

(No Model.)

3 Sheets—Sheet 1.

S. D. MADDIN.

HARVESTER.

No. 303,871.

Patented Aug. 19, 1884.

Fig.1.

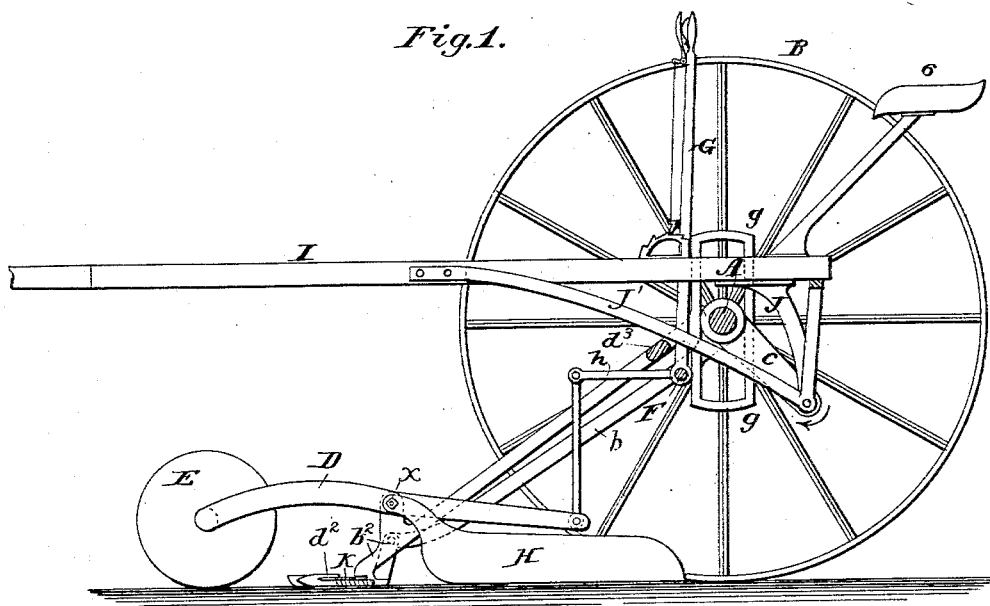
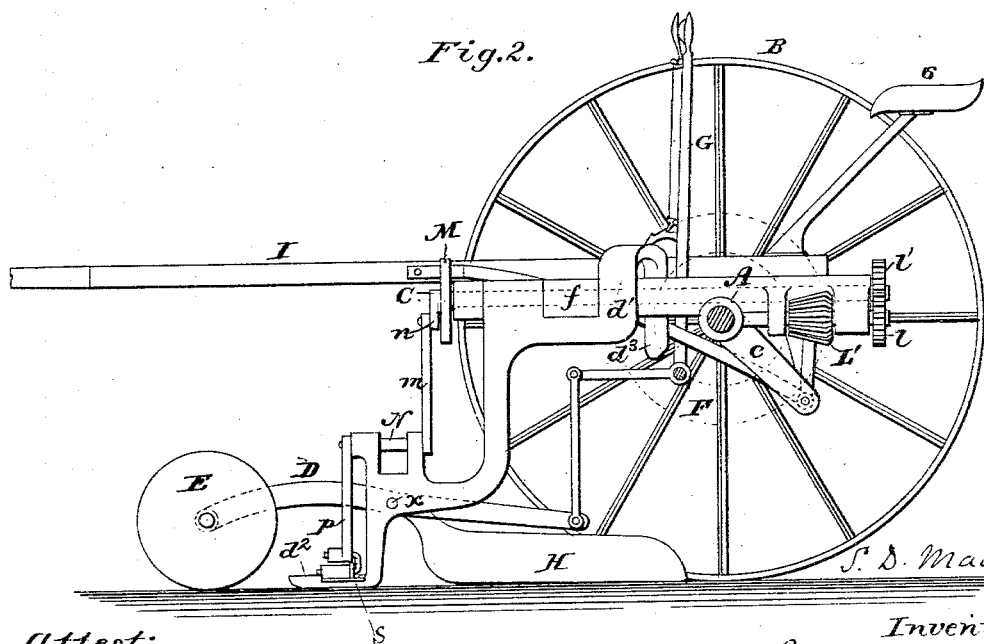


Fig.2.



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(No Model.)

