

S. ATHA.
Wheel Hub.

No. 99,809.

Patented Feb. 15, 1870.

Fig. 1.

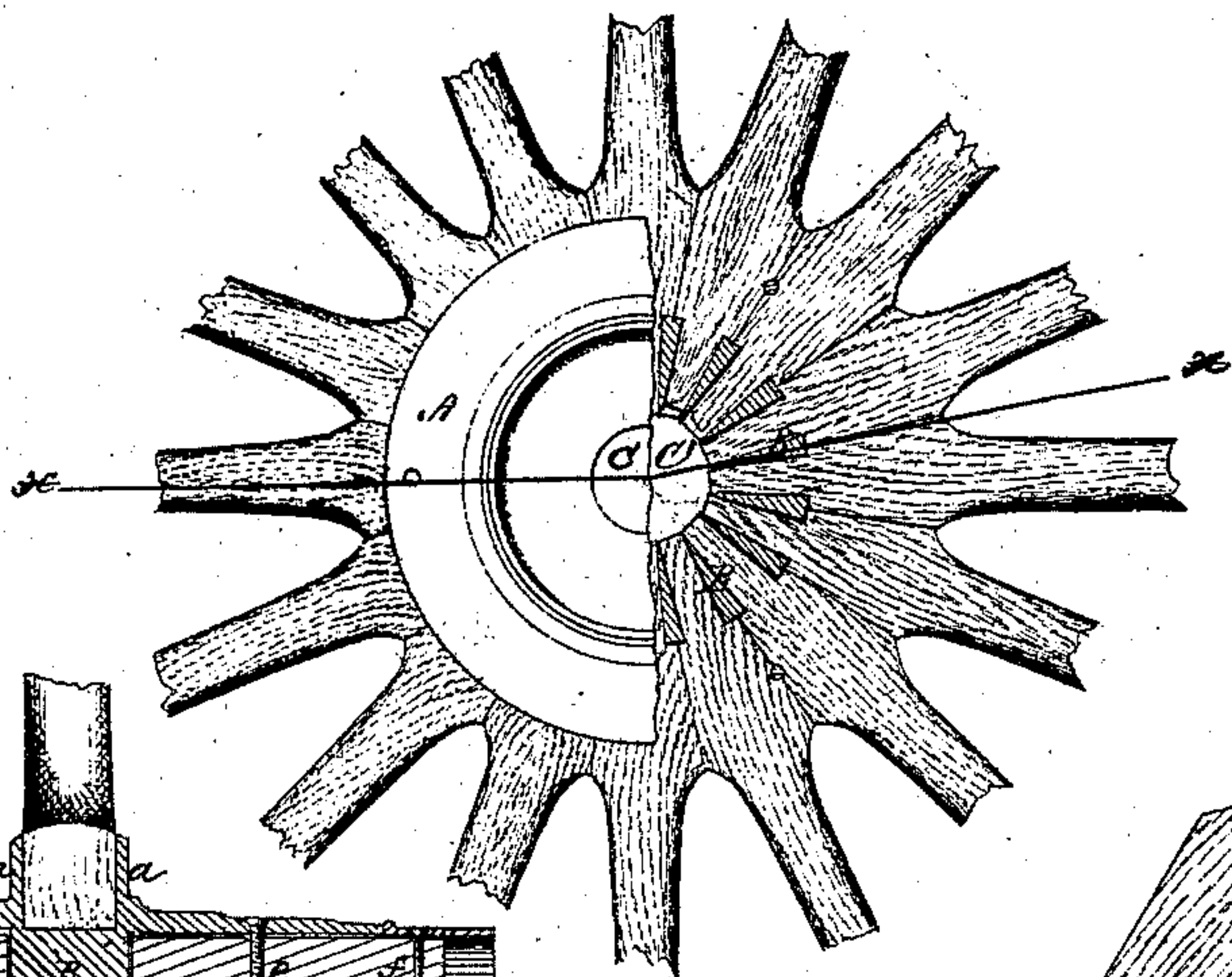


Fig. 3.

