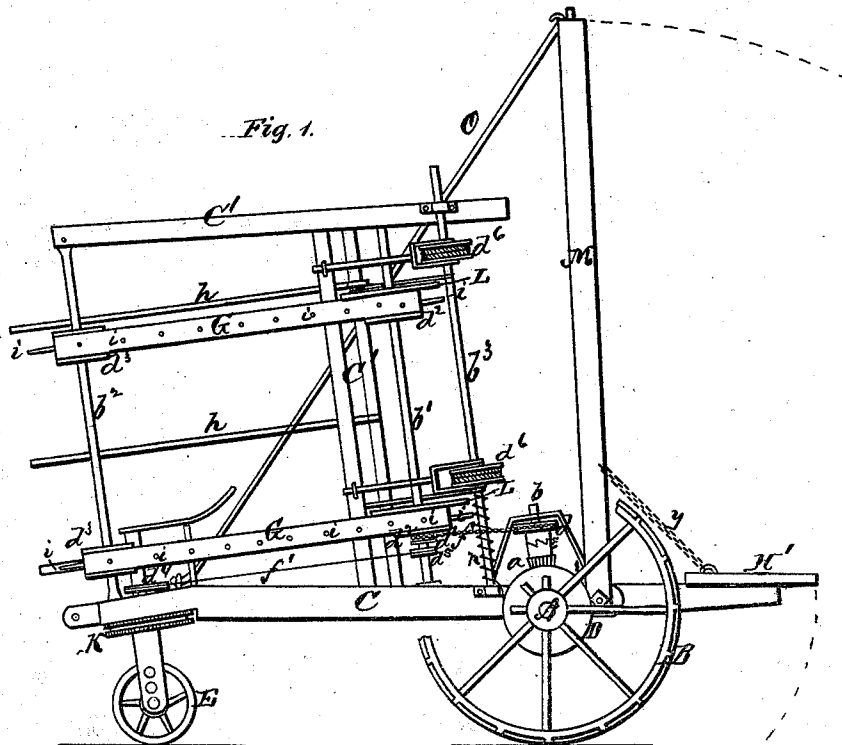


G. M. TOPE.
Corn-Harvesters.

Patented July 15, 1873.



Witnesses:

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C. L. Everett.

Inventor.

George M. Pope
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No. 140,971.

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Fig. 2.

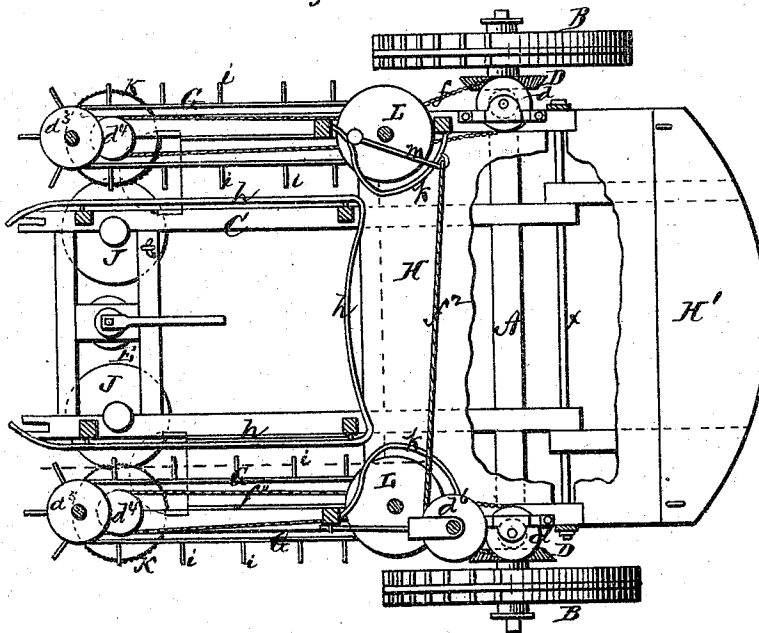
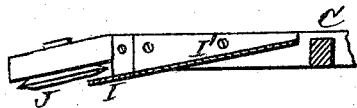


Fig. 4.



