

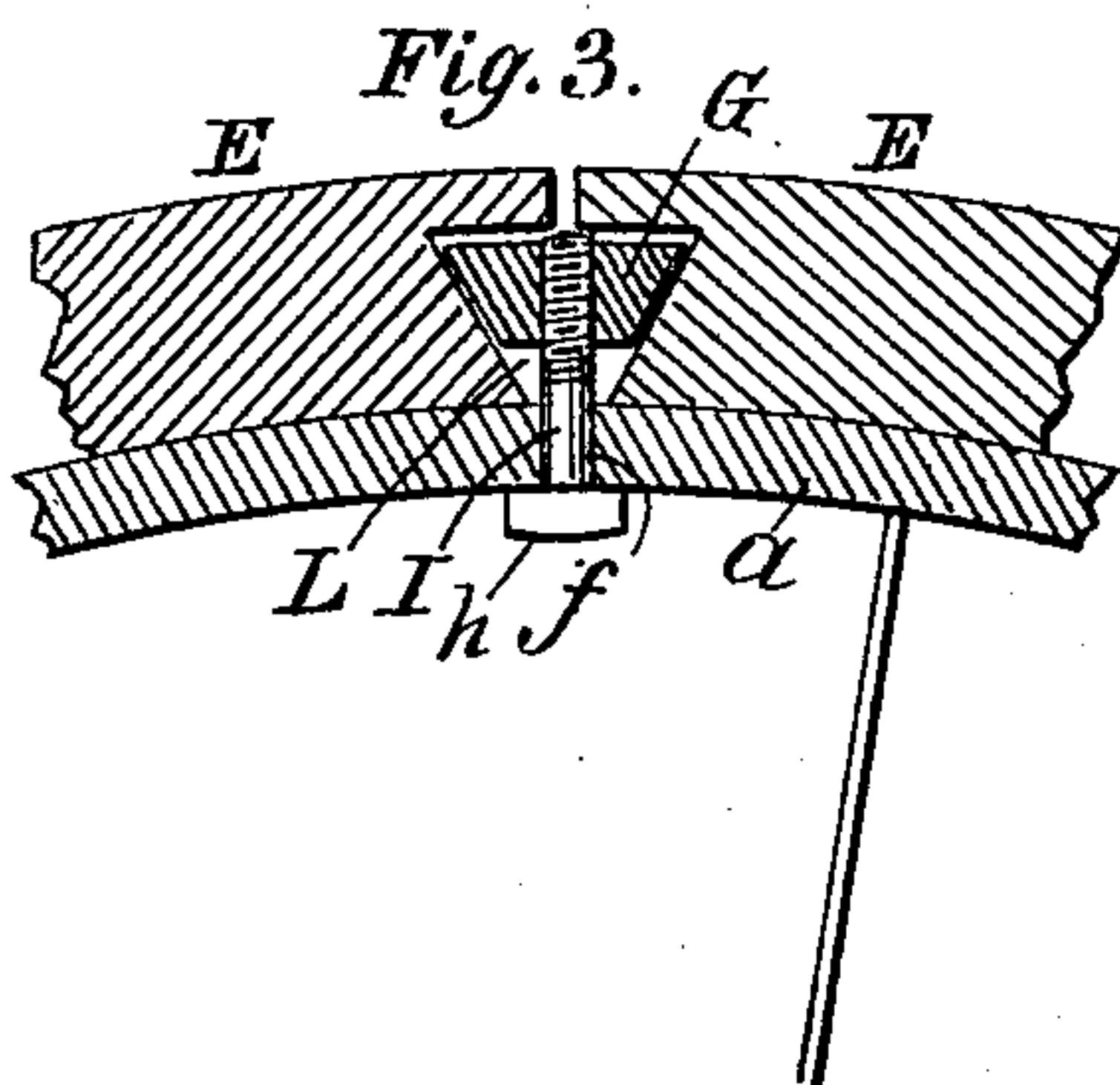
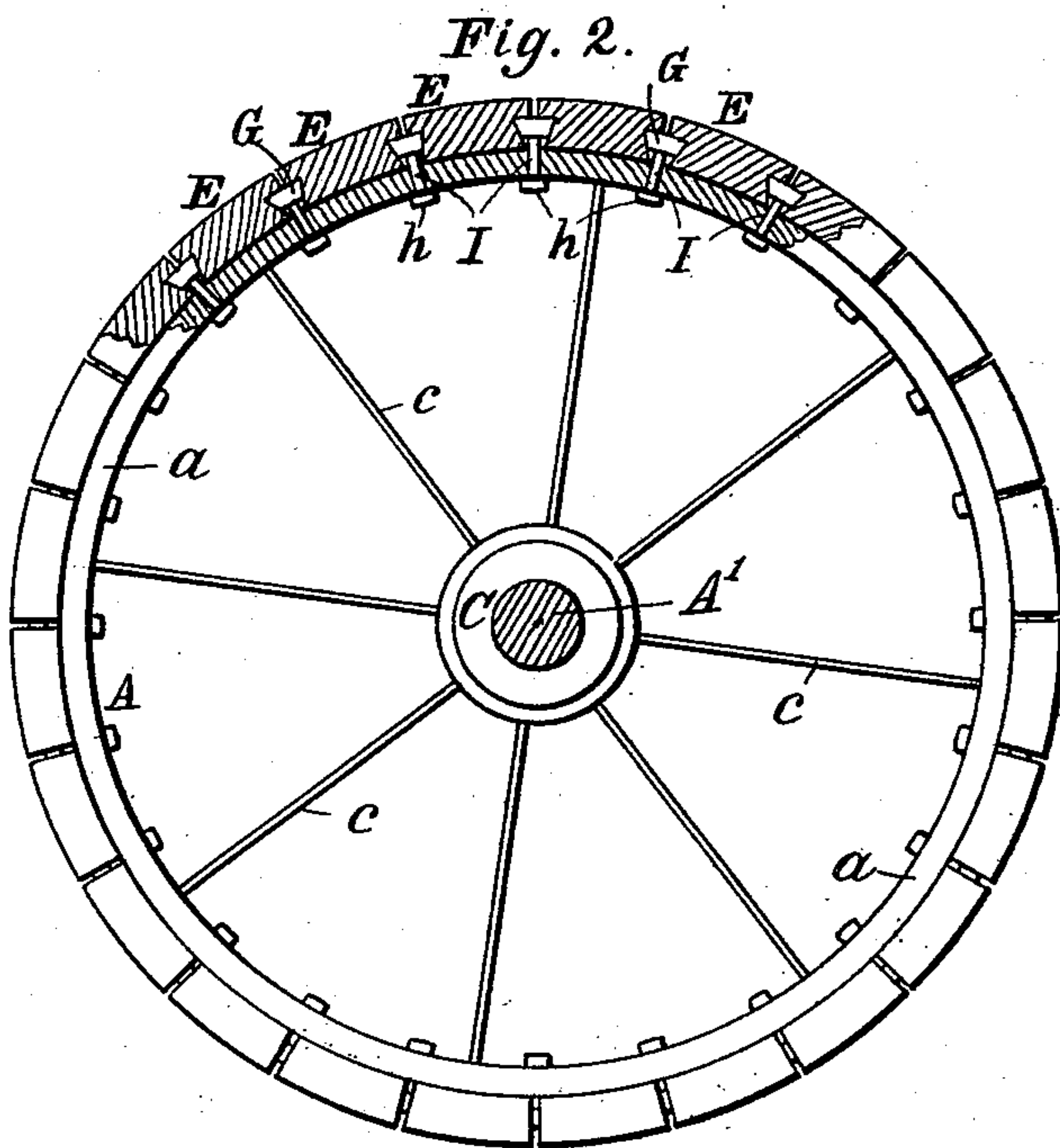
