

(No Model.)

2 Sheets—Sheet 1.

J. Q. ADAMS.
STALK CUTTER.

No. 257,993.

Patented May 16, 1882.

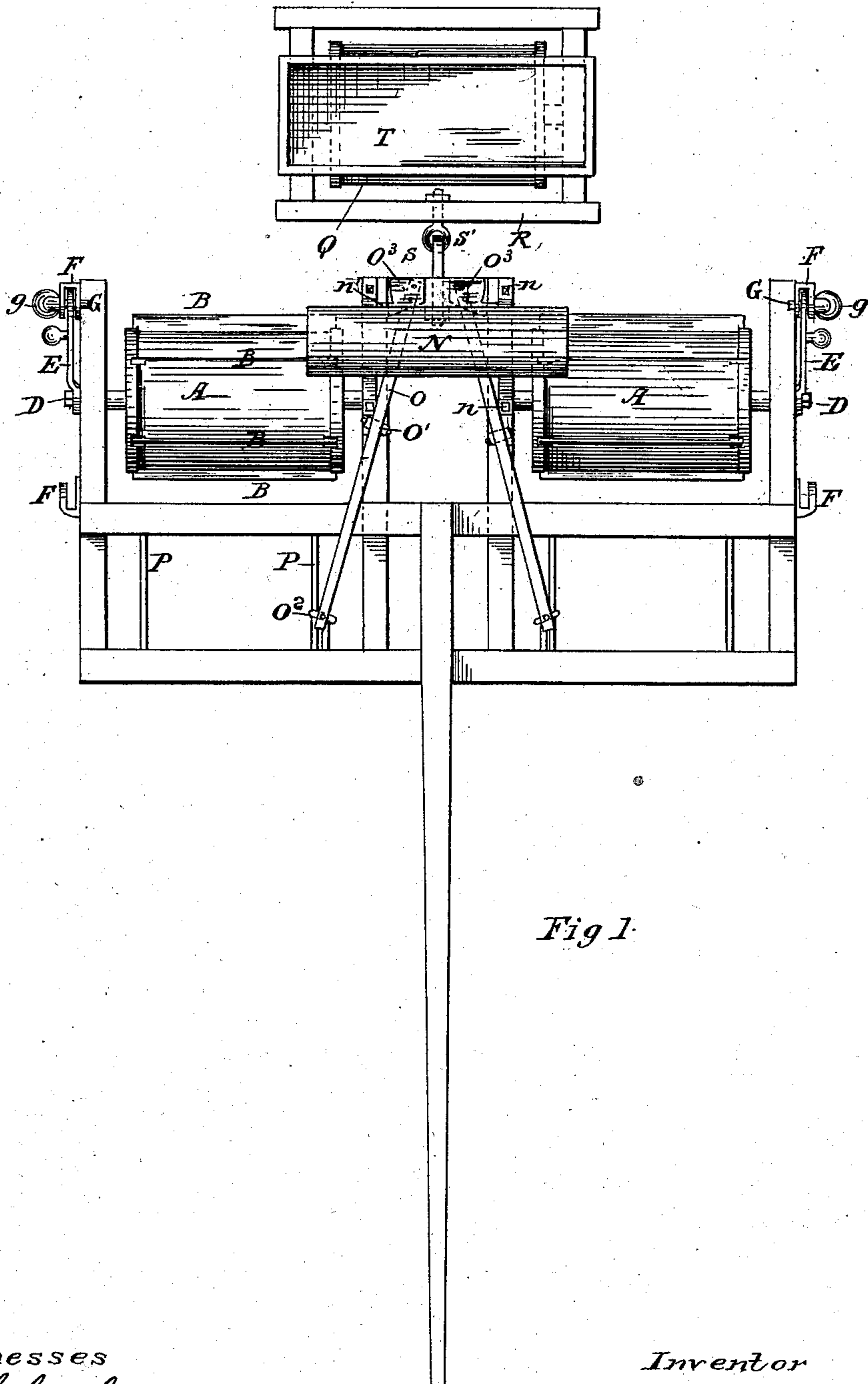


Fig 1.

