(No Model.) 4 Sheets—Sheet 1.

G. C. JANNEY

CORN HUSKER AND STALK CUTTER.

No. 589,782. Patented Sept. 7, 1897.

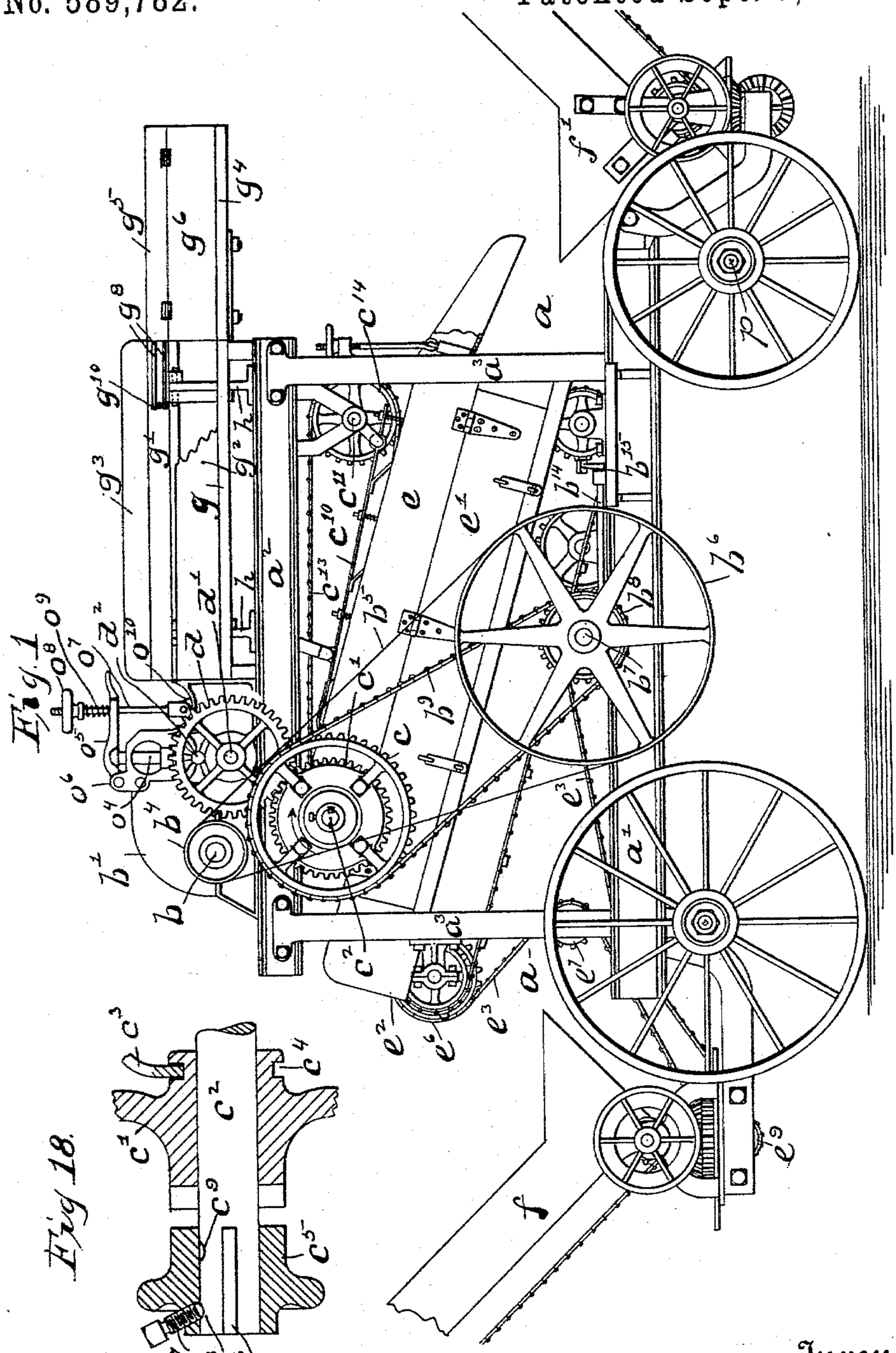

Fig. 1.

Fig. 1a.

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Chas. I. Welch

Inventor
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By his Attorney
Paul A. Othon

(No Model.)

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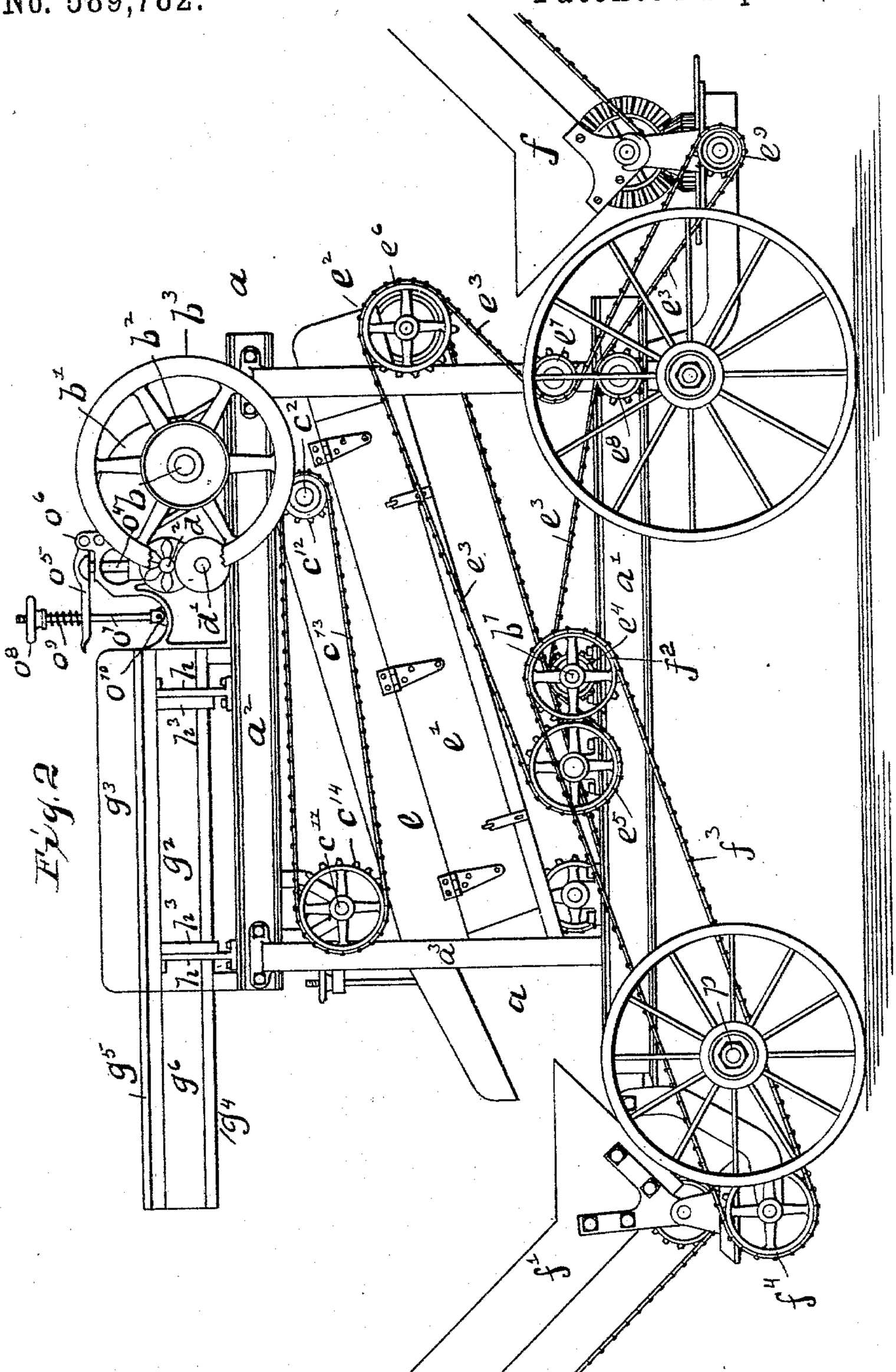
CORN HUSKER AND STALK CUTTER.

