

No. 788,183.

PATENTED APR. 25, 1905.

W. M. BARNES.
NECKBAND STRETCHER.
APPLICATION FILED JULY 21, 1903.

2 SHEETS—SHEET 1.

FIG. 1.

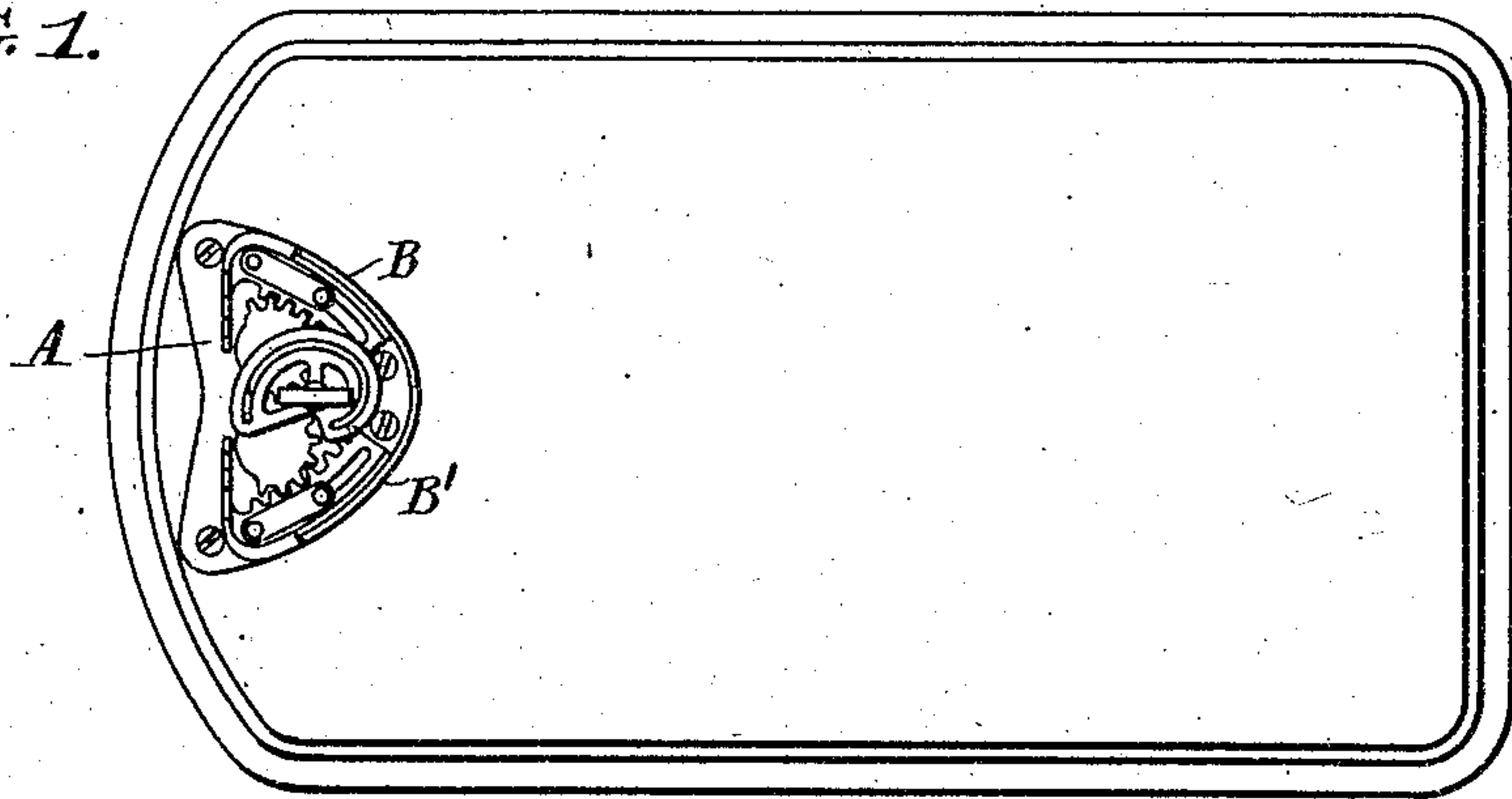


FIG. 2.

