

No. 625,974.

Patented May 30, 1899.

H. P. HANSEN.
POWER WINCH.

(Application filed Feb. 28, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

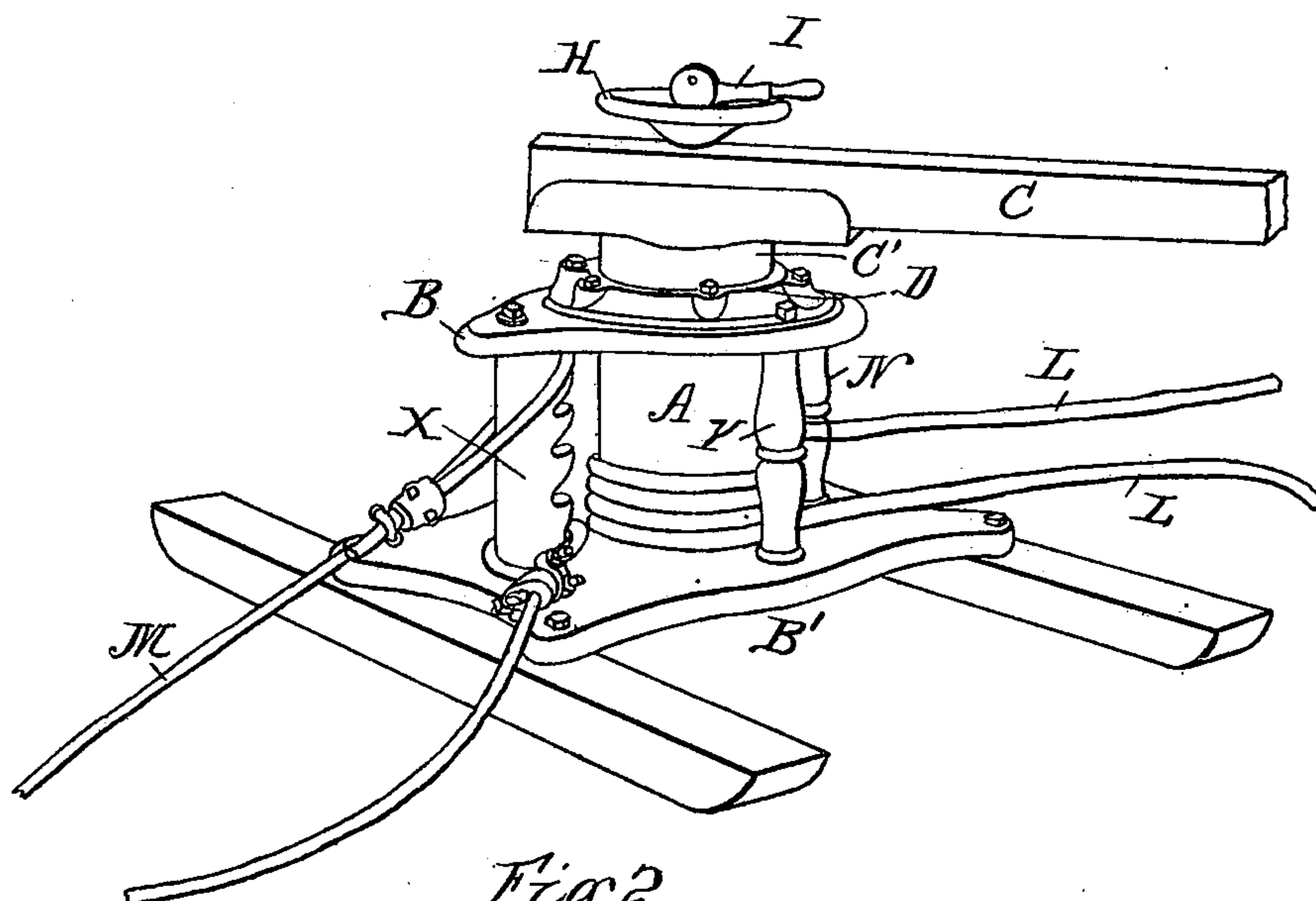
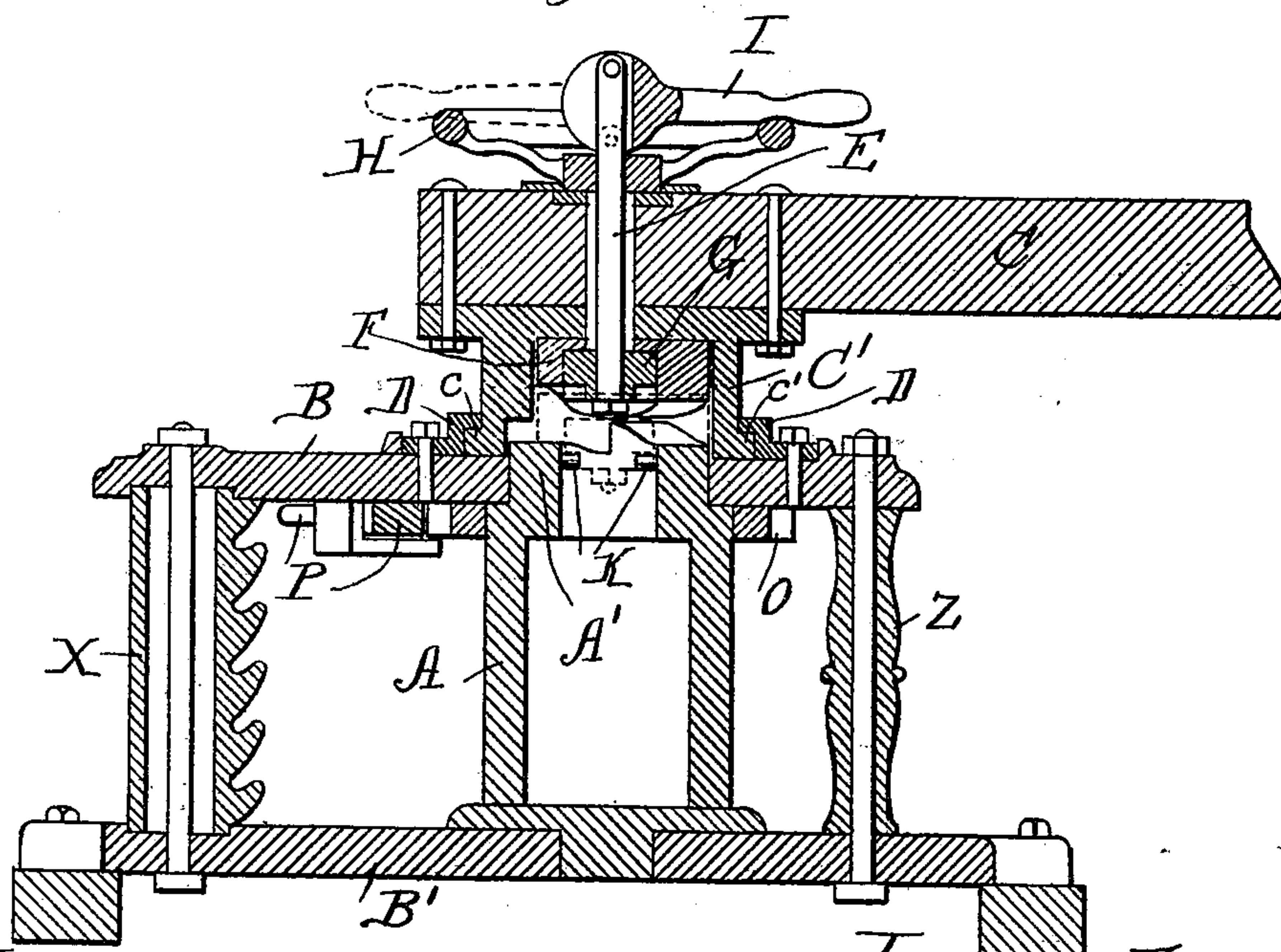


