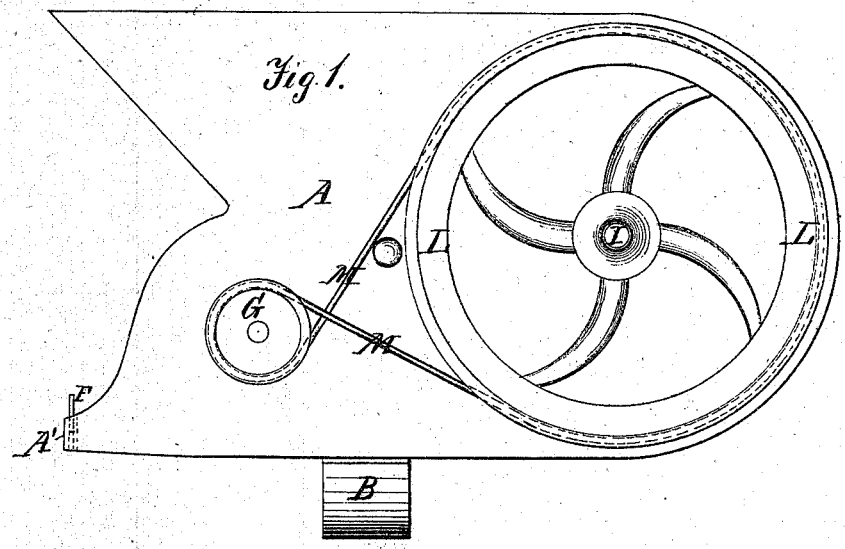
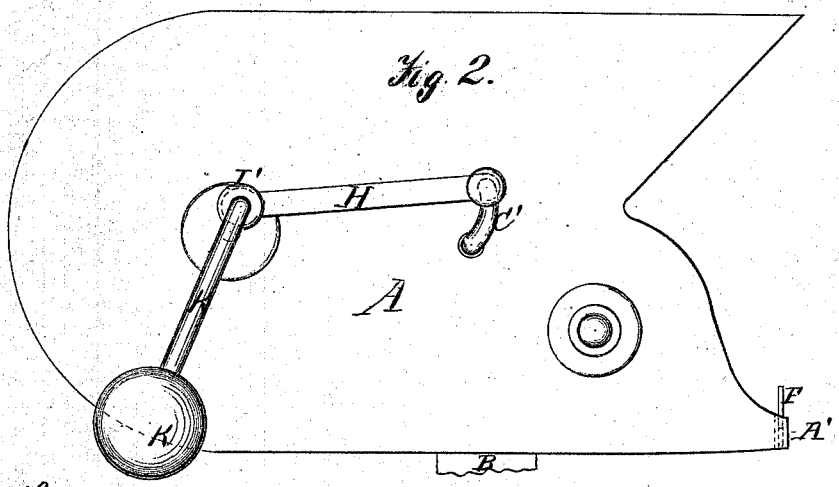


Fig. 2.



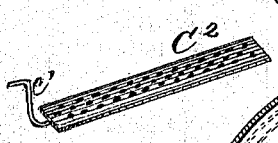
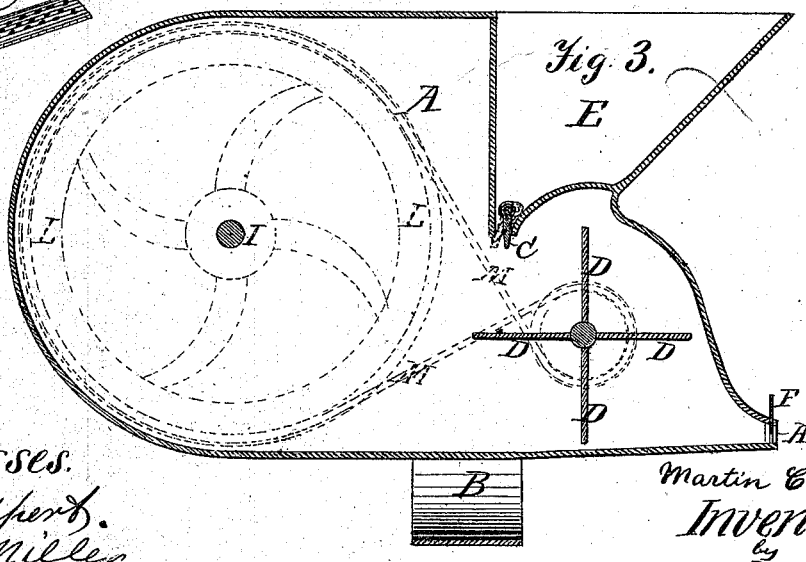


Fig. 3.



