

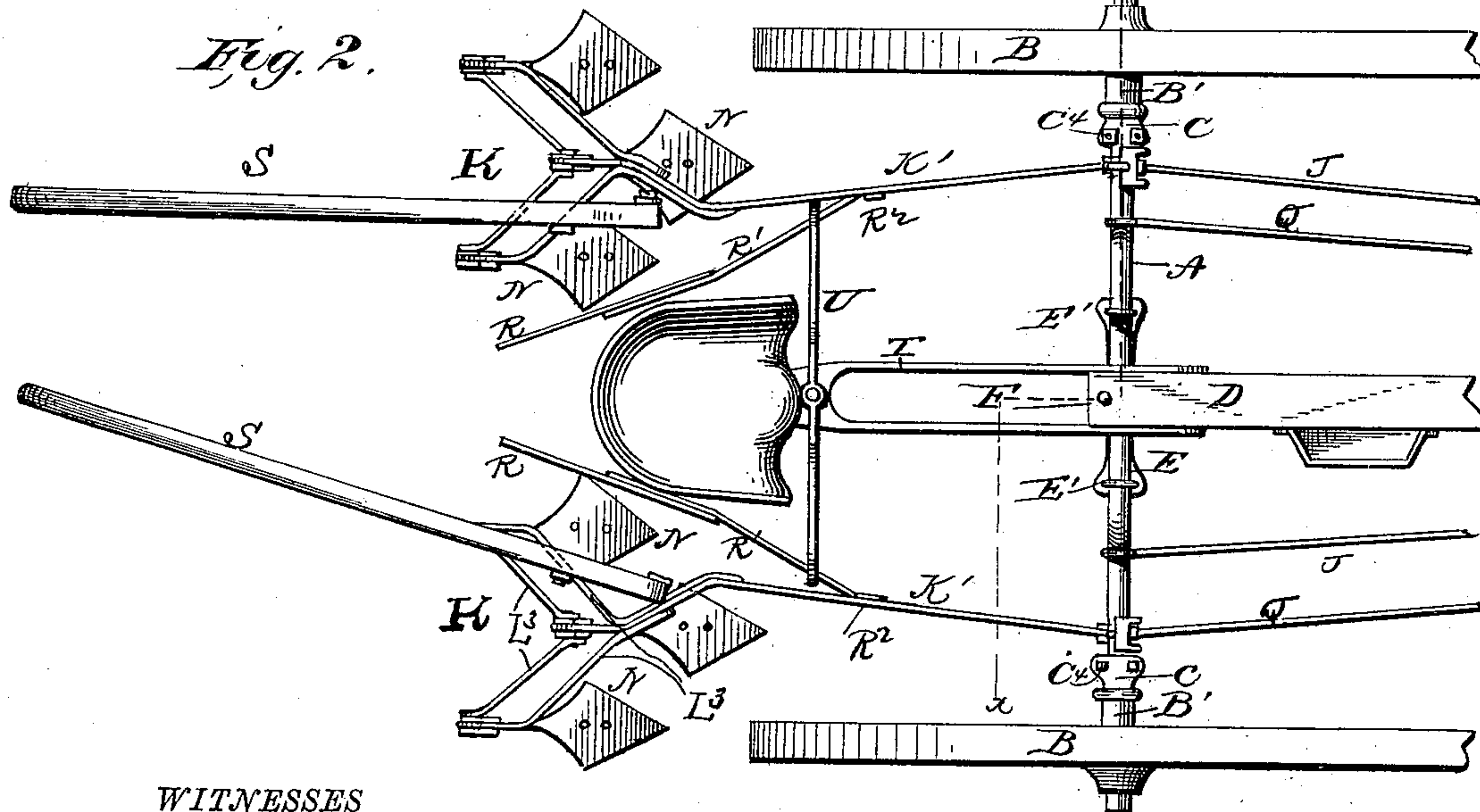
