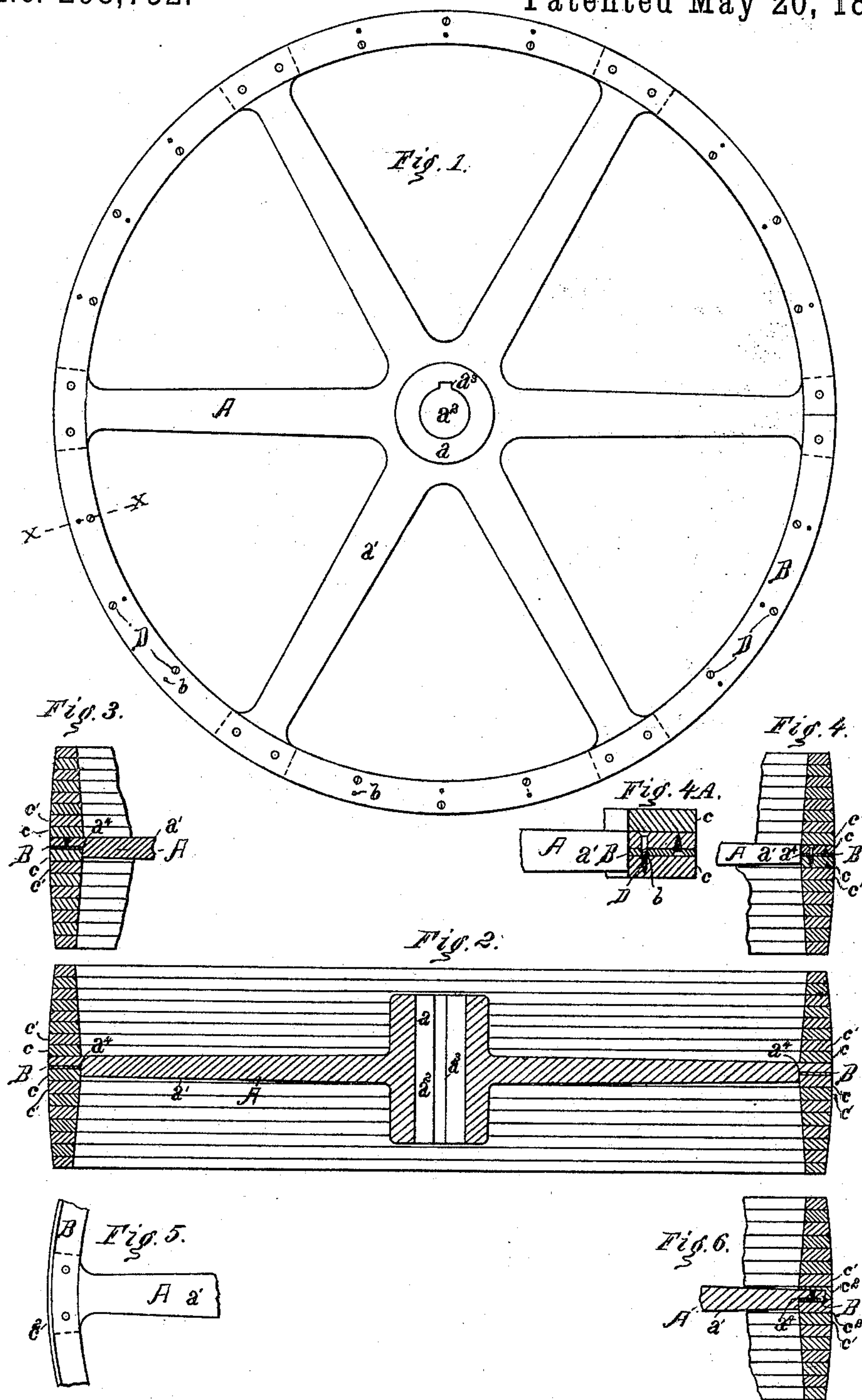


(No Model.)

A. CLARKE.  
WOOD RIM PULLEY.

No. 298,732.

