

T. Y. WOOLFORD.
Harvesters.

2 Sheets--Sheet 2.

No. 135,741.

Patented Feb. 11, 1873.

Fig. 4.

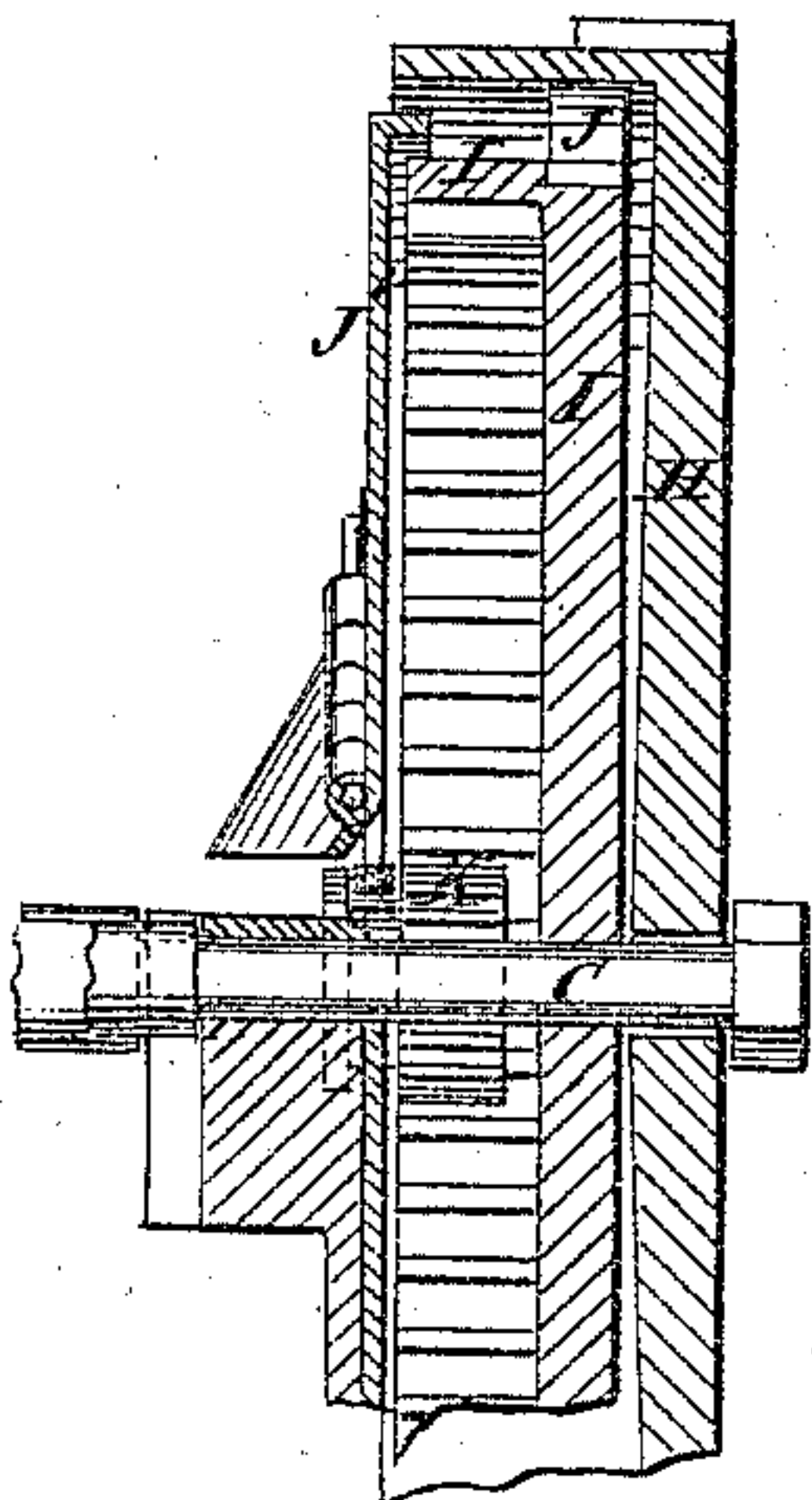


Fig. 5.

