

(No Model.)

2 Sheets—Sheet 1.

B. OTT.

BARK SHAVING MACHINE.

No. 335,532.

Patented Feb. 2, 1886.

Fig. 1

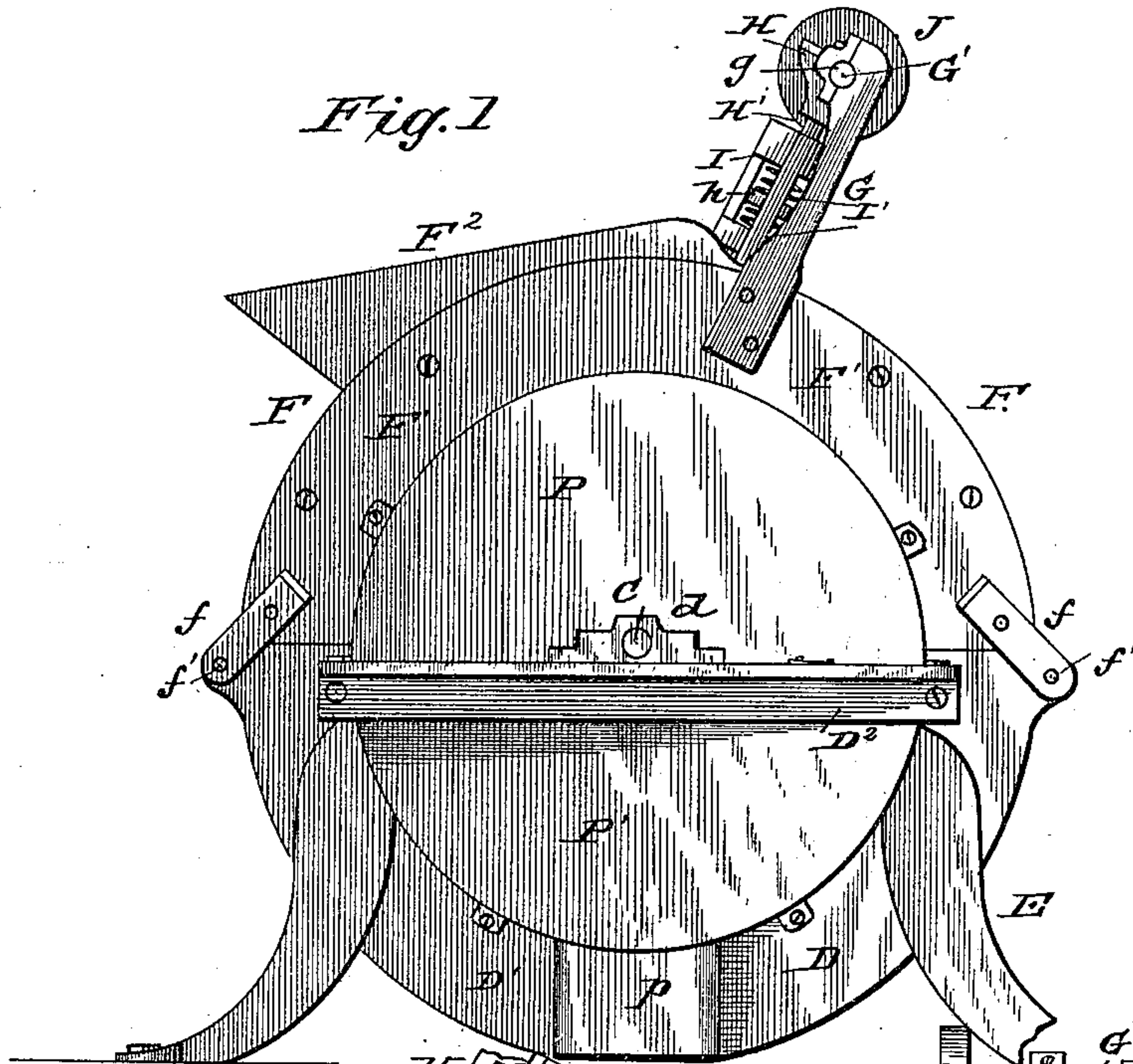


Fig. 2

