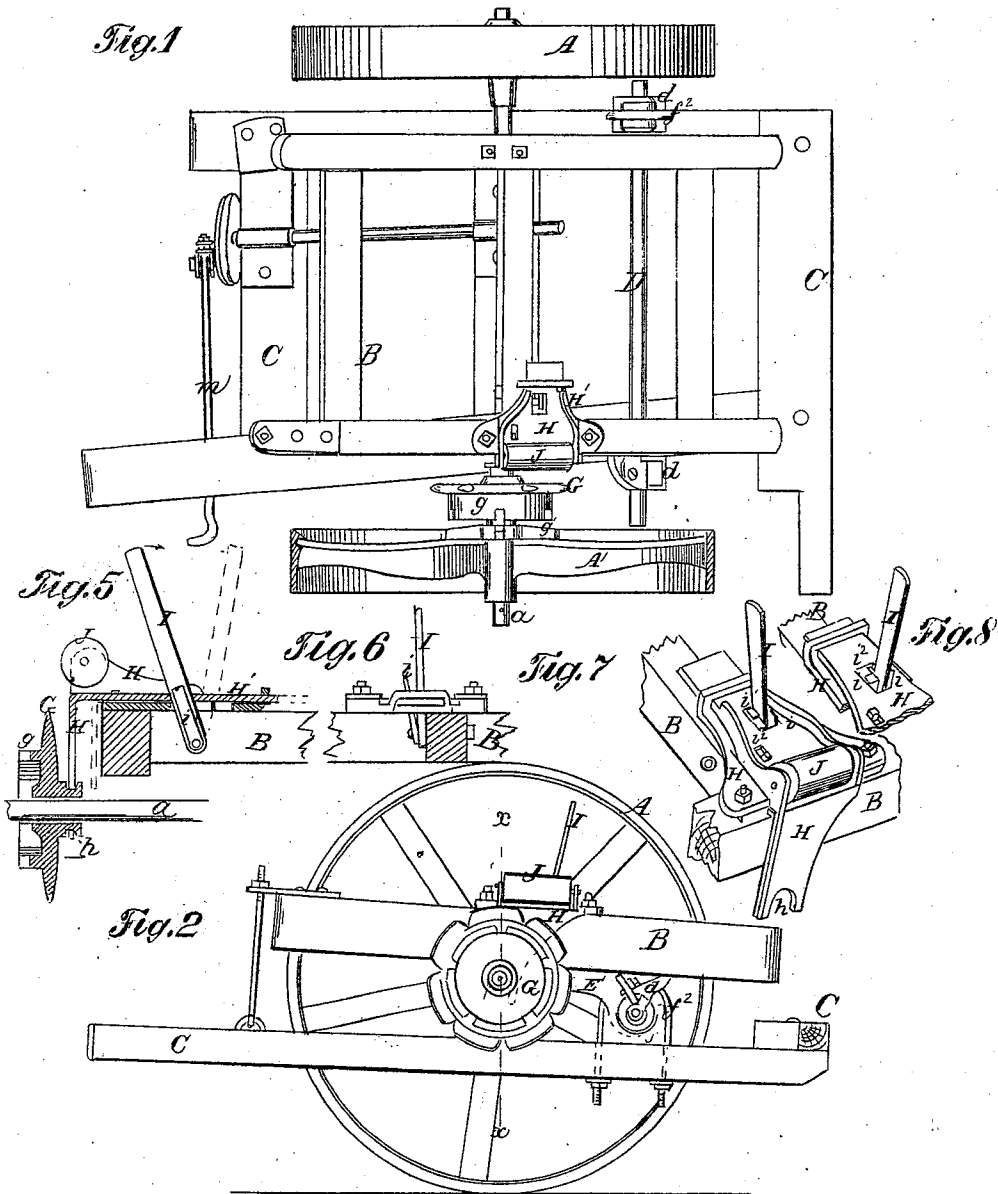


McCormick & Baker.
Mower.

No. 108922.

Patented Nov. 1. 1870.



Witnesses
Joel Peyton.
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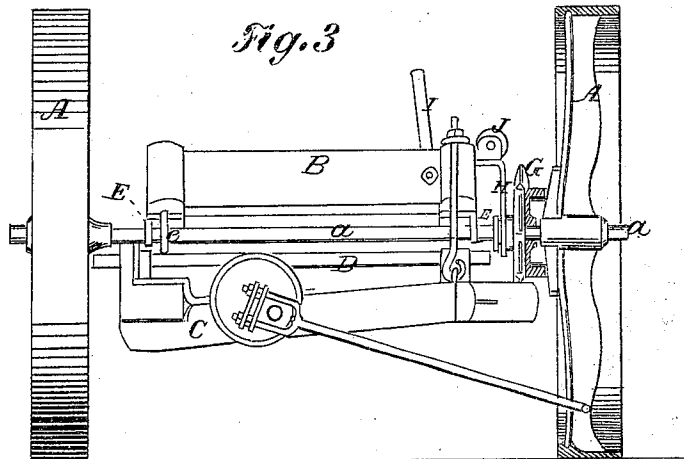


Fig. 9



Fig. 4

Fig. 10

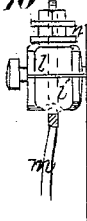


Fig. 11

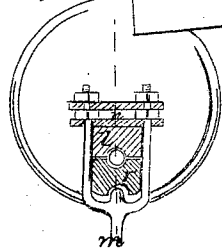


Fig. 12

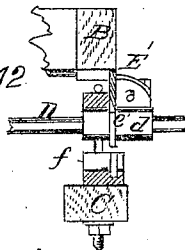
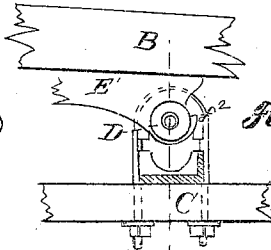


Fig. 13



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UNITED STATES PATENT OFFICE.

