

RACE & HOLLY.

Hub.

No 12,317.

Patented Jan 30, 1855.

Fig. 1.

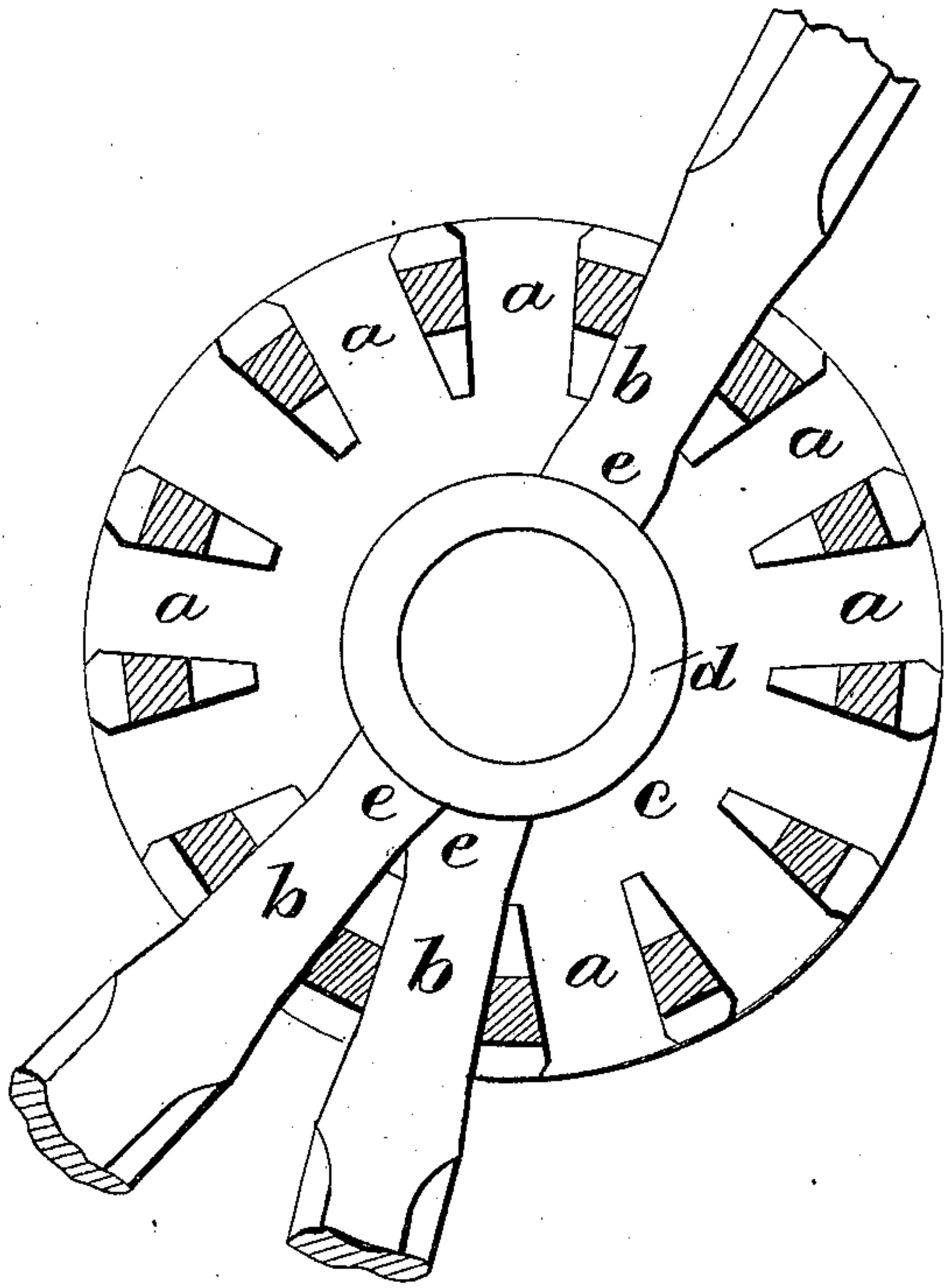
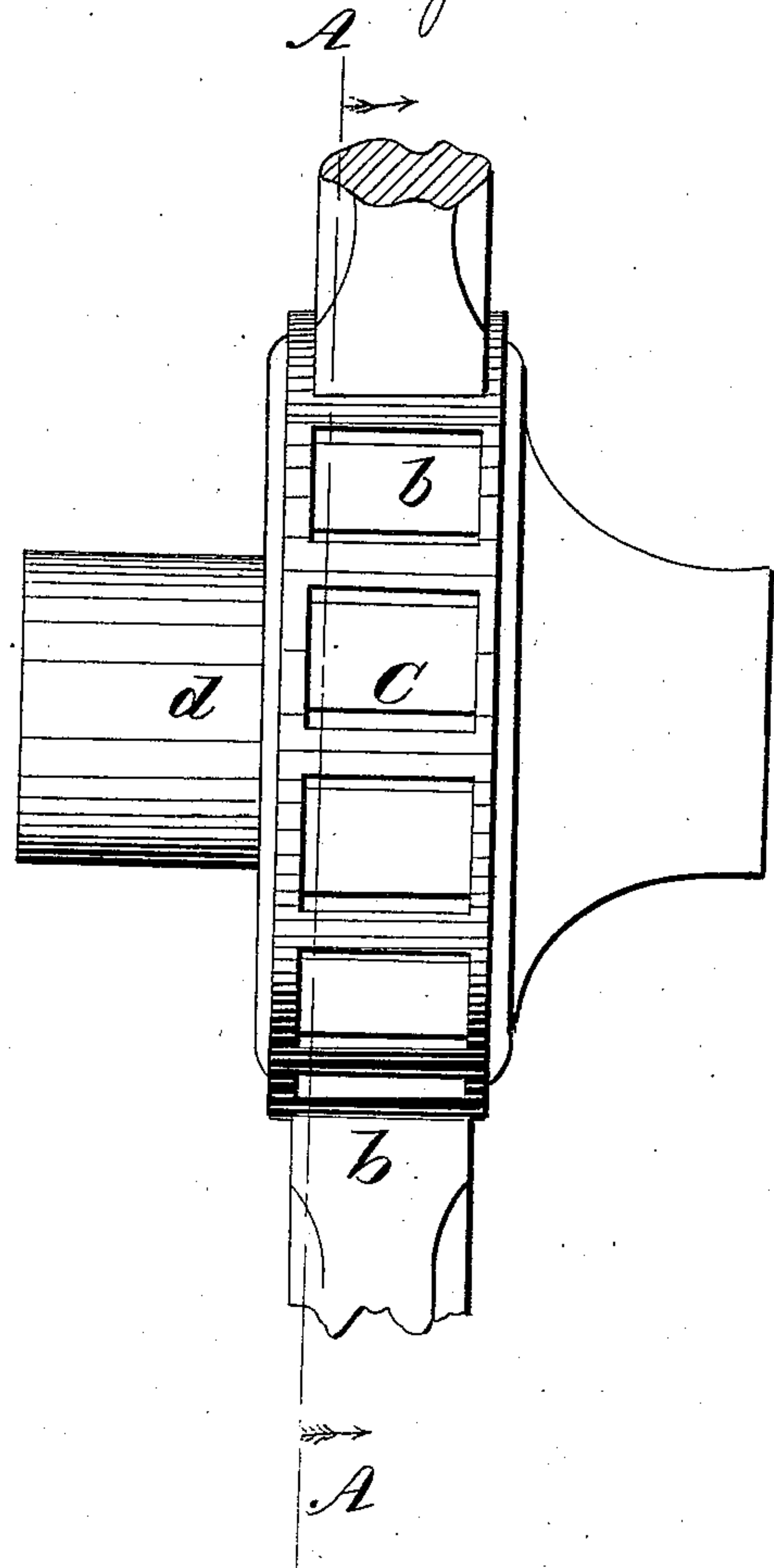


