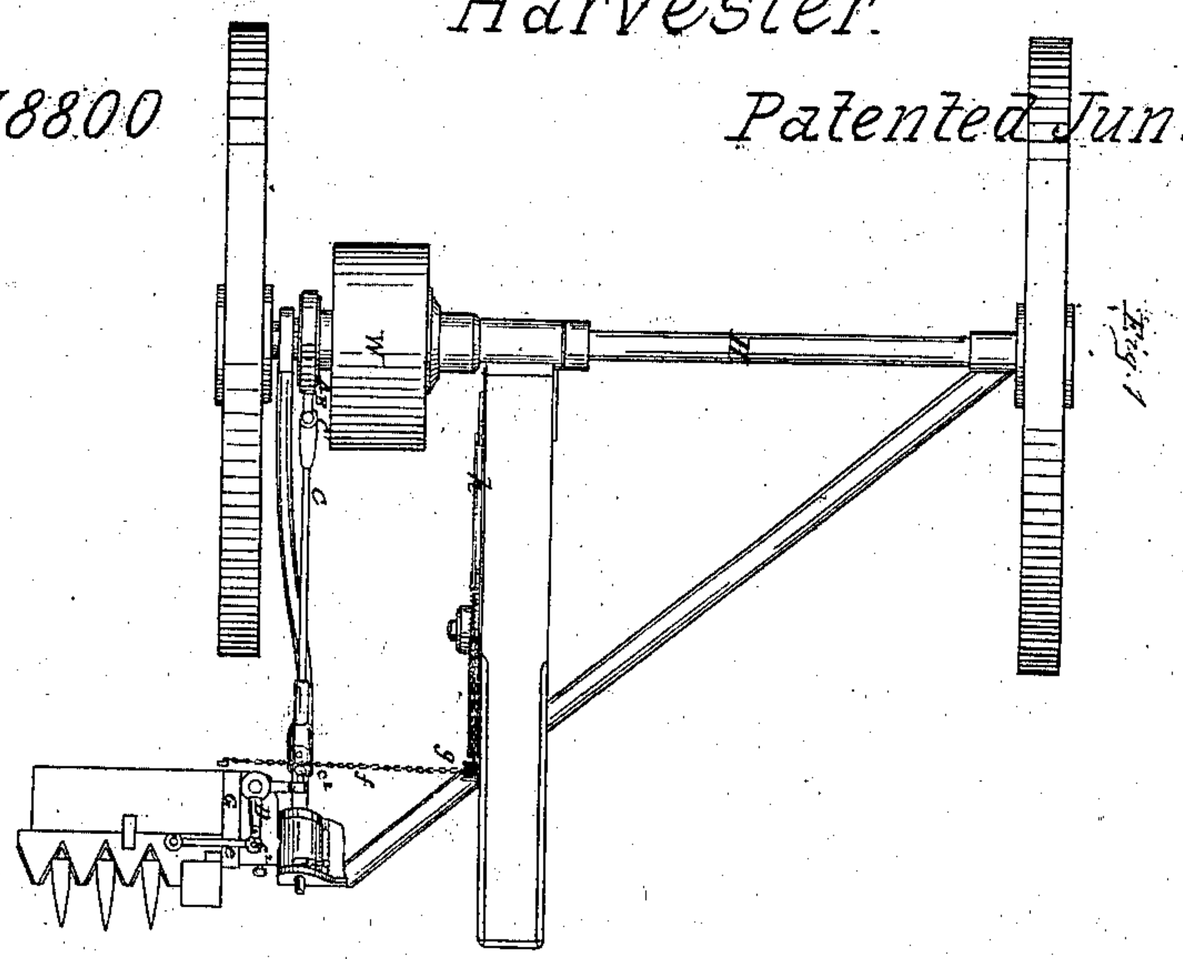