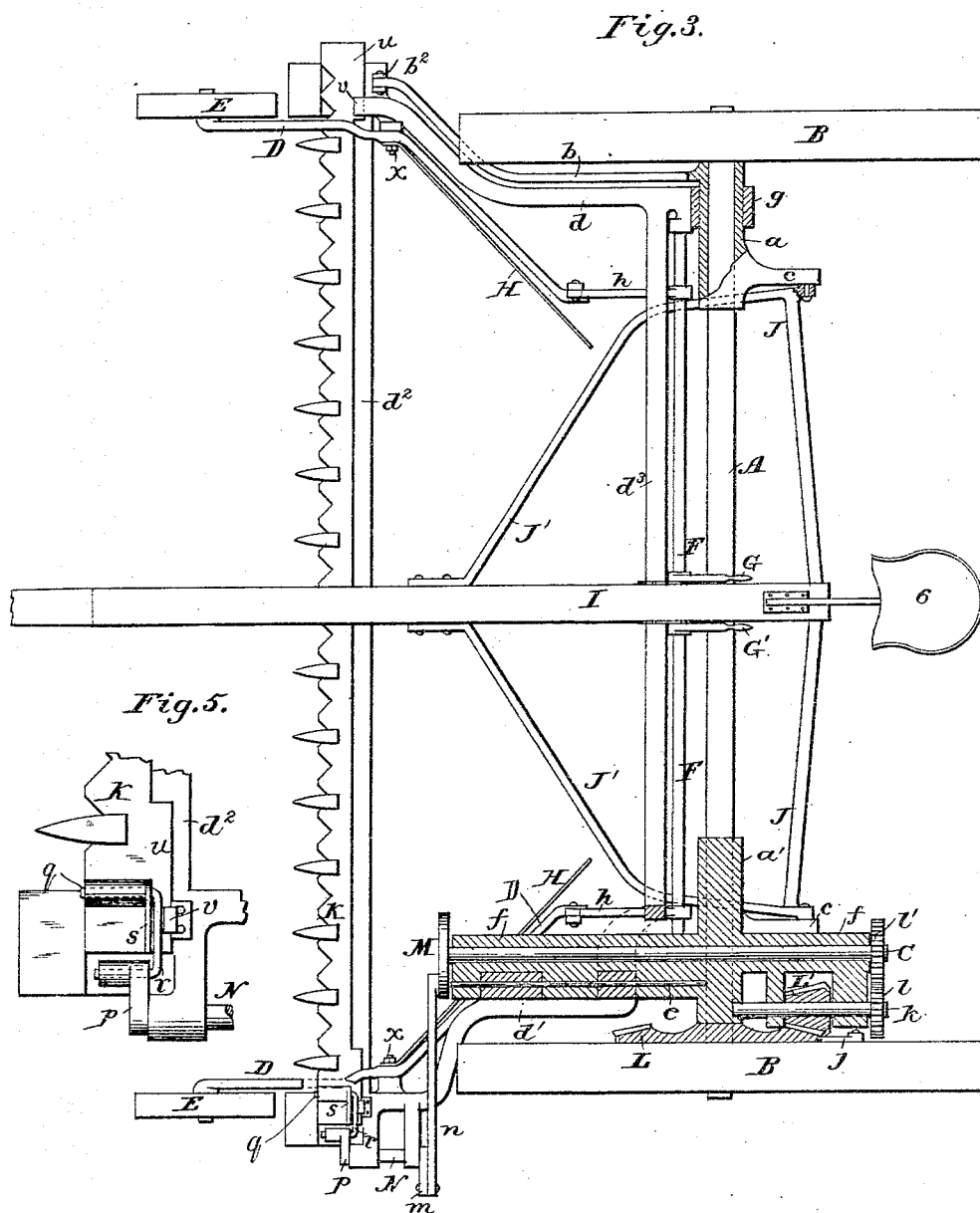
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3 Sheets—Sheet 3.

