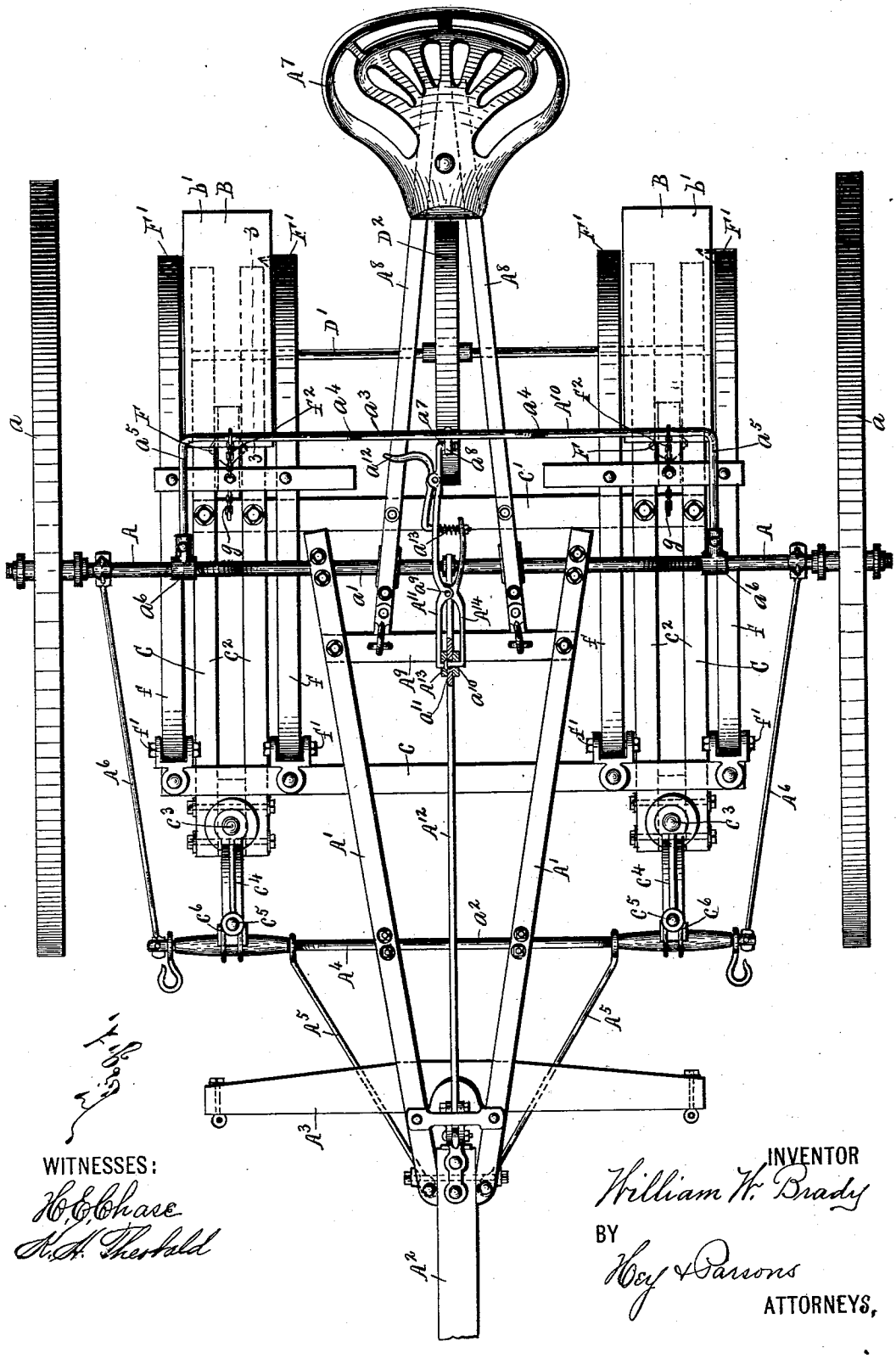
(No Model.) 3 Sheets—Sheet 1.

W. W. BRADY.

PLANTER.

No. 563,129. Patented June 30, 1896.



WITNESSES:
H. C. Chase
R. A. Theobald

INVENTOR
William W. Brady
BY
Hoy & Parsons
ATTORNEYS.