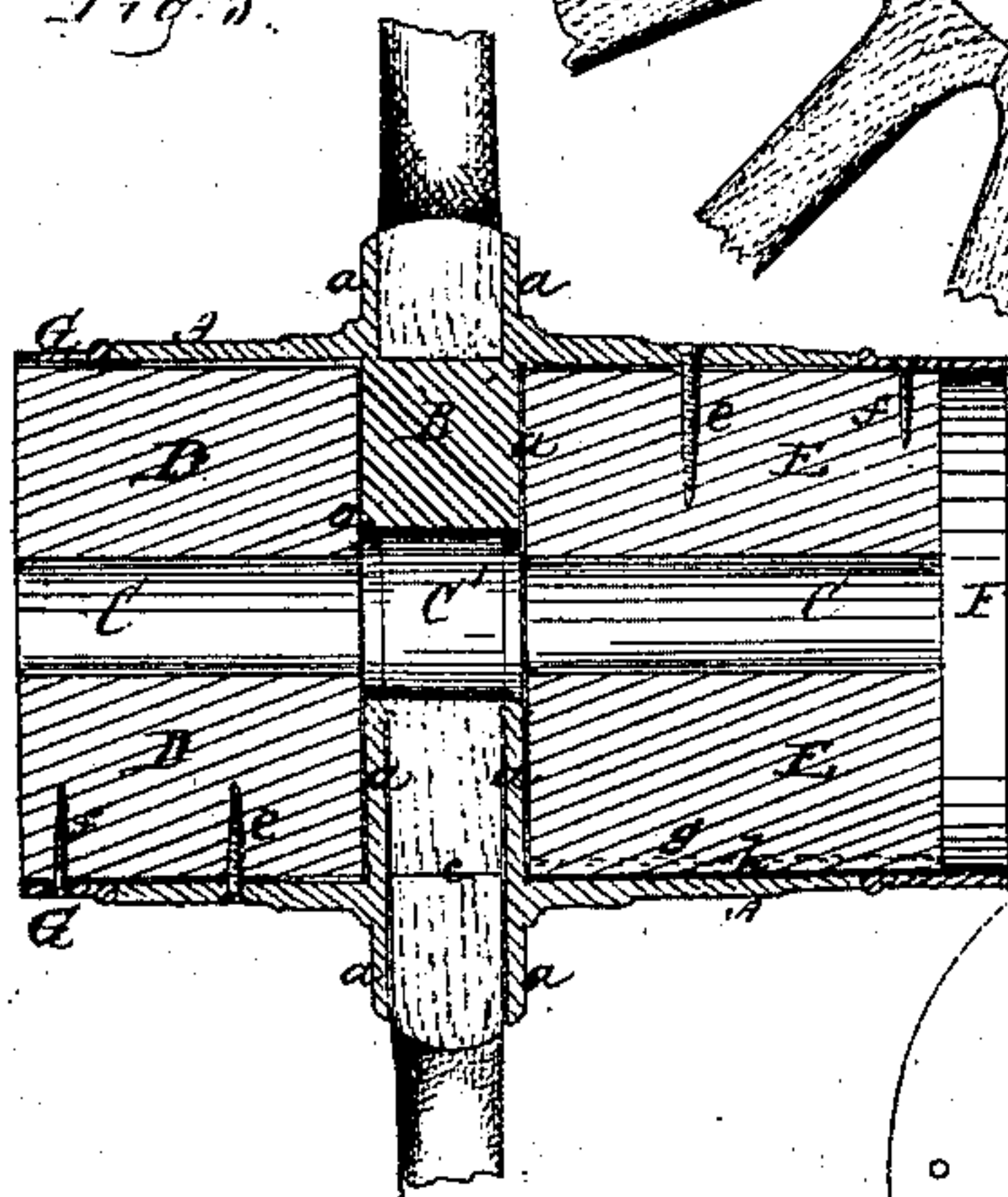
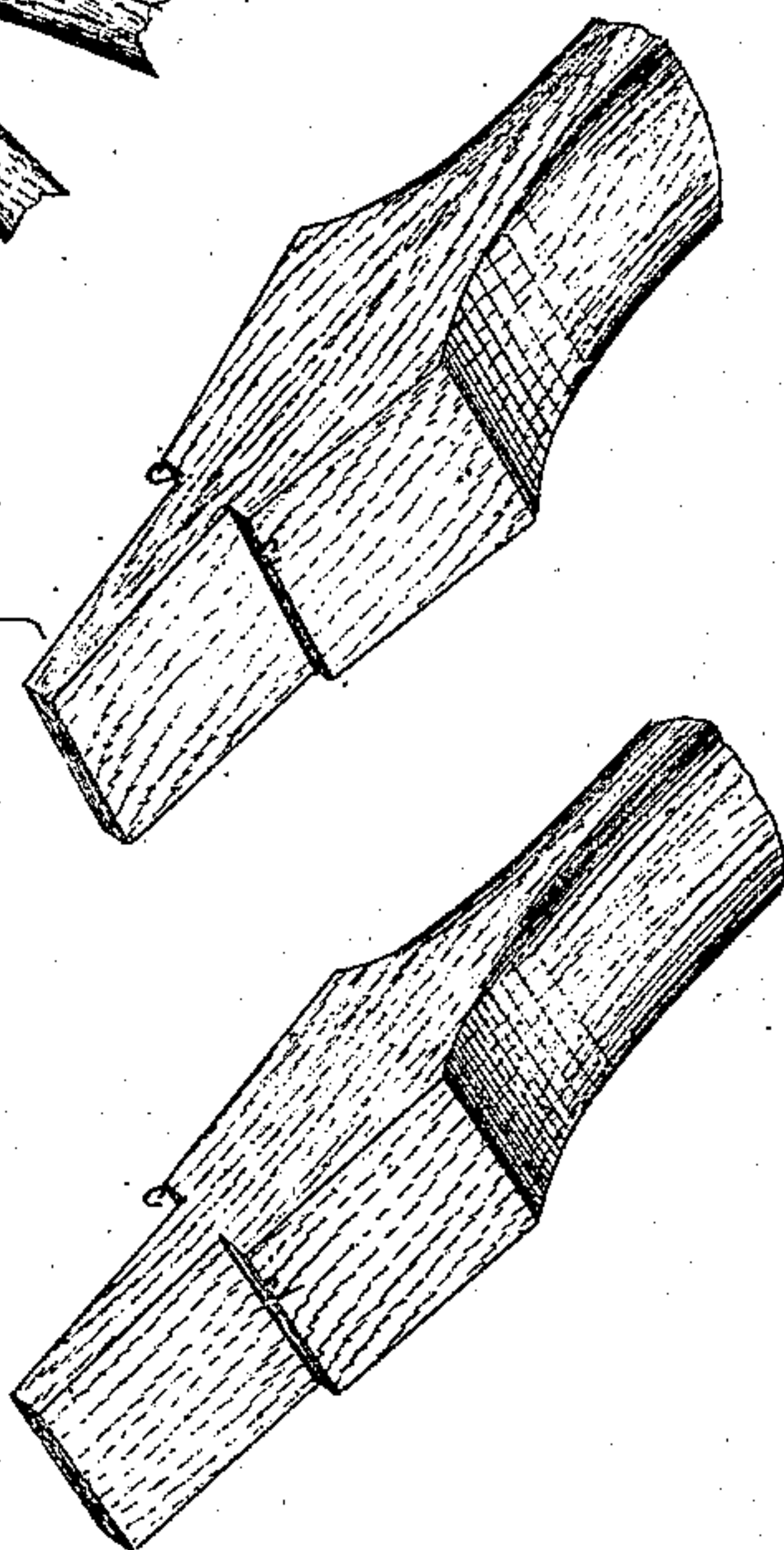