Witnesses.

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by

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UNITED STATES PATENT OFFICE.

MARTIN CHRISTIANSEN, OF WINNECONNE, WISCONSIN.

IMPROVEMENT IN SAND AND SEED EJECTORS.

Specification forming part of Letters Patent No. 115,164, dated May 23, 1871.

To all whom it may concern:

Be it known that I, MARTIN CHRISTIANSEN, of Winneconne, in the county of Winnebago and in the State of Wisconsin, have invented a new and useful Improvement in Sand-Ejectors, or Seed; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figures 1 and 2 are side elevations. Fig. 3 is a vertical longitudinal section. Fig. 4 is a perspective view of the oscillating perforated sieve.

The same letters of reference employed in the several figures denote identical parts.

The nature of my invention consists in the construction of a sand or seed ejector, which ejects the sand or seed by means of a current of air generated by a fan which is placed below the hopper containing the sand.

The sand-ejector is provided with a device for sifting the sand before it is ejected, and with a slide at the outlet of the mouth, by which the quantity of sand to be ejected may be regulated.

A is a box of a rectangular form, made of thin sheet metal or any other suitable material. At its lower surface it is provided with a strap or handle, B, by which the operator holds the apparatus. At one end the upper side of the box is provided with an opening through which the sand to be ejected is introduced. The hopper or receiver E extends downward and terminates in a narrow aperture, through which the sand escapes. Below the hopper is a fan, D, the journals of which rest in the side walls of the apparatus, and are placed a little below the aperture in the bottom of the hopper. The wings of the fan reach near to the lower surface of the apparatus, and a nozzle or mouth, A′, is formed by the prolongation of the bottom part and the outward curvature of the end wall. The size of the aperture through which the sand is forced may be varied, according to the quantity of sand desired to be ejected, by means of a slide, F, which is placed at or near the outlet of the mouth. Said slide consists of a strip of sheet metal or other suitable material extending the whole width of the mouth, and secured in ways or guides. When the slide F fits tightly it will remain in its position, and the operator only needs to draw it up or down in order to increase or decrease the aperture, and if a very large quantity is desired to be distributed the slide may be entirely removed. One of the journals of the fan extends outside the box A, and is provided with a pulley, G, over which the cross-belt M passes. The valve or agitator, which is placed in the aperture formed in the bottom of the hopper E, consists of a strip of sheet metal or any other suitable material extending the whole width of the aperture, and is pivoted to the walls of the box A. Its purpose is to prevent gravel and pebbles to pass through the aperture, and it also acts as an agitator, which will prevent the sand from being clogged up, thus insuring an equal and continuous distribution.

The valve or agitator is operated in the following manner: One of its journals, C^1, extends outside of the box A, where it is bent so as to form a crank, to which the connecting-rod H is attached. The connecting-rod will communicate an oscillating motion to the valve or agitator C when the apparatus is worked. I is a journal which rests in the side walls of the apparatus, and is placed at some distance behind the hopper E. It extends at both ends outside of the box A. One of its ends terminates in a crank, I′, and on the other end a driving-wheel, L, is hung. To the crank I′ is attached a handle, K, and over the periphery of the driving-wheel L passes the cross-belt M.

The operation of the apparatus is as follows: After having filled the hopper E and determined the position of the slide F, the operator inserts his left hand in the strap or handle B, and with the right hand he turns the handle K, by which operation motion is communicated to the driving-wheel L and to the connecting-rod H. The cross-belt M, which passes over the periphery of the driving-wheel and over the pulley on the journal of the fan, will revolve the same, while the rod H, which connects the cranks I′ and C^1, will give an oscillating motion to the valve or agitator C.

The apparatus is particularly intended for sanding painted surfaces, but may, with a few

modifications, also be serviceable for graveling cemented or plastered walls, or other like purposes.

If fine gravel was to be used instead of sand, the sieve C^2 (shown in Fig. 4) may be used as a substitute for the oscillating valve C.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A sand-ejector, or seed, provided with devices for sifting the sand before it is ejected, and for regulating the quantity to be distributed, substantially as described.

2. The combination and arrangement of box A, handle K, driving-wheel L, connecting-rod H, cross-belt M, pulley G, oscillating valve or agitator C, hopper E, fan D, and slide F, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MARTIN CHRISTIANSEN.

Witnesses:
A. J. DECKER,
JULIUS ULRICH.