Fig. 2.



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2 Sheets—Sheet 2.

Fig. 3.

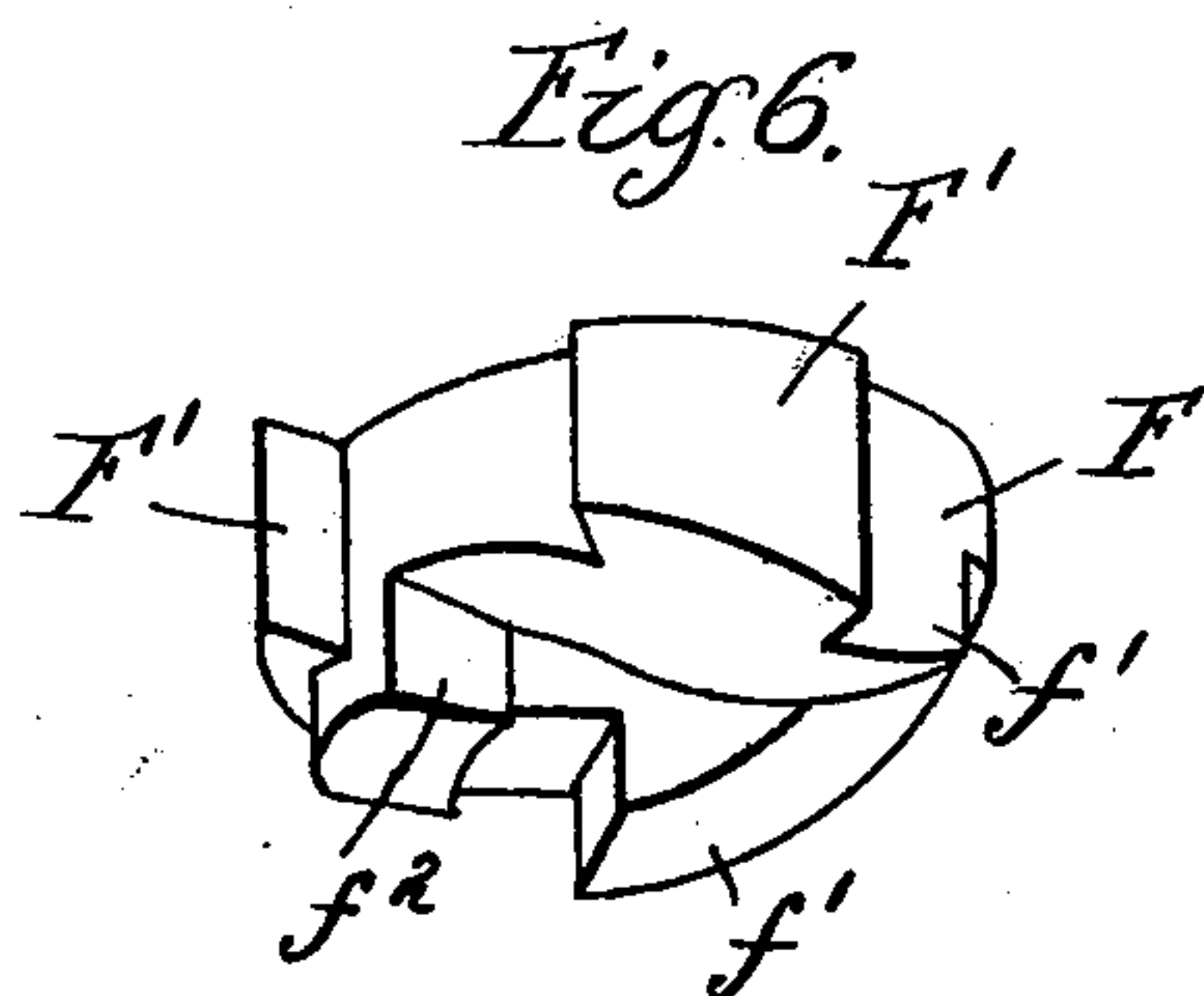
