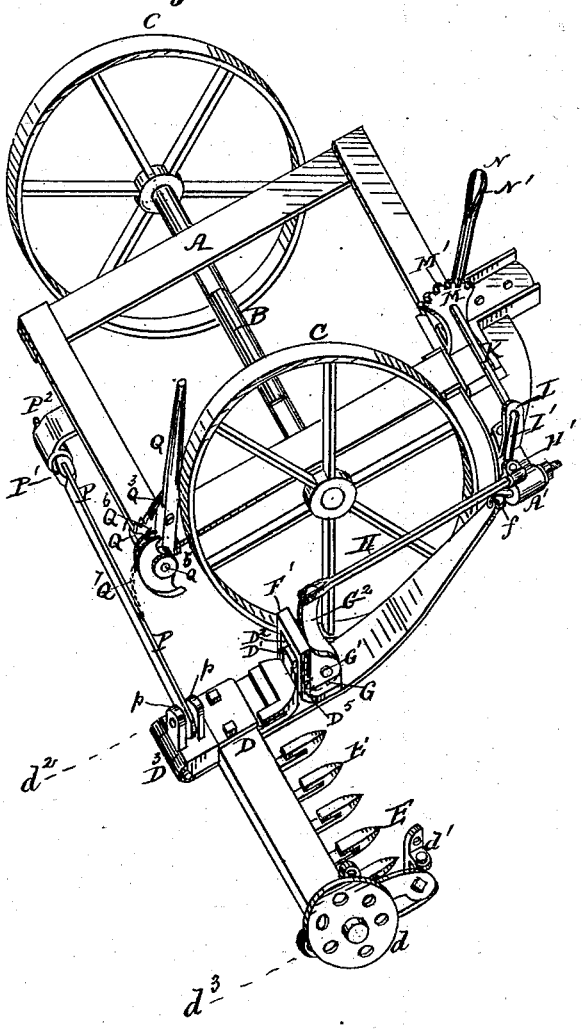
2 Sheets—Sheet 1.

W. S. STONE.

MOWER.

No. 187,493. Patented Feb. 20, 1877.

Fig 1.



Witnesses.
Colborne Brookes
J. B. Holderby.

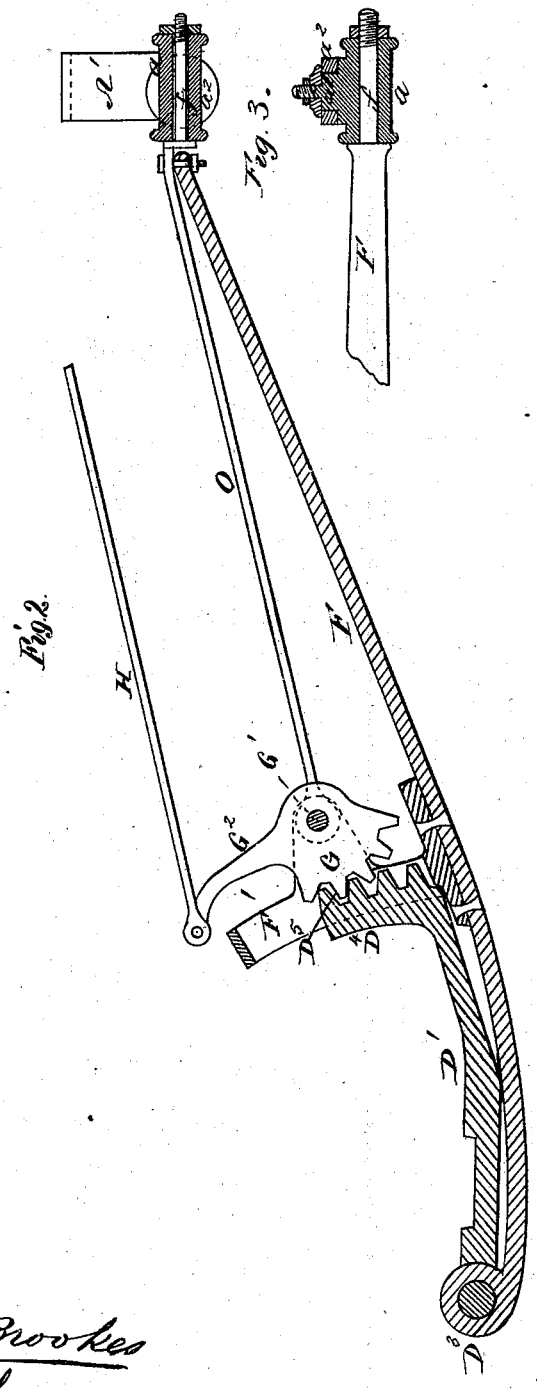
Inventor.
Wm. S. Stone
per R.S. & A. P. Lacey
Attys.

2 Sheets—Sheet 2.

W. S. STONE.

MOWER.

No. 187,493. Patented Feb. 20, 1877.



Witnesses.
Colborne Brookes
J. B Holderby.

Inventor.
Wm. S. Stone
per R.S. & A. P. Lacey
attys

UNITED STATES PATENT OFFICE.

WILLIAM S. STONE, OF NEW PHILADELPHIA, OHIO, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO ENGLISH & DIXON, OF SAME PLACE.

IMPROVEMENT IN MOWERS.

Specification forming part of Letters Patent No. **187,493**, dated February 20, 1877; application filed June 28, 1875.

