

(No Model.)

C. KEMBLE.

PULLEY.

No. 293,255.

Patented Feb. 12, 1884.

Fig. 1.

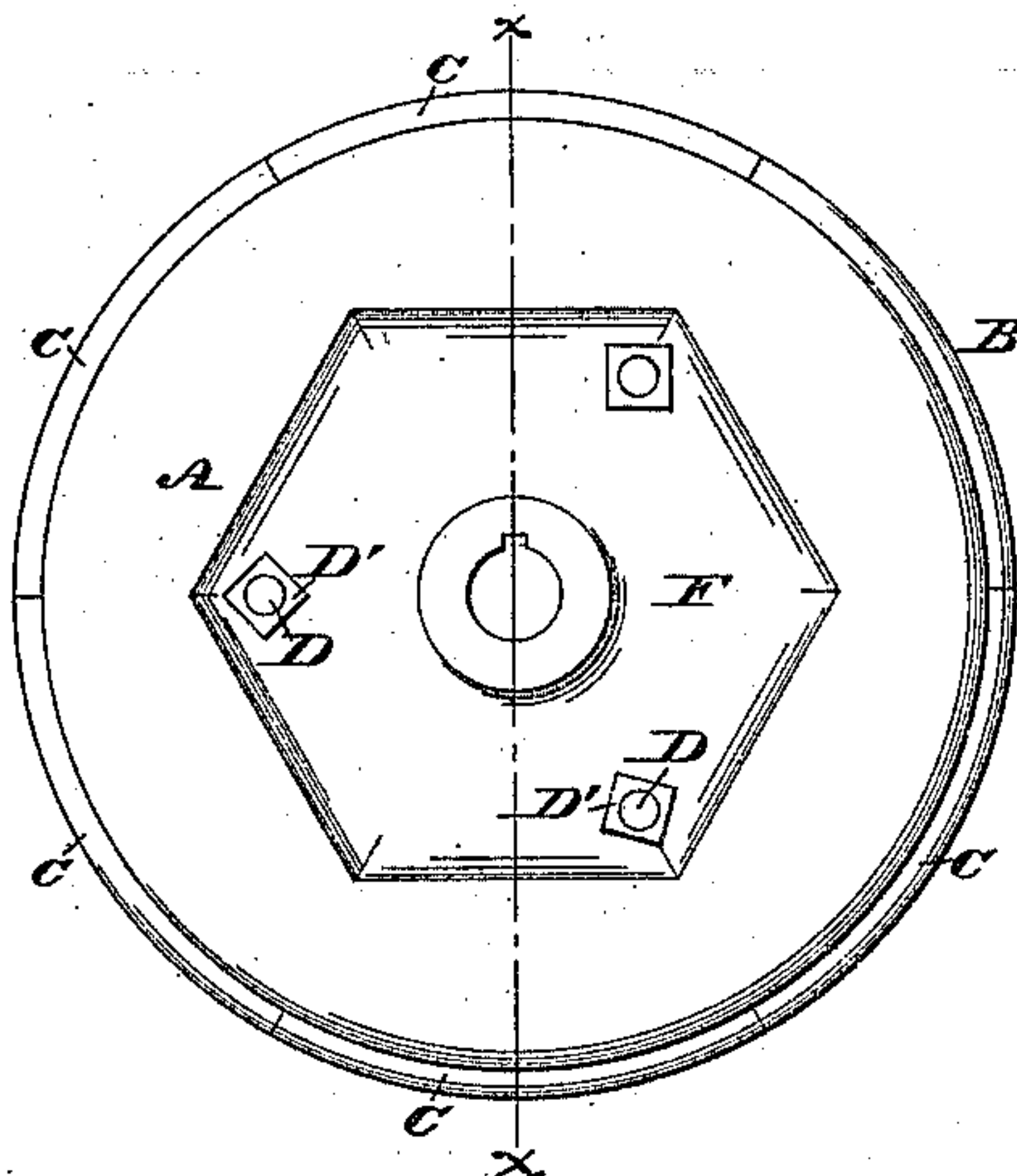


Fig. 2.

