

(No Model.)

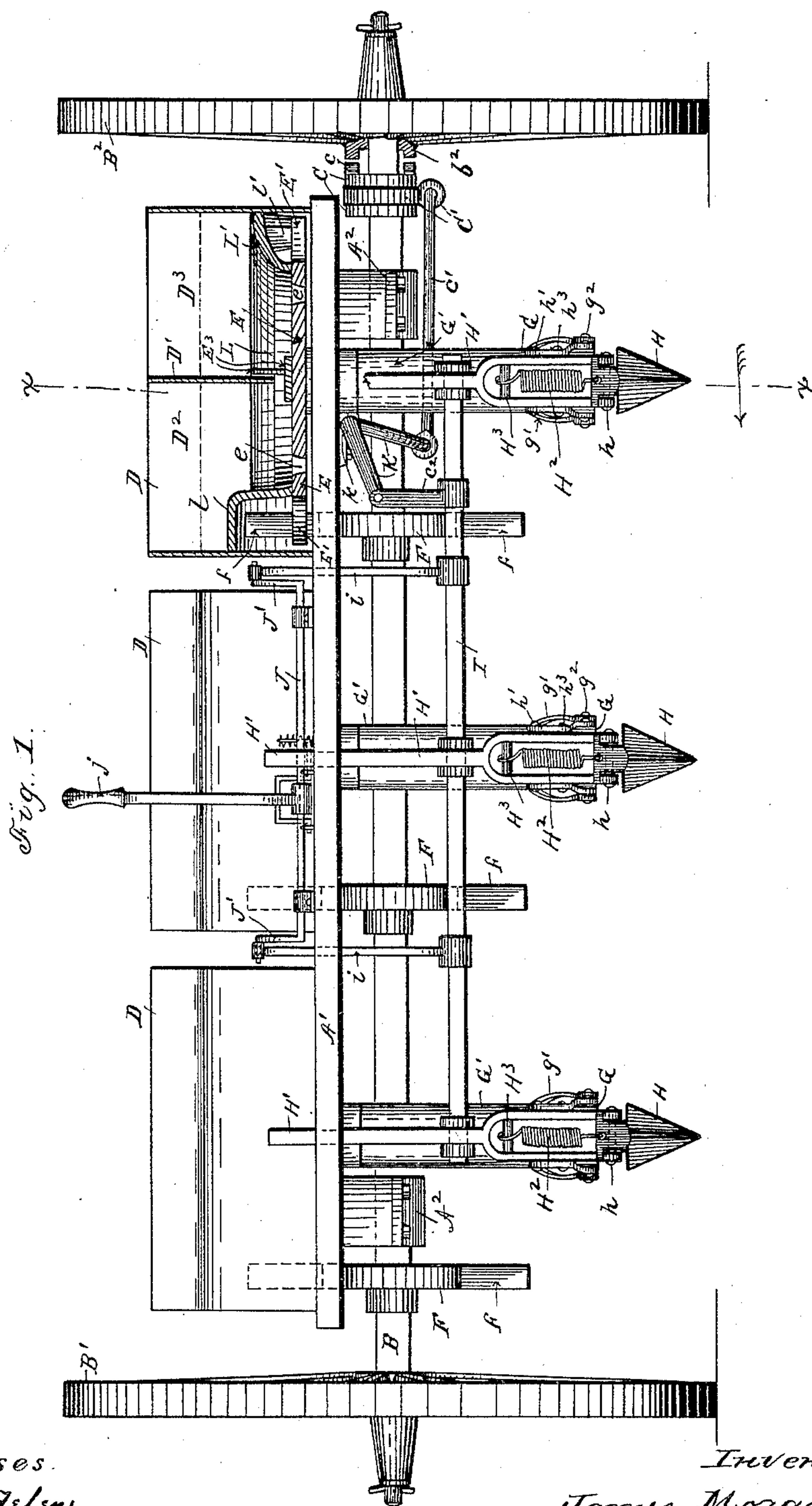
3 Sheets—Sheet 1.

J. MORGAN.

CORN PLANTER AND FERTILIZER DISTRIBUTER.

No. 440,492.

Patented Nov. 11, 1890.



Witnesses.
W. R. Edelen,
Chapman

Inventor.
James. Morgan
By Leggett & Leggett
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(No Model.)

