

(No Model.)

M. & A. RUNSTETLER.

J. A. MARLAY, administrator of M. RUNSTETLER, deceased.

CORN PLANTER.

No. 320,943.

Patented June 30, 1885.

Fig. 9.

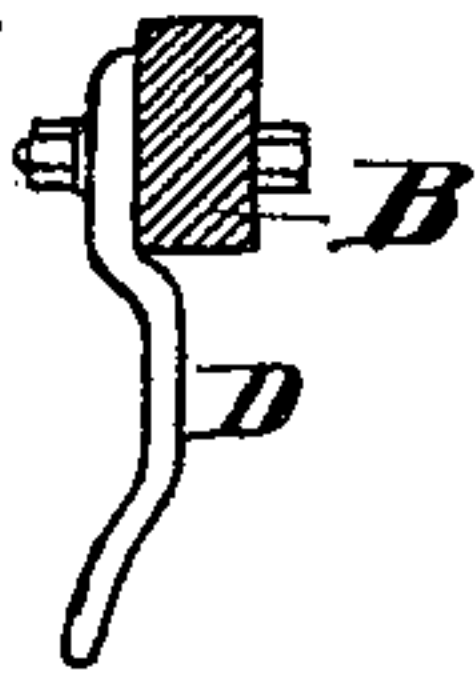


Fig. 1.

