

(No Model.)

2 Sheets—Sheet 1.

A. C. EVANS, Dec'd.

L. C. EVANS, Administrator.

PLANTER.

No. 462,542.

Patented Nov. 3, 1891.

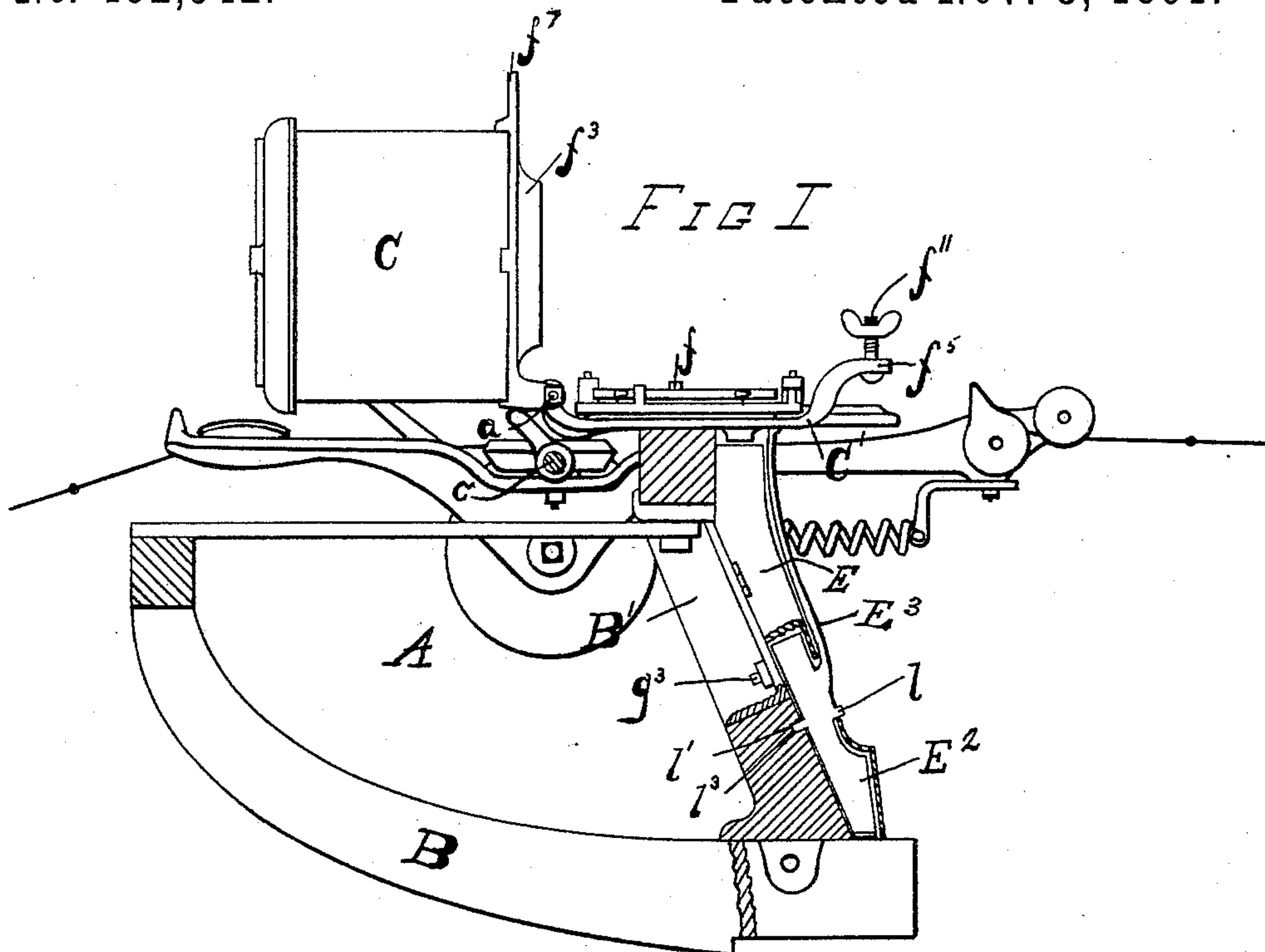


FIG E

