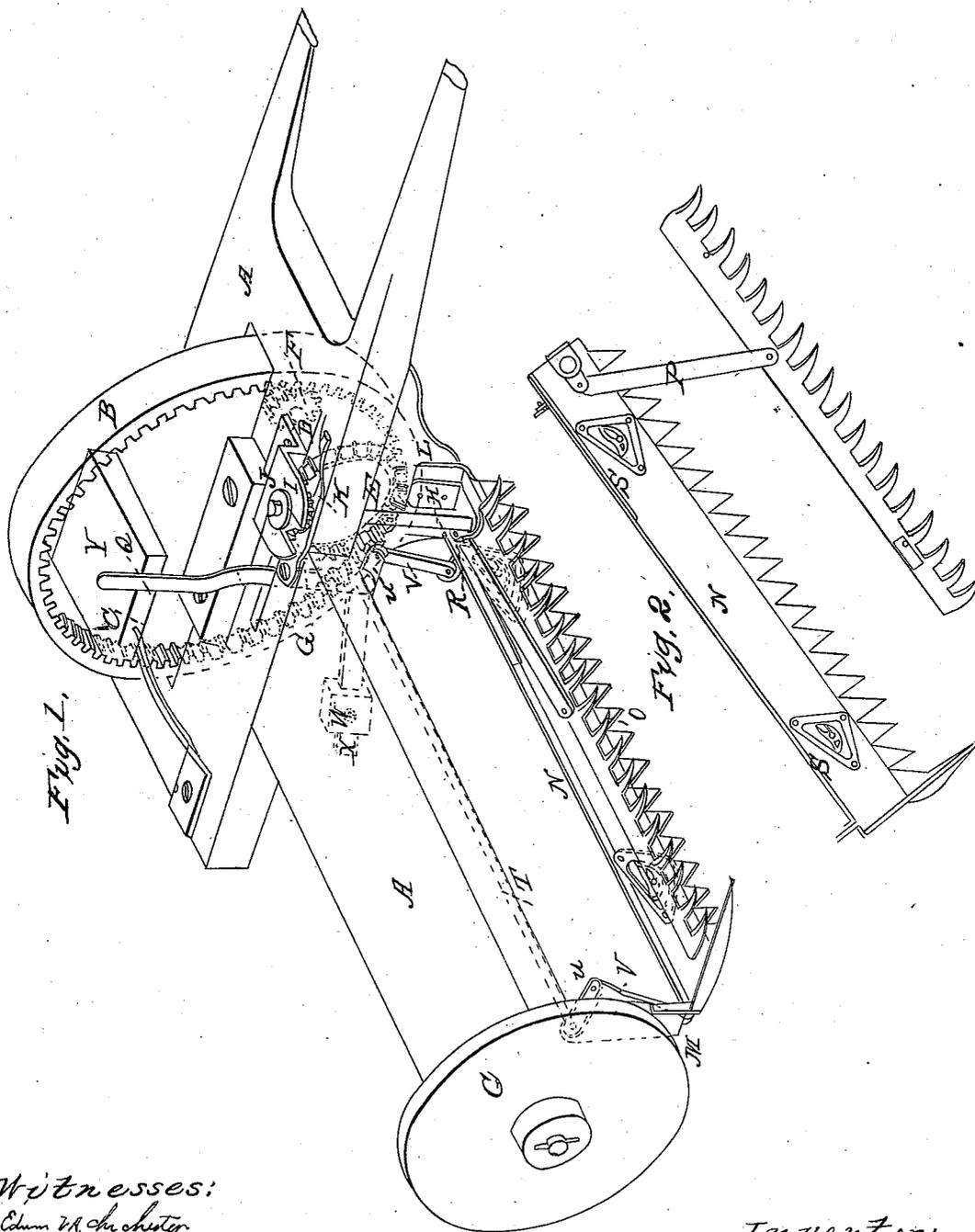


T. B. BUTLER.  
Harvesting Machine.

No. 24,613.

Patented July 5, 1859.



Witnesses:  
Edwin M. Chester  
James W. Bay

Inventor:  
T. B. Butler

# UNITED STATES PATENT OFFICE.

THOMAS B. BUTLER, OF NORWALK, CONNECTICUT.

## IMPROVEMENT IN HARVESTING-MACHINES.

Specification forming part of Letters Patent No. 24,613, dated July 5, 1859.

