

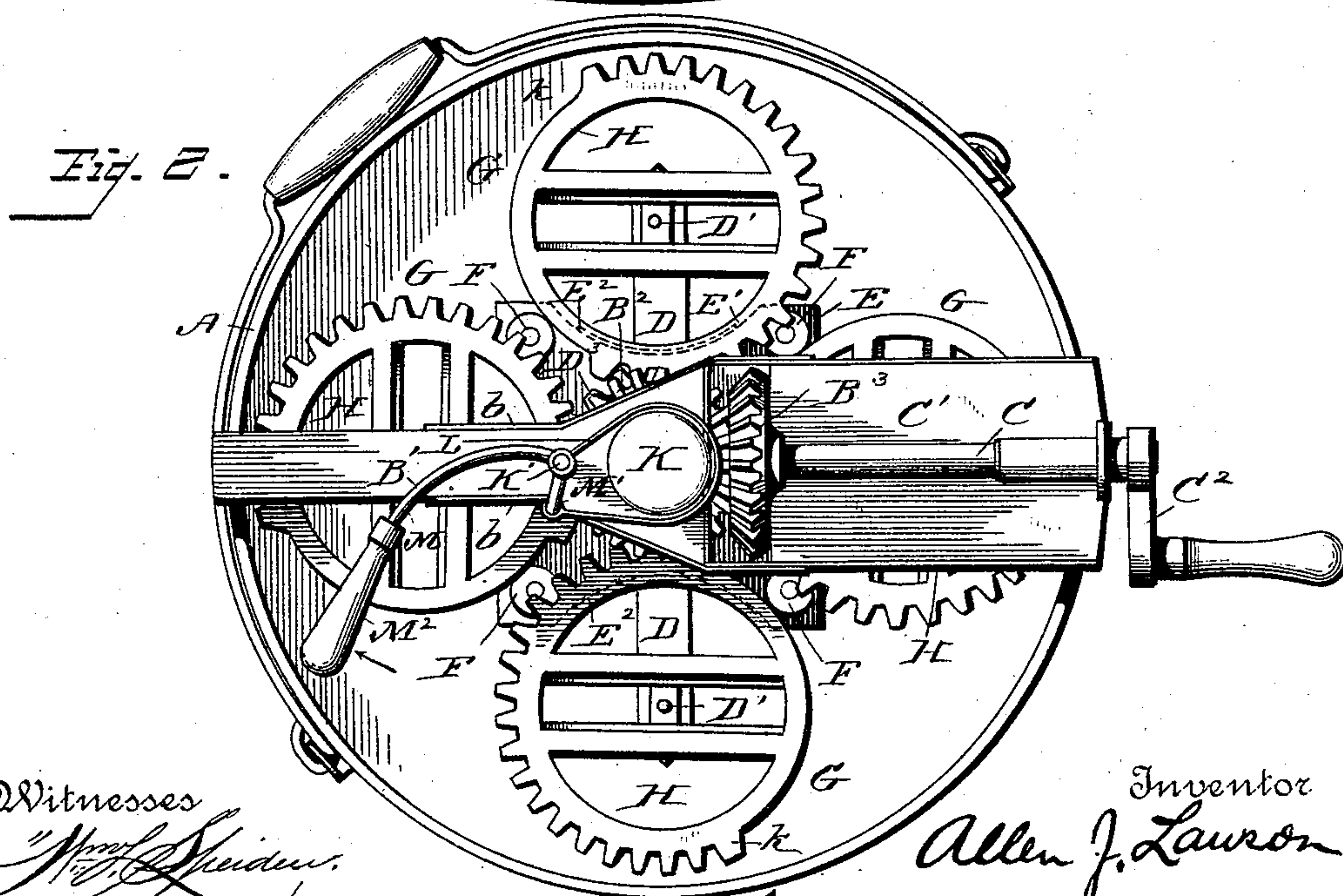