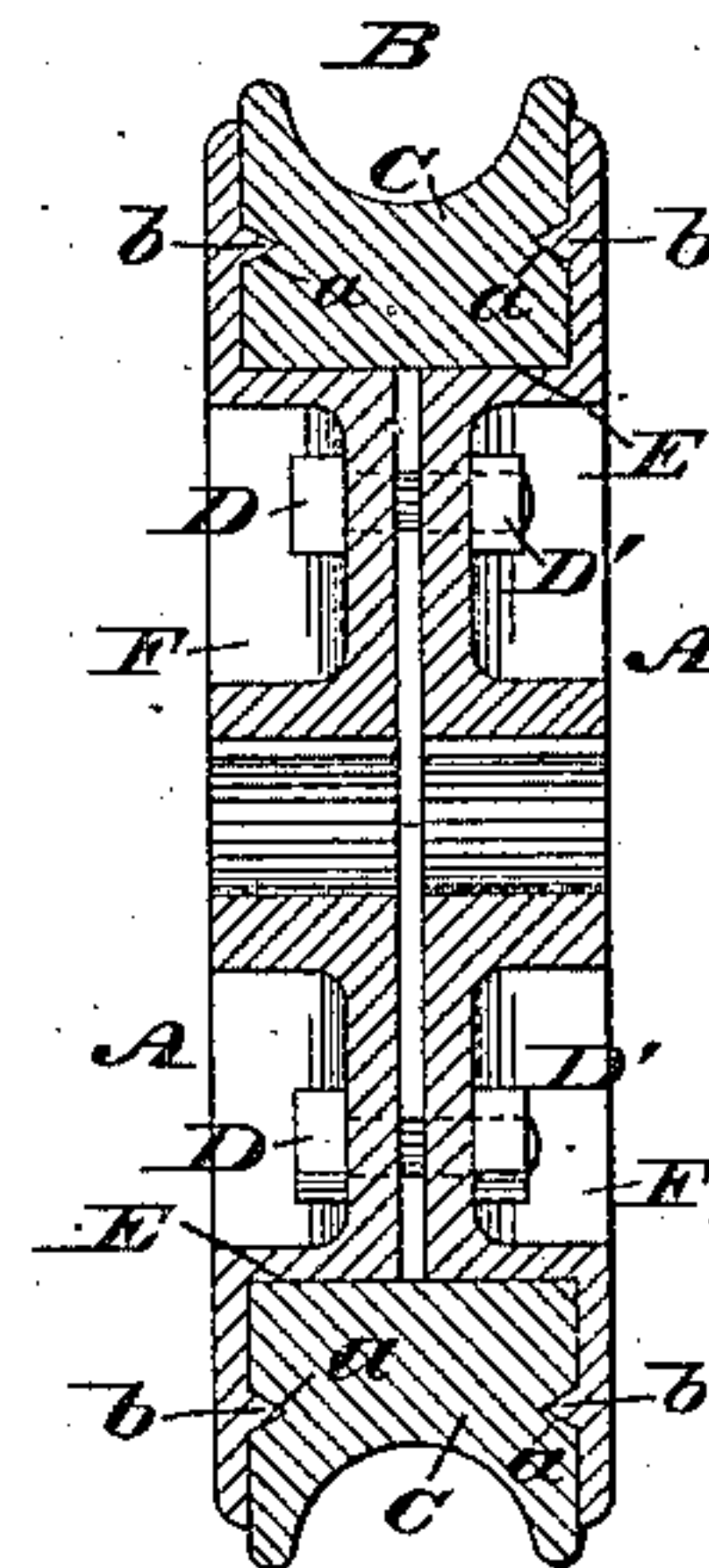


Fig. 3.