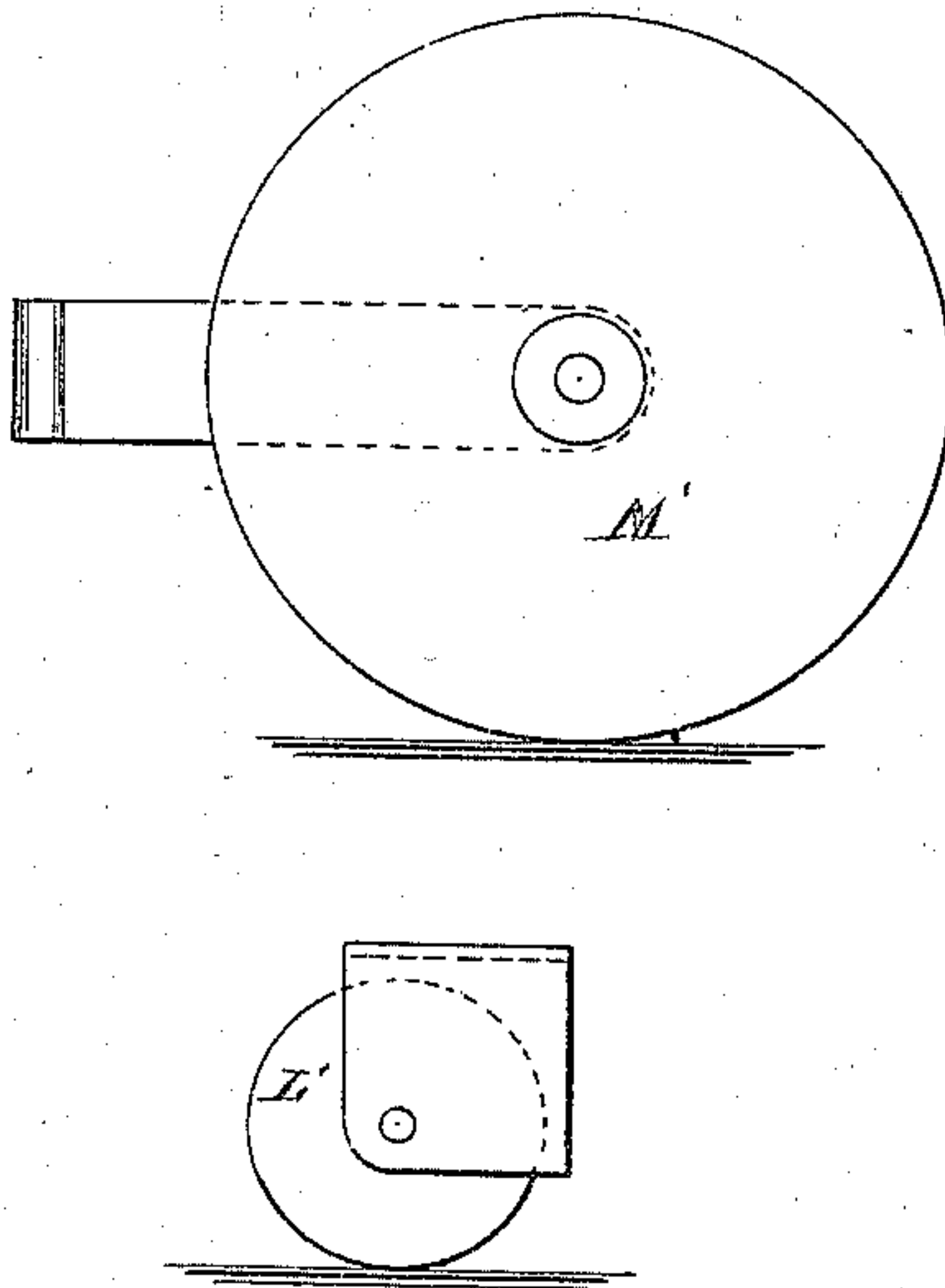