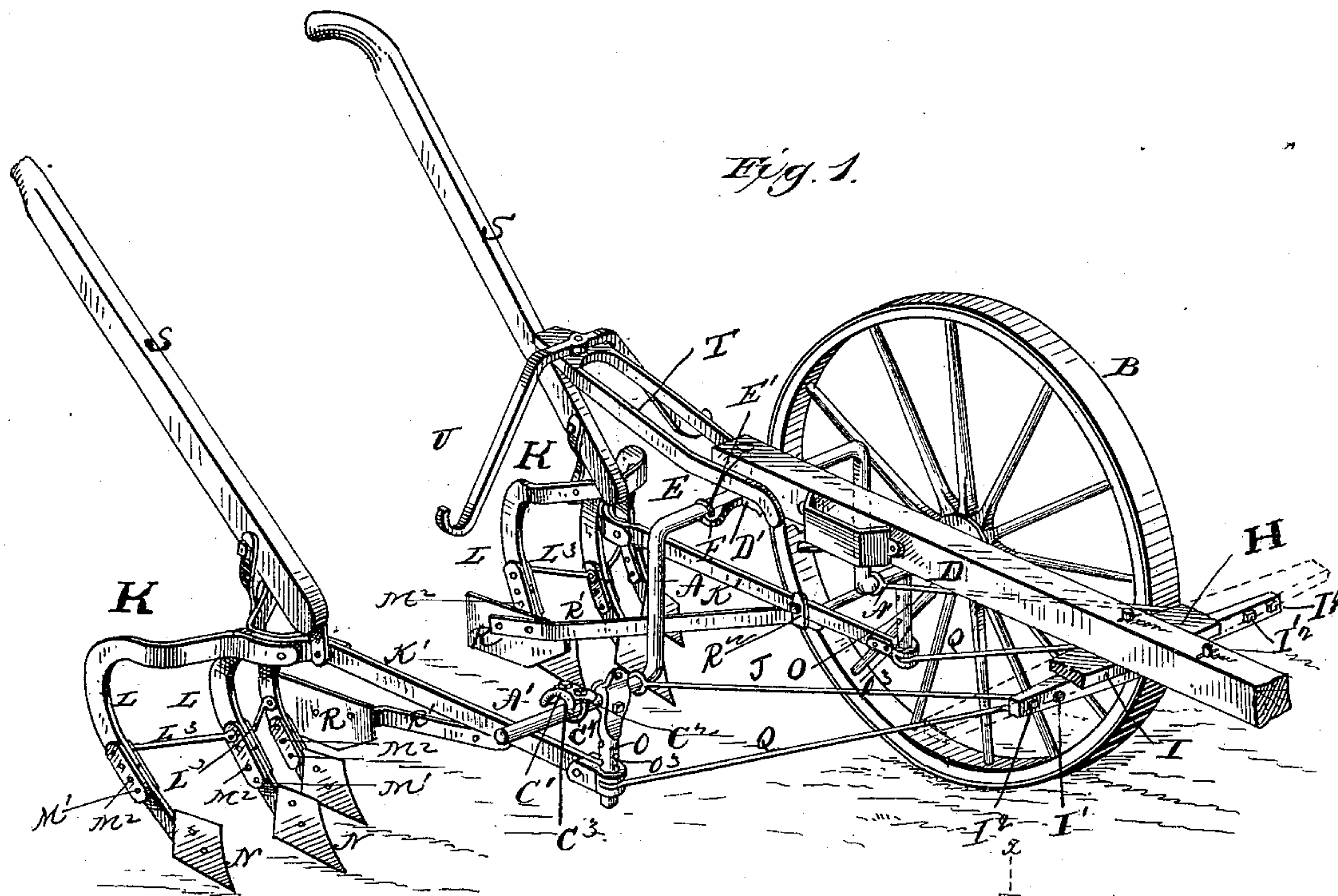
(No Model.)

