

W. GAGE.  
Mowing Machine.

No. 15,735.

Patented Sept. 16, 1856.

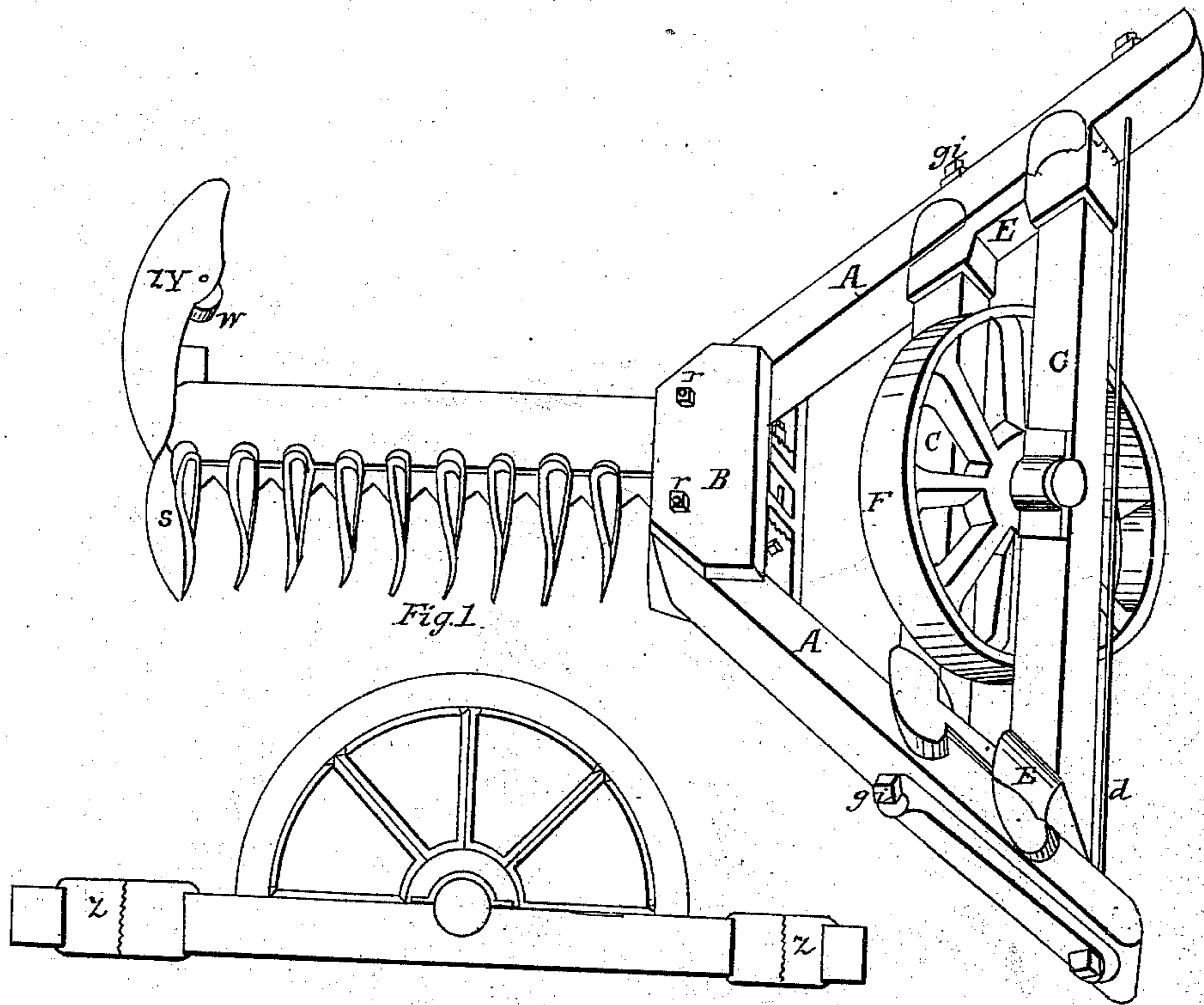


Fig. 2.