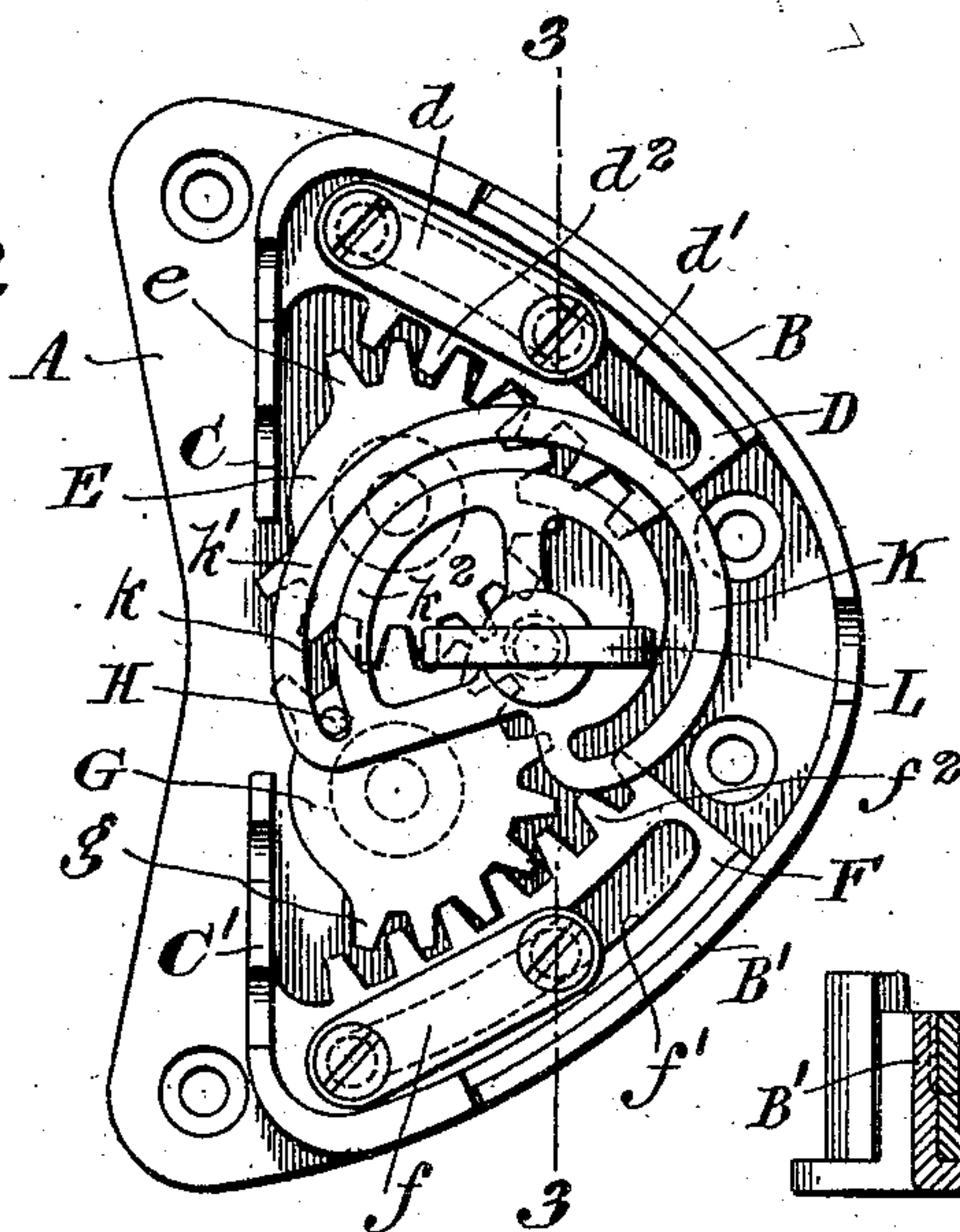


FIG. 3.

