

(No Model.)

C. A. KING.
CLUTCH MECHANISM.

No. 397,238.

Patented Feb. 5, 1889.

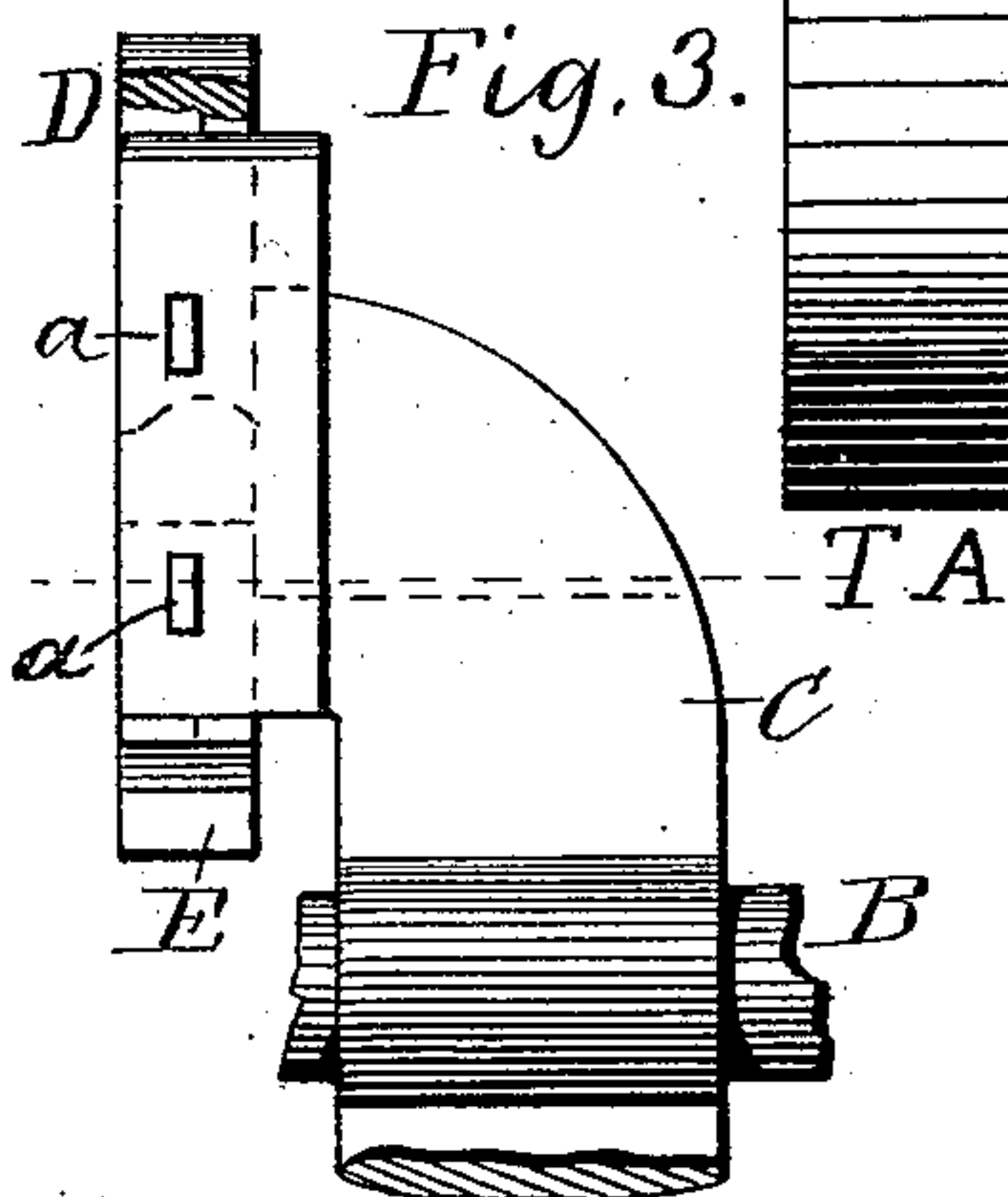
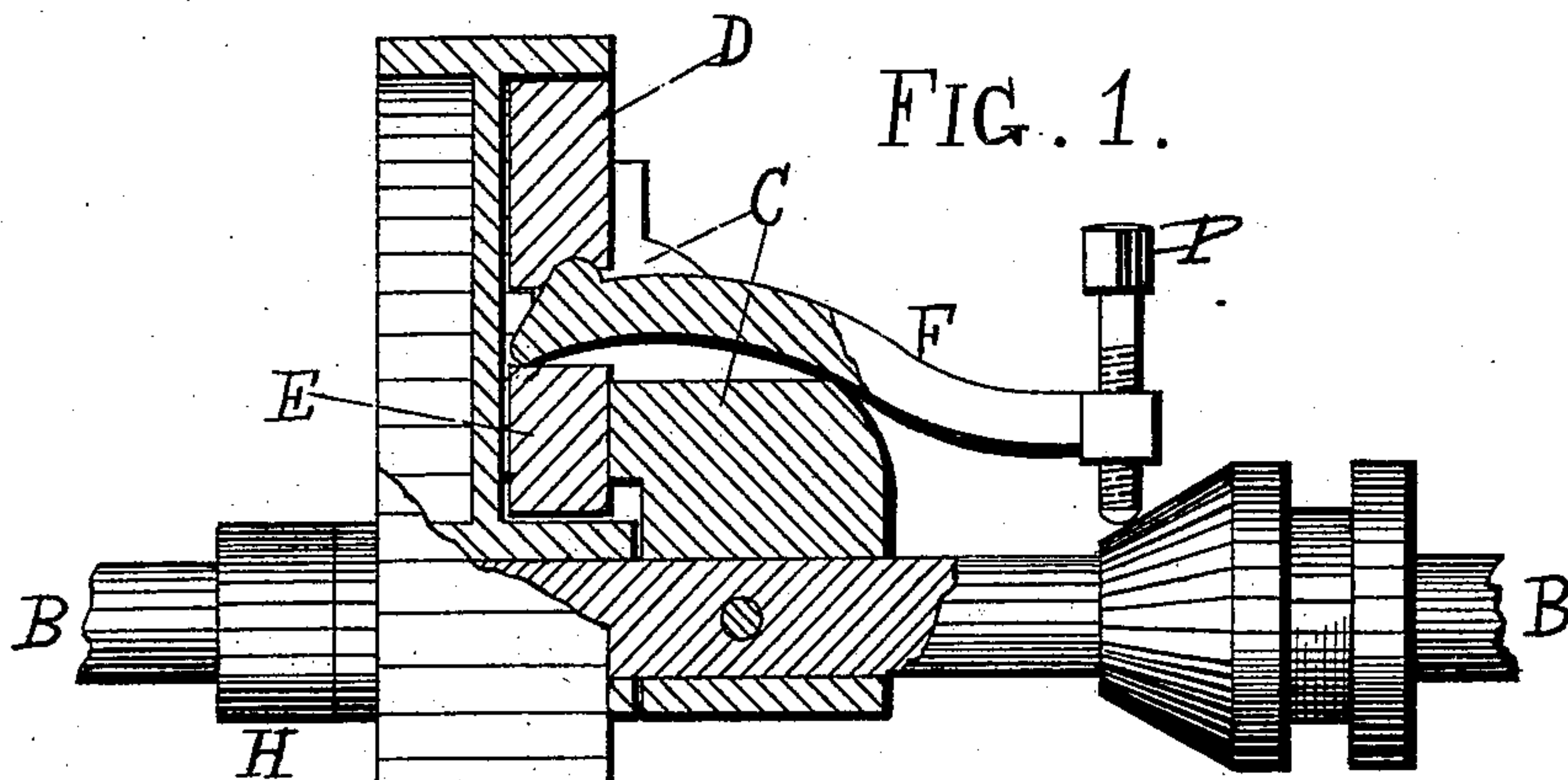