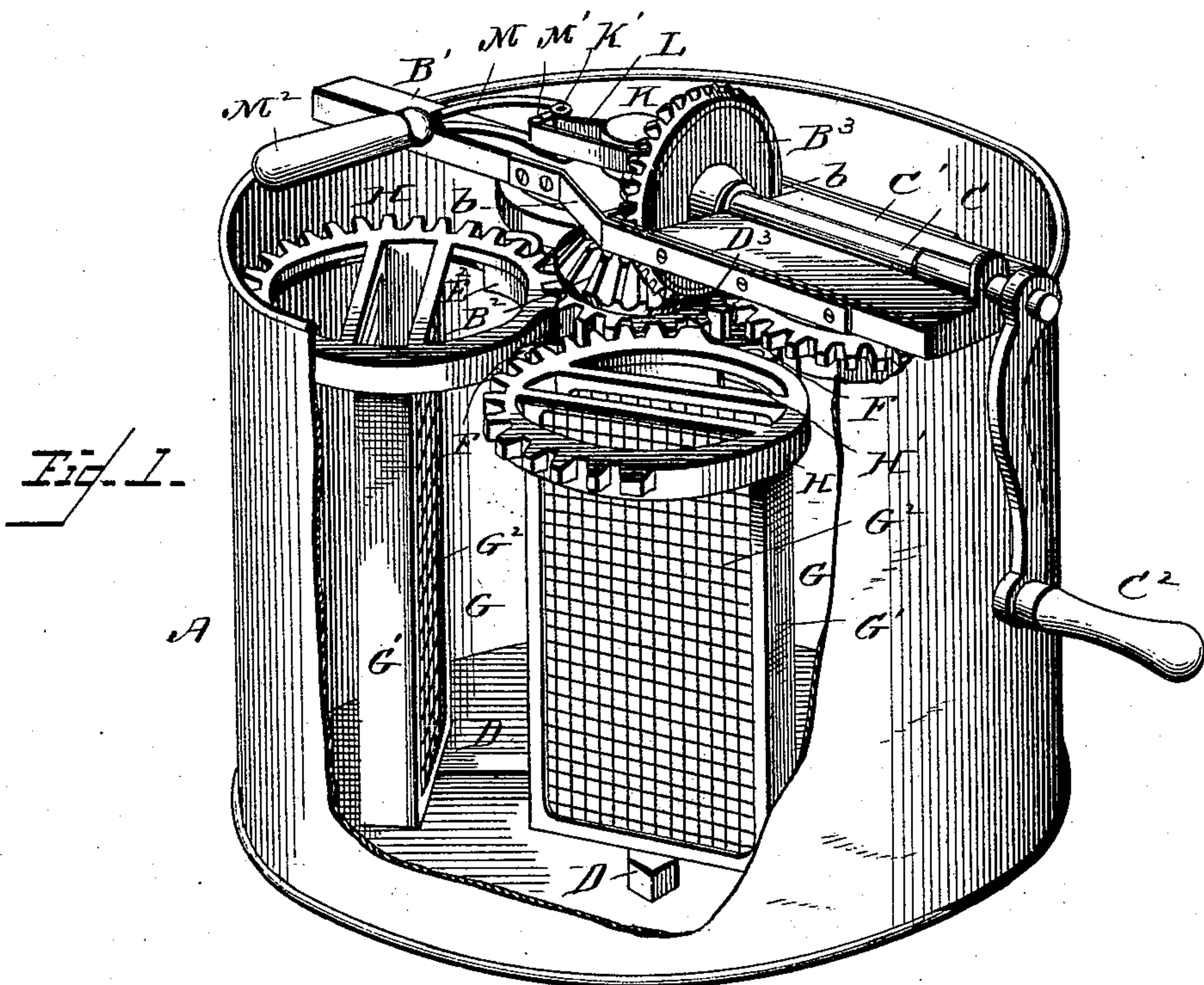
(No Model.)

