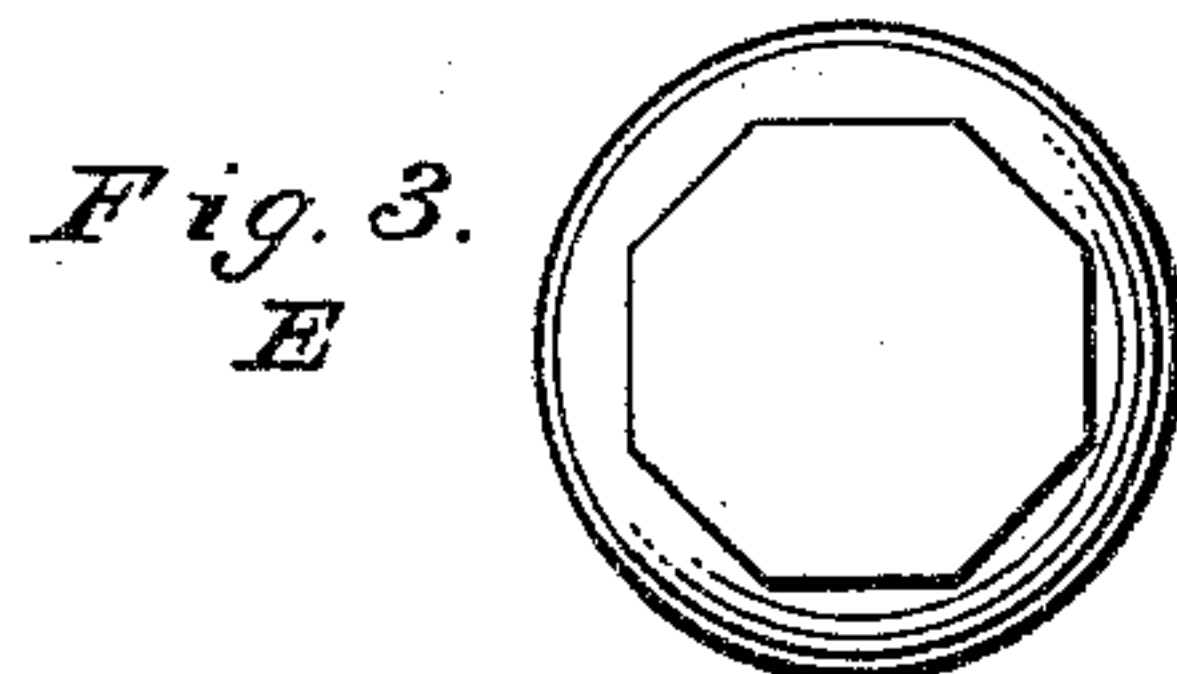
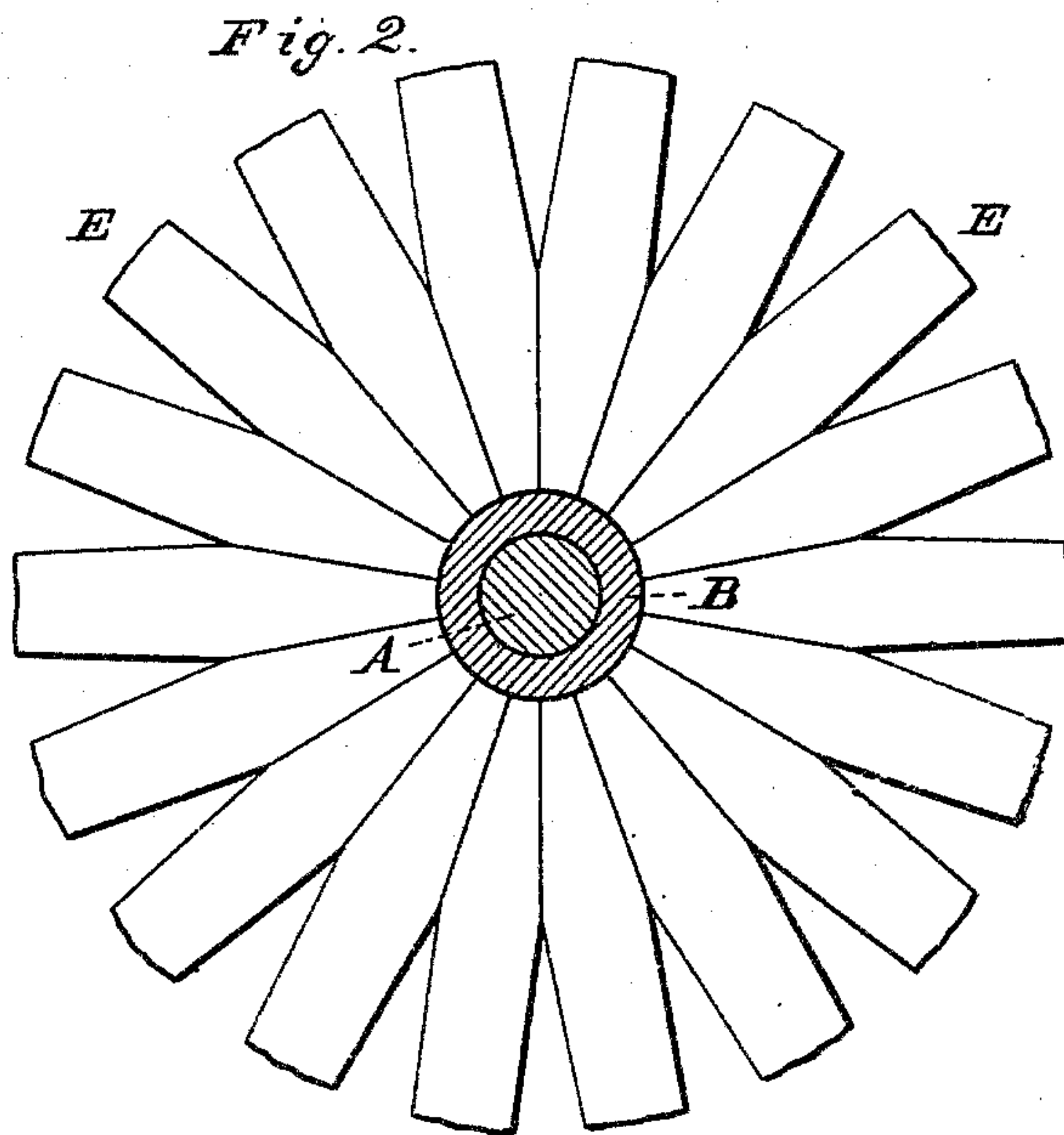