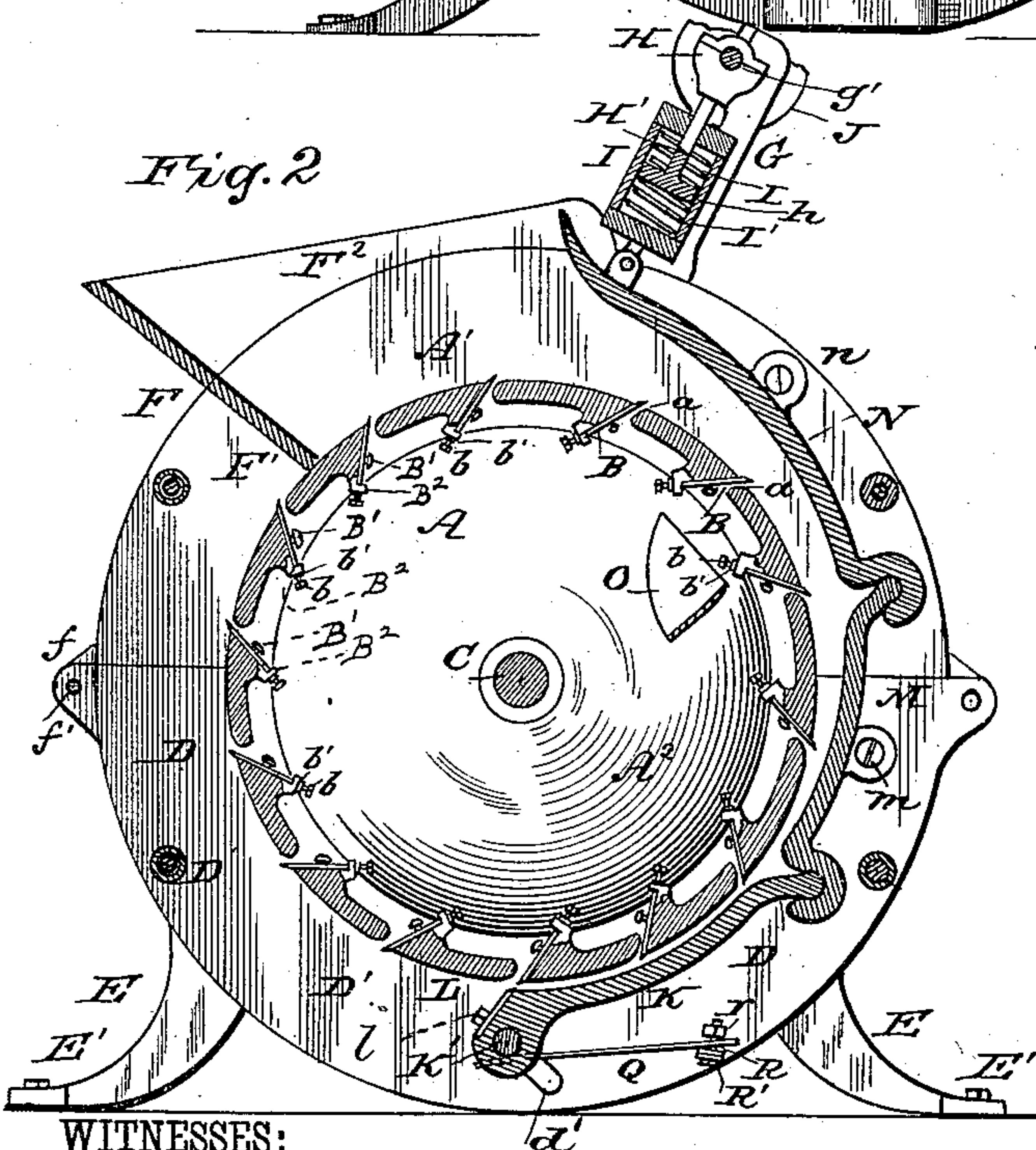
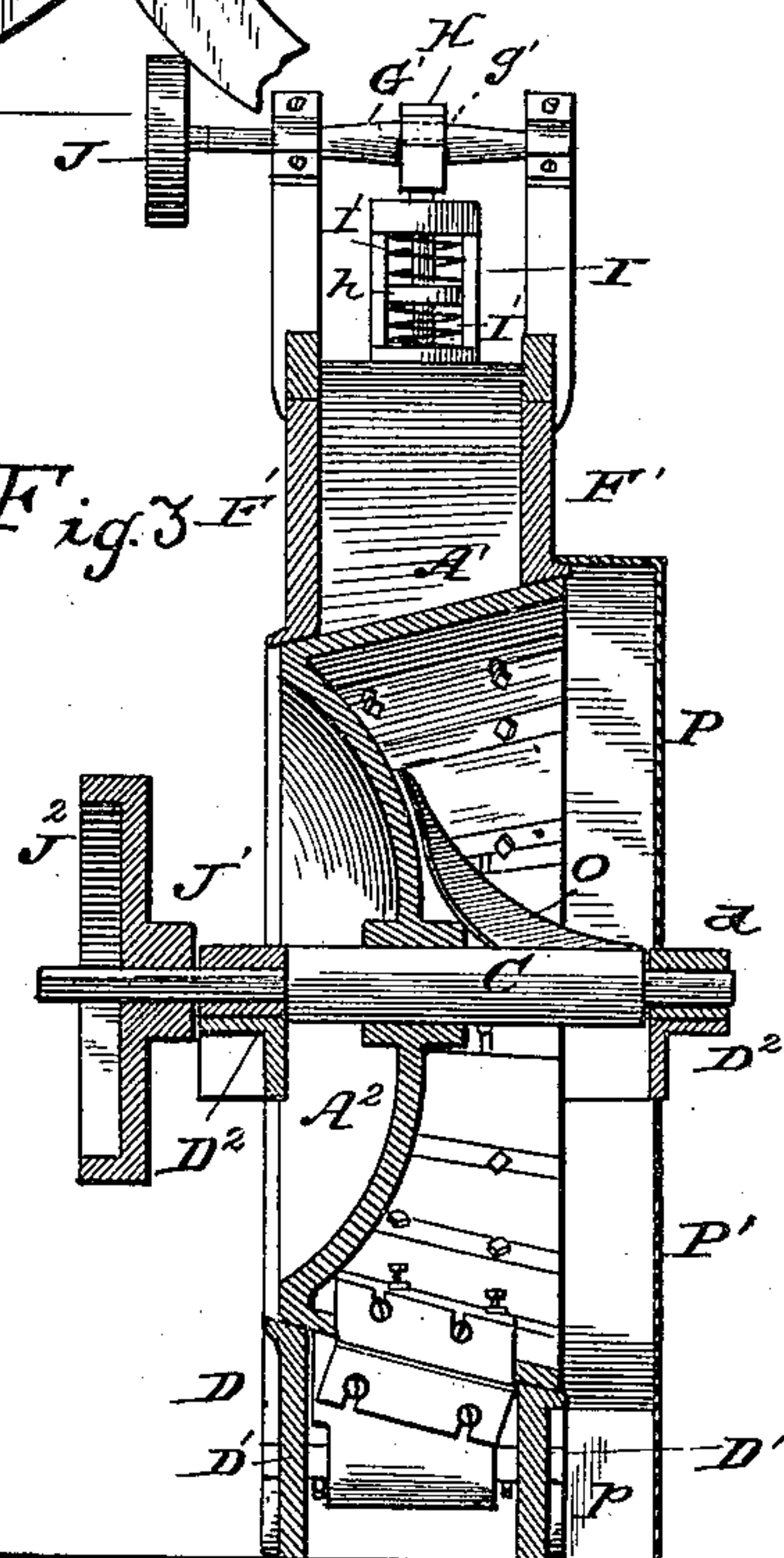