Witnesses

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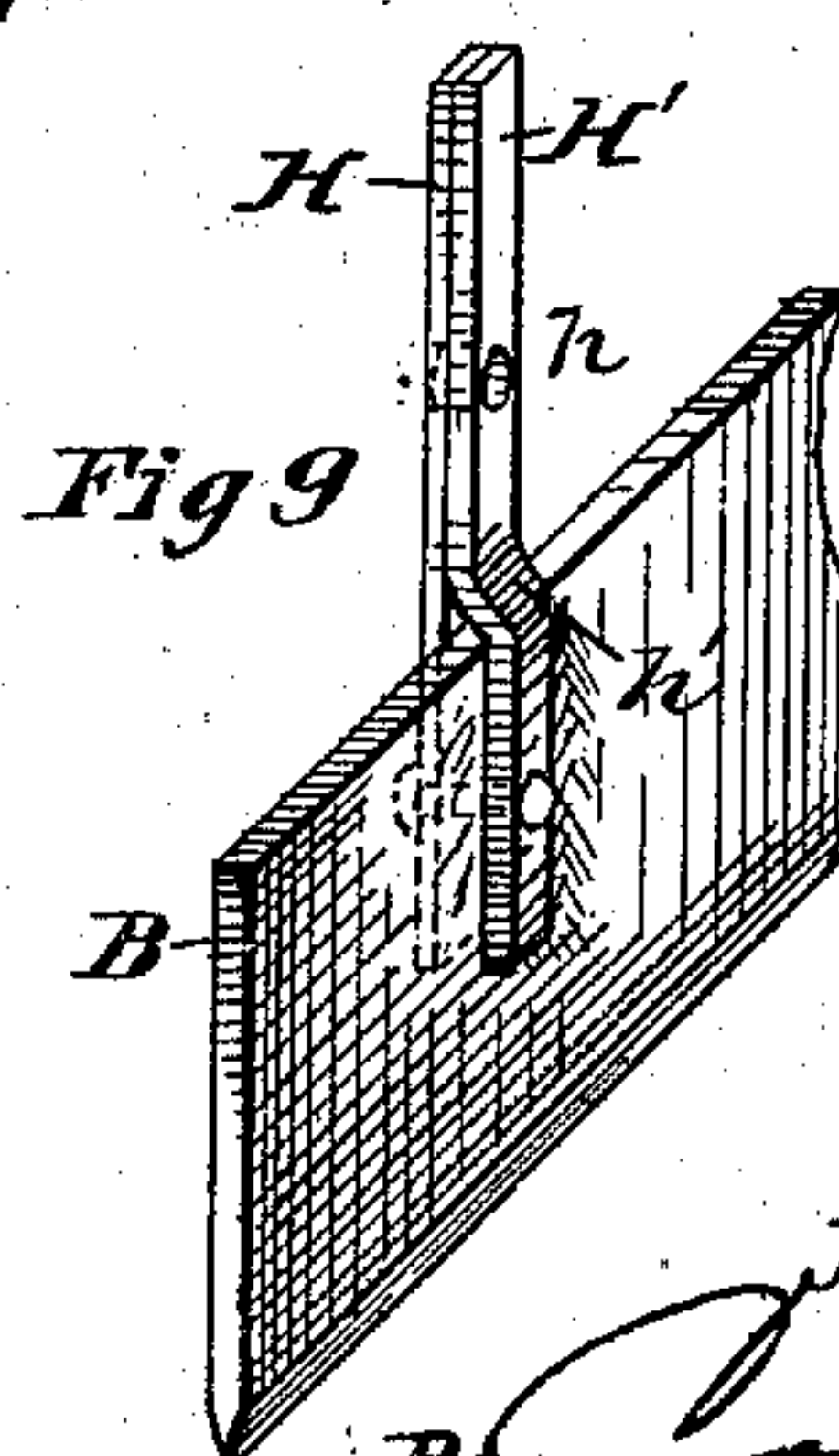
