

# H. R. Russell, Mower.

N<sup>o</sup> 39,780.

Patented Sep. 1. 1863.

Fig. 3

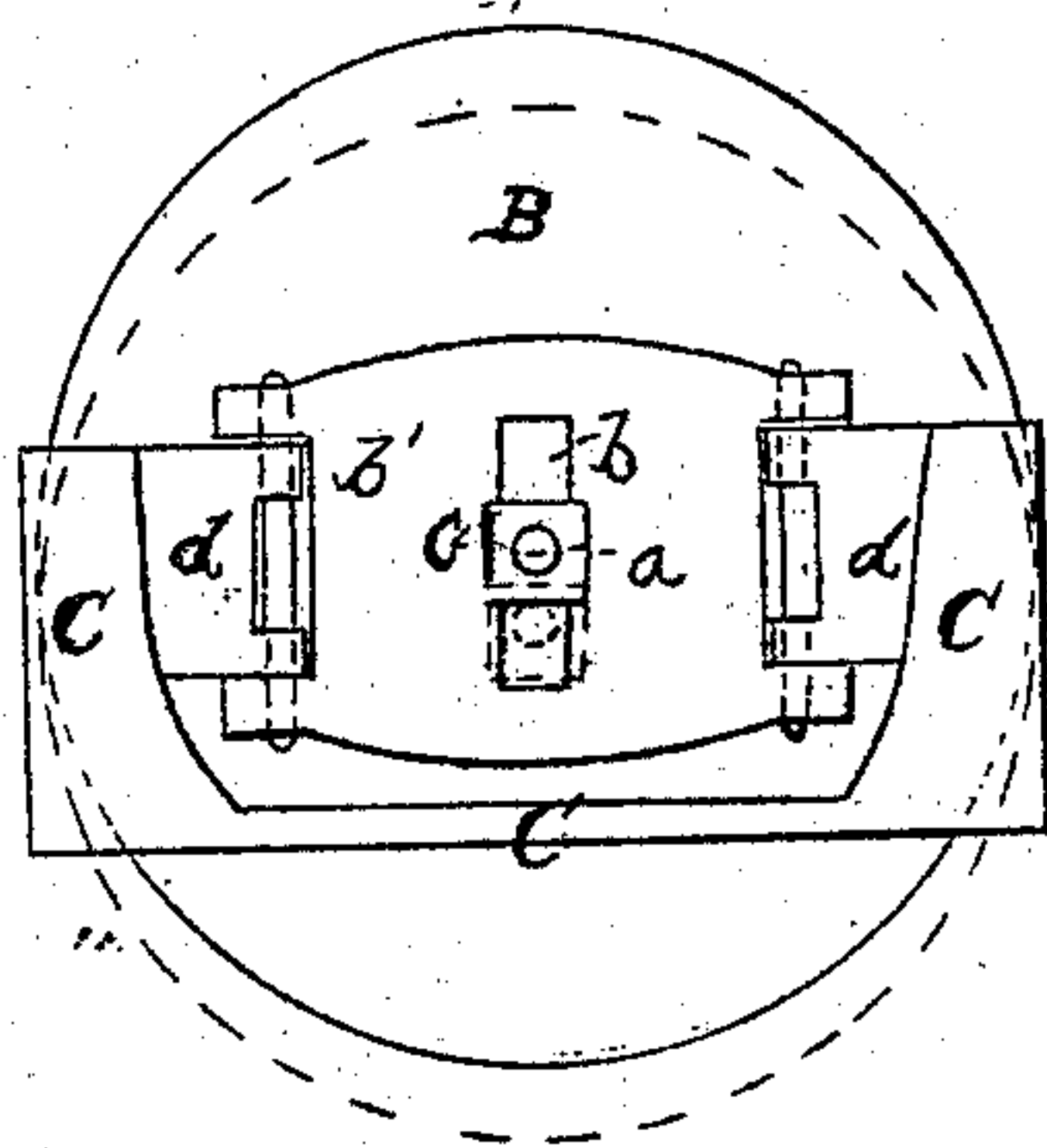


Fig. 1

