

*E. P. Russell,*  
*Mower.*

N<sup>o</sup> 3,010  
34,014.

*Patented Dec. 24. 1861.*

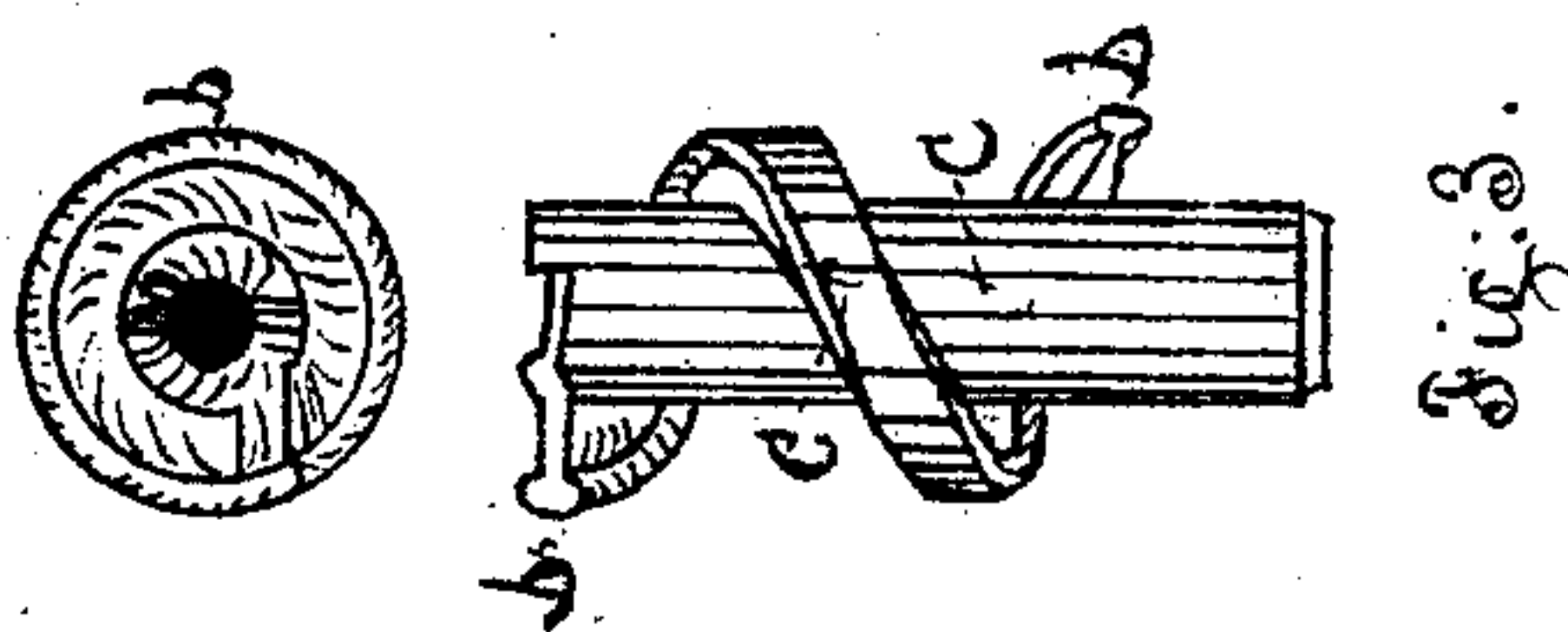


Fig. 3.