ANDREW B. GRAHAM, PHOTO-LITHO. WASHINGTON, D.C.

(No Model.) 3 Sheets—Sheet 2.

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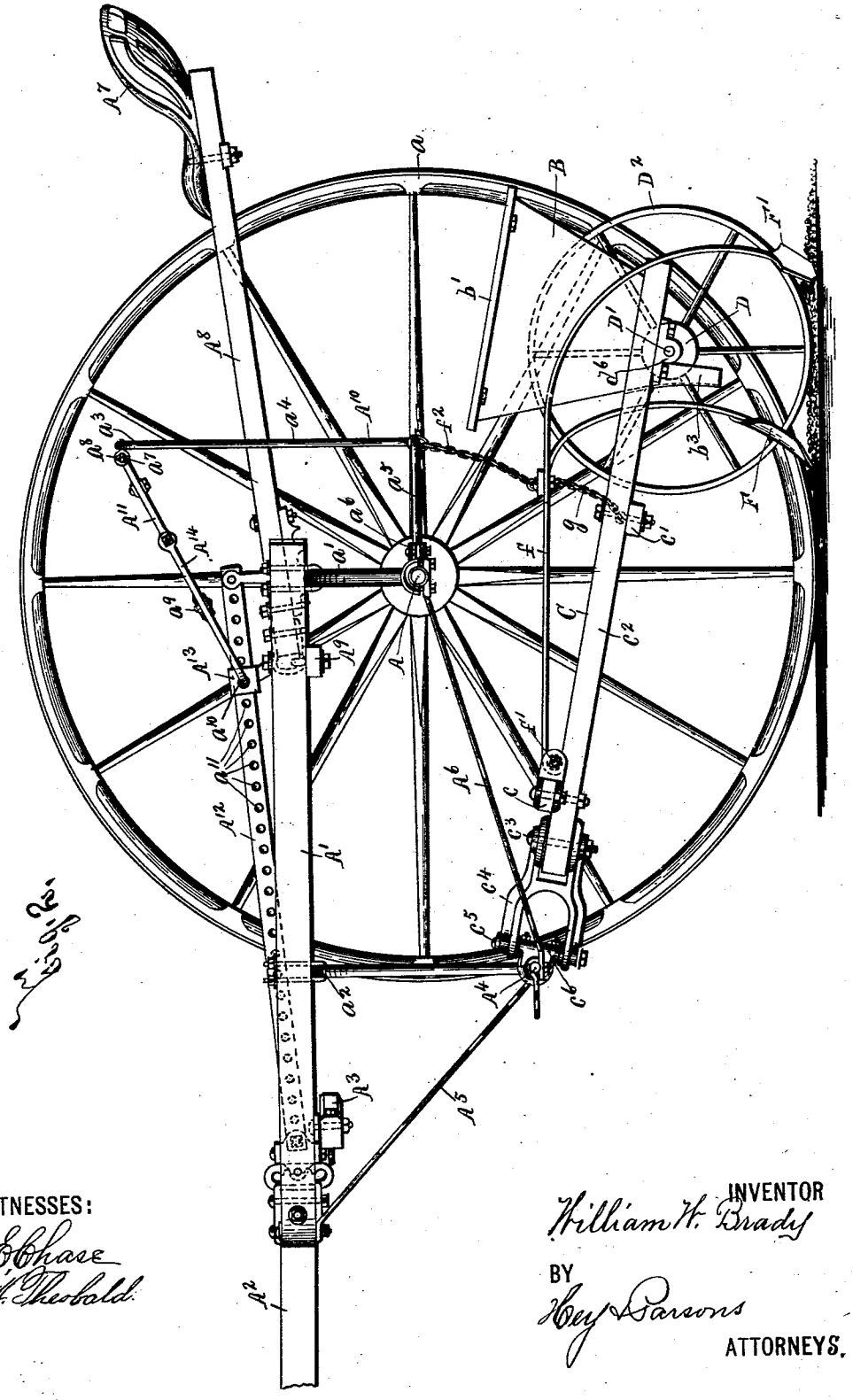

WITNESSES:
H. C. Chase
A. H. Theobald.

INVENTOR
William W. Brady
BY
Hey & Parsons
ATTORNEYS.

