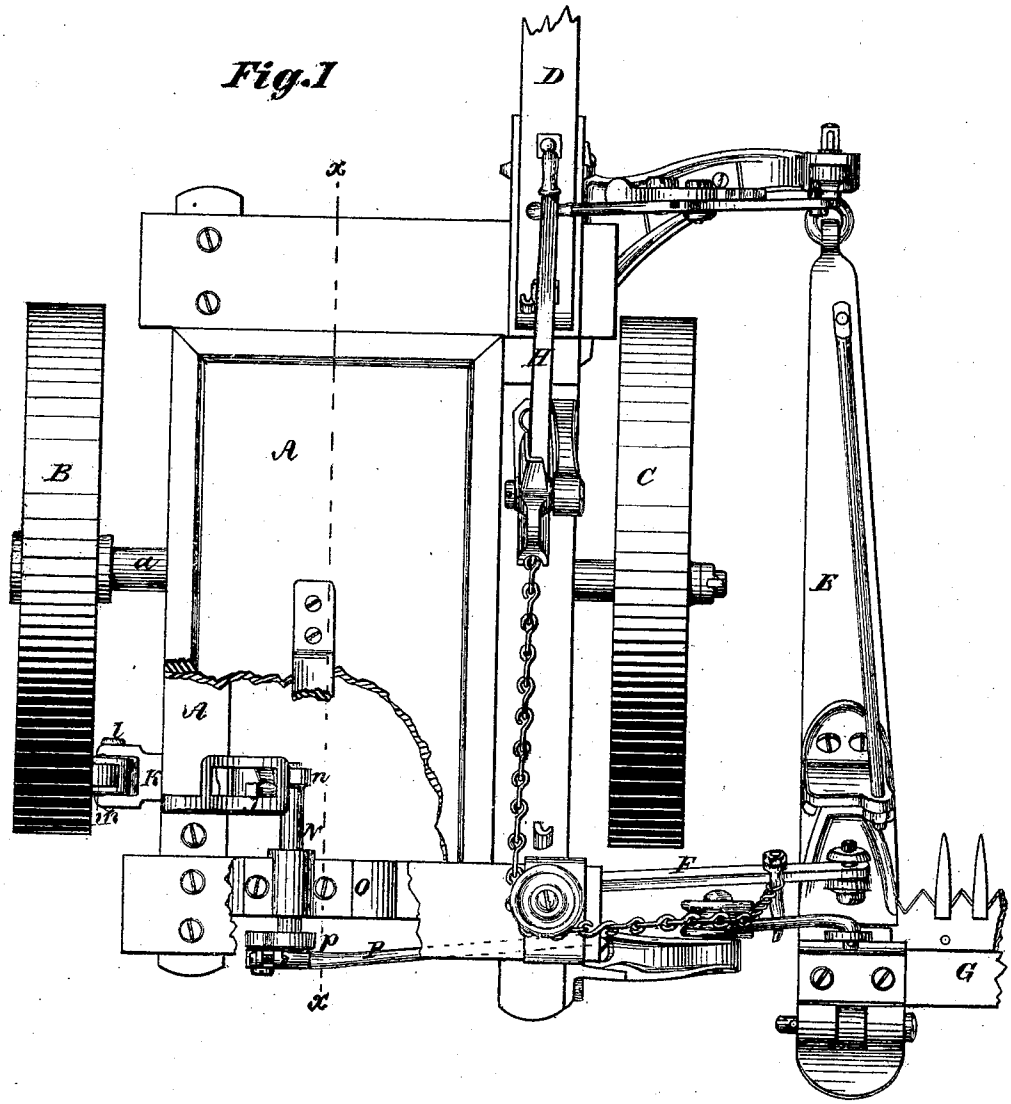
3 Sheets--Sheet 1.

J. A. DODGE.

Improvement in Harvesters.

No. 130,285. Patented Aug. 6, 1872.

Fig. 1



Witnesses:-

W. H. Rowe,

Baltis Dr. Co.