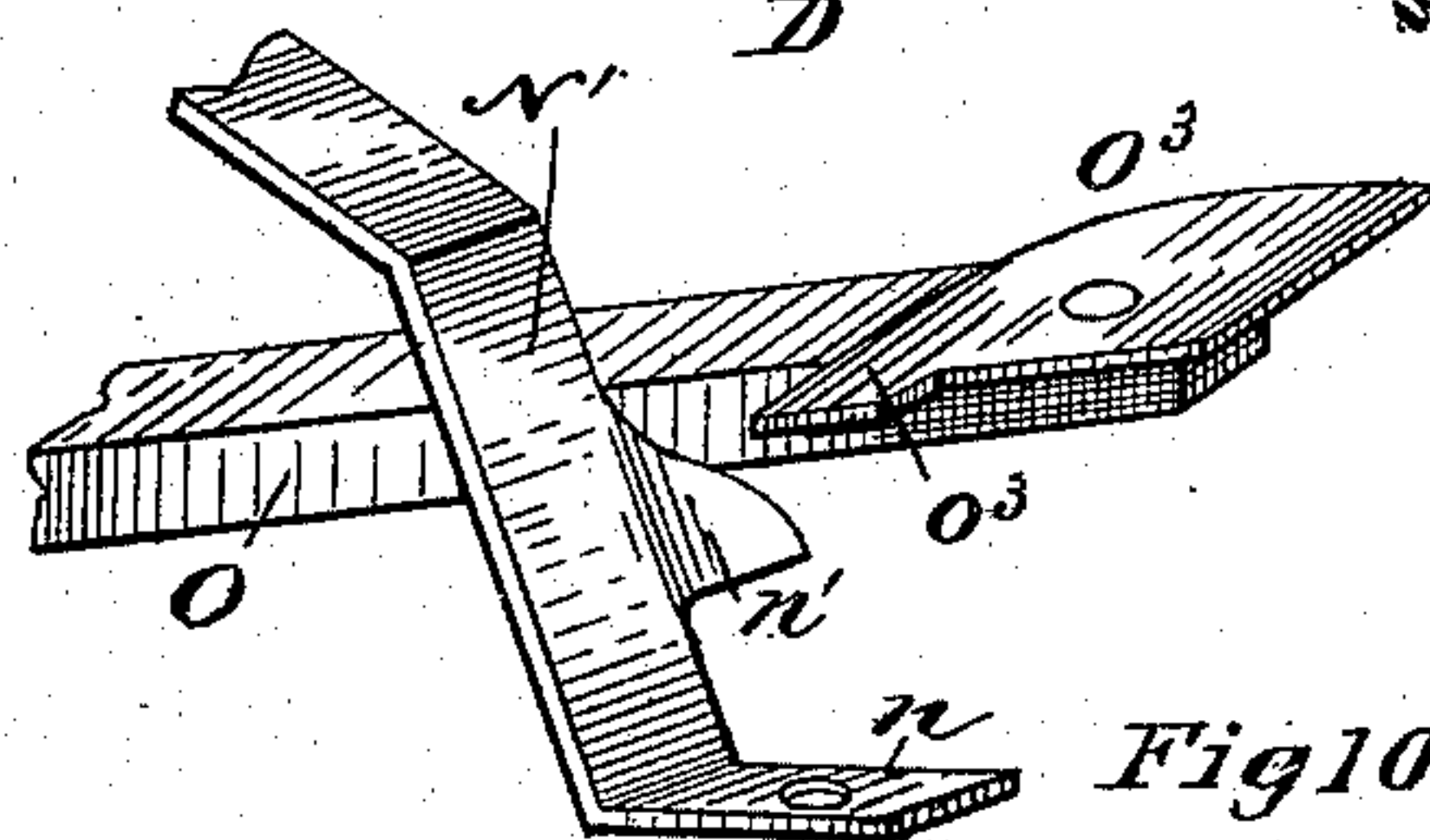
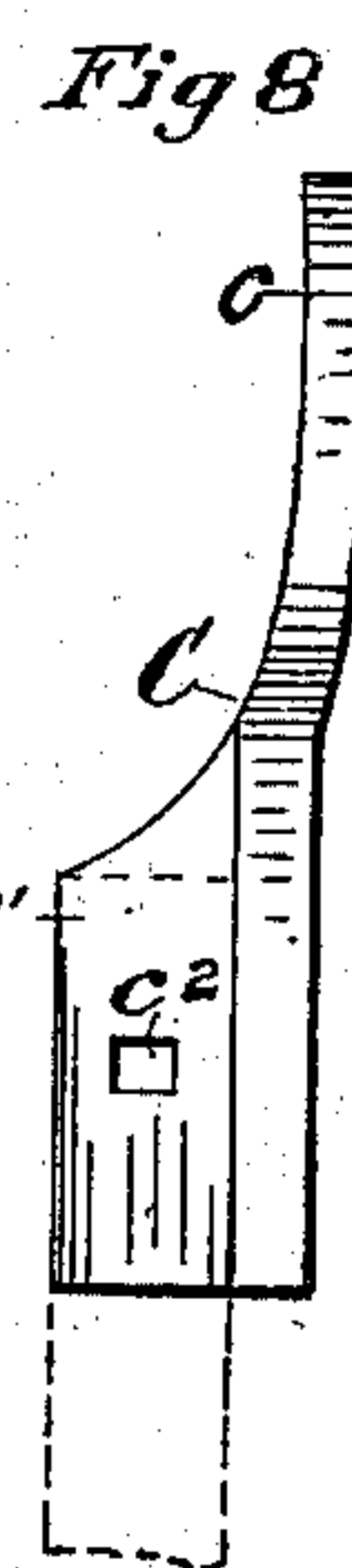
