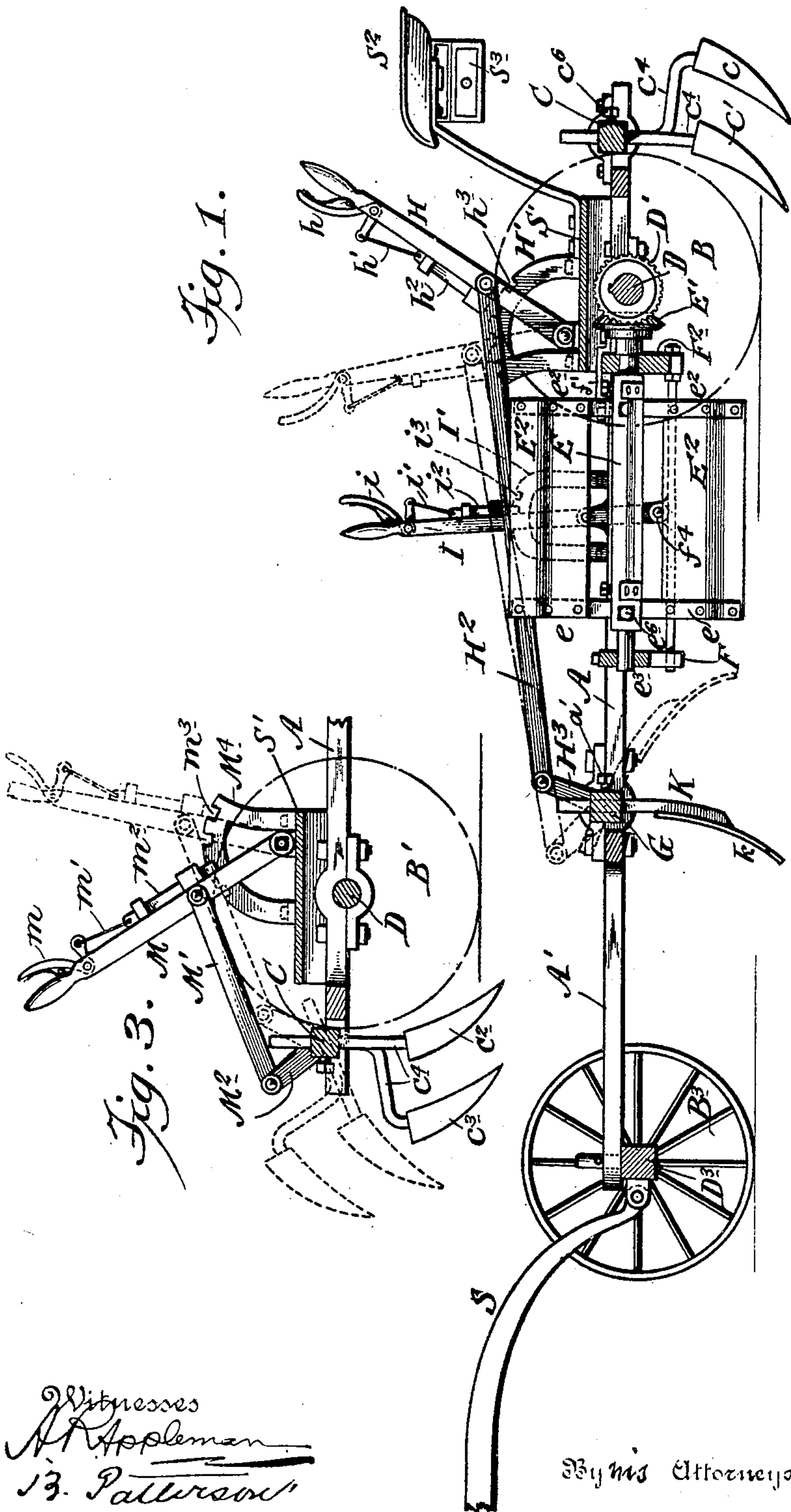


No. 795,400.

PATENTED JULY 25, 1905.