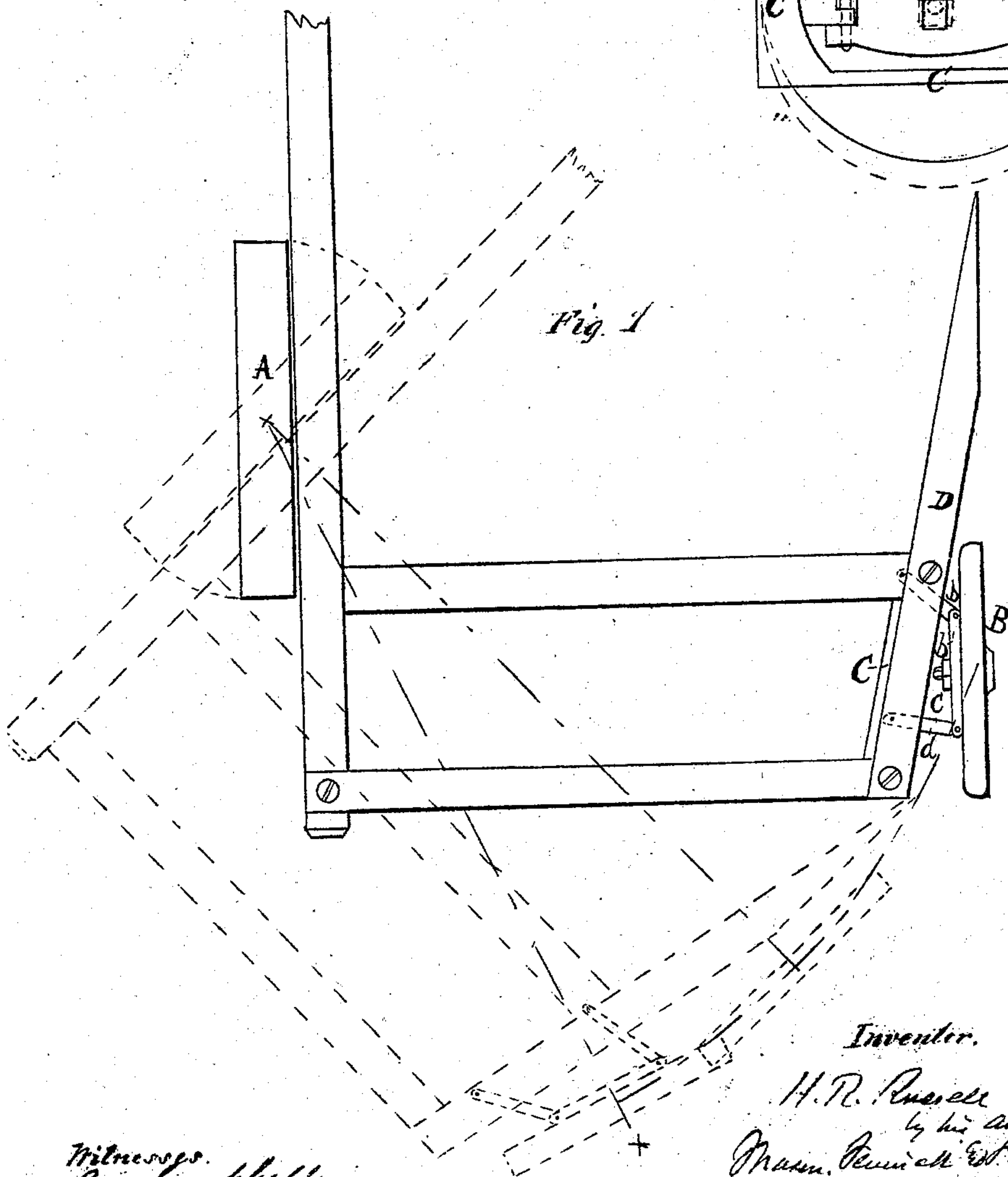
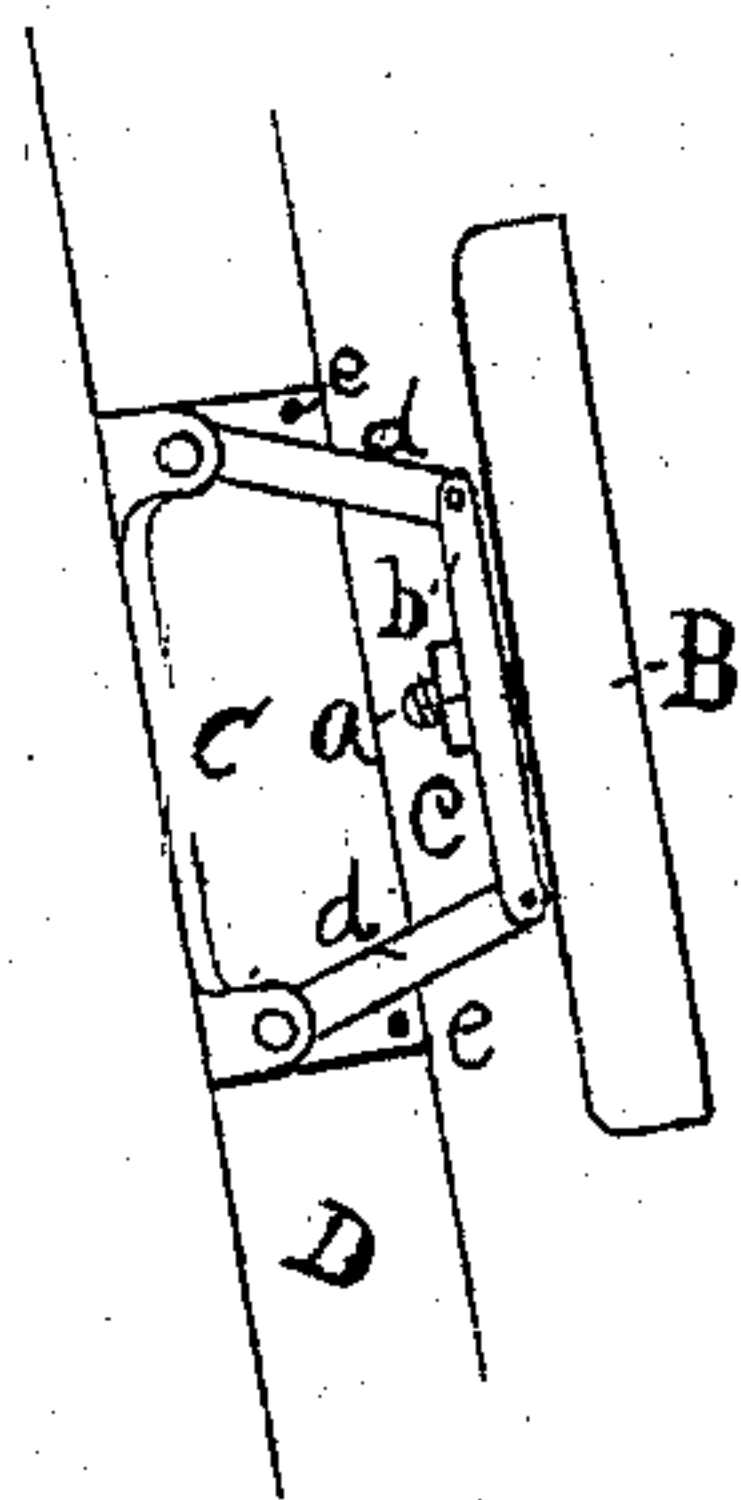


