

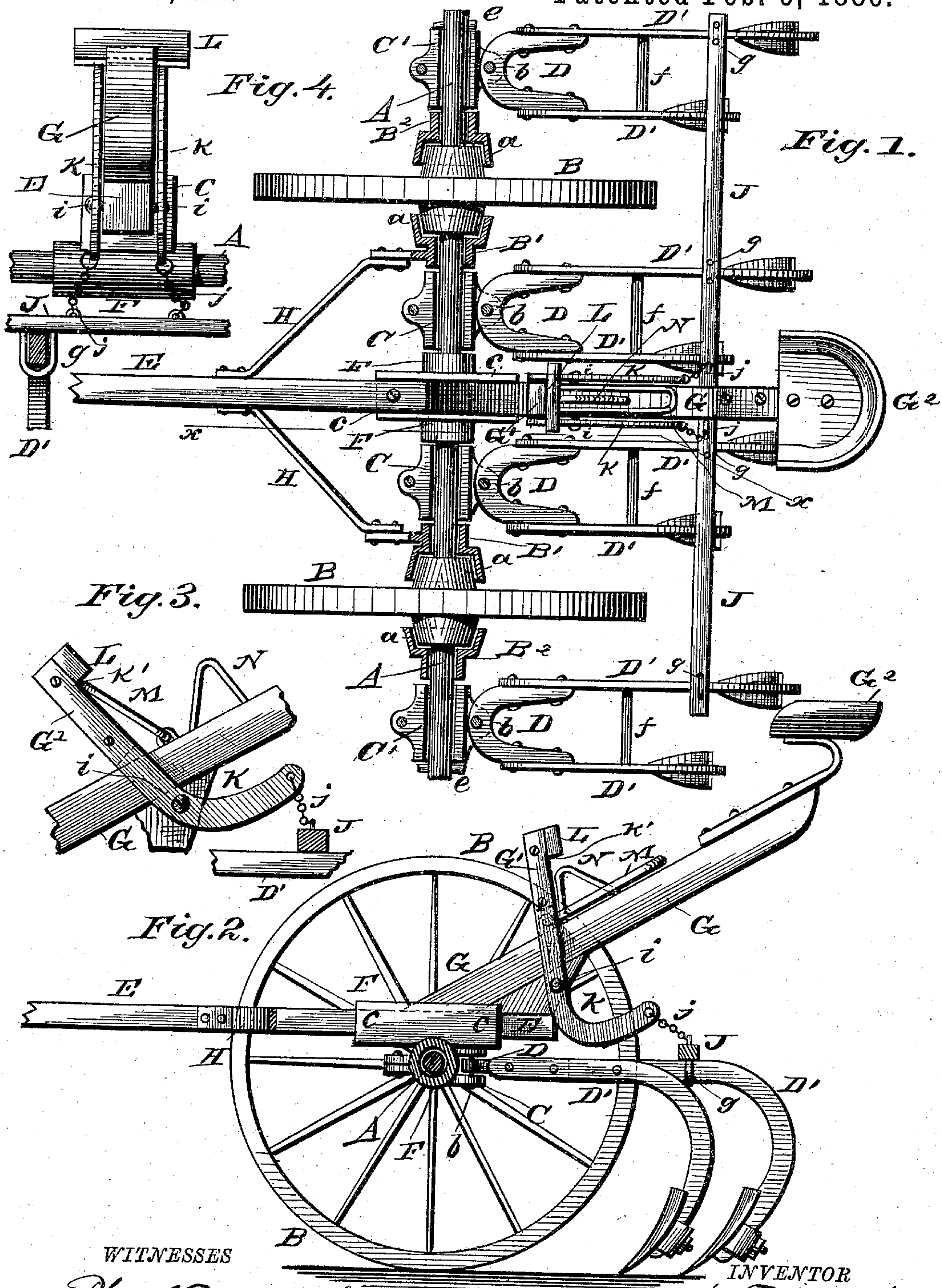
(No Model.)

J. F. SMITH.

CULTIVATOR.

No. 335,644.

Patented Feb. 9, 1886.



WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES F. SMITH, OF DANVILLE, ILLINOIS.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 335,644, dated February 9, 1886.