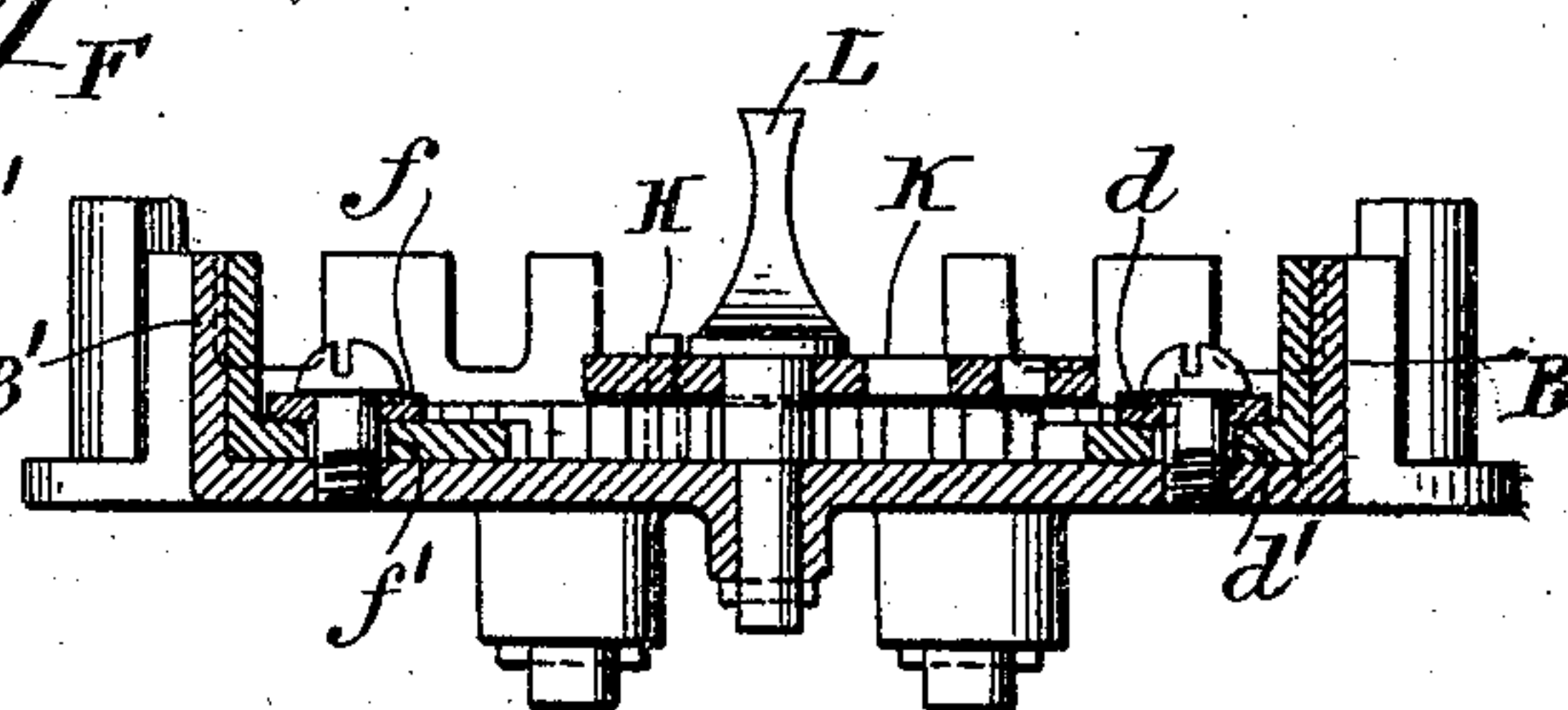