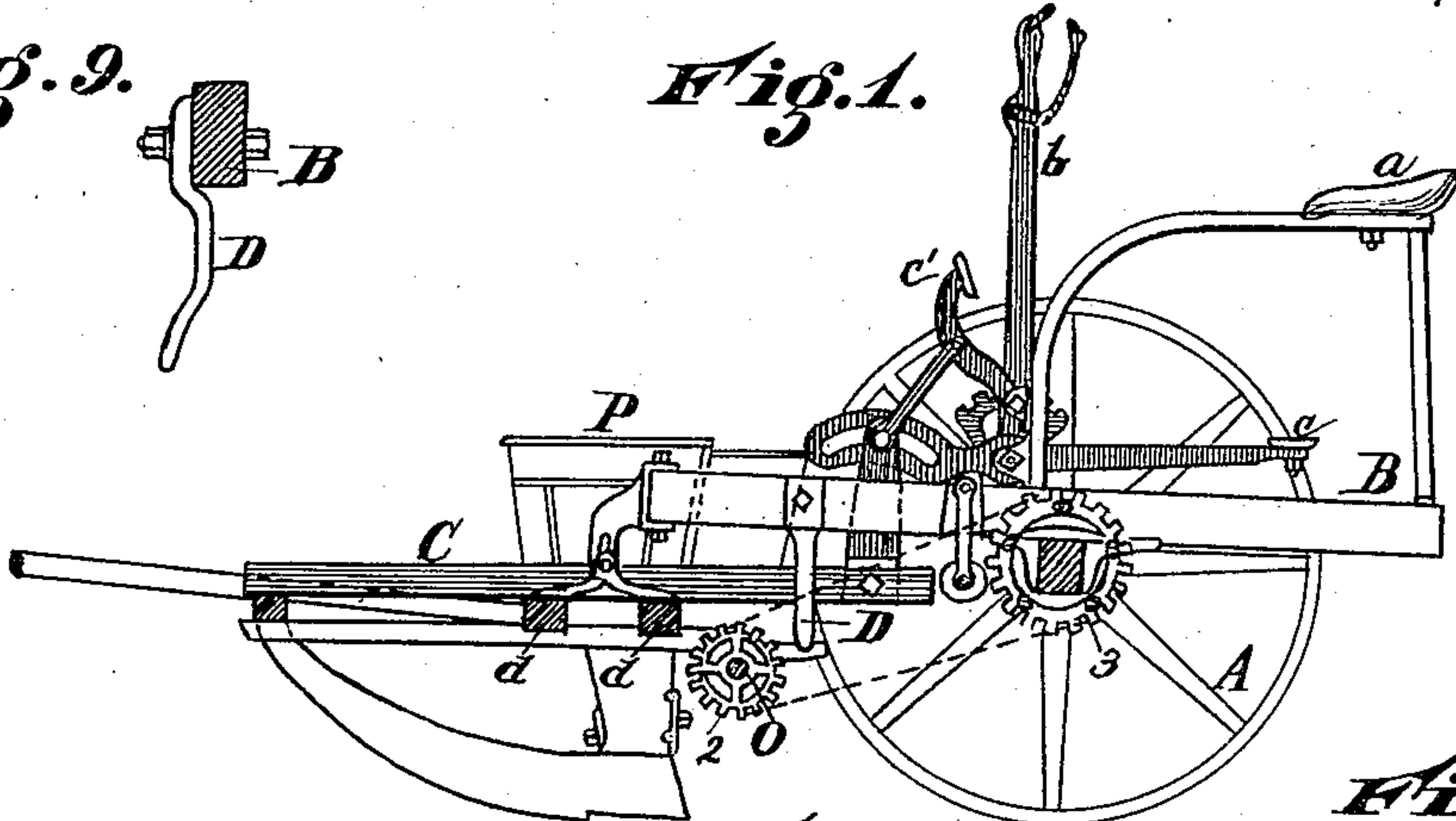


Fig. 2.