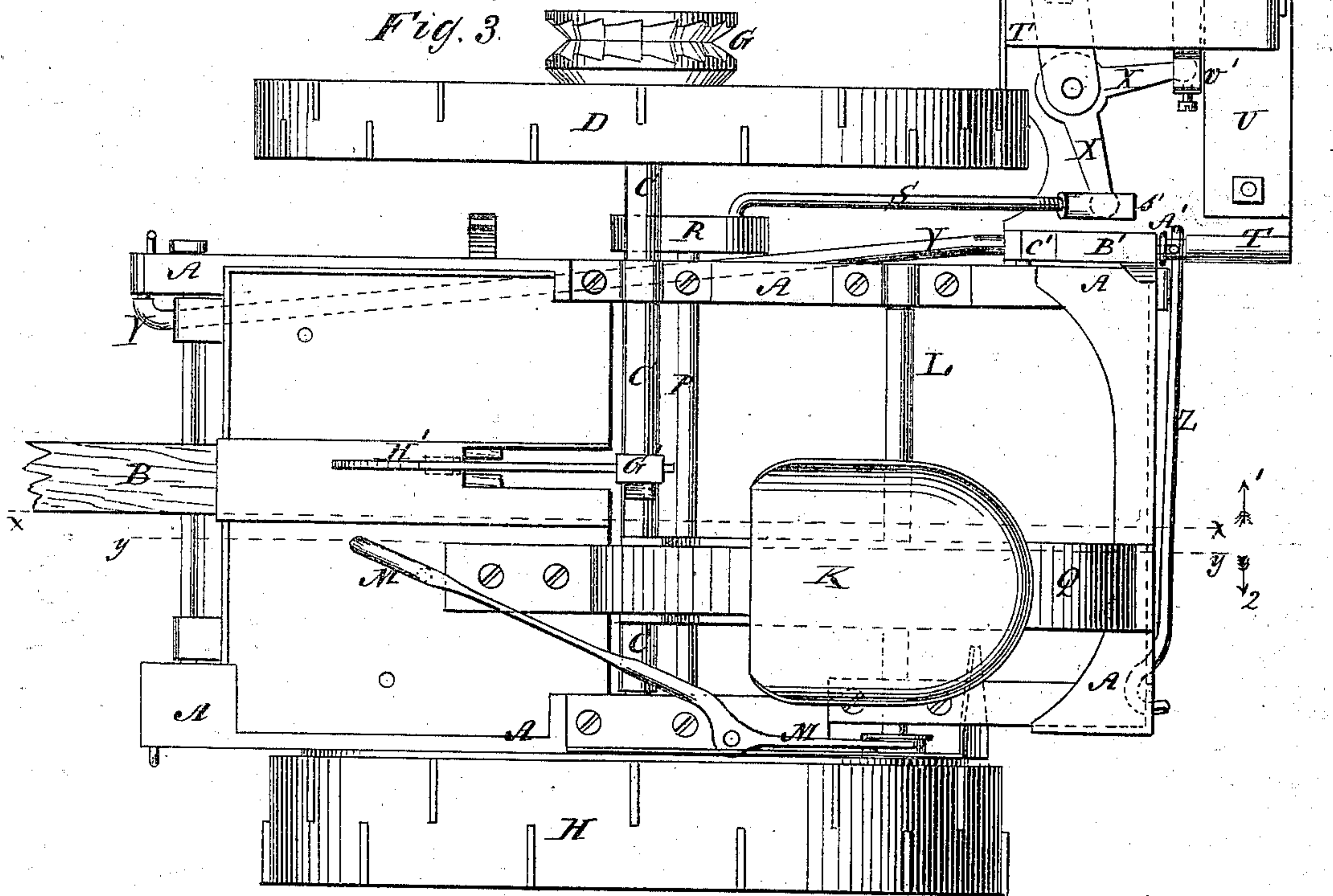


