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J. HARRIS.

HARVESTER.

No. 177,241. Patented May 9, 1876.

Fig 1.

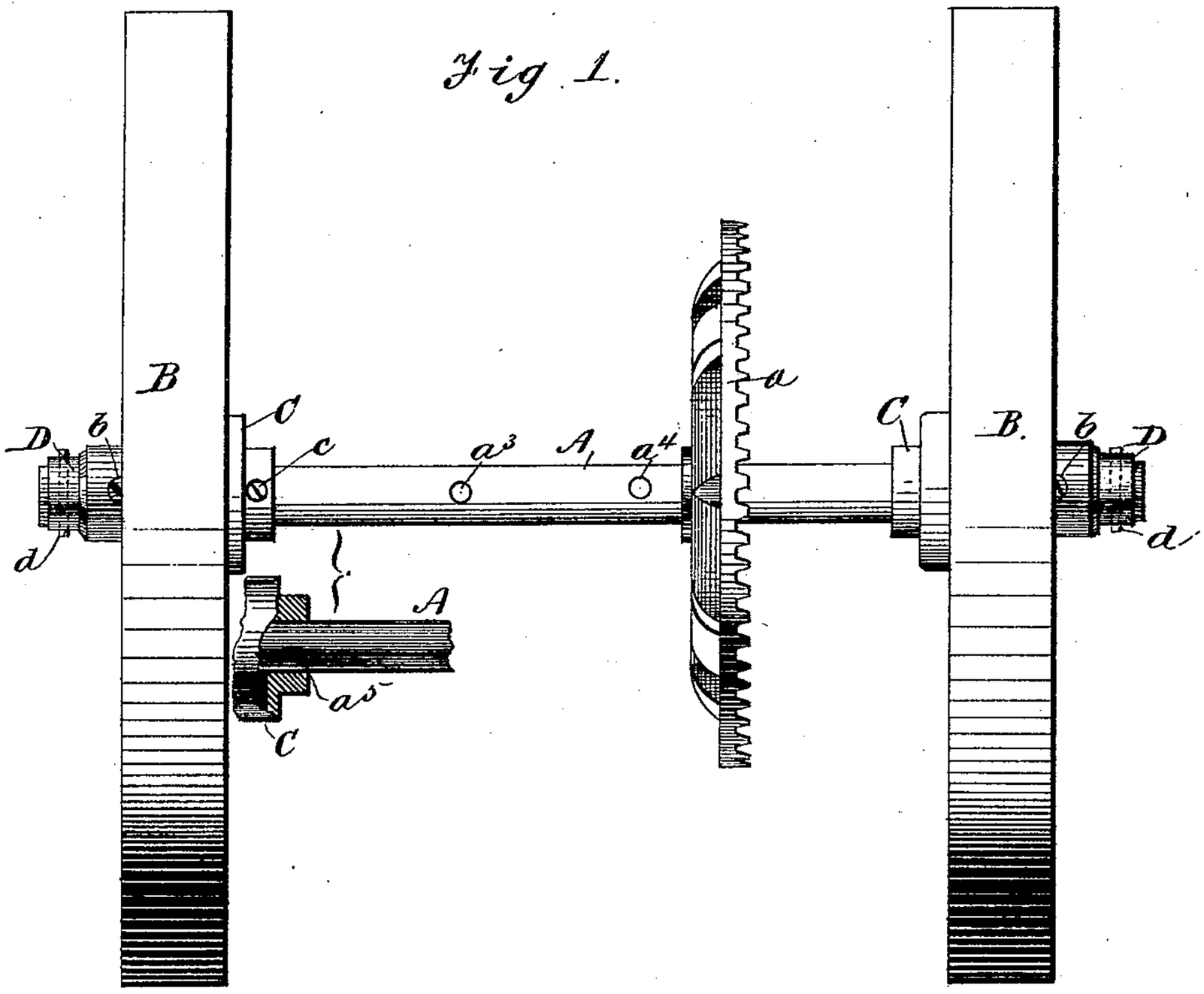
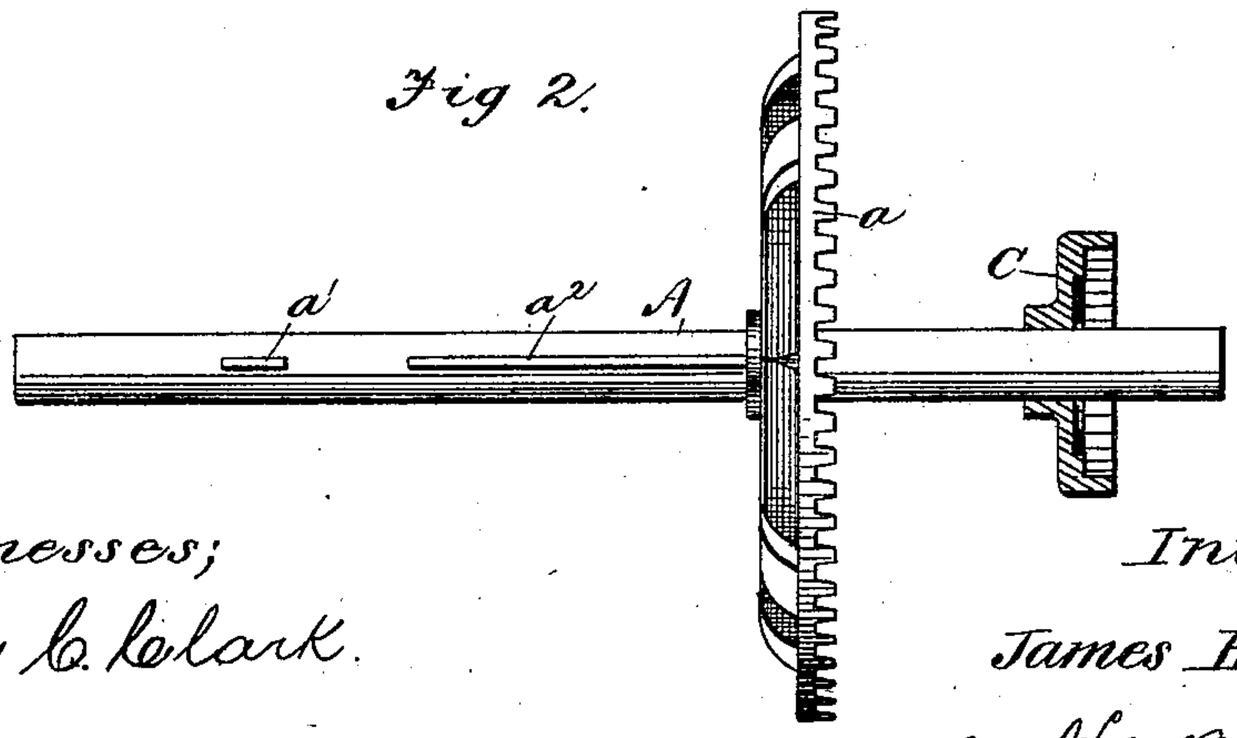