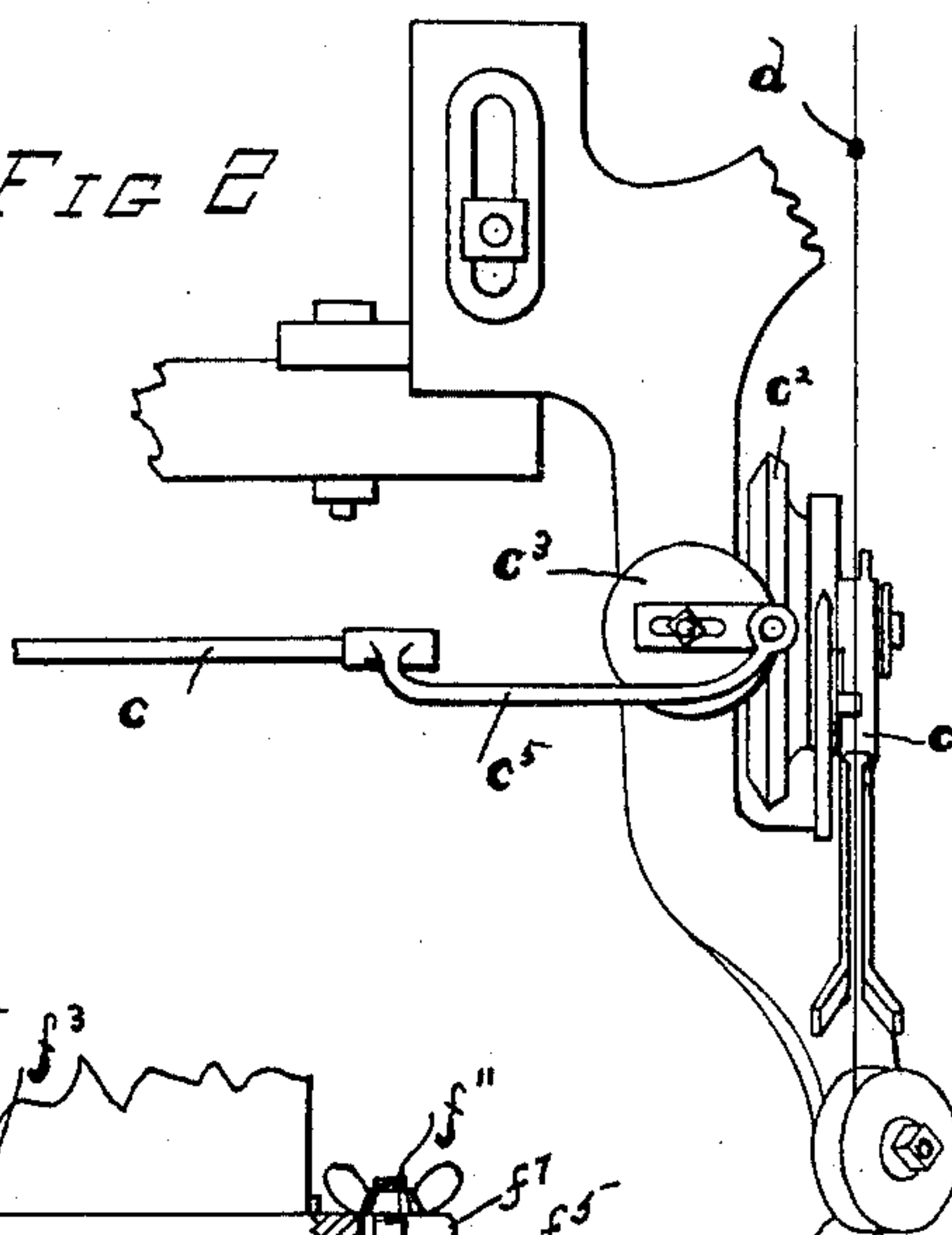


FIG E

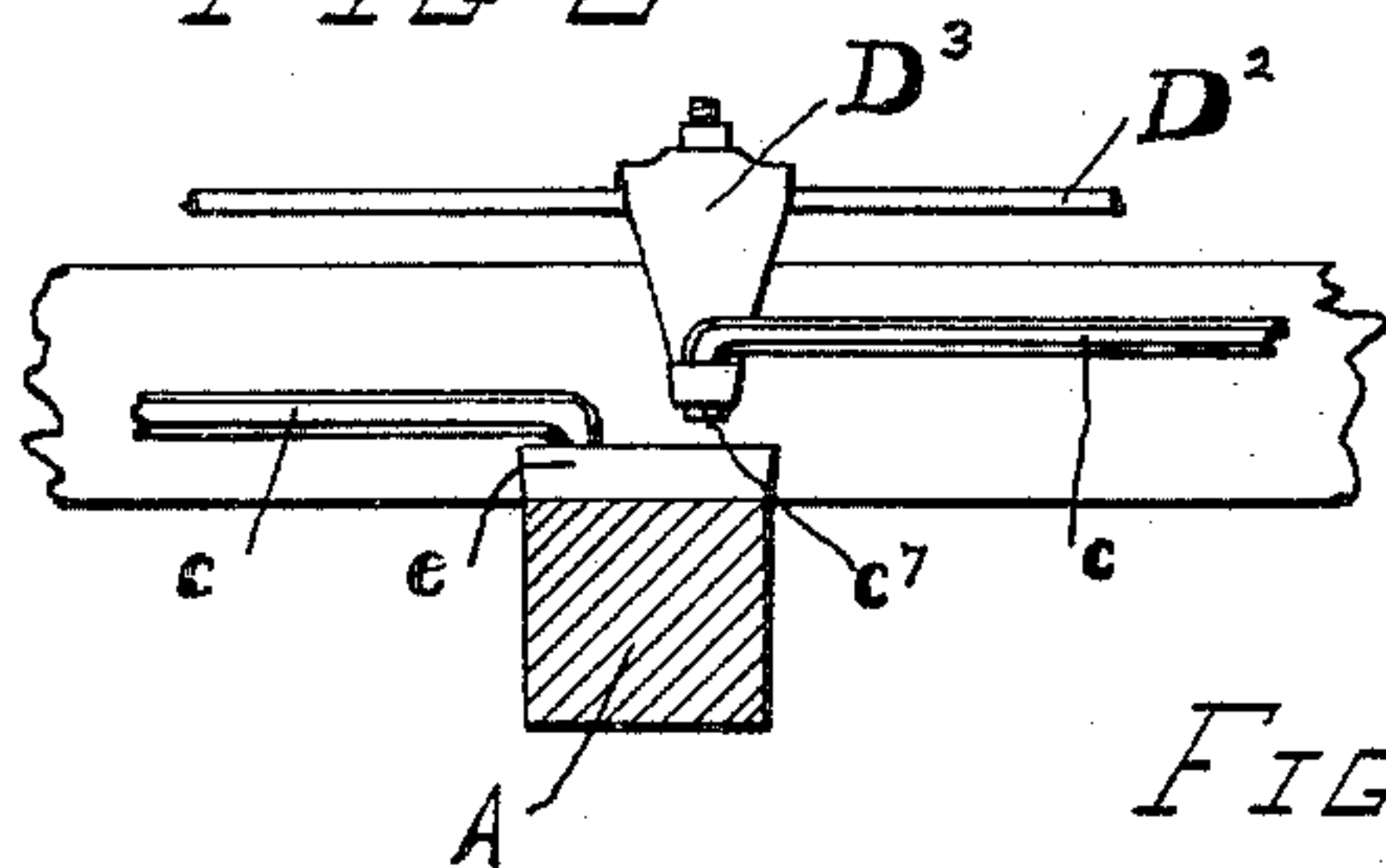
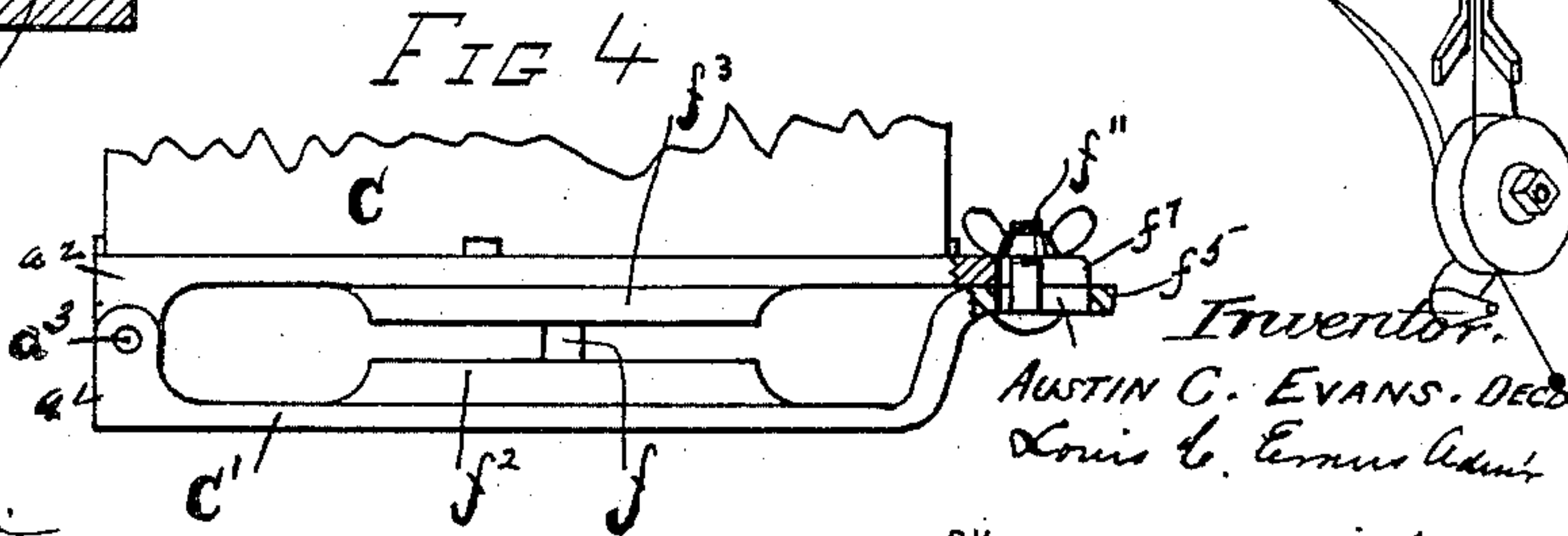


FIG 4



WITNESSES:

W. L. Wood.
F. M. Jones.

Inventor.

AUSTIN C. EVANS, DEC'D.
Louis C. Evans, Adminr.

BY

Edw. M. Shepherd

ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

A. C. EVANS, Dec'd.

L. C. EVANS, Administrator.

PLANTER.

No. 462,542.

Patented Nov. 3, 1891.