FIG. 2.

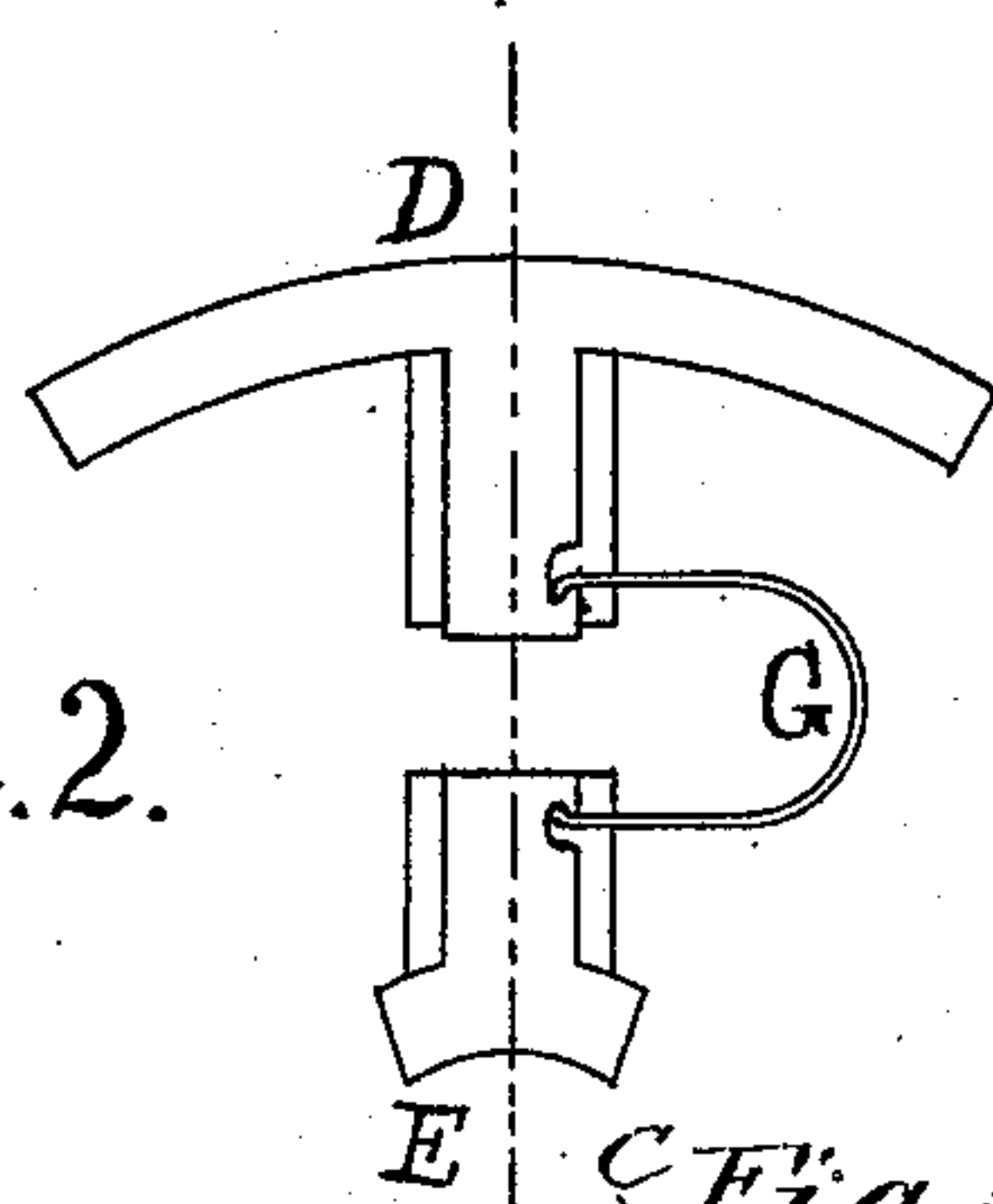