Fig 2.



Witnesses;

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Willie Clark.

Inventor.

James Harris.

by H.W. Beadle & Co.

Attys.

2 Sheets—Sheet 2.

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HARVESTER.

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Fig 3.

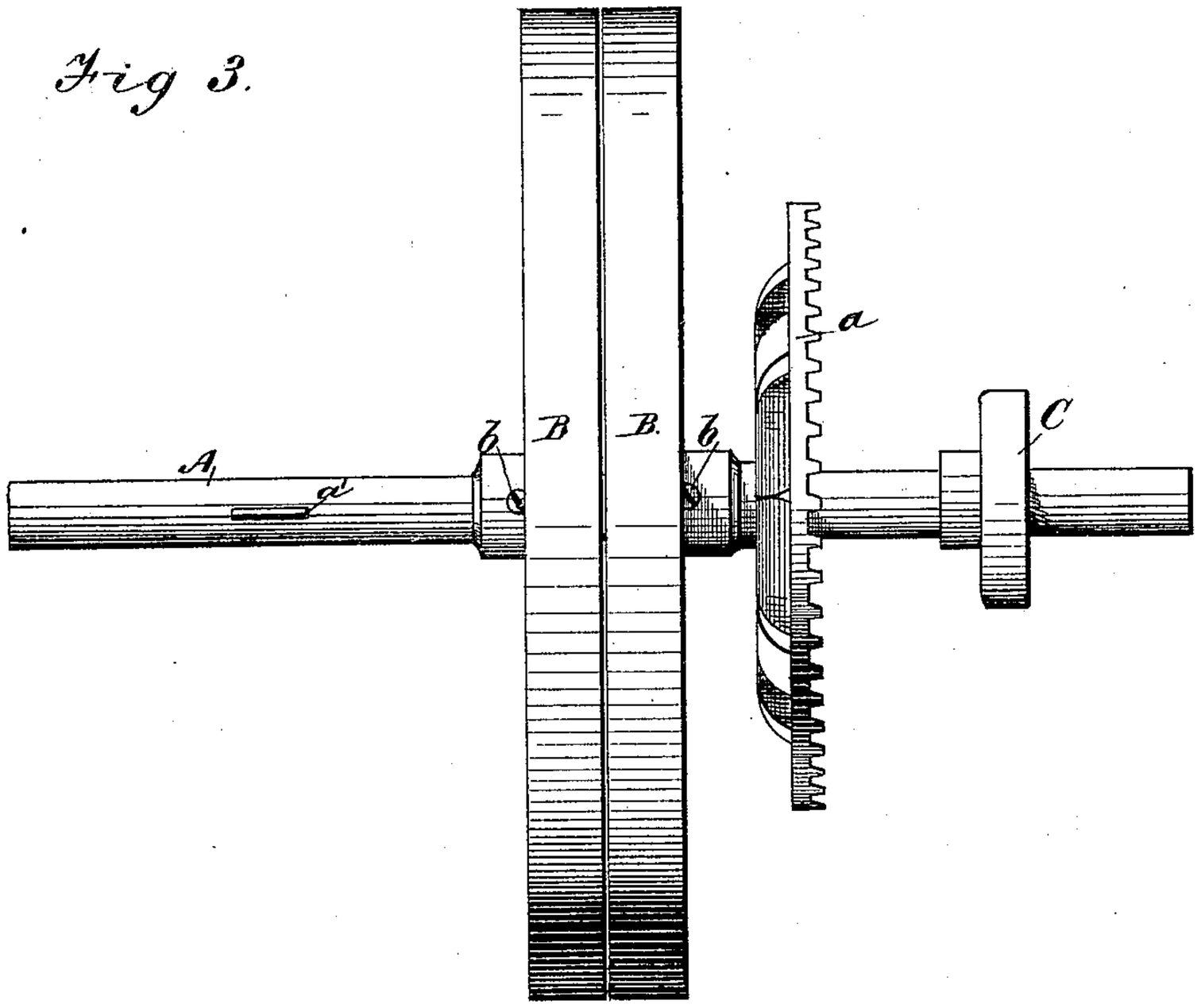


Fig 4.

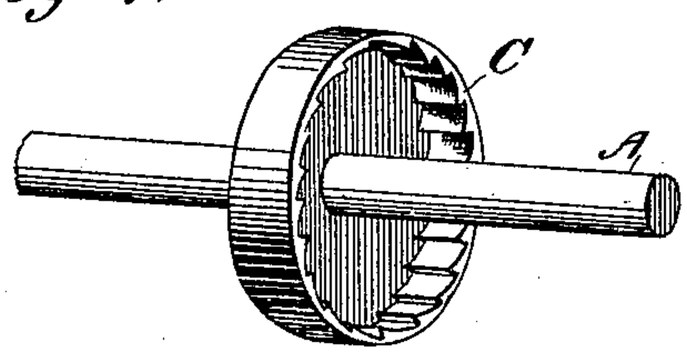
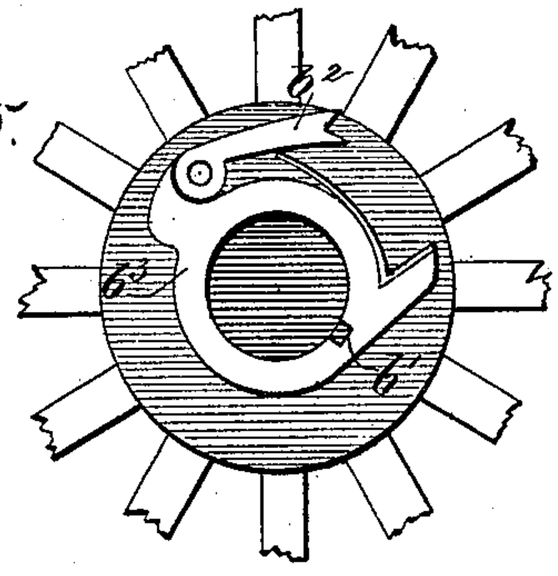


Fig 5.