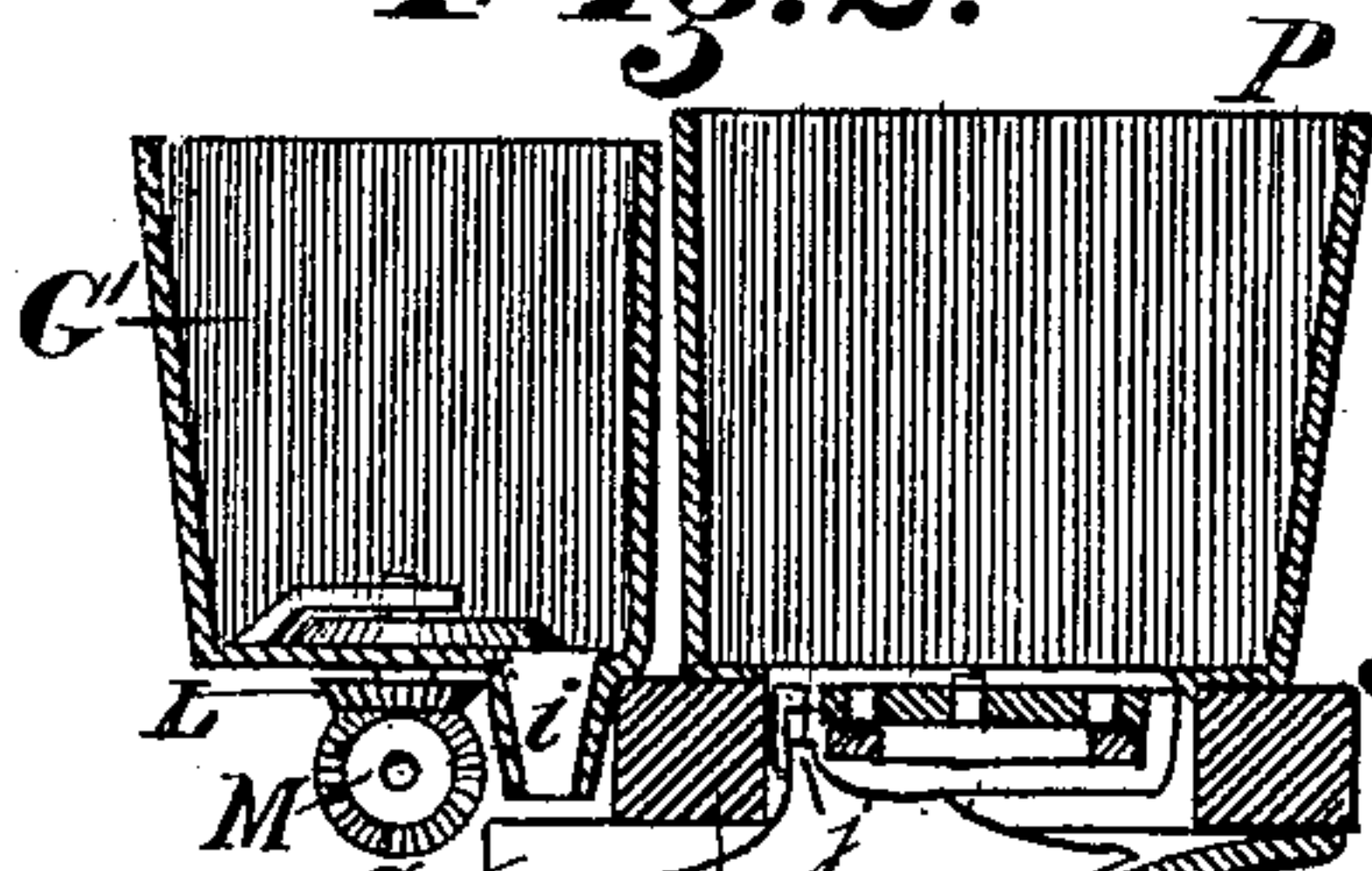


Fig. 7.

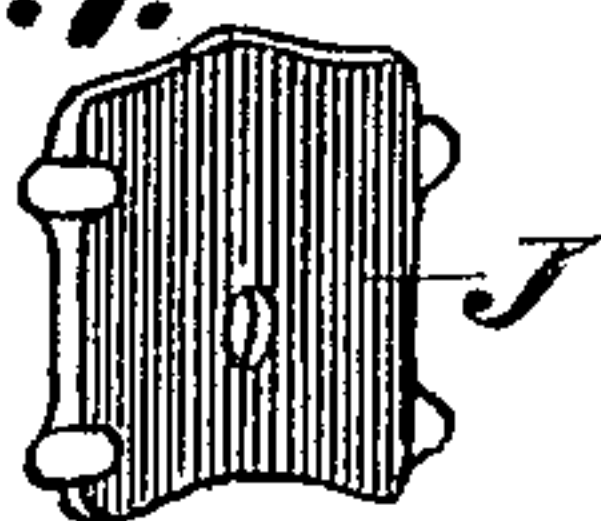


Fig. 8.

