(No Model.) 2 Sheets—Sheet 1.

J. A. CUMMING.

PLANTER.

No. 388,399. Patented Aug. 28, 1888.

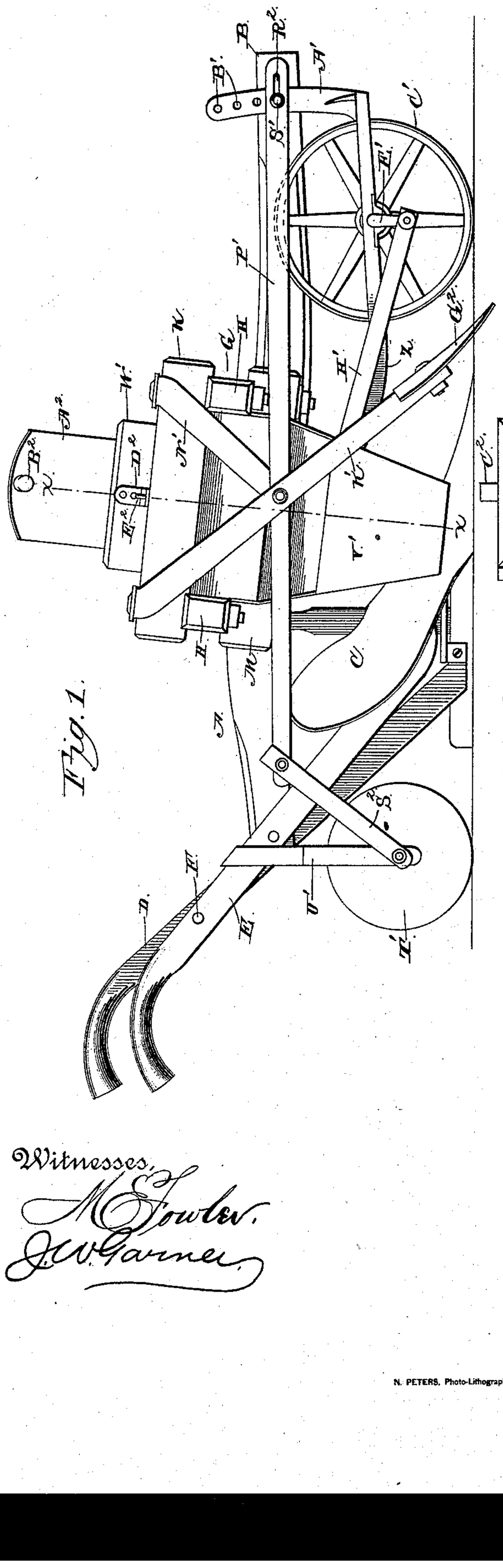

Fig. 1.