Fig. 3



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(No Model.)

2 Sheets—Sheet 2.

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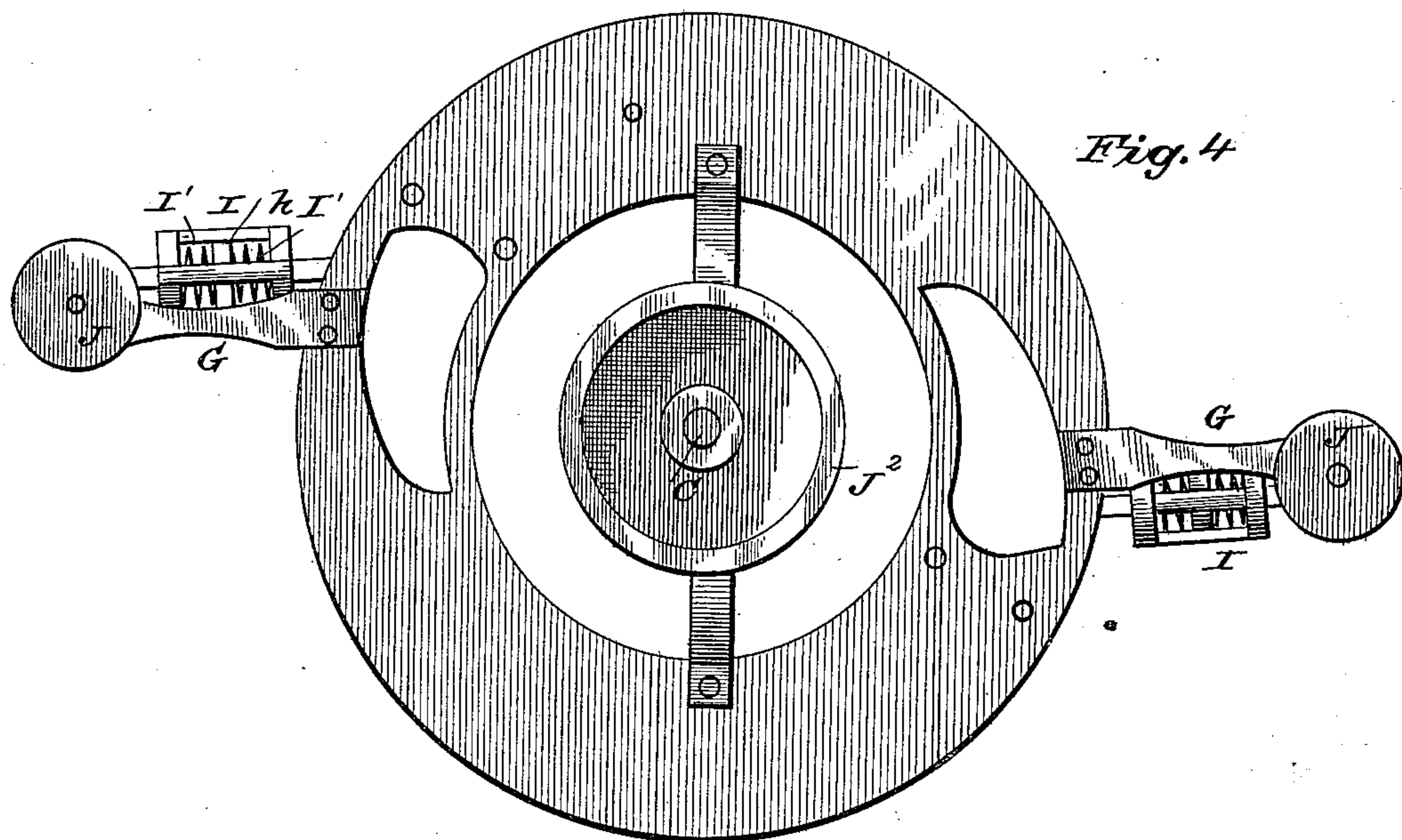


