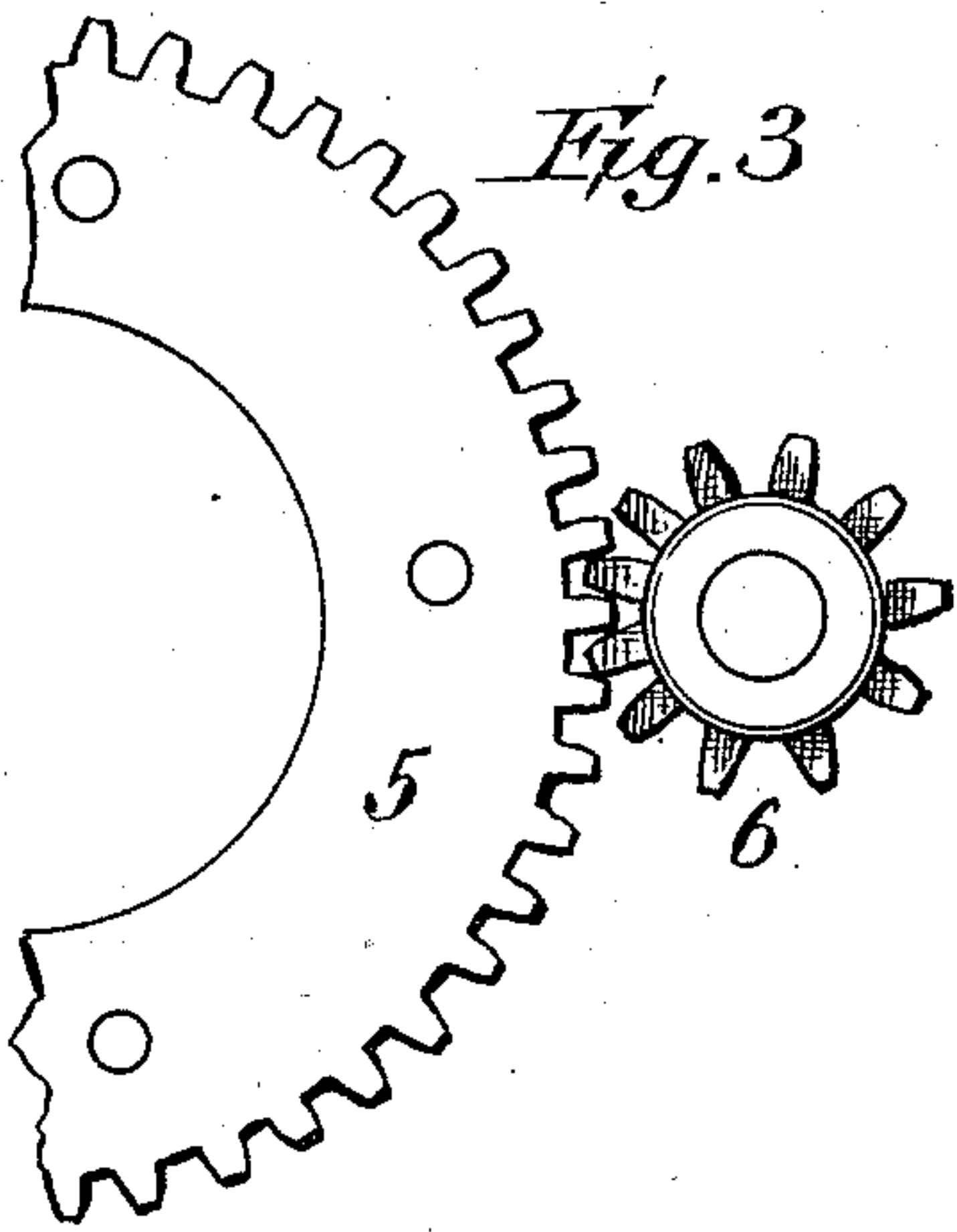
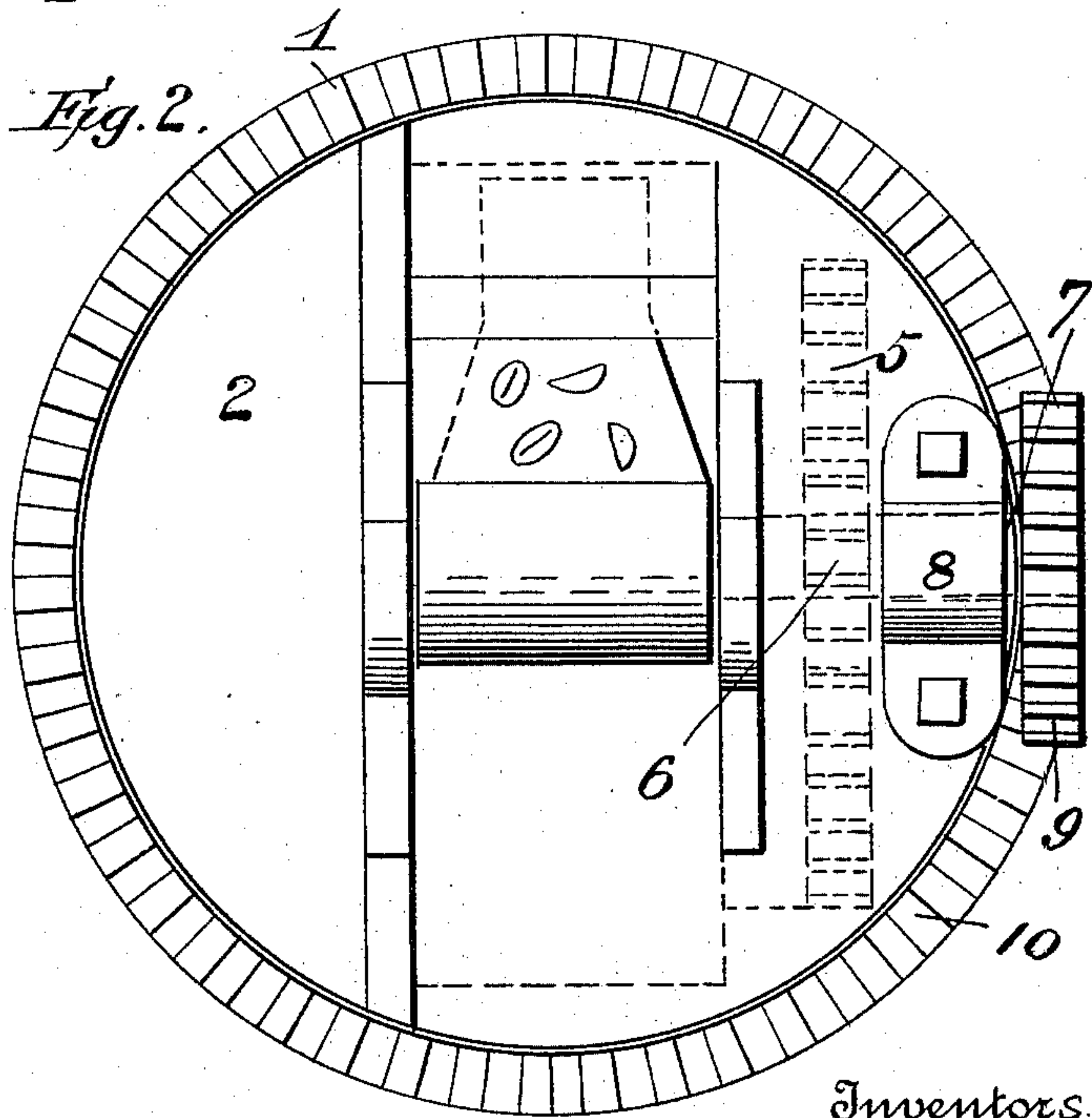