No. 589,782. Patented Sept. 7, 1897.



Witnesses
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(No Model.) 4 Sheets—Sheet 3.

G. C. JANNEY.

CORN HUSKER AND STALK CUTTER.

No. 589,782. Patented Sept. 7, 1897.

Fig. 15.

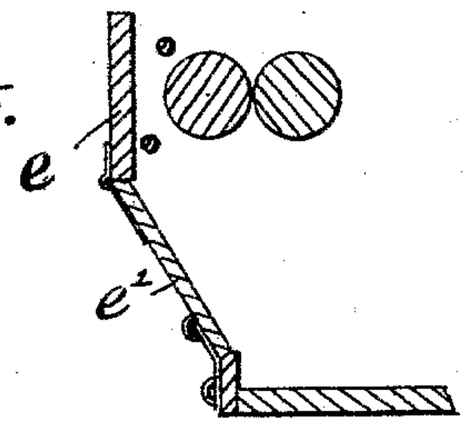


Fig. 4.

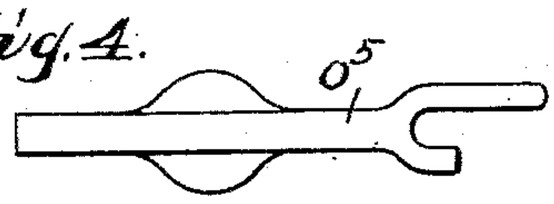


Fig. 5

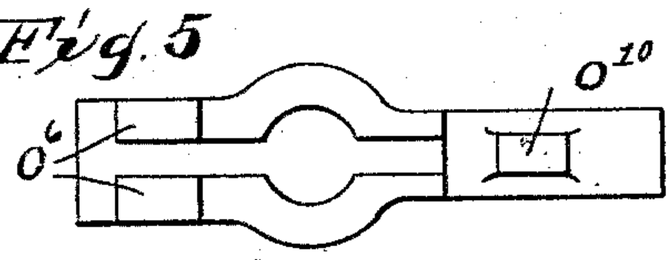


Fig. 3.