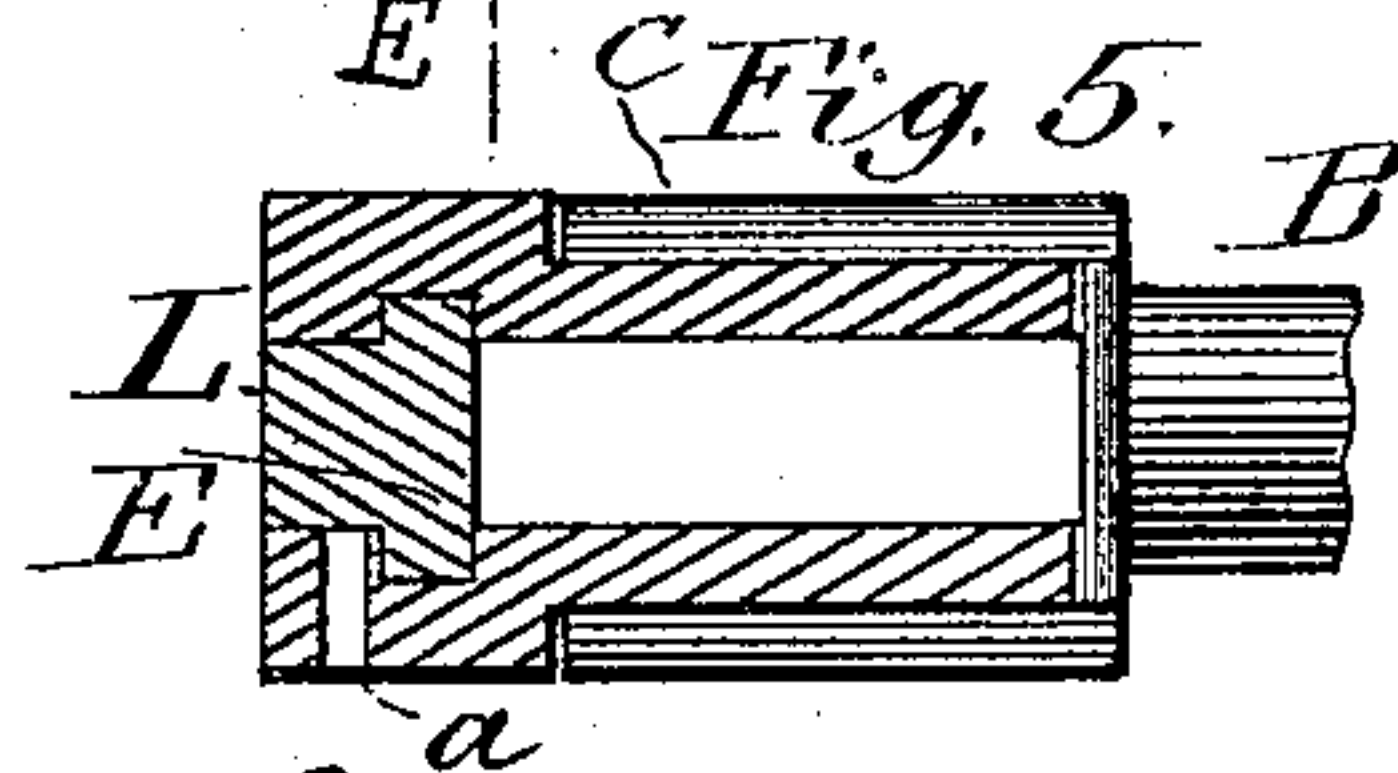