2 Sheets—Sheet 1.

T. L. BROOKS.  
CULTIVATOR.

No. 332,044.

Patented Dec. 8, 1885.



WITNESSES

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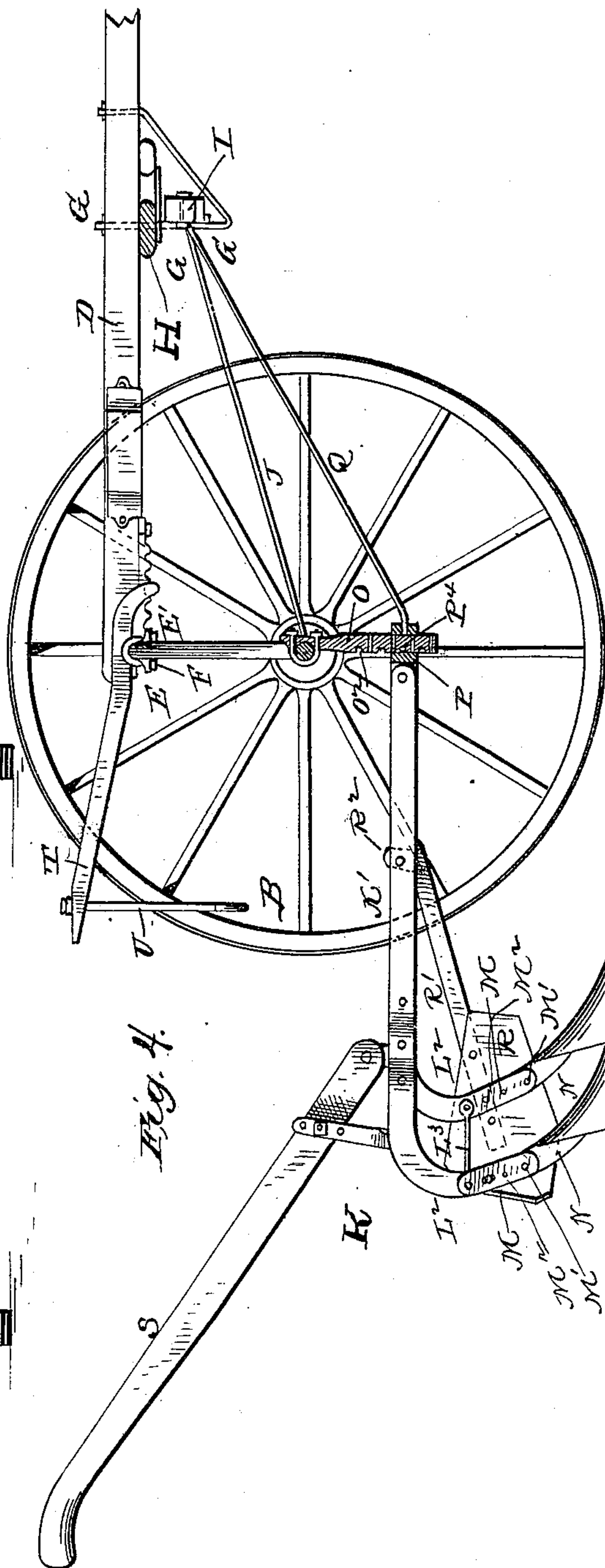