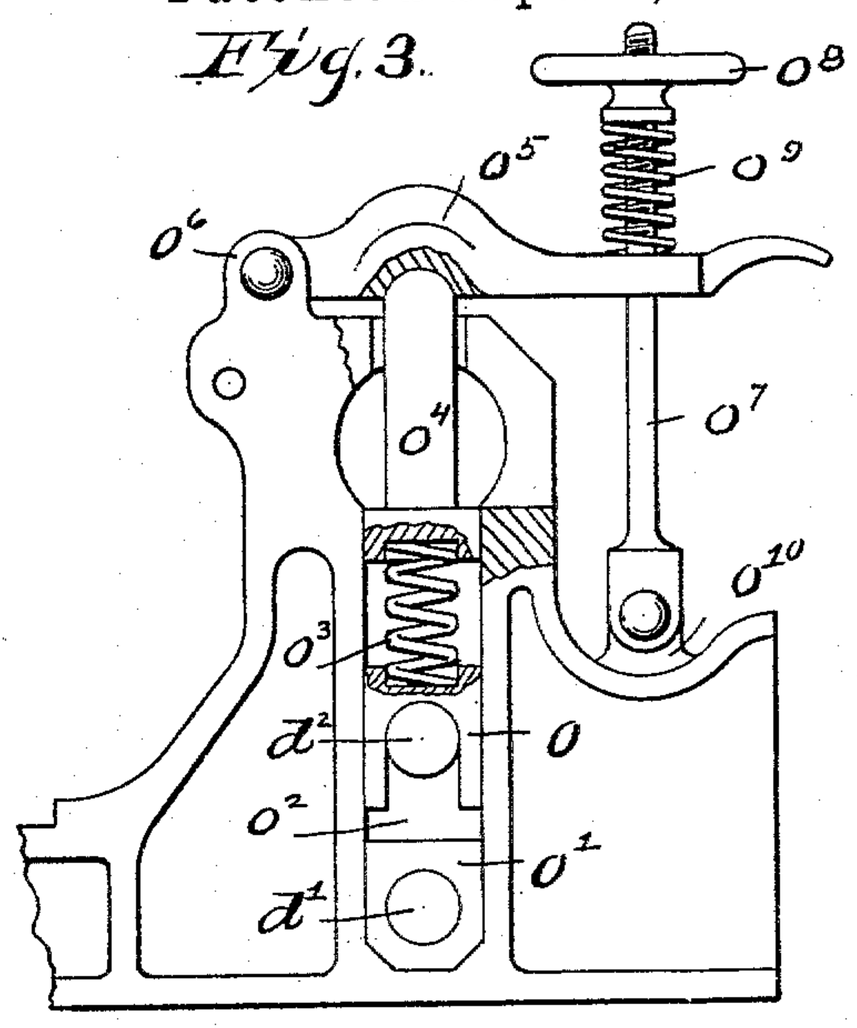


Fig. 6

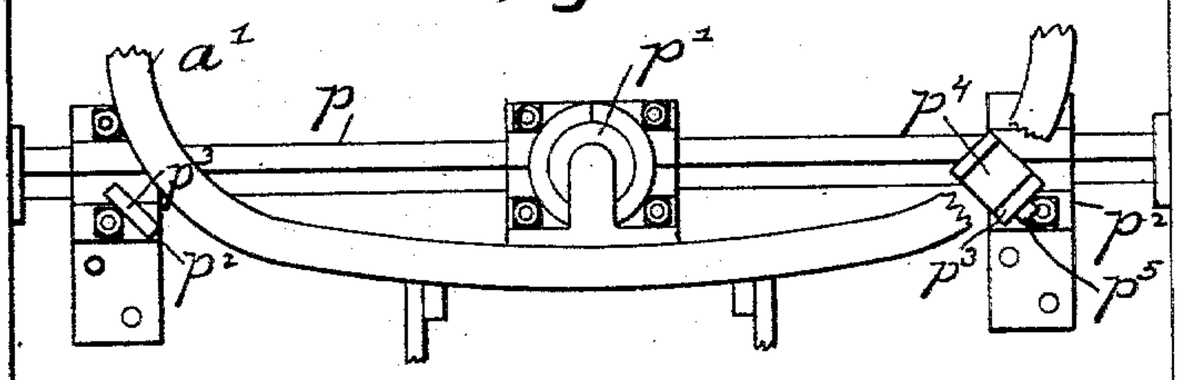


Fig. 7

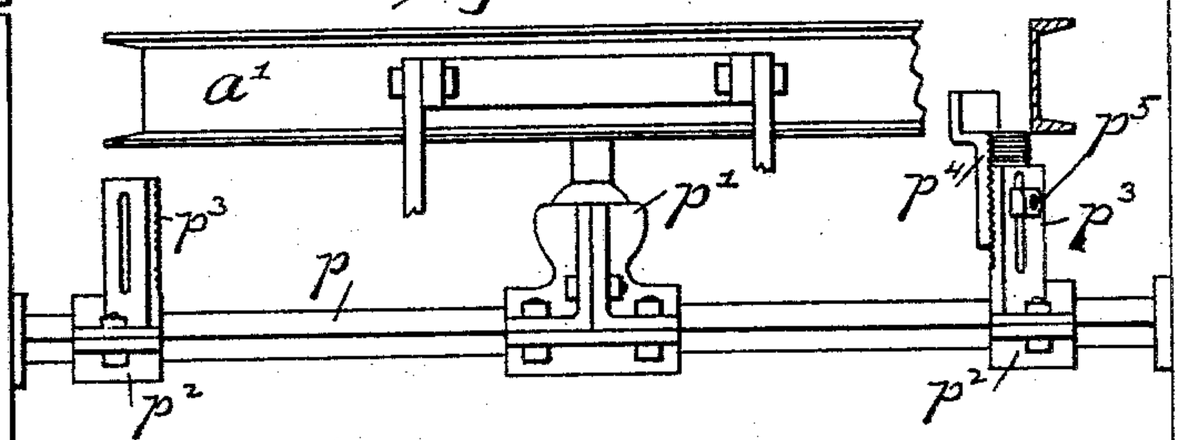
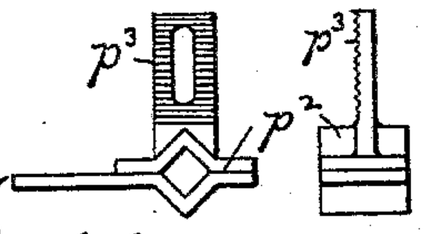
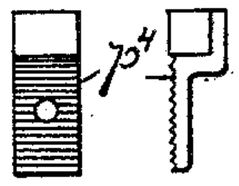


Fig. 8





Witnesses
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(No Model.) 4 Sheets—Sheet 4.

G. C. JANNEY.

CORN HUSKER AND STALK CUTTER.

No. 589,782. Patented Sept. 7, 1897.

Fig. 9

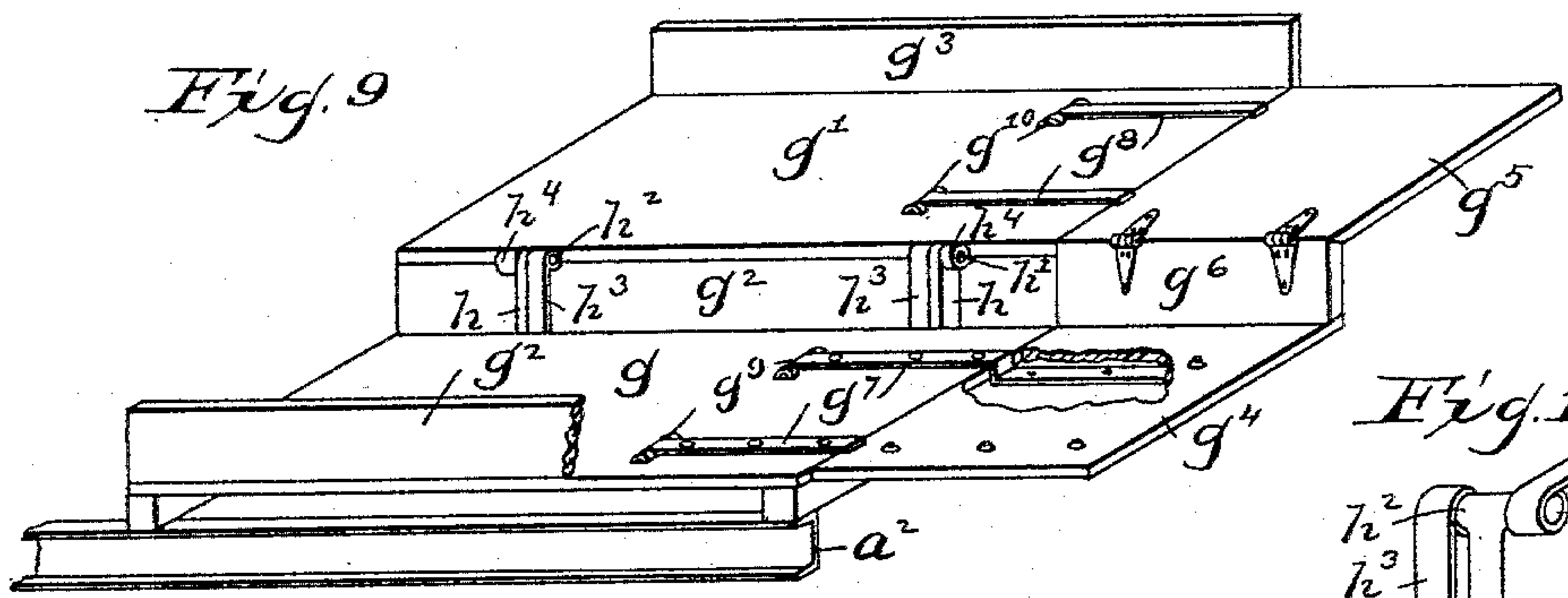


Fig. 10

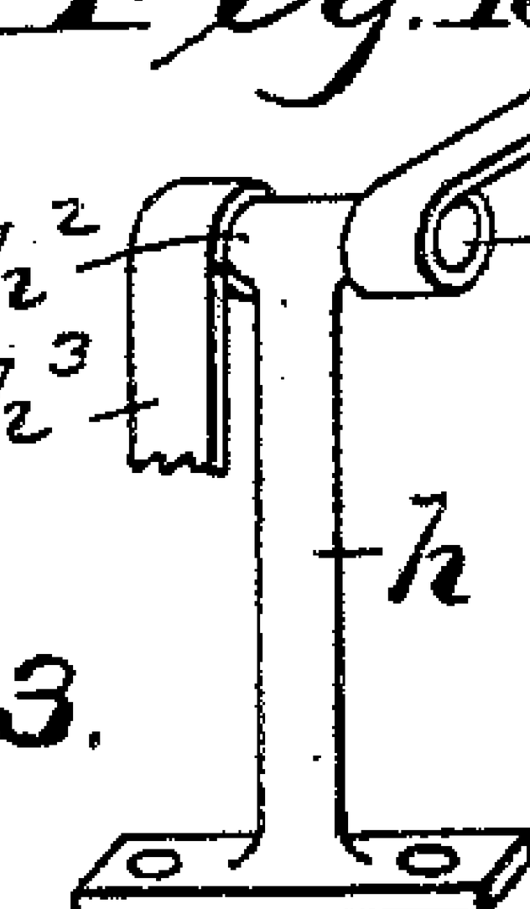


Fig. 13.