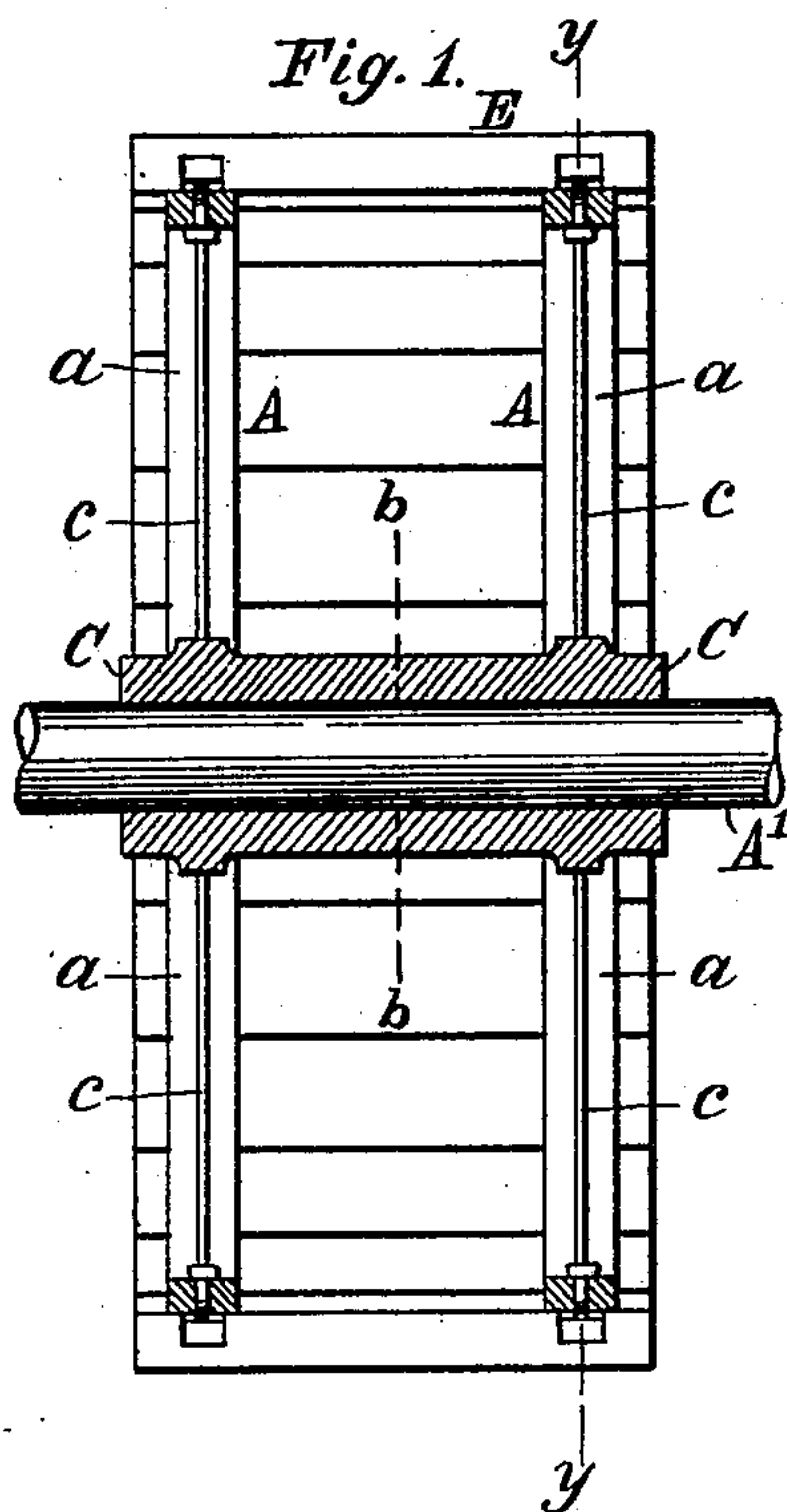
No. 689,521.