G. LE BARGE.  
COTTON CULTIVATOR.  
APPLICATION FILED APR. 30, 1904.

3 SHEETS—SHEET 1.



Witnesses  
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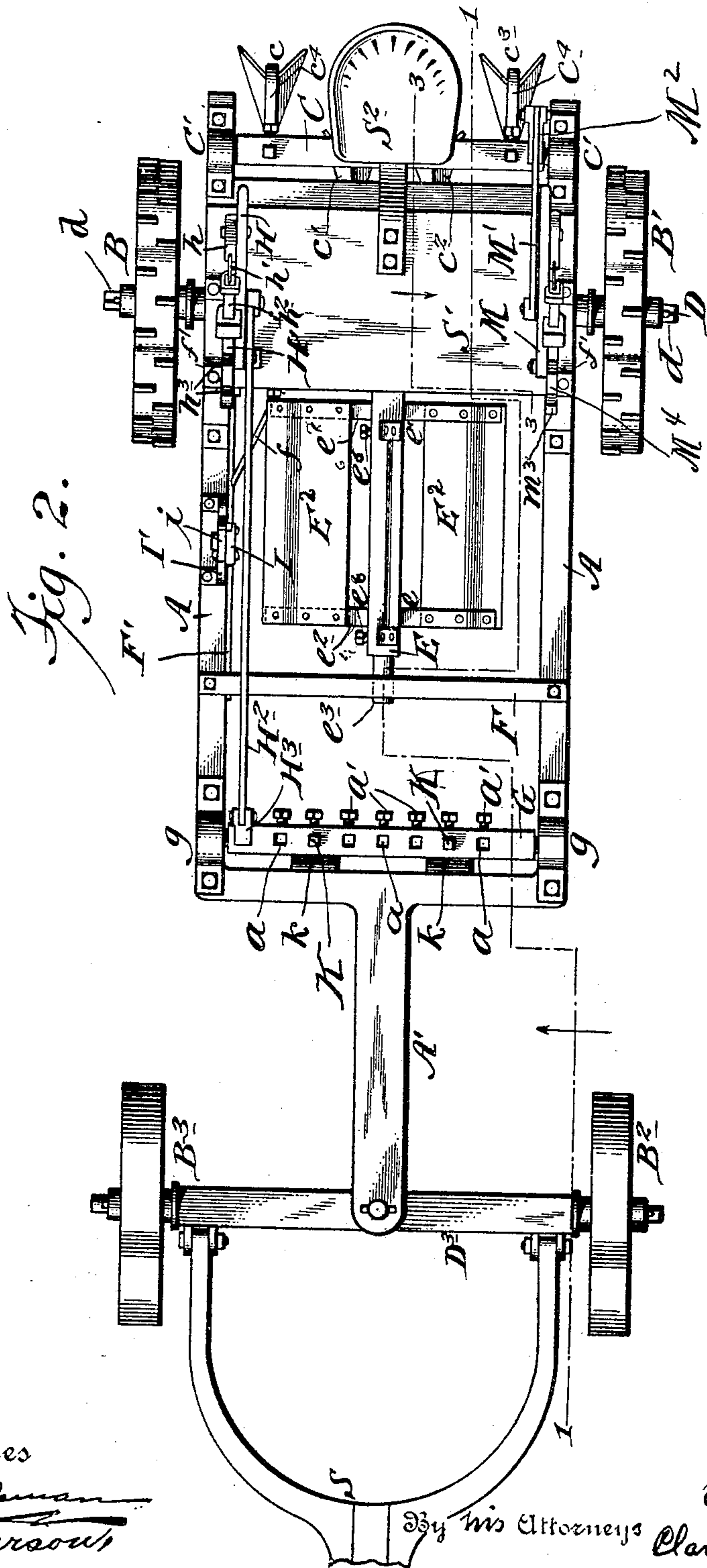
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3 SHEETS—SHEET 2.