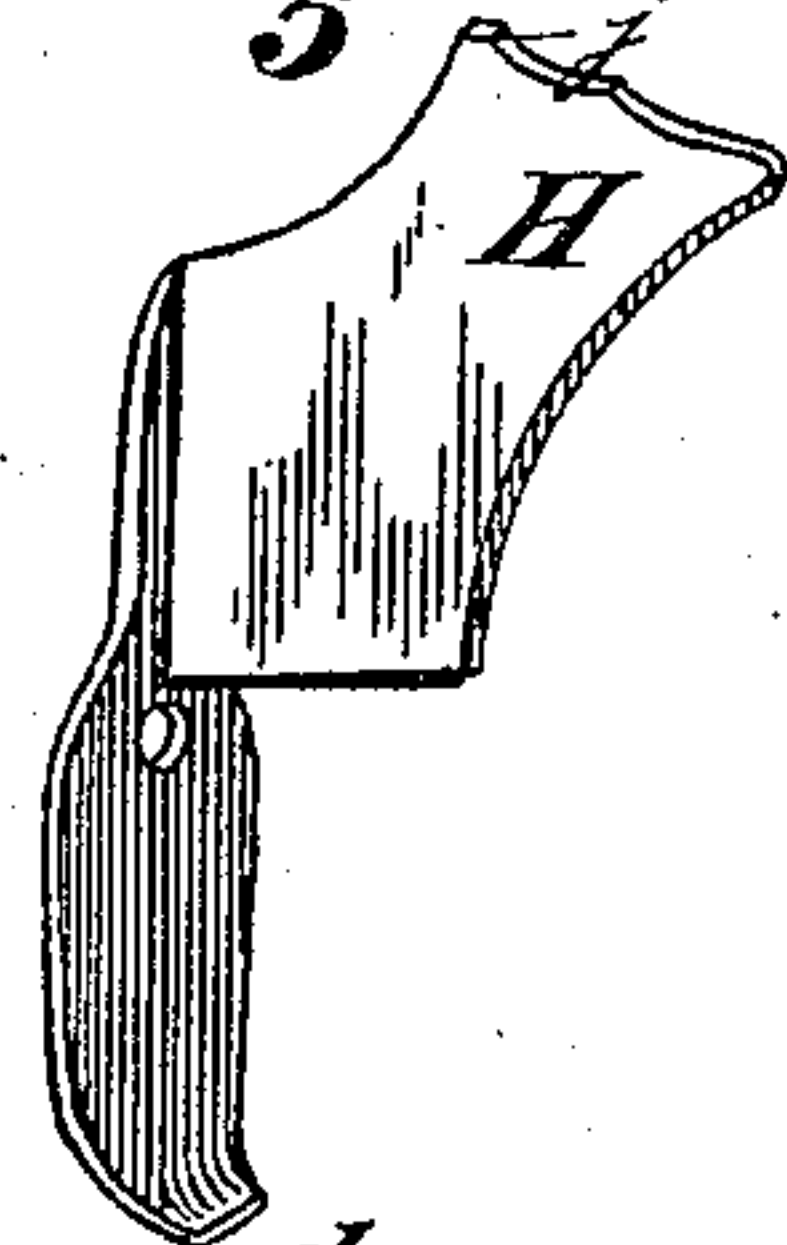


Fig. 3.

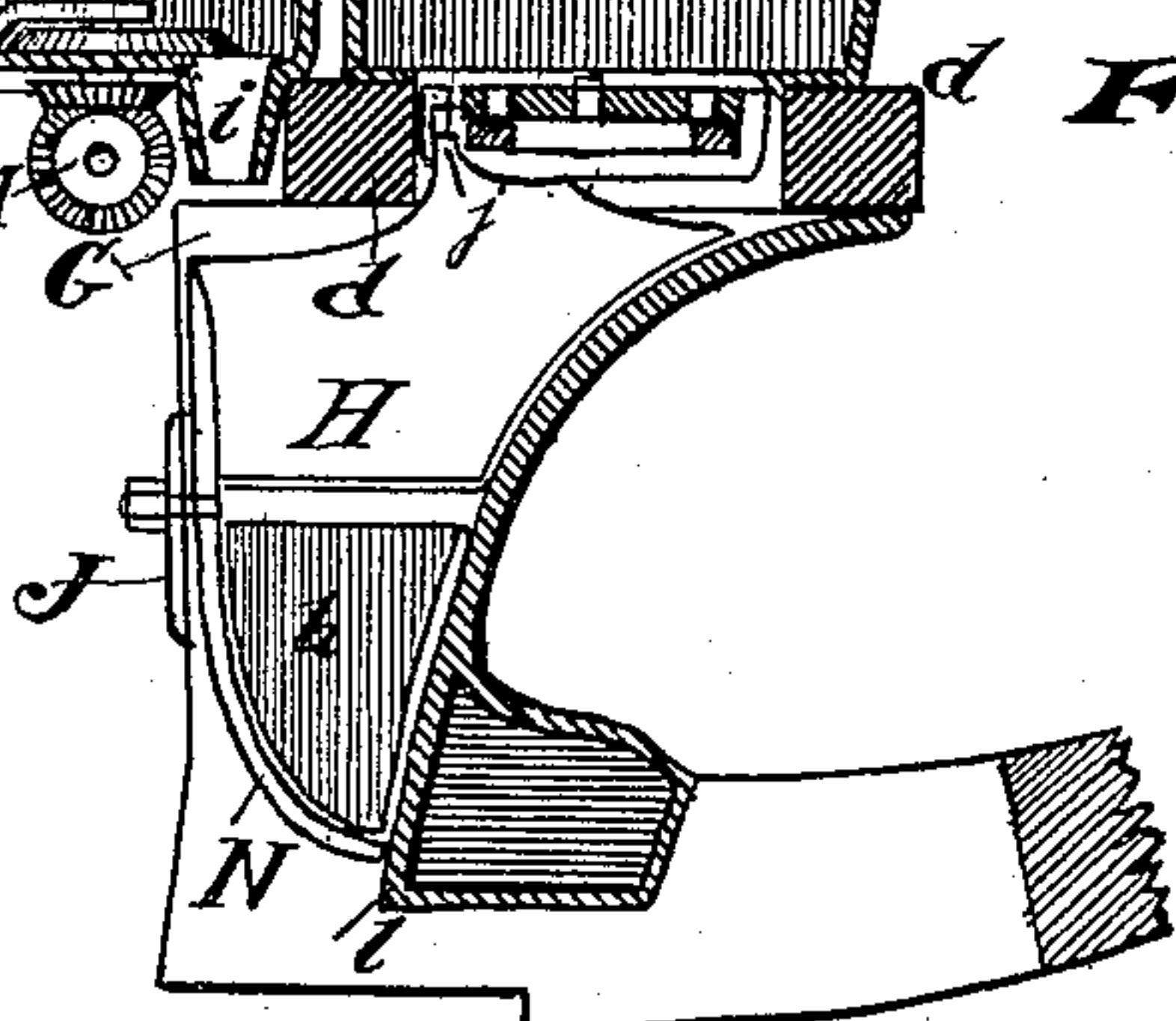


Fig. 4.