Patented Dec. 24, 1901.

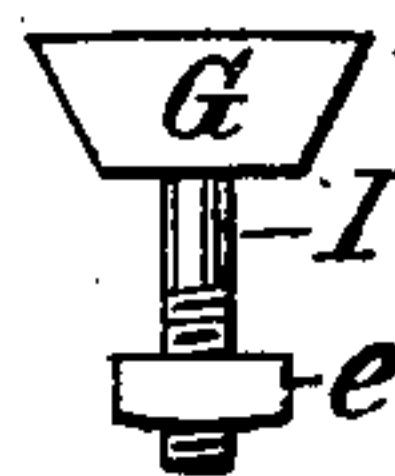
J. & W. TITUS.  
PULLEY.

(Application filed Nov. 20, 1900.)

(No Model.)



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

JOHN TITUS, OF OYSTER BAY, AND WILLIAM TITUS, OF OLD WESTBURY,  
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## PULLEY.

SPECIFICATION forming part of Letters Patent No. 689,521, dated December 24, 1901.

Application filed November 20, 1900. Serial No. 37,191. (No model.)

*To all whom it may concern:*

Be it known that we, JOHN TITUS, residing at Oyster Bay, and WILLIAM TITUS, residing at Old Westbury, in the town of North Hempstead, in the county of Nassau and State of New York, citizens of the United States, have invented certain new and useful Improvements in Pulleys, &c.; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a sectional view of a pulley made according to our invention in a plane parallel with the axis thereof. Fig. 2 is a partial sectional view of the same in a plane transverse to the axis thereof and in the line *y y* of Fig. 1. Fig. 3 is a detail sectional view on a larger scale, further illustrating our said invention. Fig. 4 is a like view showing a modification included in our said invention.