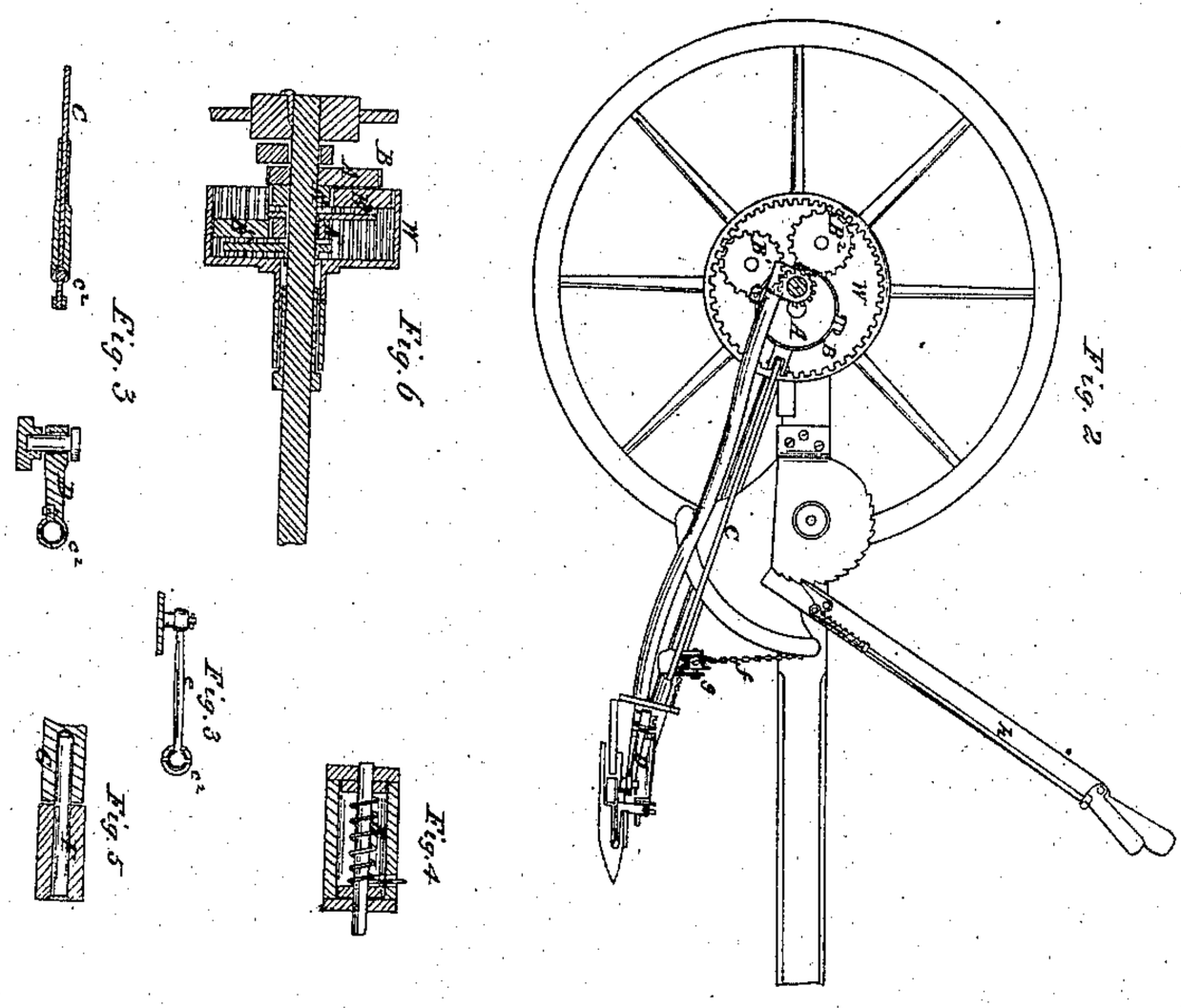
# W. F. Goodwin.

