

C. CADWELL.

Harvester.

No. 52,027.

Patented Jan'y 16, 1866.

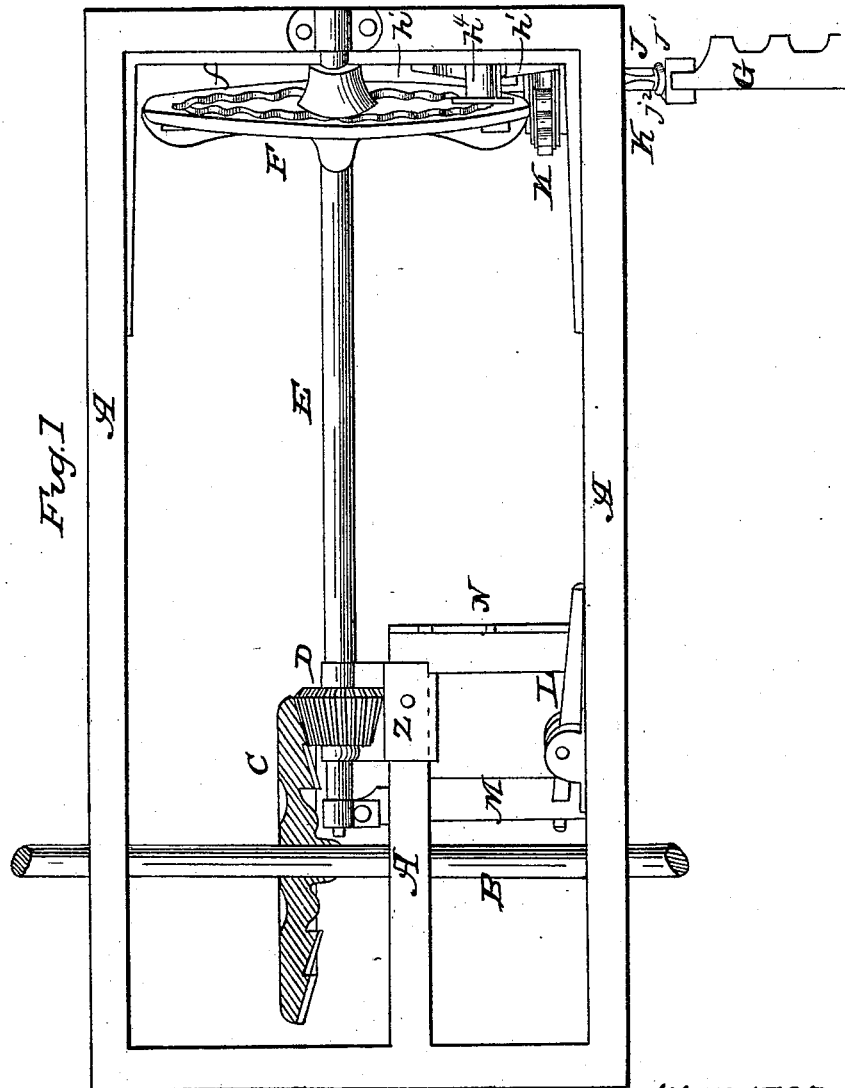


Fig. 1

WITNESSES

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INVENTOR

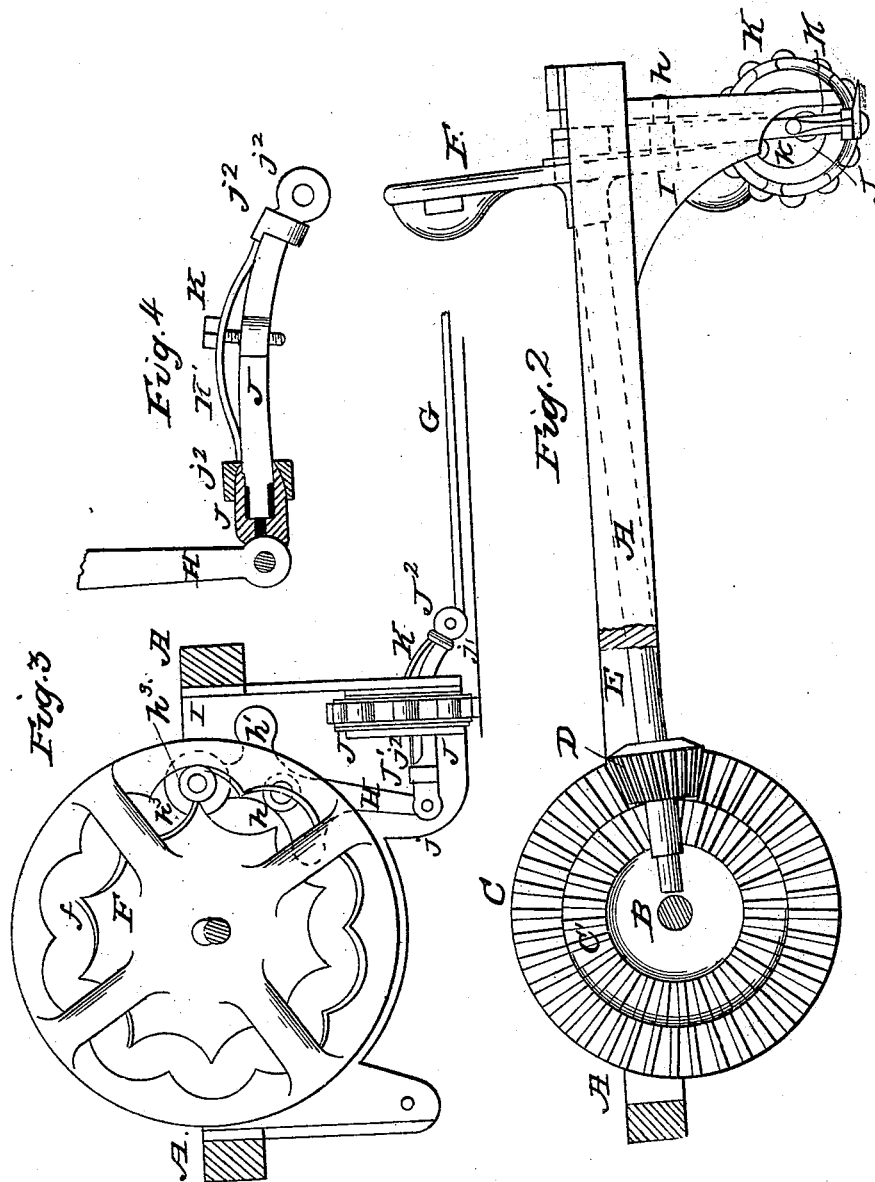
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UNITED STATES PATENT OFFICE.