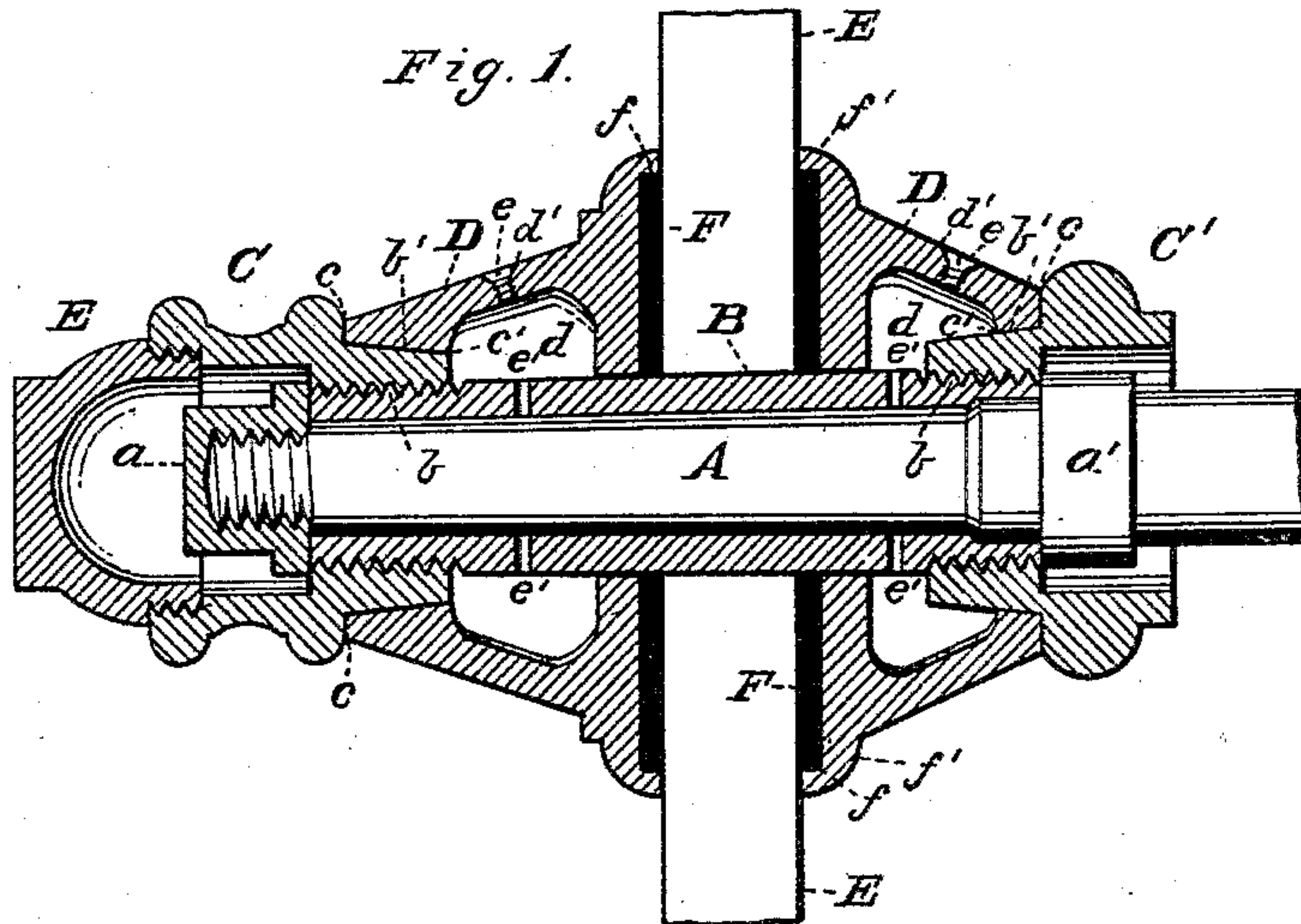