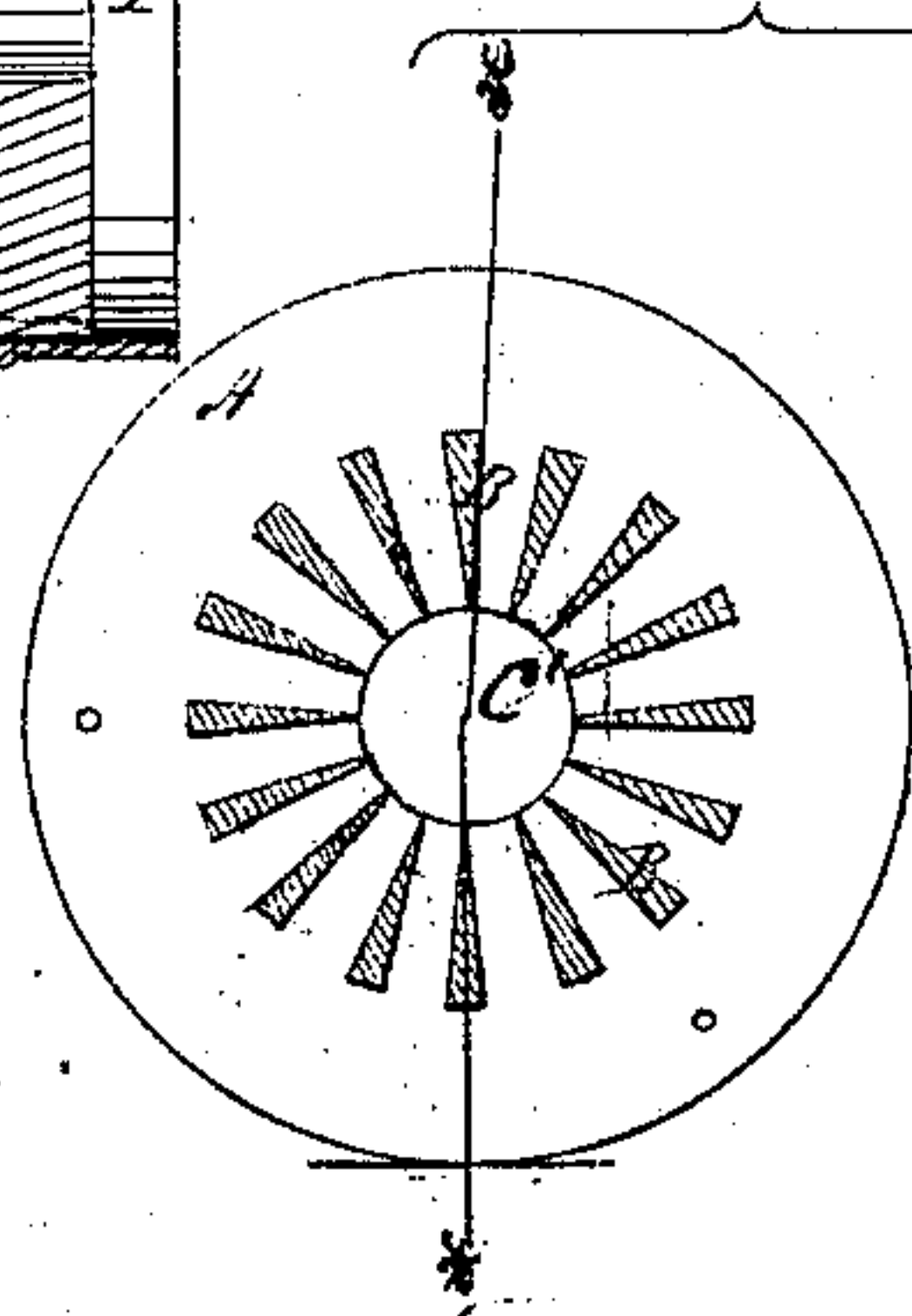