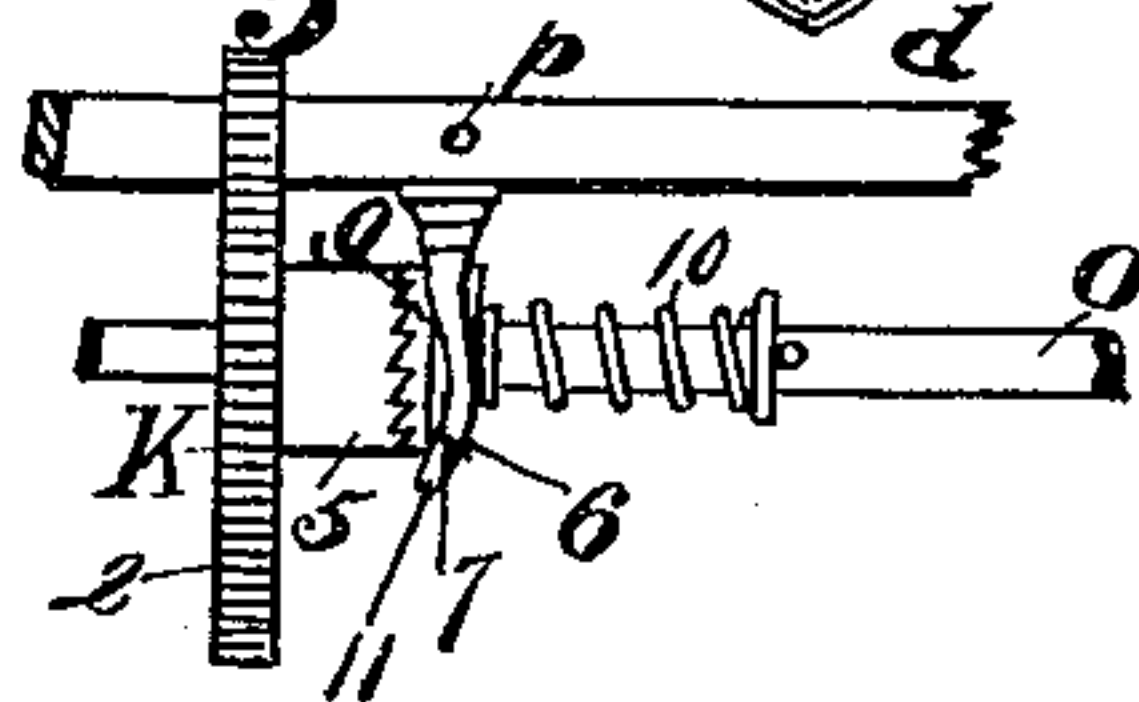


Fig. 5.