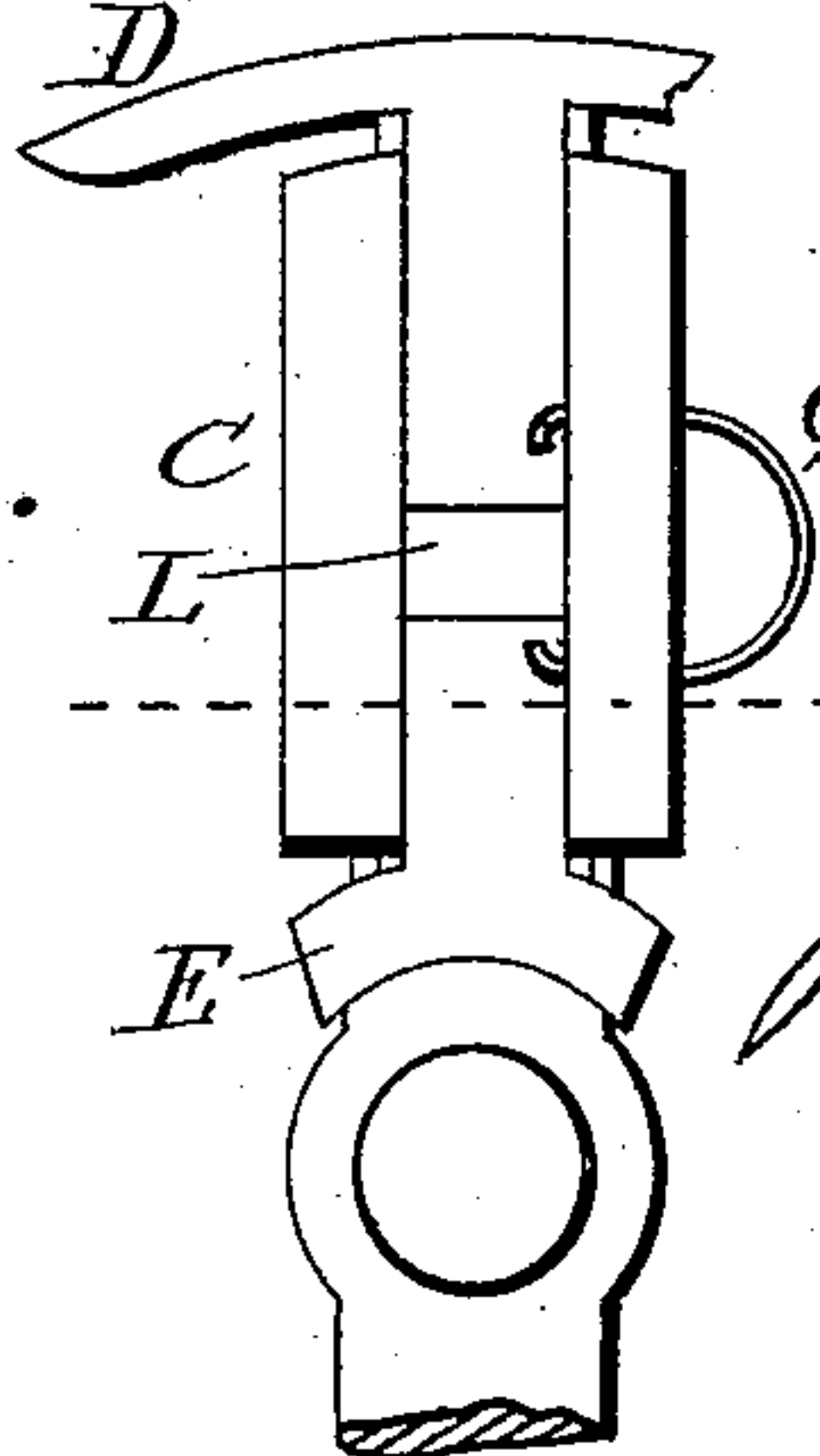