ANDREW B. GRAHAM, PHOTO-LITHO. WASHINGTON, D.C.

(No Model.) 3 Sheets—Sheet 3.

W. W. BRADY.

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Fig. 3.

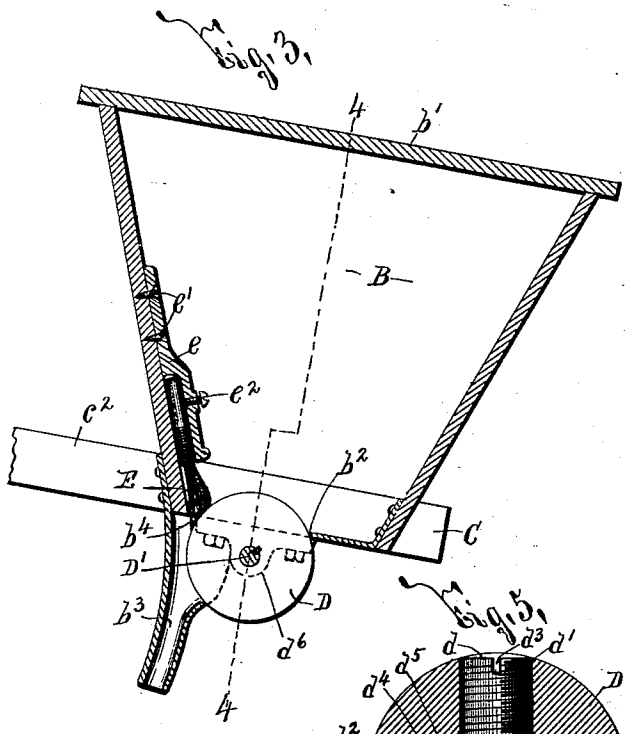


Fig. 4.

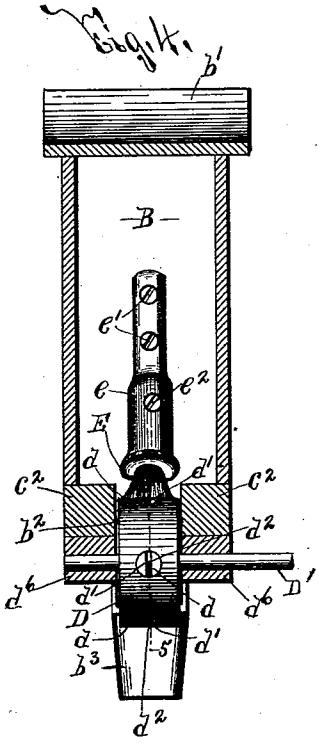


Fig. 5.

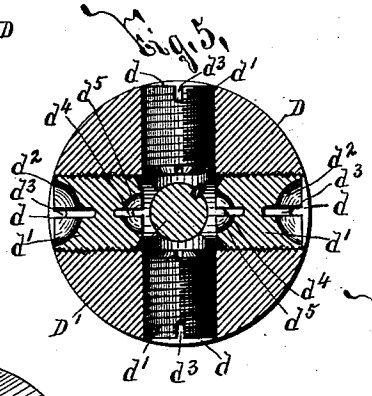


Fig. 6.

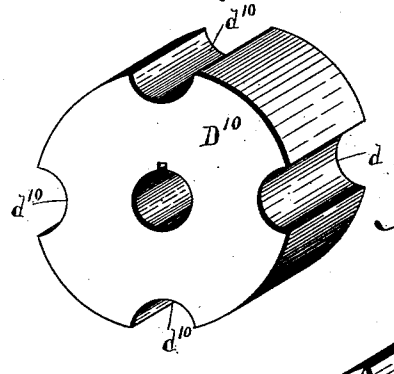


Fig. 7.

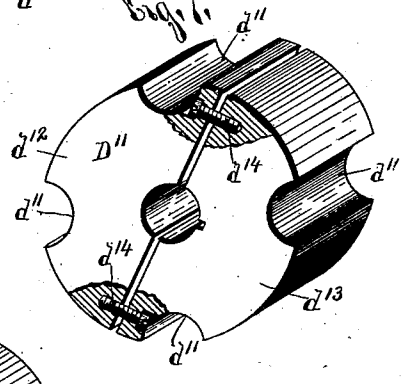
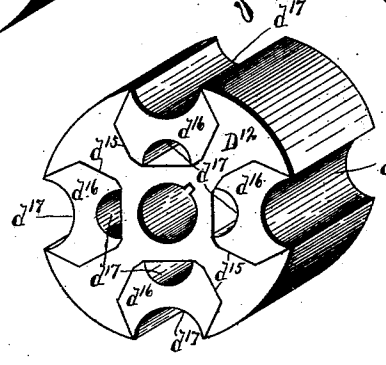


Fig. 8.