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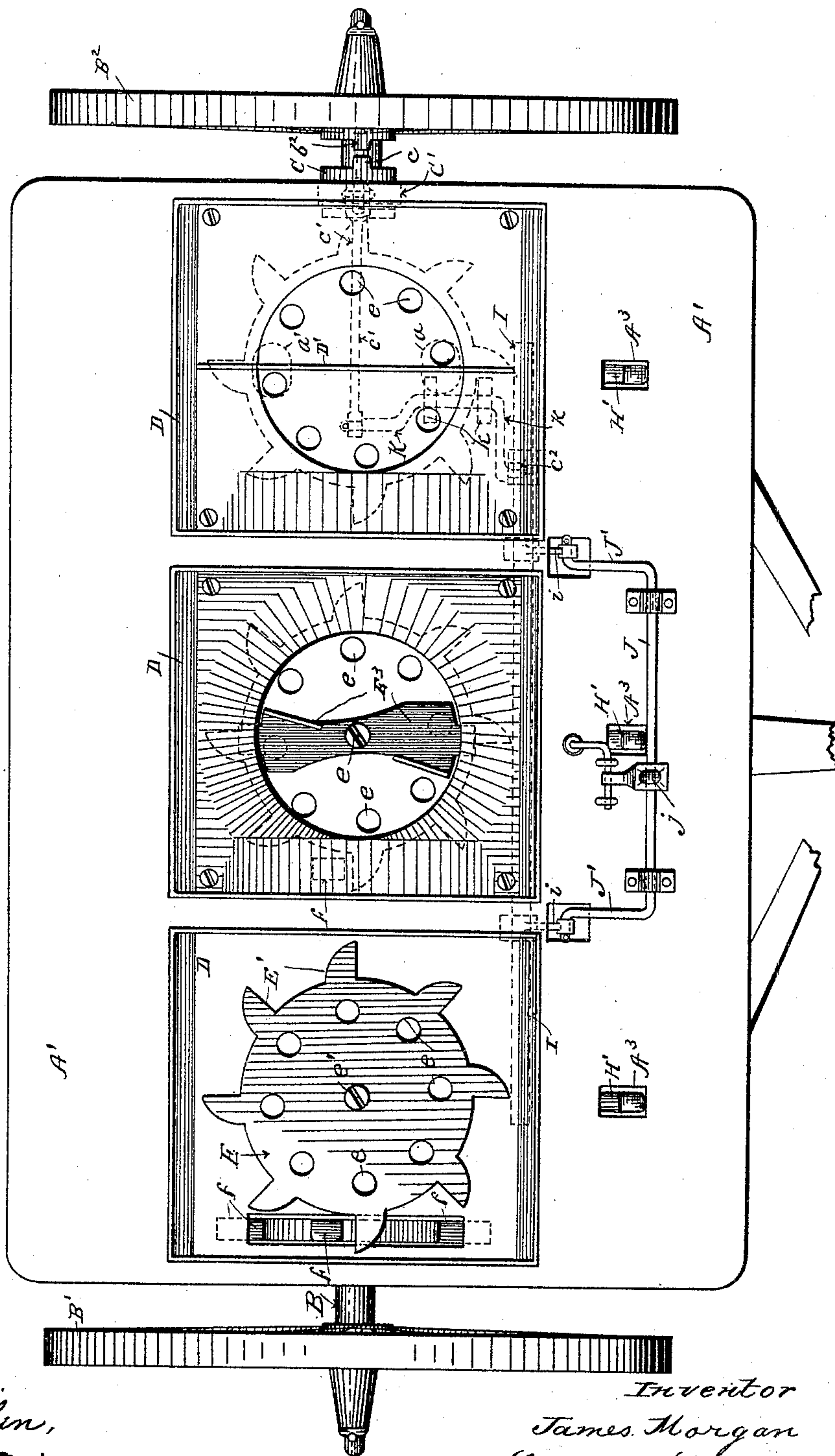
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Fig. 2.



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Fig. 3.