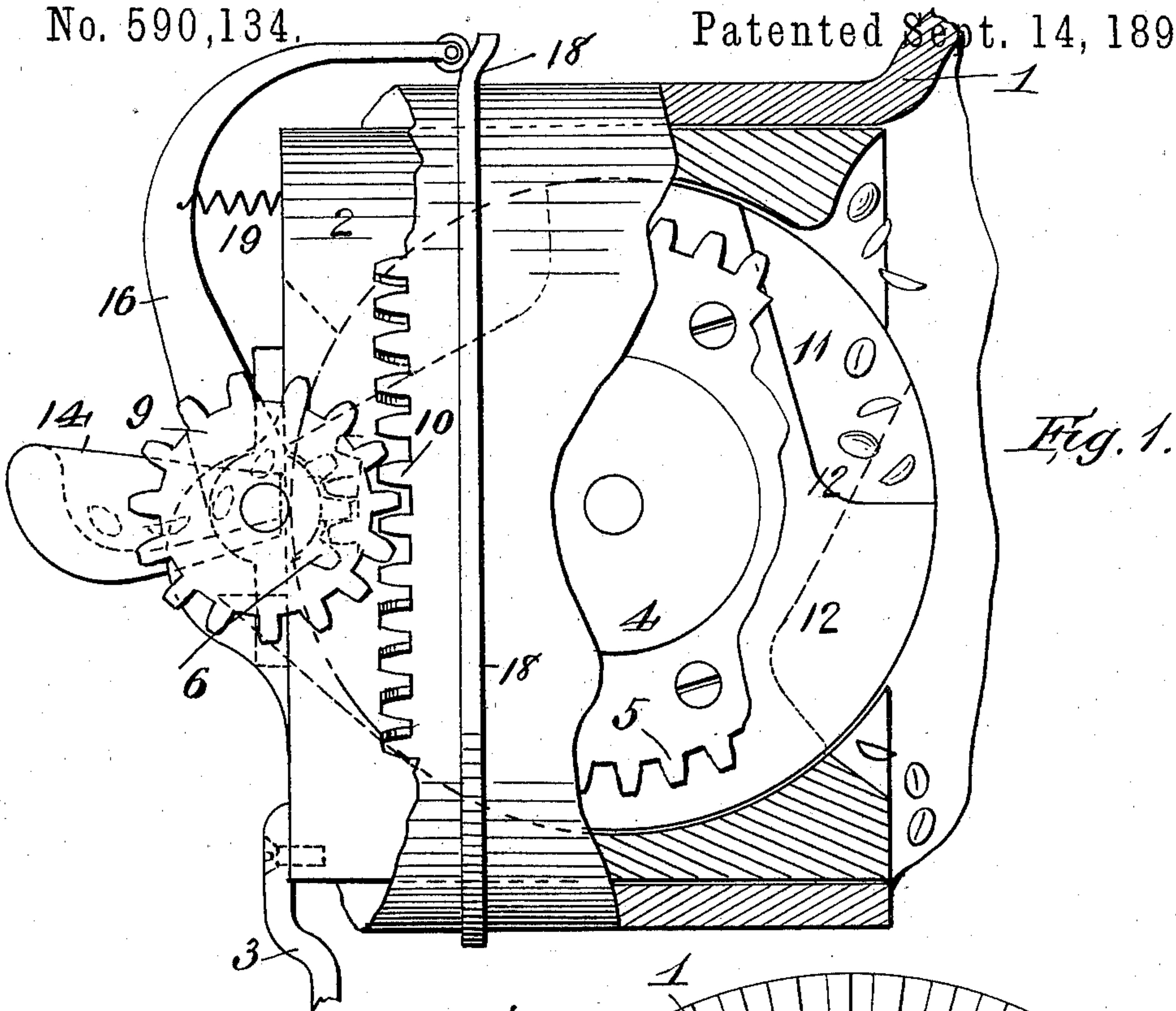