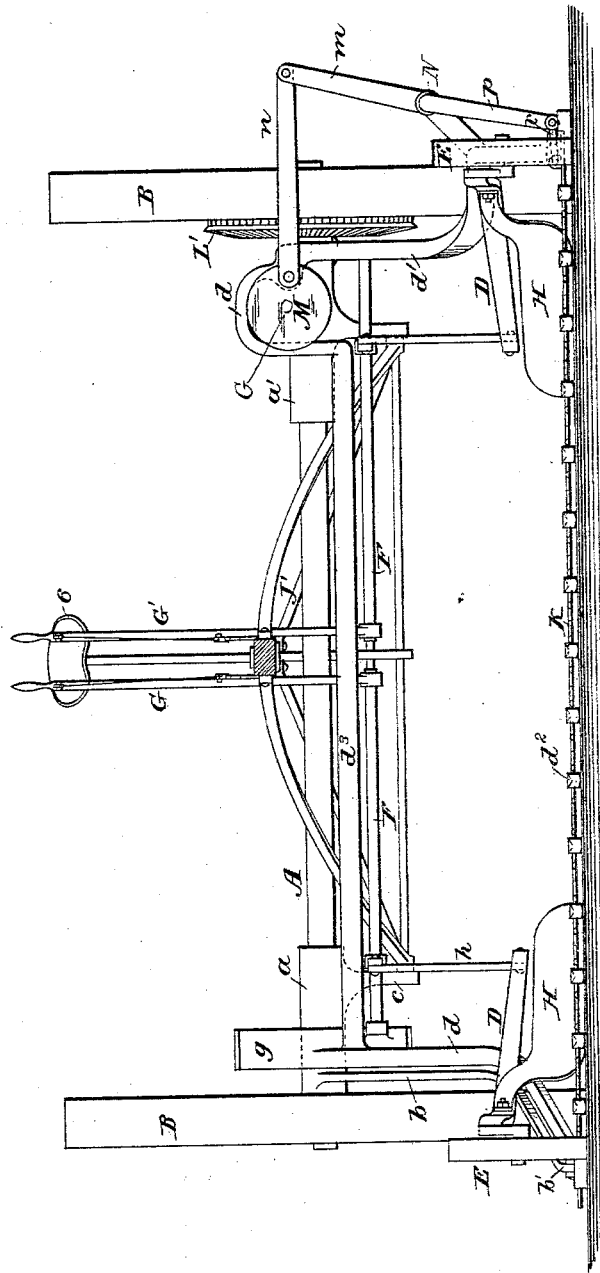
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Fig. 4.



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UNITED STATES PATENT OFFICE.

SAMUEL D. MADDIN, OF MIAMISBURG, OHIO.

HARVESTER.

SPECIFICATION forming part of Letters Patent No. 303,871, dated August 19, 1884.

Application filed November 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. MADDIN, a citizen of the United States, and a resident of Miamisburg, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Harvesters, of which the following is a specification.

My invention relates to that class of harvesters in which the frame supports a cutter-bar in front of side wheels, and the draft-animals are in front of the bar; and my invention consists in constructing the apparatus, as fully described hereinafter, so as to facilitate the adjustment and driving of the cutters or the operations of the machine.

In the drawings, Figure 1 is a sectional elevation of my improved harvester. Fig. 2 is a side elevation, one of the wheels being removed. Fig. 3 is a sectional plan. Fig. 4 is a front elevation. Fig. 5 is a detached view showing the connection of the knife-bar and driving-arm.

The axle A and wheels B B support the main frame, consisting mainly of sleeves *a a'*, and an arm, *b*, extending from the sleeve *a*. To this frame, composed of two parts hung independently to the axle, is jointed the swinging frame of the machine, consisting of side bars, *d d'*, a finger-bar, *d'*, and connecting-bar *d'*, the side bar, *d'*, being hinged by a bolt, *e*, to a hollow arm, *f*, connected to the sleeve *a'* transversely thereto and above the same, the connecting-bar *d'* extending over the hollow arm *f*, in the form of an arch. To the frame thus constructed, at the point where the side bar, *d*, and connecting-bar *d'* are united, is secured a yoke, *g*, through which the sleeve *a* passes, and which permits this end of the frame to be lifted up and down, the frame swinging upon the pivot-rod *c*, but without the yoke losing its bearing upon the sleeve *a*. The cutter-bar is thus carried by a swinging pivoted frame, which, however, has constant positive connections and bearings upon the main frame of the machine. As it is desirable to lift the cutter-bar frame either entirely or at one side or the other, I employ suitable devices for this purpose. For instance, at each side of the frame is pivoted, at *x*, a lever, D, which carry at the front the lead-wheels E, so that by lifting the inner end of either lever D, the lead-wheel bearing upon the ground, the cutter-

frame will be raised at that side, while, by lowering the rear end of the lever, the cutter-frame will be depressed. Suitable appliances for lifting the levers are employed. I have shown a shaft, F, provided with arms *h*, connected to the levers D, and having a hand-lever, G, adjacent to the driver's seat G, whereby the shaft may be turned, so as to lift or lower the ends of the levers D. The shaft is preferably divided into two portions, one provided with the lever G and the other with a similar lever, G', so that either of the levers D may be moved and the corresponding side of the frame raised or lowered independently of the other. Each of the levers D may be bent or carried inward from the pivot-point *x* at an acute angle with the cutter-bar, so as to constitute a swather, and the usual shield, H, may be pivoted to the frame at the point *x*. The levers G G' are of course provided with the usual appliances for locking them into any position in which they are set. As there will be some play between the pivoted frame and the main frame, which is carried upon the axle, I connect the end of the finger-bar to the arm *d* by means of a link, *b'*, as shown in Figs. 1 and 3.

By the construction thus described the operator with little exertion is enabled to raise or lower the cutter-bar throughout its entire length, or at either end to any desired extent, and to hold it in any position to which he adjusts it, and whatever the position of the bar may be the frame has positive bearings, which tend to prevent any destructive play or objectionable noise.