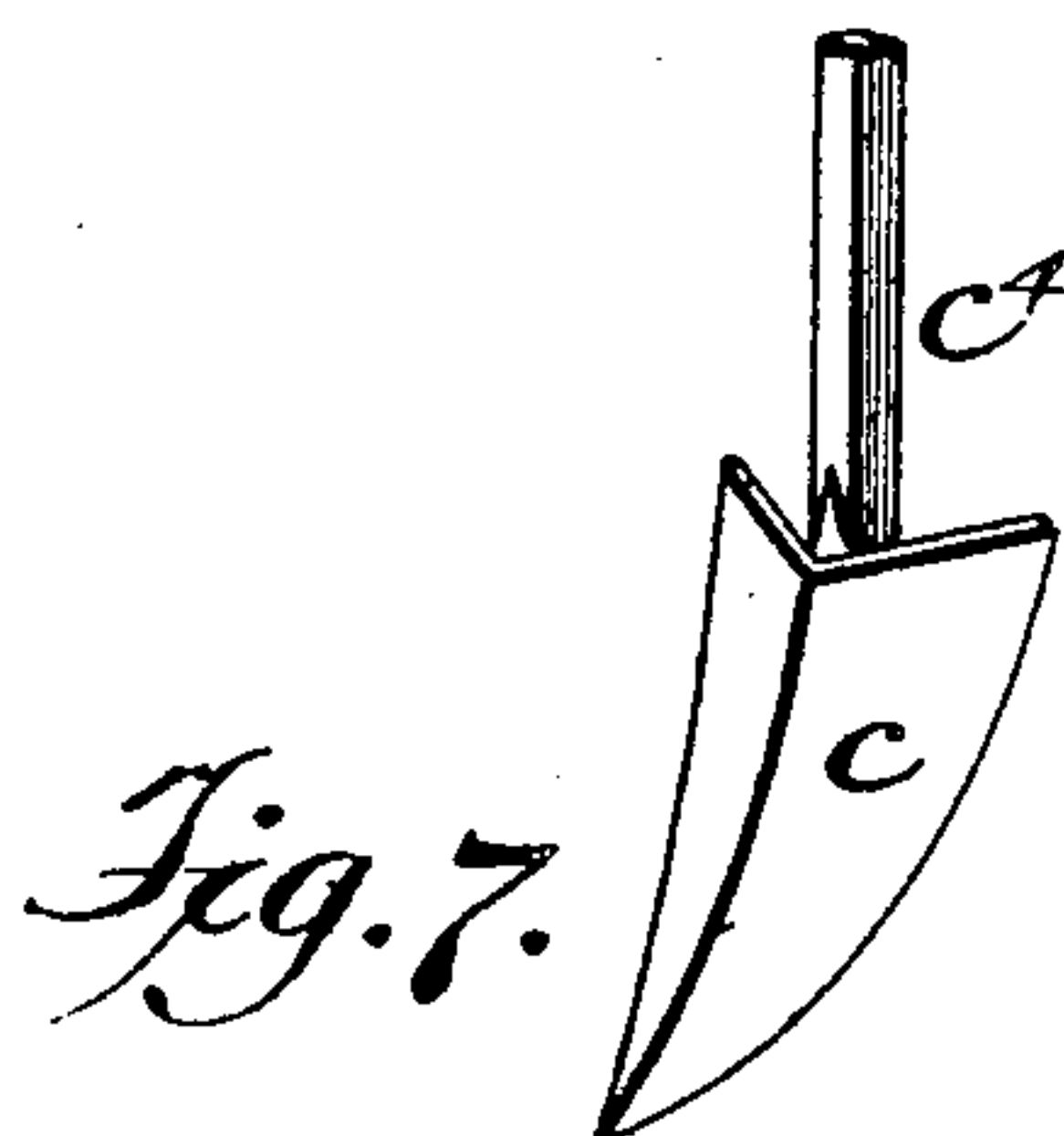