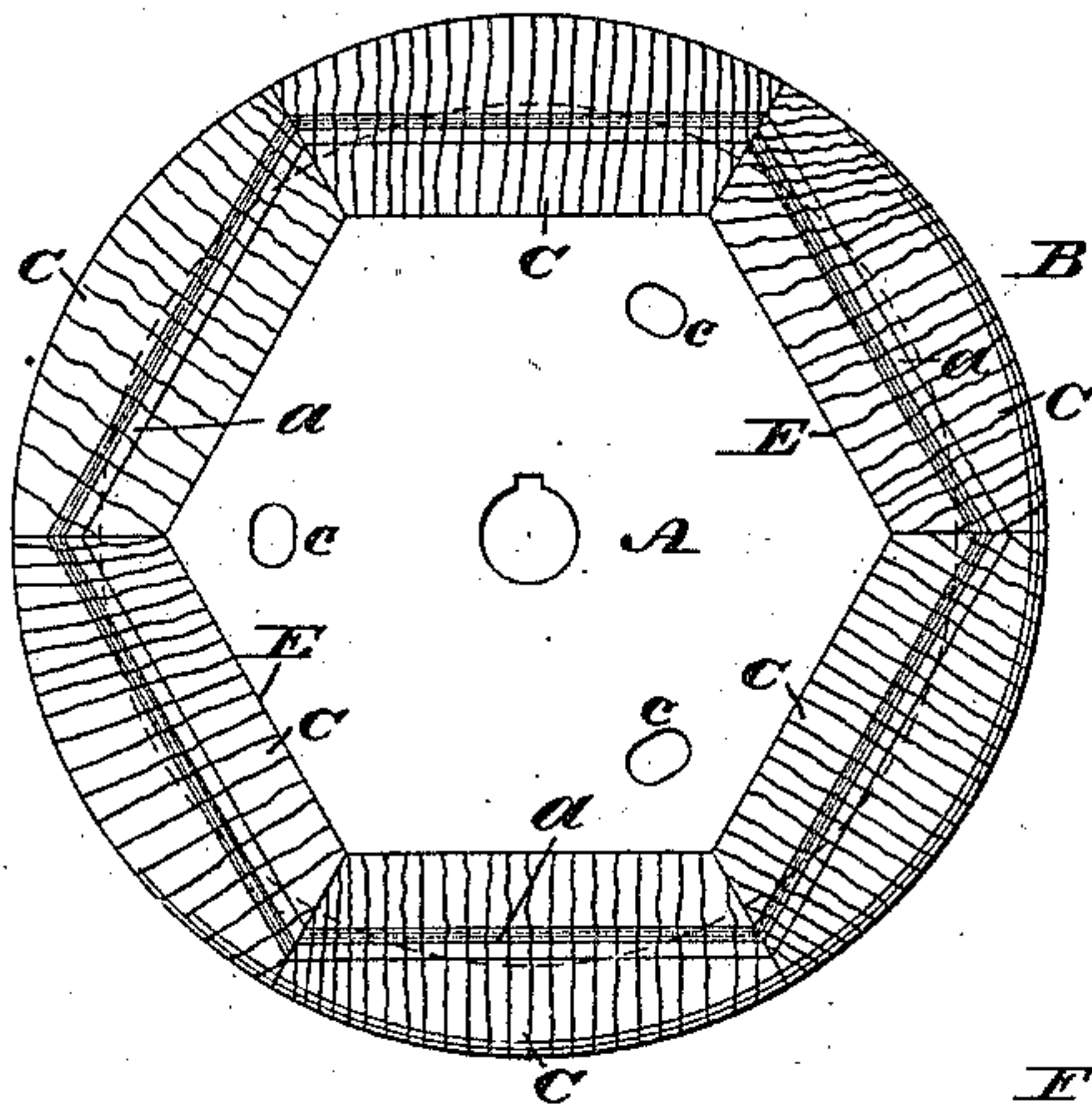


Fig. 4.

