S. & M. RUTHENBURG.

Cotton-Harvesters.

No. 199,168. **Patented Jan. 15, 1878.**

Fig. 1.

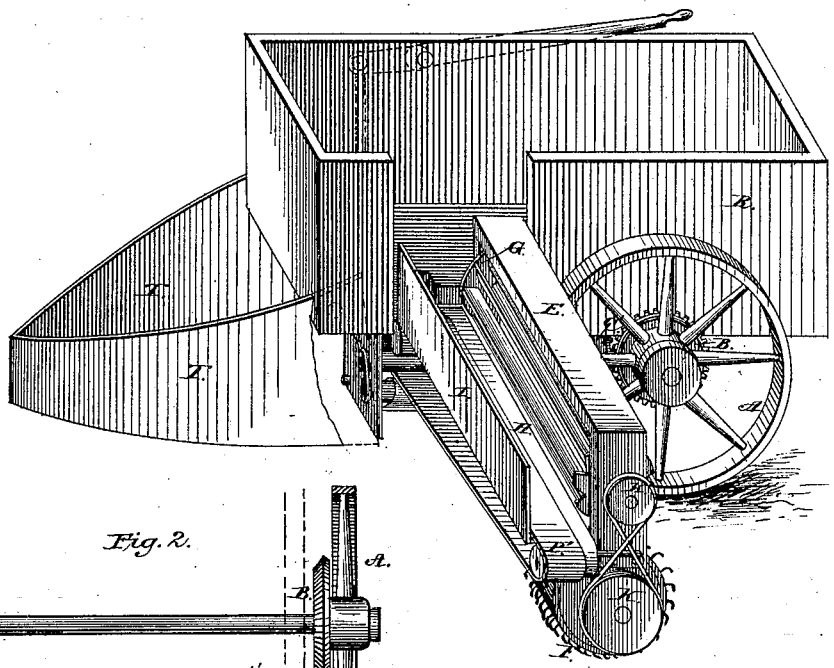

Fig. 2.

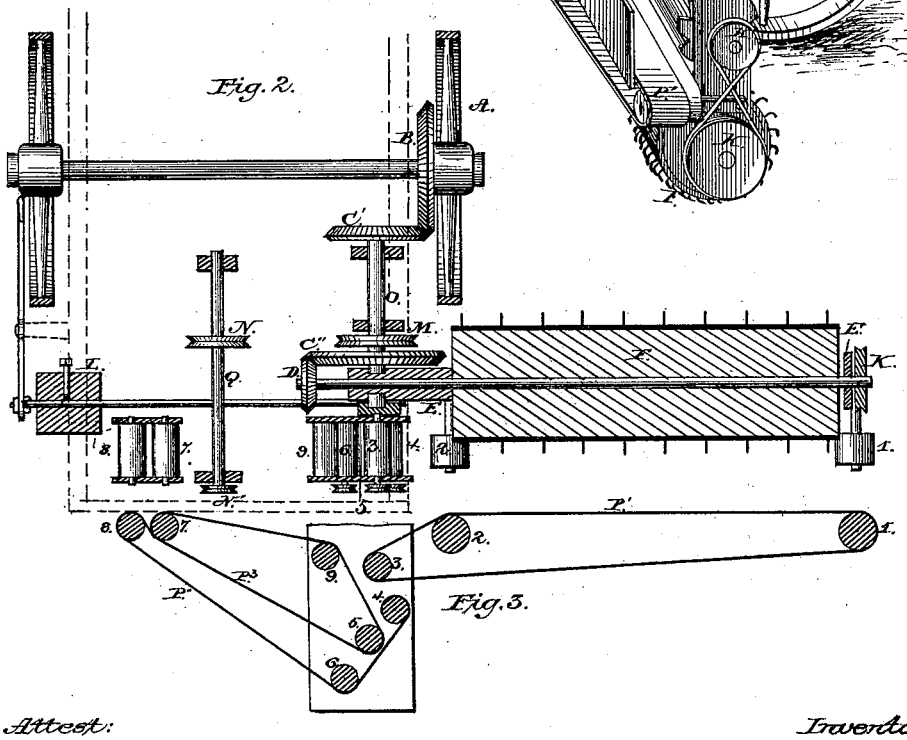

Fig. 3.

