A. Brush's Impd mode of boring & fitting the felloes & Spokes of Wheel

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Fig: 1.

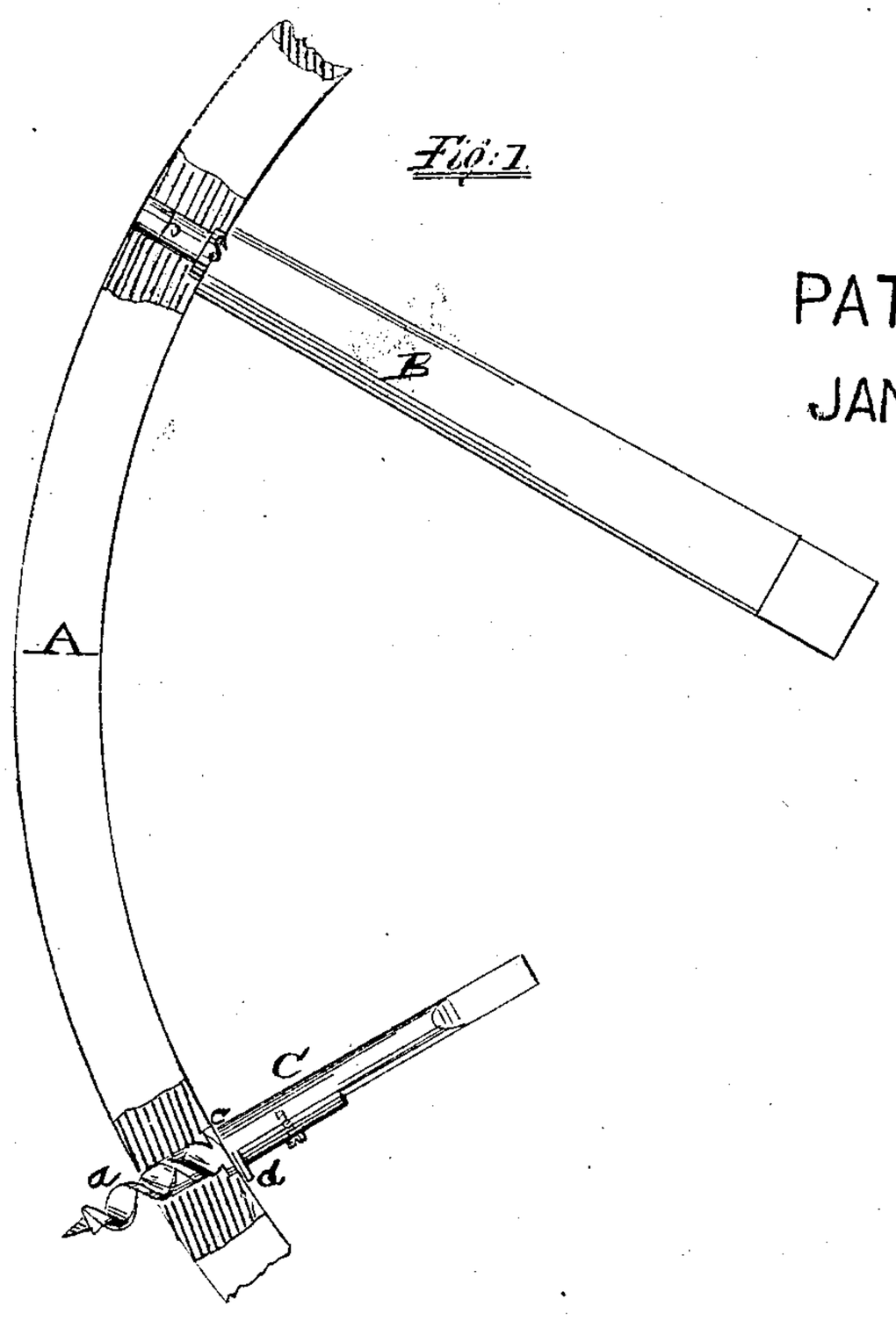



Fig: 2.

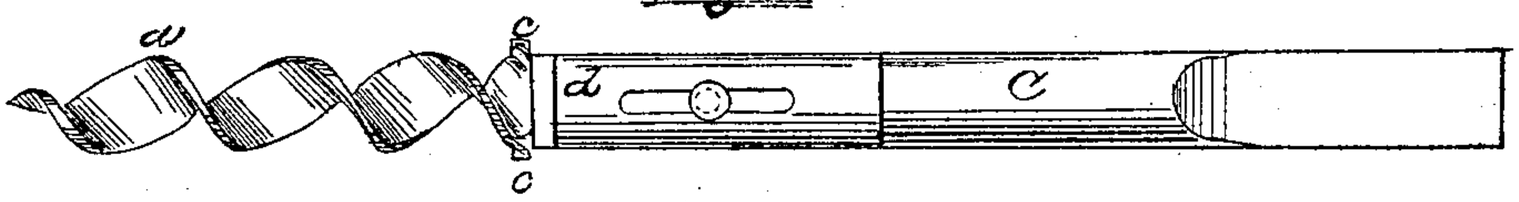



Fig: 4.