Inventor:-

John A. Dodge

by his Atty

Wm D. Baldwin

AM. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

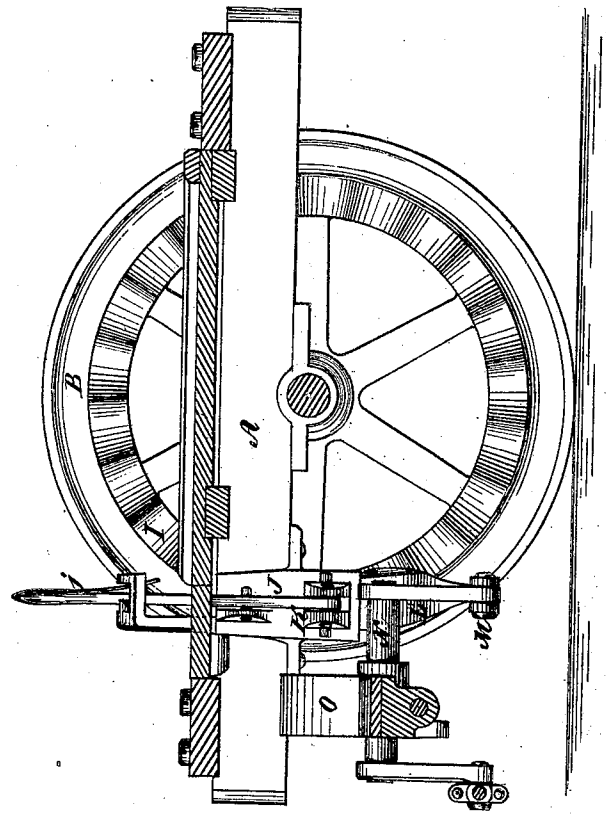
3 Sheets--Sheet 2.

J. A. DODGE.

Improvement in Harvesters.

No. 130,285. Patented Aug. 6, 1872.

Fig. 2



Witnesses:-
W. H. Rowe,
Baltis De Long.

Inventor:-
John A. Dodge
by his Atty
Wm D. Baldwin

AM. PHOTO-LITHOGRAPH'G CO. N.Y. (OSBORNE'S PROCESS.)

3 Sheets--Sheet 3.

J. A. DODGE.

Improvement in Harvesters.

No. 130,285. Patented Aug. 6, 1872.