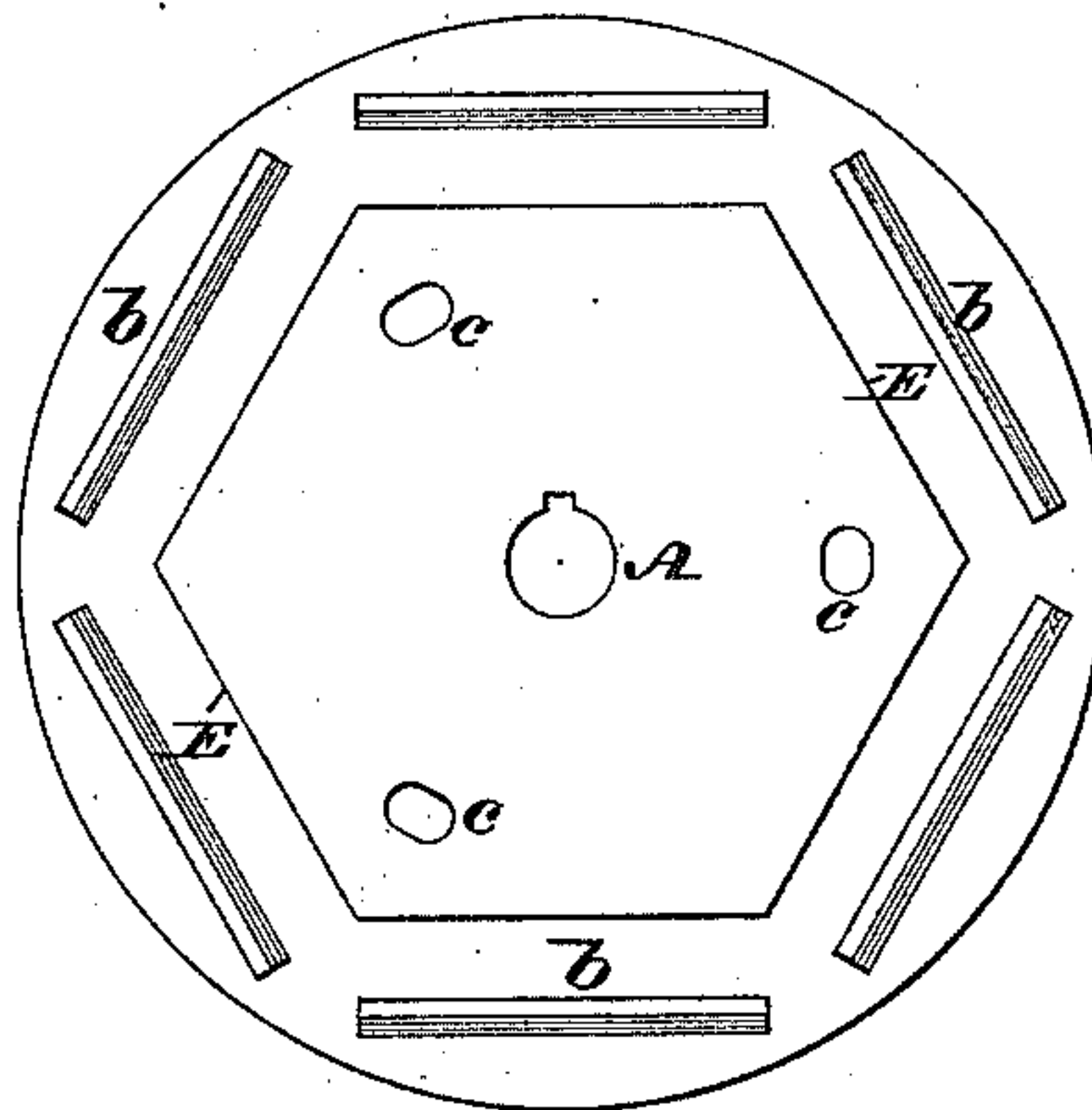