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H. C. Chase

A. A. Theobald.

INVENTOR

William W. Brady

BY

Hoyt & Parsons.

ATTORNEYS.

ANDREW B. GRAHAM, PHOTO-LITHO. WASHINGTON, D.C.

UNITED STATES PATENT OFFICE.

WILLIAM W. BRADY, OF AVON, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO MICHEAL D. BREEN, OF SAME PLACE.

PLANTER.

SPECIFICATION forming part of Letters Patent No. 563,129, dated June 30, 1896.

Application filed November 26, 1894. Serial No. 529,985. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. BRADY, of Avon, in the county of Livingston, in the State of New York, have invented new and useful Improvements in Planters, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in planters, particularly applicable for use in planting beans and other seeds, and has for its object the production of a device which is durable in use, effective in operation, and particularly practical and simple in construction; and to this end it consists, essentially, in the general construction and arrangement of the component parts of the planter, all as hereinafter more particularly described, and pointed out in the claims.

In describing this invention, reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figures 1 and 2 are respectively top plan and side elevation of my improved planter shown as operatively connected to a wheeled supporting-frame having the front portion of its tongue broken away. Fig. 3 is a longitudinal vertical sectional view taken on line 3 3, Fig. 1. Fig. 4 is a transverse vertical sectional view taken on line 4 4, Fig. 3. Fig. 5 is a detail sectional view of the detached measuring and discharging head, taken on line 5 5, Fig. 4; and Figs. 6, 7, and 8 are isometric views of modified constructions of measuring and discharging heads.

My improved planter is here shown as secured to a wheeled frame particularly applicable for supporting cultivator-teeth and their supporting-bars, but it is obvious that any suitable supporting-frame for the planter may be used therewith.

A is the axle of the cultivator-frame, here illustrated as having wheels $a\,a$ at its opposite ends and as formed with an elevated central portion a', and A′ A′ are frame-bars extending forwardly from the axle A and having their rear ends mounted upon its elevated central portion a'. The frame-bars A′ A′ incline toward each other from their rear ends, and their front ends are suitably connected to a tongue A^2 and an evener-bar A^3. A fixed frame piece or bar A^4 is arranged beneath the intermediate portions of the frame-bars A′ A′ and is formed with an elevated central portion a^2, secured to said frame-bars, and the opposite extremities of the fixed frame piece or bar A^4 are connected by braces A^5 A^6 to the axle A and the front ends of the frame-bars A′ A′.

A^7 is a seat arranged at the rear of the axle A′ and mounted upon the rear ends of seat-supporting bars A^8, having their front ends secured to a cross-bar A^9, interposed between the rear ends of the frame-bars A′ A′. An actuating-bar A^{10} is arranged between the axle A and the seat A^7 and is formed with an elevated central portion a^3, disposed above the intermediate portions of the seat-supporting bars A^8, upright arms a^4, arranged on opposite sides of the bars A^8, and forwardly-extending lateral arms a^5, having their front ends secured to eyes a^6, journaled upon the axle A. A suitable connecting-piece A^{11} is interposed between the elevated central portion a^3 of the actuating-bar A^{10} and the rear end of a stop-bar A^{12}, extending forwardly from the axle A and interposed between the frame-bars A′ A′. One end of the connecting-piece A^{11} is provided with an arm a^7, secured to a projection a^8, formed upon the elevated central portion a^3 of the actuating-bar A^{10}, and the other end of said connecting-piece is secured to a head A^{13}, movable along the stop-bar A^{12}.