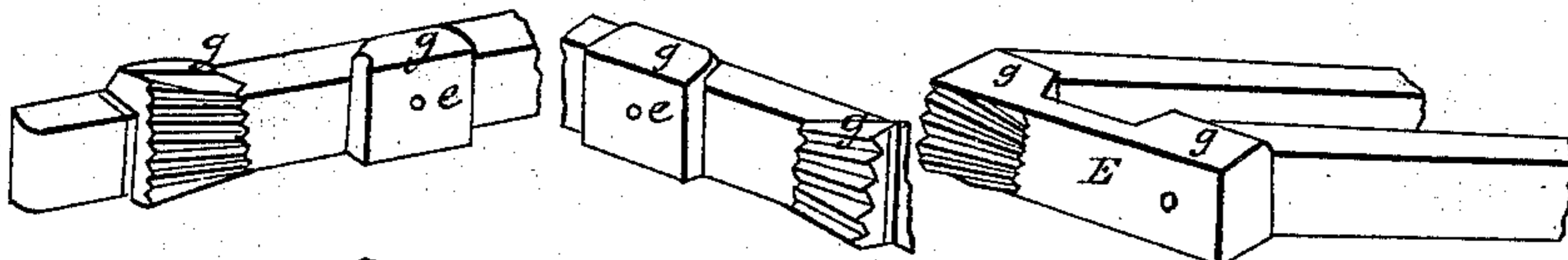


Fig. 3.

Fig. 4.



Fig. 5.

Fig. 6.

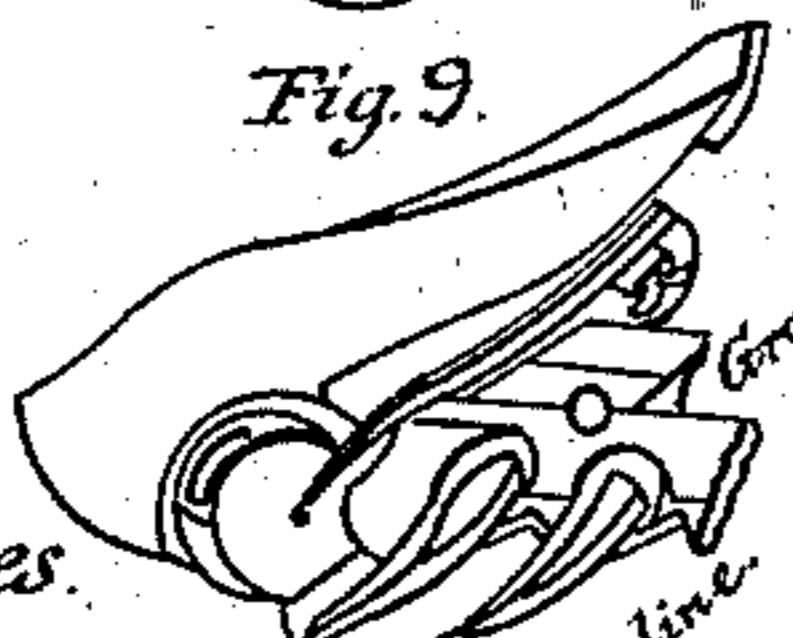
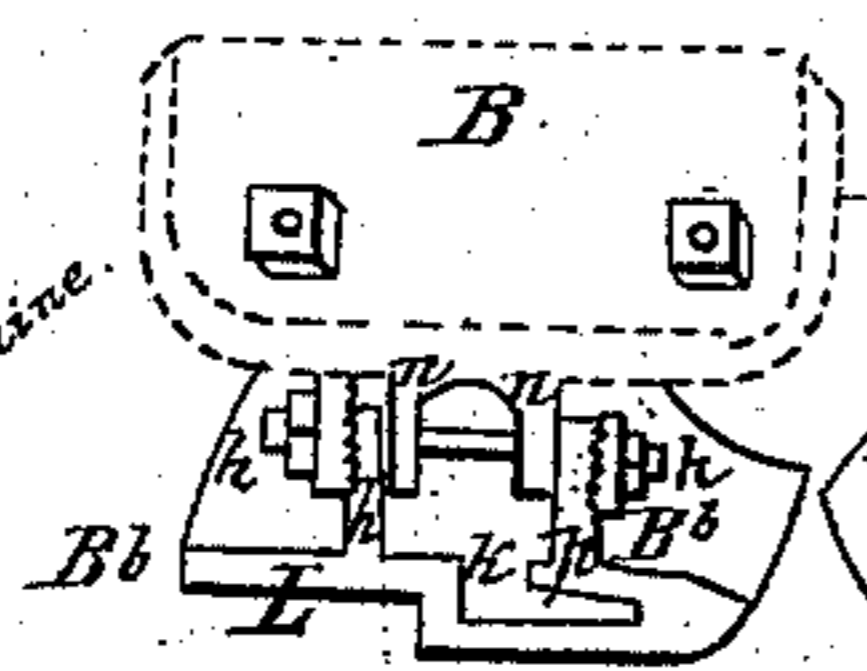