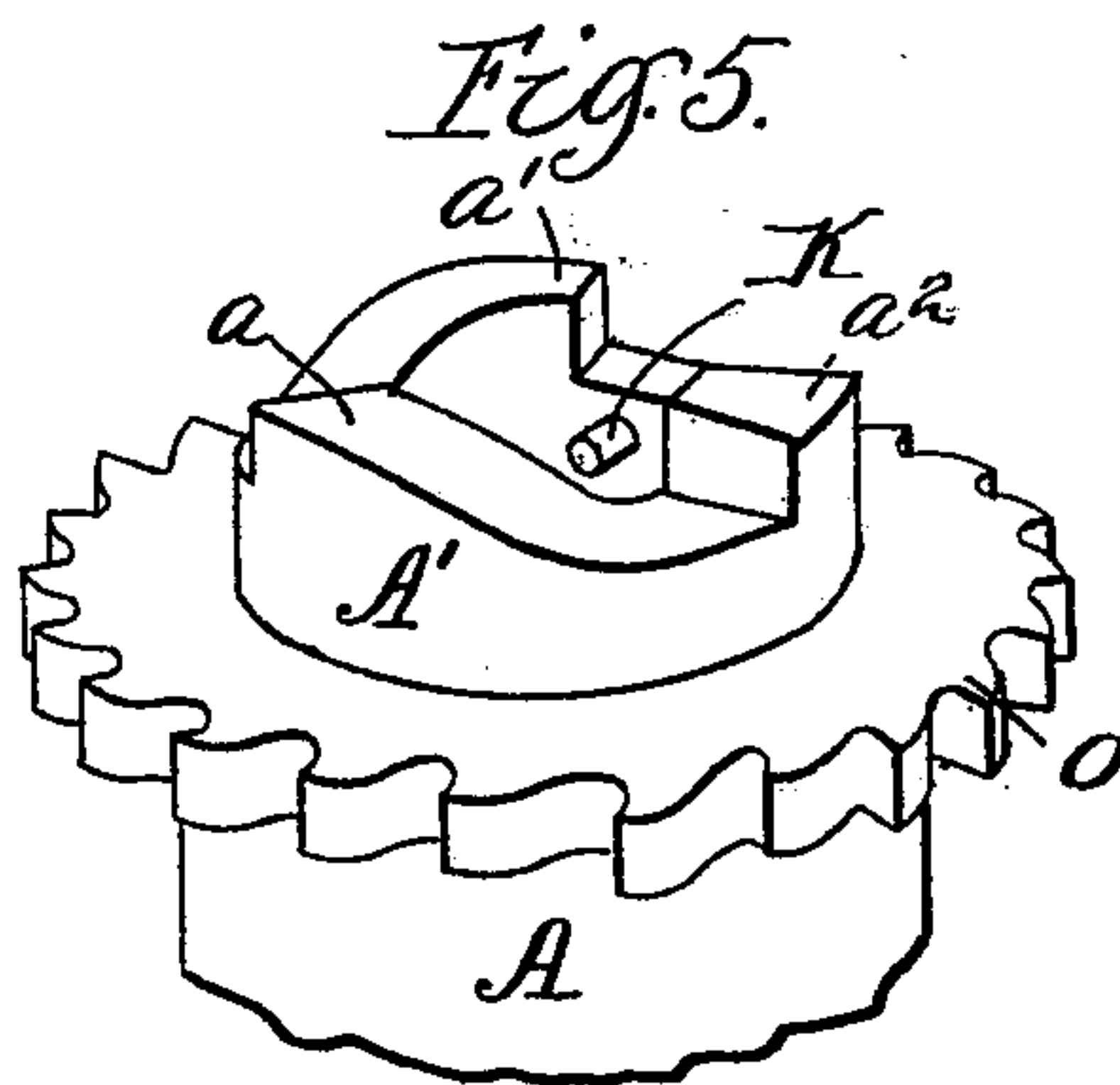
