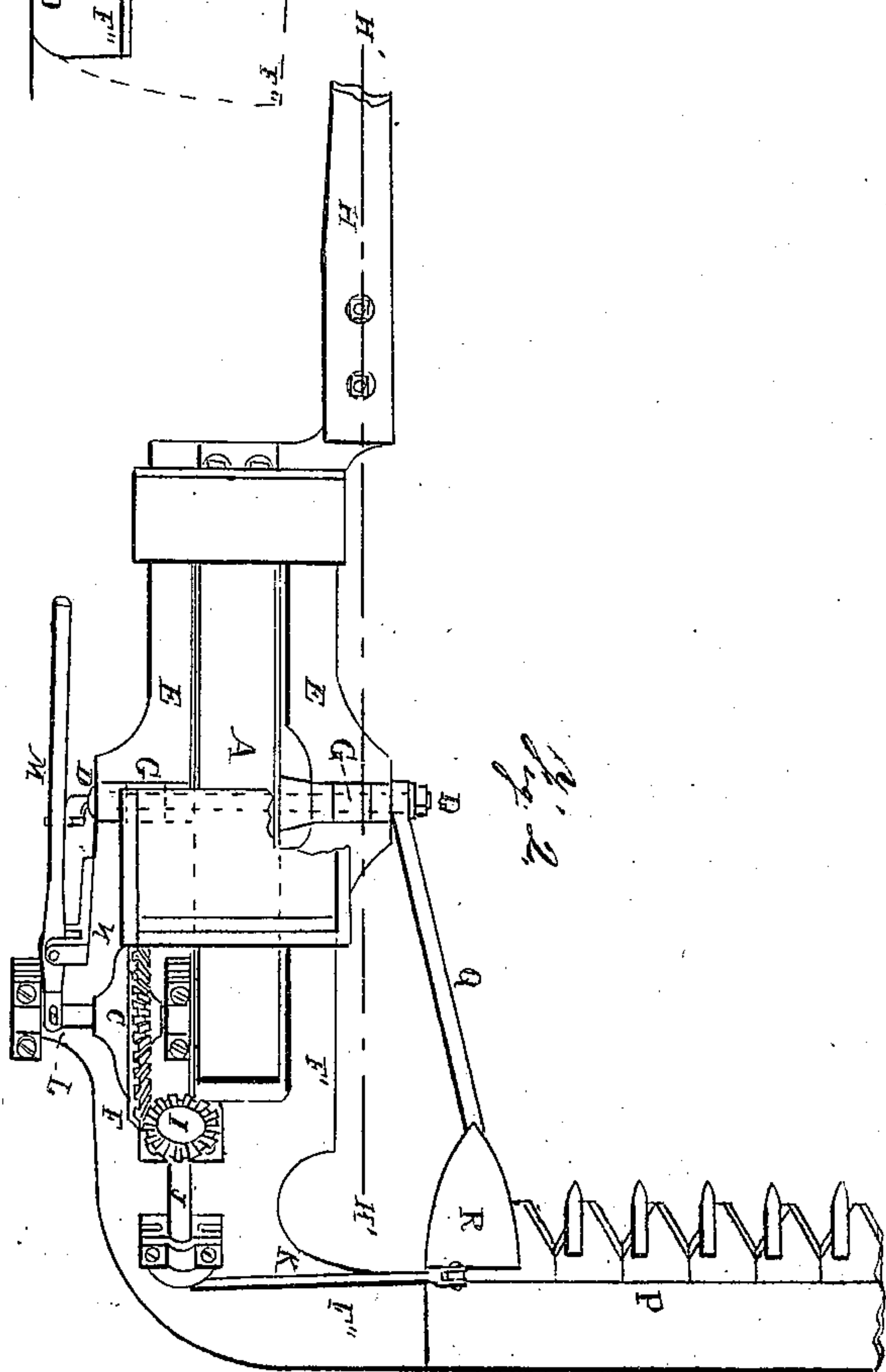