Fig. 3

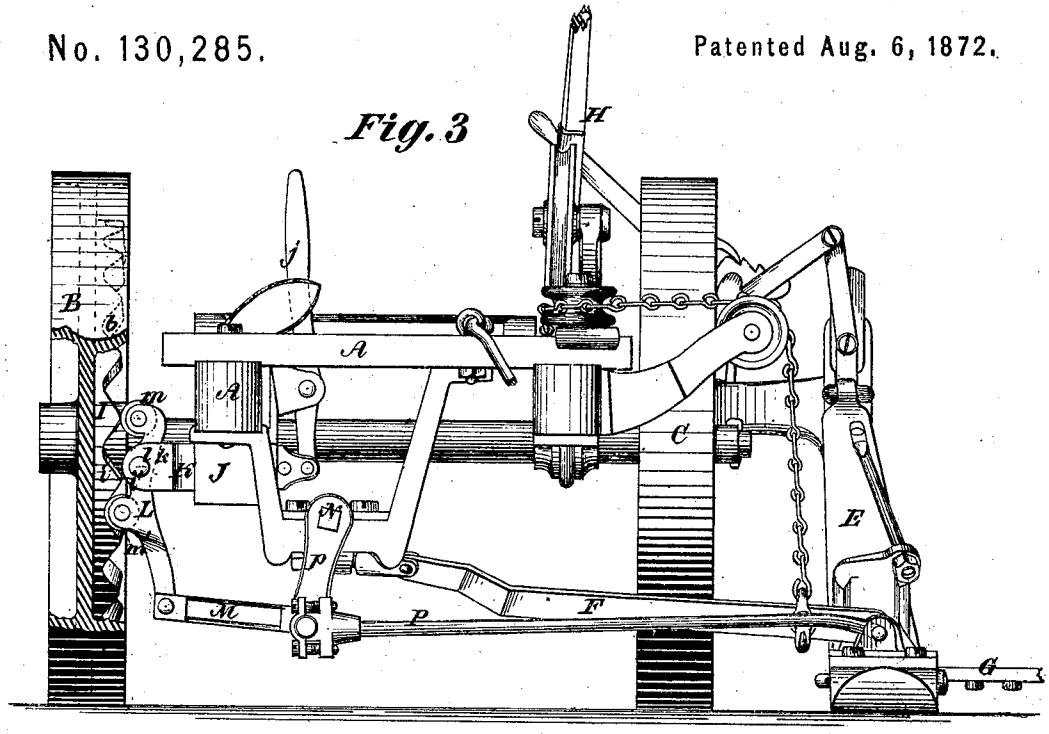
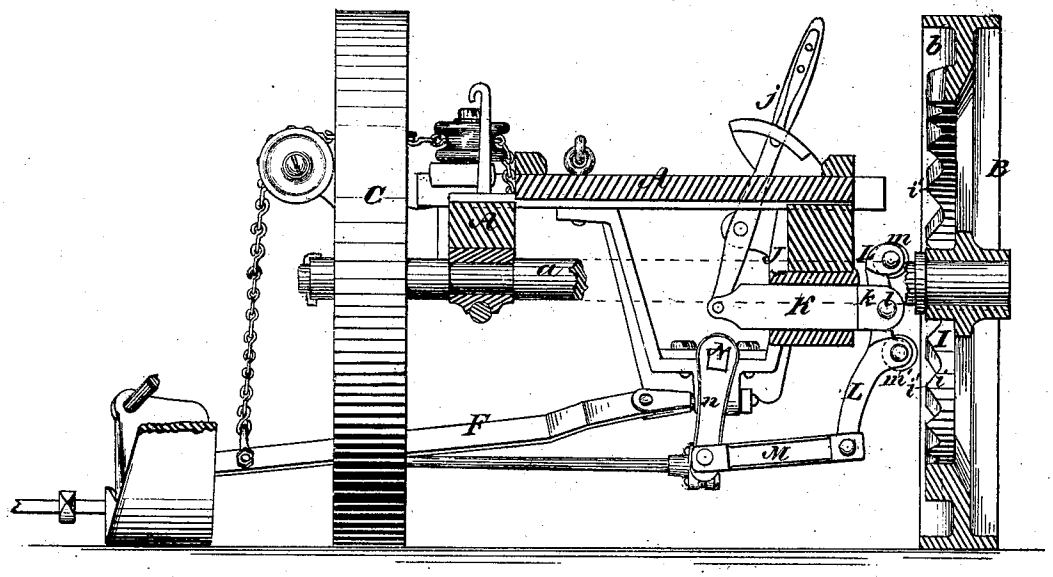


Fig. 4



Witnesses:-

W. H. Rowe,

Baltis & Long.

Inventor:-

John A. Dodge

by his Atty

W. D. Baldwin

A.M. PHOTO-LITHOGRAPHIC CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JOHN A. DODGE, OF AUBURN, NEW YORK.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **130,285**, dated August 6, 1872.

To all whom it may concern:

Be it known that I, JOHN A. DODGE, of Auburn, New York, 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 cutters are actuated by cams instead of gearing. Its object is to remedy the defects incident to this class of mechanism, and the improvements by which these results are attained are hereinafter specifically set forth.

In the accompanying drawing my improvements are shown as applied to a two-wheeled rear-cut harvester, similar in its details to that shown in sundry Letters Patent heretofore issued to me. These improvements, however, it is obvious, might be adapted to the machines known as one-wheeled or rigid-bar machines as well as to the two-wheeled hinged-bar ones, and to either front or rear cut machines.