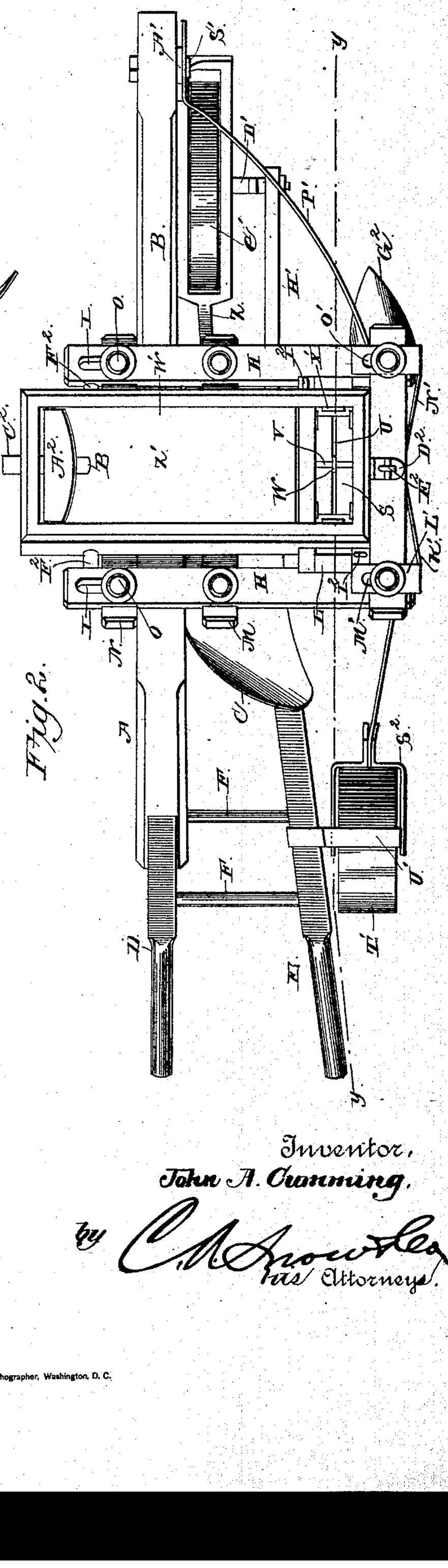

Fig. 2.

Witnesses,
M. Fowler.
J. W. Garner.

Inventor,
John A. Cumming.
by C. M. Arrowsley
his Attorneys.

(No Model.) 2 Sheets—Sheet 2.

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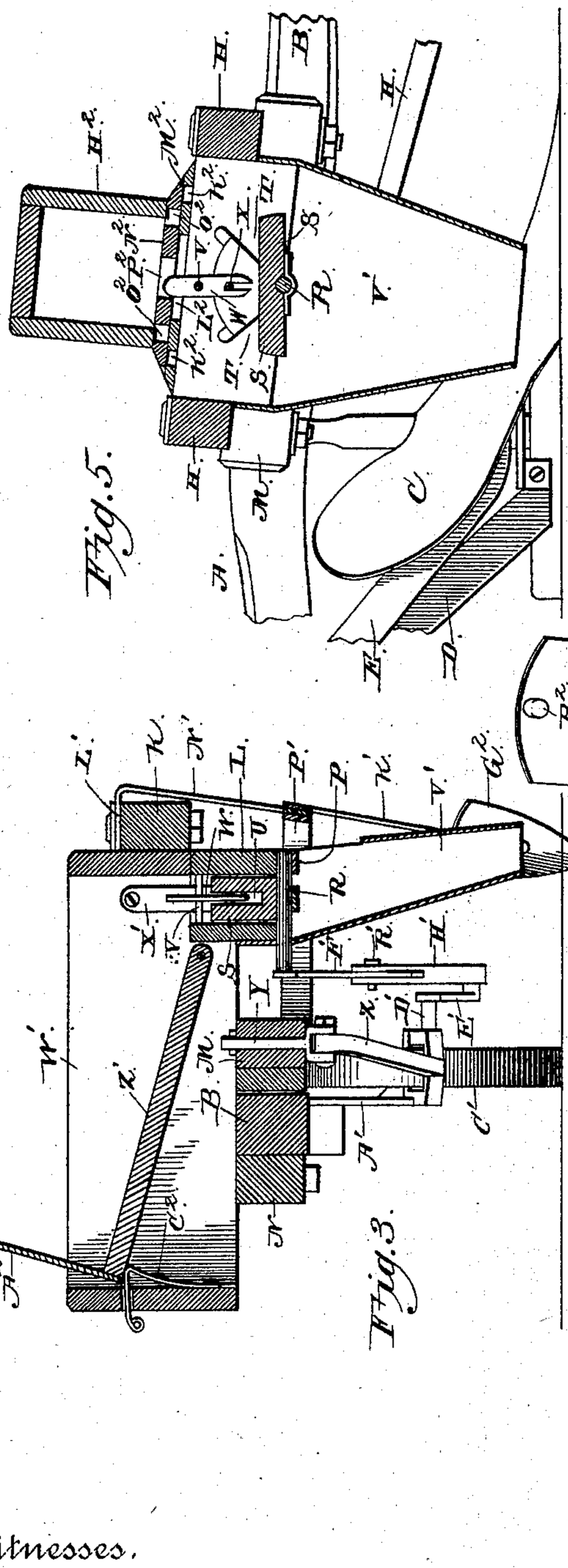

Fig. 5.