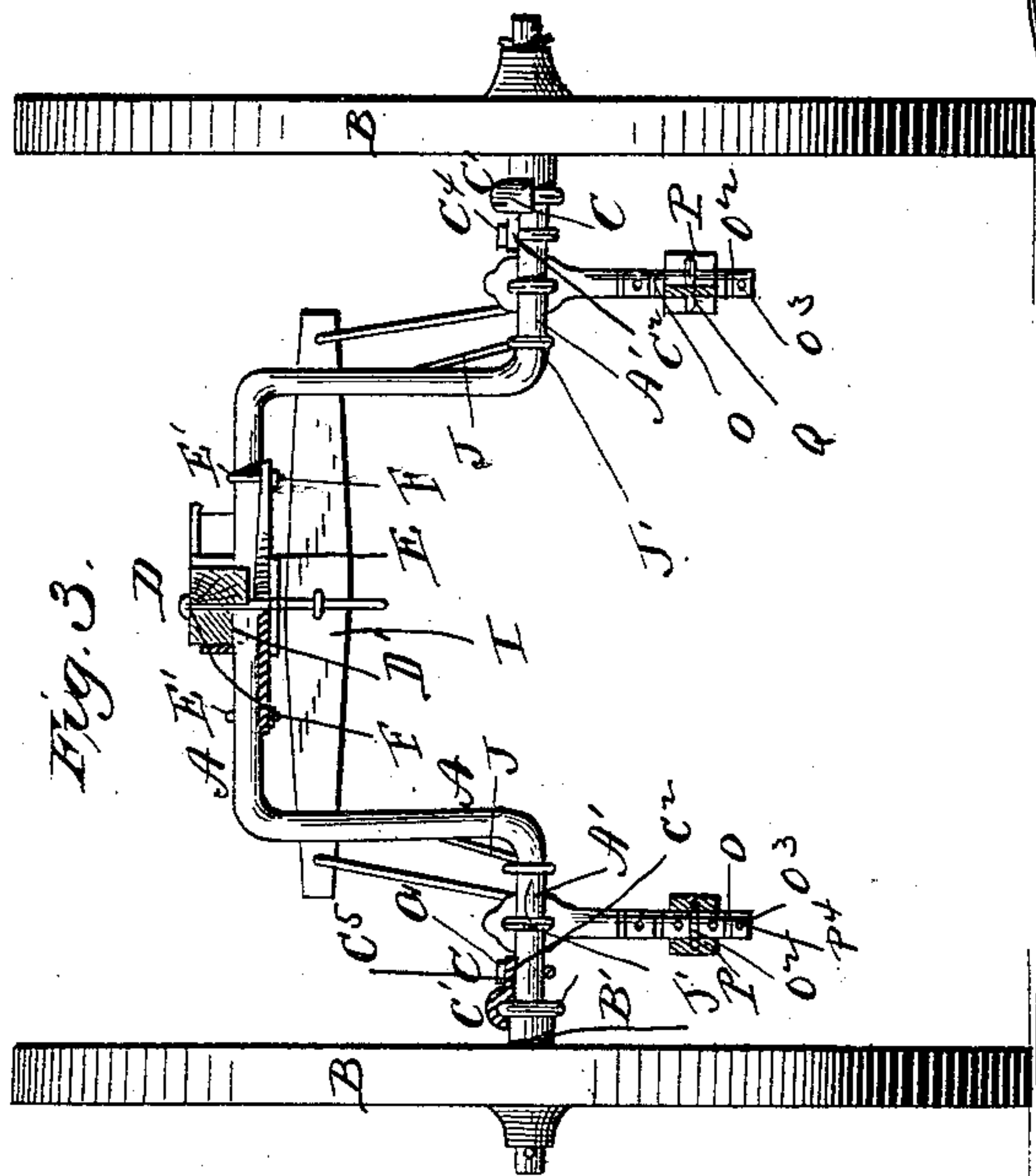
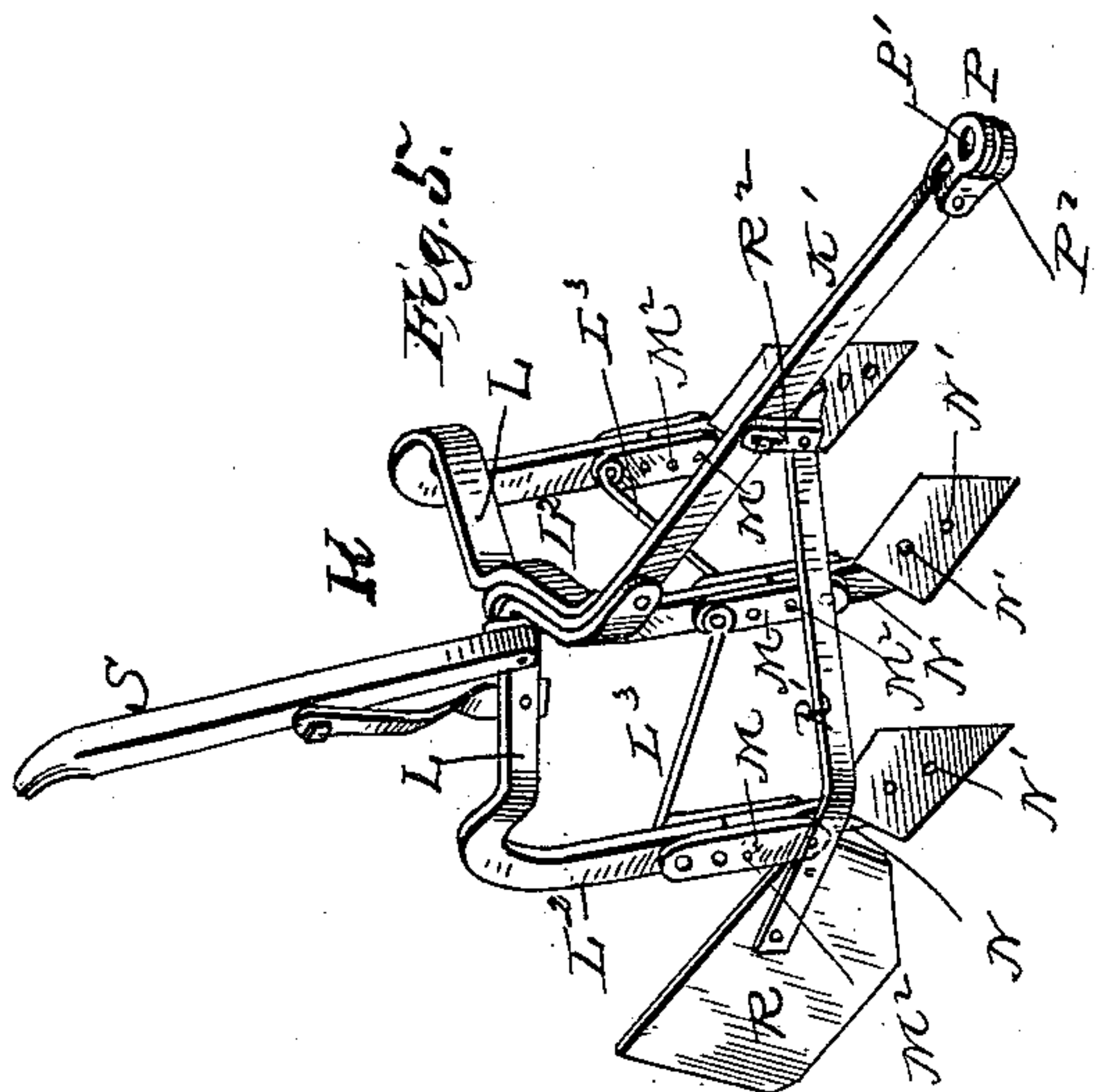
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# UNITED STATES PATENT OFFICE.