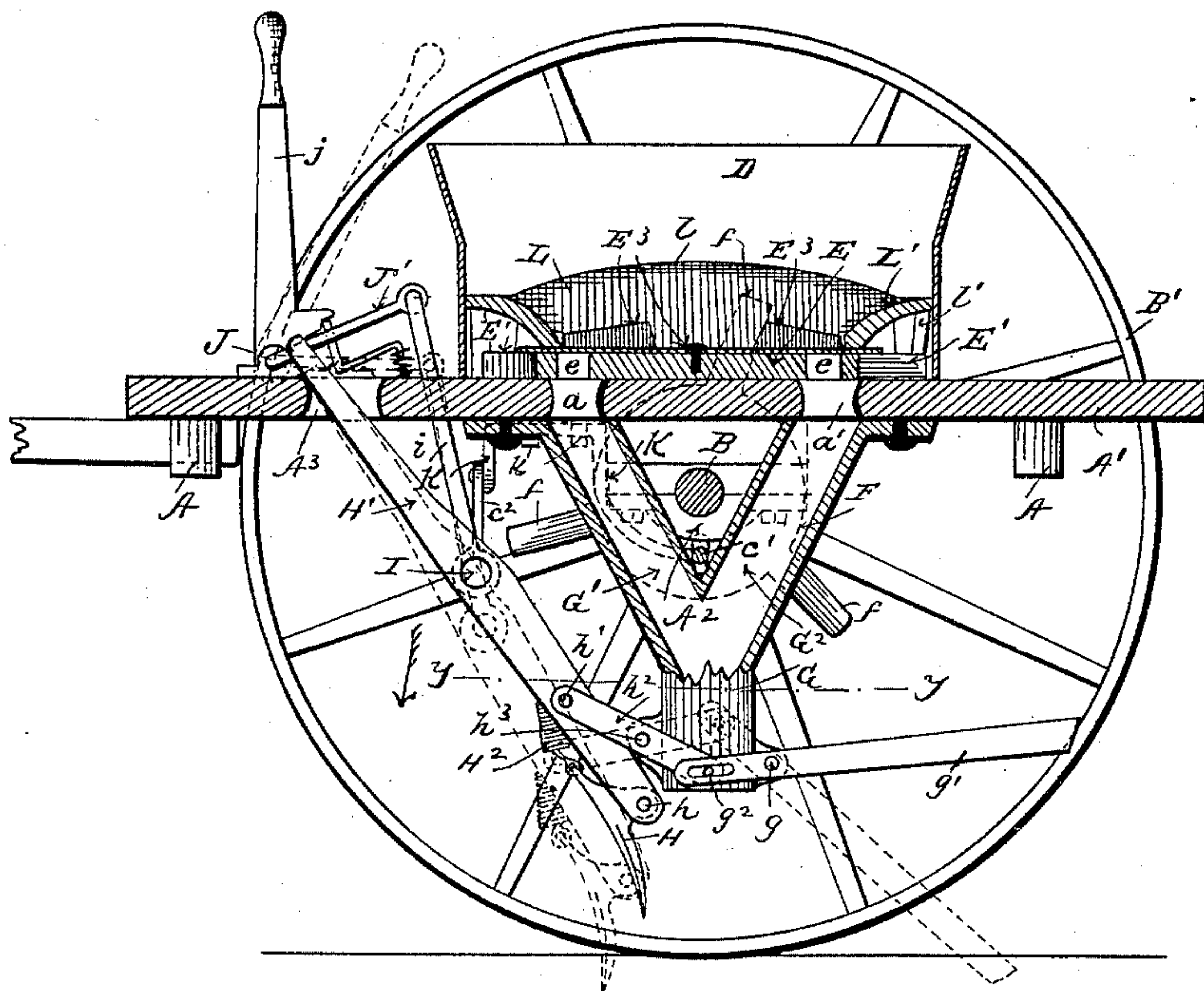


Fig. 4.