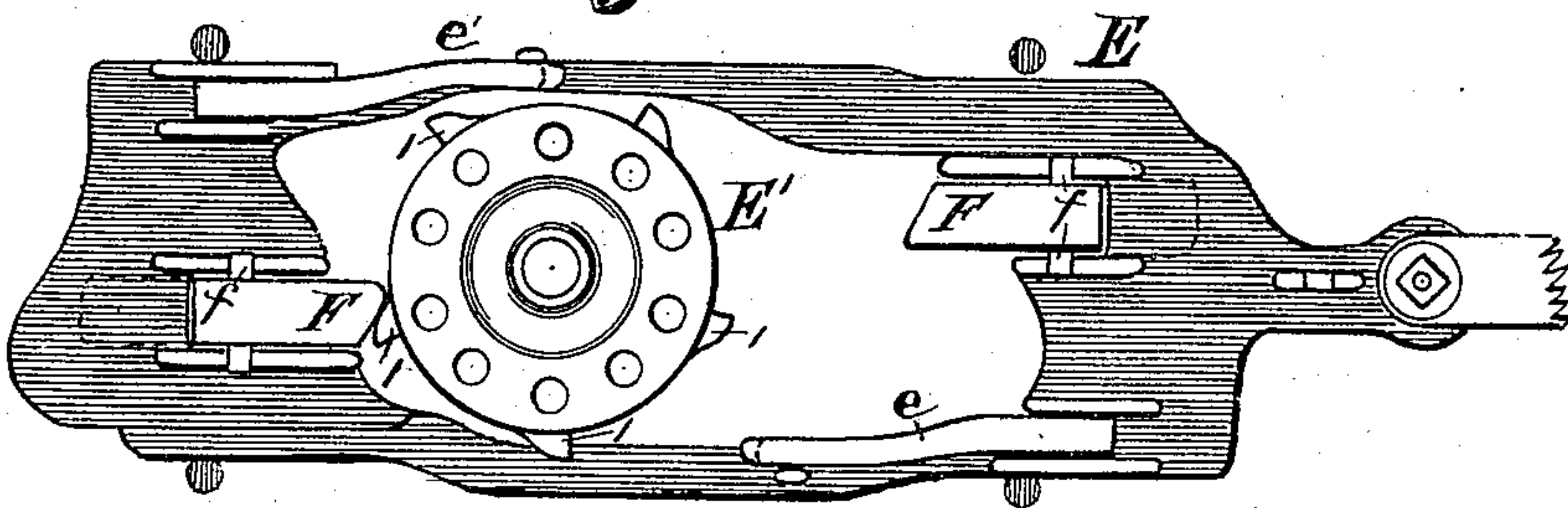


Fig. 6.



Attest

Joe H. Sims

John S. Roebuck Jr.

Inventor

Andrew Runstetter

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Admin of Michael Runstetter

by Wood & Boyer their Attorneys

UNITED STATES PATENT OFFICE.

JAMES A. MARLAY (ADMINISTRATOR OF MICHAEL RUNSTETLER, DECEASED)
AND ANDREW RUNSTETLER, OF DAYTON, OHIO, ASSIGNORS TO THE
FARMERS FRIEND MANUFACTURING COMPANY, OF SAME PLACE.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 320,943, dated June 30, 1885.

Application filed July 2, 1884. (No model.)

To all whom it may concern:

Be it known that ANDREW RUNSTETLER, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, and MICHAEL RUNSTETLER, late a citizen of the United States, residing at the same place, (deceased,) before the death of said MICHAEL RUNSTETLER had invented certain new and useful Improvements in Corn-Planters, of which the following is a specification.

This invention relates to improvements in corn-planters. It relates, first, to the dropping and seed-covering mechanism; and, second, to the combination, with the planting mechanism, of devices for dropping fertilizing material with the corn, all of which will be fully set forth in the description of the accompanying drawings.

Figure 1 is a sectional longitudinal elevation of the improved planter; Fig. 2, a sectional view of the hoppers, valve, and furrow-shoe. Fig. 3 is a rear elevation of the dropper-valve. Fig. 4 is a front section elevation of the shipping-clutch; Fig. 5, a top plan view of the seed-dropper; Fig. 6, a perspective view of the stop-pawl; Fig. 7, a perspective view of the heel-plate of the shoe-shank; Fig. 8, a perspective view of the lower valve.

A represents one of the ground wheels; B, the main frame mounted thereon; C, the runner-frame; *a*, the seat; *b*, the hand-lever; *c c'*, the foot-levers for controlling the runner-frame.

The planter is adapted to be used as a corn-planter alone or with the fertilizer-distributor combined, and is especially adapted to drop the fertilizing material intermittently with the corn.

d d represent the cross-pieces of the runner-frame, on which the seed-box P is mounted in the usual manner.

E represents a reciprocating seed-slide for rotating seed-wheel E'.

e e' represent oscillating driving-pawls, which alternately engage with lugs to drive the seed-wheel E'.

Dropping devices of this kind are liable to lock at a half stroke and check the fall of the charge. When used in combination with the

fertilizing attachments, this locking is very objectionable, as the attendant cannot see the charge of seed fall, as his view is obscured by the fertilizing attachment. Effective means are provided for preventing this result.

