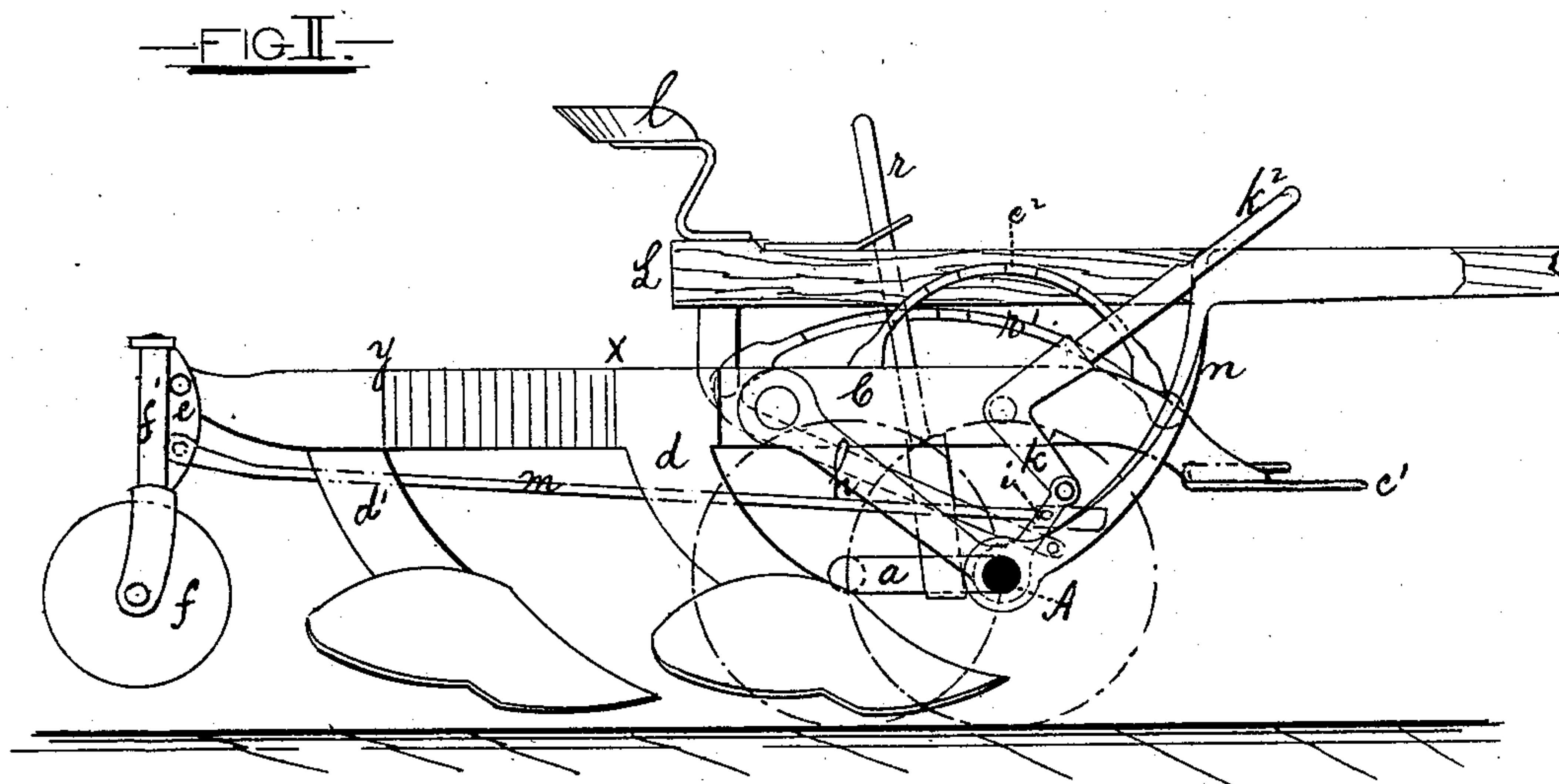