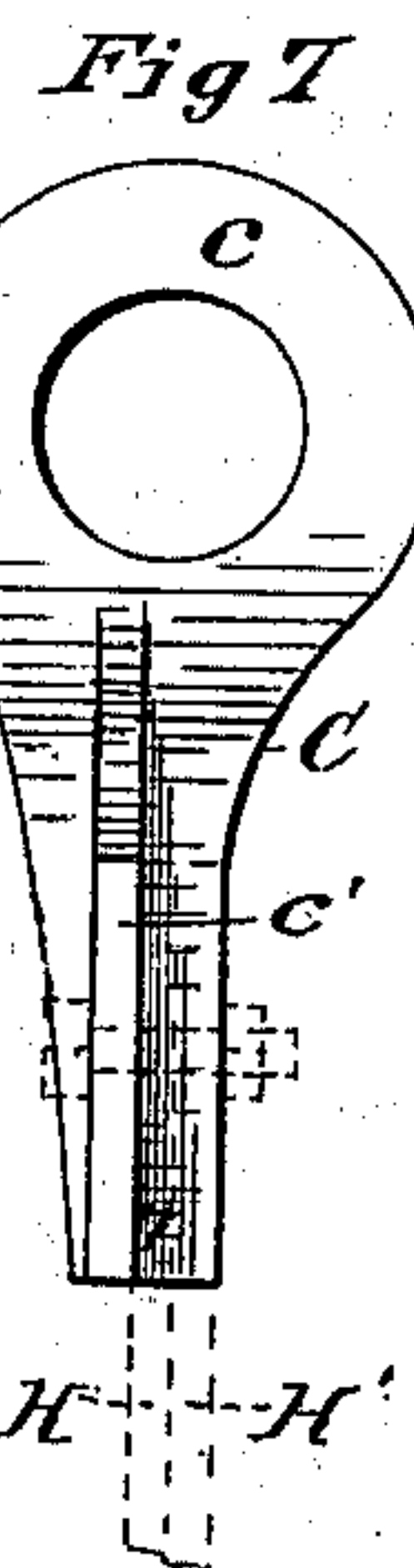
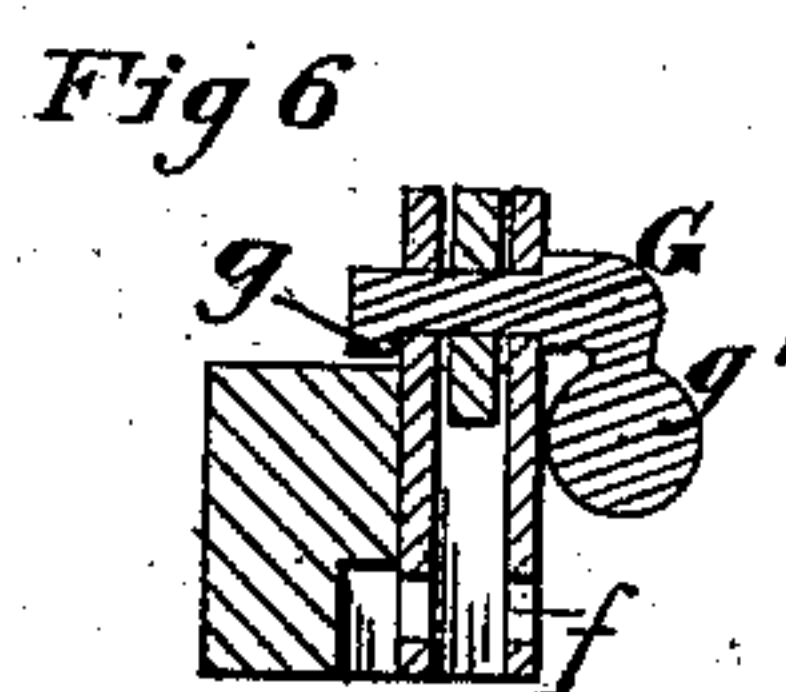
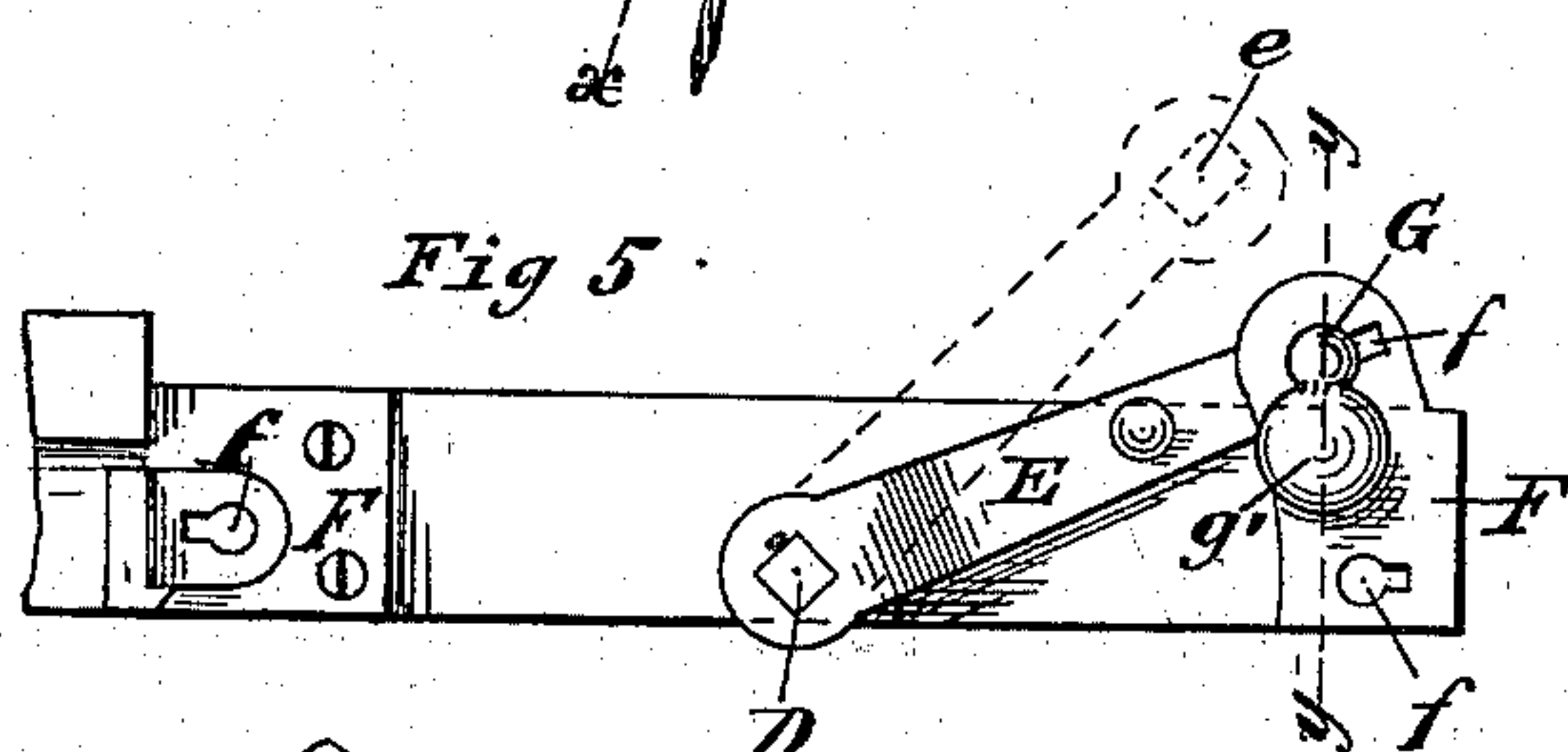
