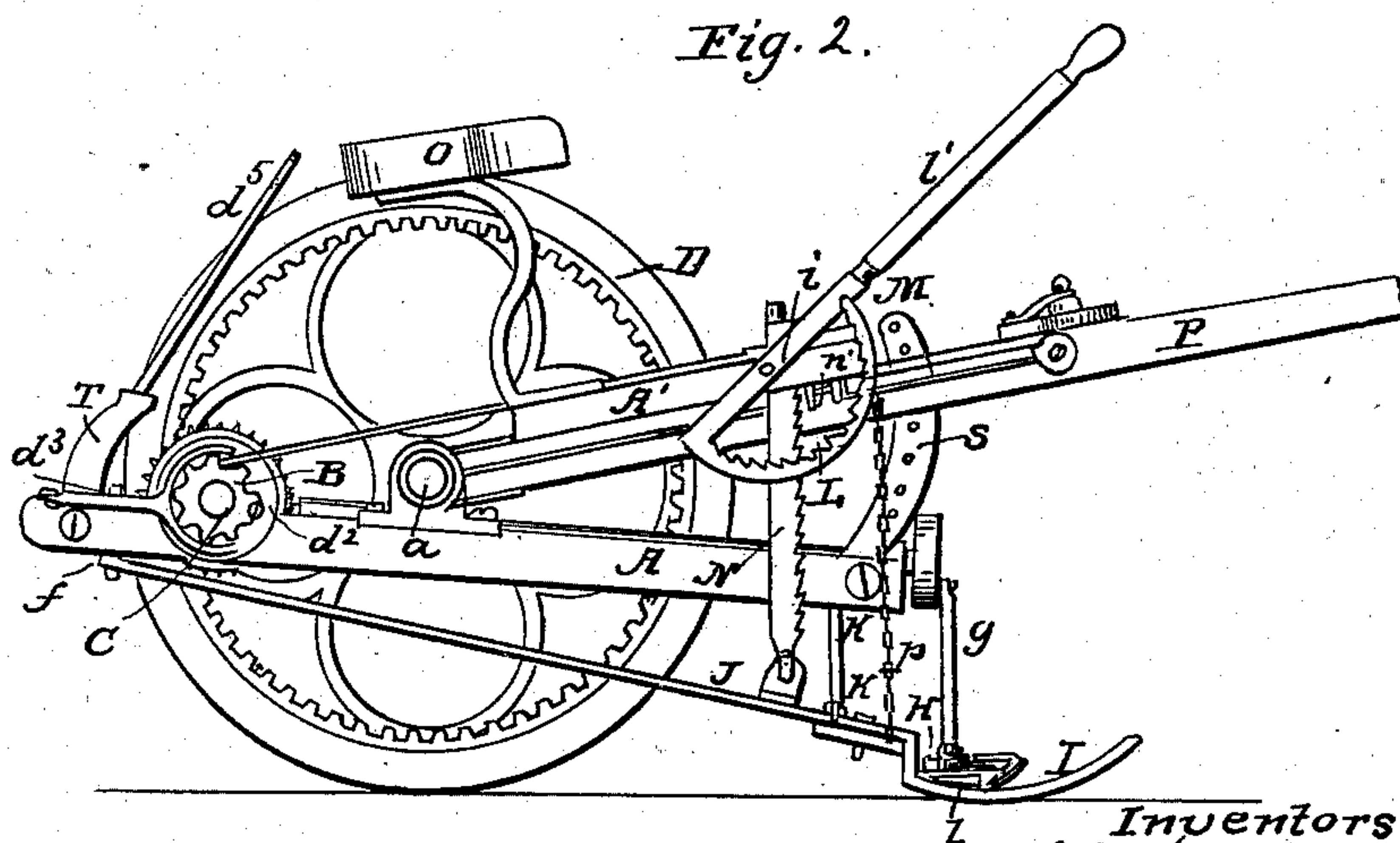
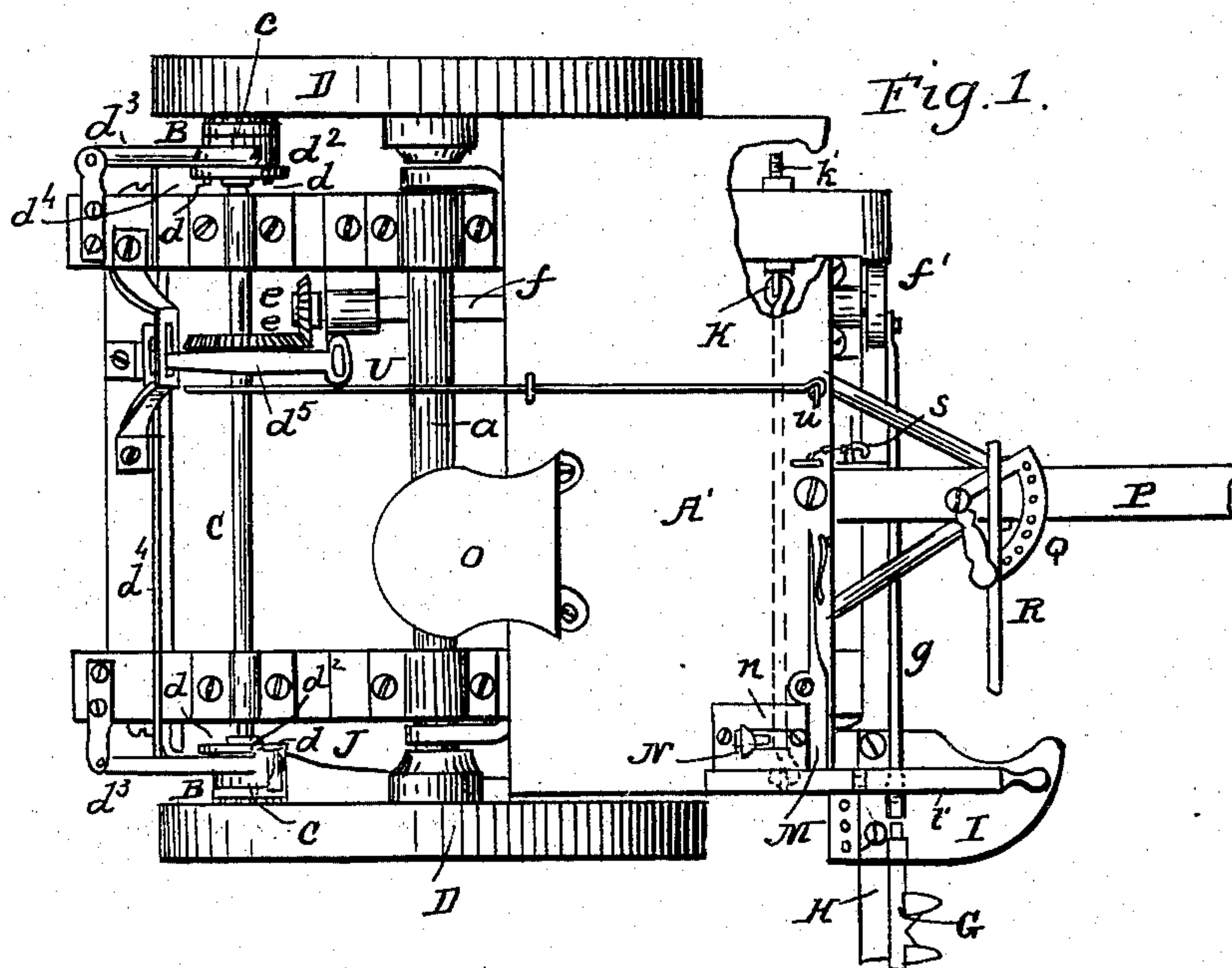