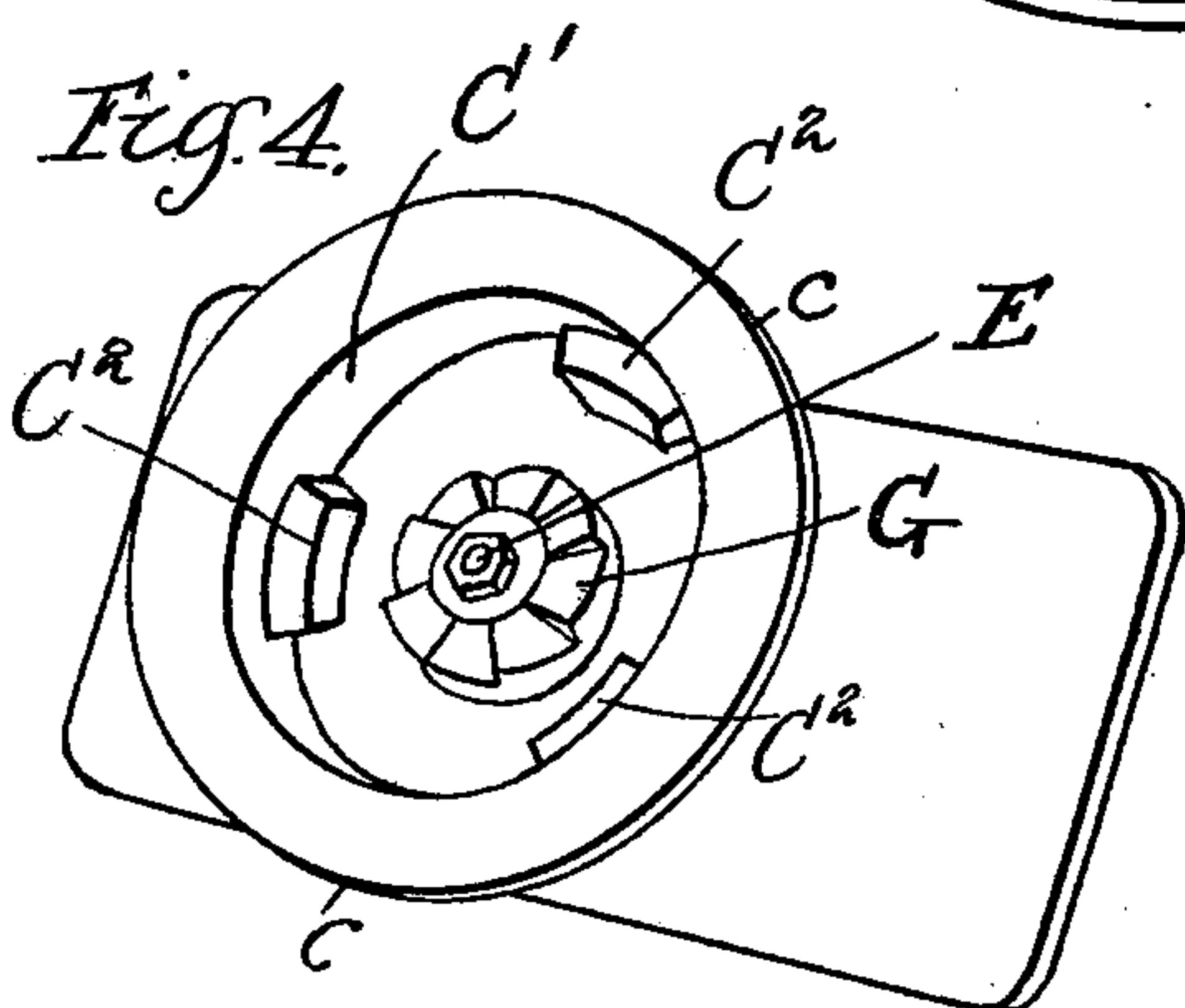
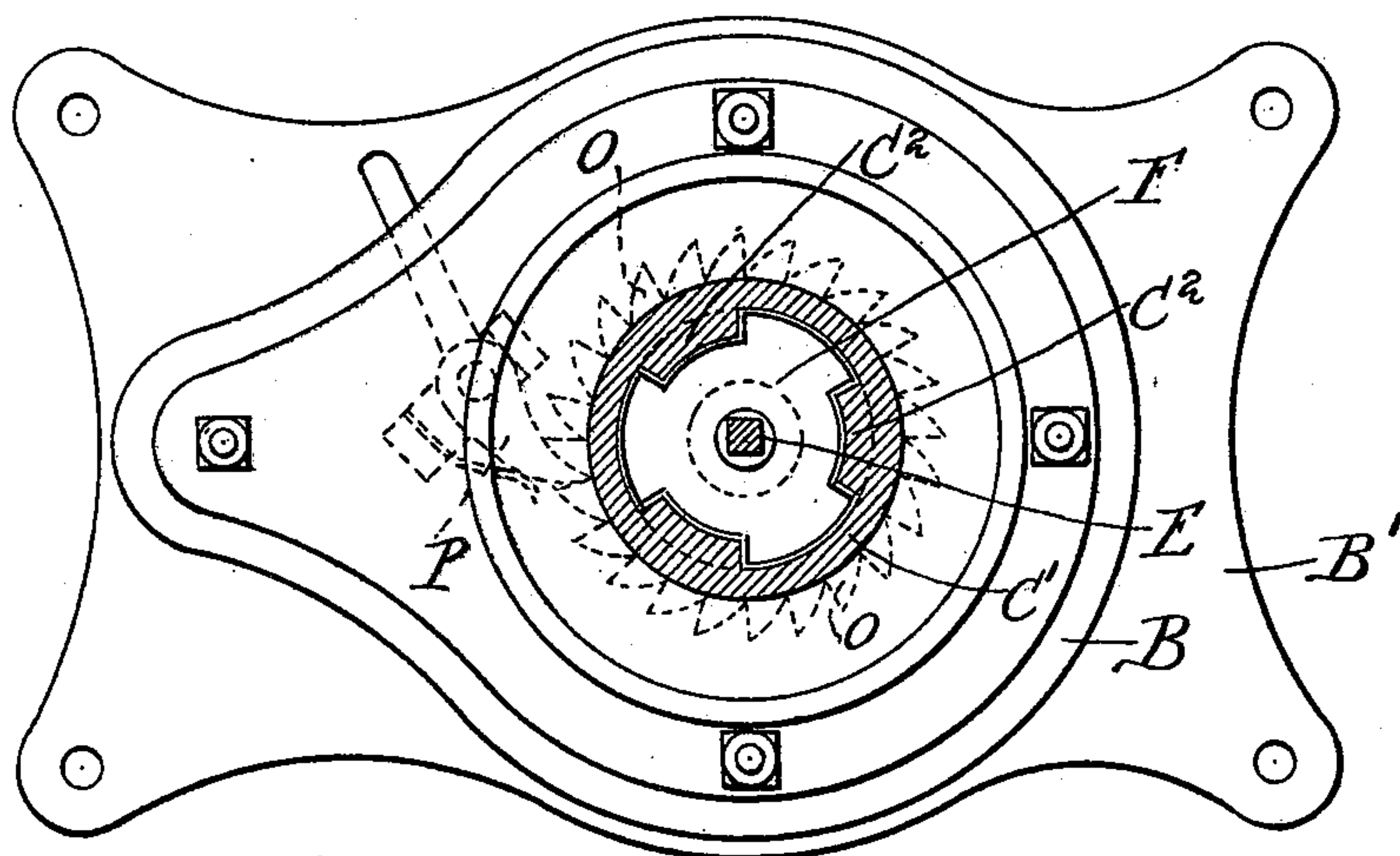