This invention relates to that class of pulleys, &c., for belts, driving-straps, endless aprons, and the like in which the rim or wearing-surface is composed of wooden lags arranged around the circumference of the pulley parallel with the axis of motion thereof.

One object of our invention is to provide for the convenient adjustment of the lags to compensate for their shrinkage by drying or otherwise, so that they may at all times hold firmly in position notwithstanding changes of temperature, a further object being to provide a pulley of the class mentioned which shall be of exceptional strength and durability as compared with those heretofore in use.

In the practice of our invention we provide two wheels *A A*, each of which has a rim *a*, which preferably is flat on its face or outer circumference. These wheels may have a hub *C* common to both, as shown in full lines in the drawings, or each may have its own separate hub, the inner limit of which is indicated by the dotted lines *b b* in Fig. 1. In the latter case the hubs have the same axial line, and a shaft *A'* common to both wheels is provided. The wheels *A A* are of the same radius and their distance apart may be proportionate to the desired length or face of the pulley. They may be of any desired construction consistent with the objects of our

invention. As shown in the drawings, their rims are connected with their hubs by wire spokes *c c*, &c., after the manner common in bicycle-wheels.

*E E*, &c., are the lags, which are intended to be of wood of any suitable kind, but which may be of any other suitable material. These lags are placed across from one wheel to the other and rest upon the rims *a a*, and consequently parallel with the shaft or axis of motion of the wheels and parallel with each other. The lags are thus arranged side by side around the circumference of the wheels, as shown in Fig. 2, and constitute the barrel or working circumference of the pulley. Each lag on each of its opposite sides, where it rests upon a rim of the wheels *A A*, is recessed in its side, as at *L*, as more fully shown in Fig. 3. Each recess has an angular or triangular shape wider at its outer part and narrower at its inner part, so that when a recess in one lag is brought opposite a recess in the next adjacent lag the two companion lags together have a dovetail shape, as illustrated in said Fig. 3. Placed in each of these (so to speak) dovetailed spaces so provided by the companion recesses is a block *G*, in which is provided an internal screw-thread. A screw-bolt *I* is passed through a suitable hole *f* in the contiguous rim *a* of the adjacent wheel *A* into the internally-screw-threaded block, the head *h* of the bolt resting against the inner circumference of the rim, as shown more fully in Fig. 3. There is thus provided to the rim of each wheel a system, extended entirely around the rim, of devices for securing the adjacent end portions of the lags to the rim.

The operation is as follows: The parts being in position as described, each bolt is tightened by turning to bring each block *G* inward, thereby pressing each lag laterally toward the next adjacent lag around the entire circumference of the rims, the greater widths of the blocks at their outer ends enabling them to be drawn snug against the rims simultaneously with the lateral crowding of the lags toward each other, as just described. By this means the lags are firmly secured in position to provide the face or working circumference of the pulley, and any shrink-



age of the lags may be readily compensated by a further tightening of the blocks in the companion recesses by a proper manipulation of the bolts. As an equivalent of the just-described bolt arrangement shown in Fig. 3 that shown in Fig. 4 may be used. In this latter the bolt *I* is fast to the block and has its screw-thread at its outer end within the inner circumference of the wheel-rim, with the nut *e* arranged on said screw-thread and bearing against the said inner circumference of said rim.

What we claim as our invention is—

1. In a pulley of the class described, the combination with two parallel wheels, of laterally-recessed lags parallel with each other extended from one wheel to the other and having companion recesses in their abutting sides, and devices extended through the rims of the wheels and into the companion recesses of the lags to secure the latter to the rims, substantially as herein set forth.

2. In a pulley of the class described the

combination with two parallel wheels, of lags having lateral triangularly-shaped companion recesses, screw-threaded blocks of dovetail shape arranged in coincident recesses of adjacent lags, and bolts arranged to draw the blocks toward the rims to adjust and secure the lags upon the circumferences of the rims, substantially as herein set forth.

3. In a pulley of the class described the combination with two parallel wheels, of lags having lateral triangularly-shaped companion recesses, screw-threaded blocks of dovetail shape arranged in the companion recesses of adjoining lags, and screw-bolts passed through holes in the rims of the wheels into the blocks with the heads of said bolts bearing against the inner circumferences of the rims, substantially as herein set forth.

JOHN TITUS.

WILLIAM TITUS.

Witnesses:

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