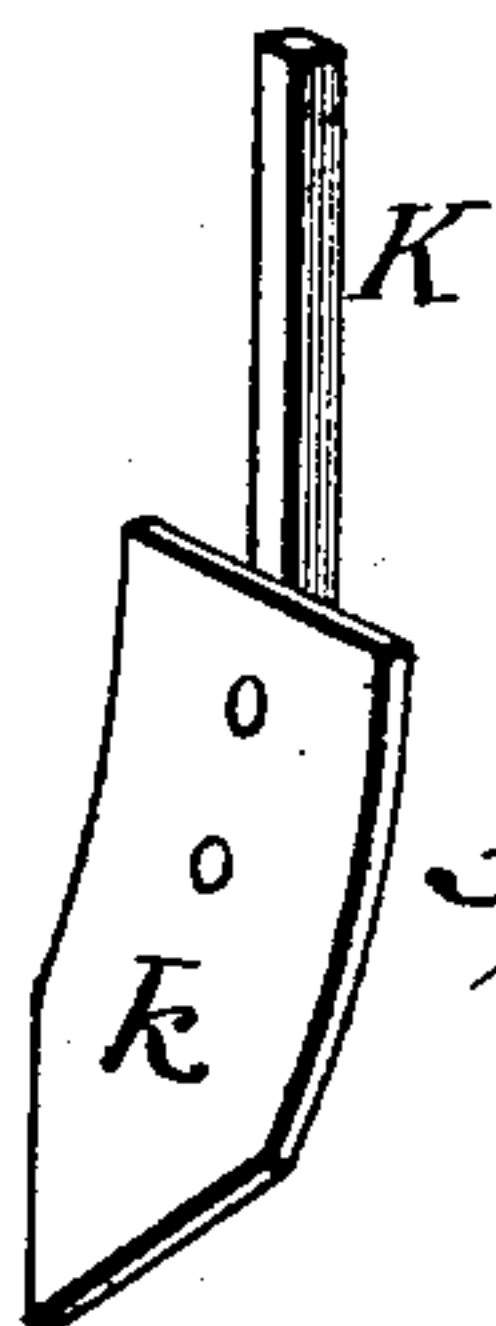
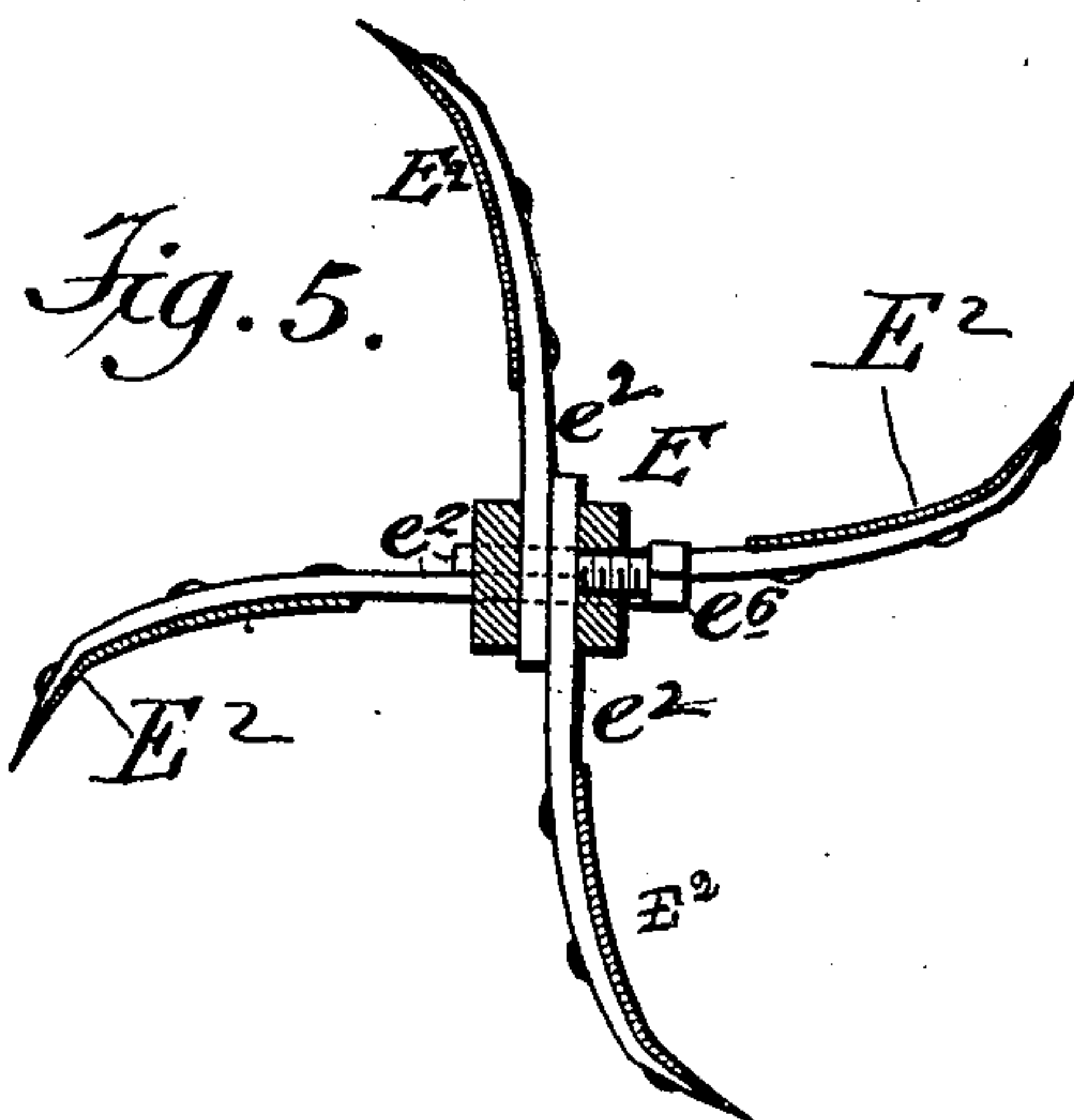