F represents the stop-pawls; *f*, pivots on which they turn in bearings on plate E. The forward end of pawl F lies in a slot cut in plate E, as shown in Fig. 5, and the rear end, *f'*, is bent down and passes under plate E, as shown by dotted lines, Fig. 5. The extreme forward end of pawl F is rounded off on the bottom side, and the front edge inclined to fit the lugs 1 on seed-wheel E'. The locking is usually occasioned by the end of the driving-pawl catching on the ends of the lugs on the dropper-plate when a full stroke is not made; but by beveling off the under side of pawl F, and beveling the forward end to fit the side of lugs 1, pawl F will always rise, instead of catching and locking, and the dropping of seed will be positive.

In order to drop the fertilizer intermittently with the corn, the shank G of the shoe is extended rearwardly under fertilizer-box G', as shown in Fig. 2, and left open to receive spout *i*, which conveys the material vertically into the hollow of shank G.

H represents a valve pivoted within the walls of shank G, and extending from the front under seed-box P to the rear back of spout *i*.

h represents a plate formed on valve H, and curved forward to form an incline, to carry the fertilizer forward and downward to mix it with the corn at the bottom of the valve-chamber, so that both may be dropped and covered simultaneously. *j* represents a teat projecting up from valve H, engaging with seed-slide E, so that valve H will reciprocate in unison with the slide.

J represents a plate covering the opening in shank G, above the incline *h* of the valve, so as to prevent the fertilizer passing out above the valve.

L represents a stationary diaphragm in the shoe below the valve H, and forms a division in the opening of the shoe-shank below the valve-chamber.

In order that the combined planter and fertilizer-distributor may be worked advantageously

geously, the fertilizing devices must be automatically stopped when the shoes or runners are raised out of the ground. This is accomplished as follows:

5 K represents a rotary fertilizer seed-wheel driven by bevel-gear L and bevel M on shaft O, which shaft is driven by transmitter chain-wheels 2 and 3, wheel 3 being driven by the main axle or ground-wheel. Shaft O is di-
 10 vided, the sections of which are united by clutch 5 and 6. Wheel 2 is mounted loosely on the shaft O, and clutch 5 is formed on the hub of wheel 2. Clutch 6 is keyed to shaft O.
 7 represents a flange on clutch 6; 10, a spring
 15 coiled around shaft O, and holding clutch 6 normally in contact with clutch 5.
 11 represents a lever projecting horizontally back from rail *d*, to which it is pivoted, so as to move laterally, resting on clutch 6 and abut-
 20 ting flange 9.
 D represents a stud projecting down from the rail of the main frame B. It is inclined so that its lower end projects past lever 11. When runner frame C is raised, shaft O, being
 25 journaled thereto, is raised with it, and lever 11 is brought into contact with the inclined stud D, which moves it laterally on its pivot *p*, pressing it against flange 9 of clutch 6, com-
 pressing spring 10 and dividing shaft O, so
 30 that wheel 2 runs as an idler, thereby stopping the movement of the fertilizer-driving bevels L and M, so that the materials will not be wasted when the runners are out of the ground.

What is claimed is—

35 1. The combination, with the seed-hopper

P, fertilizer-hopper G'', and the elongated hopper-shank G, of the valve H, extending from front to rear of the shank G, and provided with incline *h*, and operated by slide E for dropping the fertilizer intermittently with
 40 the seed, substantially as specified.

2. The slide E, in combination with the seed-wheel E', with lugs 1, driving-pawls *e e'*, and inclined pivoted stop-pawls F, substantially
 45 as specified.

3. The slide E, provided with the driving-pawls *e e'*, in combination with the stop-pawls F, pivoted on said slide, having the forward end inclined to engage at a single contact-
 50 point with the lugs 1, substantially as described.

4. The combination, with the divided clutch-shaft O, shipping-lever 11, pivoted to the runner-frame and engaging with the clutch, of the inclined stud D, attached to the main frame
 55 and adapted to engage with the shipping-lever and move it laterally as the runner-frame is raised to unship the clutch and throw the fertilizer mechanism out of gear, substantially as
 60 described.

In testimony whereof we have hereunto set our hands.

JAMES A. MARLAY,

Administrator de bonis non of the estate of Michael Runstetter, deceased.

ANDREW RUNSTETLER.

Witnesses:

WARREN MUNGER,

GEORGE O. WARRINGTON,

HARRY B. KUENS.