Application filed October 23, 1885. Serial No. 180,727. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. SMITH, a citizen of the United States, residing at Danville, in the State of Illinois, have invented certain new and useful Improvements in Cultivators, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a plan view of my cultivator, showing the boxes on the axle in horizontal section. Fig. 2 is a vertical longitudinal section in the plane indicated by dotted line *x x*, showing the devices for raising and lowering the shovel-carrying beams. Figs. 3 and 4 are detail views.

This invention relates to sulky or riding cultivators which are designed for preparing land for wheat, oats, corn, and other cereals; and my improvements consist in novel devices, which will be fully understood from the following description, when taken in connection with the annexed drawings.

A designates the axle of the machine, which is a solid cylindrical rod of metal, and B B are the transporting-wheels, which are applied to turn on the axle, and which have the ends of their hubs capped by means of the flanges *a a* of tubular boxes B' B', which flanges serve as sand-bands for the wheel-hubs, while the boxes serve as spacers for the coupling-boxes C C C' C', to which the U-shaped shovel-beam couplings D are connected by means of pivot-bolts *b*, hereinafter more fully explained.

E designates the draft-pole, which has applied to it the double-trees. This pole is rigidly secured to a tubular box, F, which is cast entire with longitudinal flanges *c c*, forming a channel in which said pole is secured. On top of the draft-pole, over the box F, is bolted the beam G, on which the driver's seat is sustained. The pole-box F is free to articulate on the axle A, and this box is located midway of the length of the axle A, and its ends abut against the ends of two coupling-boxes, C C.

Between the coupling-boxes C C and the inner ends of the hubs of wheels B B are tubular boxes or hub-caps B' B', to lugs on which are rigidly bolted the draft-pole braces H H. The hub-caps B' B' are located between the outer ends of the wheel-hubs and the coup-

ling-boxes C' C', all of the boxes being prevented from endwise displacement on their axle by means of pins *e e*, fixed to this axle at its extremities. It will be observed that the several boxes can be readily slipped on the axle in the order of arrangement shown, and that the boxes are free to articulate on the axle, the wheels B B being free to turn on it, as above stated. The coupling-boxes C C C' C' are cast in diametrical halves, with lugs through which bolts are passed, the rear bolts, *b*, serving as pivotal connections for the laterally-vibrating U-shaped couplings D, to which are bolted the curved shovel-carrying beams D'. These beams D' are secured to their couplings in pairs, and sustained by stay bolts or blocks *f*, and to the longest shovel-beams a bar, J, is connected by staples *g*.

In combination with the bar J, which connects all of the longest beams D' of the gang of shovels, I employ the following devices, by means of which the driver can at pleasure from his seat raise or lower all of the shovel-carrying beams simultaneously, and also hold the same free from the ground:

K K are two curved levers, which are pivoted at *i* to the angular block between the pole E and seat-beam G, the lower ends of which levers are connected by chains *j j* to the bar J, and the forward ends of these levers have secured between them a block, G', across which is secured a foot-piece, L, that affords a stop-shoulder, *k'*, for a pivoted locking-loop, M.

Between the pivots of the loop M and the driver's seat G² is a stop, N, fixed to the top of the seat-beam G, and designed to resist the backward movement of the levers K K when the shovels are fully depressed.

The foot-piece L is located in such relation to the driver's seat that the driver can conveniently press it forward, thus elevating all of the shovel-carrying beams. To hold up these beams the driver presses forward the upper end of the loop M until it lies beneath the shoulder *k'*. When the shovels are down in working position, the loop M will lie flat upon the seat-beam out of the way.

I claim as my invention—

1. The combination, with the axle A, of the coupling-boxes, their U-shaped couplings, and

the shovel-beams, the transporting-wheels, the flanged spacing hub-caps, the pole-box and its draft-pole, and the pole-braces connected to the inner hub-caps, all constructed and adapted to operate substantially in the manner and for the purposes described.

2. The combination, in the machine described, of the curved levers K K, the lifting-bar J, flexibly connected thereto and secured

to the shovel-beams, the foot-piece L, having a shoulder, k' , and the pivoted locking-loop M, and stop N, as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES F. SMITH.

Witnesses:

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