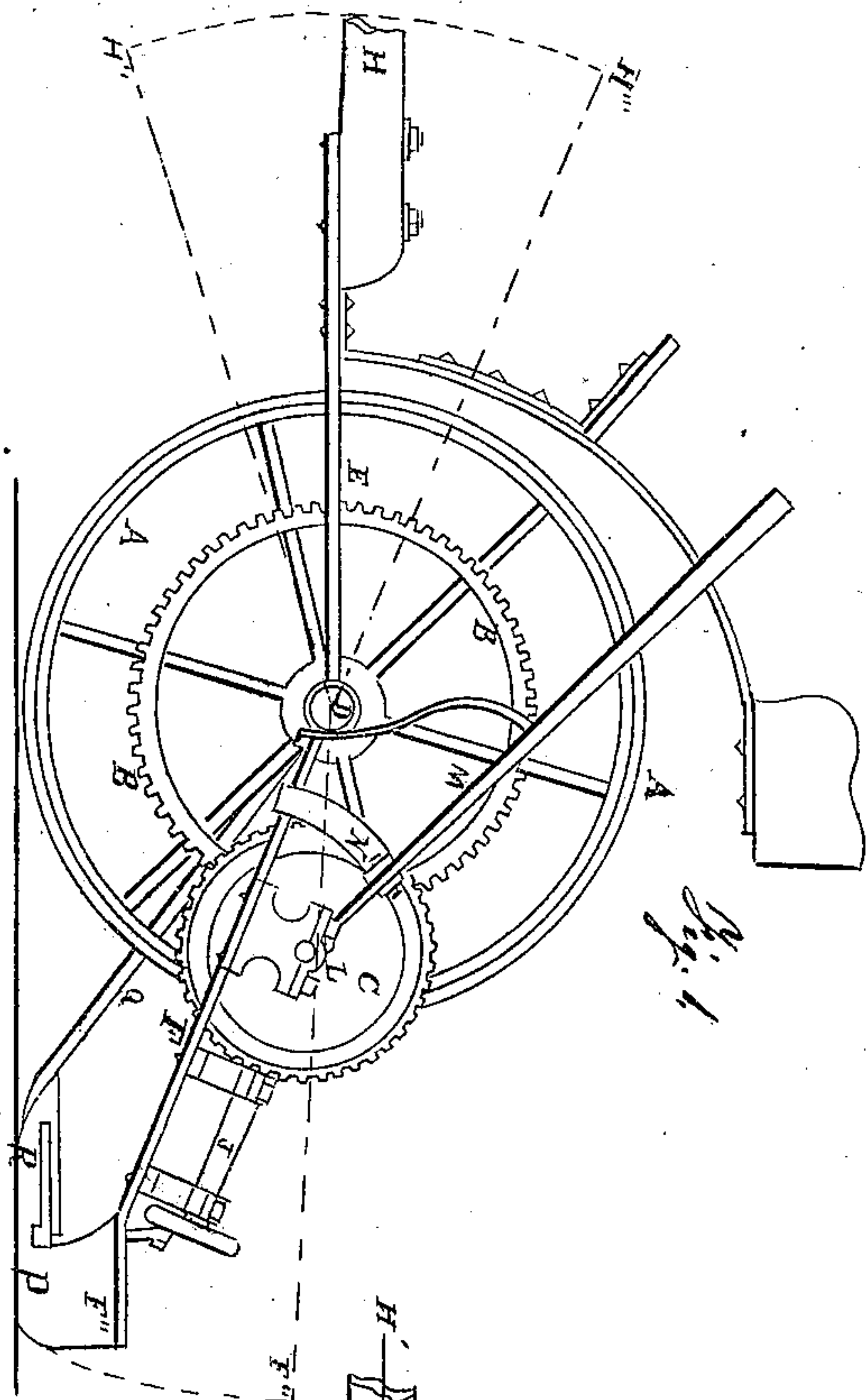