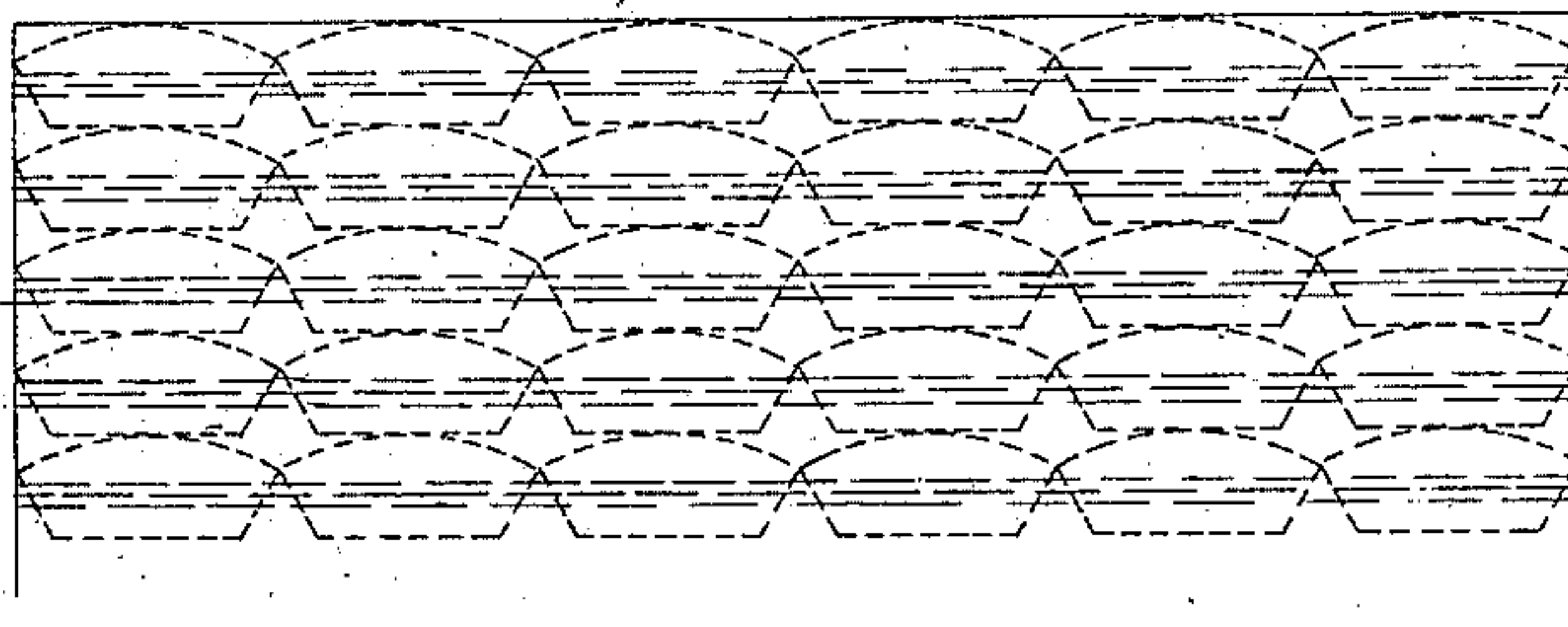