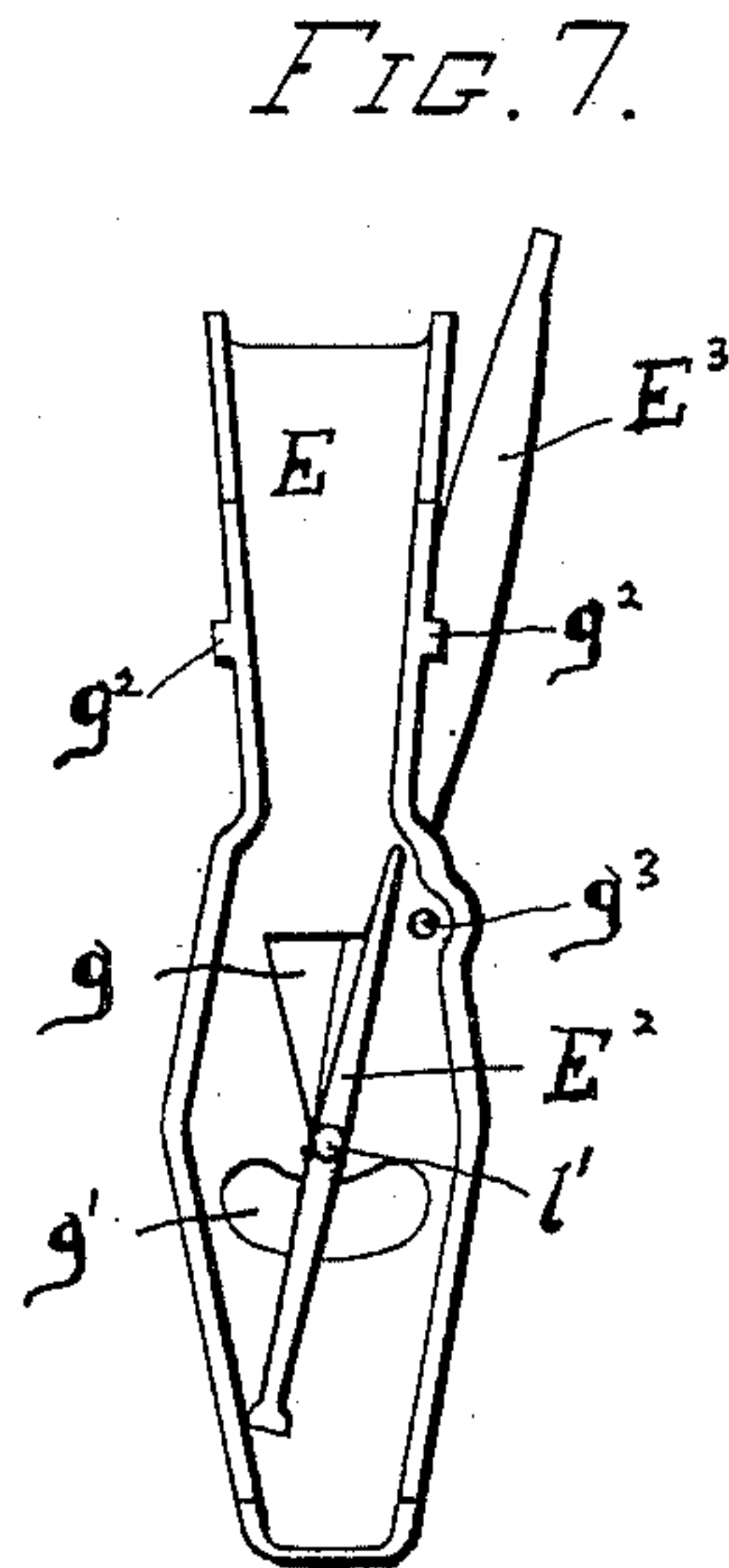
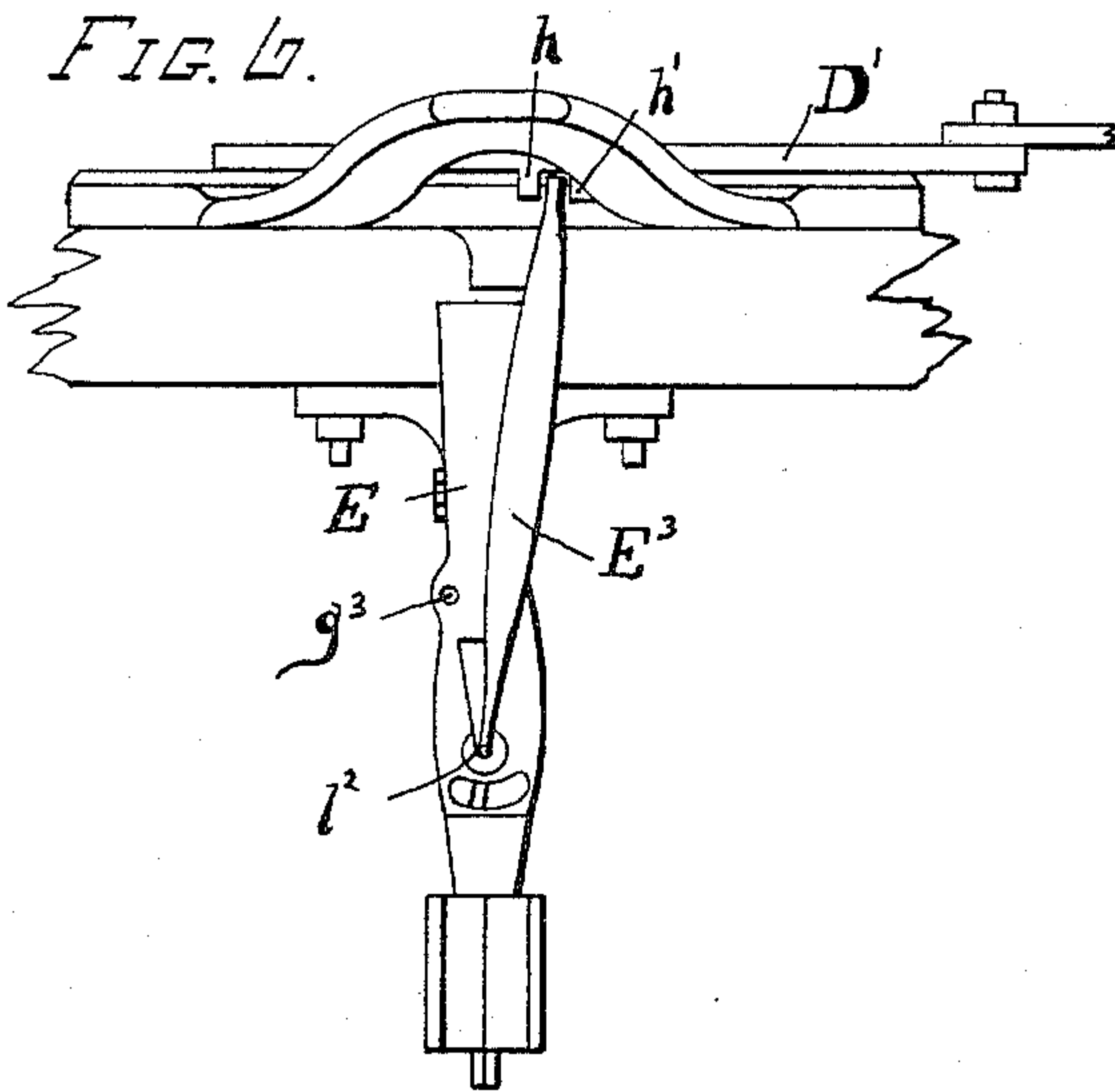