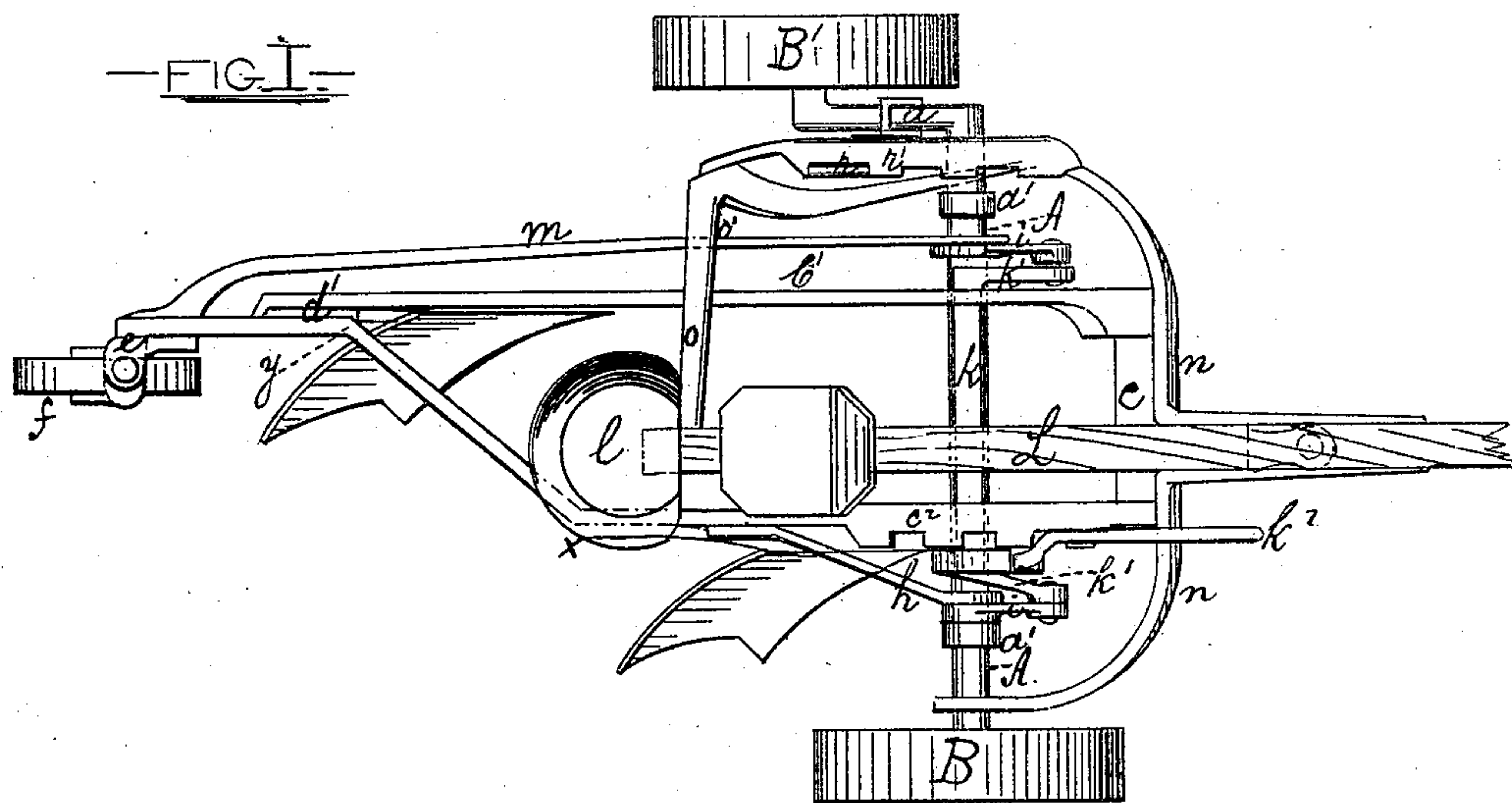