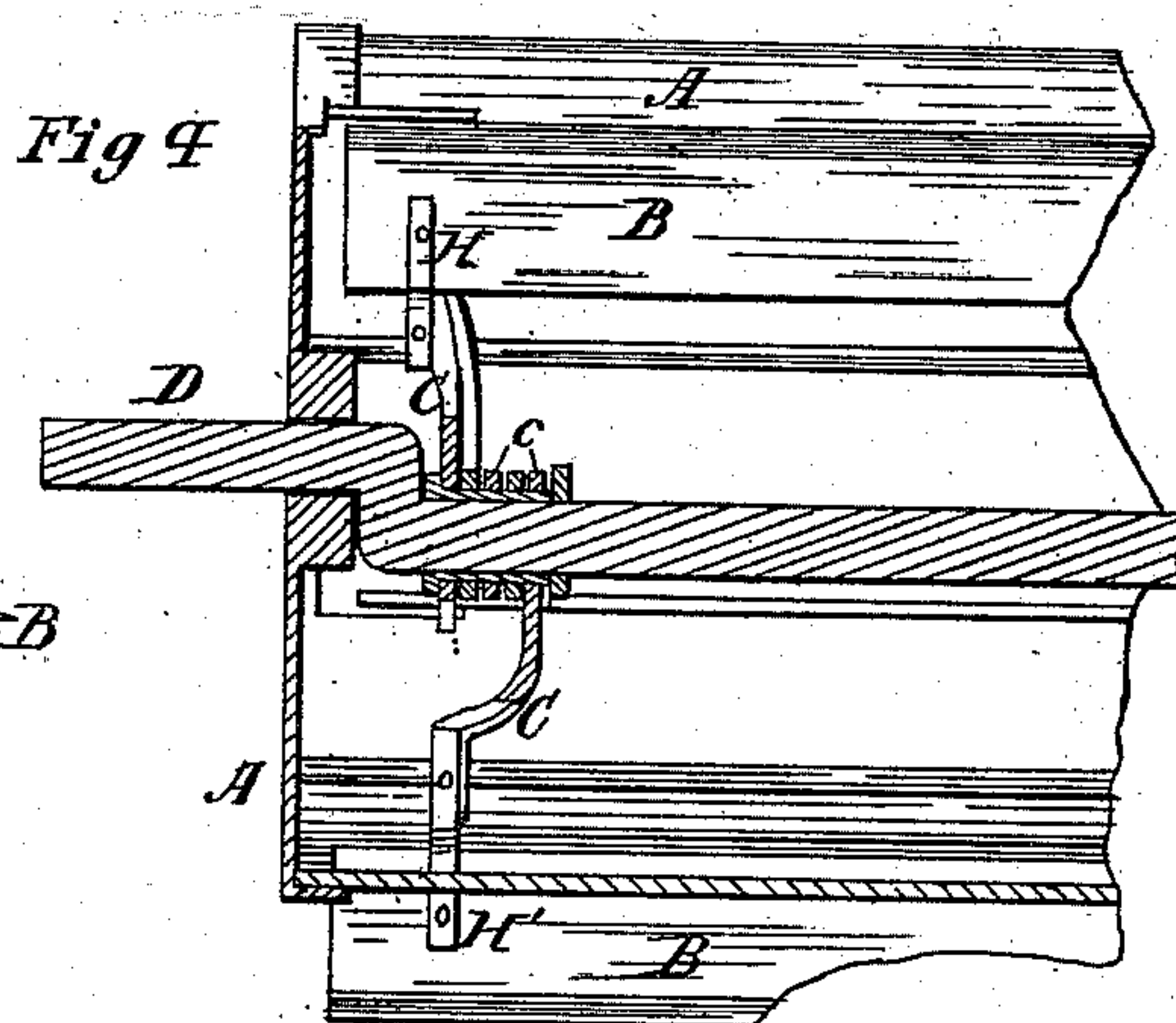
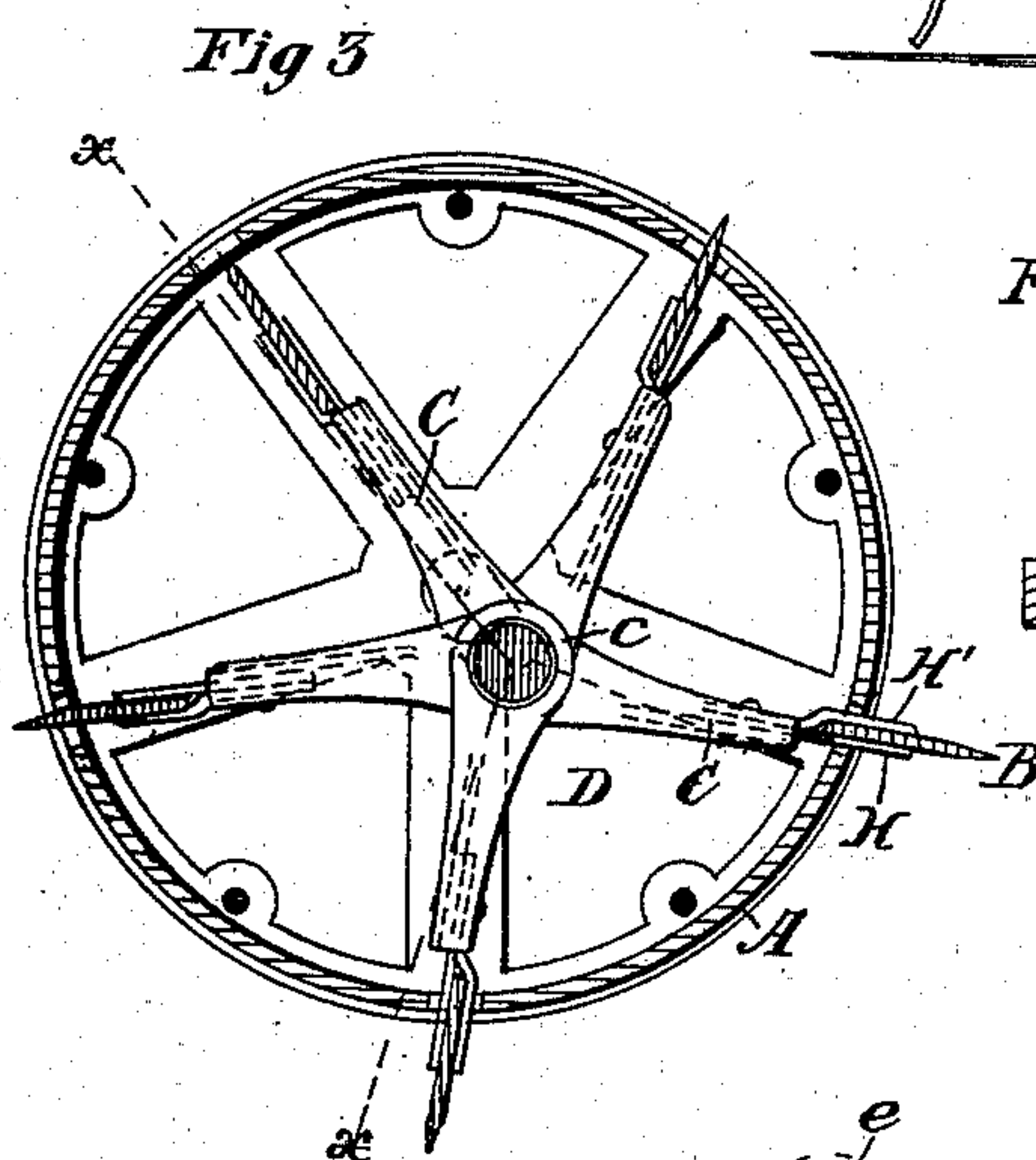