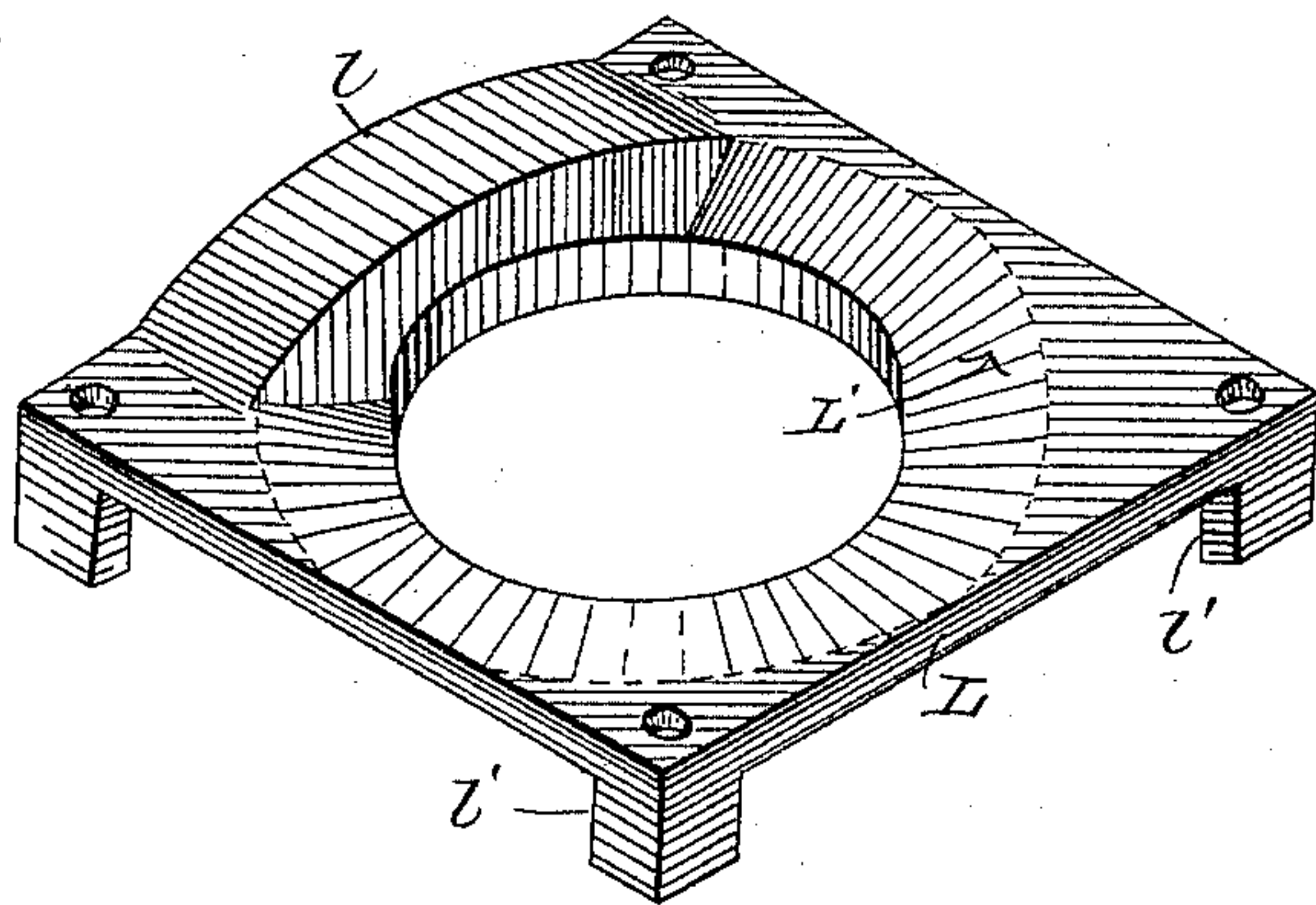
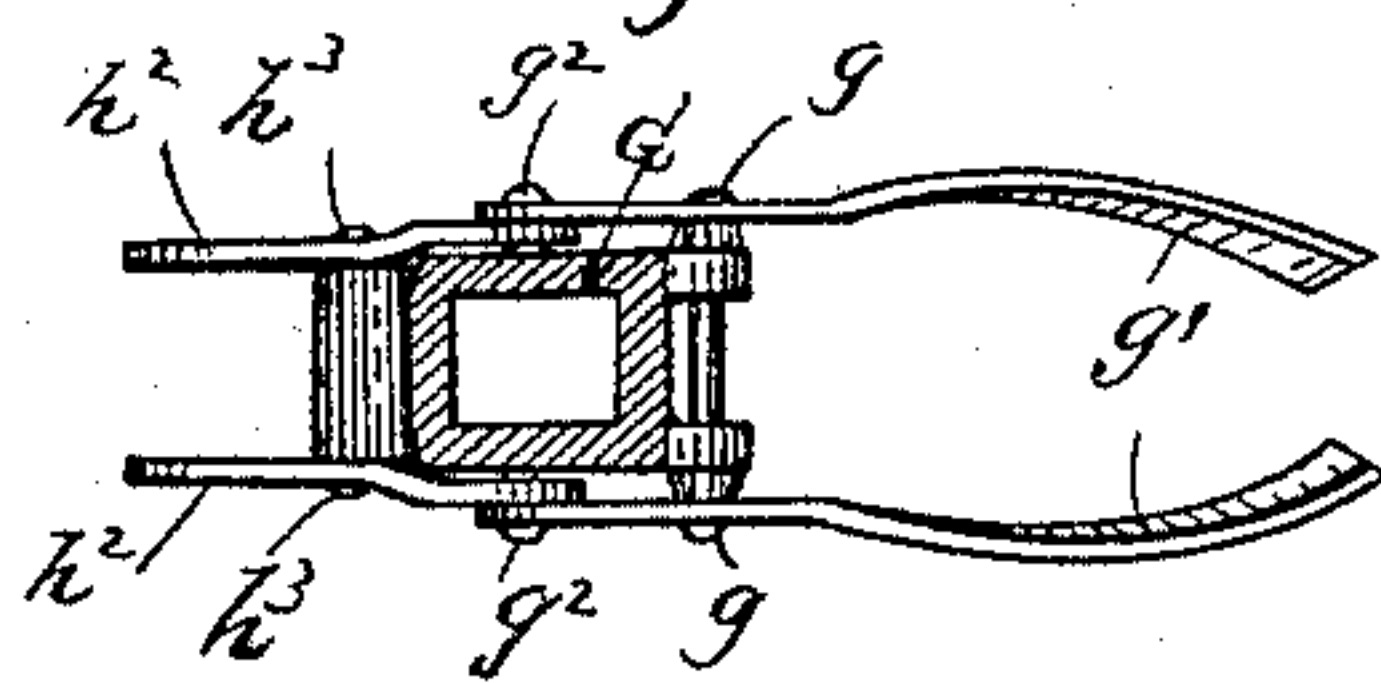