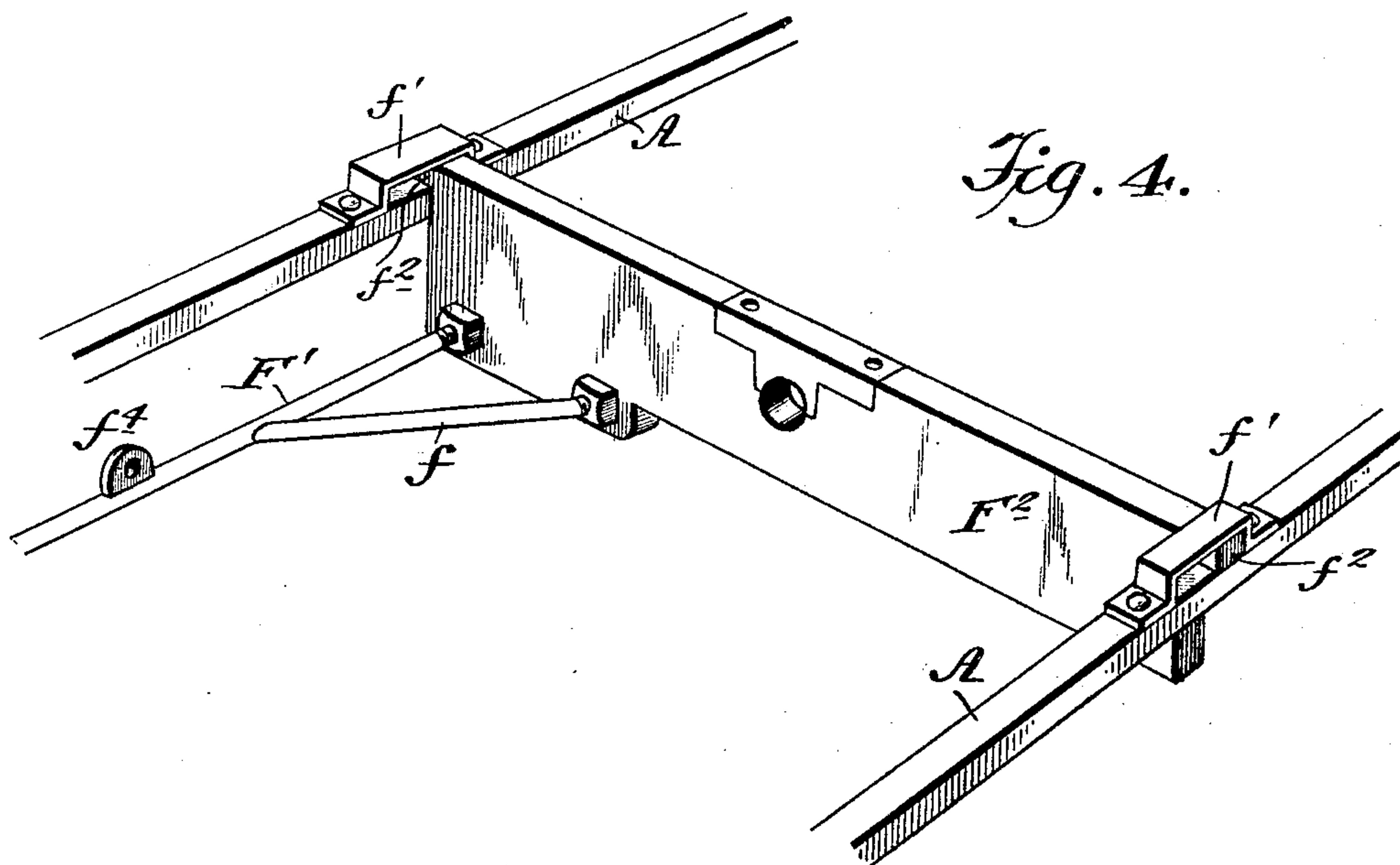