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UNITED STATES PATENT OFFICE.

JAMES HARRIS, OF JANESVILLE, WISCONSIN.

IMPROVEMENT IN HARVESTERS.

Specification forming part of Letters Patent No. **177,241**, dated May 9, 1876; application filed January 29, 1876.

To all whom it may concern:

Be it known that I, JAMES HARRIS, of Janesville, in the county of Rock and State of Wisconsin, have invented a new and useful Improvement in Harvesters; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention consists, broadly, in the combination of the main axle of a harvester with two supporting-wheels, adapted for use independently in the ordinary manner, or to be united and serve as one wheel, with a broad tread, as will be fully described hereinafter.

In the drawings, Figure 1 represents an elevation of the axle with the wheels located at its ends; Fig. 2, a similar view of the axle without the wheels; Fig. 3, a similar view, with the wheels united in the center, and Figs. 4 and 5 views of the clutch mechanism.

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

A represents the main axle, constructed, generally, in any proper manner, and provided at any suitable point with a main gear-wheel, *a*, as shown. It has also the splines or feathers a^1 a^2, and the set-screw recesses a^3 a^4 a^5, as shown. B B represent independent driving-wheels, the hub of each of which is provided with a set-screw, *b*, a longitudinal feather-groove, b^1, Fig. 5, and a spring-pawl, b^2 b^3, as shown. C C represent clutch-boxes, one of which is rigidly fixed to the shaft, and the other securely held by a set-screw, *c*, as shown in Fig. 1, each of which has internal ratchet-teeth, adapted to engage with the spring-pawl on the wheel in the usual well-known manner. D D represent collars, and *d d* linchpins, by means of which the hubs are held against lateral displacement.

When the wheels are used independently at the ends of the shaft, they do not differ essentially from other wheels, their motion in a forward direction being communicated to the main axle through the medium of the clutch-boxes, in the usual well-known manner. When it is desired to unite them to serve as a single wheel, having a broad tread, it may be accomplished in the following manner: The wheels are first taken off, by drawing the linchpins and removing the collars. The removable clutch-box is also taken off, so that the axle is entirely clear upon one side of the gear-wheel, as shown in Fig. 2. One of the driving-wheels is then slipped upon the feather of the shaft, and placed with the outer end of its hub in contact with the gear-wheel. The other wheel is then placed against the first, in such a manner that the rims coincide, as shown in Fig. 3, and then secured against lateral displacement. When thus arranged the wheels form, for all practical purposes, a single wheel with broad tread.

I do not limit myself to the precise construction shown. The gear-wheel may, if desired, be cast directly upon, or be attached to, any one of the driving-wheels. The axle, also, may be made stationary, if desired, and the wheels be caused to revolve thereon. It is not essential, either, that both wheels serve as driving-wheels, when united, as one may serve for the driving-wheel, the other furnishing simply a bearing-surface.

If desired, the wheels when united may be rigidly bolted together. Also, the wheels may act, when united, through the medium of a clutch-dog or clutch-dogs, as they do when separated. If desired, also, they may be clutched to the gear-wheel, or other casting secured to the shaft, instead of being connected thereto by a feather; or they may be united by drilling suitable holes and inserting fastening-pins.

The special advantage of this invention is, that by means of the construction described, the wheels may be used independently at the ends of the shaft when the combined machine is set up as a mower, and also united to serve as a single-wheel with broad tread when the machine is set as a reaper—results readily appreciated by practical agriculturists.

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

1. The combination of the main axle of a harvester and two independent wheels, adapted substantially as described, to serve as a single wheel with a broad tread, as set forth.

2. The combination of the removable wheels

B B, having set-screws *b b*, with the main axle, having recesses for the set-screws, substantially as described.

3. In combination with a main axle and removable wheels, substantially as described, a clutch-casting adapted to act with one of the wheels, when these are separated, and capable of removal, to clear the axle on one side to permit the wheels to be placed together, as set forth.

4. The combination of the main axle, having a feather with the longitudinally-grooved removable wheels, and securing-screws, as described.

5. An axle, adapted substantially as described, to hold its supporting-wheels at its ends and center, as and for the purpose set forth.

Specification signed and witnessed this 24th day of January, 1876.

JAMES HARRIS.

Witnesses:

PLINY NORCROSS,

H. A. STONE.