Fig. 7.



Witnesses.
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UNITED STATES PATENT OFFICE.

HAWKEN P. HANSEN, OF DECORAH, IOWA, ASSIGNOR TO THE SNOW WIND-MILL COMPANY, OF GENEVA, ILLINOIS.

POWER-WINCH.

SPECIFICATION forming part of Letters Patent No. 625,974, dated May 30, 1899.

Application filed February 28, 1899. Serial No. 707,153. (No model.)

To all whom it may concern:

Be it known that I, HAWKEN P. HANSEN, a citizen of the United States of America, residing at Decorah, in the county of Winneshiek, in the State of Iowa, have invented certain new and useful Improvements in Power-Winches, of which the following is a description.

Referring to the accompanying drawings, wherein like reference-letters indicate like or corresponding parts, Figure 1 is a side elevation of my improved winch. Fig. 2 is a vertical section through the same. Fig. 3 is a top plan of my improved winch with the sweep and cap removed, showing the parts in partial section. Fig. 4 is a bottom plan of the end of the sweep, showing the means for engagement with the winding-drum. Fig. 5 is a view of the upper end of the drum, and Figs. 6 and 7 are detail views.

My invention is in the nature of an improvement upon the power-winch invented by John W. Pope and William C. Meyrick, for which application for Letters Patent of the United States was filed April 25, 1898, Serial No. 678,758. The winch there shown is intended for trying and difficult work—such, for example, as stump-pulling—and is provided with effective means for the temporary engagement of the sweep with the winding-drum, the connection being so made that the sweep may be retracted when necessary or desirable in order to secure an engagement that will prove more accommodating to the location or the power attached to the sweep. No means, however, is shown in that application for taking up the slack of the winding-rope by rotating the drum independently of the sweep.

The object of this invention is to provide a winch of the general type of that shown in the Pope and Meyrick application with simple and effective means for rotating the drum independently of the sweep whenever it may be desired to take up the slack of the winding-rope or for other similar purposes.

To this end my invention consists in the novel construction and combination of the parts shown and described, and more particularly pointed out in the claims.

In the drawings, A represents the winding-drum suitably positioned between the plates B B', which are held in proper relative position by posts $x y z$. The upper end of the winding-drum A' extends through a suitable opening in the plate B, forming a bearing for the same, and is provided with the ratchet-face $a a' a^2$. The sweep C is provided with a cap C', adapted to encircle the top of the drum, as shown, and is rotatably secured to the plate B in any preferred manner—as, for example, by the castings D, secured to the plate B and embracing the shoulders $c c$ on the cap C'. The clutch or lock block F is adapted to be positioned within the cap C' and is provided with guideways F', adapted to coact with the guides C² in the cap, causing the clutch-block while vertically movable within the cap to also be always so engaged with the sweep that it will positively rotate therewith. This construction permits of a vertical movement of the block F, which when the sweep is reversed permits the block to rise and the shoulders $f f' f^2$ to ride over the ratchets $a a' a^2$, after which the block will drop again into position and become suitably engaged with the head of the winding-drum to operate the same. A clutch or ratchet-head G or an equivalent device is loosely positioned in the lower face of the block F in such a manner that it may be rotated independently thereof. A rod or bar E, extending from the ratchet-head G through the sweep C, is provided with suitable means for rotating said bar and the ratchet-head G. As here shown, the hand-wheel H serves this purpose. The rod or bar E loosely extends through said wheel H in such a manner that it cannot rotate therein, but the two rotate in unison. A squared or irregular-shaped rod or bar passing through a corresponding opening in the wheel serves this purpose. The bar E is provided at its upper end with the cam-lever I, by the operation of which the ratchet-head G and the block F may be vertically lifted to disengage them from the head of the winding-drum; Fig. 2. The upper end of the winding-drum is provided with suitable means for engagement with the ratchet-head G. Fig. 5

shows means for this purpose in the lugs K. Ratchet-and-pawl connection prevents the accidental reversal of the drum.

The operation of the device is as follows:

5 The winch being suitably anchored, as by the anchor-line M, and the lines properly connected, the cam-lever I is thrown over to assume the position shown in dot-lines, Fig.

2. The lock-block F thus engages with the
10 head of the winding-drum and the ratchet-head G with the lugs K. If at this time the winding-ropes L are slack, the drum may be independently rotated by means of the wheel H and the engagement of the bar E and
15 ratchet-head G with the lugs K in the drum, the lock-block F riding over the ratchets a a' a'' . When the slack is taken up, the sweep may at once be operated, the engagement immediately changing from that just described
20 to the cap, the lock-block, and ratchet a a' a'' in the drum.

When the cam-lever I is thrown over into the position shown in full lines, Fig. 2, the bar E is raised, disengaging the head G and
25 lock-block F from the drum and disengaging the sweep therefrom. The ratchet O and pawl P may then be disengaged, when the drum is entirely released and free to rotate in either direction.

30 I do not wish to be understood as limiting myself to the exact construction shown, the broad idea of my invention consisting in providing a supplemental connection with the drum by means of which it may be rotated
35 independently of the sweep when no great strain is on the lines, resulting in a great saving in time.