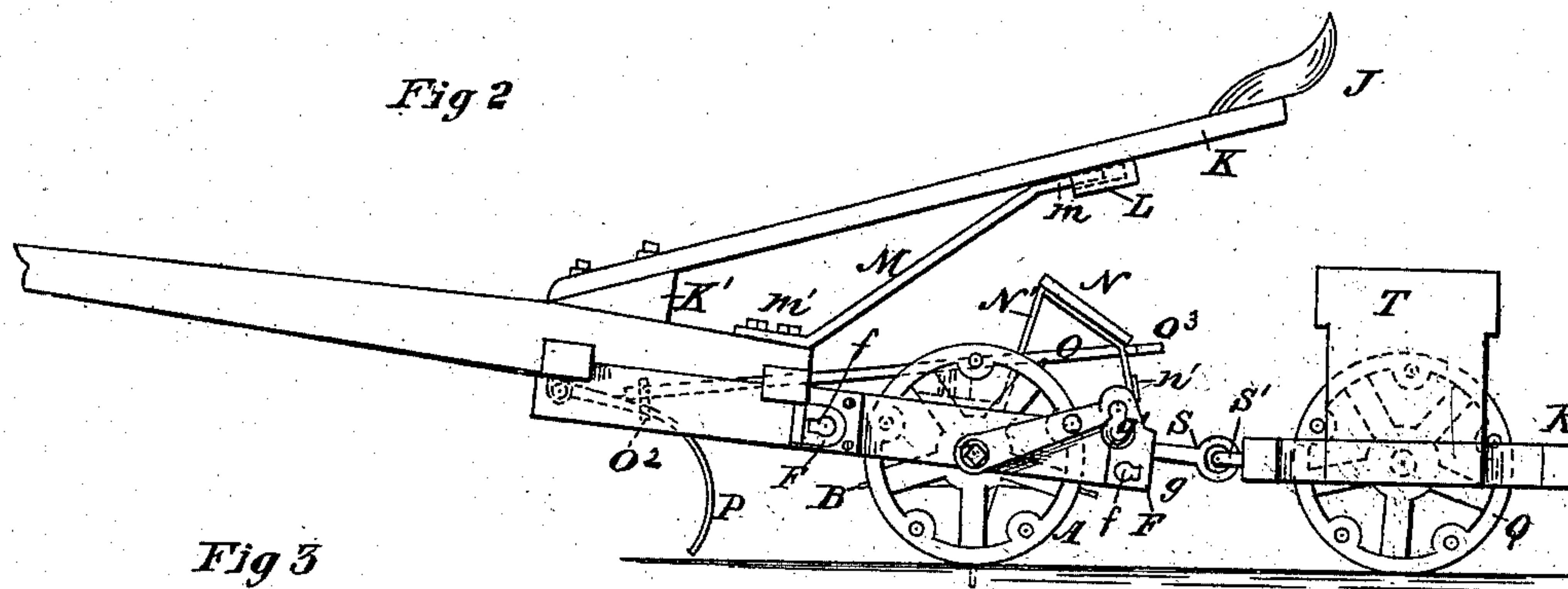
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2 Sheets—Sheet 2.

