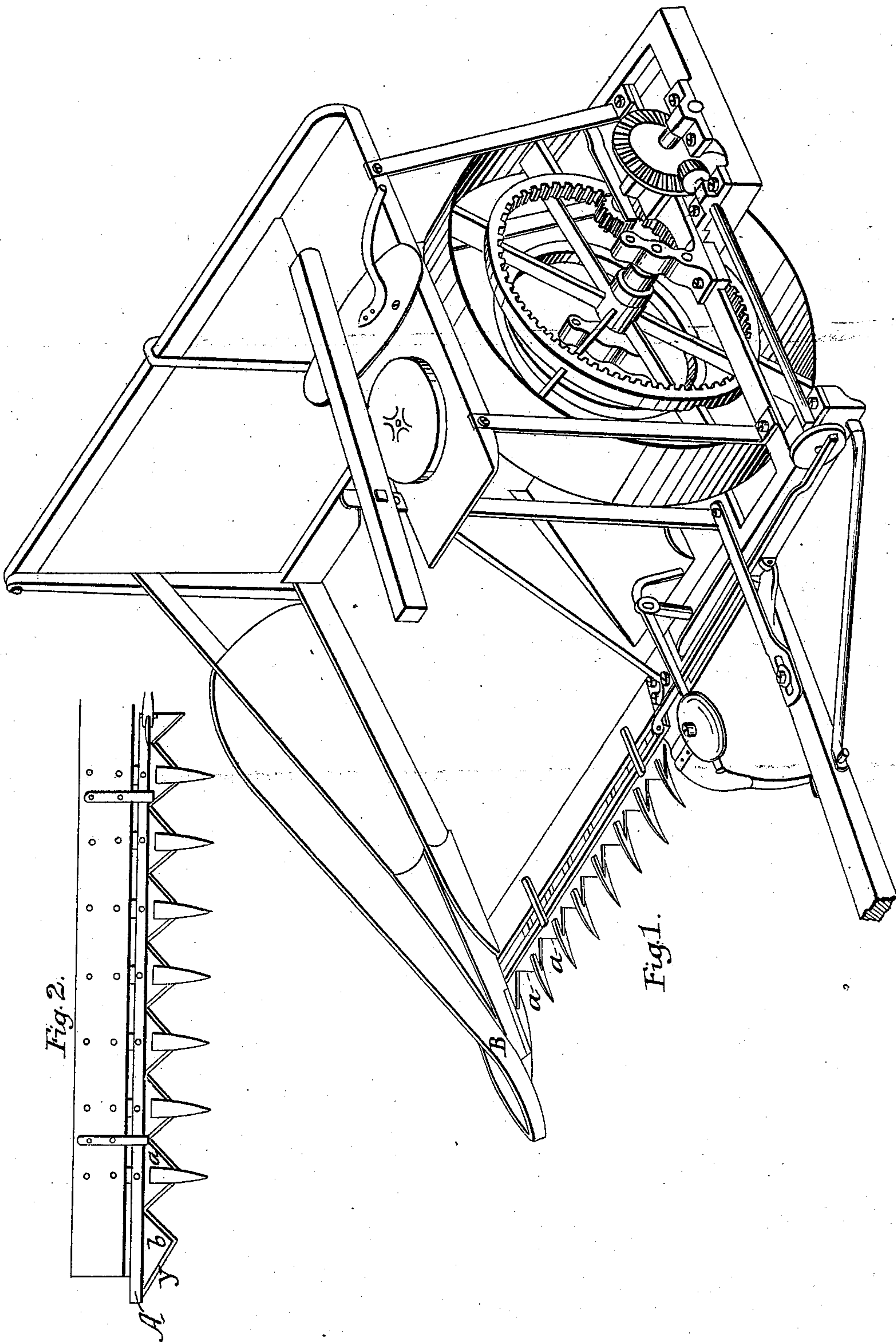


T. HARDING.
Harvester Rake.

No. 19,894.

Patented April 6, 1858.



UNITED STATES PATENT OFFICE.

THOS. HARDING, OF SPRINGFIELD, OHIO, ASSIGNOR TO WARDER, BROKAW
& CHILD, OF SAME PLACE.

IMPROVEMENT IN CUTTING DEVICES FOR REAPING AND MOWING MACHINES.

Specification forming part of Letters Patent No. **19,894**, dated April 6, 1858.

To all whom it may concern:

Be it known that I, THOMAS HARDING, of Springfield, in the county of Clarke and State of Ohio, have invented a certain new and useful Improvement in Reaping and Mowing Machines, of which the following is full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a view in perspective of a machine to which my improvement has been applied, and Fig. 2 a view of a portion of the cutting apparatus detached from the machine to exhibit more clearly the improvement.

In the practical working of harvesting-machines it has been found that when the cutting-edges of the sections of the scalloped knife have been so formed and set as to present the best angle for cutting, the length of play of the knife is insufficient to clear that part of the race formed in the divider. Hence the latter becomes choked up with wire-grass and other foreign matter, thus destroying that freedom of motion so essential to the well working of the knife, and which is not unfrequently the fruitful source of all the strains, bendings, and twistings of the sickle-bar which render the machine inoperative, to remedy which many plans have been essayed—such as attaching clearing-hooks to the end of the sickle-bar, giving increased length to its stroke, &c.—but all of which are more or less ineffectual, costly, and liable to render the working of the machine imperfect. The object of my improvement is for the purpose of providing a new and simple mode of removing these defects; and it consists in so forming the last section of the knife that while its inner edge shall be at the proper angle for cutting the grain between the fingers its outer edge shall be set at such an angle as will prolong it sufficiently to pass through to the outer edge of the divider, and thus not only sever but eject such

grass or other matter as may work into the race of the knife in the divider.

To enable others skilled in the art to make, construct, and use my improvement, I will now proceed to describe it in detail, omitting the description of such parts of the machine as are unnecessary for the full understanding of the present improvement.

In the accompanying drawings, the knife is represented as being made of a series of triangular blades, *a*, riveted to the sickle-bar A, and describing with it on either side an angle of about forty-five degrees as a cutting-edge, with the exception of the last one, *b*—i. e., the section or blade on the end of the sickle-bar A—which, while its edge *x* on the inside of the divider B describes a similar angle to the sickle-bar A as the others for the purpose of cutting, has its other edge, *y*, prolonged or set at an angle of thirty degrees, more or less, according to the width of the divider—that is to say, if the breadth of the divider is very great the angle will be less, and vice versa, the principle being to make that edge long enough and with an angle sufficient as well to cut as to eject such grass or other matter as may work into the knife-race, for which purpose, if necessary, the distance from the apex to the base-line may be increased.

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

The arrangement on the end of the sickle-bar A next the divider of a cutting and clearing section, *b*, as constructed, and for the purposes set forth.

In testimony whereof I have hereunto set my hand this 6th day of April, A. D. 1857.

THOMAS HARDING.

Witnesses:

ROSS MITCHELL,
GIDEON SMITH.