

(No Model.)

D. CLOW.

TRANSPLANTER FOR TOBACCO AND OTHER PLANTS.

No. 371,426.

Patented Oct. 11, 1887.

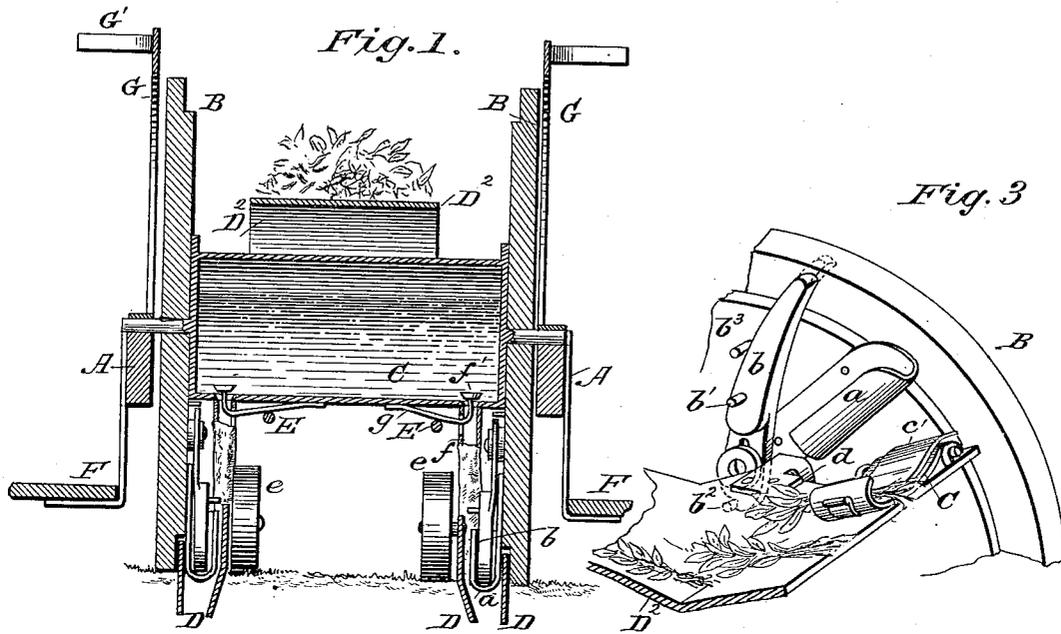
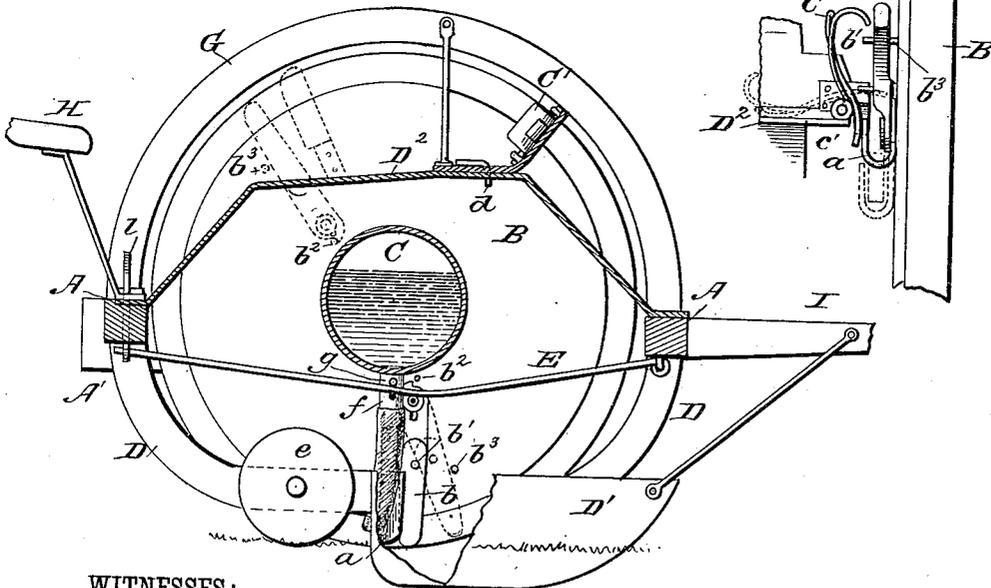
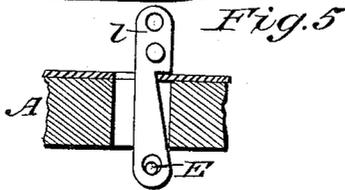


Fig. 2.

Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## TRANSPLANTER FOR TOBACCO AND OTHER PLANTS.

SPECIFICATION forming part of Letters Patent No. 371,426, dated October 11, 1887.

Application filed July 5, 1887. Serial No. 243,475. (No model.)

*To all whom it may concern:*

Be it known that I, DANIEL CLOW, of Janesville, in the county of Rock and State of Wisconsin, have invented a new and useful Improvement in Transplanters for Tobacco and other Plants, of which the following is a specification.

My invention is in the nature of a transplanter for tobacco plants, and also for other plants—such as sweet potatoes, cabbage, &c.; and it consists in the peculiar construction and arrangement of parts, whereby the tobacco-plant is taken, deposited in the ground, the earth packed around it, and a quantity of water delivered upon it in a single operation and in a simple, practical, and rapid manner, as will be hereinafter fully described.

Figure 1 is a vertical transverse section of the machine, taken longitudinally through the reservoir. Fig. 2 is a vertical longitudinal section of the machine at right angles to the reservoir. Fig. 3 is a perspective view in detail of the feeding devices for the plants. Fig. 4 is a detail view showing the transfer of the plant to the wheel, and Fig. 5 is a detail of the valve-adjusting mechanism.

In the drawings, A A represent the end bars, and A' A' the side bars, of the rectangular frame of my transplanter.

B B are the wheels, which are connected rigidly together by an axial hollow reservoir, C, for water.

D<sup>2</sup> is the feed-table, upon which the plants are placed by hand. This table extends from the front end bar to the rear end bar between the wheels and bridges over the reservoir.

Both sides of my transplanter are constructed to operate exactly alike, and as each wheel has its own set of planting devices duplicated upon opposite sides of the machine it will only be necessary to describe those on one side of the machine.

From the front end bar to the rear end bar on each side there extend beneath the reservoir C two curved bars, D D, having attached at their front ends a plow or furrow-opener, D', made V-shaped in horizontal section and extending back to about the vertical line of the wheels.

On the inside of each wheel, in radial position and near the outer periphery, is rigidly

fixed a pocket, *a*, made of curved sheet metal and open on one side. Beside this pocket on its open side there is loosely connected to the wheel a latch or finger, *b*, which is hung to the wheel so as to swing about its point of connection, and the hole in it is made elongated also, so as to allow a slight longitudinal motion. This latch has an inwardly-projecting pin, *b'*, and the motion of said latch is limited and regulated by two laterally-projecting pins, *b<sup>2</sup> b<sup>3</sup>*, attached to the side of the wheel.

To the side of the feed-table D<sup>2</sup> is loosely hung (upon an axis radial to the wheel) a tilting plate, *c'*, having a curved lip at its end and a loose end, *c'*, projecting into the range of engagement of the pocket on the wheel. On the edge of the feed-table beside this tilting plate there is a rigid cam-flange, *d*, which is engaged by the pin *b'* on the latch *b*, for the purpose hereinafter described.