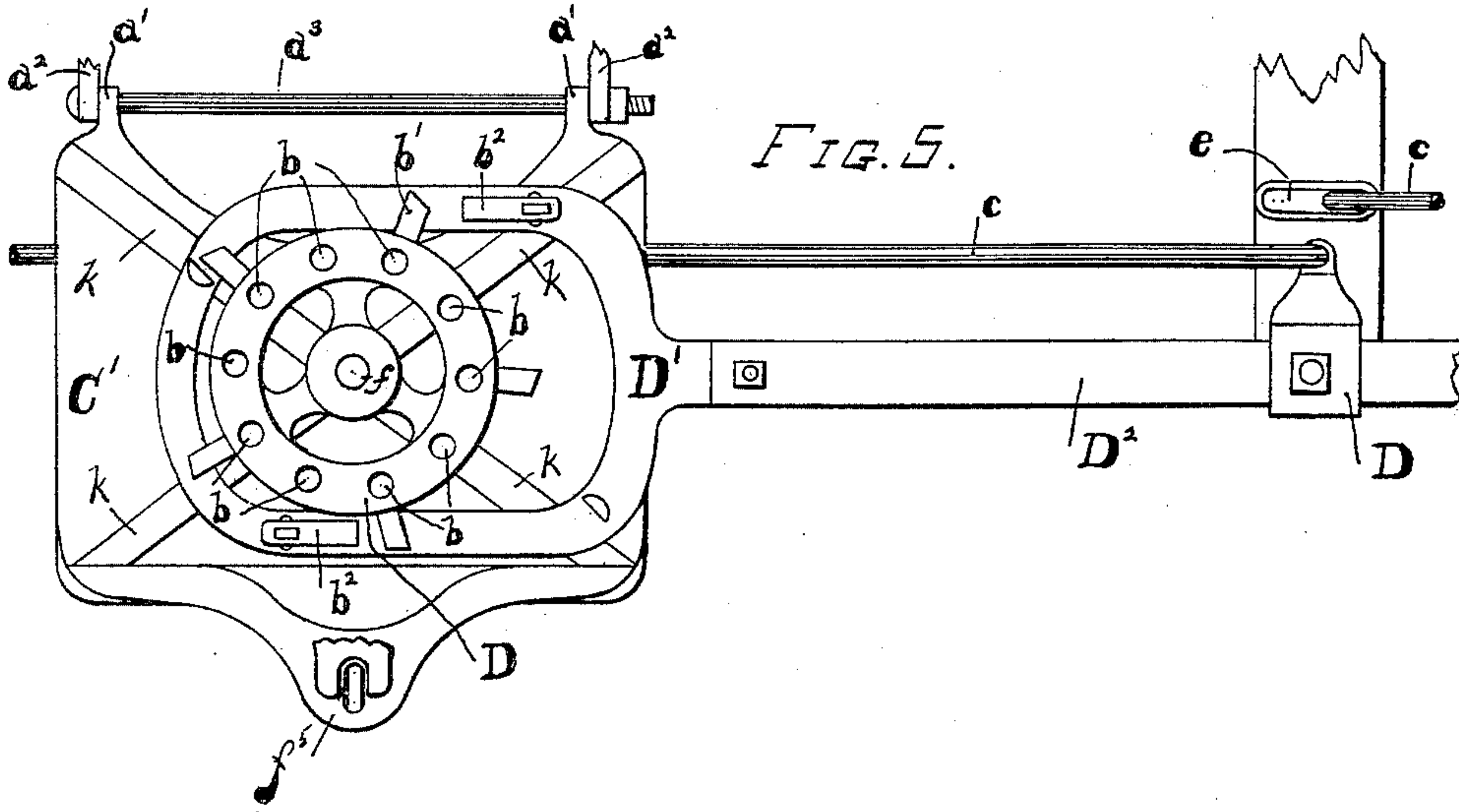
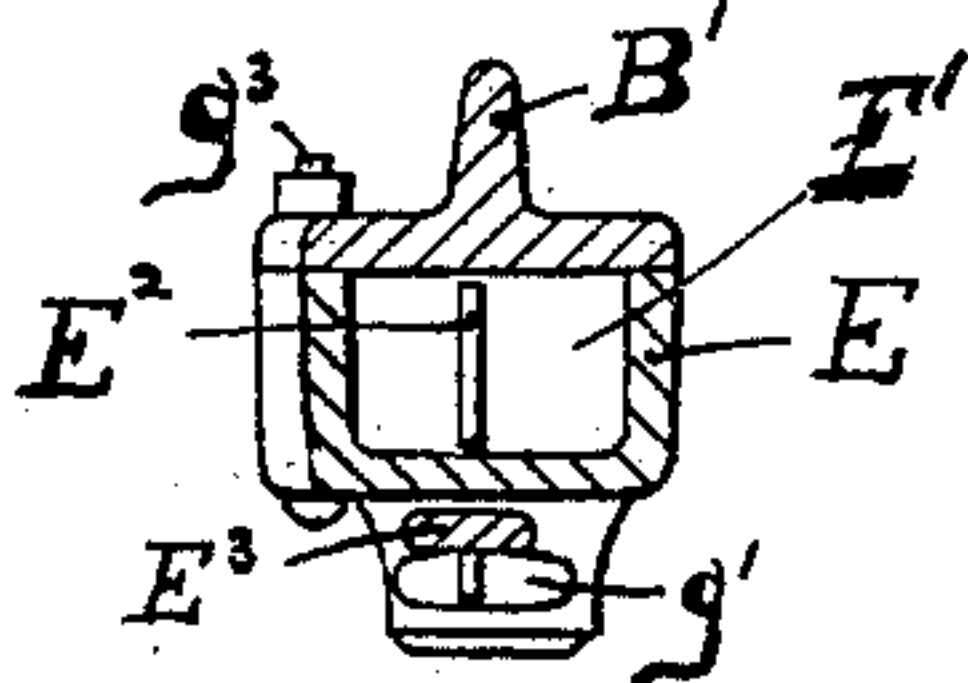