Fig. 8.

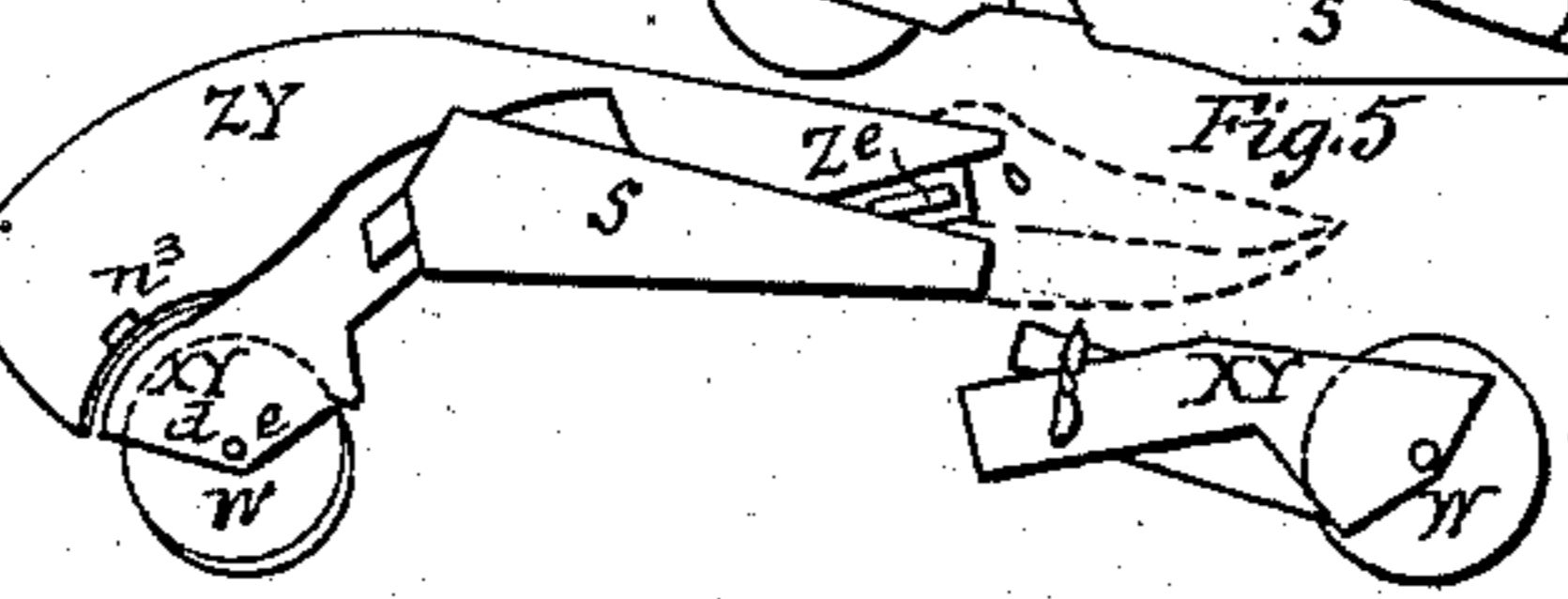


Fig. 9.

Witnesses.

Wm. Gage  
E. B. Torbush

# UNITED STATES PATENT OFFICE.

WILLIAM GAGE, OF BUFFALO, NEW YORK.

## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 15,735, dated September 16, 1856.

*To all whom it may concern:*

Be it known that I, WILLIAM GAGE, of the city of Buffalo, in the county of Erie, in the State of New York, have invented new and useful Improvements in Harvesting-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists—

First, in making a double-adjustable frame—or, in other words, an inside and outside frame—for the support of the driving-wheel, finger-bar, and cutters—the inside frame to support the driving-wheel and the outside frame to support the finger-bar and cutters, the outside frame being made adjustable by turning upon two pivots on the inside frame.

Second, in a compound adjustable and reversible wheel or roller and mold-board for the double purpose of carrying the outer end of the finger-bar and for turning a portion of the cut grass inward from the uncut.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

The outside frame is made in a triangular form, two timbers three by five inches and five feet in length forming two sides of the triangle and a tightening rod or bolt forming the other side or base. Allowing the tightening-rod to be the base, the timbers forming the two sides, the angle of the sides would be about forty-five degrees. The compensating-shoe is supported in the apex of the triangle. These side timbers are represented at A A, Figure 1, and the tightening-rod at d d, and the compensating-shoe at B. The length of the tightening-rod is about five feet, leaving a distance of about four feet between the ends of the timbers on the line of the rod or base. The inside frame is made of two parallel timbers, C C, three by five inches, the one being shorter than the other so as to conform to the angle of the outside frame and set within it. These timbers are bound together at the ends by serrated castings, as represented at E, Fig. 4, and E E, Fig. 1. This frame supports the driving-wheel F, as represented in Fig. 1.

In Fig. 3, at g g is represented the serrated casting which is fastened to the outside frame; g g, Fig. III<sup>2</sup>, the serrated casting which is connected to the inside frame. The serrates

radiate from the center or pivot e. These two castings come in contact when the machine is together. The pivot e is formed in the castings, and is sufficient to hold the outside frame without a bolt; but for greater protection I also put a bolt through, as represented at g i g i, Fig. 1. The outside frame turns upon these pivots or bolts, and by this means may be raised and lowered, and with it the finger-bar and cutters.

The finger-bar and cutters are to be supported by the shoe B in the apex of the frame and used and operated in the position opposite the center of the driving-wheel, as represented in the drawings, Fig. 1. The tightening-rod d d serves to tighten and hold the two frames together at whatever relative angle the outside frame may be put. The object of the serrated castings is to prevent the outside frame from turning on the pivots e or bolts g i g i when the serrates are drawn into each other by the tightening-rod d d. At z z, Fig. 2, these serrated castings or plates are represented as interlocked.

My compensating-shoe is cast in two parts—an upper or plate part and an under or shoe part—and is shown in Fig. 6. B shows a broad plate, which is fastened to the outside frame by means of the two bolts r r. Two ears, n n, project from the under side of the plate for the purpose of receiving the bolt h h and connecting it with the shoe part. The shoe B b has two arms, P P, rising sufficiently to connect with the ears n n. The bolt h h passes through these arms and also through the ears, and forms a joint upon which the shoe may be turned. The arms are serrated upon the outside, and washers are also correspondingly serrated, so that when the bolt h h, Fig. 6, is drawn tight the shoe will be held as placed. A slot, K, is made in the shoe for the heel of the cutter-bar and first cutting-tooth to work in. The heel of the cutters and the end of the connecting-rod working through the open space in the shoe are entirely protected from the loose grass. A recess is made in the shoe for the purpose of receiving the finger-bar, which is shown at L. The finger-bar is bolted to the shoe at this place, and fills the recess and brings the bottom of the finger-bar on a level with the bottom of the shoe. The principal object of this shoe is to enable me to retain the finger-bar and cutters in a horizontal position at

the different heights required for cutting grain. In raising the cutters from their position in mowing to their position in reaping (they being raised in the segment of a circle, the pivots *e e* or bolts *g i g i* being the center) the cutter-bar would be left on an angle upward, inasmuch as to render the machine useless for reaping were it not for the compensating principle of this shoe, by which the cutters can be kept level or in a horizontal position. A circular slot is made in the arms *P P* in order to allow the shoe to turn on the bolt *h h* as much as desired.