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3 SHEETS—SHEET 3.



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# UNITED STATES PATENT OFFICE.

GEORGE LE BARGE, OF HARRISONBURG, LOUISIANA.

## COTTON-CULTIVATOR.

No. 795,400.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed April 30, 1904. Serial No. 205,675.

*To all whom it may concern:*

Be it known that I, GEORGE LE BARGE, a citizen of the United States, and a resident of Harrisonburg, parish of Catahoula, and State of Louisiana, have invented certain new and useful Improvements in Cotton-Cultivators, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof, in which similar letters of reference indicate corresponding parts.

This invention relates to improvements in cotton-cultivators, and especially to that class thereof which are arranged to be drawn through the field by horses.

It has been found that in a cotton-field where there was one part thin, having comparatively few plants, and another part in which the plants were very thick and crowded the boll-weevil devastated the thicker parts more in proportion than the thin and that where the plants were planted early, properly thinned, and kept clean they suffered but little from the weevil.

The object of my present invention is to produce such a machine as will, while it saves labor and expense in cultivating the cotton, clean and thin it all in one operation, and thereby greatly decrease the devastation of the weevil.

The invention has also divers other objects, which will be hereinafter fully explained.

The nature of the invention consists in divers novel features which will be fully understood from the following general description and the annexed drawings and will be subsequently pointed out in the claims.

In the accompanying drawings, which are hereby made a part of this specification, Figure 1 is a sectional view in elevation, taken on the line 1 1 of Fig. 2. Fig. 2 is a plan view of my newly-invented cotton-cultivator. Fig. 3 is a vertical sectional view taken on the line 3 3 of Fig. 2. Figs. 4, 5, 6, and 7 are views of details more fully hereinafter described.

A designates the supporting-frame. In this is revolubly journaled the axle D. Upon this are mounted the wheels B and B'. They are so arranged that the axle and wheels all turn together, and to this end the wheels are mounted on square extensions  $d$  on the ends of the axle. At the front end of the frame A is an extension A'. To this is pivotally attached the axle D<sup>3</sup>, upon which are mounted the wheels B<sup>2</sup> B<sup>3</sup>. To this also is attached the tongue S. Upon the frame A is also mounted

a platform S' and a seat S<sup>2</sup> for the driver. A drawer S<sup>3</sup> is also placed under the seat.

In the front end of the frame A is transversely mounted a shaft G, which is capable of being turned or oscillated a little in its bearings  $g$ . This shaft may be of any desired contour in cross-section; but I prefer to make it square, as illustrated. Extending entirely through this shaft are a plurality of mortises  $a$ . A plurality of set-screws  $a'$  are threaded into this shaft and extend into the said mortises, one for each mortise. The arms K extend through these mortises and are adjustably and detachably held therein by the said set-screws  $a'$ . On the ends of these arms are mounted the scrapers or other suitable blades, as  $k$ . They may be attached in any secure, convenient, and available way. Upon this shaft and extending upward is rigidly mounted the arm H<sup>3</sup>.

H designates a lever which is pivoted to a bearing on the frame and swings beside the segmental rack H', which is mounted on the platform S'. A connecting-rod H<sup>2</sup> connects this lever H with the arm H<sup>3</sup>. A spring-actuated pawl and handle  $h$   $h'$   $h^2$  are attached to this lever, and the pawl  $h^2$  engages the notches  $h^3$  of the rack H'.

In the middle part of the frame A is journaled the shaft E. One end of this shaft has an elongated journal  $e^3$ . On the opposite end of this shaft is mounted the bevel-wheel E'. F and F<sup>2</sup> are cross-bars in said frame A. F is fixed and stationary, while F<sup>2</sup> is arranged to slide, with its extensions  $f^2$   $f^3$ , in the brackets  $f'$   $f'$ . In these two cross-pieces is journaled the shaft E. The rod F' for moving the bar F<sup>2</sup> is steadied by the brace  $f$ , and the forward end of said rod passes through the stationary bar F and guides the motion of the bar F<sup>2</sup>. There may be two of these rods, if it be desired, one for each end of the bar F<sup>2</sup>. Upon the guide-rod F is an ear  $f^4$ , to which is pivoted the lever I. This lever is fulcrumed on a bearing secured to the frame A. It swings beside the segmental rack I', which is also fastened on the said frame. A spring-actuated mechanism comprising the handle  $i$ , connecting-rod  $i'$ , and pawl  $i^2$  keeps said pawl in normal engagement with the notches  $i^3$  of the segment I', so that while by swinging the lever the bar F<sup>2</sup> may be slipped back and forth the lever may be made to hold it in any desired position. As the wheel end of the shaft E is journaled with a circumferential groove in the