Fig. 3.

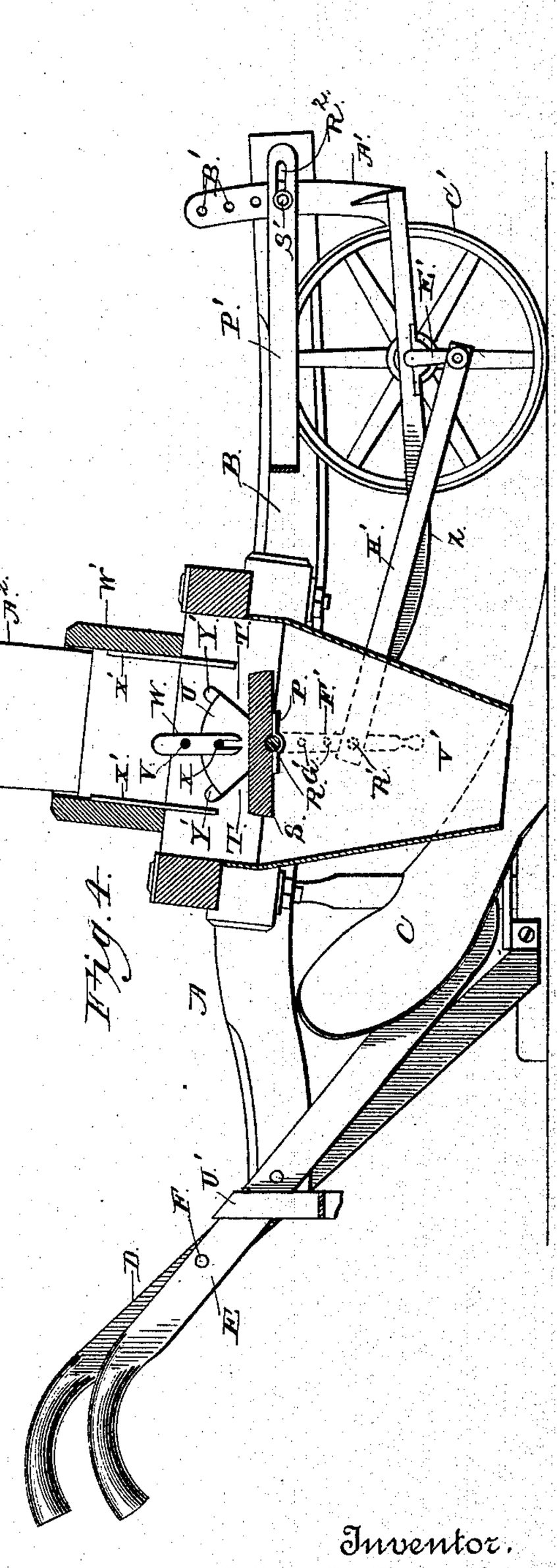

Fig. 4.

Witnesses.

M. E. Fowler.

J. W. Garner

Inventor.

John A. Cumming.

by C. A. Snow & Co.

his Attorneys.

UNITED STATES PATENT OFFICE.

JOHN ALEX. CUMMING, OF CRAWFORD, NEBRASKA.

PLANTER.

SPECIFICATION forming part of Letters Patent No. 388,399, dated August 28, 1888.

Application filed July 8, 1887. Serial No. 243,785. (No model.)

To all whom it may concern:

Be it known that I, JOHN ALEX. CUMMING, a citizen of the United States, residing at Crawford, in the county of Dawes and State of Nebraska, have invented a new and useful Improvement in Planters, of which the following is a specification.

