N. PALMER.

Rotary Mold-Board Plow.

No. 205,498. **Patented July 2, 1878.**

Fig. 1.

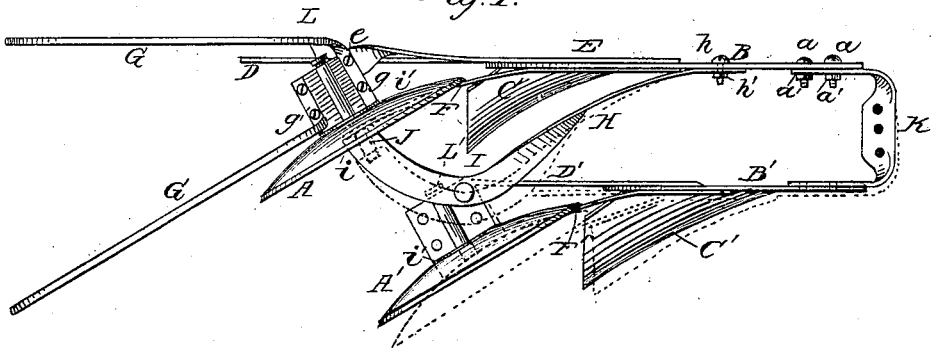
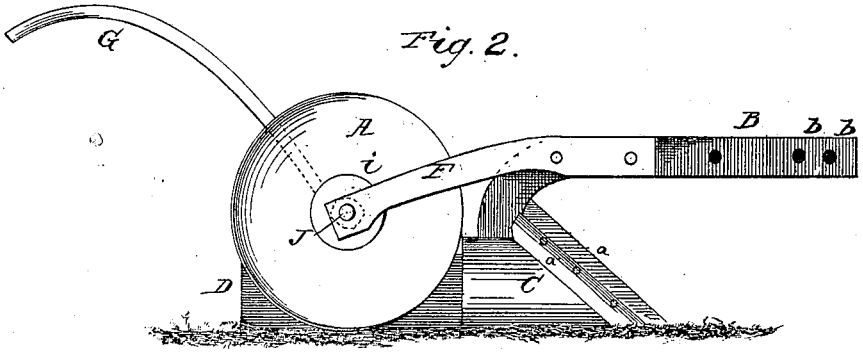


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

NELSON PALMER, OF NEW YORK, N. Y.

IMPROVEMENT IN ROTARY MOLD-BOARD PLOWS.

Specification forming part of Letters Patent No. **205,498**, dated July 2, 1878; application filed December 20, 1877.

To all whom it may concern:

Be it known that I, NELSON PALMER, of the city of New York, in the county and State of New York, have invented new and useful Improvements in Rotary Mold-Board Plows, of which the following is a specification:

The invention consists, first, in an improved form of the disk for turning and pulverizing the soil; second, in the construction of the land-sides; third, in a spring-brace, by which device the united plows may span a rigid obstacle and return to position again without injury.

In the accompanying drawings, in which similar letters of reference indicate like parts, Figure 1 is a plan view of two plows combined. Fig. 2 is a perspective view of one plow separately.

The beams B B′ are curved at the rear ends, and are bolted to the land-sides D D′ within the acute angle formed by the junction of the land-sides D D′ and the shares C C′, which are riveted together near their front edges. These edges are thinned and beveled from the bottom upward and backward at an angle of about forty-five degrees. In front of and resting against these edges is a colter, *a*, of steel, with a strip of steel, *a′*, riveted to one of its sides back of the cutting-edge at an acute angle, by which it is adapted to fit over the combined edges of the land-side D and share C, this giving it a firm support.

The colter is held in position by bolts passing through it and the land-side D. Near the rear ends of these land-sides D D′ are metal boxes resting upon suitable supports, in which a shaft, J, plays or turns, to one end of which in each plow is attached a disk, A A′, concave, and of any desired diameter.

The edge of each disk A A′ is beveled from the convex to the concave side, making the concave edge sharp, to adapt it, in its compound rotary and forward motion, to cut roots or like obstacles that may come in its way. By this form it turns and pulverizes the soil more perfectly.

The front edges of the disks are placed within the openings of the acute angles formed by the land-sides D D′ and shares C C′, in close proximity to the curve in the beams B B′.

The position of the disk with reference to the land-sides D D′ and the draft, which coincides, is indicated by the width of furrow it is adapted to make, which, as a rule, will be equal to one-half the diameter of the disks A A′.

F shows a brace rigidly attached to the beam of each plow, extending backward and fitting closely the concave surface of the mold-board, and secured to the axle of said mold-board, thus furnishing both a brace and a cleaner therefor.

When two or more plows are attached, as shown in the drawings, they are similar in construction in their main features; but the land-side D′ of the advance plow is shortened and beveled from the lower edge upward and backward, to allow the succeeding plow to do its work without obstruction. To compensate for this lack of lateral support, in consequence of cutting away a portion of its land-side D′, a brace, H, is attached to the beam of the rear plow, and, extending backward in a suitable curve, is bolted to the journal-box of the advance plow, and thence, in a shorter curve, extends to and is fitted upon the protruding end of the journal J of the rear plow. This brace H is also made to perform the office of allowing the plows to separate within suitable limits to span a rigid obstacle, and to bring them into position again without injury.

The handles G G are bolted to the journal-box of the rear plow.

By means of bolts *a a h*, which pass through the coupling K and the beam B, spring-brace H, and beam B′, the plows are readily coupled or disjoined by inserting or removing the bolts.

Other plows, if desired, may be in similar manner attached.

Wheels may be substituted for handles, or they may be made interchangeable, as the operator may prefer to walk or to ride.

I claim—

1. In a gang of disk mold-board plows,

the extended land-side D of the rear plow, in combination with the short land-side D′ of the advance plow, and connecting spring-brace H, as and for the purpose specified.

2. The braces F F′, in combination with the plow-beam and disk mold-board, fitting closely to the concave surface, thus forming both a support and a cleaner, as shown and described.

3. The supporting spring-brace, in combination with the advance plow, substantially as and for the purpose described.

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Witnesses:
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