sliding bar  $F^2$ , it is carried therewith when it moves. A bevel-wheel  $D'$  is mounted on the axle  $D$  and arranged so that the wheel  $E'$  can by the motion just described be engaged therewith and disengaged therefrom. In the said shaft  $E$  there is a plurality of mortises which extend through the shaft. In these mortises are held the arms  $e^2 e^2$  by the set-screws  $e^6$ . Upon these arms are mounted the hoes  $E^2$ , which revolve with the shaft  $E$ .

In the rear end of the frame  $A$  is transversely mounted the shaft  $C$ . This shaft is pierced through with a plurality of mortises. In these mortises are a plurality of arms  $c^4$ . These are detachably and adjustably held in position by the set-screws  $c^6$ . Upon the outer ends of these arms are mounted suitable blades, as the plows  $c c' c^2 c^3$ . In the example of my invention here given I have illustrated four of these plows; but there may be any desirable and available number and they may be of any required shape. This shaft  $C$  has also mounted upon it an upwardly-extended arm  $M^2$ .

$M$  designates a pivoted lever which swings beside the segmental rack  $M^1$ . Both of these are supported by the platform  $S'$  on the frame  $A$ . This said lever  $M$  is provided with a spring-actuated pawl and handle  $m m' m^2$  and is arranged so that the pawl  $m^2$  will engage the notches  $m^3$  in the rack  $M^1$ .

$M'$  designates a connecting-rod which connects the extension  $M^2$  and the lever  $M$ .

To use my invention, horses are attached to the tongue  $S$  in the common way and the driver takes the seat  $S^2$ . It will then as soon as the horses begin to go be found that if all the parts be in the positions illustrated in full lines in the drawings the implement will begin to operate, the scrapers  $k$  preparing the ground in front, the hoes  $E^2$  thinning the cotton, and the plows  $c c' c^2 c^3$  furrowing the ground. If for any cause it be desirable to suspend the action of either of scrapers or of the plows, the lever connected with the set to be suspended may be moved so as to bring the various members thereof into the positions illustrated in dotted lines. The scrapers or plows will then be held up so high that they will not touch the ground. By a reverse motion of the levers either one or both may again be placed in operative position. By motion of the lever  $I$  the wheel  $E'$  may be thrown into mesh and out of mesh with the wheel  $D'$ , as may be desired, and thus the motion of the hoes  $E^2$  may be suspended. The depth to which either of these operative parts will cut may be regulated by slipping their arms in the mortises in the shafts when the set-screws have been loosened. When they have been so adjusted, the set-screws may again be set up, and the parts will be ready for work.

The speed of the hoes  $E^2$  may be regulated by substituting wheels of different relative sizes for the bevel-wheels  $E'$  and  $D'$ , so that

the motion of the shaft  $E$  will be faster or slower, as may be required. In this way the amount of the plants cut up in thinning may be regulated. If, however, in going over the field the second time it be found after changing the bevel-wheels in the first going over, as before described, the cotton has still been left too thick, the driver may remove the opposite hoes. This will cause the hoes to cut out alternate bunches, and so leave the plants properly thinned.

This implement may also be used to break up the ground before the cotton is planted by fastening, as before described, any desired number of plows of any required shape to the shafts  $C$  and  $G$ , which may be raised and pushed down into operative position, as before described.

When the land has been broken, the plows may be removed and harrow-teeth fastened in their places. These will break the clods and mellow the ground. When the ground has been thus mellowed, the harrow-teeth may be removed.