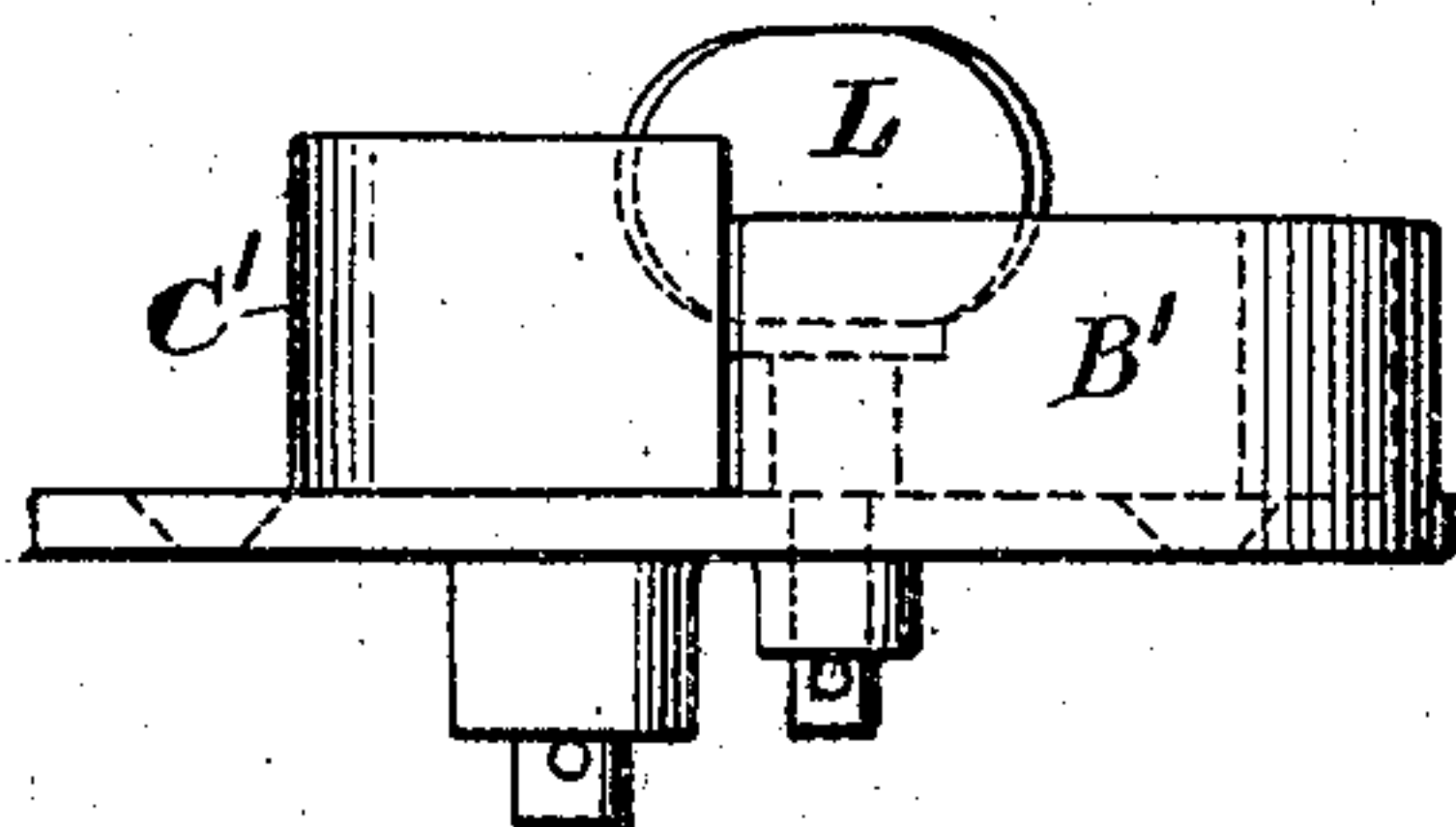