Figure 1 represents a plan view of so much of a machine as is necessary to illustrate my invention; Fig. 2, a vertical longitudinal section thereof through the line *x x* of Fig. 1; Fig. 3, a rear elevation, showing the driving mechanism; and Fig. 4, a front view thereof, partly in section.

In this instance a main frame, A, rests upon an axle, *a*, upon which two wheels, B C, are mounted. A tongue, D, is secured to the frame, as usual. The finger-beam G is hinged to the main frame by a drag-bar, E, and coupling-arm F, and controlled by a lifting-lever, H. The inner wheel C turns loosely upon the axle, with which it may be connected, by a backing-ratchet. The outer wheel B is keyed fast upon and turns with the axle *a*. This wheel has a projecting flange or rim, *b*. A zig-zag way or cam-ring, I, of a diameter less than that of the wheel, is secured upon its inner face. This arrangement prevents the clogging of the cam by dirt, &c. The contour or outline of this cam is clearly shown in Figs. 3 and 4. Its sides or inclines *i* are straight from their tops or edges to a point near the bottom, where the two opposite inclines join. This bottom part of the cam is rounded with a curve or recess of a size exactly corresponding with that of the friction-rollers hereinafter mentioned. The points *i'* of the cams are rounded just enough to permit the rollers to move over them without bruising. The faces of the inclines, it will be observed, are inclined inward in a manner somewhat analogous to bevel-gearing. A strong box-bracket, J, is secured firmly on the main frame. A shipping-lever, *j*, pivoted on this bracket, works in a guide, provided with notches to lock it, when desired. The lower end of this shipping-lever is pin-jointed to a bar, K, moving freely endwise in the box, but limited in one direction by a head, *k*, and in the other by a pin or other suitable stop. An arm or rocking-lever, L, rocks freely on a pivot, *l*, in the slotted head of this sliding bolt. Friction-rollers *m m'* are pivoted on this lever on opposite sides of its pivot. These rollers are made slightly tapering, thus forming frustums of cones corresponding in outline with the inclined face of the cam. The distance apart of these rollers is such that as the leading roller *m* is in the bottom of the cam the following one is just passing over the top of one of the inclines. In this instance the leading roller is shown as on the top of one groove, while the following one is in the bottom of the next incline but one behind it. The rollers might, however, straddle several inclines, if preferred, instead of one. The roller-arm L projects below the lower roller, and has a pitman, M, pivoted thereto to drive the cutters. In a one-wheel machine this pitman would be connected directly with the cutter-bar. In a two-wheeled hinged-bar machine, such as is shown in the drawing, a different organization of mechanism is necessary, as the finger-beam is outside of the plane of the periphery of the driving-wheels, and some provision is necessary to bring the cutter-bar and pitman into line. For this purpose I mount a rock-shaft, N, in a strong down-hanger, O, underneath the frame, and pin-joint the pitman M to a crank, *n*, on its forward end. A corresponding crank, *p*, on its rear end is connected with the pitman P in the usual way. I thus bring the pitman properly back into line with the cutting apparatus. The construction of this apparatus, being well known, needs no description.

In operation, as the driving-wheel revolves the rollers conform to the undulations of the

cam and vibrate the sickle, through its connecting mechanism, in a way which needs no description.

It will be observed that the driving-wheel is keyed fast on its axle, while the roller-lever is firmly secured to the frame, and the connections are made rigid so as to prevent wabbling or vibration, and thus secure the accurate relation and smooth working of the parts.

I am aware that cams for driving harvester-cutters are old, and do not, therefore, broadly claim combining a cam with a harvester; but I am not aware that such a combination and construction as that herein shown by me has ever before been made.

I claim as my invention—

The combination of the cam-way, the vibrating roller-arm, the slide-block and shipping-lever, the cranked rock-shaft mounted beneath the frame, the link connecting the roller-arm and rock-shaft, and the pitman driving the cutters, these members being constructed and operating substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

JOHN A. DODGE.

Witnesses:

BALTIS DE LONG,

EDWD. C. DAVIDSON.