My invention relates to an improvement in planters; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a planter embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical transverse sectional view taken on the line *x x* of Fig. 1. Fig. 4 is a vertical longitudinal sectional view taken on the line *y y* of Fig. 2. Fig. 5 is a similar view illustrating my cotton-seed-planting attachment.

A represents a plow of the usual construction, of which B is the beam.

C represents the share; D, the handle which is attached to the landside and to the rear end of the beam, and E the handle which is attached to the mold-board of the plow and is connected to the handle D by means of bars F.

G represents a frame, the construction of which is as follows:

H represents a pair of parallel transverse beams, which are provided at one end with vertical longitudinal slots I. The opposite ends of the beams H are connected by a beam, K, which is arranged at right angles to the beams H and bolted on the upper sides thereof.

L represents a rectangular bottomless box, which is arranged between the opposing sides of the beams H on the inner side of the beam K. A beam, M, which is parallel with the beam K and with the box L, is bolted to the under sides of the beams H at a suitable distance from the slotted ends thereof. This beam M bears against the inner side of the plow-beam.

N represents a beam which bears against the opposite side of the plow-beam, and has its ends arranged under the slotted ends of the beams H and connected thereto by means of vertical bolts O, which pass through the beams N and slots I. The plow-beam is thus clamped between the beams M and N, and the frame G is thereby secured to the plow-beam and extends laterally from the inner side thereof.

On the under edges of the side walls of box L, at the center of the same, are bearing-blocks P, in which is journaled a transverse rock-shaft, R.

S represents a segmental block, which is attached to the shaft R and is adapted to oscillate therewith, the said block being arranged between the opposing sides of the box L, and having recesses or cups T made in its ends, as shown. In the center of this block is a vertical longitudinal slit, U.

V represents a transverse rod, which connects the side walls of the box L above the block S, and on this rod is fulcrumed a rocking blade or stirrer, W, the opposite edges of which are sharpened. The lower end of this blade or stirrer extends into the central portion of the slit U, and is secured therein by a pin, X, which is arranged transversely in the block.

Y represents a bolt, which extends up through the center of the beam M, and is provided at its lower end with a pair of ears or lugs, between which are pivoted the rear ends of a curved arm, Z. The front end of this arm is upturned, as at A′, and provided with a vertical series of openings, B′. Near the front end of arm Z the same is widened and provided with a longitudinal opening of suitable length and width to receive a supporting-wheel, C′, the said wheel being secured to a shaft, D′, that is journaled in the frame formed at the front end of arm Z. The inner end of this shaft is provided with a crank, E′.

To the inner end of the shaft R is attached a depending crank-arm, F′, which is provided with a vertical series of openings, G′.

H′ represents a pitman, which has its front end connected to the crank E′. The rear end of the said pitman is bifurcated, and thereby adapted to receive the crank-arm F′, and is attached thereto by means of the bolt or pin R′, which passes through transverse aligned openings in the pitman and through either of the series of openings G′.

K′ represents an inclined standard, which has its upper end bent at right angles to form an arm, L′, that bears upon the upper side of the beam K near the rear end thereof, and is provided with a slot, M′, through which the

bolt that connects the beam K to the end of the rear beam H passes.

N′ represents a brace-arm, which has its lower end attached to the standard K′ and its upper end bent at right angles and arranged on the front upper side of the beam K, and provided with a slot, O′, through which passes the bolt that connects the front end of the beam K to the front beam H. By means of these slots and bolts the standard and its brace-arm may be adjusted laterally toward or from the end of the frame G, as will be readily understood.

P′ represents a guard-bar, which has its front end provided with a longitudinal slot R^2 and placed against one side of the front portion, A′, of curved arm Z. A bolt or screw, S′, passes through the slot R^2, through one of the openings B′ in arm Z, and enters the beam, thereby securing the front end of arm Z at any desired vertical adjustment, and also securing the guard-rod to the arm, as will be readily seen. The guard-rod is attached to the standard K′ and projects rearward from the latter a considerable distance. To the rear end of the guard-rod is pivoted a frame, S^2, in the rear end of which is journaled a wheel, T′.