When the crop is ready for working, two turning-plows may be placed on the front shaft  $G$ , arranged to throw up the first two furrows. Two scrapers are also to be attached to this shaft, having their shanks so bent and being otherwise so arranged that they will throw their dirt into the first two furrows. At the same time four turning-shovels are placed on the shaft  $C$ , as before described, and arranged so that they will throw the dirt back to the plants being cultivated. If, however, it be found that these last-named plows are throwing too much dirt on the plants, they may be removed and others substituted which will not throw so much dirt. As soon as the plants are sufficiently thinned the hoes may be entirely removed. Then it will be found that the plows throw four furrows away from the plants and at the same time throw up dirt enough against the plants to hill them properly. Thus the implement can be used for cultivation from the time the ground is to be broken up until the crop is laid by for the season.

Aside from what is hereinbefore set forth this implement is to be used in the common and well-known way.

I do not desire to confine myself strictly to the construction and arrangement hereinbefore set forth, for it is evident that under the scope and spirit of my invention I am entitled to all such variations as do not depart therefrom.

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

1. In a cotton-cultivator, the combination with a supporting-frame, and means for supporting and conveying the same, of a slidable cross-bar, and a stationary cross-bar mounted in said frame, a revoluble shaft mounted on



said cross-bars, longitudinally to said supporting-frames, and slipping endwise with said slidable bar, arms radially and adjustably mounted in mortises in said shaft, hoes detachably mounted on said arms, means for moving said slidable cross-bar, and means for revolving said shaft.

2. In a cotton-cultivator, the combination with a supporting-frame, wheels and axles upholding the same and affording facility for the conveyance thereof, and a toothed wheel on one of said axles, of a slidable cross-bar, and a stationary cross-bar both mounted in said frame, a revoluble shaft mounted in said cross-bars longitudinally to said frame, a wheel on one end of said shaft engaged by said wheel on said axle and conveying motion to said shaft, arms radially, adjustably and detachably mounted in said shaft, hoes detachably mounted on the outer ends of said arms, and means for moving said slidable cross-bar.

3. In a cotton-cultivator, the combination with a supporting-frame, wheels and axles upholding the same and affording facility for the conveyance thereof, and a toothed wheel mounted on one of axles, of a stationary cross-bar, and a slidable cross-bar mounted on said frame, a revoluble shaft, having for one of its journals a circumferential groove cut in the surface thereof engaging with its sides against said slidable bar and mounted in said cross-bars longitudinally to said supporting-frame, a toothed wheel mounted on said shaft engaged by said toothed wheel on said axle and receiving motion therefrom, adjustable and detachable arms radially mounted in said shaft, hoes detachably mounted on the outer ends of said arms, and means for moving said sliding bar.

4. In a cotton-cultivator, the combination with a supporting-frame, wheels and axles upholding the same and affording facility for the conveyance thereof, and a toothed wheel mounted on one of said axles, of a stationary cross-bar, and a slidable cross-bar mounted in said frame, a revoluble shaft, having for one of its bearings a circumferential groove cut in the surface thereof and engaging said slid-

able cross-bar, and for the other journal a long cylindrical extension, engaging said stationary cross-bar, and mounted on said bars longitudinally to said supporting-frame, a toothed wheel on said shaft engaging the toothed wheel on said axle, and receiving motion therefrom, adjustable and detachable arms radially mounted in said shaft, adjustable and detachable hoes mounted on the outer ends of said arms, and carried thereby, and a lever pivoted to said supporting-frame, and connected with said slidable bar to afford facility for moving the same, and throwing said toothed wheels into and out of engagement.

5. In a cotton-cultivator, the combination with a supporting-frame, wheels and axles supporting the same and affording facility for the conveyance thereof, and a toothed wheel mounted on one of said axles, of a stationary cross-bar, and a slidable cross-bar both mounted in said frame, a revoluble shaft mounted in said cross-bars longitudinally to said supporting-frame, arranged to move with said slidable bar, and slip in its bearing in said stationary bar, a toothed wheel on said shaft engaging the toothed wheel on said axle, and receiving motion therefrom, arms adjustably, detachably and radially mounted in said shaft, adjustable and detachable hoes mounted on the outer ends of said arms, and carried thereby, a lever pivoted on said frame, a bar connecting said lever and said slidable cross-bar, and affording, together with said lever, facility for moving said slidable cross-bar and said shaft, and throwing said toothed wheels into and out of engagement, and a rack-and-pawl mechanism detachably holding said lever in required position.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 19th day of April, 1904.

GEORGE <sup>his</sup> × LE BARGE.  
mark

Witnesses:

DAVID NEWTON THOMPSON,  
JAMES EMERSON PRESTRIDGE.