The operation of these parts of my invention is as follows, reference being had to the perspective detail shown in Fig. 3: The plants are laid on the tilting plate *c* on the table, one at a time, by hand, as hereinafter described, the roots of the plants being toward the forward end of the machine. Now, when the wheel revolves, the pocket *a* comes round to and in range of contact with the projecting end *c'* of the tilting plate holding the plant, and, striking said plate, turns it into a vertical position, as shown in Fig. 4, which dumps the plant sidewise into the open side of the pocket. Immediately following this action the pin *b'* on latch *b* strikes against the stationary cam-flange *d*, which latter raises the latch longitudinally (by reason of its slot) and removes the inner end of the latch from pin *b<sup>2</sup>*, which held it away from the pocket, and allows the latch, the instant the plant is tilted into the pocket, to close down upon the plant from gravity and hold it. This action takes place just as the pocket approaches the horizontal position, and the plant thus held with roots outwardly moves down with the wheel into the hollow space of the furrow-opener, and just as it reaches the vertical line the latch drops back from gravity, and the dirt, falling in at the rear end of the plow, seats the plant in the ground in upright position, the leaves being held from clods and the packing-wheel *e* by the pocket, which latter grad-

ually rises from the plant. A quantity of water is at this moment delivered to the plant by devices hereinafter described, and the packing-wheel *e*, hung upon the curved bars, mashes the earth solidly to the plant, thus completing the operation. For delivering this water to the plant at the proper moment the hollow axial reservoir containing water is provided with a nozzle, *f*, placed in line with each pocket, and this nozzle has a valve, *f'*, within it, which is held closed normally by a spring-rod, *g*, on the outside of the reservoir. This nozzle is provided with a tubing or spout that extends down close to the ground to prevent the water from being scattered, and just as the plant has been set, as before described, the spring-rod *g* strikes a longitudinal rod or bar, *E*, and is raised by the latter to permit of a temporary discharge of water. These rods *E* are fastened to the end frame in front, and at the rear are connected to perforated links or plates *l*, that pass through metal-faced slots in the rear end bar, which perforated links have a notch, and also keys or bolts adapted to the several holes, and by which the rods are raised or lowered to give a greater or less quantity of water to the plant.

For supplying the feed-table with plants a boy is employed on each side of the machine, and to accommodate them a low step or platform, *F*, is hung upon each side frame, upon which the boy stands, and a guard-rail, *G*, keeps him from contact with the wheel, while a curved arm, *G'*, prevents him from falling off or losing his balance. With the construction thus described the plants are set without injury, rapidly, and at a uniform depth, two rows at a time.

I have shown, for the sake of simplicity, but one pocket, latch, and valve on each wheel; but it is obvious that any number may be employed to act in precisely the same manner.

*H* is the driver's seat, mounted upon the rear end bar, and *I* is the draft-pole, attached to the front end bar and connected by chains or draft-rods to the front ends of the plows.

In making and using my invention I do not confine myself to the automatically-acting

tilting plate for feeding the plants to the wheel, but may in some cases place the plants directly in the pockets by hand.

Having thus described my invention, what I claim as new is—

1. A transplanter consisting of a wheel or wheels arranged to run upon the ground and provided with radial pockets *a* upon the side and near the periphery, one side of which pockets is entirely open to receive the plants laterally, in combination with clamp devices for holding the plants in said pockets while moving down to the ground, substantially as shown and described.

2. A transplanter consisting of a wheel or wheels with pockets, combined with a rotating water-tank moving with said wheels, substantially as and for the purpose described.

3. The combination of a plow or furrow-opener, a wheel with one or more radial pocket-openings at the side, a stationary tilting plate arranged to be struck by the pocket to dump the plant laterally into the pocket, and a latch or finger for holding the plant in said pocket till it is deposited in the ground, substantially as and for the purpose described.

4. The combination, with a plunger, of a rotating water-tank having valved openings, and means, substantially as described, for opening said valves when the outlets pass to the under side of the reservoir, substantially as and for the purpose described.

5. The combination of the wheels, an axially-located revolving reservoir with valves mounted upon spring-rods *g*, and the rods *E*, arranged to be struck by the valve-rods to open the valves, substantially as shown and described.

6. The combination, with the feed-table having tilting plate *c* and cam-flange *d*, of the wheel having pocket *a* and pins *b*<sup>2</sup> *b*<sup>3</sup>, latch or finger *b*, with pin *b'*, and the furrow-opener, all arranged substantially as shown and described.

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Witnesses:

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