To all whom it may concern:

Be it known that I, WILLIAM S. STONE, of New Philadelphia, in the county of Tuscarawas and State of Ohio, have invented certain new and useful Improvements in Harvesting-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in mowing and reaping machines; and it consists in improvements in the means of supporting, controlling, and raising and lowering the cutter-bar and guards, the nature of which will be fully explained by reference to the accompanying drawings.

Figure 1 represents a perspective view of apparatus constructed according to my invention. Fig. 2 represents a sectional view of parts, with slight modifications of construction. Fig. 3 is a detail view.

In each of the views similar letters of reference are employed to indicate corresponding parts wherever they occur.

A represents the main framing, which is supported on an axle, B, carried by the wheels C C. D is the cutter-bar; E, the guards, and F the drag-bar.

The cutter-bar D is at one end supported on a wheel, *d*, bracketed to the standard d^1; or it may be provided with a slide and track-clearer, if desired, or other suitable attachment. At the opposite end the cutter-bar D is bolted to an arm, D^1, slotted at D^2, to receive and allow of the free passage of the cutter. This arm D^1 at its rear end is, by means of a hinge, D^3, connected to the rear end of the drag-bar F, while its forward end is provided with a vertical extension, D^4, provided with a segment of teeth, D^5, and arranged to slide vertically in a slotted bracket, F′, affixed to the drag-bar F. G is a segment, affixed to an axle, G^1, pivoted in bearings formed on or affixed to the bracket F′, and caused to partially rotate by means of lever-arm G^2, one end of which is affixed to one end of the axle G^1, while its opposite end is pivoted to one end of a rod, H, the opposite end of which is provided with a bracket-piece, H′, in which it turns freely. The bracket-piece H′ is pivoted to a crank-arm, I, affixed on one end of a shaft, K, carried by bearings L M, the opposite end of which is provided with a handle-lever, N, to which is connected a spring-lever or other equivalent attachment, N′, engaging with the teeth of a rack or segment, M′, formed on the upper surface of the bearing M. The drag-bar F is extended forward and bent upward at its front end, and is connected to a bracket, A′, (carried by the main framing A,) either by means of a hooked rod, *f*, passing through and turning freely in a hole in the extremity of the bracket A′, as shown by Fig. 1; or it is formed with a short axle, *f*, held with capability of turning freely in a sleeve, *a*, formed with a side bearing, a^1, capable of being received and held with capability of turning freely in a bearing, a^2, formed on the end of the bracket A′, as shown by Figs. 2 and 3. O, Fig. 2, is a supplementary drag-bar, connected at one end to the front end of the drag-bar F, and at the other attached to the axle G^1 or other suitable part of the apparatus. The arm D^1, near its rear end, is provided with lugs or projections *p*, to which is pivoted one end of a rod or bar, P, the opposite end of which is pivoted to a bearing-piece, P^1, turning freely in the end of a bracket, P^2, attached to the framing A.

Q is a lever-arm, pivoted to a bracket, Q^1, carried by the framing A, and provided with a segment or rack, Q^2, adapted to engage with a spring arm or catch, Q^3, affixed on the arm Q. Q^4 is a grooved segment, attached to the axis Q^5 of the lever-arm Q, and provided with a hook, Q^6, to which is attached one end of a rope or chain, Q^7, the opposite end of which is connected to the rod or bar P, as shown by Fig. 1, the object of the lever-arm Q, and parts connected therewith, being to raise or lower the rod or bar P, and with it the end d^2 of the cutter-bar D. After the end d^2 of the cutter-bar D has been raised by the lever Q, the end d^3 may be turned up against the framing A, thereby enabling the apparatus to be readily removed from place to place without danger

of damaging, or doing damage by, the cutter-bar D and parts connected therewith, as well as saving space when the apparatus is not in use.

The operation of the apparatus is as follows: The end d^3 of the cutter-bar D having been turned down, and the end d^2 lowered into the position shown by Fig. 1, the cutter-bar D, with its guards E and cutter, may be readily adjusted in position vertically (according to the nature of the ground or the grass or grain to be cut) by the operator or driver without leaving his seat, by simply moving the handle-lever N backward or forward, and, by means of the shaft K, arm I, rod H, and lever G^2, operating the segment G; and, by means of the segment D^5 engaging therewith, raising or lowering the front end of the arm D^2, and with it the cutter-bar D and parts connected therewith.

Having thus described my invention, I would have it understood that I do not claim, broadly, a cutter-bar, D, and guards E, capable of being turned up against the side of the framing A of a mowing or reaping machine; nor do I claim, broadly, a cutter-bar and guards capable of being raised or lowered, or adjusted or "tipped" vertically, by means of a lever and attachments arranged in position to be operated by the driver or operator; but

What I do claim, and desire to secure by Letters Patent, is—

1. A cutter-bar, D, carried by an arm, D^1, hinged or otherwise connected to a drag-bar, F, and raised and lowered by means of a segment or rack, D^5, operated by a segment, G, controlled by levers or rods, substantially as described.

2. The combination, with the cutter-bar D, having guards E, arm D^1, and segment or rack D^5, of the drag-bar F, slotted bracket F′, segment G, rod H, arm I, shaft K, and lever N, substantially as set forth.

3. A drag-bar, F, provided with a bracket, F′, supporting a segment, G, and hinged at D^3 to an arm, D^1, the said bar F being connected at its front end with capability of turning freely in a bearing, A′, and its rear end hinged to one end of a bar or rod, P, the opposite end of which turns freely in a bearing, P′, substantially as shown and described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WM. S. STONE.

Witnesses:
PETER E. HECK,
ASBURY INSLEY.