(No Model.)

E. C. ROBERTS.
WHEEL HUB.

No. 401,213.

Patented Apr. 9, 1889.



WITNESSES,

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UNITED STATES PATENT OFFICE.

EDWARD C. ROBERTS, OF ABINGDON, VIRGINIA.

WHEEL-HUB.

SPECIFICATION forming part of Letters Patent No. 401,213, dated April 9, 1889.

Application filed July 28, 1888. Serial No. 281,336. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. ROBERTS, a citizen of the United States, and a resident of Abingdon, in the county of Washington and State of Virginia, have invented certain new and useful Improvements in Wheel-Hubs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art

to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention and is a vertical section. Fig. 2 is a detail. Fig. 3 is also a detail.

The invention relates to improvements in vehicle-hubs; and it consists in the construction and novel combination of parts, as hereinafter set forth.

The object of the invention is to provide a hub so arranged that the spokes of the wheel may be easily placed therein without driving and securely clamped, and also, as the ends of the spokes within the hub lie against each other, a greater than the ordinary number of spokes may be employed, which materially strengthens the rim.

Referring to the drawings, A designates the axle-spindle, having the reduced threaded outer end for the nut *a* and the annular shoulder *a'* on its inner end.

B is the box, which turns on the spindle and carries the hub and wheel.

The box B is provided with threaded ends *b* to engage the interiorly-threaded portion of the clamping-nuts C C'. The clamping-nuts C C' have the outer surface of the inwardly-projecting portions *b'* transversely beveled or inclined from the shoulders *c* to fit closely within the flared openings *c'* of the annular bearing-rings D. The outer end of the clamping-nut C is internally threaded to engage the thread of the cap E, which has an angular seat for a wrench, and is designed to exclude dirt and sand from the interior of the hub. The clamping-nuts are also provided with an angular wrench-seat, so that the spokes may be easily tightened by forcing the rings D against them.

Each bearing-ring D has the annular re-

cess *d*, which forms a chamber for lubricating-oil. The openings *d'* through the shell of the rings are provided with a thread to engage screw-stoppers *e*, and are designed for convenience in filling the oil-chambers. The openings *e'* through the box-shell allow the oil to enter and lubricate the spindle.

E designates the spokes, having their lower ends inserted between the bearing-rings D and placed so as to lie closely together.

F represents rubber washers seated in the recess *f*, formed in the bearing-rings by the annular flange *f'*. The said rubber washers should be normally somewhat thicker than the depth of the recess *f*, so that when the bearing-rings are forced inwardly by the clamping-screws the rubber will be compressed, thus insuring a strong pressure on the spokes.

The clamping-nut C' projects rearwardly over the shoulder *a'* of the spindle and forms a sand band.

Having described my invention, what I claim is—

1. In a vehicle-hub, the combination of the box having the threaded ends, the clamping-nuts having the transversely-beveled portion, the bearing-rings, and the washer, substantially as specified.

2. In a vehicle-hub, the combination, with the box threaded at its ends, of the clamping-nut C', having the beveled portion, the shoulder *c*, and the rearwardly-projecting portion, the nut C, having the beveled portion, the annular shoulder, and the threaded outer end, the cap E, the bearing-rings having the oil-chamber, the flared opening and the flange, and the rubber washers, substantially as specified.

3. A wheel-hub consisting of the box threaded at its ends, the clamping-nuts having the threaded and beveled inwardly-projecting portion, the cap E, engaging a threaded portion of the nut C, the bearing-rings having the annular recess *d*, the flared opening and the flange, and the rubber washer, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

EDW. C. ROBERTS.

Witnesses:

JOHN F. COOK,

JNO. HUMPHREYS.