(No Model.)

E. CRAWLEY, Jr. & W. T. JOHNSTON.
COFFEE ROASTING MACHINE.

No. 590,134.

Patented Sept. 14, 1897.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWIN CRAWLEY, JR., AND WILLIAM T. JOHNSTON, OF NEWPORT,
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NEW YORK, N. Y.

COFFEE-ROASTING MACHINE.

SPECIFICATION forming part of Letters Patent No. 590,134, dated September 14, 1897.

Application filed September 30, 1896. Serial No. 607,472. (No model.)

To all whom it may concern:

Be it known that we, EDWIN CRAWLEY, Jr., and WILLIAM T. JOHNSTON, citizens of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Coffee-Roasting Machines; and we 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.

This invention has relation to coffee-roasting machines; and it has for its object to provide a simple, inexpensive, and efficient device or means whereby samples of the coffee-berries are automatically delivered exteriorly of the drum during the rotation of the latter in the process of roasting to enable the operator to determine the degree of roast and such samples then automatically returned into the interior of the drum.

With the above object in view the invention consists in the novel construction, arrangement, and combination of parts constituting the sampling device and the combination of the latter with a roasting-drum, all as hereinafter fully described, illustrated in the drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is a sectional view, partly in elevation, illustrating the application of the invention to a coffee-roasting drum. Fig. 2 is a face view. Fig. 3 is a detail view showing a portion of the gearing.

Our improved sampling device may be readily applied to any coffee-roasting machine having a hollow trunnion through which the samples of berries are to be passed.

In the drawings, 1 indicates a hollow trunnion of a coffee-roasting drum, which drum is adapted to be rotated by any suitable means during the roasting process.

2 indicates an annular support, hub, or block arranged within the trunnion and held stationary therein by any suitable means—as, for instance, by a bracket or brackets 3, bolted to the block and to the supporting-frame of the machine.

4 indicates a disk vertically arranged with-

in the block and adapted for rotation therein. This disk is provided at one end with a toothed rim, or it may carry a gear-wheel, as indicated at 5, with which latter gears a pinion 6 on a horizontal shaft 7, mounted in a bearing 8 on the block. The opposite end of the shaft carries a pinion 9, which gears with teeth 10 cut on the outer face of the trunnion, so that rotation of the latter causes rotation of the disk 4.