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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN Q. ADAMS, OF MARSEILLES, ILLINOIS.

STALK-CUTTER.

SPECIFICATION forming part of Letters Patent No. 257,993, dated May 16, 1882.

Application filed August 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN Q. ADAMS, a citizen of the United States, residing at Marseilles, in the county of La Salle, in the State of Illinois, have invented certain new and useful Improvements in Stalk-Cutters, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

10 Figure 1 is a plan view of a stalk-cutter having my improvements, the seat being removed. Fig. 2 is a side elevation of the same with the seat. Fig. 3 is a detailed and enlarged cross-section of one of the cylinders carrying the
15 knives. Fig. 4 is a section of the same on the line *x x* in Fig. 3. Fig. 5 is a detailed and enlarged side elevation of the device for adjusting the knives. Fig. 6 is a section on the line *y y* in Fig. 5. Fig. 7 is a detailed and enlarged
20 side elevation of one of the knife-carrying arms. Fig. 8 is a corresponding front elevation of the same. Fig. 9 is a corresponding perspective view of part of the knife-blade with the shank which connects it with the carrying-arm. Fig.
25 10 is a corresponding perspective view of the rear end of the foot-lever with the device for holding it down.

The same letters denote the same parts in all the figures.

30 My invention relates to stalk-cutters adapted to be drawn by horses and provided with revolving cylinders, which carry the knives; and it consists in the several devices and combinations of devices subsidiary to the main
35 ends of the machine, which will be fully described hereinafter, and definitely pointed out in the claims, the object being to make the knives readily detachable to facilitate the use of the cylinders as rollers and to provide im-
40 proved means for locking and releasing the crank-shaft on which the knives have their bearing.

45 In its general features the stalk-cutter shown in the drawings is constructed substantially in accordance with the patents of Ezra Dominy, No. 203,010, April 30, 1878, and No. 229,106, June 22, 1880.

50 In the drawings, A represents the knife-cylinders, each slotted longitudinally in its convex surface to allow the knife-blades B to

protrude for the purpose of cutting the stalks as the machine is drawn over the ground. The knife-carrying arms C have their bearings (by means of the enlarged annular upper ends, *c*) on that portion of the crank-shaft D which
55 is aside from the center on which the cylinders revolve, the shaft itself remaining fixed during the operation of the machine, and the arms receiving a reciprocating motion relatively to the cylinder by reason of the eccentricity of their bearings. The crank-shaft may
60 be turned by means of the lever E rigidly set on its outer end, so as to bring the bearing of the knife-carrying arms either above the axis of the cylinder (in which case the knife-blades
65 will protrude only when they are in the upper part of their revolution, and the cylinders will roll smoothly over the ground) or below the axis, so that the blades will protrude in the
70 lower part of their revolution and cut the stalks, &c., which come in their way. The lever may be locked in either position, or in positions intermediate, by means of the slotted
75 plates F, which are set on the outer side bars of the frame. All these parts and operations as thus generally described are already known. Each of the slots *f* in the plates F is elongated,
as shown in Fig. 5 of the drawings, and the lever E has a similar slot, *e*, in its free end. I
80 make the plates F double, so that the lever E passes between them, as shown in Fig. 6. The bolt G, which locks the lever and plates together, has a lug, *g*, on its inner end projecting
85 in a direction at right angles to the length of the bolt, the combined length of the lug and thickness of the bolt exceeding the breadth of the slot *f*, but being less than the length of either of the slots *f* or *e*. At its other end the
90 bolt has an arm, *g'*, somewhat longer than the lug *g* and parallel to it. The outer end of this arm is weighted. By turning the bolt so that the lug *g* shall be horizontal, or nearly so, the
95 shank of the bolt can be passed through the slots until the lug is clear of the inner plate, when, as soon as the hand is withdrawn, the preponderant weight of the outer end of the
100 arm *g'* will bring that arm into a perpendicular position, and of course the lug into a similar position, at right angles, or nearly so, to the slots *e* and *f*, in which position the bolt

cannot be drawn back through the slots. The weight at the outer end of arm *g* is sufficient to prevent any accidental turning of the bolt, which thus remains fast until it is turned again by hand into the right position for withdrawal. I thus provide a simple and readily-operated means of locking and unlocking the lever, and consequently the crank-shaft, and one which will not wear out or get out of order.