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

1. In a device of the kind described, a winding-drum, a main clutch adapted to engage the drum, and means for rotating the clutch, in combination with a supplemental clutch
45 device adapted to move said main clutch into and out of engagement with said drum and adapted to engage and turn the drum independently of the main clutch, whereby the drum may be rotated independently of the
50 main clutch device, substantially as described.

2. In a device of the kind described, the combination of a winding-drum, a rotatable cap, means for rotating the cap, a clutch-block
55 movably carried by said cap for coupling the cap to the drum, a supplemental clutch adapted to engage the drum and turn the same independently of the main clutch, and means for moving the main and supplemental clutches to
60 engage the drum, substantially as described.

3. In a device of the kind described, the combination of a winding-drum, a rotatable cap, means for rotating the cap, a main clutch-block carried by said cap for coupling the cap
65 to the drum, a supplemental clutch-block movable with said main clutch-block toward the drum, and means for rotating said supple-

mental clutch-block and drum independently of the main clutch-block, substantially as described.

4. In a device of the kind described, the winding-drum provided with a clutch-top, a rotatable cap for the end of the drum, means for rotating the cap, a clutch-block located within the cap and movable therein to engage
75 or disengage the drum, and means for causing the block to rotate with the cap, in combination with supplementary mechanism arranged to be engaged or disengaged with the drum at will, whereby the drum may be ro-
80 tated independently of the main operating mechanism.

5. In a device of the kind described, the winding-drum provided with a clutch-top, means to hold the drum against reversal, the
85 rotatable cap and means for rotating the same, a clutch-block located within the cap and movable therein to engage or disengage the drum, means to disengage the clutch-block at will, and means for causing the block to rotate with
90 the cap, in combination with supplementary mechanism arranged to be engaged with or disengaged from the drum at will, whereby the drum may be rotated independently of the main operating mechanism, substantially as
95 described.

6. In a device of the kind described, the vertical winding-drum provided with a clutch-top, the rotatable cap for the end of the drum, means for rotating the cap, a clutch-block
100 located within the cap and vertically movable therein, means to disengage the clutch-block from the drum at will, and means for causing the block to rotate with the cap, in combination with supplementary mechan-
105 ism, arranged to be engaged with or disengaged from the drum at will, whereby the drum may be rotated independently of the main operating device, substantially as described.

7. In a device of the kind described, the vertical winding-drum provided with a clutch-top, a rotatable cap for the end of the drum, means for rotating the cap, a clutch-block
110 located within the cap and vertically movable therein, means for causing the block to rotate with the cap, the rod or bar extending through the cap and connected to the block, and means for lifting the rod or bar and block
115 at will to disengage the drum, in combination with supplemental mechanism arranged to engage or disengage the drum at will, whereby the drum may be rotated independently of the main operating mechanism, sub-
120 stantially as described.

8. In a device of the kind described, a vertical winding-drum, a rotatable cap for the end of the drum, means for rotating the cap, the vertically-movable clutch-block located
125 within the cap, means for causing the block to rotate with the cap, and the rod or bar extending through the cap and block, in combination with the vertically-movable independent clutch device attached to the inner
130

end of the rod or bar and adapted thereby to be engaged with or disengaged from the drum, the two clutch devices being so positioned that they are vertically movable in unison, 5 substantially as described.

9. In a device of the kind described, the combination of the following elements: the drum A provided at its upper end with one member of a clutch device, a rotatable cap 10 C' inclosing the top of the drum and provided with a vertically-movable clutch-block F arranged to rotate therewith and forming the other member of a clutch device, the bar E extending loosely through the clutch-block F 15 and rotatable therein, a supplemental clutch-head G rigidly fixed on the inner end of the bar E, and adapted to coact with a second clutch member on the drum, means for ver-

tically lifting the bar E together with the clutch-blocks G and F to disengage the drum, 20 means for rotating the bar E independently of the cap C', and means for rotating the cap C', substantially as described.

10. In a device of the kind described, the combination of the following elements: the 25 drum A provided with ratchets a a' a^2 , and shoulders K, the cap C', the clutch-block F, the bar E, the clutch-block G secured to the inner end of said bar, the cam-lever I, means for rotating the bar E independently of the 30 cap C', and means for rotating the cap C', substantially as described.

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Witnesses:

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