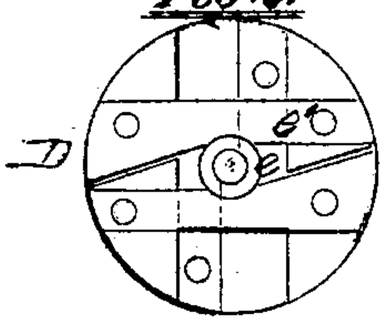
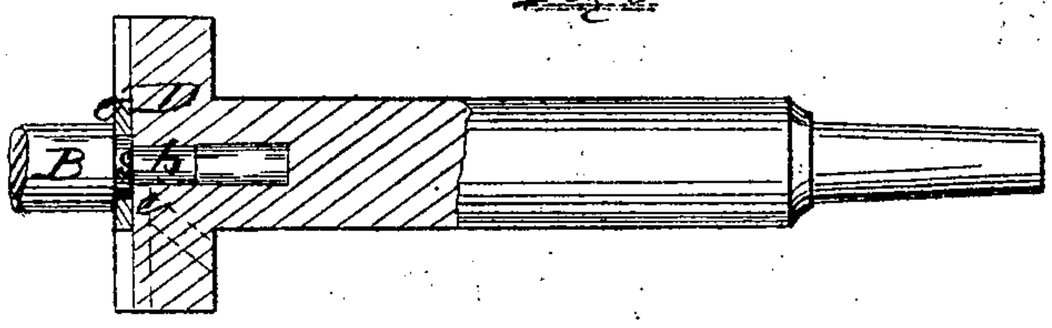



Fig: 3.

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# United States Patent Office.

ALBERT BRUSH, OF EAST CONSTABLE, NEW YORK.

*Letters Patent No.* 73,162, *dated January* 7, 1868.

## IMPROVEMENT IN HOLLOW AUGERS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, ALBERT BRUSH, of East Constable, in the county of Franklin, and State of New York, have invented a new and useful Improvement in Boring and Fitting the Felloes and Spokes of a Wheel; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a segment of a wheel, showing a spoke set in the felloe according to my improved plan of boring and fitting.

Figure 2, a view of the auger for boring the hole in the felloe of two diameters, forming two shoulders.

Figure 3, a view of the hollow auger for reaming the spokes to fit the holes in the felloes.

Figure 4, an end view of the same.

Similar letters of reference indicate like parts.

This invention relates to an improved mode of boring the felloes of a wheel with holes, the diameter of which is greater in one part than another, and fitting the tenons of the spokes in the said holes by making them with a corresponding hollow auger. By this plan greater strength is secured to the wheel.

In fig. 1, A represents a felloe, and B a spoke of a wagon-wheel. C is an auger, formed with an ordinary screw-bit, *a*, at the end, adapted in size for boring a hole to receive the round tenon *b*. On the upper part of the bit are placed sharp lip-projections or cutters *c*, opposite to each other, and about an eighth of an inch beyond the sides of the bit *a*, for the purpose of cutting a larger hole on the inner side of the felloe, about three-sixteenths of an inch in depth. The depth of the larger hole bored by the cutters *c* is regulated by an adjustable guards *d*, secured on the side of the auger-shank with a set-screw. The tenon of the spoke B is made to fit the hole thus bored in the felloe A by a hollow auger, D, which is provided with two sets of knives *e e'*, for cutting or reaming the end of the spoke in correspondence with the larger and smaller parts of the hole in the felloe. The upper part of the tenon cut with the hollow auger has a shoulder, *s*, which sets in the larger part of the hole, while the end, *b*, fills the smaller part of the hole, in which it is wedged as usual. This arrangement of the tenon in the felloe gives greater strength and support to the parts respectively, and makes the wheel much stronger and more serviceable than when the tenon on the spoke is of one size from the inside to the outside of the felloe.

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

1. The hollow auger D, provided with the knives *e e'*, for forming upon spokes the tenons *b* and shoulder *s*, adapted to fit into the recess in the felloes formed by the auger C, having the extended cutting-lips *c* and adjustable guide *d*, constructed to operate as herein shown and described.

2. The auger C, when provided with the projecting cutting-lip *c* and adjustable gauge *d*, constructed and operating as herein described, for the purpose specified.

ALBERT BRUSH.

Witnesses:

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