CALEB CADWELL, OF WAUKEGAN, ILLINOIS.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 52,027, dated January 16, 1866.

To all whom it may concern:

Be it known that I, CALEB CADWELL, of Waukegan, in the county of Lake and State of Illinois, 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 nature, construction, and operation of the same, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 is a plan, partly in section, of a sufficient portion of a harvesting-machine to illustrate my improvements, which are applied thereto. Fig. 2 is a longitudinal sectional view of the parts shown in Fig. 1, and Fig. 3 is a transverse section thereof. Fig. 4 is a detail view of the pitman connection.

Similar letters of reference indicate corresponding parts in the several figures.

The repeated blows which the bearings of the joints of a pitman-rod receive and the continual friction to which they are subjected soon impair them completely, or render them defective to such an extent as to necessitate their renewal or repair.

The subject of one part of my invention is a pitman-rod whose joint or connection with the lever or device which gives it motion is furnished with a bearing adapted to yield to the blows which it receives at each stroke, and resume its operating position when the pressure or strain is relieved, and thus preserve a perfect condition by preventing wear and other damage consequent upon the action mentioned.

My invention relates, further, to novel and improved devices for operating the cutter-bar and for suspending the motion of and starting the same.

The following description, in detail, will enable those skilled in the branch of manufacture to which my invention appertains fully to understand and use the same.

In the annexed drawings, A may represent a secondary frame of a harvester, resting upon the axle B, and capable of adjustment to qualify the machine for mowing or reaping.

Upon the axle B is mounted a face-cog wheel, C, which, gearing with the pinion D, rotates the shaft E and communicates motion to the wheel F, which is more directly concerned in the operation of the cutter-bar G.

H is a vibrating lever hung by a pivot, *h*, to

the metal casting I, on the forward end of the frame A.

Before proceeding with a description of the construction of the lever H, and of the manner in which it receives motion from the wheel F, I will state that it imparts motion to the cutter-bar through the pitman J, to which latter it is connected by a pin or pivot, *j*.

The pitman J passes through and works back and forth within the wheel K, upon which the forward end of the frame A rests when the machine is adjusted for mowing; but this wheel, being described in another application for patent made by me, needs no particular mention here. *j'* represents the pin which connects the pitman and cutter-bar.

The bearing J' of the pin which connects the pitman with lever H is applied in such a way as to be capable of moving or yielding longitudinally upon the pitman under the blows and thumps which it receives at the termination of each reciprocatory movement of the cutter-bar, and upon the cessation of this influence it is thrown to its normal positions by the spring K', which may be placed directly over the cutter-bar, so as to bear the relation to the bearings represented in Figs. 3 and 4. The spring works at the end or bearing J' against a ring, *j*², which holds the end of the bearing. The ring should be wide enough to nearly cover the round part of the joint in order that the bearing may be short. The other end of the spring works in a suitable hole drilled to receive it.

The power of the spring K' is increased or diminished by means of the set-screw *k*.

The lever H is formed with arms or branches *h'* *h'*, which steady it while being vibrated. On the top of said lever H is a stud-shaft, *h*², upon which is loosely fitted a thimble, *h*⁴, having a flange, *h*³, which determines its penetration into the groove *f* of the wheel F, into which groove the thimble is inserted.

The construction of the wheel F and its groove *f* may be clearly ascertained by reference to Fig. 3. The contour of the groove *f* is such that as the wheel F rotates the angles or projections which bound the groove act like so many arms to knock the thimble *h*⁴ back and forth, and thus give a vibratory movement to the lever H, which reciprocates the pitman and cutter-bar.

In order to change the velocity at which the

shaft E is rotated, and hence vary the speed of the cutter as circumstances require, the wheel C is formed with two sets of cogs, C' C', either of which may be brought into connection with the pinion D by the adjustment of the latter upon the shaft E, which is admitted of by the employment of the carriage Z, which can be shifted upon the frame A'.

By means of the lever L and bar M the pinion D can be thrown into or out of gear with the cog-wheel C, and thus the operation of the cutter-bar may be suspended or commenced at will, the lever being retained in either position by engaging in the notches of the plate N.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. The combination of the yielding bearing of the pitman-rod J with the spring K' and set-screw k, all constructed and arranged to operate in the manner and for the purposes herein described.

2. The arrangement of the wheel F, with the groove f, in combination with the vibrating lever H and thimble h⁴, substantially as described.

3. In combination with the above, the cog-wheel C, formed with two sets of cogs, C' C', to adapt it to impart different degrees of speed to the pinion D and cutter-bar, as described.

CALEB CADWELL.

Witnesses:

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