E. F. & J. HERRINGTON.

Mower.

No. 31,973.

Patented April 9, 1861.



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UNITED STATES PATENT OFFICE.

E. F. HERRINGTON AND J. HERRINGTON, OF WEST HOOSICK, NEW YORK.

IMPROVEMENT IN MOWING-MACHINES.

Specification forming part of Letters Patent No. 31,973, dated April 9, 1861.

To all whom it may concern:

Be it known that we, EPHRAIM F. HERRINGTON and JOSIAH HERRINGTON, both of West Hoosick, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Mowing-Machines; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of a mowing-machine embodying our improvements. Fig. 2 is a side elevation of the same with one wheel removed.

Similar letters of reference indicate corresponding parts in both figures.

Our said improvements consist, first, in a device for setting the finger-bar forward to compensate for its backward deflection by use, the advantage of this part of our invention being that a convenient and effective device is afforded for setting the finger-bar forward, in the event of it becoming deflected by use, without the use of braces extending in any direction beyond the main frame of the machine; second, in an appliance operating, in connection with a suitable hoisting device, to raise either the heel or the point of the finger-bar with a single lever, as hereinafter explained; third, in an appliance operating, in connection with the above, to preserve the freedom of the finger-bar to accommodate itself to undulations in the surface of the ground; fourth, in a device to vary the vertical angle of presentation of the finger-bar; fifth, in the use of spring-teeth, constructed and applied as hereinafter explained, in connection with the ratchet movement employed to permit the locking of the machine without actuating the cutting mechanism, a great advantage of this part of our invention being that the two parts of the clutch by which motion is communicated to the cutting mechanism at the option of the operator are always in contact, whether moving or not, and by this means straws and other foreign matters are effectually excluded from working between them; sixth, in a novel device operating, in connection with the said spring-teeth and their accessories, to throw the cutting mechanism out of gear.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

A is the main frame of the machine, and A' the draft-frame, which are secured to an axle, *a*, (the latter by a hinged [attachment,]) so as to be adjustable relatively at any angle.