Fig. 4

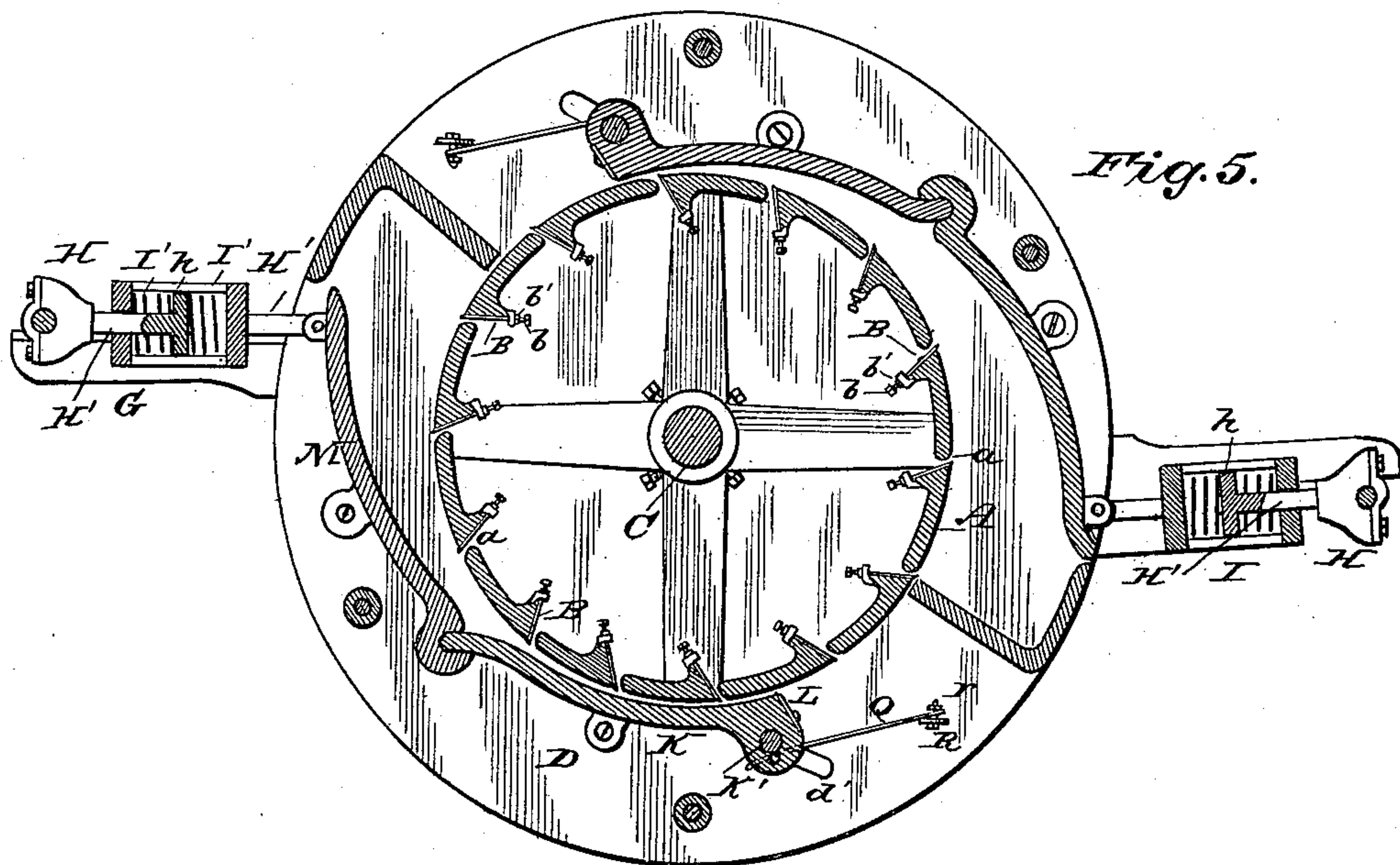


Fig. 5.

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UNITED STATES PATENT OFFICE.

BENEDICT OTT, OF LA CROSSE, WISCONSIN.

BARK-SHAVING MACHINE.

SPECIFICATION forming part of Letters Patent No. 335,532, dated February 2, 1886.

Application filed May 25, 1885. Serial No. 166,666. (No model.)

To all whom it may concern:

Be it known that I, BENEDICT OTT, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented a new and useful Improvement in Bark-Shaving Machines, of which the following is a full, clear, and exact description.