THEODORE L. BROOKS, OF PORT BYRON, NEW YORK.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 332,044, dated December 8, 1885.

Application filed August 24, 1885. Serial No. 175,223. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE L. BROOKS, a citizen of the United States, and a resident of Port Byron, in the county of Cayuga and State of New York, have invented certain new and useful Improvements in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to  
10 which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to cultivators; and it has for its object the production of a cultivator which shall possess superior advantages in the points of simplicity of construction, durability, and general efficiency in operation.

To these ends my invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

Referring to the annexed drawings, Figure 1 is a perspective view of my improved cultivator. Fig. 2 is a top view of the same. Fig. 3 is a transverse vertical sectional view taken on line *x x*, Fig. 2. Fig. 4 is a vertical sectional view taken through the axle at the point of attachment of the beam of one of the cultivator attachments, and Fig. 5 is a perspective  
30 view of one of the said cultivator attachments.

The same letters of reference indicate corresponding parts in all the figures.

Referring to the several parts by letter, A represents the curved axle, which consists of a single metal bar of sufficient diameter, which is cranked or bent into the form shown in the drawings, so as to leave the horizontal ends A' A', upon which the wheels B B are adjustably secured in the manner which will be hereinafter fully described.

B B indicate the wheels, the inner ends of the hubs of which are formed with the annular bead or projection B'.

45 Upon the horizontal portions A' of the axle A are adjustably secured, by means of the clips C<sup>1</sup>, the combined sand-cap and fastening device C, which serves to secure the wheels adjustably upon the axle, this device consisting  
50 of the semicircular curved flange C', concave in cross-section, and adapted to fit upon and

around the annular bead B', formed on the inner end of the hub of each wheel, as clearly shown in Fig. 3 of the drawings, and the projecting flat portion C<sup>2</sup>, formed on its lower side 55 with the recess C<sup>3</sup>, adapted to fit upon the axle, and in which is preferably placed the leather washer or packing C<sup>5</sup>. It will be seen that when the nuts on the ends of the clips C<sup>1</sup> have been loosened the device C may be moved in 60 or out on the axle away from or toward the center of the same, so as to increase or diminish the space between the wheels, for the purpose hereinafter set forth, the annular bead on the inner ends of the wheel-hubs turning freely in 65 the said devices C, which also serve as sand-caps to prevent the entrance of sand within the wheel-hubs.