### *To all whom it may concern:*

Be it known that I, THOMAS B. BUTLER, of Norwalk, county of Fairfield, and State of Connecticut, have invented certain new and useful Improvements in Mowing-Machines; and I do hereby declare that the same is described and represented in the following specification and drawings; and to enable others skilled in the art to make and use my improvement, I will proceed to describe the construction and operation, referring to the drawings, in which the same letters indicate like parts in each of the figures.

In the accompanying drawings, Figure 1 is an isometrical view of my improvement, showing all of the operating parts, and partly so by dotted lines. Fig. 2 is a cutter-case, showing the cutter-plate, connecting-arm, and operating-crank, and the cams by which the required motion is given to the cutter plate or blade.

A is the frame-work.

B is the master-wheel.

C is a lighter wheel to steady and hold the outer portion of the frame in the right position with the cutter-case.

F is a pinion-gear upon the end of the shaft D, working into the gear of the master-wheel B. E is a bevel-gear upon the opposite end of the shaft D. Said shaft is secured in place by a box or boxes underneath the frame-work A.

G is a small bevel-gear, which meshes into the gear E, having a groove-collar to receive the clutch-stud I, which holds the gear in the right position with the gear E when it is in motion. Said gear G is fitted onto the upper end of the shaft H, and having a groove cut in the gear corresponding with the spline J, so that when the shaft is thrown downward the spline J will enter the groove in the gear G, thereby causing the shaft to revolve with the gear.

K is a shipper, hung at one end, and having a clutch-opening for the shaft H, and is for the purpose of holding the gear in mesh with the gear E while the machine is cutting and to throw it out of gear when not cutting.

L is a slotted hanger, secured to the frame A to steady the outer end of the cutter-case.

N is the cutter-case.

O are the cutters or plates, to which the cutters are or may be secured.

P is the connecting-arm.

R is the crank secured to the shaft H, and connects with and operates the arm P.

In Fig. 2, S S are guides and cams. The guides are attached to the surface of the case immovably for the purpose of forming the outside of a channel or groove around the cam, in which groove the pins in the cutter-bar travel. These guides may be varied in shape as a cam more or less circular or more or less elongated is used, and may be raised from the surface in casting the case, or forged and riveted or screwed on. Within these guides are placed the movable cams, secured on a pin in their centers, which pin is fixed firmly in the bottom of the case. On the under side of the cam there is a slot, in which is a strap-spring, one end of which is secured firmly in the pin on which the cam plays, and the other rests loosely against the side of the slot in the cam and keeps the ends of the cam resting against the sides of the shoe, except when they are displaced by the pin of the cutter-bar when passing round the groove. In place of these cams and guides thus forming a channel or groove for a pin, I have used two horizontal eccentrics, on which the cutter-bar rested, a pin passing from the outer surface of the eccentric through a hole in the cutter-bar, and the eccentrics revolving as the reciprocating motion is given to the bar; but these eccentrics give the cutter-bar a circular motion, and it cannot be so readily or safely moved on them by power applied at one end of the bar only as on the shoes and cams. I allude to them as mechanical equivalents for giving the cutter-bar a forward and backward motion, which I have used, and which may be substituted, if desired, but which I do not deem as desirable as the device described.

The case N is suspended by means of the shaft T, arms *u* and *v*, and counterbalanced by means of one or two weighted levers, W X. The case N is secured to the hanger L in such a manner as to allow it to rise and fall perfectly free, yet so as to keep its perfect position in relation to the gearing. The outer end rests and moves against the stud M.

Y is the driver's seat.

Q is the lever by which the cutting apparatus is elevated and depressed.

The caps are laid off in the drawings to show more clearly the inside arrangement of the spring-cams and guides.

I believe I have thus sufficiently described the construction of my improvement so as to enable a workman to build a machine therefrom.

The machine is operated in the ordinary manner. During the operation the cutter-bar is governed by the spring-cams and guides, the pins on the cutter-bar traveling around the cams during each revolution of the crank, thus giving, in addition to the reciprocating motion, an angular forward and backward action to the cutter-bar and cutters.

I do not claim the elevation and depression of the cutter-case and cutters by arms or levers, for that has been done by others; but

I claim—

The employment of the cams and guides S in Fig. 2 for the purpose of giving a forward and backward motion to the cutter-bar and cutters, substantially as set forth.

THOS. B. BUTLER.

In presence of—

EDWIN V. A. CHICHESTER,  
JEREMY W. BLISS.