This invention is an improvement in machines for cutting bark for tanners' use; and it has for an object to provide a machine simple in construction, and by which the bark may be cut into shavings and delivered in condition for use.

The invention consists in certain novel constructions and combinations of parts, as will be hereinafter more fully described and claimed.

In the drawings, Figure 1 is a side elevation of my machine. Fig. 2 is a vertical transverse section thereof. Fig. 3 is a vertical longitudinal section of same. Fig. 4 is a plan view of a machine constructed according to my invention and supported in a horizontal position; and Fig. 5 is a horizontal section of the machine with the parts arranged as shown in Fig. 4.

The cutter-head A is formed with a rim, A', which may be cylindrical, if desired, but is preferably made conical or tapered, as shown. A special advantage in this construction is that by it the inner side of the rim is inclined and serves to better direct the shavings into the discharge-spout, presently described. This rim A' is provided with slots or openings a, through each of which projects a cutter, B, which is adjustably supported, usually by forming said cutter with a slot or slots through which screws B' pass into the cutter-head and secure such cutters thereto. Adjusting-screws b are turned through bearings B² in rear of the cutters and engage at their forward ends the rear edges of the cutters. Jam-nuts b' are turned on the screws b, and may be set up against the bearings B² to lock the screw b at any desired point. By this adjustment the shavings may be cut different thicknesses, as desired. The cutter-head may have a solid web, A², on one side, if desired, or be formed with spokes or open frame-work. The other side of the head is open, as shown. The cutter-head has a central shaft, C, journaled in bear-

ings in the supporting-frame. This supporting-frame is by preference made in two sections, an upper and lower one, hinged together at two opposite sides, as will be described. The lower section, D, is provided with side plates D', and has cross-bars D², provided with bearings d for the shaft C. The side plates D' are bolted together and are bored to fit closely on the opposite ends of the rim of the cutter-head. To these plates I fix supporting-legs E, having feet E', which may be provided with bolt-holes for bolts or screws, by which the machine may be conveniently fixed to the floor or bench. The upper section, F, has side plates F', bolted together, and is provided between such plates F' with a hopper, F². The sections F D are hinged together at f f, the pintles f' being removable in each case, so that the top or cover section may be turned to one or the other side, as desired. On the top section I mount standards G, which have bearings g for the short shaft G'. This shaft G' has fixed to it an eccentric, g', which turns in a ring or collar, H, the rod H' of which extends into a cylindrical frame, I, and has a plunger-disk, h, fixed to its end and operating in such frame I. Springs I' I' bear between the plunger h and the opposite ends of the cylinder. This cylinder is connected to the upper portion of the upper section of the agitator, and the cylinder, springs, and rod H form a yielding pitman between such agitator-section and the eccentric on the shaft, by which construction the agitator is given a vibratory movement, and is at the same time capable of automatically adjusting itself to suit any variation in the quantity of material in the throat of the machine, as will be understood.

To give motion to the shaft G', it is provided at one end with a pulley, J, geared by a suitable belt with a pulley, J', on the shaft C, which shaft may also have a second pulley, J², by which to gear it with an engine or other suitable driving-power.

The agitator, it will be seen, is made in sections, preferably three in number, which are pivotally connected at their adjacent or meeting ends. The lower section, K, is pivoted at its lower end between the plates D' at a point