FIG. 4.



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2 SHEETS—SHEET 2.

Fig. 5

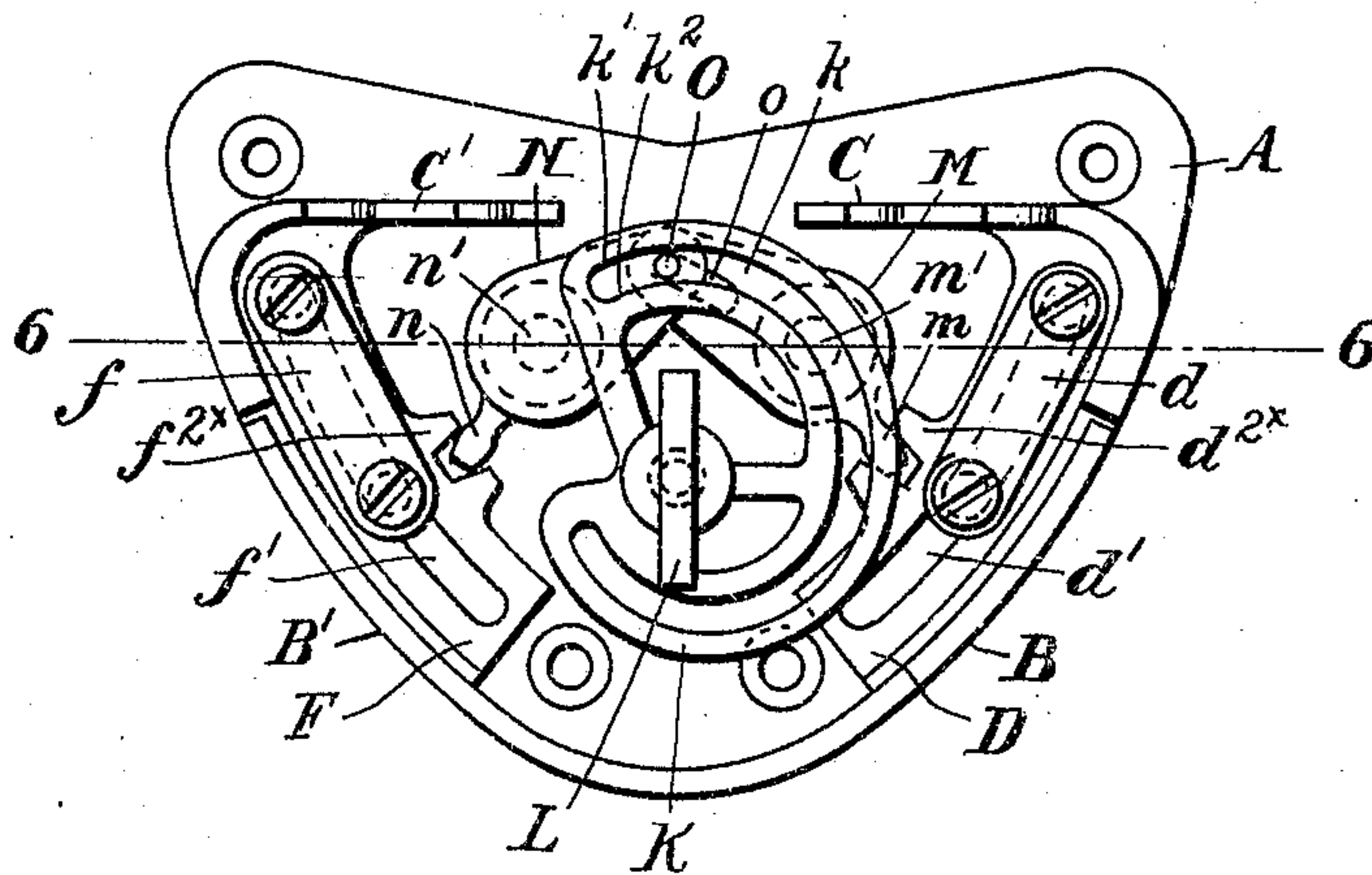


Fig. 6