## Harvester.

No. 78800 Patented Jun. 9, 1868





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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **78,800**, dated June 9, 1868.

*To all whom it may concern:*

Be it known that I, WILLIAM F. GOODWIN, of East New York, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Harvesters; and I declare the following to be a full description of the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 represents a top view of a harvester, showing my improvement attached. Fig. 2 is a side view of the same having one of the carrying-wheels removed, showing my improvement attached to the multiplying-gear on the shaft H, also showing the hoisting apparatus by which the frame and cutter-bar are elevated and depressed. Fig. 3 is a detached sectional view of the angle or bell-crank, showing the ball-and-socket joints. Fig. 4 is a detached sectional view of the hinge-joint by which the cutter-bar is attached to the frame, showing the spring by which the cutter-bar is thrown down. Fig. 5 is a detached sectional view of the hinge-joint by which the cutter-bar is turned to raise and lower the points of the fingers.

Letters $A^1$, $A^2$, $B^1$, $B^2$, and W represent the multiplying-gear on the shaft S.

Letter A represents the eccentric-cam; B, the cam-yoke; C, the connecting-rod; D, the angle-crank; E, the spring by which the cutter-bar is thrown down; F, the pin by which the cutter-bar is attached to the hinged vibrating block G. G is a hinged vibrating block, to which the cutter-bar is attached, and by which the cutter-bar is attached to the frame or shoe.

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

This invention consists in the arrangement of mechanism by which motion is imparted from the multiplying-gear to the cutting-knife or sickle of a harvester.

This invention is peculiarly adapted to a harvester having multiplying-gear mounted on its main shaft or axle.

The cam A is rigidly attached to and revolves with the pinion $A^2$, the latter making the number of revolutions required to produce the number of vibrations necessary for the knife or sickle. The yoke B is fitted on and is operated by the cam A. The connecting-rod C is attached to the yoke B by a vibrating joint, $C^1$, at its upper end, and to one arm of the angle-crank D by a ball-and-socket joint, $C^2$, said angle-lever being connected by a similar joint to the rod *e*, and the rod *e* is attached by its other end to the cutting-knife or sickle.

By this arrangement the motion is communicated from the multiplying-gear to the knife or sickle. The cutter-bar is hinged to the block G by means of the pin F for the purpose of elevating and depressing the points of the fingers. The block is hinged to the frame for the purpose of elevating and depressing the cutter-bar and to permit the cutter-bar to vibrate and conform to the ground over which the machine travels. The spring E serves to throw the cutter-bar down to the ground. The connecting-rod C, being in line with the axis of the hinge-bolt, permits the cutter-bar to turn over the tongue without interfering with the working of the knife or sickle. The cutter-bar is raised and lowered by means of the chain *f*, pulley *g*, and lever *h*. By pulling the lever *h* to the rear and pressing it down to the shaft H, the cutter-bar is drawn up and turned over the tongue without stopping the operation of the knife or sickle. By letting the lever up and forward the cutter-bar descends to the ground or to its position for cutting grain or grass.

The advantage claimed for this improvements is, that by attaching the connecting-rod direct to the cam on the main shaft H, and by means of the angle-crank communicating the motion direct to the cutters or sickles, less machinery is required than when bevel-gears and crank-shafts are used; and the arrangement of the apparatus permits the cutter-bar to swing up into a perpendicular position or over the tongue while passing obstructions without interfering with the operation of the knife or sickle.

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

1. The employment of a cam or eccentric in

combination with the multiplying-gear shown and described, for the purpose set forth.

2. The cam A, attached to the pinion $A^2$ or a sleeve projecting from the latter, and working on and rotating round the shaft H of a harvester, in the manner and for the purpose substantially as described.

3. The arrangement of the hoisting apparatus of a harvester, whereby the cutter-bar may be drawn up and turned over on the tongue, in combination with the retracting-spring E, arranged and operated in the manner and for the purpose substantially as described.

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