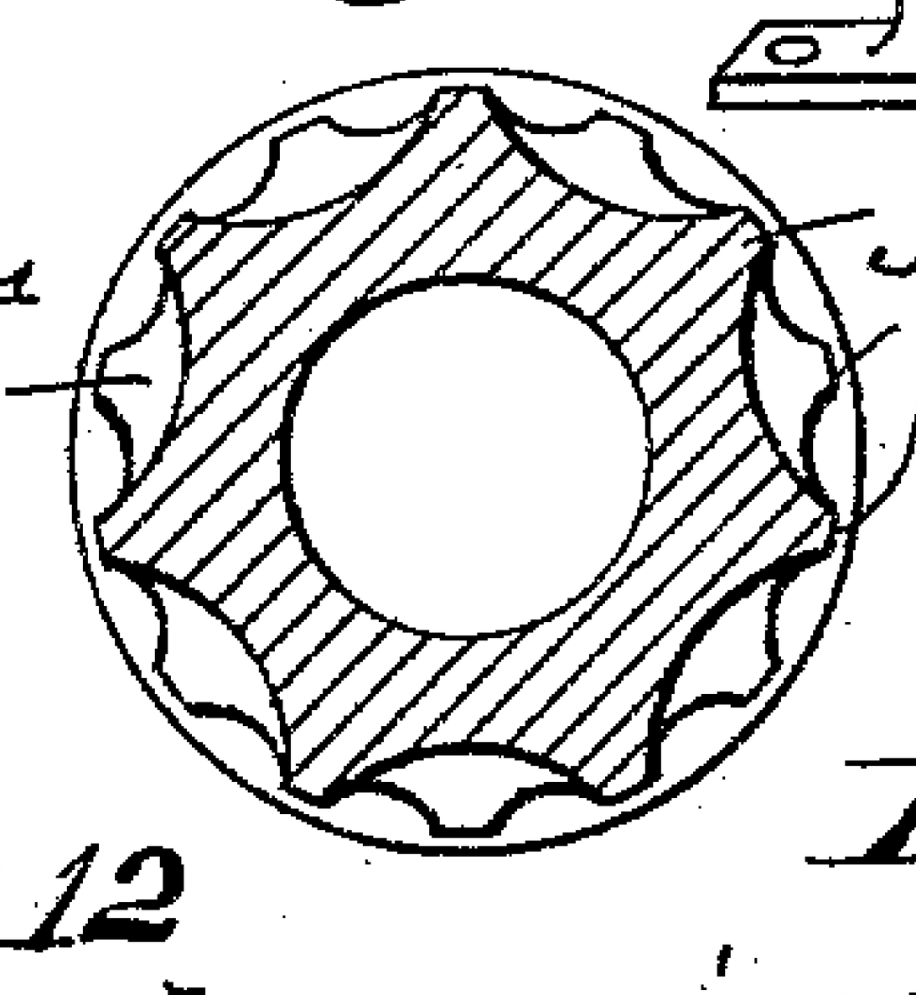
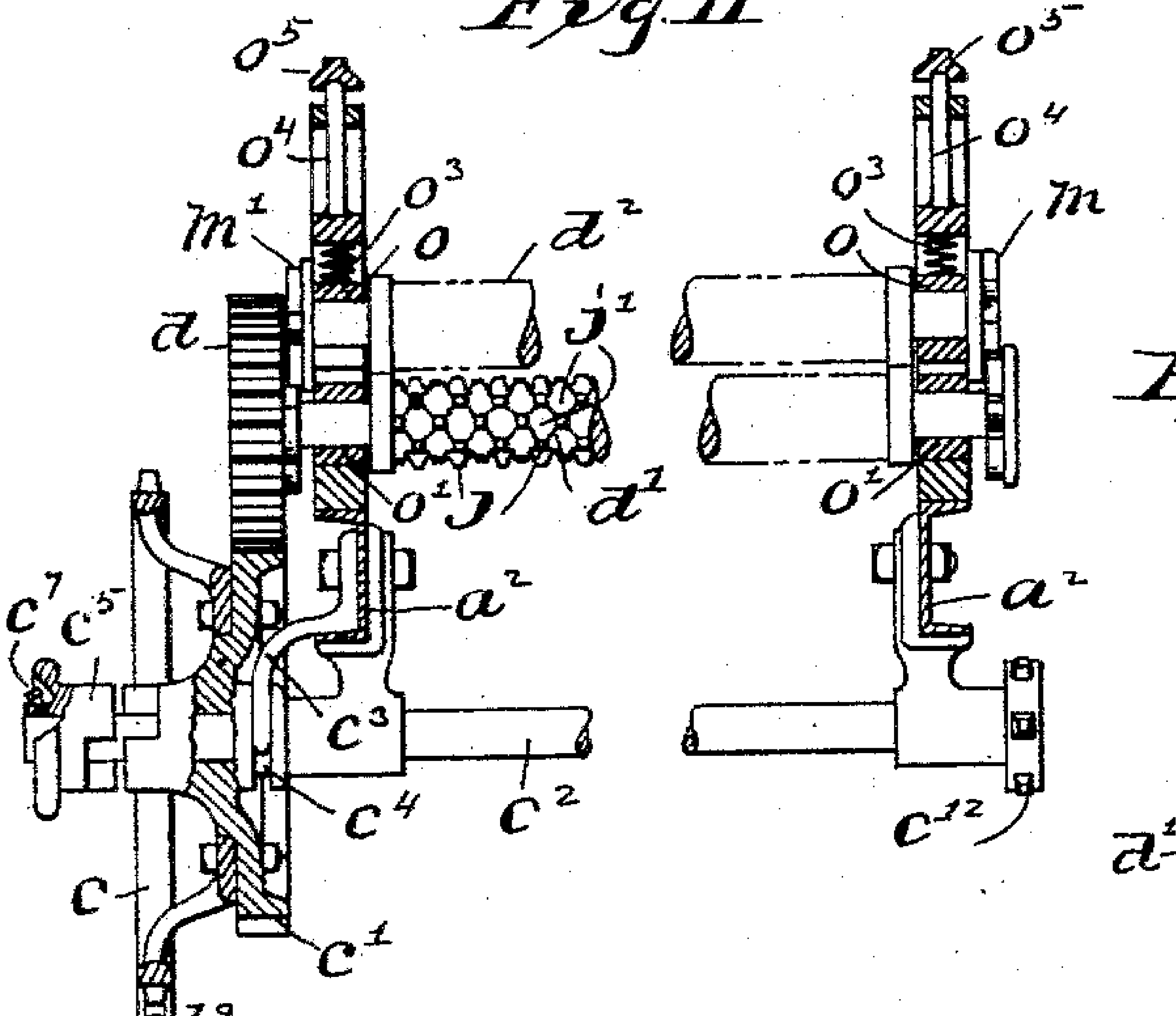