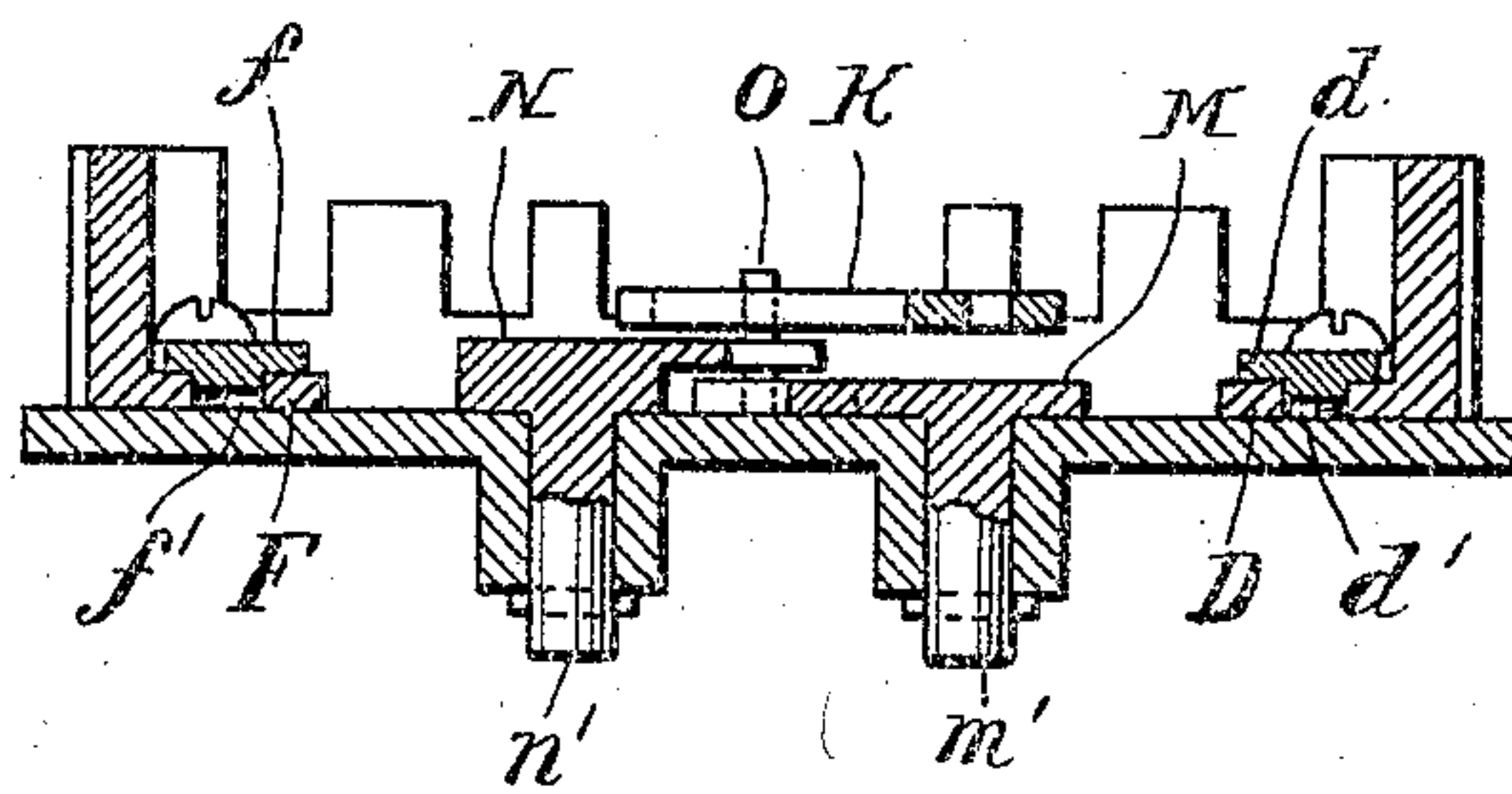
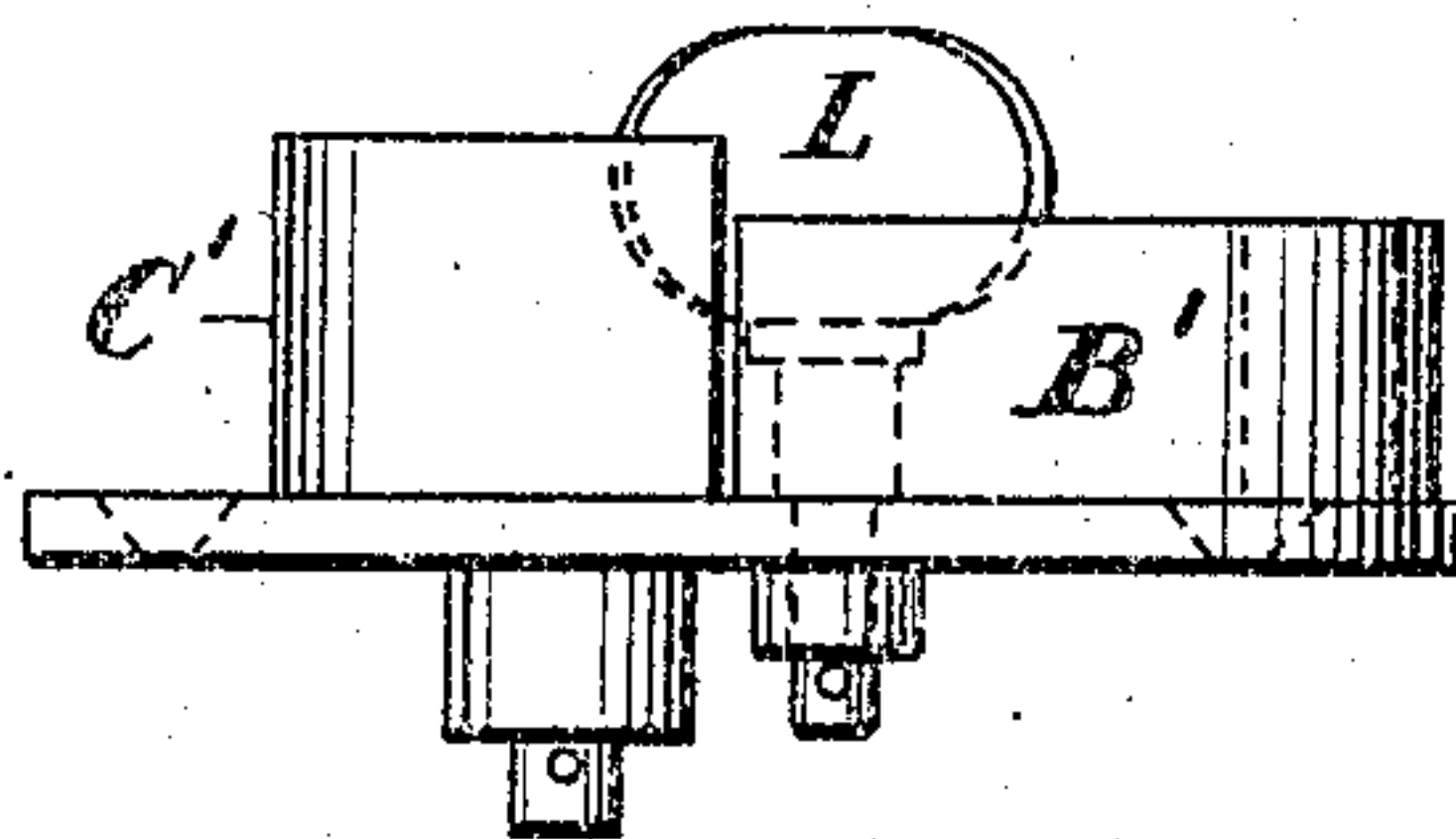