FIG. 8.



WITNESSES:

W. L. Wood.
A. M. Jones.

Inventor.
AUSTIN C. EVANS, DEC'D.

Louis C. Evans Admin'r

BY *Shepherd*

ATTORNEYS

UNITED STATES PATENT OFFICE.

LOUIS C. EVANS, OF SPRINGFIELD, OHIO, ADMINISTRATOR OF AUSTIN C. EVANS, DECEASED.

PLANTER.

SPECIFICATION forming part of Letters Patent No. 462,542, dated November 3, 1891.

Application filed April 1, 1891. Serial No. 387,296. (No model.)

To all whom it may concern:

Be it known that I, LOUIS C. EVANS, administrator of AUSTIN C. EVANS, deceased, and a citizen of the United States, residing at Springfield, in the county of Clark and State of Ohio, do declare that the following is a description of the new and useful Improvements in Planters invented by the said AUSTIN C. EVANS, deceased.

The invention relates to improvements in corn-planters; and it especially relates to that class of planters known as "check-row planters," though the improved construction may readily be applied to and used in connection with other forms of planters.

The invention consists in the various constructions and combinations of parts herein-after described and claimed.

In the accompanying drawings, Figure 1 is a partial sectional elevation of the front part of a corn-planter embodying the invention. Fig. 2 is a partial plan view of a check-row device adapted to operate the dropping mechanism as shown in Fig. 1. Fig. 3 is a detail view of a portion of the actuating devices for the dropping mechanism. Fig. 4 is a detail of the lower part of the corn-box and the supporting-frame. Fig. 5 is a plan view of the dropping mechanism and its actuating device. Figs. 6, 7, and 8 are details of the same.

Like parts are represented by similar letters of reference in the several views.

In the said drawings, A represents the runner-frame.

B is a shoe, and C the corn-box. The corn-box C is hinged at *a* to a base or supporting plate C', supported on the main frame, as shown in Fig. 1, the box in said figure being turned back to expose the dropping-plate.

D is a dropping-plate, which rests on the plate C' and between said plate and the bottom of the box C. The plate D is provided in the usual manner with openings or perforations *b*, adapted to receive the grain from the grain-receptacle C, and as the plate is revolved to deposit it through an opening for the purpose into a conduit E, which leads to the rear of the shoe B. Projections *b'* on the plate D are engaged by pivoted pawls *b*² in a reciprocating frame D', moved by a bar

D², to produce a rotary movement of the dropping-plate in a well-known manner.