D D are two driving-wheels journaled upon the axle *a*, and provided with cogs gearing with pinions B B, journaled loosely upon the main driving-shaft C, but imparting motion thereto when the machine is in gear and moving forward through the medium of clutches constructed as follows: *c c* are collars secured to the shaft C, and constructed with sockets for the reception of pins *d d*, which engage with ratchet-teeth on the inner faces of the pinions B. The said pins are pressed outward toward the pinions by means of spiral springs bearing upon shoulders on the pin *d* and collar *c*, as clearly shown in the sectional view in Fig. 1. The heads of the pins are held in disks or yokes *d*², sliding loosely upon the shaft, and adapted to withdraw the pins simultaneously from both pinions (when it is desired to throw the machine out of gear) by means of clutch-levers *d*³, connecting-rods *d*⁴, and a wedge-shaped bar, *d*⁵, passing through slots in the ends of said rods, and operating when pressed down to draw the levers, collars, and pins toward the center of the machine.

T is a slotted standard projecting upward from the main frame to support the wedge *d*⁵ and guide it in a proper path. Gearing *e e*, shaft *f*, crank-wheel *f*', and connecting-rod *g* transmit motion from the shaft C to the cutter-bar G. The rod *g* is connected with the cutter-bar by a double horizontal hinge-joint, which effectually prevents any longitudinal play between them, but permits the connecting-rod to work at any angle without binding. The finger-bar H is secured to a shoe, I, the construction of which is clearly shown in Fig. 2.

i represents a wedge-shaped plate interposed between the finger-bar and shoe, and adapted, by being reversed in position, to vary the angle of presentation of the former.

J is a metallic bar rigidly secured to the shoe, extending backward, and hinged at *j* to the rear end of the main frame.

K is a brace-rod hinged at *k* to the bar J, and extending laterally to the opposite side of the main frame, to which it is attached adjustably by a screw-bolt and nuts, as shown at *k'* in Fig. 1.

L is a segment pivoted at *l* to the draft-frame, provided with a hand-lever, *l'*, and adapted to raise the finger-bar at either or both ends by means of a chain or cord, *l''*, attached to the shoe or its connections.

M is a spring-catch operating in connection with ratchet-teeth on the inside of segment L to retain the latter in any position in which it may be set. N is a rack hinged at its lower end to a rigid projection from the shoe-brace J, and passing upward through a slotted plate, *n*, in the draft-frame, against the front of which the said rack is pressed with the foot when it is desired to hold down the heel of the finger-bar. At other times the rack is kept out of gear by a spring-bar, *n'*. While the rack is in this position the segment-lever L *l'* will raise only the heel of the finger-bar, the point resting on the ground; but by pressing the rack N forward with the foot the heel of the finger-bar may be held down at any desired point, and the segment-lever will then act to raise the point.

O is the driver's seat.

P is the tongue.

Q is a perforated bracket extending laterally from the tongue for the attachment of the double-tree R in any desired position to counteract the side draft of the cutting apparatus. The angle between the main frame A and draft-frame A' is adjusted by means of a perforated standard, S, extending upward from the front of the former, and supporting it at any height by a pin, *s*, inserted through the said bar into the tongue. By this means the connecting-rod may be adjusting to work in line with the cutter at any height of the latter. A stop-pin (represented by a dotted circle in Fig. 1) projects upward from the shoe I, immediately beneath the connecting-rod *g*, for the purpose of supporting the cutter when turned up to a vertical position. When it is desired to convey the machine from place to place without using the cutting mechanism, the pin *s* is first withdrawn and the segment-lever L *l'* and foot-rack N employed to raise the finger-bar nearly to a vertical position. The rack N is

then withdrawn, and the continued motion of the lever causes the rod K to engage beneath the frame A, and draws the latter closely up against the frame A', where it is held by means of the catch M. When the finger-bar is thus raised to a vertical position, the cutter-bar slips through its guides until it rests upon the pin in the shoe, previously referred to. The finger-bar is inclined over the frame and there supported by means of a bar, U, hinged to the main frame at *u* for this purpose.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The adjustable lateral brace-rod K, applied and operating in connection with the shoe-brace J, substantially as and for the purposes set forth.
2. The foot-rack N, operating in combination with the segment L, or other suitable hoisting device, to hold the heel of the finger-bar while raising the point, as explained.
3. The spring-bar *n'*, operating to hold the aforesaid foot-rack out of gear, when not in use, to permit the finger-bar to rise and fall freely with the uneven surface of the ground.
4. The reversible wedge-shaped plate *i*, applied between the finger-bar and shoe, in the manner and for the purpose explained.
5. The combination of the spring-pins *d*, disks or yokes *d'*, bosses *c*, and loose ratchet-pinions B, operating in the manner and for the purposes explained.
6. The wedge *d''*, operating in connection with rods *d'*, clutch-levers *d'''*, and yokes *d''*, to retreat the pins *d*.

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