D represents the tongue of my improved cultivator, which is provided near its rear end, on the under side thereof, with a transverse 70 groove, D', adapted to receive the central horizontal portion of the axle A, a casting, E, being secured to the central portion of the axle by means of clips E' and suitable bolts, F 75 and F', F passing through the rear end of the tongue back of the axle A down into this casting, and thus securing the tongue firmly and rigidly in its operative position.

G represents the draw-bolt, the main vertical portion of which is formed with two studs or shoulders, G' G<sup>2</sup>, arranged one above the other, the upper shoulder, G', serving to support the double-tree H, while the lower shoulder, G<sup>2</sup>, serves to support the draw-bar I. 85 Each end of this draw-bar is provided with two transverse apertures, I' and I<sup>2</sup>, the inner apertures, I', receiving the forward ends of brace-rods J, which are formed at their rear ends with the eyes J' J', which encircle the 90 axle A, as shown, and serve to brace the tongue with reference to the axle.

K K represent the cultivator attachments, each of which consists of the beam K', which is curved inwardly, as shown more clearly in 95 Fig. 2 of the drawings, the rear end of the said beam being curved downwardly, and having secured to it at the said rear end the downwardly-projecting auxiliary beams L L. The lower ends of these three downwardly- 100 projecting portions have riveted on each side the short metal straps or plates M M, which



form a socket for the upper end of the shovel-standards N, the said standards being pivotally secured between the plates M M by the pivot-pins M', and a transverse wooden break-pin, M<sup>2</sup>, arranged above the pivot-pin, as shown, the object of this arrangement being that in case the shovel-blades N or any one of them should come in contact with an immovable obstacle while the cultivator is in operation the wooden safety-pins will break, and thereby permit the shovel-blades and their standards to swing backward on their pivot-pins, thereby saving the shovel-blades from becoming broken, as will be readily understood.

The double-pointed reversible shovel-blades N are preferably formed of a somewhat diamond shape, as shown in the drawings, and are secured in operative position to the lower ends of the shovel-standards by two bolts, N' N', to each blade, and when one end of the said blades becomes worn and broken through long use they may be readily and easily reversed, so as to present an entirely new point, and thus form actually a new blade, this construction effecting a great saving. The central blade of each attachment is arranged in advance of the other two, this arrangement preventing clogging of the blades, as the sods, &c., will roll back from the central blade against the two side blades, and then around the outer sides of the two latter. The lower ends of the three downwardly-projecting portions L<sup>2</sup> L<sup>2</sup> L<sup>2</sup> are connected and braced together by the brace-rods L<sup>3</sup>.

The forward ends of the beams of the cultivator attachments are adjustably secured or connected to the axle A in the following manner: Upon each end of the axle are adjustably secured by means of the clips O' the downwardly-projecting spindles O, which are formed on their rear sides with the semicircular transverse grooves O<sup>2</sup> and the transverse apertures O<sup>3</sup>, arranged between the said grooves, as shown. To the forward end of each cultivator-beam is pivotally secured a collar, P, having a vertical aperture, P', and the transverse slot P<sup>2</sup>, the cultivator-beam being connected to the spindle O by slipping the collar P up around the lower portion of the spindle (the spindle entering the vertical aperture P' of the collar) after the eye Q', formed in the rear end of the draft-rods Q, has been fitted within the transverse slot P<sup>2</sup>, the said eye being of a sufficient size to adapt it to receive the spindle, the forward ends of the draft-rods Q Q being inserted through the outer apertures, I<sup>2</sup> I<sup>2</sup>, of the draw-bar I and held in position by means of the nuts Q<sup>2</sup>. After the cultivator-beams have been connected to the spindles O in the manner just described, (the spindles having previously been swung a little forward after loosening their clips O',) the lower ends of the spindles are driven back into their normal vertical position, thereby causing the rear portions of the eyes on the draft-rods to enter