Fig. 3.



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UNITED STATES PATENT OFFICE.

THOMAS Y. WOOLFORD, OF ROMNEY, WEST VIRGINIA.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 135,741, dated February 11, 1873.

To all whom it may concern:

Be it known that I, THOMAS Y. WOOLFORD, of Romney, in the county of Hampshire and State of West Virginia, have invented a new and useful Improvement in Reaper and Mower, of which the following is a specification:

Figure 1, Sheet 1, is a detail vertical section of my improved machine taken through the line *x x*, Fig. 3, looking in the direction of arrow 1. Fig. 2, Sheet 1, is a detail vertical section of the same taken through the line *y y*, Fig. 3, looking in the direction of arrow 2. Fig. 3, Sheet 2, is a top view of the same. Fig. 4, Sheet 2, is a detail section of the drive and master wheels, showing their relative position. Fig. 5, Sheet 2, is a detail view of the wheels for the outer end of the cutter-bar. Fig. 6, Sheet 2, is a detail view of the wheel or roller for the inner end of the cutter-bar.

Similar letters of reference indicate corresponding parts.

My invention belongs to the class of machines so constructed as to be adjusted for use as reapers or mowers, and as front-cut or rear-cut machines; and it consists in the construction and arrangement of certain parts of the machine, as hereinafter fully described and claimed.

A is the frame of the machine, with the central forward part of which the tongue B is connected, and in bearings attached to the middle parts of the side bars of which the axle C revolves. D is the right-hand drive-wheel, which is made of a little larger diameter than the drive-wheel H, to give a central draft to the machine. The central part of the drive-wheel D upon its inner side is recessed to receive the ratchet-wheel E attached to the axle C, upon the teeth of which the spring-pawls F, two or more, attached to the said drive-wheel D, take hold, so that the drive-wheel D may act as an auxiliary to the drive-wheel H. To the outer end of the hub or central part of the drive-wheel D is attached a pulley, G, to drive the reel when the machine is adjusted as a reaper. H is the main driving-wheel, which revolves loosely upon the end of the axle C, and which is made with an inwardly-projecting rim to form a recess to receive the master-wheel I, which is attached to the axle C. The master-wheel I is made with an inwardly-projecting rim, upon the

outer surface of which are formed notches, upon which take hold spring-pawls J, attached to the inner side of the rim of the drive-wheel H. Upon the inner surface of the rim of the master-wheel I are formed teeth, into which mesh the teeth of the pinion-wheel K placed upon the end of the shaft L. In the outer side of the gear-wheel K is formed a slot or groove to receive a cross-head attached to or formed upon the end of the shaft L, so that the said gear-wheel may carry the said shaft L with it in its revolution. By this construction, by moving the gear-wheel K inward sufficiently to remove it from the cross-head of the shaft L, it will revolve loosely upon said shaft. The gear-wheel K is moved back and forth upon the shaft L, to throw it out of and into gear by the lever M, the rear end of which rides in a groove in the wheel K. The lever M is pivoted to the frame A, and its forward end, which extends forward into such a position that it may be conveniently reached and operated by the driver with his foot, is bent downward to enter holes in the platform attached to the frame A, to hold it securely in either position. The shaft L extends across the frame A, revolves in bearings attached to the side bars of said frame, and to it is attached a gear-wheel, N, the teeth of which mesh into the teeth of the small gear-wheel O attached to the driving-shaft P. The gear-wheels N O are covered and protected by a box or casing, Q, as shown in Figs. 2 and 3. The shafts L P and axle C are parallel with each other. The shaft P is placed a little below and in the rear of the axle C, revolves in bearings attached to the side bars of the frame A, and to its end is attached a balance-wheel, R, which serves also as a crank-wheel for the bar S that drives the sickle-bar. T is the shoe, to which the inner end of the finger-bar U is detachably bolted, several bolt-holes being formed in the shoe, so that the various parts connected with the shoe can be readily adjusted to adapt the machine for a front or rear cut. V is the sickle-bar, which vibrates upon the finger-bar in the ordinary manner. W is a bar, strap, or plate, which is secured to the finger-bar U, and overlaps the sickle-bar V to prevent the said bar V from being clogged or having its movements impeded. Upon the inner end