A stop A^{14} is pivoted at a^9 to the connecting-piece A^{11} and is provided with an engaging arm a^{10}, movable through an eye in the head A^{13} into apertures a^{11} in the stop-bar A^{12}, and a hand-engaging piece a^{12} is pivoted to the connecting-piece A^{11}, and is suitably connected to the stop A^{14} for forcing the same from operative position and permitting the head A^{13} to move lengthwise of the bar A^{12}. A suitable spring a^{13} automatically forces said stop A^{14} to its normal position. The stop-bar A^{12} is suitably supported at its front and rear extremities and is preferably arranged in an inclined plane. The wheeled frame, as thus briefly described, is particularly applicable for use with my improved

planter, but forms no essential part thereof, since, as previously stated, any suitable wheeled frame may be used.

B represents a receptacle for receiving the beans or other seeds to be planted, and C a support for such receptacle, which is mounted upon the wheeled frame previously described. I preferably use two receptacles B, arranged side by side and separated a suitable distance. Each receptacle is formed with front and rear walls inclining downwardly toward each other, and is provided with a movable top wall b' for the entrance of the seed, and is formed with an outlet-aperture b^2 in its lower wall. A chute or guide b^3 extends downwardly from the bottom wall of each receptacle B, and is formed at its upper end with an opening b^4, alined with the opening b^2.

The support C for the receptacles B is of any desirable form, size, and construction, and, as here illustrated, consists of a pair of substantially parallel bars c c', arranged one in advance of the other at substantially right angles with the line of draft, and separated pairs of bars c^2, suitably secured to the opposite ends of the bars c c' and having their rear ends secured to the bases of the receptacles B. The front ends of the separated pairs of bars c^2 are secured by pivotal pins c^3 to the rear ends of links c^4, having their front ends secured by pivots c^5 to eyes c^6, hinged to the opposite ends of the fixed frame piece or bar A^4. The pivots c^3 c^5 are arranged in substantially vertical planes, the links c^4 are movable in a substantially horizontal plane upon the pivots c^3 c^5, and the eyes c^6 are movable in substantially vertical planes upon the frame-piece A^4. Consequently the rear end of the frame C is free to move up and down as the eyes c^6 swing up and down, or laterally as the links c^4 swing upon the pivots c^3 c^5.

The beans or other seeds are discharged from the receptacles B by suitable measuring and discharging heads D, arranged in the openings b^2 b^4 in the lower walls of said receptacles and the chutes or guides b^3 extending therefrom. The peripheries of the heads D D are formed with suitable chambers or pockets d for receiving the seed, and in the preferable form of my invention, as shown at Fig. 5, the amount of seed received within the chambers or pockets is regulated by screw-threaded sections or plugs d', adjustable lengthwise therein and having concave outer faces d^2. The sections or plugs d' are also formed with slots d^3 extending inwardly from their concave outer faces for permitting the entrance of a screw-driver or other turning tool.

If desired, the inner faces of the plugs d' may be provided with similar slots d^4 and with concavities d^5 of less area than the concavities formed in the outer faces thereof in order that the ends of the sections or plugs may be reversed for additionally regulating the amount of seeds measured and discharged by the heads D. The heads D are mounted upon the opposite ends of a shaft D', journaled in suitable bearings d^6, secured to the support C, and the central portion of said shaft is provided with an actuating-wheel D^2, movable over the surfaces to be seeded for revolving said heads, and it will be understood that when the wheel D^2 is elevated above the surfaces to be seeded the heads D are not revolved. The practical and effective discharge of the seeds from each of the receptacles B is facilitated by a suitable brush E, arranged within each receptacle in suitable proximity to its front wall and the outlet-opening b^2 thereof. The lower ends of each brush bears upon the peripheral face of the corresponding head provided with the chambers or pockets d and wipes the beans therefrom without liability of injury to the beans. The upper end of each brush is detachably engaged by a brush-holder e, secured by suitable fastening means e' to the adjacent front wall of the corresponding receptacle B. A suitable clamp e^2 engages the upper end of each brush E and holds the same in its operative position.