approximately vertically below the axis of the cutter-head. The pivot of the section K is preferably made yielding, in order to avoid the breaking of such section by any hard substance that may accidentally get into the throat. To this end I form the framing-plates D' with slots d' and project the pivot K' of the section K thereinto, so that said section may move away from the cutter-head. A spring-support is arranged to bear against the section K, preferably in the following manner: Spring-bars Q—one at each side of the framing—bear at one end against the section K and are supported at the other end by the framing. These bars are preferably secured to the framing in the following manner: The framing is provided with lugs R, from which extend screws R'. The ends of the bars are fitted over these screws, and nuts r , turned on the latter, bear against the bars and press the latter toward the lugs R. By this construction the tension of the bars Q may be adjusted to any desired degree. To the lower end of the section I, I secure a cutter, L. This cutter is secured by screws l , operating in a similar manner to the screw B'. When desired, this cutter may be adjusted in a manner similar to that described in connection with the cutter B. This cutter L operates close to the edges of said cutters and serves to clear therefrom any shavings or portions of the bark that may adhere to them. While I prefer to secure the cutters L to the section K, it manifestly may be secured to and between the plates D', when so desired. The middle section, M, of the agitator is pivoted at m between its ends to the side plates D', and has its lower end or edge pivoted to the upper edge of the lower section. The upper section, N, is pivoted at n between its ends to the side plates F', and has its lower end pivoted to the upper end of the middle section. The upper end of the section N is supported by the yielding pitman before described. It will be noticed that the agitator, composed of sections K, M, and N, is brought gradually toward the rim of the cutter-head toward its lower end, at which point it fits close to the said rim, and a cutting-edge is provided by which the passage of material beyond the lower end of the agitator is prevented. The pivotal connections between the several agitator-sections are preferably secured by forming one of such adjacent ends with a tongue and the other with a groove fitted to receive such tongue. This construction serves efficiently the purposes of a pivot, and permits the parts to be readily detached when desired. The agitator forms a throat, into which the bark is fed through the hopper, and from which it is taken by the cutters. By the connections between the several sections the tension and motions given to one are transferred to the others, and the sections are given a tension toward the cutter-head, and an agitating motion, which prevents any lumping or clogging of the material in such throat. The shavings pass into the cutter-

head, and if they fail to drop from the cutter they are detached therefrom by a scraper, O, fixed usually to one of the cross-bars D², and projected into the cutter-head close to the inner sides of the cutters B. The open end of the cylinder is preferably covered by cap-plates P P', the former fixed to the upper or top section, F, and the latter to the lower section, D. The plate P' is usually formed with a spout, p , through which the cut bark is discharged.

The construction shown in Figs. 4 and 5 is substantially like that shown in Figs. 1, 2, and 3, except that the cutter-head is supported on a vertical axis, and the material is fed in line with its axis, instead of radially thereto, and I employ two agitators instead of one.

The superiority of bark shavings over ground bark is well known. The shavings give better results in use, are easier manipulated, and are more useful as a waste product for fuel than the grindings.

By removing the cap-plates access may be had to the cutters, in order to remove the same for repairs or other desired purpose.

The agitator may manifestly be made in fewer or more sections, as desired.

Having thus described my invention, what I claim as new is—

1. The combination of the cutter-head, the framing, the agitator having a section, N, pivotally supported, a supplemental shaft having an eccentric, and a pitman extended between the eccentric and the section N, substantially as set forth.

2. In a bark-mill, the combination, with the cutter-head, of an agitator made in sections and pivotally supported, one of the meeting ends of said sections being formed with a transverse groove fitted to receive the end of the other section, whereby such sections are pivotally and detachably connected, substantially as set forth.

3. The combination of the framing, the cutter-head, the agitator made in sections, each of which is pivoted to the framing and to the adjacent section, and a spring-support for the upper section, substantially as set forth.

4. The combination of the cutter-head, the framing, the agitator made in sections pivoted to the framing and to each other, a supplemental shaft geared with the cutter-head shaft and having an eccentric, and a yielding pitman extended between the eccentric and the upper section of the agitator.

5. The combination of the cutter-head, the framing, the agitator having a section, N, pivotally supported, a shaft, G, having an eccentric, a frame, I, connected at one end with section N, the pitman connected at one end with the eccentric of shaft G, extended thence into the frame I, and having a plunger, h , within said frame, and springs bearing between the plunger and the opposite ends of the frame, substantially as set forth.

6. The combination of the framing-plates having slots d' , the agitator-section K, having

pivot-pins K' projected into said slots, and a spring-support bearing against the outer side of the pivoted end of said section K, substantially as set forth.

K, and the set-nut, whereby the tension of said bars may be adjusted, substantially as set forth.

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5 7. The combination of the framing-plates having slots d' , the agitator-section K, having pins K' projected into the slots d' , the bars Q, forming a spring-support for said section

Witnesses:

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