Fig. 11



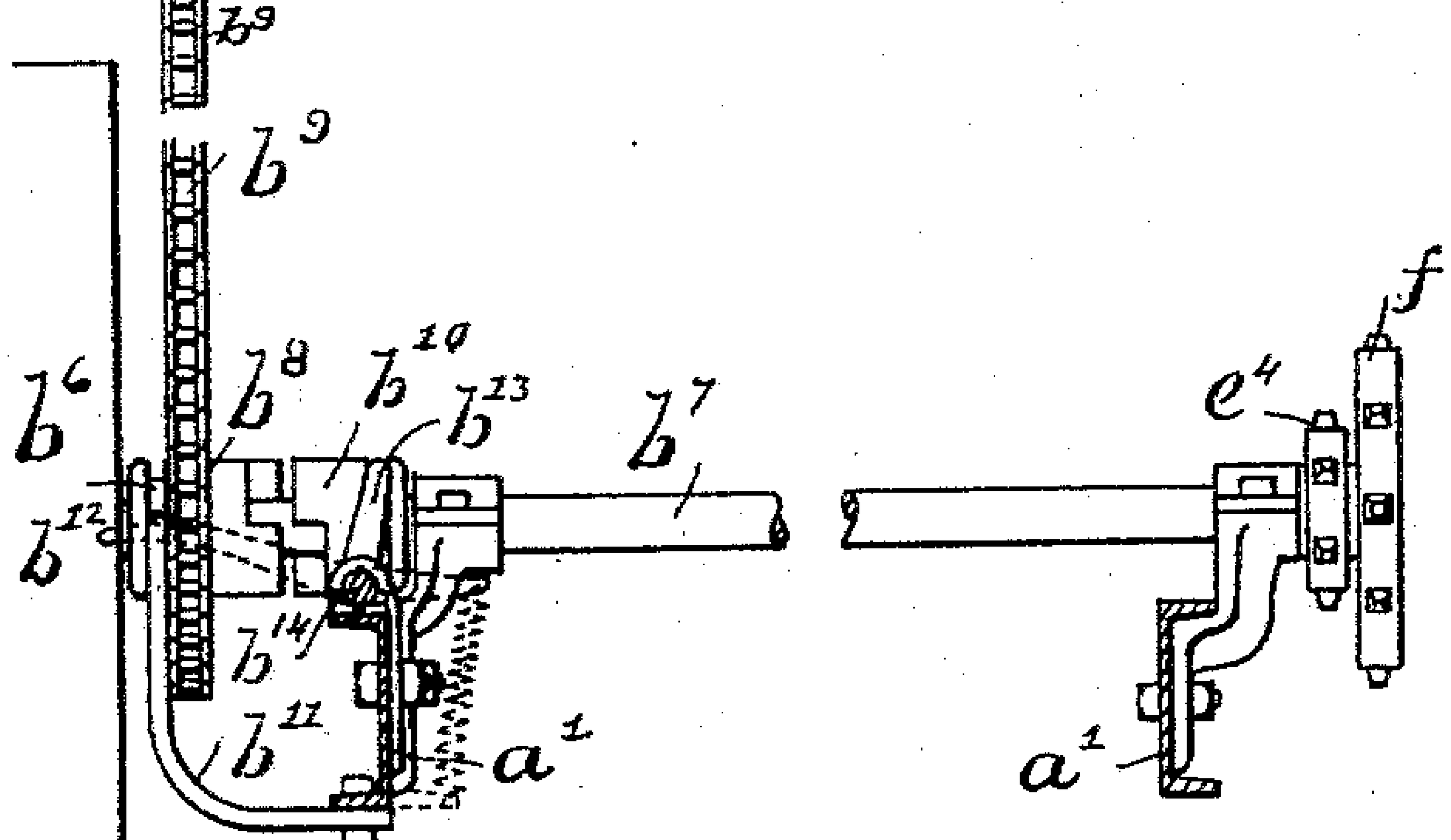


Fig. 12

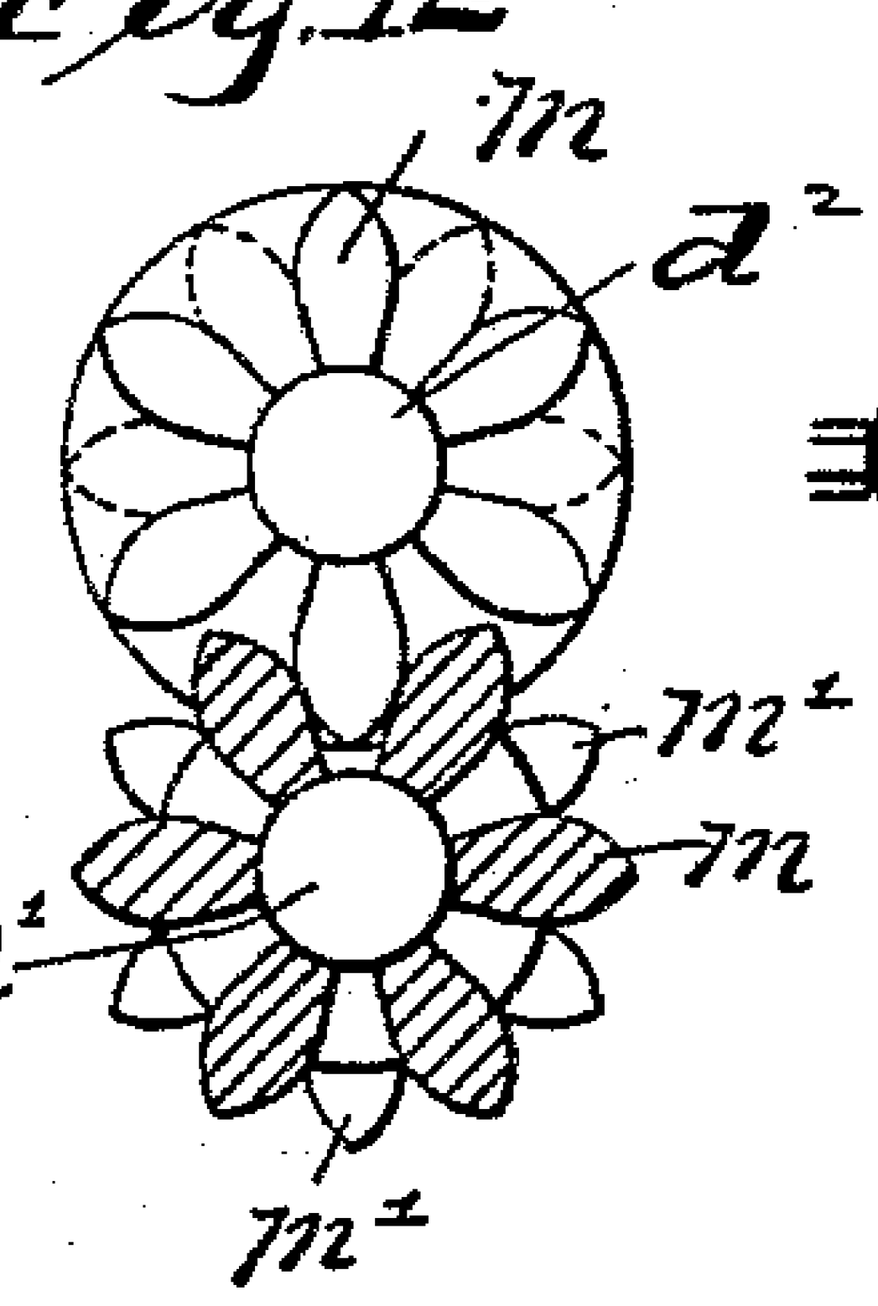


Fig. 14

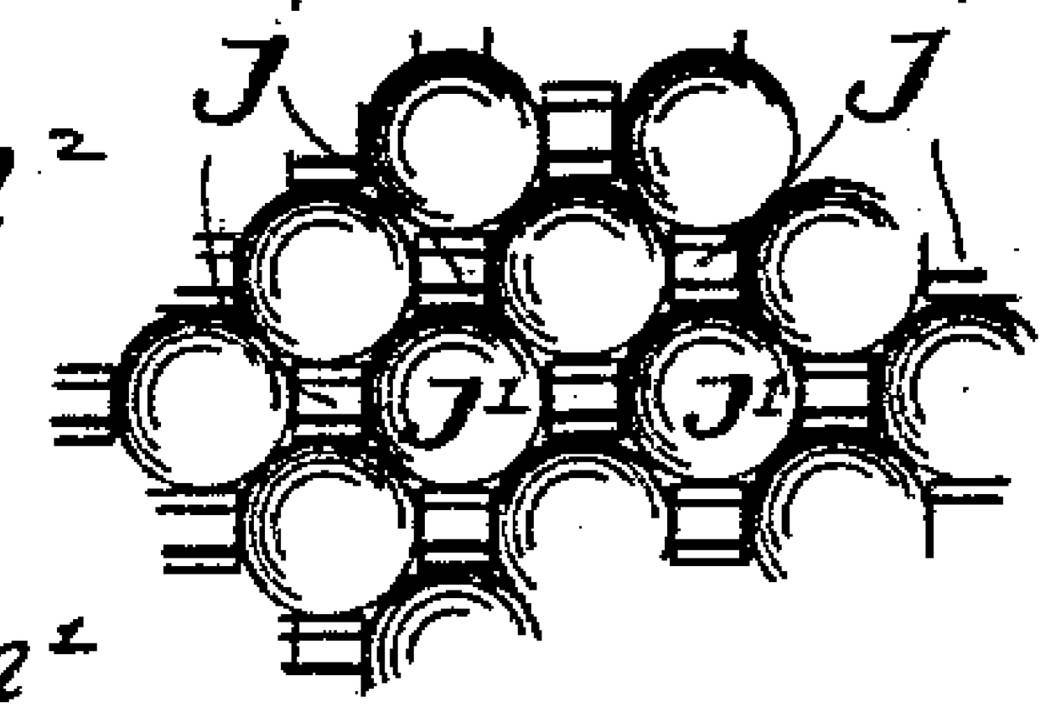


Fig. 17

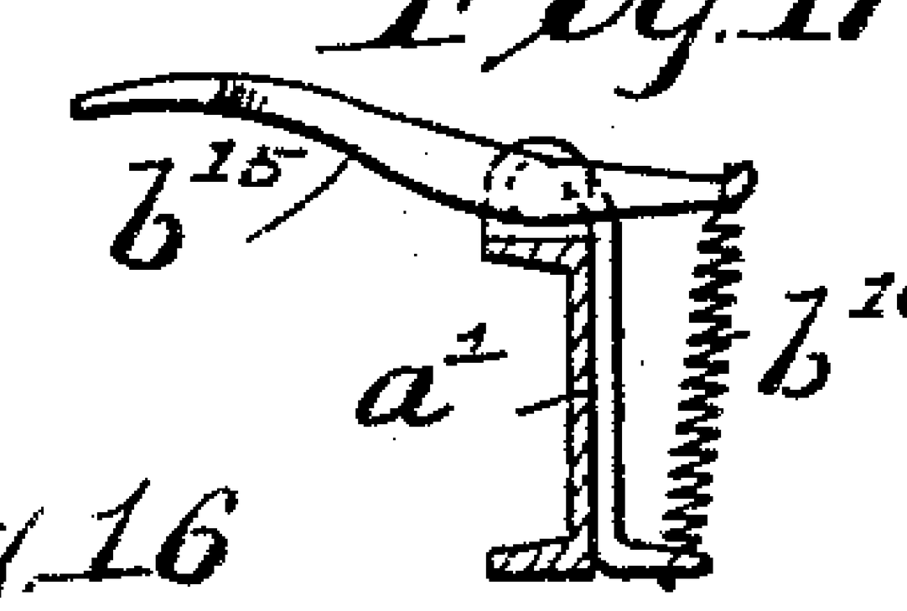
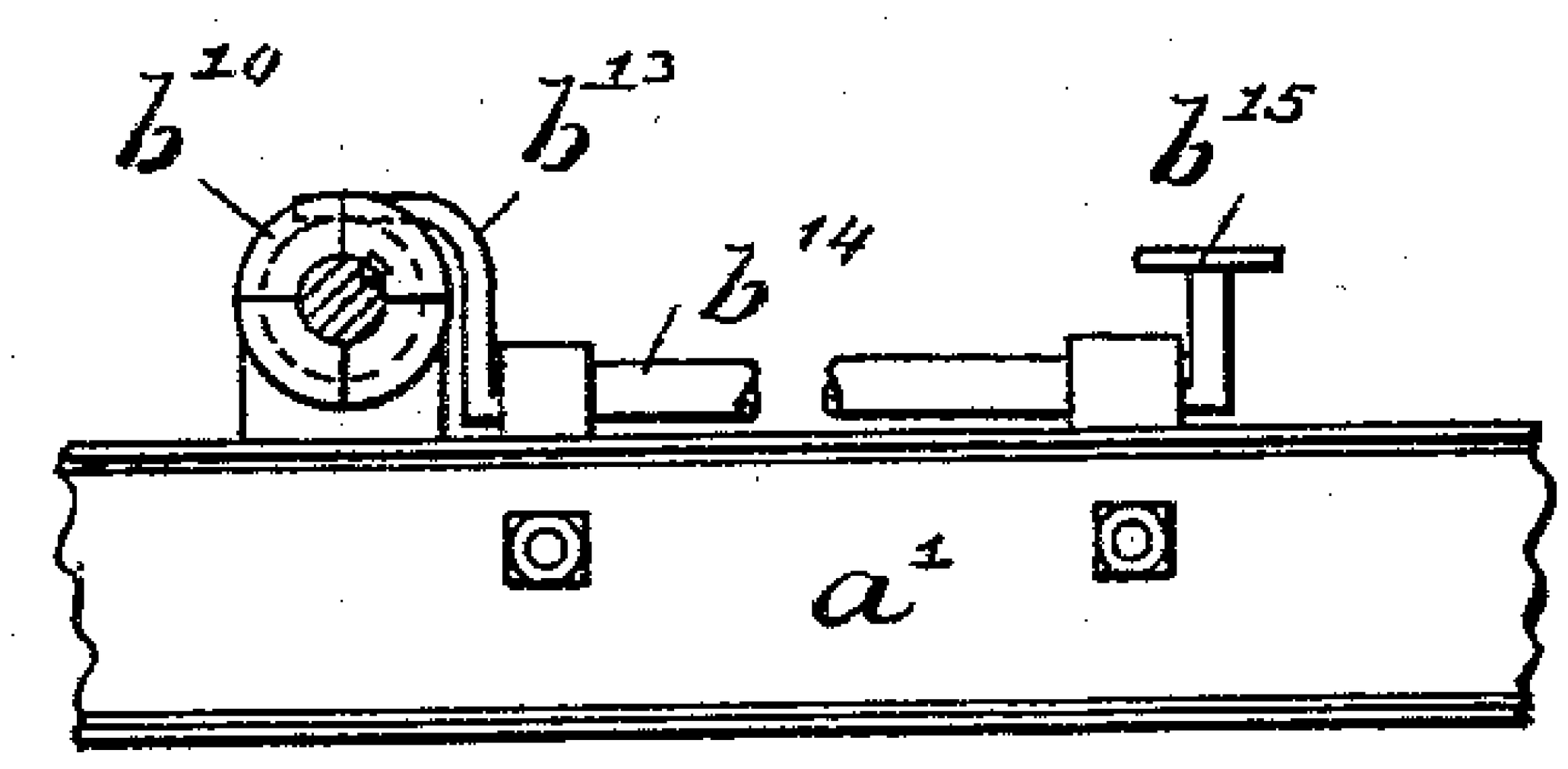


Fig. 16



Witnesses
G. M. Gridley
Chas. I. Welch

Inventor
George C. Janney
By his Attorney
[signature]

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE C. JANNEY, OF MUNCIE, INDIANA, ASSIGNOR TO MARY H. JANNEY, OF SAME PLACE.

CORN-HUSKER AND STALK-CUTTER.

SPECIFICATION forming part of Letters Patent No. 589,782, dated September 7, 1897.

Application filed March 10, 1896. Serial No. 582,535. (No model.)

To all whom it may concern:

Be it known that I, GEORGE C. JANNEY, a citizen of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Corn-Huskers and Stalk-Cutters, of which the following is a specification.

My invention relates to improvements in corn-huskers and stalk-cutters, and it especially relates to improvements in machines such as described in my pending application, Serial No. 561,930, filed September 9, 1895.

My invention consists in the constructions and combinations of parts hereinafter described, and set forth in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a machine embodying my invention. Fig. 2 is a similar elevation taken from the opposite side. Fig. 3 is a side elevation showing details of the adjusting mechanism for the feeding-rolls. Figs. 4 and 5 are details of the same. Figs. 6 and 7 are respectively a plan and end view of a portion of the frame and supporting devices therefor. Fig. 8 is a detail of the same. Fig. 9 is a perspective view showing the folding table. Fig. 10 is a detail view of the hinge for the same. Fig. 11 is a sectional view showing the feeding-rolls and the driving mechanism therefor, some of the frame parts being omitted. Fig. 12 is an end view of the driving-gears for the feeding-rolls. Fig. 13 is a sectional view of one of the feeding-rolls. Fig. 14 is a diagrammatic view showing the construction of the peripheries of the feeding-rolls. Fig. 15 is a detail view of the casing for the husking-rolls. Figs. 16 and 17 are detail views of the clutch device forming a part of the driving mechanism. Fig. 18 is a sectional view of a detail of the driving mechanism of the feeding-rolls.