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES MORGAN, OF NILES, OHIO.

CORN-PLANTER AND FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 440,492, dated November 11, 1890.

Application filed May 5, 1890. Serial No. 350,584. (No model.)

To all whom it may concern:

Be it known that I, JAMES MORGAN, of Niles, in the county of Trumbull and State of Ohio, have invented certain new and useful Improvements in Corn-Planters and Fertilizer-Distributers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in corn-planters and fertilizer-distributers, and it consists in certain features of construction and in combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a front elevation. Fig. 2 is a plan. Fig. 3 is an elevation in transverse section on line $x x$, Fig. 1. Fig. 4 is a perspective view of the feed-wheel cover. Fig. 5 is a plan of the coverers.

A represents a suitable frame floored over to provide a suitable table or platform A' , this structure being provided with boxes A^2 , in which boxes is journaled the axle B. This axle is provided with wheels $B^1 B^2$ mounted loose on the axle. The hub of wheel B^2 is provided with jaws b^2 , adapted to engage the opposing jaws c of sleeve C, this mechanism constituting a clutch of well-known variety. When the clutch is closed wheel B^2 serves as a traction-wheel for rotating the axle, and with the clutch open the wheels both revolve on the axle. Upon platform A' are mounted the different hoppers or containers $D D D$, each hopper having an internal vertical partition D' , dividing the hoppers into compartments $D^2 D^3$, respectively, for corn or other grain, the other compartments being for fertilizer. Centrally located at the bottom of each hopper is a feed-wheel E, having a series of holes e arranged in concentric order with the axis e' of the wheel. These wheels E somewhat resemble what are usually called "star-wheels," having projecting wings or members E' that are engaged by arms f of wheel F, the latter being rigidly mounted on the axle.