A reciprocating motion is imparted to the bar D² from a check-row device or other actuating mechanism by a rod *c*. The actuating mechanism which is preferably employed for this purpose consists of a pivoted lever *c'*, adapted to be operated by a check-wire *d* and impart a rotary movement to a gear *c*², which meshes with a crank-gear *c*³, which crank-gear is connected to the rod *c* by an adjustable link *c*⁵, the parts being arranged and operated substantially as described in Letters Patent No. 445,397, dated January 27, 1891, to A. C. Evans, for check-rowers.

It will be understood that a dropping mechanism, substantially as described, and an actuating mechanism therefor are employed on each side of the planter, the bar D² being adapted to connect the respective reciprocating frames D' to simultaneously operate both dropping-plates D. When the actuating device or check device on one side of the machine is in operation it is connected directly to the reciprocating bar, while the actuating device at the other side of the machine remains at rest, the respective devices being disconnected when the check-wire is turned over to operate the actuating mechanism on the opposite side. In devices of this kind it sometimes happens that in changing from one device to the other the operator fails to disconnect one of said actuating devices, leaving both in connection with the bar D², in which case a breakage occurs. To obviate accidents of this character, a single connecting-point between the respective actuating devices and the bar D² is provided, and the respective connections from said actuating devices are arranged in such a manner that one cannot be connected to said bar without disconnecting the other. This is preferably accomplished as shown in Figs. 3 and 5. A projection D³ is arranged on the bar D² centrally between the respective actuating devices. This projection D³ preferably extends outwardly and downwardly from the bar D², and is provided with a suitable opening to receive the hook-shaped end *c*⁷ of the connecting-bars *cc*. Located in proximity to the projection D³, and preferably on a por-

tion of the main frame A, is a small elongated receiving box or socket *e*, having an elongated depression with projecting side flanges adapted to receive the hook-shaped end *c'* of the connecting-bar *c*, as shown in Fig. 3. This pocket or socket *e* is adapted to receive the end of the bar *c* which is not in engagement with the projection *D*³. The pocket or socket is made of sufficient length to permit the connecting-rods *c* to reciprocate therein when operated by the lever *c'*. By this construction, when changing from one side of the machine to the other, one of the connecting-bars *c* is unhooked and dropped into the socket *e*, while the other rod is hooked into the projection *D*³. In the event that the change is not made no harm can result, as the connecting-rod reciprocates in the open box *e* until properly connected, to do which necessitates the disconnecting of the other bar. The dropping-plate *D* turns on a central stud *f*, projecting from the supporting-plate *C'*, the bottom of said dropping plate or ring being adapted to rest at its periphery on a raised bearing *f*² on the supporting-plate *C'*, a similar projecting bearing *f*³ being provided on the bottom of the grain-receptacle *C*, adapted to bear against the top of said plate or ring, and thus hold the same firmly between the respective bearing-seats *f*² *f*³. The grain-receptacle *C*, as before stated, is hinged at *a* at one side and provided on the opposite side with an upwardly-extending stop projection *f*⁵, adapted to support the bottom plate of the grain-receptacle *C* at a sufficient height to permit the dropping plate or ring to turn freely between said bearing-supports, a slotted projecting ear or lug *f*⁷ being preferably extended from the bottom of the grain-receptacle to rest against said stop *f*⁵ and to receive a fastening-screw *f*¹¹, which projects through a slotted opening *f*¹² in said stop projection.

The hinges *a* of the grain-receptacle consist, essentially, of projecting ears or lugs *a'* on the supporting-plate *C'* and similar projecting ears *a*² on the grain-receptacle, which ears or lugs are provided with openings to receive a pin or pintle *a*³, which extends through all of said ears, as shown in Fig. 5. In assembling the parts the openings through said ears are so formed that when jointed together by the pin *a*³ the bearing-face *f*³ stands parallel with the bearing-face *f*². By this construction the grain-receptacle is supported at each side of the dropping-plate at a uniform height sufficient to allow said dropping-plate to turn freely between the respective bearing-faces. The necessity of accurate fitting of the said bearing-faces is thus obviated. The bearing-plate being finished to a standard size, any variation in the castings forming the bearing-supports will be compensated for in forming the openings through the lugs which constitute the hinges.

The conduit *E* consists, essentially, of a trough-shaped casting *E'*, substantially U-shaped in cross-section and provided at the

rear with openings *g g'*. The projecting sides of this U-shaped conduit are adapted to rest against and fit snugly in contact with side flanges on the rear shoe-support *B'*, which is preferably formed of a T shape in cross-section, as shown in Fig. 8, the rear portion of the supporting-standard *B'* being thus adapted to form the front side of the conduit *E*. The trough-shaped portion *E'* of the conduit is formed with small projecting lugs *g*² *g*², adapted to engage with similar lugs on the supporting-standard *B'* to hold the parts in their proper relative positions, a single bolt *g*³, passing between the respective parts, being adapted to hold said parts together and permit their ready separation when desired.