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

In the said drawings, a represents the main frame, which consists of auxiliary frames a' a^2, joined together by supporting-posts a^3.

b is the cutter-shaft, any ordinary cutter being employed thereon and inclosed within the casing b'—such, for instance, as shown in my prior application.

The power to drive the machine is preferably applied to the cutter-shaft b through the agency of a pulley b^2, a fly-wheel b^3 being preferably employed on said shaft. The opposite end of the cutter-shaft is provided with a pulley b^4, over which passes a belt b^5, which communicates power to a pulley b^6 at one end of a shaft b^7, which is supported in suitable bearings on the lower auxiliary frame a'. The shaft b^7 has a sprocket-wheel b^8, over which passes a chain b^9, which communicates power to a sprocket-wheel c, which is preferably attached to or formed integral with a gear c' on a transverse shaft c^2. The gear c' meshes with a spur-gear d on one of the feeding-rolls d', the other feeding-roll d^2 being geared to the feeding-roll d' by rabbit-eared gears m m'. The transverse shaft c^2 drives the husking-rolls, which are located between the frames a' a^2, in the manner substantially as set forth in my prior application referred to, said rolls being inclosed by a casing e, having as a part thereof a hinged door e', by means of which access is afforded to the husking-rolls and to the conveyer under the same.

The sprocket-wheel b^8, which drives the feeding or snapping rolls d' d^2, as well as the husking-rolls, is journaled loosely on the shaft b^7, but is adapted to be connected to said shaft, so as to revolve therewith, through the agency of a sliding clutch-collar b^{10}, which has the usual clutch projections adapted to engage with similar clutch projections on the hub of the sprocket-wheel b^8, the sprocket-wheel b^8 being held against lateral movement on said shaft by a stationary bifurcated arm b^{11}, attached to the frame and adapted to engage in a groove b^{12} in the hub of the sprocket-wheel. The clutch-collar b^{10} has a peripheral groove in which engages the end of a crank-arm b^{13} on the end of a rock-shaft b^{14}, the opposite end of which is provided with a foot-lever b^{15}, having connected thereto a spring b^{16}, this spring being so applied that it normally holds the clutch b^{10} out of engagement with the sprocket-wheel b^8. The foot-lever b^{15} is located near the point where the operator stands, and while the machine is in operation the operator keeps his foot on the lever b^{15} and thus throws the feeding and snap-

ping rolls into operation. The moment, however, the foot-lever is released the spring acts to disengage the driving mechanism of the snapping and husking rolls, so that they are instantly stopped. This construction is very desirable, as it enables the operator to immediately stop either the snapping or husking rolls and thus prevent serious accidents, which would endanger the machine or the operator.

While the above construction is desirable, it is also desirable that means be employed for operating the snapping and feeding rolls d' d^2, while the mechanism connected with the husking of the corn be allowed to rest, in case, for instance, it is desired to cut up stalks or fodder from which the corn has already been stripped or husked, in which case the feeding-rolls d' d^2, together with the conveyers and elevators, should be allowed to run while the husking devices remain at rest. To provide for this, I mount the sprocket-wheel c and its connected gear c' loosely on the shaft c^2 and hold the same against lateral movement by a stationary bifurcated arm c^3, which engages in a peripheral groove c^4 in the hub of said gear. The gear is provided on the end with a clutch-face adapted to be engaged by a sliding clutch-collar c^5, which is connected to the shaft c^2 by a spline c^6 and a set-screw c^7. The spline causes the collar to revolve with the shaft, while the set-screw c^7, by engaging in depressions c^8 c^9 in the shaft, is adapted to hold the clutch either out of or in engagement with the sprocket-wheel hub and thus cause the shaft to revolve with or be disengaged from said sprocket-wheel. The result of this construction is that by disengaging the clutch-collar c^5 the husking devices will remain at rest, while the feeding-rolls d' d^2 will continue to revolve for feeding the stalks to the cutter, and this disengagement takes place without in any way interfering with the operation of the clutch b^{10}, which will enable the operator to stop and start the husking-rolls at will, as before. As in my former application referred to, I employ vibrating bars c^{10}, which are connected to a crank-shaft c^{11} above the husking-rolls to assist in feeding and husking the corn. In order that this auxiliary husking device may operate when the husking-rolls are in motion and cease when the husking-rolls stop, I provide on the end of the shaft c^2 a sprocket-wheel c^{12}, from which a chain c^{13} drives a sprocket-wheel c^{14} on the crank-shaft c^{11}. By this arrangement the vibrating arms derive their motion from the same source as the husking-rolls—that is, the transverse shaft c^2, and when said shaft stops the vibrating devices stop.

All the elevators and conveyers receive their motion from the same source—viz., the transverse shaft b^7, which is belted to the cutter-shaft b. The conveyers therefore run whenever the cutter runs, unless the belt should be displaced. The conveyer e^2, under the husking-rolls, and the elevating-conveyer f, which carries the husks and stalks from the conveyer e^2, are driven by a single endless chain e^3 from a sprocket-wheel e^4 on the shaft b^7. This sprocket-chain e^3 passes over a loose sprocket e^5, thence over a sprocket-wheel e^6 to the end of the conveyer e^2, and, by the aid of tighteners e^7 e^8, passes around the sprocket-wheel e^9 on the conveyer f. The corn conveyer or elevator f' is run direct from the shaft b^7 through the medium of a sprocket-wheel f^2 and chain f^3, which passes over a sprocket-wheel f^4, connected to the driving mechanism of the conveyer f'.

The stalks are fed in the usual way from a table g into the feeding or snapping rolls d' d^2. To provide for transportation, I form this table so as to fold into small compass, making the constructions, such that the table is hinged so that it may be readily raised or lowered to obtain access to the husking devices, which are underneath the same. To accomplish this, the table is formed in two main parts g g', one of which is raised slightly above the other, the lower part being provided with side pieces g^2 and the other part g' having its floor-level on a line with said side pieces, the part g' being also provided with an upwardly-extending side g^3. Each of the parts g and g' are further provided with auxiliary hinged portions g^4 g^5, the part g^5 having hinged thereto an intermediate piece g^6, which when in operative position forms a continuation of the side g^2 of the lower main portion. These auxiliary parts g^4 g^5 are hinged to the main parts g and g' by bars g^7 and g^8, each of which are hinged at g^9 g^{10} to the respective parts to which they are attached. These hinged points stand considerably back of the ends of the table and are adapted to rest on top of the table, but are bent downwardly and outwardly, so as to extend under the bottoms of the auxiliary portions, so as to firmly brace and support said auxiliary parts. The parts g and g' are each hinged to standards h, which extend upwardly from the frame to a point above or coincident with the top of the side pieces g^2. These standards h are T-shaped and have oppositely-extending trunnions h' h^2, on which are journaled hinged bars h^3 h^4 of the respective tables g g'. The result of this construction is that each of the main tables or table parts g and g' are hinged independently, so that either may be turned toward the other.

The part g' may be folded down on the part g, so as to place them within small compass, and when so folded the part g may still be raised on its hinges so as to afford access to the husking-rolls, or the part g may be raised or lowered, as desired, on its hinged connection without interfering with the part g'.