Attest:

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UNITED STATES PATENT OFFICE.

SOLOMON RUTHENBURG AND MARCUS RUTHENBURG, OF CINCINNATI, OHIO.

IMPROVEMENT IN COTTON-HARVESTERS.

Specification forming part of Letters Patent No. **199,168**, dated January 15, 1878; application filed February 28, 1877.

To all whom it may concern:

Be it known that we, SOLOMON RUTHENBURG and MARCUS RUTHENBURG, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain Improvements in Cotton-Picking Machines, of which the following is a specification:

Our invention consists of a cotton-picking machine which is attached to a wagon, the traction-wheel of which imparts motion to a counterbalanced card, which oscillates in such a manner, by the resistance of the plants, that it will pass them and pick the cotton without injuring the plants. A counter-card works in connection with it, said counter-card deriving its motion through a belt from the card. This counter-card removes the cotton from the card onto a belt, which, in conjunction with other belts, conveys the cotton into the wagon. A guard is attached to the wagon, which prevents injury to the plants.

In the accompanying drawings, Figure 1 is a perspective view of our machine. Fig. 2 is a longitudinal horizontal section, which shows the different gearings and suspension of the card-frame. Fig. 3 is a front view of the belts which convey the cotton into the wagon.

A is a traction-wheel, upon which is fastened the bevel-wheel B, which gears with the wheel C′. From C′, through shaft O and bevel-wheel C″, is driven the pinion D, which revolves the card F.

E is a frame, in which the card F, the counter-card G, the dash-board I, the fender H, and pulleys 1 and 2 are fastened. This frame E, with all the machinery it carries, is suspended upon two pivots, in a direct line with the shaft O, and is counterbalanced by the weight L, and by this arrangement may be in any desirable position without deranging the gearing which rotates the card, and is at liberty to rise and fall with the undulations of the plants while in motion.

K is a pulley upon the shaft of the card F, and *k* is a smaller pulley upon the shaft of the counter-card G. By means of a cross-belt from K to *k* the counter-card G is revolved in the opposite direction and at a greater speed than the card F.

P^1 P^2 P^3 are belts for conveying the cotton into the wagon. 1 2 3 4 5 6 7 8 9 are pulleys upon which these three belts run. The pulley 3 must be in a direct line with the points of oscillation of the frame E, so that the belt P^1, which is carried by the pulleys 1 2 3, can oscillate with the rest of the machinery of the frame. The pulleys 4 8 6 carry one, and 7 5 9 carry the other, of the conveying-belts.

The belts P^1 P^2 P^3 are driven by means of the shaft Q or other suitable means, in the desired direction.

R is the wagon-body. S is a lever, connected with the weight L. T is a plant-guard attached to the machine when in use.

The operation of this machine is very simple. After the machine is counterbalanced, the position of the card can be regulated by a slight pressure on the lever S. Said card, rotating in the direction in which the wagon advances, combs the loose cotton from the plant. The cotton is removed from the card F by the counter-card G, and thrown upon the belt P^1, which drops it between the belts P^2 and P^3, where it is clasped between them and carried into the wagon.

It is obvious that other means of receiving and disposing of the cotton thrown off by the counter-card may be employed instead of the system of endless belts shown, or the number and position of the belts may be variously modified; but such a variation would still contain our invention.

This construction and arrangement of cards is such that the picker-card will collect the cotton from the open boll and pull it all out, but will brush away or pass over the unripe bolls and leaves and stalks of the plant without injuring them.

We do not depend upon the lever to control the movement of the picker-card in operation, but deem it best to allow the operator to have an additional control of the oscillation of the picker.

We claim—

1. The combination, with the frame E and picker-card F of a cotton-picking machine, of a counterbalance-weight connected with the frame, whereby the frame and its card are adapted to automatically rise and fall, substantially as and for the purpose described.

2. The card F, the counter-card G, the fender H, and the belt P^1, when counterbalanced by a weight or its equivalent, substantially as and for the purpose hereinbefore set forth.

SOLOMON RUTHENBURG.
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Witnesses:
WILLIAM KINSEY,
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