W. K. Miller.
Mower.

No 19864

Patented April 6. 1858.



UNITED STATES PATENT OFFICE.

W. K. MILLER, OF CANTON, OHIO.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 19,864, dated April 6, 1858.

To all whom it may concern:

Be it known that I, W. K. MILLER, of Canton, in the county of Stark and State of Ohio, have invented a new and useful Improvement in Harvesters; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of my improved harvester, and Fig. 2 a plan view of the same.

Like letters denote like parts in the different views.

A represents the driving-wheel, to the arms of which is secured the driving-gear B, Fig. 1. The driving-wheel revolves upon the axle D, to which axle is hinged or so connected the hounds E and the draw-bar F F' as to form a hinge-joint at G G', Fig. 2, on each side of the driving-wheel. The hounds are placed on each side of the driving-wheel, and are united at the front end.

The draw-bar is so divided as to be on each side of the driving-wheel, as seen in Fig. 2, and unites with the hounds, forming the joints G G' on the axle. The parts F F' of the draw-bar terminate in the curved arm F'', to which the cutter-bar is attached. This peculiar arrangement of the draw-bar and hounds constitutes the frame of the machine.

A shoe, R, is formed with or attached to the cutter-bar P, near its connection with the draw-bar F F', in such a position that the said cutter-bar and its appendages will nearly or exactly balance the draw-bar and its appendages or parts supported upon said shoe, on which, therefore, the weight of the cutter-bar and draw-bar rests and is borne. A strong rod or brace, Q, extends from said shoe to the axle D, on which it freely turns. Thus the central point of resistance offered by the cutter-bar and draw-bar is firmly and directly connected with the axle, from which the draft of the whole machine proceeds. The tongue or pole H is attached to the hounds E E in such a position that its central line, H', Fig. 2, shall be at nearly or exactly equal distances from the longitudinal line through the center of the driving-wheel A on one side and a similar line through the center of the shoe R on the other side. Thus the draft is equalized between the two supporting parts of the whole machine. The driving-gear B meshes into a pinion on the same shaft as the bevel gear C. This gear

works in the bevel-pinion I on the crank-shaft J.

K is the pitman, connecting the knife-bar and crank by which the knives are operated.

On the shaft of the gear C is a clutch, L, to which the lever M is connected. This lever moves upon a pin or fulcrum in the stand N. By means of this lever the wheel C is thrown in and out of gear with the pinion I. The shaft of the gear C slides in its bearings when being put in and out of gear. The shaft J is provided with bearings in the ordinary manner. The lever M extends up to the driver's seat, so as to render it convenient for him to operate it.

It will be noted that the gearing for operating the cutters, excepting the gear B, is arranged upon the draw-bar, by which arrangement the gearing will work with the same facility and the cutters with equal ease without regard to the position of the cutter-bar, draw-bar, or hounds.

The position of the hounds and tongue may be changed from H to H'' or H''' without affecting the position of the draw-bar, cutters, or movement of the gearing on the draw-bar; or the position of the draw-bar and cutters with their respective devices may be changed from F'' in the direction of F''' without affecting the position of the hounds and pole. This is accomplished, as before noted, by the hinge-joints G G' on the axis of the driving-wheel. The position of the driving-wheel may also be so changed as to be raised or lowered by any inequality of the ground without changing the relative positions of the cutter-bar and hounds and pole. The machine being thus arranged, the draft only acts directly and powerfully on the two main supporting parts, leaving the other parts connected therewith entirely free from strain, so that the gearing and other working parts act very freely and smoothly; and the draft being equalized between said points of resistance, there is no tendency of the machine to drag at one place more than at another, while the doubly-balanced arrangement, together with the hinging of the working parts separately from the draft to the axle of the driving-wheel, secures a nicely-adjusted untrammelled movement in every portion of the machine.

I do not claim to have invented the separate features of balancing the cutter-bar and its appendages upon a supporting shoe or roller, nor

of hinging the same to the central axis around which the tongue or hounds of the machine turn, nor of arranging the central line of draft so as to more nearly equalize the resistance in drawing on both sides thereof, as I am aware that such in different connections are not new; but

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

The combination of the draw-bar F F' and cutter-bar P, when the same are balanced upon the sustaining-shoe R and hinged to the axle

of the driving-wheel A, distinct from the hounds of the draft-tongue, as described, with the tongue H, so attached that the line of its draft will be equidistant from the central longitudinal lines of the driving-wheel A and sustaining-shoe R, the several parts being constructed and arranged with respect to each other as set forth, for the purpose specified.

W. K. MILLER.

Witnesses:

S. SLANKER,
C. C. COCK.