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3 Sheets--Sheet 3.

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Fig. 3.

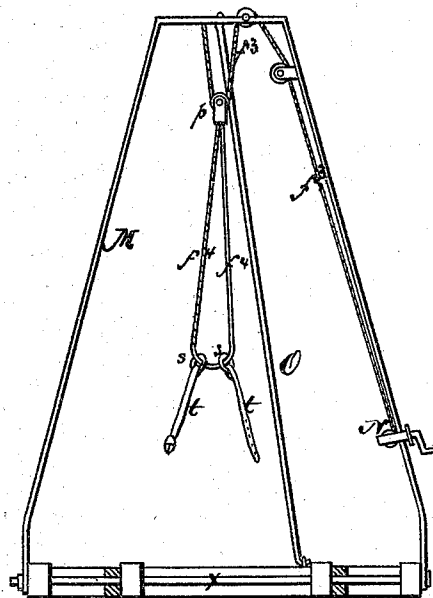
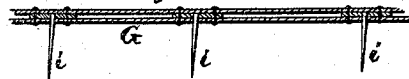


Fig. 5.



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UNITED STATES PATENT OFFICE.

GEORGE M. TOPE, OF LEESVILLE, MISSOURI.

IMPROVEMENT IN CORN-HARVESTERS.

Specification forming part of Letters Patent No. **140,971**, dated July 15, 1873; application filed June 17, 1873.

To all whom it may concern:

Be it known that I, GEORGE M. TOPE, of Leesville, in the county of Henry and in the State of Missouri, have invented certain new and useful Improvements in Corn-Harvester; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon making a part of this specification.

The nature of my invention consists in the construction and arrangement of a corn-harvester, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a plan view, of my machine. Figs. 3, 4, and 5 are detached views of certain parts of the same.

A represents the axle, upon each end of which is a driving-wheel, B. C represents the frame of the machine, which is made fast to the axle, extends forward, and is made angular, as shown, so that the front end will be inclined downward slightly, and is supported upon a caster-wheel, E. The object of making the frame inclined in this manner is to allow the machine to pass over the stubble without bending the same, the cutting apparatus being located at the front end, which is the lowest. The hub of each driving-wheel B is extended inward on its inner side and provided with a miter-wheel, D, which gears with a bevel-pinion, *a*, upon a vertical shaft, *b*. Upon this shaft, above the pinion *a*, is a pulley, *d*, said pulley and pinion being connected by means of a clutch or toothed hubs, as shown at *e*, in the usual manner, so that when the machine is moved forward the shaft *b* will revolve, but when the machine backs the pinion will slip without turning the pulley. C' represents an upright frame-work erected upon the main frame C and inclining forward, corresponding with the inclination of platforms on the main frame. From the pulley *d* a belt, chain, or cord, *f*, connects with a pulley, *d*¹, upon an upright shaft, *b*¹, whereby

said shaft is revolved. On this shaft *b*¹ are two pulleys, *d*² *d*², connected by means of endless belts, G, with loose pulleys, *d*³ *d*³, on an upright shaft, *b*², held stationary in the frames C and C'. The endless belts G G are made double, as shown in Fig. 5, with metal plates inserted at regular intervals and riveted, and from each plate a pin or tooth, *i*, extends outward through the outer part of the double belt. By this mode of construction the endless belts are made very strong and durable.

There are thus in my machine two sets of endless toothed belts, arranged, one set on each side, and operated by their respective driving-wheels. Between the two sets of belts are guards *h h*, which may be two, three, or more, as desired.

My machine is intended to cut two rows of corn at a time, and, as the stalks are cut by the mechanisms hereinafter described, the teeth on the endless belts carry the stalks in an upright position along the guards *h h* backward to a platform, H, in rear, where the shock is formed. The stalks, as they are cut off, pass up and rest upon an inclined casting, I, which is made in such a manner as to brace and strengthen the frame C, and from said casting they pass onto and upon an inclined platform, I', and from there to the platform H. The casting I and platform I' are placed in an inclined position, as shown, so as to clear the stubble. The cutting mechanism consists, on each side of the machine, of a circular cutter, J, the edge of which is beveled and works in a circumferential groove on a wheel, K. The edge of this wheel above and below the groove is serrated, toothed, or otherwise roughened, so as not to allow the corn-stalks to slip, but insure their being caught and carried inward to be cut by the knife.