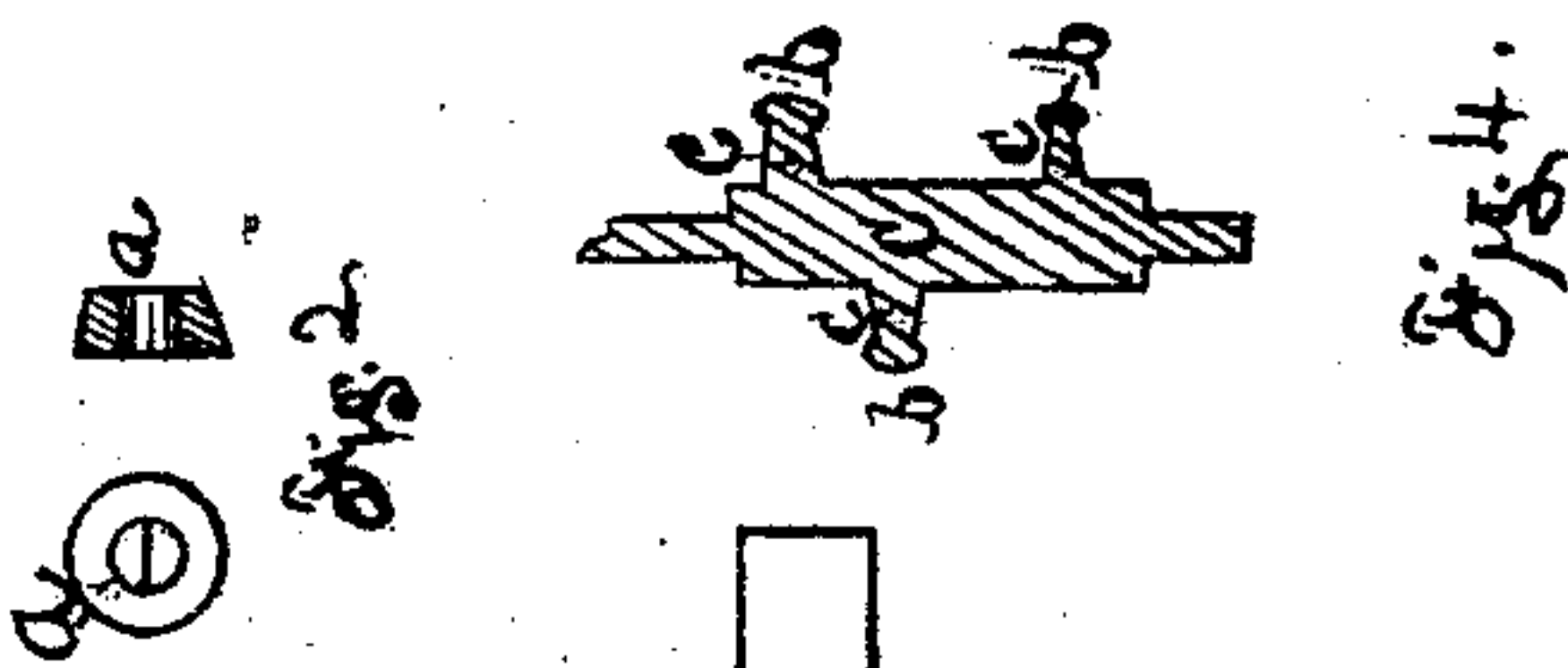


Fig. 4.