Located within the conduit *E* is a pivoted valve *E*², formed on the end of a projecting arm *E*³, the upper end of which is extended between projecting lugs *h h'* on the reciprocating frame *D'* to cause the said valve *E*² to move from side to side of the conduit *E* as the frame *D'* is reciprocated to cut off the grain discharged from the dropping-plate and retain it in the conduit close to the shoe until the next succeeding hill is dropped in a well-known manner. The valve *E*² and the projecting arm *E*³, I form integral and also provide integrally with said valve small projecting trunnions *l l'*, on which the said valve is pivoted. The upper opening *g* in the rear of the conduit *E* is preferably formed with a lower contracted end having a curved bearing-seat *l*², adapted to receive the trunnion *l* on the valve, which trunnion is formed immediately below the point where the arm *E*³ joins the said valve. A corresponding opening *l*³ is provided in the standard *B'* to receive the other trunnion *l'*. The opening *g'* is preferably formed immediately below the trunnion, as shown in Fig. 7, the two openings furnishing means for the operator to see the passage of the corn through the conduit as well as the operation of the valve, so that any imperfection in the operation thereof may readily be detected. The opening *g* also furnishes means for inserting the valve *E*² in place within the conduit by passing the extending arm *E*³ through said opening until the trunnion *l* rests in the open bearing *l*². The trough-shaped piece containing the valve is then placed in position on the standard *B'* with the end of the projecting arm *E*³ in engagement with the reciprocating frame *D'*, as before described, and the parts secured together by the single bolt *g*³, as before described.

It will be seen that as thus described the constructions of the operating parts are reduced to an extremely simple form, the different parts being adapted to be readily assembled with but few bolts or connections and with but little fitting or machine work. The simplicity of parts also makes it possible to detach or replace any part for repairs or otherwise without disturbing the other parts. The slotted opening and the projecting ear

on the supporting-plate C' and grain-receptacle C, respectively, furnish the means for securing said parts firmly together, at the same time permitting them to be readily detached without removing the fastening bolt or screw.

The supporting-plate C' is preferably provided with bearing-ribs k, which extend slightly above the main body of said bearing-plate and support the reciprocating frame D' to lessen the friction between the parts.

Having thus described the invention, what is claimed is—

1. In a planter, a hinged grain-receptacle and a supporting-plate therefor and a rotary dropping-plate arranged between the grain-receptacle and the supporting-plate, said receptacle and supporting-plate being respectively provided with bearings of substantially the same diameter as said rotary dropping-plate, which bearings are extended in opposite directions from the respective parts beyond the sides of the receptacle and the supporting-plate, respectively, and independent supporting devices between the receptacle and supporting-plate for supporting said bearing-surfaces parallel with each other on opposite sides of said dropping-plate, whereby the dropping-plate is exposed at its outer periphery and adapted to be readily removed, substantially as specified.

2. In a planter, a grain-receptacle and supporting-plate therefor, a hinged connection between said grain-receptacle and supporting-plate, and an oppositely-arranged supporting and fastening device for said grain-receptacle, a rotary dropping-plate arranged between said receptacle and supporting-plate between bearings which project from the respective parts beyond the sides of said parts, said bearings being of substantially the same diameter as said dropping-plate, a projecting stud on one of said parts on which said dropping-plate rotates, and operating mechanism between the supporting-plate and grain-receptacle for revolving said dropping-plate, substantially as specified.

3. In a planter, a dropping mechanism, an actuating reciprocating bar, connecting-rods adapted to connect oppositely-arranged actuating devices with the reciprocating bar at a central point, and a separate receiving-box for receiving and retaining the disconnected rod when the other rod is connected, substantially as described.

4. The combination, in a planter, with a dropping mechanism and a reciprocating

actuating-bar, of a check-row-operating mechanism arranged at each side of said planter, connecting-rods for each of said operating mechanisms, said connecting-rods being adapted to be successively connected at a single point to the reciprocating bar, and an elongated socket or box approximate to the connecting-point of said bar, adapted to receive and retain the free end of the disconnected rod when the other rod is connected to said bar, substantially as specified.

5. The combination, in a planter and with a planting-shoe, of a hollow conduit having an opening in the wall thereof, an open bearing formed at the bottom of said opening, a pivoted valve in said conduit having a trunnion adapted to fit in said open bearing, and an extended arm connected to said valve and passing through said opening and from thence on the outside of said conduit to an actuating mechanism, substantially as specified.

6. In a planter, and in combination with a planting-shoe thereof, a hollow conduit having a pivoted valve therein, an open bearing to support a trunnion on said valve, openings above and below said trunnion, and a projecting arm formed integral with said valve and extended through one of said openings and on the outside of said conduit to an actuating mechanism, substantially as specified.

7. The combination, with a conduit formed in two parts, of a pivoted valve, an open bearing to support a trunnion on said valve, and an extended arm formed integral with said valve and adapted to be projected through an opening in said conduit to permit the arm to operate on the outside of said conduit and the valve on the inside and admit of the valve being readily removed from the conduit, substantially as specified.

8. The combination, with a planting-shoe and supporting-standard, of a conduit formed of a trough-shaped back or cover connected to said standard, a pivoted valve in said conduit, an open bearing to support a trunnion on said valve, and a projecting operating-arm connected to said valve through an opening in said trough-shaped back and cover, substantially as described.

In testimony whereof I have hereunto set my hand this 19th day of March, A. D. 1891.

LOUIS C. EVANS,

Adm'r of Estate of A. C. Evans.

Witnesses:

CHAS. I. WELCH,

D. F. GRAHAM.