Fig. 2



Inventor.

H. R. Russell

by his atty.

Mass. Penn. Ill. N.Y.

Witnesses.  
R. Campbell  
E. Schaffer

# UNITED STATES PATENT OFFICE.

HENRY R. RUSSELL, OF NEW MARKET, MARYLAND, ASSIGNOR TO HIMSELF  
AND ISAAC S. RUSSELL, OF SAME PLACE.

## IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. 39,780, dated September 1, 1863.

*To all whom it may concern:*

Be it known that I, H. R. RUSSELL, of New Market, in the county of Frederick and State of Maryland, have invented a new and Improved Device for Facilitating the Turning of Harvesting-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents my invention applied to the frame of a harvester. Fig. 2 is a bottom view of the device, and Fig. 3 shows the same enlarged in a vertical elevation.

Similar letters of reference indicate corresponding parts in the three figures.

This invention relates to a device which is intended to take the place of the common caster-wheels hitherto used in reaping and mowing machines, the object of which device is to facilitate the turning of machines wherein the outer supporting-wheel is arranged out of a line coinciding with the axis of the driving-wheel, and also to prevent the tilting of the platform in turning at corners.

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

The wheels which are applied to the outer end of the platform, or at the end of the cutting apparatus, are either applied to axles which are rigidly fixed to the machine at these points, or, what is most common, a caster-wheel is used as an outer support. In the former instance, and where it is practicable to arrange the small wheel directly opposite to the main driving-wheel, there is very little or no tilting of the machine in turning corners; but where it is necessary to use the caster-wheel, or to arrange the plain wheel in rear of the driving-wheel, there is great difficulty experienced in turning the machine at corners, as the wheels drag and plow up the earth, in consequence of their being set out of line with the center of motion of the machine, and incapable of accommodating themselves to the sweep of the machine; or, when this is not the case, the caster-wheels (when these are used)

are thrown so far from their point of support that the machine is tilted backward.

The drawings represent my invention applied to the frame-work of a common harvesting-machine, in which one large driving-wheel, A, is used, with one small wheel, B, for supporting the "outer" end of the platform, which wheel may be made of any desirable diameter, as my invention does not limit its size. The axle *a* of this wheel B passes through an oblong slot, *b*, in a horizontal plate, *b'*, and receives on its inner end a nut, *c*, which is used to secure the axle *a* rigidly to this plate *b'*, and also to loosen the axle when it is desired to adjust the outer end of the frame of the machine higher or lower. To the ends of the vertically-slotted plate *b'* are hinged two plates or wings, *d d*, the opposite ends of which are again hinged to a bracket, C, which is bolted rigidly to the "dividing-beam" of the frame of the machine, as shown clearly in Fig. 3. This bracket-plate is underneath of beam D, and it is furnished with two stop-pins, *e e*, one at each corner of the horizontal portion of the plate, which control the extent of motion (vibration) of the two hinged wings *d d*, and prevent the circumference of the wheel B from coming in contact with the beam D in turning the machine short around. These swinging plates *d d* allow the wheels B to assume a position which is in a plane parallel to the side of the large driving-wheel A when the machine is drawn forward in a straight line; but in turning the machine at corners this wheel B will assume the position indicated by the red lines, Fig. 1. Then when the machine starts off again the plates *d d* will allow the wheel B to take its former position.

Thus it will be seen that by the application of a very simple device the outer supporting-wheel, B, will accommodate itself to the circular movements of the machine, and as the vibration of the plates *d d* is so very slight in comparison to that of a caster-wheel the horizontal position of the platform will not be materially affected by the change of position of the wheel B.

Having thus described my invention, what



I claim as new, and desire to secure by Letters Patent, is—

1. The application to harvesting-machines of an outer supporting-wheel, B, connected to the frame of the machine by means of hinged plates *d d*, and a plate, *b'*, operating substantially as and for the purposes described.

2. Attaching the wheel B to a vertically-

slotted and hinged plate, *b'*, whereby the adjustment of the frame of the machine and the vibrating motion of the axle of wheel B are obtained, substantially as described.

HENRY R. RUSSELL.

Witnesses:

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ELIAS MOUNT.