of the sickle-bar V is formed a socket, v' , to receive a flattened ball formed upon the end of the arm of the elbow-lever X, which is secured in said socket by a set-screw, as shown in Fig. 3. The bent lever X is provided at its angle with pivots, the lower one of which works in a step in the shoe T, and the upper one in a cap attached to said shoe. Upon the end of the other arm of the elbow-lever x is formed a ball, which enters and works in a socket, s' , into which is screwed the end of the driving bar or pitman S, which thus serves as a set-screw to keep the socket s' in place upon the ball of the bent lever X. In the upwardly-projecting inner part of the shoe T is formed a long socket to receive the end of the guide-rod Y, the other end of which is pivoted to the forward part of the frame A.

This is the arrangement when the machine is adjusted for a rear cut. When the machine is to make a front cut the rod Y will be pivoted to the rear end of said frame.

Y' is the draft-bar, the forward end of which is pivoted to a support attached to the frame A, and upon its rear end is formed a loop or eye, which is inserted in a notch in the guide-rod socket of the shoe T, and through which the guide-rod Y passes, as shown in Fig. 1. Z is a cross-rod, on one end of which is formed a loop or eye, which is inserted in a notch in the guide-rod socket of the shoe T, so that the guide-rod Y may pass through it. The other end of the cross-rod Z is pivoted to the end of the frame A near the other side, or to a support attached to said frame. To the rod Z, at or near the shoe T, is attached the end of a short chain, A', the other end of which is attached to the segment of a pulley, B', attached to or formed upon the lever C', which is pivoted to the side bar of the frame A. The free end of the lever C' extends forward into such a position that it can be readily reached and operated by the driver from his seat to raise the shoe T and finger-bar U and its attachments away from the ground for convenience in passing obstructions. To the shoe T is attached a lever, D', by operating which the shoe T can be turned upon the guide-rod Y to raise the finger-bar into an upright position for convenience in passing from place to place. The lever D' is provided with a hook, E', which, when the finger-bar has been raised

into an upright position, may be hooked into the frame A, or into a support attached to said frame, to hold the said finger-bar in position. The tongue B is pivoted near its rear end to the forward end of the frame A. To the rear end of the tongue B is pivoted the lower end of the bar F', the upper end of which passes through a slot in the lever G' and is pivoted to said lever by a pin, several holes being formed in the bar F' to receive the said pin, so that it may be adjusted as required. H' is a curved guide-bar, the lower end of which is attached to the frame A or to the platform attached to said frame. The upper end of the bar H' passes through a slot in the upper part of the lever G', and has several holes formed in it to receive the spring-lever catch I', attached to the upper part of the lever G', to secure the said lever in place when adjusted. This construction allows the cutter-bar to be readily adjusted to work closer to or further from the ground, as may be desired. The master-wheel I and the pinion-wheel K are covered and protected by a cap or plate, J', which is secured to the side bar of the frame A, enters the recess of the wheel H, and is made with an inwardly-projecting flange, which overlaps the rim of the master-wheel I. The cap J' is made with a small door to give access to the pinion-wheel, when desired. K' is the driver's seat, the standard of which is attached to the frame A, or to the platform attached to said frame. L', Fig. 5, is a small wheel or roller, the standard or box of which is designed to be attached to the shoe T when the machine is adjusted for a front cut. M', Fig. 5, is a caster-wheel, which is designed to be attached to the division-finger when the machine is to be used as a reaper.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

The arrangement of the spring-pawls J, gear-wheel I, pinion-wheel K, shaft L, and gear-wheels N O, with respect to the recessed drive-wheel H, axle C, frame A, and driving-shaft P, substantially as herein shown and described, and for the purpose set forth.

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Witnesses:

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