The disk 4 is provided with one or more chambers or cavities 11 in its periphery, (one only being shown in the present instance.) Each recess or cavity is of approximately the shape shown—that is to say, each has inclined bottom 12, forming more or less of an obtuse angle. The number of the cavities or recesses may of course be varied, as may also the degree of the angle of the bottom 12 to some extent. The disk should be of such diameter that when in position in the block its peripheral edge projects beyond the inner face of the block, so as to adapt the berries, which are constantly thrown about in the drum during its rotation, to be projected into a recess 11 when the latter comes into proper position, as illustrated in Fig. 1.

14 indicates a suitable tray or pan which is preferably pivotally connected with the block and arranged in such position as to receive the sample of berries from the recess 11 as the latter reaches a position with the inclined bottom slanted toward the tray, as indicated in dotted lines at the left of Fig. 1, in which position the berries will fall along the bottom of the recess into the tray, so as to be inspected by the operator to determine the degree of roast.

If desired, the tray may be caused to automatically return its contents again into the recess and thence into the interior of the drum, and for this purpose said tray is provided with an upwardly-extending arm 16, carrying a roller 17, which bears against a flange 18 on the trunnion, so that after the cavity has deposited its contents into the tray the roller will be caused to tilt the tray and discharge its contents back into the recess and carried thereby around until it reaches the position indicated in dotted lines on the right side of

Fig. 1, at which point the berries will fall into the interior of the drum.

The time elapsing between the deposit of the berries from the recess into the tray and the return of the same berries again into the recess by the tray will be found sufficiently long to enable the operator to judge of the degree of roast, inasmuch as in practice the rotation of the trunnion is somewhat slow.

In order that the arm 16 might be operated to effect the tilting of the tray, the flange may be of a cam shape—that is to say, having a depression at about its highest point into which the roller falls under the action of a suitable spring, as 19.

We claim and desire to secure by Letters Patent—

1. In a sampling device for coffee-roasting machines the combination with a hollow trunnion of a roasting-drum and a block arranged therein, of a rotatable disk arranged in the block and having a cavity or recess, and a tray carried by the block and adapted to receive the contents of the recess at each rotation of the disk.

2. In a sampling device for coffee-roasting machines the combination with a hollow trunnion of a roasting-drum and a block arranged therein, of a rotatable disk arranged in the block and having a cavity or recess, and a tray pivotally connected with the block and adapted to receive the contents of the recess at each rotation of the disk, said tray adapted to be tilted to cause the contents to be returned again into the recess.

3. In a sampling device for coffee-roasting machines the combination with a hollow trunnion of a roasting-drum and a block arranged therein, of a rotatable disk arranged in the block and having a cavity or recess, the bottom of which is inclined to form more or less of an angle as described, and a tray carried by the block adapted to receive the contents of the recess at each rotation of the disk.

4. The combination with the hollow trunnion of a coffee-roasting drum, of a block stationarily arranged therein, a rotatable disk

within the block and having a peripheral recess or cavity whose bottom is inclined as described, and a tray carried by the block and adapted to receive the contents of the recess at each rotation of the drum.

5. The combination with the hollow trunnion of a coffee-roasting drum, of a block stationarily arranged therein, a rotatable disk within the block and having a peripheral recess or cavity, gearing between the said disk and the trunnion whereby the rotation of the latter effects simultaneous rotation of the disk, and a tray carried by the block adapted to receive the contents of the recess at each rotation of the disk.

6. The combination with the hollow trunnion of a coffee-roasting drum having teeth on its outer face, of a block stationarily arranged within the trunnion, a disk rotatably arranged within the block, a gear-wheel carried by the disk, a shaft provided at one end with a gear-wheel gearing with the gear-wheel on the disk, and a second gear-wheel gearing with the teeth on the trunnion, and a tray carried by the block adapted to receive the contents of the recess at each rotation of the disk.

7. The combination with a hollow trunnion of a roasting-drum, of a block stationarily arranged therein, and a disk rotatably arranged within the block and adapted to receive samples of the roasting berries and discharge the same exteriorly of the trunnion, as specified.

8. The combination with a hollow trunnion of a roasting-drum, of a plate or disk rotatably arranged in a vertical plane and operating to receive at each rotation of the disk a sample of the roasting berries and discharge the same exteriorly of the trunnion.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWIN CRAWLEY, JR.
WM. T. JOHNSTON.

Witnesses:

SAML. S. CHURCH,
H. M. KELLER.