the semicircular grooves on the rear sides of the spindles, thus securely holding the collars P in their adjusted vertical positions, a wedge-pin, P<sup>4</sup>, being then driven into the slots P<sup>2</sup>, back of the eye of the draft-rods, to prevent the said eyes from slipping out of the semicircular grooves of the spindles. It will be seen that the spindles O may be adjusted laterally on the axle, so as to increase or diminish the distance between the cultivator-beams. To the cultivator-beams are pivotally secured, by means of the vertically-adjustable connecting-pieces R<sup>2</sup>, the forward ends of the arms R', to the rear ends of which are secured the plant-shields R R, of the form shown in the drawings. It will be seen that these shields may be raised or lowered as desired by means of the slotted adjustable pieces R<sup>2</sup>.

SS indicate the vertically-adjustable handles of the cultivator attachments, which are pivotally secured at their forward ends to the upper sides of the said attachments, both of the said handles being inclined to the left, as will be more readily seen by reference to Fig. 2 of the drawings, this arrangement of the handles enabling the operator to walk to one side of the row being cultivated, so as not to trample upon the plants, which there would be danger of doing if the handles were perfectly straight.

To the adjustable seat-support T is bolted the downwardly-extending double hook U, which will serve to support the attachments when passing to and from the field, the attachments being raised by means of their handles and their beams hooked over the ends of the said double hook.

It will be seen that in operation the forward ends of the cultivator-beams may be raised or lowered on the spindle O O, so as to adjust the depth to which the cultivator-blades shall enter the ground, and that the spindles themselves may be moved closer together or farther apart, as before described. By raising or lowering the handles of the cultivators their depth may be also adjusted, while the collars on the ends of the cultivator-beams permit the cultivators to be adjusted laterally or to be swung sidewise, as will be readily understood.

By means of the construction previously described the wheels may be brought close together, this adjustability being especially useful when the sulky is used with separate attachments for digging potatoes, and similar purposes.

By the use of the double-pointed shovel-blades and the safety break-pins for the standards of the same, a great saving both in time and money is effected.

From the foregoing description, taken in connection with the accompanying drawings, the construction and operation of my improved cultivator will be readily understood without requiring further explanation.

It will be seen that my improved cultivator is simple in construction, and is therefore very durable and not liable to break or get out of



order, while at the same time it is very efficient in its operation. It will be seen that by curving the cultivator-beams in the manner shown the wheels may be placed closer together, while at the same time a greater side movement of the said beams is possible than if the said beams were straight. The plant-shields R R are of great utility when working among or between small plants, as they may be so adjusted as to entirely protect the plants from being injured or covered by stones, sods, &c.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. As an improvement in cultivators, the combination, with the axle, of the laterally-adjustable spindles, arranged as described and formed with the transverse grooves, the cultivator attachments having pivotally secured to the forward ends of their beams the collars having the vertical apertures and the horizontal slots, and the draft-rods having at their rear ends the eyes adapted to be inserted in the said horizontal slots, all constructed and arranged to operate in the manner and for the purpose shown and set forth.

2. The combination, with the axle, of the wheels having formed on the inner ends of their hubs the annular beads or projections and the laterally-adjustable combined clutches and sand-caps formed of a single piece of metal and adjustably secured upon the horizontal ends of the said axle, substantially as set forth.

3. The combination, with the axle, of the laterally-adjustable spindles having the rounded lower portions circular in cross-section and formed with the transverse grooves, the cultivator attachments having pivotally secured to the forward ends of their beams the collars having the vertical apertures, circular in cross-section, and the horizontal slots, and the draft-rods having at their rear ends the circular eyes adapted to be inserted in the said slots, all constructed and arranged to operate in the manner and for the purpose shown and set forth.

4. The combination, with the axle, of the laterally-adjustable spindles formed on one side, near their upper ends, with the curved recess in which the axle fits, as described, and formed with the transverse grooves, the cultivator attachments having pivotally secured to the forward ends of their beams the collars having the vertical apertures and the horizontal slots, and the draft-rods having at their rear ends the eyes adapted to be inserted in the said horizontal slots, as and for the purpose shown and set forth.

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

THEODORE L. BROOKS.

Witnesses:

M. H. BUNN,  
H. H. FENN.