U′ represents a loop or yoke, which is pivoted to the inner side of frame S^2 and passes around the handle E, the function of the said yoke being to limit the downward movement of the wheel T′.

V′ represents a seed-spout, which is attached to the box L and depends therefrom to a suitable depth.

W represents a hopper, which is arranged transversely on the frame G, and has its lower edges bearing upon the beams M and N and its outer end cut away on its lower side, and thereby adapted to fit snugly on the upper side of the box L. To the inner sides of the front and rear walls of the hopper, at the outer end thereof, are secured a pair of vertical depending spring-plates, X′, which extend downward in the ends of the box L and are arranged within a slight distance of the ends of the oscillating block S. The latter is provided on its upper side with projecting arms Y′, which bear against the opposing sides of box L.

Z′ represents the bottom of the hopper, which has one end pivoted between the front and rear walls of the hopper within a suitable distance of the outer end thereof. The free end of the bottom board, Z′, is provided with a vertical end plate, A^2, having the inwardly-projecting stud B^2 at its upper end.

C^2 represents a spring-detent, which is arranged on the inner side of one end of the hopper, and is adapted to engage the under side of the bottom board, Z′, when the latter is raised, in order to sustain the said board in an inclined position, and thereby adapt it to feed the contents of the hopper into the box L, as indicated by solid lines in Fig. 3. One end of the hopper has a projecting slot-arm, D^2, which engages a staple or keeper, E^2, on the upper side of beam K, and from the front and rear walls of the hopper project studs F^2, which bear against the opposing sides of the beams H, and thereby prevent longitudinal movement of the hopper.

G^2 represents a furrow-opener, which is attached to the lower end of the standard K′.

The operation of my invention is as follows: The potatoes to be planted are placed in the hopper, and the bottom board thereof is adjusted so as to cause the potatoes to be fed into the box L. As the machine is drawn across the field the plowman causes the shovel or furrow-opener G^2 to open the furrow in advance of the spout, and the wheel C′ rotates by frictional contact with the earth and imparts oscillating motion to the block S by reason of the pitman and the crank-arms with which the wheel and the shaft of the block are provided. As said block oscillates in the lower side of the box L it causes the stirrer arm or blade to oscillate longitudinally, and thereby cut the potatoes into pieces of suitable size to be planted. As each end of the oscillating block rises the cut potatoes fall into the recesses or cups T thereof, and as the end of the said block descends the potatoes drop through the spout V′ into the furrow. The plowshare, which is arranged on one side of the spout, turns the furrow, which completely covers the potatoes, and the wheel T′, which is trailed in rear of the spout, rolls the furrows formed by the plow, as will be readily understood. The spring-plates X′ in the hopper prevent the potatoes from choking at the ends of the oscillating block and becoming mashed and bruised.

In Fig. 5 I illustrate my invention adapted for use in planting cotton, in which I discard the hopper W′ and substitute a smaller hopper, H^2, therefor. The said hopper H^2 is arranged on the upper side of the block L, and is provided at its front and rear ends with projecting arms or studs that engage keepers or staples I^2, that project from the upper side of the box. The bottom of the hopper is provided near its ends with discharge-openings K^2, and in the center with a vertical longitudinal slot, L^2, of suitable length. A central longitudinal groove, M^2, is made in the upper side of the bottom of the hopper, and in the same fits a seed-slide, N^2, and this slide is provided near its ends with vertical discharge-openings O^2, adapted to register alternately with the discharge-openings K^2; and the center of the slide has an opening, P^2, to receive the upper end of the stirrer or blade.