Fig. 2.



UNITED STATES PATENT OFFICE.

W. RACE AND B. HOLLY, OF SENECA FALLS, NEW YORK.

CARRIAGE-WHEEL.

Specification of Letters Patent No. 12,317, dated January 30, 1855.

To all whom it may concern:

Be it known that we, WASHBURN RACE and BIRDSILL HOLLY, of Seneca Falls, in the county of Seneca and State of New York, have invented an Improvement in Carriage-Wheels with Metal Hubs and Wooden Spokes, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the usual manner of making, modifying, and using the same, reference being had to the annexed drawings, of which—

Figure 1 is the cast hub with one side turned off to show the interior; Fig. 2, a vertical section through red line A, A, in Fig. 1; Fig. 3 is the press for pressing the tenons.

Our invention consists in an improved mode of making carriage wheels with cast metal hubs and wooden spokes hereinafter described, whereby we are enabled to make carriage wheels of great strength, durability and simplicity, and proof against shrinking which is one of the greatest evils incident to wooden wheels, or wheels with wooden spokes made in the usual way.

Fig. 1 exhibits the metal hub with the mortises *a a* on its periphery for the recep-

tion of the tenons of the spokes *b, b, b*. The mortises terminate in an annular cavity or space *c* between the inner ends of the mortises and the box (*d*) of the hub as seen in Fig. 2. This box is for the reception of the axle. The tenons of the spokes are cut in the usual way and then compressed in a press similar to that shown in Fig. 3 and immediately inserted into the mortises where they soon expand; that portion of the tenon which is beyond the mortise and within the cavity *c* expanding the most, so as to form a perfect head (*e*), so that the tenon will never become loose from shrinking, nor can it be withdrawn without breaking it up.

The hub is cast in one piece by a process which we have claimed under another application for Letters Patent.

We do not claim a hollow cast iron or metal hub but

We do claim—

The compressed tenon in combination with the annular cavity in the manner and for the purposes set forth.

WASHBURN RACE.
BIRDSILL HOLLY.

Witnesses:

WHITING RACE,
GEO. W. MEAD.