Patented May 20, 1884.



Witnesses -

Kirkley Hyde.  
Edward W. Thompson.

Inventor -

Alfred Clarke,  
By Albert M. Moore,  
His Attorney.



# UNITED STATES PATENT OFFICE.

ALFRED CLARKE, OF LOWELL, MASSACHUSETTS.

## WOOD-RIM PULLEY.

SPECIFICATION forming part of Letters Patent No. 298,732, dated May 20, 1884.

Application filed November 5, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, ALFRED CLARKE, a citizen of the United States, residing at Lowell, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Wood-Rim Pulleys, of which the following is a specification.

My invention relates to improvements in wood-rim pulleys, the object of which is to prevent the rim from being warped out of shape by the shrinking and swelling of the wood.

In the accompanying drawings, Figure 1 is a side elevation of a spider, of the flat ring attached to the outer ends of the arms of the same, and the inner wooden fellies attached to said ring by screws; Fig. 2, a horizontal central section of the same; Fig. 3, a section through one of the rivets; Fig. 4, a section on the line X X in Fig. 1; Fig. 4<sup>A</sup>, an enlarged view of the same; Fig. 5, an elevation of the outer end of the arm, ring, and felly; Fig. 6, a section of the outer end of the arm, showing the lagging overlapping the ring.

A is a metallic spider, preferably of cast-iron, and having a hub, *a*, and radial arms *a'*, the hub having a central opening, *a*<sup>2</sup>, to receive its shaft, and (if the pulley is to be used as a fast pulley) a key-seat, *a*<sup>3</sup>, to receive a spline to secure it to the shaft, all as usual, except the outer ends of the arms. The outer ends of the arms *a'* are rabbeted at *a*<sup>4</sup>, to form a seat for a flat ring, B, of wrought metal, preferably iron. This ring B is punched whole out of a plate or sheet of metal, or is bent from a flat strip of the same into the form of a ring, and is secured in place by rivets or screws passing through the sides of the ring into the arms, the flat faces of the ring being at right angles to the axis of the spider, and the ring being concentric with the hub. This ring B serves as a rim-foundation to support wooden fellies *c c*, which are held to said ring by ordinary wood-screws, D, passing through holes *b b*, drilled or punched at suitable intervals in the ring B. To the inner wooden fellies, *c c*,

thus secured to the ring B, are attached other wooden fellies, *c' c'*, by brads, nails, or screws, and glue, and the rim when thus completed is turned true in the usual manner.

If desired, one or both of the inner fellies or lags may be rabbeted, as shown at *c*<sup>2</sup> in Fig. 6, and extended beyond the ring to allow the rim to be turned up more readily. The difficulties to be overcome in making a wood-rim pulley grow out of the liability of the wood to shrink and expand, which shrinking and expanding are to a very great extent prevented by securing the wooden fellies to a metallic ring of sufficient rigidity, and if, in addition, the joints between the ends of the lags or outer fellies are properly broken the shrinking of the fellies will not affect the general shape of the pulley. The metallic ring may be in parts, each part extending from center to center of adjacent or non-adjacent arms of the spider.

I claim as my invention—

1. The combination of a metallic spider and a flat annular metallic rim-foundation, and means of securing said rim-foundation to the outer ends of the arms of said spider, as and for the purpose specified.

2. The combination of a metallic spider having the outer ends of its arms provided with rabbets, as herein described, and a flat metallic ring secured in said rabbets, as and for the purpose specified.

3. A pulley having a metallic spider, a flat metallic ring secured to the outer ends of the arms of said spider, and wooden fellies secured to said ring, as and for the purpose specified.

4. A pulley having a metallic spider, a metallic ring secured to the outer ends of the arms of said spider, and wooden fellies or lags secured to said ring, the innermost fellies being rabbeted and overlying the outer edge of said ring, as and for the purpose specified.

ALFRED CLARKE.

Witnesses:

ALBERT M. MOORE,  
KIRKLEY HYDE.