LEANDER J. McCORMICK AND WILLIAM R. BAKER, OF CHICAGO, ILLINOIS,
ASSIGNORS TO C. H. McCORMICK & BROTHER, OF SAME PLACE.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **108,922**, dated November 1, 1870.

To all whom it may concern:

Be it known that we, LEANDER J. McCORMICK and WILLIAM R. BAKER, both of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Harvesting-Machines, of which the following is a specification, reference being had to the accompanying drawing, which shows all the improvements herein claimed, embodied in the well-known "Advance" machine built by McCormick & Brother, of Chicago, Illinois.

Figure 1 represents a plan or top view of so much of a machine as is necessary to illustrate our invention; Fig. 2, an elevation of the same as seen from the divider side, with the driving-wheel on that side removed; Fig. 3, a rear elevation, with the inner driving-wheel in section; Fig. 4, a plan of the gear-frame detached; Fig. 5, a vertical section of the main frame and sprocket-wheel through the line *x x* of Fig. 2, looking toward the front; Fig. 6, a vertical section at right angles to Fig. 5; Figs. 7 and 8, views, in perspective, of the shipping mechanism detached; Figs. 9, 10, and 11, detail views of the pitman-connections; Figs. 12 and 13, views showing the details of the hinged connections between the two frames.

Two driving-wheels, *A A'*, are mounted on an axle, *a*, which supports a main frame, *B*. A gearing-frame, *C*, is pivoted to the main frame, so as to vibrate around the counter-shaft *E*, which is mounted in pipe-boxes or trunnions *d*, cast on flanged plates *E E'*, secured to the under-side timbers of the main frame. (See Figs. 2 and 3.) The main axle *a* passes through notches in these plates, and the straps or yokes *e*, which secure this axle to the frame, pass through these plates also. (See Fig. 3.)

This mode of construction prevents any variation of the distance between the centers of the main axle and counter-shaft, and thus prevents binding or straining of the gearing, which might occur from the warping or shrinking of the wooden frame.

In order that the two frames *B C* may readily be connected or disconnected, and yet firmly be locked together when united, and prevented from moving laterally relatively to each other while vibrating freely in a vertical plane,

we form ribs or flanges *e'* on the trunnions *d*. The flange of one of the trunnions abuts against the side of the box *f*, in which the trunnion turns, while the other flange is rounded and fits in a groove in the box *f'*, (see Figs. 12 and 13,) thus preventing the frames from moving sidewise. Loops *f''* hold the trunnions and boxes securely together, and yet allow the trunnions to turn freely in their bearings.

Instead of making the supplementary or gear frame rectangular, we incline the inner-side timber inward from front to rear, in order to obtain room between the driving-wheel and frame for a sprocket-wheel, *G*, by which the rake is driven. This sprocket-wheel runs loosely and moves freely endwise on the main axle *a*, and is driven by means of notches on its annular flange *g* interlocking with radial ribs *g'* on the driving-wheel. (See Fig. 3.)

The sprocket-wheel is thrown into or out of gear by means of an elbow-lever, *H*, having a yoke, *h*, Fig. 7, which embraces a grooved collar on the sprocket-wheel. (See Fig. 5.) This lever *H* moves laterally in ways or guides in a bed-plate, *H'*, secured upon the frame *B*, and is controlled by a lever, *I*, provided on one side with a spring, *i*, and on the other with a lug, *i'*, which is moved on one side or the other of a fixed stud, *i''*, accordingly as the sprocket-wheel is to be held in or out of gear. (See Figs. 5, 6, 7, and 8.) A friction-roller, *J*, mounted on the elbow-lever *H*, prevents the chain by which the rake is driven from rubbing against the frame.

In order to prevent binding or cramping of the pitman, we use two half-boxes, *l v*, which inclose the wrist-pin. The lower half-box, *v*, has a socket, in which a stud on the pitman-yoke *m* works, while the upper half-box, *l*, is rounded or made slightly convex, and the washer *n* is curved to suit this convexity.

The sides of the boxes which are embraced by the yoke have flanges on them, to prevent the yoke from slipping off sidewise. (See Figs. 4, 9, 10, and 11.)

We claim as our invention—

1. The combination of the main frame, mounted on the main axle, the flanged plates *E*, in which the main axle and counter-shaft are mounted, the trunnions on the flanged

plates, the ribs on the trunnions, the grooved box f^1 on the gear-frame, and the counter-shaft extending across the frame, all these parts being constructed and operating as described.

2. The combination, construction, and relative arrangement, as set forth, of the main frame, the trapezoidal gear-frame, the elbow-lever, the inner driving-wheel, and the sprocket-wheel.

3. The combination of the main frame, the sprocket-wheel on the main axle, the sliding elbow-lever on the main frame, and the friction-roller on the elbow-lever, all these parts

being constructed and arranged, as hereinbefore set forth, for joint operation.

4. The pitman-connection constructed, as set forth, with the yoke, the socket half-box, the convex half-box, and the concave washer, to prevent the binding of the pitman.

In testimony whereof we have hereunto subscribed our names.

L. J. McCORMICK.
WM. R. BAKER.

Witnesses:

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