This construction of cutting mechanism will cause the corn-stalks to be severed whether they pass straight in or in a crooked or twisted form. The beveled knife, working in the groove in the serrated wheel, is held perfectly level in its proper position by means of the metal above and below it in the grooved wheel, and cannot be forced out of position by the stalks coming in contact with the same. On the shaft of the grooved wheel K is a pulley, *d*⁴, connected by a belt, chain, or cord, *f*¹,

with a pulley, d^5 , on the shaft b^1 , whereby the wheel K obtains its necessary motion. The cutter J does not revolve except when a stalk comes in between it and the wheel K, when the friction causes the cutter to revolve and cut off the stalk. The stalk is then carried, as above described, by the endless belts G G to the rear, and when it gets near the shaft b^1 , circular disks or flanges L L on said shaft move the stalk inward, where it is held in an upright position on the platform H by cords $f^2 f^2$. Each disk or flange L is provided with a guard, k , extending beyond the same on the inner side, to prevent the stalks from being carried too far around and to avoid the friction of the shock. The cords $f^2 f^2$ are attached to and wound around pulleys $d^6 d^6$ on an upright shaft, b^3 , at one end, while the other end of each cord is attached to a hook, m , so that the cord can be readily attached and detached. The shaft b^3 is arranged with a spring, n , in such a manner that the cords will be wound around the pulleys by the action of the spring on the shaft. As the stalks from both sides of the machine collect upon the platform H and form the shock, the cords $f^2 f^2$ hold the same up, and the cords become gradually unwound from their pulleys. After the shock has been tied by the means hereinafter described, the cords are detached from the hooks m , the spring n turns the shaft b^3 so as to wind them upon the pulleys. On the rear part of the frame C is hinged or pivoted a frame, M, with windlass N, rope f^3 , and usual pulleys to form a derrick. This derrick is held in an upright position by a rod, O, extending forward and hooked or otherwise fastened to the frame C. On the rope f^3 is a pulley and frame, p , to which the two ends of a rope, f^4 , are attached, and on this rope slide two rings, $s s$, each having a strap, t , attached to it. One of these straps is provided with a buckle. When sufficient number of stalks have been cut to form a shock the rope f^4 and straps $t t$ are passed around the shock and the straps buckled together, a part of the rope forming

a bail as it is being tightened, on which the shock swings. The ropes f^2 are then unhooked, as above mentioned, after which the brace O is unhooked and the derrick swung back to deposit the shock on the ground. A part, H', of the platform is hung on a rod, x , and connected with the derrick by ropes $y y$, so that as the derrick is swung down this part of the platform also swings down, forming an incline, over which the shock passes down to the ground. The straps $t t$ are then unbuckled, the derrick returned to its position, and the cords f^2 hooked again, when the machine starts forward to cut a new shock.

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

1. The combination of the circular knife J with the circumferentially-grooved and serrated wheel K, the two being arranged and operating together substantially as set forth.

2. The combination of the inner frame C', provided with the rigid guards $h h$, which are each formed of a single rod and extend around three sides of the frame, with the main frame C, with its upright shafts and endless belts G G, all constructed substantially as and for the purposes set forth.

3. The disks or flanges L L, provided with guards $k k$, in combination with the carrier-belts, substantially as and for the purposes herein set forth.

4. The combination of the ropes f^2 , shaft b^3 , pulleys d^6 , spring n , and hooks m , substantially as and for the purposes herein set forth.

5. The combination in a corn-harvester of the pivoted or hinged derrick M N and hinged part H' of the platform, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 16th day of June, 1873.

GEORGE M. TOPE.

Witnesses:

C. M. ALEXANDER,
J. M. MASON.