F F are digging-teeth arranged in front of the heads D D for making furrows into which the beans or seeds are dropped by said heads, and F' F' are pairs of digging-teeth arranged on opposite sides of each of the heads D for closing the furrows in which the seeds are dropped. The teeth F F' are supported upon frames f, hinged at f' to the support C. The amount of the entrance of teeth F F' is regulated by the position of the actuating-bar A^{10}, previously described, and flexible connections f^2, interposed between the frames f and the lower ends of the arms a^4 of said actuating-bar. As the elevated central portion a^3 of the bar A^{10} is rocked forwardly the front ends of the arms a^5 swing upon the axle A, and the lower ends of the arms a^4 of said bar are rocked upwardly, thus raising the upper ends of the connections f^2 and elevating the frames f. Suitable connections g are interposed between the frames f and the support C, and these connections are of sufficient length to permit considerable upward movement of the frames f before the rear end of the support C is elevated. It will be understood, however, that the actuating-bar A^{10} has sufficient movement to elevate the support C until the wheel D^2 is raised above its position assumed when in contact with the surface to be seeded, for the purpose of preventing the discharge of the seed, and that the stop-bar A^{12} and the stop A^{14} hold the frames f and the support C in their adjusted position.

At Figs. 6, 7, and 8 I have shown modified forms of heads D^{10} D^{11} D^{12} for measuring and discharging the seed, the heads D^{10} D^{11} being provided with peripheral transverse grooves d^{10} d^{11}, and the head D^{11} being composed of separable sections d^{12} d^{13}, secured together by suitable clamping means d^{14}. It is evident

that when a measuring-head of the construction seen at Fig. 7 is used it may be readily detached from its operating-shaft and the corresponding sections of a similar head having grooves of different capacity may be substituted. The head D^{12} is formed with transverse grooves d^{15} in its periphery, which receive removable sections d^{16}, having opposite faces provided with longitudinal grooves d^{17} of unequal area. The sections d^{16} may be readily withdrawn and sections provided with grooves of the desired area substituted at the will of the user of the planter.

The operation of my invention will be readily perceived upon reference to the foregoing description and the accompanying drawings, and it will be particularly noted that the desired amount of beans or seeds is continuously discharged into a furrow which is closed after the entrance thereof, that the depth of the furrow and the operation of the measuring and discharging heads is under the control of the operator, and that the supporting-frame of the planter is free to move vertically and laterally, and may be entirely detached from the wheeled frame when desired. It is obvious, however, that the planter may be permanently attached to a suitable wheeled frame, and that the exact detail construction and arrangement of its component parts may be somewhat varied without departing from the spirit of the invention, and consequently I do not herein specifically limit myself to such exact detail construction and arrangement.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a planter, the combination of an axle, a fixed frame piece or bar having a depressed end portion arranged beneath and in front of the axle, a support arranged beneath the axle and having its front extremity flexibly connected to the depressed end portion of the fixed frame-piece, a receptacle for the seed mounted on said support, a revoluble feeding-head movable in the receptacle, and an actuating-bar arranged above the rear extremity of the support and connected thereto and provided with forwardly-projecting arms journaled on the axle, substantially as and for the purpose specified.

2. In a planter, an axle, a fixed frame piece or bar having a depressed end portion arranged beneath and in front of the axle, a support arranged beneath the axle and having its front extremity flexibly connected to the depressed end portion of the fixed frame-piece, a seed-receptacle mounted on said support, a revoluble feeding-head mounted in said receptacle, digging-teeth for making and closing a furrow to receive the seed, a movable frame, for raising and lowering the digging-teeth, arranged above said support and hinged thereto, and an actuating-bar, arranged above the rear extremity of the support and connected thereto and provided with forwardly-projecting arms journaled on the axle.

3. In a planter, the combination of an axle, a fixed frame piece or bar having a depressed end portion arranged beneath and in front of the axle, a support arranged beneath the axle and having its front extremity flexibly connected to the depressed end portion of the fixed frame-piece, a receptacle for the seed mounted on said support, a revoluble feeding-head movable in the receptacle, an actuating-bar at the rear of the axle having an elevated central portion, and forwardly-projecting arms journaled on the axle, connections between said support and the rear ends of said arms, a stop-bar arranged beneath the elevated central portion of the actuating-bar, a head movable lengthwise of the stop-bar and provided with a stop for engaging the stop-bar, and a connecting-piece between the elevated central portion of the actuating-bar and the head, substantially as and for the purpose described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Rochester, in the county of Monroe, in the State of New York, this 5th day of November, 1894.

WILLIAM W. BRADY.

Witnesses:
K. H. THEOBALD,
H. E. CHASE.