Fig. 5.



WITNESSES:

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CLAY KEMBLE, OF PHILADELPHIA, PENNSYLVANIA.

PULLEY.

SPECIFICATION forming part of Letters Patent No. 293,255, dated February 12, 1884.

Application filed November 8, 1883. (No model.)

To all whom it may concern:

Be it known that I, CLAY KEMBLE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Pulleys, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a side elevation of a pulley embodying my invention. Fig. 2 is a section in line *x x*, Fig. 1. Figs. 3 and 4 are views of the interior thereof, and Fig. 5 shows the method of making the segments of the pulley.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a pulley having its peripheral portion formed of segments of wood, each having its grain exposed, or extended radially, so that the chain, cable, rope, &c., comes in contact with the segments at a right angle to the grain, thus increasing the strength, durability, and grip of the pulley.

It further consists of means for securely connecting the segments of a pulley with the heads thereof.

It also consists of the construction of the heads of the pulley, whereby they firmly sustain the peripheral segments and prevent projection of the fastening bolts and nuts, as will be hereinafter stated.

Referring to the drawings, A represents the heads of the pulley; B, the peripheral portion formed of segments C, and D D' the fastening bolts and nuts. The heads are formed separate of suitable metal, and the segments of pieces of wood cut with the grain, so that the grain is presented or exposed at the periphery of the pulley, and the segments may be said to be truncated, so that their inner ends abut against the collars E on the inner faces of the heads A, it being seen that the segments are fitted between said heads, and the collars are polygonal or have many faces, to accord with the number of segments employed. On opposite sides of the segments are grooves *a a*, which enter ribs or tongues *b* on the inner faces of the heads, near the periphery thereof, said tongues and grooves extending parallel with the faces of the collars E. The parts of the outer faces of the collars surrounding the hub portions are depressed or countersunk, as at F, and in the walls of said parts, and in

the collars E are openings or slots *c*, through which, in the direction parallel with the shaft to which the pulley is fitted, are passed the fastening-bolts D, the nuts D' whereof tighten against the wall of one of the parts F, and the heads of the bolts bear against the wall of the opposite part, it thus being seen that said nuts and heads do not project outside of the widest part of the pulley, but are retained within the spaces formed by the depressions or countersinks F and prevented from being struck or interfering with the free rotation of the pulley. It will also be seen that when the nuts D' are properly tightened the segments are firmly clamped between the heads, and as they abut against the inner collars of said heads and against each other, and are interlocked by the tongues *b* with the heads, they are securely connected with said heads without liability to displacement. As the grain of the wood of the segments is exposed or presented at the periphery of the pulley, it is evident that the segments have increased wearing qualities, and are well enabled to endure the strain and severe usage to which they are subjected by the chain, cable, rope, &c., running over or around the pulley.

When a segment is broken or worn, it may be readily removed by loosening the heads without materially disturbing the other segments, then replaced, and the heads again tightened.

The segments may be formed of a piece of wood cut with the grain, grooved on opposite sides, divided into sections of proper shape with diagonal ends, the sections or lengths being fitted between clamps or heads and suitably turned.

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

1. A pulley having the grain running radially; and a peripheral portion formed of segmental pieces of wood, each having the grain exposed at the periphery, substantially as and for the purpose set forth.

2. A pulley having separate heads with collars on the inner faces thereof, sections or segments fitted between the heads around the collars thereof, and clamping bolts and nuts, said bolts being passed through the heads parallel

with the supporting-shaft, substantially as and for the purpose set forth.

3. A pulley having separate heads, the outer faces whereof are depressed or countersunk, 5 and clamping bolts and nuts, the heads of said bolts and nuts occupying positions in the spaces formed by said depressions, substantially as and for the purpose set forth.

4. Separate heads with depressions on their 10 outer faces and collars and tongues on their

inner faces, a peripheral portion formed of segments or sections of wood with grooved sides, and clamping-bolts passed through the separate heads, and provided with nuts, the parts being combined and operating as described, 15 forming an improvement in pulleys.

CLAY KEMBLE.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. GRANT.

Correction in Letters Patent No. 293,255.

It is hereby certified that in Letters Patent No. 293,255, granted February 12, 1884, upon the application of Clay Kemble, of Philadelphia, Pennsylvania, for an improvement in "Pulleys," an error appears in claim 1 of the printed specification, requiring correction as follows: The words "the grain running radially, and," in lines 95 and 96, should be omitted and the same read after the word "having" in line 97; and that the Letters Patent should be read with this correction therein to make it conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 11th day of March, A. D. 1884.

[SEAL.]

Countersigned:

BENJ. BUTTERWORTH,
Commissioner of Patents.

M. L. JOSLYN,
Acting Secretary of the Interior.