On one side of each knife-carrying arm *C*, beyond the annular part *c*, I form a perpendicular rib, *c'*, as shown in Figs. 7 and 8. Through this rib I cut a bolt-hole, *c''*, and against the back of the rib I set two flat bars, *H* and *H'*, one upon the other, each bar having a bolt-hole, *h*, corresponding to that in the rib *c'*, so that the three may be bolted together, as shown by the dotted lines in Fig. 7. The lower part, *h'*, of the bar *H'* is set away from the other bar by means of a double bend, far enough to let the knife-blade *B* between the two bars, as shown in Fig. 9, and the blade is made fast by means of a bolt passing through corresponding holes in the bar and blade, and secured at one end by a nut. I thus facilitate the operation of removing and replacing one, several, or all of the blades, whether for the purpose of sharpening, repairing, or changing blades, or for converting the stalk-cutter into a land-roller, and vice versa.

The driver's seat *J* is shown in Fig. 2 of the drawings affixed to the rear end of a strip, *K*, of hickory or other elastic wood, which is bolted at its front end on a block, *K'*, whose upper surface slopes upward and backward, and which is affixed to the front part of the frame of the machine, or to the upper side of the tongue. To the under side of the strip *K*, a little forward of the seat, I affix a tube, *L*, which is preferably a rectangular casting. This tube receives the back end, *m*, of a bar, *M*, of spring-steel, whose forward end, *m'*, is bolted to the back part of the tongue, the bar not being fastened to the tube *L* or to the seat-supporting strip, but having room for a little motion both vertically and horizontally in the tube. The back part, *m*, of the bar *M* is bent parallel to the strip *K*, and the forward end is bent parallel to the tongue. By means of this double spring of wood and steel I give a sufficiently firm support to the seat, and at the same time prevent a jolting which would otherwise be intolerable.

Below and somewhat forward of the seat a foot-rest, *N*, is supported on a pair of braces, *N'*, each of which is bent so as to form three sides of a trapezium, the foot-rest being affixed to the uppermost, and each of the lower ends, *n*, being also bent into a horizontal direction and bolted to the frame-work. A little above its lower end a triangular catch, *n'*, projects inwardly from each brace, as shown in Fig. 10 of the drawings. A pair of foot-levers, *O*, (shown in Fig. 1, one of them being also shown in Fig. 2,) are supported somewhat back of their mid-

dle points on props, *O'*, affixed to the frame. The forward end of each lever carries a ring, *O''*, through which the drag-hook *P* also passes, so that the depression of the forward end of the lever lets the drag-hook down to the ground, while the elevation of that end takes it off from the ground. The rear arm of the lever coming in contact with the lower and hinder edge of the foot-rest prevents the forward arm from being depressed too far. The rear arm, which extends a little behind the foot-rest, can readily be depressed by the driver's foot, and the drag-hook thus lifted from the ground. A plate, *O'''*, on the rear end of the lever *O* gives a wider surface for the foot to press on, and has outwardly projecting from it a lug, *o'''*, (shown most plainly in Fig. 10 of the drawings,) which, on being pressed downward, slides along the sloping upper side of the triangular catch *n'*, which is preferably curved to facilitate this motion, and locks under the straight lower side of the catch. When it is desired to let the drag-hooks down again the lugs *o'''* may be disengaged from the catches *n'* by pushing the rear ends of the levers slightly inward, the superior weight of the forward arms, added to that of the drag-hooks, being sufficient to depress the forward ends as soon as the rear ends are released.

When the machine is used as a roller a considerable breadth of ground will be left between the inner ends of the knife-cylinders unaffected by either of them. To provide for this I attach to the rear of the frame a supplementary cylinder, *Q*, having the ends of its axle resting in a suitable frame, *R*. This frame I connect with the frame of the knife-cylinders by means of two eyebolts, *S* and *S'*, which form for all practical purposes a universal joint, so that no inconvenience will arise from the necessary variation between the motions of the two divisions of the roller. Each bolt may be fastened by a nut to its part of the machine, so that the two parts can readily be separated or united. The frame *R* supports a box, *T*, which may be filled with weights, and thus cause the cylinder *Q* to bear heavily enough on the ground.

I do not claim broadly the combination of a revolving longitudinally-slotted cylinder with detachable knife-blades; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a stalk-cutter, a revolving cylinder longitudinally slotted, in combination with a fixed crank-shaft on which it revolves, with knife-carrying arms having their bearings on the shaft eccentrically to the cylinder, with knife-holders *H H'*, attached to the knife-carrying arms, and with knife-blades detachably set in the knife-holders, substantially as and for the purpose described.

2. The lever *E*, rigidly set on the crank-shaft *D* and provided near its free end with the slot *e*, in combination with the plates *F*, having the elongated slots *f*, and with the bolt

G, provided at its inner end with the lug *g* and at its outer end with the parallel weighted arm *g'*, substantially as and for the purposes described.

- 5 3. The knife-cylinders A, in combination with knife-blades detachably set therein, and with means for flexibly and detachably con-

necting said cylinders with a supplementary rear cylinder, substantially as and for the purposes described.

JOHN Q. ADAMS.

Witnesses:

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H. O. MOSHER.