To take the weight of a frame from the team, the pole I is so connected to the frame that the forward draft will tend to lift rather than depress the cutter-bar. Thus arms *e*, extending from the sleeves *a a'* downward and to the rear, constitute the bearings or brackets J, secured to the pole, and any forward draft upon the latter acts in the direction of the arrow, Fig. 1, tending to lift the front of the cutter-frame, while any weight upon the forward end of said frame has no effect in increasing the downward pressure upon the team. Braces J' strengthen the brackets. Motion is communicated to the knife-bar K from a beveled wheel, L, having a ratchet at the edge, so as to be turned when the wheel B moves forward by the engagement of a pawl, *j*. The

wheel L gears with the beveled wheel L' upon the shaft k, carried by the arm f, and carrying a pinion, l, which gears with the pinions l' upon the shaft C, extending through the arm f, carrying at the front end a crank-disk, M. The side bar, d', is provided with arms supporting a rock-shaft, N, (Figs. 2 and 3,) arranged about midway between the level of the shaft C and the ground, and having at the rear end an arm, m, connected to the disk by a pitman, n, and at the forward end an arm, p, which is connected to the knife-bar. The upper end of the arm m is about level with the shaft C, the various bearings and connections thus described being such that the tilting of the swinging frame will not disturb the relative position of the knife-bar-driving parts, so that the same will work effectively regardless of the movements of the said frame. In the lower end of the arm p is a hole, parallel to the hole in the block q on the knife-bar, and into the said holes extend the limbs of a yoke-shaped link, r, so that the movement of the arm P is easily communicated with but little loss to the knife-bar, while there is but little wear of the parts, and the connection is not liable to get out of order.

To prevent the link from becoming clogged by means of grass, stubble, &c., a flange, s, is extended from the knife-bar upward in front of the transverse portion of the link, as shown in Fig. 3.

In order to hold the knife-bar closely to the finger-bar at its extreme end, where it is connected to the driving-arm, the said knife-bar is provided at the rear edge with a web, u, which extends beneath a lip or plate, v, secured to the finger-bar, the knife-bar sliding freely beneath said lip, which holds it, however, firmly to its bed.

It will be obvious that other means may be employed than those described for driving the cutter-bar and for moving the operative parts of the machine and lifting the lead-wheel levers. I therefore do not limit myself to the same; but

I claim as my invention—

1. In a harvester, the combination of the supporting-wheels, the main frame, a cutter-bar frame pivoted at one side to the main frame, and provided with a yoke embracing the axle at the opposite side, levers pivoted to both sides of the cutter-bar frame, the lead-wheels carried by said levers, and appliances for adjusting said levers, substantially as set forth.

2. The combination of the supporting-wheels, main frame, cutter-bar frame pivoted at one side to the main frame, and the driving-shaft C, having its bearings in the main

frame adjacent to the pivotal point, and carrying a crank-disk by which the cutter-bar is driven, substantially as specified.

3. The combination of the axle, the supporting-wheels, sleeves a', cutter-bar frame pivoted to an extension of the sleeve a', and provided with a yoke through which the sleeve a extends, and a bar, b, extending from the sleeve a and connected to the cutter-bar, substantially as specified.

4. The combination of the main frame, the cutter-bar frame pivoted at one side, the levers D, pivoted to the cutter-bar frame, the lead-wheels carried by said levers, and levers G G', and connections for operating the levers D independently of each other, substantially as set forth.

5. The combination of the main frame in two parts hung independently to the axle, a cutter-bar frame, projections extending from the main frame to the rear and downward, and a pole connected to said projections below and at the rear of the axle, for the purposes set forth.

6. In a harvester, the combination of the cutter-bar frame, the lead-wheels, and the levers D, carrying said lead-wheels, and bent inward to constitute swath-boards, substantially as specified.

7. The combination of the main frame, cutter-bar frame pivoted at one side to the main frame, levers D, wheels E, and independent levers G G', connected to the levers D, substantially as described.

8. The main frame in two independent parts hung to the axle, combined with a cutter-bar frame pivoted to one of said parts at one side, and connected by an arm to the other of said parts at the other side, substantially as specified.

9. The combination of the main frame and cutter-bar frame jointed together near one of the wheels by a rod, e, parallel to the wheel, a longitudinal driving-shaft, C, arranged at one side of the frame, parallel with and adjacent to the rod e, and driven from the adjacent supporting-wheel, the rock-shaft N, arranged on a plane midway between the shaft C and the ground, the knife-bar, and connections between the rock-shaft N, driving-shaft, and knife-bar, all substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL D. MADDIN.

Witnesses:

AMOS K. CLAY,
ADAM CLAY.