DAVID A. MANUEL.
Improvement in Gang-Plow.

No. 127,495.

Patented June 4, 1872.



—WITNESSES:—

Geo. H. Howard.

Al. Bandy.

—INVENTOR:—

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Geo. E. Brown, Atty.

UNITED STATES PATENT OFFICE.

DAVID A. MANUEL, OF NAPA, CALIFORNIA.

IMPROVEMENT IN GANG-PLOWS.

Specification forming part of Letters Patent No. 127,495, dated June 4, 1872.

Specification describing an Improved Plow, invented by D. A. MANUEL, of Napa, Napa county, California.

This invention relates to that class of gang-plows in which the beams work in connection with a crooked axle in front and a caster-wheel at the rear. The invention consists in two or more plow-beams rigidly fastened together at their front and rear ends, and combined with a caster-wheel socket pivoted to the rear end of the beams, a shaft passing crosswise through the beams, toggle-levers connecting said shaft with the axle of the transporting-wheels, arms connecting the beams with the same axle, and a rod joining said toggle-levers and said socket, all for the purpose of raising and lowering the plows.

A is the axle aforesaid, the same entering at one end a transporting-wheel, B, and near the other end having a crank, *a*, the end of which enters the other transporting-wheel B'. C C' are the plow-beams, which, at their front ends, curve downward to within, say, fourteen inches of the ground, and are connected by a cross-bar, *c*, to which the whiffletree-clevis *c*¹ is adjustably attached. The space between the plow-beams is of the same width as the furrow cut by the rear plow. The beam C has a bend at *x*, in rear of the front plow-standard *d*, and thence runs diagonally to a bend, *y*, in front of the rear plow-standard *d'*, whence it extends parallel with the other beam C', which is on the other side of the standard *d'*, and at its hinder extremity is attached to the beam C. The beam C, at its rear end, is pivoted to the upper part of a socket, *e*, which receives the shank *f'* of a caster-wheel, *f*. When the plows are in the earth the shank *f'* and socket *e* stand at an inclination, the wheel *f* being thrown forward. At points a little forward of their centers the beams C C' are jointed each to the outer end of a backwardly-inclined arm, *h*, which arms, at their other extremities, loosely inclose the axle A, and are prevented from sliding endwise on said axle by means of collars *a'* forming part of the same, between which collars the arms *h* are placed. Between each arm *h* and the adjacent collar *a'* a forwardly-inclined shorter arm, *i*, is jointed to the axle A, to the outer

extremities of which arms the outer ends of arms *k*¹ are pivoted, said arms *k*¹ being rigidly attached, outside the beams C C', to the extremities of a shaft, *k*, which passes transversely through both beams C C', and has a lever, *k*², extending upward from its right end, near the driver's seat *l*, and working in connection with a curved ratchet, *c*², attached to the beam C. The left arm *i* is connected, by rod *m*, with the socket *e* of the caster-wheel. Hence, by moving the lever *k*² forward, the driver is enabled to raise the front ends of the plow-beams, the arms *i k*¹ operating as toggle-levers, and, by moving the lever *k*² backward, the front ends of the plow-beams are lowered. The arms *h* steady the beams during these movements, and give them also a forward motion while rising and a backward motion while descending, these endwise movements causing the caster-wheel shank *f'* to move toward the vertical during the lifting of the plows, and in the opposite direction during the lowering of the plows; by which action of said shank the rear ends of the plow-beams are carried up and down at the same time and to the same extent as their front ends, so that the inclination of the plows to the earth is not changed during the variations in their attitude. The driver's seat *l* is placed on the rear end of the tongue L, so that the plow-beams are raised and lowered without raising and lowering the driver at the same time. Two curved braces, *n*, fastened at their upper ends to the sides of the tongue, extend downward at each side of the same, and at their lower ends loosely inclose the axle A. At the rear end of the tongue a brace, *o*, extends outward from its left side, which brace at the point *o'* bends, extending thence forward to the left brace *n*, to which its lower end is fastened. A lever, *r*, is rigidly attached at its lower extremity to the crank *a*, and works in connection with a ratchet, *r'*, secured to the braces *n o*. By throwing the lever *r* backward the driver is enabled to raise the axle A by means of the crank *a*, and by throwing the lever forward he lowers the axle. These movements of the axle affect only the front ends of the plow-beams, which are carried up and down with the axle by means of the arms *i k*¹, and

consequently change the inclinations of the plows to the earth, or, in other words, cause the plows to cut deeper or shallower, as required.

I claim as my invention—

The combination of the beams C C' , caster-wheel socket e , arms h i k^1 , shaft k , rod m , and

lever k^2 , arranged as described, for the purpose of raising and lowering the plows.

DAVID A. MANUEL.

Witnesses:

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ISAAC M. COMBS.