G are forked feed-tubes, the prongs thereof $G^1 G^2$ passing astride the axle and are secured to the under side of the platform, the latter being provided with holes $a a'$ that discharge, respectively, into the branch tubes $G^1 G^2$, tube G discharging into the furrows of the cultiva-

tor-blades H. The latter are pivoted, respectively, at h to supporting-arms H' . These arms extend up loosely through slots A^3 of the platform, the three arms H' being connected by a cross-bar I. The latter in turn connects with links i , and the links connect with crank-arms J' of shaft J. To this shaft is attached a hand-lever j , by operating which the different cultivator-blades are simultaneously raised or lowered, and a catch of some kind is provided for holding lever j in its forward position, whereby the cultivator-blades are elevated above the ground. Sleeve C, aforesaid, is of course mounted loosely on the axle, so that it may slide endwise thereon, but is held from turning on the axle by the well-known device of spline and groove. This sleeve is provided with an annular groove, in which operates band C' . The latter is connected by links c' with the depending arm of bell-crank lever K, the latter being pivoted at k . The lateral arm of the bell crank lever is connected by link c^2 with bar I aforesaid, so that the same movement of lever j that lowers the cultivator-blades to engage the ground also closes the clutch, and the clutch is opened by reversing the hand-lever for raising the cultivator-blades. Arms H' near the lower ends thereof have pivoted thereto at h' links h^2 , these links in turn being pivoted at h^3 to forwardly-projecting ears of tubes G. To rearwardly-projecting ears of these tubes are pivoted at g the covering-blades g' . The forward ends of blades g' and the rearward ends of links h^2 are pivotally connected at g^2 , the one member having a slot in which the pivotal pin operates. When, therefore, the cultivator-blades are elevated the covering-blades are also elevated, and when the cultivator-blades are depressed so as to enter the ground the rearward sections of the covering-blades drag along the ground and cover the grain and fertilizer that have been deposited in the furrows. The cultivator-blades are held in working position, respectively, by means of springs H^2 , these springs connecting with the cultivator-blades forward of the pivotal bearings of the latter, and the springs connecting above with pins H^3 of arms H' . If, therefore, a cultivator-blade meets with an obstruction, the blade may turn rearward against the action of its spring, and the recoil of the spring will return the

blade forward to its normal or working position as soon as the obstruction is passed.

The device as shown is adapted to simultaneously plant three rows of corn or other grain, but a machine may be constructed on the same principle to plant any desired number of rows—one or more. If the hills of corn along the road should be, say, three feet apart, wheels B B^2 should be nine feet in circumference, in which case wheel F should have three arms, by which arrangement the feed-wheels E are moved one notch by each engagement; and as holes e correspond in number with wings E' each movement of the wheel E brings one hole e over hole a of the platform and brings a hole e over hole a' of the platform, the one hole e being laden with grain and the opposite hole e being filled with fertilizer, and both are simultaneously discharged. A thin plate E^3 extends forward and rearward across the face of each wheel E , these plates being located directly under the partitions D' , serving to strike off the superfluous corn and fertilizer that is being carried in holes e to the discharging-orifices a a' . A cover or guard L fits inside each hopper, this member having a central flanged opening adapted to expose the series of holes e of the feed-wheel E below. Member L has an upwardly-projecting conical rim L' , and an arched section of this rim l for accommodating arms f of wheel F ; also, are provided legs l'' , adapted to rest on the platform A' to support member L with its central flange close to the face of the feed-wheels.

With the construction shown and described the operator has to manipulate only one lever j in raising and lowering the cultivator-blade and in opening and closing the clutch.

What I claim is—

1. In a machine for planting corn and distributing fertilizer, the combination, with an axle, wheels loose thereon, cultivator-blades, a cross-bar connecting the arms or shanks of the blades, a rocking shaft having cranks thereon, links connecting these cranks with the cross-bar, and hand-lever on the rocking shaft for raising and lowering the cultivator-blades, of a clutch for coupling the axle with one of its wheels, a bell-crank lever, and links connecting the ends of the latter, respectively, with the clutch and cross-bar, substantially as set forth.

2. In mechanism for planting grain and distributing fertilizer, the combination, with cultivator-blades, of coverers pivoted to supports near their upper ends, and pivoted links connected with the cultivators and with the coverers, whereby when the cultivators are elevated the coverers are also elevated, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 14th day of April, 1890.

JAMES MORGAN.

Witnesses:

W. P. EVANS,
JOHN A. HIMES.