Fig. 7



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WILLIAM M. BARNES, OF PHILADELPHIA, PENNSYLVANIA.

NECKBAND-STRETCHER.

SPECIFICATION forming part of Letters Patent No. 788,183, dated April 25, 1905.

Application filed July 21, 1903. Serial No. 166,451.

To all whom it may concern:

Be it known that I, WILLIAM M. BARNES, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Neckband-Stretchers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

Speaking generally, my invention relates to that class of neckband-stretchers which is illustrated, described, and claimed in an application filed by me December 27, 1902, Serial No. 136,776. The neckband-stretcher consists of a fixed central portion formed of two surfaces curved eccentrically to each other. From one end of each of these curved portions a wing projects, each wing being movable to and from its contiguous central portion in a path at a diverging angle from the other wing. In my previous application I described, illustrated, and claimed, among other things, a mechanism for moving the wings to and from the central portion and holding them in the different positions. I have discovered a simple and more certain mechanism for accomplishing this purpose, and this forms the subject-matter of the present invention.

I will first describe the specific embodiment of this invention as illustrated in the accompanying drawings and then point out the invention in the claims.

In the drawings, Figure 1 is a plan view of the device attached to its base or operating board or table. Fig. 2 is an enlarged plan view. Fig. 3 is a section on line 3 3, Fig. 2. Fig. 4 is an end elevation. Fig. 5 is a view similar to Fig. 2 of a modified form. Fig. 6 is a section on line 6 6, Fig. 5. Fig. 7 is an end elevation of structure of Fig. 5.

Speaking of Figs. 1 to 4, A is the base of the neckband-stretcher; BB', the fixed curved flanges extending from said base, the curvature of the flange B being eccentric to that of the flange B'. Projecting from the end of the flange B is the wing C, and projecting from the end of the flange B' is the wing C'. These wings C C' project beyond the respective cen-

tral flanges B B', and each of the wings is curved concentric with the curvature of its central portion. Secured to the base A is a stud or block d , which rests in a slot d' in a lateral flange D, projecting from the wing C, which slot and block are curved to be concentric with the curvature of the flange B. The outer surface of this flange D has the gear d^2 , meshing with the teeth e of the segmental gear E, pivoted to the base A. In like manner a stud or block f , secured to the base, rests in a slot f' in a lateral flange F, projecting from the wing C', which slot and block are curved concentric with the curvature of the flange B'. The outer surface of the flange F also has the gear f^2 , meshing with the teeth g of the segmental gear G, pivoted to the base A. The teeth of the two gears also intermesh.

As may be seen, the movements of the wings with reference to each other are in diverging paths. H is a pin secured to the face of gear G and resting in a slot k , formed between the spiral faces k' k^2 of the cam K, pivoted to base A and provided with the thumb-piece L for turning the cam. When the pin H rests at the farthest outward point of the cam-slot k , the wings C and C' are at their inner positions. By turning the cam K the outer wall of the slot in the cam draws the pin H inward, turning the gears E and G and which, moving upon the gears d^2 and f^2 , move the wings outwardly beyond the central flanges B B'. The cam-faces also lock to hold the pin from movement unless the cam be rotated.

In Figs. 5, 6, and 7 I have shown a modified form of embodiment of my invention. In this form the gears d^{2x} and f^{2x} have two teeth only of considerable width. Meshing with this gear d^{2x} is a toothed projection m of a crank-arm M, pivoted at m' . Meshing with this gear f^{2x} is a toothed projection n of a crank-arm N, pivoted at n' . A pin O is connected to the arm N and passes through an elongated slot o in the arm M. The pin O also passes through the slot k of cam K.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In combination, a neckband-stretcher, comprising a central portion and wings pro-

jecting from said central portion and movable to and from said central portion, said wings each having a gear, a gear for each of said wing-gears, interconnection between said 5 gears whereby they move in unison, a cam, and a connection between said cam and said gears, whereby in the movement of said cam, said gears are operated to move the wings.

2. In combination, a neckband-stretcher, 10 having a central portion and a wing projecting from said central portion and movable to and from said central portion, said wing having a gear, a gear meshing with said wing-gear, a pin secured to said gear, and a cam 15 having a spiral slot in which said pin rests.

3. In combination, a neckband-stretcher,

comprising a central portion and wings projecting from said central portion and movable to and from said central portion, said wings each having a gear, a gear for each wing- 20 gear, interconnection between said gears whereby they move in unison with each other, a pin on one of said gears, and a cam having a spiral slot in which said pin rests.

In testimony of which invention I have here- 25 unto set my hand, at Philadelphia, on this 16th day of July, 1903.

WILLIAM M. BARNES.

Witnesses:

M. F. ELLIS,

M. M. HAMILTON.