When the machine is in motion, the stirrer or blade imparts reciprocating motion to the seed-slide, thereby causing the latter to drop seeds into the spout at each end of the stroke. The stirrer or blade, which projects up through the center of the slide, also acts to agitate the seeds in the hopper and prevents the same from becoming lodged.

Having thus described my invention, I claim—

1. The combination, with a plow, of the frame G, attached to the plow-beam and pro-

jecting laterally therefrom, the said frame having the hopper, the pivoted adjustable bottom board, Z′, and the box L, the shaft R, journaled in the said box, the segmental block S, attached to the said shaft and arranged in the box or cups, the crank-arm F′, attached to the inner end of the shaft, the arm Z, having its rear end pivotally attached to the frame G, the said arm carrying the wheel C′ and being provided at its front end with the upturned portion A′, bolted to the front end of the plow-beam, the shaft of wheel C′, having the crank-arm, and the pitman connecting the said crank-arm to the crank-arm F′, substantially as described.

2. The combination, in a planter, of the frame G, adapted to be attached to the beam of the plow and having the planting mechanism, the standard K′, attached to the outer end of frame G, laterally adjustable thereon, and adapted for the attachment of the furrow-opener, the plates N′, connecting the said standard to the frame, and also laterally adjustable on the latter, the arm Z, having its rear end pivotally connected to the frame G, the wheel C′, journaled in the said arm, and actuating-connections between said wheel and the planting mechanism, substantially as described.

3. The combination, with a plow, of the frame G, attached to the beam and extending laterally therefrom, the said frame having the planting mechanism and the furrow-opener, the arm Z, having its rear end pivotally connected to the frame G and having its front end upturned, as at A′, and secured to the plow-beam, the wheel C′, journaled in arm Z and connected to the planting mechanism, the guard-arm P′, attached to the front portion of arm Z and to the standard K′ and extending rearwardly therefrom, the frame S^2, pivoted to the rear end of guard arm, the wheel or roller journaled in the said frame, and the link or loop connecting the pivoted frame S^2 to one of the plow-handles, substantially as described.

4. In a planter, the frame G, having the parallel beams M and N, adapted to receive the plow-beam between them, and thereby attach the said frame to the said plow-beam, one of the said beams being adjustable in the frame G, so as to clamp the other beam throughout the length of the clamping-beam, substantially as described.

5. The combination of the hopper, the planting mechanism located at one end thereof, and the bottom board, Z′, arranged longitudinally in the hopper and having its end adjacent to the planting mechanism pivoted, whereby the said board may be inclined and caused to feed the contents of the hopper to the planting mechanism, substantially as described.

6. The combination of the hopper having the reciprocating seed-slide N^2, the oscillating block S, arranged below the slide, and the fulcrumed arm W, having its lower end connected to the block S and its upper end engaging the slide, substantially as described.

7. The combination of the hopper having the reciprocating seed-slide N^2, provided with the opening P^2, the oscillating blocks S, arranged below the slide, and the fulcrumed arm W, having its upper end engaging the opening P^2 of the slide and its lower end slotted and engaging a pin projecting from the block S, substantially as described.

8. The combination, with the plow, of the frame G, projecting from one side of the beam and having the planting mechanism, the standard K′, attached to the outer end of frame G and having the furrow-opener, the frame S^2, attached to the plow in rear of the frame G and having the roller T′, and the guard-arm P′, attached to the front of the plow-beam and to the standard K′ and frame S^2, substantially as described.

9. In combination with the handles, the link U′, depending from the handles, the wheel or roller T′, the pivoted frame S^2, in which the roller is journaled and to which the link U′ is attached, and the guard-arm P′, connecting the frame S^2 to the frame of the machine, as set forth.

10. In combination with the hopper, the planting mechanism located at one end thereof, the pivoted bottom board, Z′, arranged longitudinally in the hopper, and the catch or projection for supporting the said board in the inclined position, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN ALEX. CUMMING.

Witnesses:

E. G. SIGGERS,

MYRTLE STALNAKER.