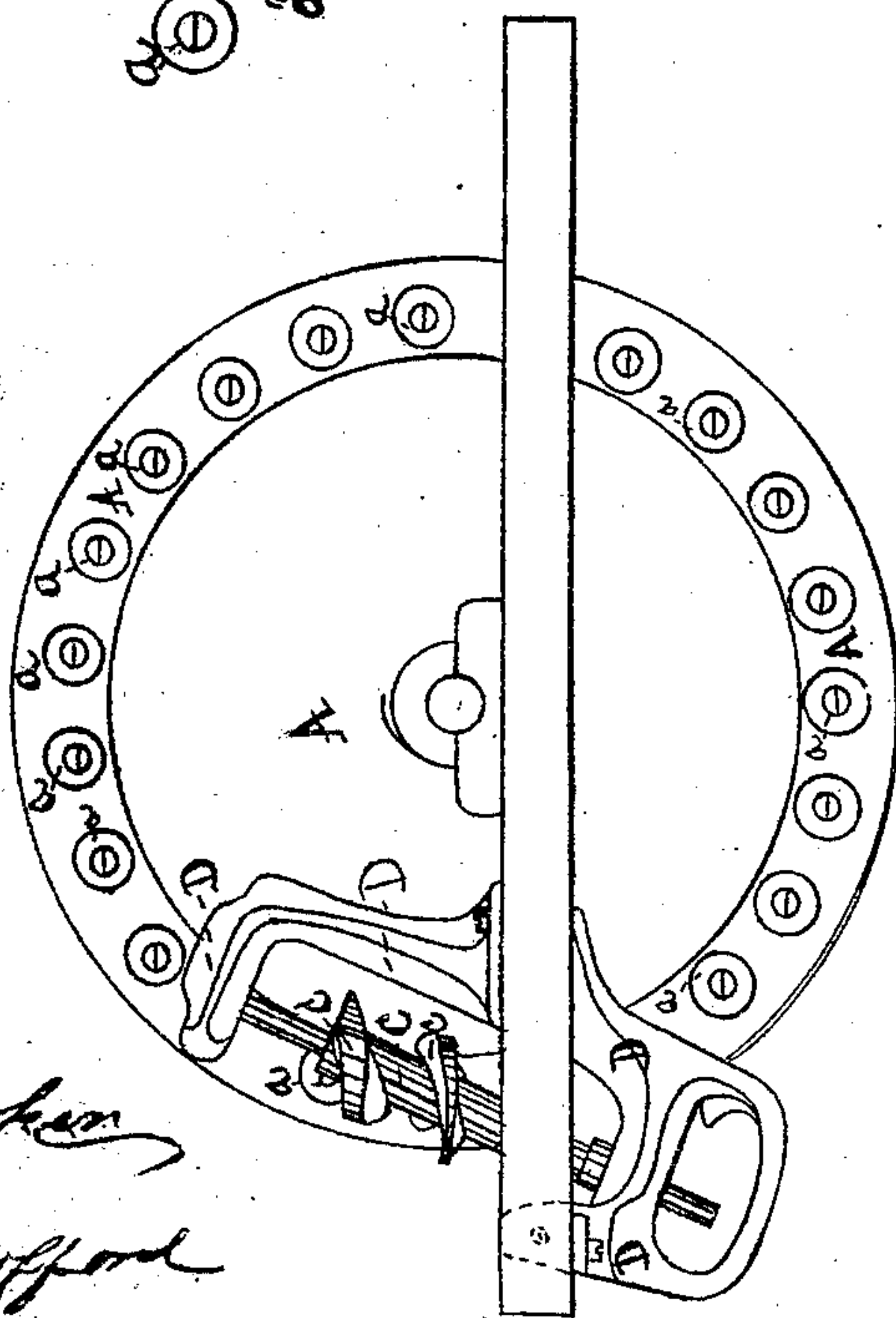


Fig. 1.

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per. Atty. *Cayton & Son*

Witnesses { *John S. Barker*  
*J. W. Spofford*

# UNITED STATES PATENT OFFICE.

E. P. RUSSELL, OF MANLIUS, NEW YORK.

## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 34,014, dated December 24, 1861.

*To all whom it may concern:*

Be it known that I, E. P. RUSSELL, of the town of Manlius, county of Onondaga, and State of New York, have invented new and useful Improvements in the Means for Operating Harvester-Cutters and for other Purposes; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, in which drawings the same letters in each refer to like parts of the machine.

Figure 1 is a side elevation. Fig. 2 is a view of the screw, having a bead or oval on the flange of the same, both above and below and near the outer edge of the flange. Fig. 3 is a view of one of the conical rollers. Fig. 4 is a vertical section of the screw, Fig. 3.

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

In the construction of my invention, A is the driving-wheel, on the face of which are placed conical friction-rollers *a*. I form an oval or bead, *b*, as seen in Figs. 3 and 4, on the flange *c*, near its outer edge. The object of this bead is to make a much less bearing-point for the roller, and as it brings the pressure close to the outer edge of the flange or screw tends to increase the power of the same.

B is the vertical shaft of the screw or flange *c*. This flange is made tapering from the top to the bottom of the same, to facilitate the process of casting, as because of this taper it comes out of the sand much easier than if of equal size from top to bottom, and is for no other purpose. This screw or flange is beveled or tapered from the shaft B to its outer edge, making it broader at its side next the shaft than at its outer edge, so as to fit it to the conical rollers as they operate on it.

The rollers *a* are made conical, the base end being placed next the face of the driving-wheel A.

C is the frame, to which is attached the driving-wheel A and the frame D, which serves as the bearings of the screw-shaft B. I do not claim anything on these. Therefore I deem it unnecessary to further describe the same.

In the operation of my invention, power being imparted to the machine, it is communicated to the cutters by means of the conical rollers *a* operating on the flange *c* of shaft B, and as these rollers pass up or down on the flange, (which depends on where the cutters are placed in relation to the driving-wheel,) whether before or behind it, the shaft revolves, and by means of a crank on its lower end, to which the cutters are connected, the cutters are made to vibrate.

In Fig. 3 is shown the screw with the bead *b* on both the top and bottom of the flange. I may find it preferable to use the flange with the bead on one side only.

I am aware that imparting motion to the cutters of harvesters by means of the screw and pins on the face of the driving-wheel is not new, as this device was secured to James Haviland by Letters Patent dated September 1, 1857. Therefore I do not in this application claim such a device; but

What I claim is—

1. The conical rollers, in combination with the oval or bead on the flange, as set forth and described.

2. The oval or bead on the flange *c*, either without or with the bevel from the shaft to the edge of the flange, as set forth and described.

E. P. RUSSELL.

Witnesses:

EDM. F. BROWN,  
T. G. CLAYTON.