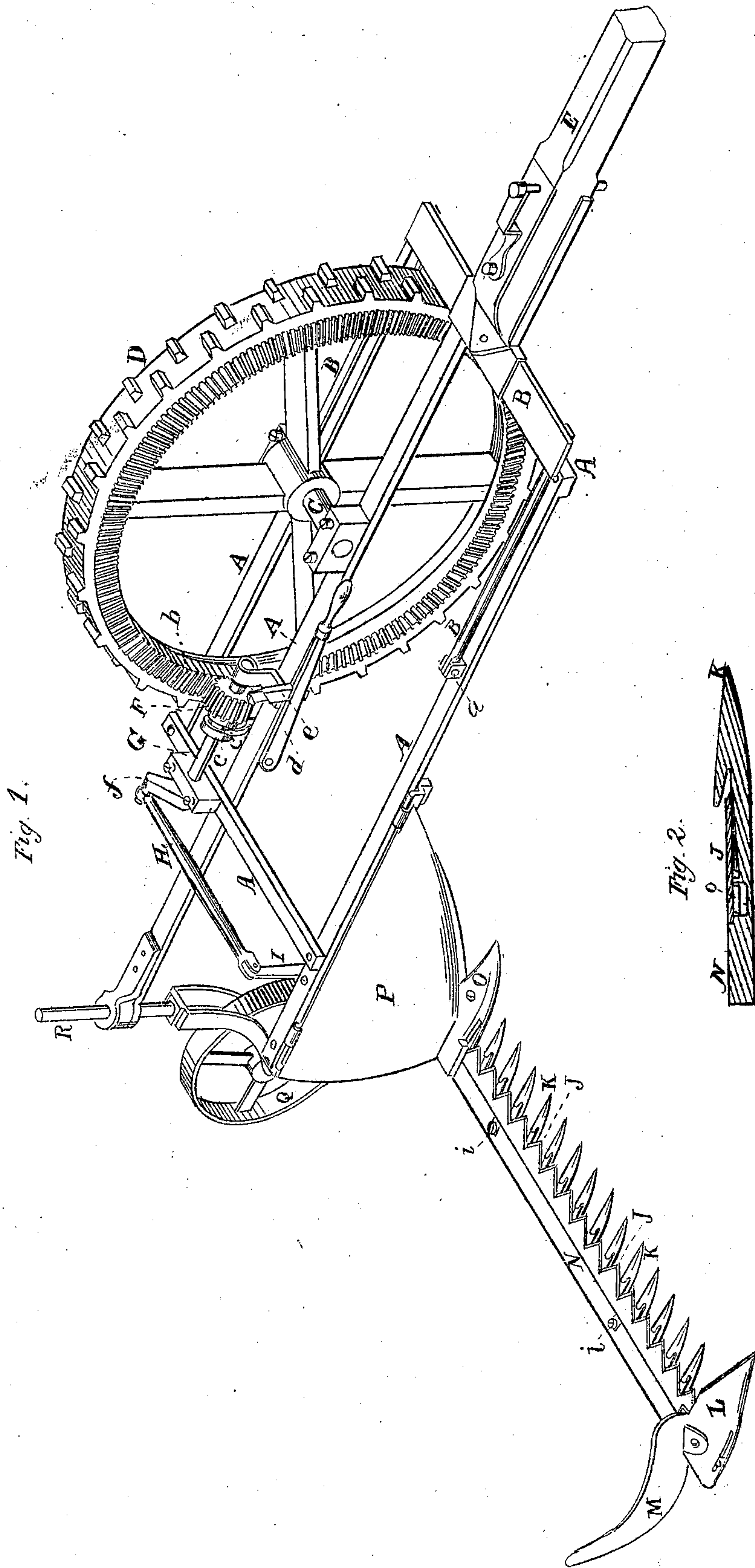


*C. B. Wagner,
Mower.*

No. 15,204

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UNITED STATES PATENT OFFICE.

CYRIL B. WAGNER, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 15,204, dated June 24, 1856.

To all whom it may concern:

Be it known that I, CYRIL B. WAGNER, of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Harvesters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part thereof, and which represents a perspective view of the entire machine.

The nature of my invention relates to the manner in which I have arranged and combined the frame and tongue with regard to the supporting and driving wheels, whereby the construction of the frame and the parts immediately connected to it is simplified and made more effective in yielding to the inequalities of the ground without affecting materially the position of the cutters thereto.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A represents a rectangular frame, supported near its center on the axle C of the main supporting and driving wheel D, so that the said frame and the parts connected to it may have their center of motion at or near a line drawn longitudinally through the axle C.