Fig. 4.



WITNESSES.

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CLUTCH MECHANISM.

SPECIFICATION forming part of Letters Patent No. 397,238, dated February 5, 1889.

Application filed January 7, 1888. Serial No. 260,037. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. KING, a citizen of the United States, residing at Meriden, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Clutch Mechanism; 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 the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in clutch mechanism; and it consists in certain novel features of construction, more fully hereinafter set forth and claimed.

Heretofore similar devices were provided with blocks or shoes or expanding rings which were arranged to contact with the rim of the pulley only, which in practice have been found to give unsatisfactory results, since under many circumstances the friction obtained is insufficient to prevent the slipping so objectionable in devices of this character.

The object of my invention is to obviate, wholly or in part, some of the defects existing in prior devices by providing a carrier having two blocks or shoes arranged to contact simultaneously, one with the rim and the other with the hub of the wheel or pulley, thereby securing double the amount of friction ordinarily obtained, and many other valuable results, to which mention will be more fully hereinafter made.

In the drawings, Figure 1 is a side view of a device of my construction best adapted to carry out the spirit of my invention, a section being broken away to show the position occupied by the actuating-lever between the blocks or shoes and the manner in which it is retained. Fig. 2 is a detailed view of the blocks or shoes and the spring for drawing them together. Fig. 3 is a side view of a two-arm carrier, one of the arms being broken away, the remaining arm showing the holes or perforations through which the spring passes to engage the blocks or shoes, which are also shown in position, the parts contained within the carrier being denoted by dotted lines. Fig. 4 is an end view of a carrier, the blocks or shoes and

spring also being shown in position. A section of a second arm is also shown to convey the idea of how a carrier may be constructed with two or more arms when desirable, thereby increasing the efficiency, since each arm is provided with two blocks or shoes and an actuating-lever, all being operated simultaneously. Fig. 5 is a sectional view taken through the dotted line T, shown in Figs. 3 and 4.

In Fig. 1, A is an ordinary driving wheel or pulley mounted upon the shaft B in a manner to admit of its being revolved freely. A carrier, C, is rigidly secured to the shaft B by keying, pinning, or set-screws. The face of the carrier C is slotted throughout its entire length, as shown in Fig. 4, the slot being designated by the letter L. A cross-section of the slot approximates in shape to the letter T, as will be seen in Fig. 5. The shanks of the blocks or shoes D and E are fitted to slide loosely within the slot L, where they are retained by the spring G, as shown in Fig. 4.

In Fig. 3, *a a* are holes or perforations, through which the ends of the spring pass to engage the blocks or shoes D and E. The shoe D has a depression or hollow place formed in the end which is confined in the slot L, as will be seen in Fig. 1, and is also denoted by the dotted lines in Fig. 3.

An actuating-lever, F, provided upon one end with an enlargement, (corresponding in shape to the hollow place in the end of the shoe D,) is interposed between the blocks or shoes, as shown in Fig. 1. The actuating-lever is retained in position by the pressure of the spring G, communicated through the drivers D and E. The free end of the actuating-lever is provided with an adjusting-screw, P, for the purpose of regulating the pressure or power applied.

To prevent accidental displacement of the pulley A, the collar H is rigidly secured to the shaft B. (Shown in Fig. 1.)

In operation the working of the device is as follows: A cone, K, of the ordinary pattern, is placed upon the shaft and provided with suitable means for operating. When the cone is forced toward the carrier, it contacts with the adjusting-screw and raises it; also, the actuating-lever is raised, which in turn imparts a separating motion to the drivers, causing them to contact simultaneously, one with

the hub and the other with the rim of the pulley, thereby utilizing all the power or force applied in a direct line between rim and hub, thus obviating the tendency to cant the pulley upon the shaft; and, furthermore, the pulley being provided with a hub upon both sides, it possesses double the wearing-surface of the ordinary friction-pulley.

It is obvious that a carrier may be constructed with several sets of drivers arranged to operate together, thus greatly increasing the holding-power of the device. I therefore would not confine myself to any particular construction.

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

1. In a clutch, the combination, with a shaft having a pulley loosely mounted thereon, of a carrier rigidly secured to said shaft, said carrier comprising a hub or body provided with an arm recessed upon its face, said arm extending at right angles to said shaft and having two movable blocks or shoes mounted within said recess, and a lever arranged to impart a separating motion to said blocks or shoes, all arranged and operating substantially as shown and described.

2. In a clutch, the combination, with a shaft having a pulley loosely mounted thereon, of a carrier rigidly secured to said shaft, said carrier having two movable blocks or shoes mounted therein, and an actuating-lever interposed between and adapted to impart a separating motion to such blocks or shoes, causing them to contact simultaneously, one with the rim and the other with the hub of said pulley, and a spring adapted to retire said shoes from contact when the actuating-lever is released, all arranged and operating substantially as shown and described.

3. In a clutch, the combination of the wheel A, the shaft B, and the carrier C, having perforations *a a* and slot L, the shoes D and E, mounted within said slot, and the spring G, the lever F, adjusting-screw P, and cone K, all constructed and arranged to operate substantially as herein shown and described, and for the purpose specified.

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

CHARLES A. KING.

Witnesses:

WILLIAM H. LYON,
RALPH A. PALMER.