In the practical operation of a mowing-machine it is desirable to support a wheel or roller on the outer end of the finger-bar, in order to take the weight of the finger-bar in backing, and also to carry the finger-bar when moving the machine to and from the field. It is also desirable to support some device for the purpose of turning a portion of the cut grass inward from the uncut, sufficient to make a track for the compensating-shoe at the next swath. In order to accomplish these objects I make what I call a "compound adjustable and reversible wheel and mold-board." This device is represented in several positions in Figs. 1, 5, 7, 8, 9, 10. *x y*, Figs. 5 and 7, show a serrated and slotted arm or lever for the purpose of connecting the wheel *W* to the outside shoe, *S*. A circular flange is projected from this arm in order to form a shield or covering for the wheel. This arm *x y* is made of cast-iron. The wheel is also of cast-iron, and may be ten or twelve inches in diameter. The mold-board *z y* may be of sheet-iron or it may be made of cast-iron. It is connected to the arm *x y* by means of the flange and set-screw *n s*.

The arm *x y* is bolted to an arm or projection from the shoe, *S*. It has a long slot in it to allow of its adjustability. It connects with the wheel on the outside and the mold-board connects with the wheel on the inside, so that the wheel is supported by a bolt or axle, *d e*, passing through the arm *x y*, the wheel, and the mold-board *z' y*. The arm *x y* has a circular flange, which projects over the wheel, forming a covering therefor. A similar flange also projects from the mold-board and fits over the flange from the arm. A slot is made in the flange from the mold-board, through which passes a set-screw, *n s*, to the flange of the arm.

The mold-board turns upon the bolt or axle *d e* as a center, and by means of the set-screw *n s* may be held where it is placed. The arm and the mold-board may be turned in opposite directions on the axle, or in similar directions, so as to keep the point of the mold-board on the shoe at whatever height the cutters may be used. A small flange is made upon the point of the mold-board, through which there is a slot, *z e*, for the purpose of fastening it to the shoe and allow of its adjustability.

Fig. 5 represents this device as connected to the finger-bar when the machine is used for mowing. Fig. 7 shows it as connected to the finger-bar when the machine is used for reaping, with the exception that the point of the divider is not brought down to the shoe in order that the slot *z e* may be distinctly shown. In practical use the point of the divider would be brought down to the shoe and fastened by means of a screw passing through the slot *z e* and into the finger-bar.

When the machine is to be moved to or from the field the device is reversed or put upon the outside of the shoe *S*, so as to bring the wheel in line with the finger-bar and the tread of the driving-wheel. It is represented in this position in Fig. 10, the finger-bar being raised above the ground. This position of the wheel is very desirable when the machine is to be moved over the mown grass or moved to any considerable distance in going to or from the field. The two wheels—that is, the driving-wheel and the carrying-wheel *W*—being in line and the finger-bar and cutters being elevated, the machine can be moved with great convenience.

The drawings are on a scale of one and one-half inch to one foot, and will be sufficient to guide a mechanic in ascertaining the relative size and proportion of the improvements herein contemplated.

I claim—

1. Raising and lowering the finger-bar and cutters by means of swinging the outside frame, to which the finger-bar is attached, upon two pivots upon the inside frame, and holding the same where placed by means of the serrated plates *E E*; and tightening rod *d d*, when said frames are constructed and arranged to operate in relation to each other and the driving-wheel, finger-bar, and cutters in the manner and for the purposes set forth.

2. I do not claim a board set edgewise and upon an angle inward, when the same is not combined with the wheel *W* and used for mowing, whether fixed immovably to the finger-bar or hung upon a hinge. Neither do I claim a mold-board or a dividing-board when combined with and fixed on a platform and used for reaping. But I do claim the peculiarly adjustable mold-board *z y*, in combination with the wheel *W* and its supporting-arm *x y*, when used in mowing for the purpose of protecting the wheel and arm from loose grass and preventing its lodgment thereon, when the above parts are constructed and arranged in the manner and for the purposes as herein described.

WM. GAGE.

Witnesses:

E. B. FORBUSH,  
WILLIAM DAVIS.