To the outside longitudinal pieces of the frame A, and at or near the line of the axle C, as shown at *a*, I connect by a hinged joint the side pieces of a frame, B, to the front cross bar of which frame I attach the tongue E, so placed or adjusted as to counteract side draft. The tongue, through its frame B, can thus play up and down without affecting in the least the frame A, and the frame A may, in turn, move upon its resting-points without affecting the tongue, because both pivot at or near the center of the supporting-wheel D, which point remains always the same.

On one face of the rim of the supporting and driving wheel D are the beveled cogs *b*, which take into a beveled pinion, F, on a crank-shaft, G, and give motion to said wheel and shaft, as will be described. The shaft G is supported on the frame A, and the bevel-spur F is secured to the said shaft by a groove and feather, so that by means of a clutch, *c*, lever *d*, and stop *e* said pinion may be thrown into

or out of gear with the main driving-wheel D, and there held, at pleasure. The pinion F being, as before mentioned, supported on the frame A, and the frame rolling or moving on the axle C, of course the pinion must roll on the gears *b*, which it can readily do, and still mesh with them, so that the working of the frame A in no wise affects the vibration of the cutters, as the pinion F is always in gear with D.

To the crank *f* on the end of the shaft G is attached one end of the pitman H, the other end of the said pitman being connected to the upper end of a lever, I, pivoted to the frame, and the lower end of said lever I (which is the long arm of the lever) is attached to the cutter-bar, and through these devices the cutters J are vibrated through or over the heels of the fingers K. The fingers K, underneath the cutting-blades, are rounded out so as to present a trough-like appearance, and at their rear openings are made to their sides, so that the gum or moisture from the grass or other choking or clogging particles may pass off through said trough and openings.

L is the outside shoe or divider, and M a track-clearer for turning the cut grain or grass away from that which is left standing. The tops of the cutting-blades J are just flush with the plate N behind them, and which holds them to the bar, so that anything falling upon the cutters themselves does not have to rise up to pass over the bar. O is the other shoe, at the opposite end of the bar from L, and P a shield hinged to the frame A, so that it will protect the working parts behind it when dropped down, but which can be swung up out of the way when the machine is to be taken apart to change, repair, or sharpen the cutters. The cutter and finger beam is properly braced to the frame, so as to give it the necessary strength to resist the action of the cutters against the material they are cutting.

The heavier parts of the machine being located behind the supporting-wheel D, an additional pivoted guiding and supporting wheel, Q, is placed there also, to hold up these parts from the ground. The shank R of the wheel Q may have a series of holes through it, so that by a pin the hind end of the machine may be raised up or let down, as it may be desirable to cut nearer to or farther from the ground. The raising or lowering of the frame

has no tendency to throw the pinion F out of gear with the wheel D. It only changes its radial position as to the main wheel.

It will be perceived that there is but a single gear-wheel between the main wheel and the cutters, that although this single wheel is connected to a rigid frame which may play up and down at its ends, yet it always remains in gear with the main wheel, and that neither the unsteadiness of the horses nor the inequalities in the ground, nor yet the vibrating of the frame upon its supports, have any injurious effect upon the cutters, for, should the main wheel drop into a hole or gulley, the rear wheel, Q, will still keep up the rear of the machine, while the frame will merely oscillate on its bearings, rolling the pinion F upon the gears *b*, and the tongue not being influenced by the dropping of the front of the frame, no effect is had upon the horses, and thus the whole machine is so arranged that any unfavorable position of any one of the parts shall not be conveyed to another part. Besides, by giving this advantage to the several parts, I actually am enabled to simplify materially the construction of the machine, dispensing with much unnecessary gearing, and making

the machine more effective, at a great reduction of its weight and cost.

Figure 2 represents a transverse section through the cutter, cutter-bar, and fingers, and on an enlarged scale, wherein is shown a chamber or receptacle, *n*, behind the fingers, for containing a sponge saturated with oil, or any other lubricating compound, for keeping the cutter-bar J constantly oiled. The pieces *ii* on the cutter-bar, Fig. 1, fit against the dovetail *o*, Fig. 2, on the under side of the cutter-plate, to keep it from rising, while it may freely play through the fingers.

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

In combination with the main supporting and driving wheel D and the main frame A and its supporting-wheel Q, the tongue-frame B, so united that the motion of one shall not injuriously affect the action of the others, as set forth.

CYRIL B. WAGNER.

Witnesses:

WM. HINKLE,
WILLIAMS OGLE.