In folding the parts the intermediate piece g^6 is folded onto the table extension g^5. Then each of the table extensions g^4 g^5 are turned back on their hinged connections, so as to lie substantially parallel over the respective

parts g' g^2 to which they belong. Then the part g' is folded over onto the part g, thus bringing all the parts within small compass, with the auxiliary parts inclosed between the main parts g and g'.

To provide for more readily feeding the stalks which are introduced into the feeding or snapping rolls d' d^2, I construct the periphery of each of said feeding-rolls in a novel manner. The feeding-rolls are each provided with a series of projections j, which are arranged in rows in the length of the rolls, as well as around the same. These projections are staggered—that is to say, the projections in one row are arranged opposite the spaces of the next succeeding row, and the spaces between the same are formed into concave pockets j', which are substantially circular in outline and concave in cross-section, so that a depression or pocket is formed in front of each projection. The result of this construction is that when the butt-end of the stalk is placed between the feed or stripping rolls it is allowed to enter the recesses or pockets immediately preceding the projections, and is thus more readily seized by the feeding-rolls and drawn between the same.

As before stated, the feeding-rolls are geared together by rabbit-eared gears—that is to say, they have elongated teeth of large pitch, as shown in Fig. 12—so that while the rolls may be separated more or less they are still in gear one with the other. These teeth I arrange at opposite ends of the rolls, as shown at m and m', and I place the teeth at one end opposite the spaces between the teeth at the other end, so that the effect in driving is substantially the same as if the teeth were made of the same pitch, the gears at opposite ends of the rolls coming successfully in operation. Another result of this construction is that if one end of the rolls should be raised to such an extent that the teeth at this end are thrown out of mesh the teeth at the other end would still serve to drive the rolls and also insure the proper meshing of the teeth at the other end when the rolls return to their normal or proper position. It sometimes happens that one end of the rolls will be raised to this extent, and if the driving mechanism is applied all at one end there is nothing to insure the proper meshing of the teeth when they return to their normal position; but it rarely ever happens that the rolls would be so widely separated at both ends, and by dividing the driving-gears in the manner described a continuous and uniform operation of the feeding-rolls is insured.

The feeding or stripping rolls d' d^2 are journaled in the usual manner in suitable boxes o o', which are arranged in slotted openings o^2 in the side of the frame. The bearings o have at the top springs o^3, which rest in a suitable support at the lower end of plunger o^4, the upper end of which is convex and fits in a concave depression in a pivoted lever o^5, which is pivoted between suitable lugs o^6 on the frame. This lever is slotted at the other end to receive a rod o^7, which is screw-threaded at its upper end and has a hand-wheel o^8, which bears against the interposed spring o^9, between said wheel and the pivoted lever. The rod o^7 is bifurcated at the lower end and pivoted to a lug o^{10} on the frame. The result of this construction is that the tension on the feeding-rolls may be readily adjusted, and by the use of the two springs o^3 and o^9 a more elastic connection is formed, while the lever arrangement having the slotted opening permits the rod o^7 to be disconnected therefrom, and by throwing the lever back the plunger o^4 may be withdrawn, so as to readily remove the feeding-rolls.

To provide for holding the frame in proper position and leveling the operating parts from the main axle, I provide on the front axle p (which is connected to the frame by a ball-and-socket joint p') sliding supports p^2. These supports p^2 have upwardly-extending slotted bracket-arms p^3, which are serrated on one side and adapted to engage with extensions p^4, which fit under the frame. The result of this construction is that the frame may be readily leveled up on the axle p, so as to cause the operating parts to stand in proper position by adjusting the supports to the proper position, the two parts p^3 p^4 being connected together in the usual way by clamping-bolts p^5. By this construction the frame may stand at an angle to the axle and yet be connected rigidly thereto when the machine is ready for operation. When hauling the machine from place to place, these supports will be removed, so as to allow the axle to adjust itself to the inequalities of the road in the proper manner.

Having thus described my invention, I claim—

1. In a machine, such as described, feeding-rolls having engaging projections on the peripheries thereof, said projections being arranged in longitudinal and circumferential rows, and interposed pockets or recesses on the peripheries of said rolls and between said projections, said pockets being formed concave at the bottom, substantially as specified.

2. The combination with the feeding-rolls, of intermeshing gears at each end of said feeding-rolls, said gears having elongated teeth, with the teeth of one gear of each roll placed opposite the spaces between the teeth of the other gear of the same roll so that alternately-arranged teeth shall be on opposite ends of said roll, substantially as and for the purpose specified.

3. In a corn-husker, the combination with the main frame having the slotted openings as described, feeding-rolls having bearings supported in said slotted openings, one of said rolls being supported in stationary bearings and the other in movable bearings, as described, a plunger having a head fitted to said slotted opening and recessed to receive a spring which is seated at its other end in

said movable bearing, a hinged lever on said frame having a concave recess therein to engage the end of said plunger, which is formed to fit in said recessed opening, a link pivoted to said frame and adapted to engage an open bearing in said lever, and means on said link for adjusting said lever, substantially as specified.

4. The combination with the feeding-rolls, one of which is supported in movable bearings, and a spring on said bearings, a pivoted lever above said spring, a screw-threaded pivoted link extending through said lever, and a spring between said lever and an adjustable nut on said link, substantially as specified.

5. The combination with the feeding-rolls, one of which is supported in movable bearings, of a spring-box and plunger, and a spring between said bearings and spring-box, a pivoted lever to engage said plunger, said lever having an open bearing to receive a pivoted screw-threaded link, and an adjustable nut on said link to adjust said lever and spring, substantially as specified.

6. The combination with the feeding-rolls, one of which is supported in movable bearings, a spring-box, an interposed spring between said box and bearing, a pivoted lever to adjust said box, and a pivoted link adapted to engage in an open bearing in said lever, a screw-threaded nut on said link, and an interposed spring between said nut and lever, substantially as specified.

7. In a corn-husker, the combination with the feeding or snapping rolls, of a driving-shaft geared to said feeding or snapping rolls, and a clutch on said shaft, a rock-shaft having at one end a crank and at the other a foot-lever journaled in suitable bearings adjacent to said clutch with the crank engaging the movable part of said clutch, and a spring connected to said shaft adapted to hold said clutch normally out of engagement whereby said snapping-rolls are retained normally inactive until said foot-lever is depressed, substantially as specified.

8. The combination with a main frame, of the feeding or snapping rolls, a drive-shaft supported on said main frame, and a clutch on said drive-shaft, one part of said clutch being secured to said shaft and the other geared to said feeding or snapping rolls, a rock-shaft supported in journals on said frame and adapted to engage one portion of said clutch, a foot-lever connected with said rock-shaft, and a spring to hold the parts of said clutch normally disconnected whereby the feeding or snapping rolls are disconnected until said foot-lever is depressed, substantially as specified.

9. In a corn-husker, and in combination with the feeding-rolls thereof, a folding table consisting essentially of two main portions arranged in different horizontal planes, said portions being each hinged on opposite sides to elevated standards whereby either or both of said portions may be turned on their pivoted connections, substantially as specified.

10. In a corn-husker, a hinged table consisting of two main portions arranged at different elevations and hinged on T-shaped supporting-standards as described, each of said portions being also provided with auxiliary extensible portions hinged thereto so as to be folded, substantially as specified.

11. In a corn-husker a folding table consisting essentially of the main portions arranged at different elevations and hinged to the same supporting-standards so as to be turned independently to or from each other or to be moved together, as described, each of said main portions having an auxiliary portion or extension hinged thereto and adapted to be folded in the same or substantially the same horizontal plane, and an intermediate vertical portion hinged to one of said extended portions, substantially as specified.

In testimony whereof I have hereunto set my hand this 7th day of December, A. D. 1895.

GEORGE C. JANNEY.

Witnesses:
PAUL A. STALEY,
F. I. COOPER.