Fig. 2.



Witnesses

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SIMEON ATHA, OF WEST LIBERTY, OHIO.

Letters Patent No. 99,809, dated February 15, 1870.

IMPROVEMENT IN CARRIAGE-WHEEL HUBS

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, SIMEON ATHA, of West Liberty, in the county of Logan, and State of Ohio, have invented a new and useful Improvement in Hubs for Wagon Wheels; and I hereby declare the following to be a full and correct description of the same, sufficient to enable others skilled in the class of manufacture to which my invention appertains to fully understand and construct the same, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 is a partially sectional view of the hub of a wheel constructed according to my improvement.

Figure 2 is a full sectional view of the same, with the lower end of a spoke shown detached.

Figure 3 is a sectional view of fig. 1 in line *x x*.

Like letters of reference indicate like parts in the several figures.

The nature of my invention consists in the construction of a wheel hub of a metal box, cast in one piece, with partitions between its central circular flanges, between which partitions and flanges the spokes are held, the axle passing through wooden boxes, which are securely held in the metal box on each side of the flanges.

A, in the drawings, represents a circular metal box, provided with central circular flanges *a a*, which are connected to each other by wedge-shaped partitions B cast between and with them, thus forming the entire box of one piece.

In this metal box A are held two wooden boxes, D E, bearing with their inner ends against the flanges *a a*, and having central openings C, concentric with a similar opening, C', in the flanges, which is a little larger in diameter. The partitions B extend from the opening C' about one-half way to the periphery of the flanges.

The boxes D E are secured to box A by nails or screws *e e*.

On the outer side of the hub a rim, F, encircles the box E, projecting a little beyond the same, its inner edge resting against the edge of the box A, and secured to box E by means of nails or screws *f*.

On the inner side of the hub a ring, G, is secured in a similar manner to the box D, but is flush with the end of the box.

The boxes D E are prevented from turning around with the axle by having a longitudinal groove, *g*, formed in their circumference, in which fits a projection, *h*, on box A, as shown in dotted lines in fig. 3.

The wedge-shaped partitions B are so arranged between the flanges *a a* as to leave a wedge-shaped space between each two of them. The ends of the spokes have a double-wedge shape, forming two shoulders, *c c*, which rest against the broad end of the partitions B, and as the ends of the spokes are driven in between the latter they are wedged tightly, until the shoulders *a* rest against the ends of the partitions and the upper wedge-shaped parts of the spokes rest against each other. In this manner the spokes are not only tightly held, but also supported against their shoulders *c*.

In forming the box A in one piece I am enabled to make it of greater lightness, with the same strength, than boxes formed of several pieces, in which latter boxes the jar of the wheel is apt to loosen the several parts. The partitions B serve to add greater strength to the wheel, as they securely hold the inner ends of the spokes, and thus prevent them from breaking and protect them from injury, while any broken spoke may be easily removed and a new one substituted without disturbing the others.

Having thus described my invention,

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

A wheel hub, when constructed of a metal box, A, provided with circular central flanges *a a* and wedge-shaped partitions B, cast in one piece, and wooden boxes D E, being secured in the metal box A, all being constructed and arranged substantially as herein described and shown.

SIMEON ATHA.

Witnesses:

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