2 Sheets—Sheet 1.

A. J. LAWSON.
CENTRIFUGAL HONEY EXTRACTOR.

No. 456,043.

Patented July 14, 1891.



Witnesses

Wm. L. Hough
Chas. L. Hough

Inventor

Allen J. Lawson

By his Attorney

Franklin H. Hough

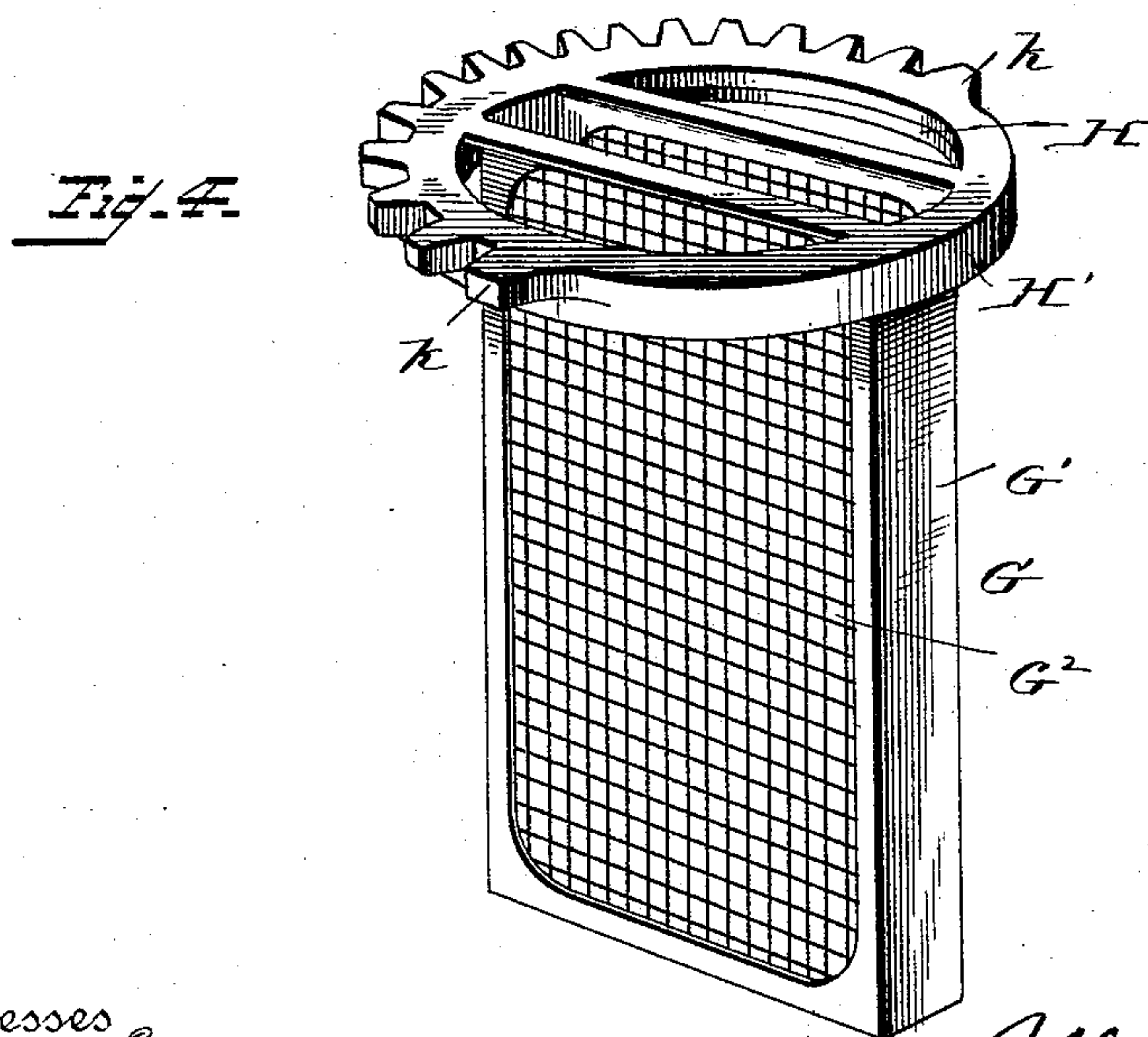
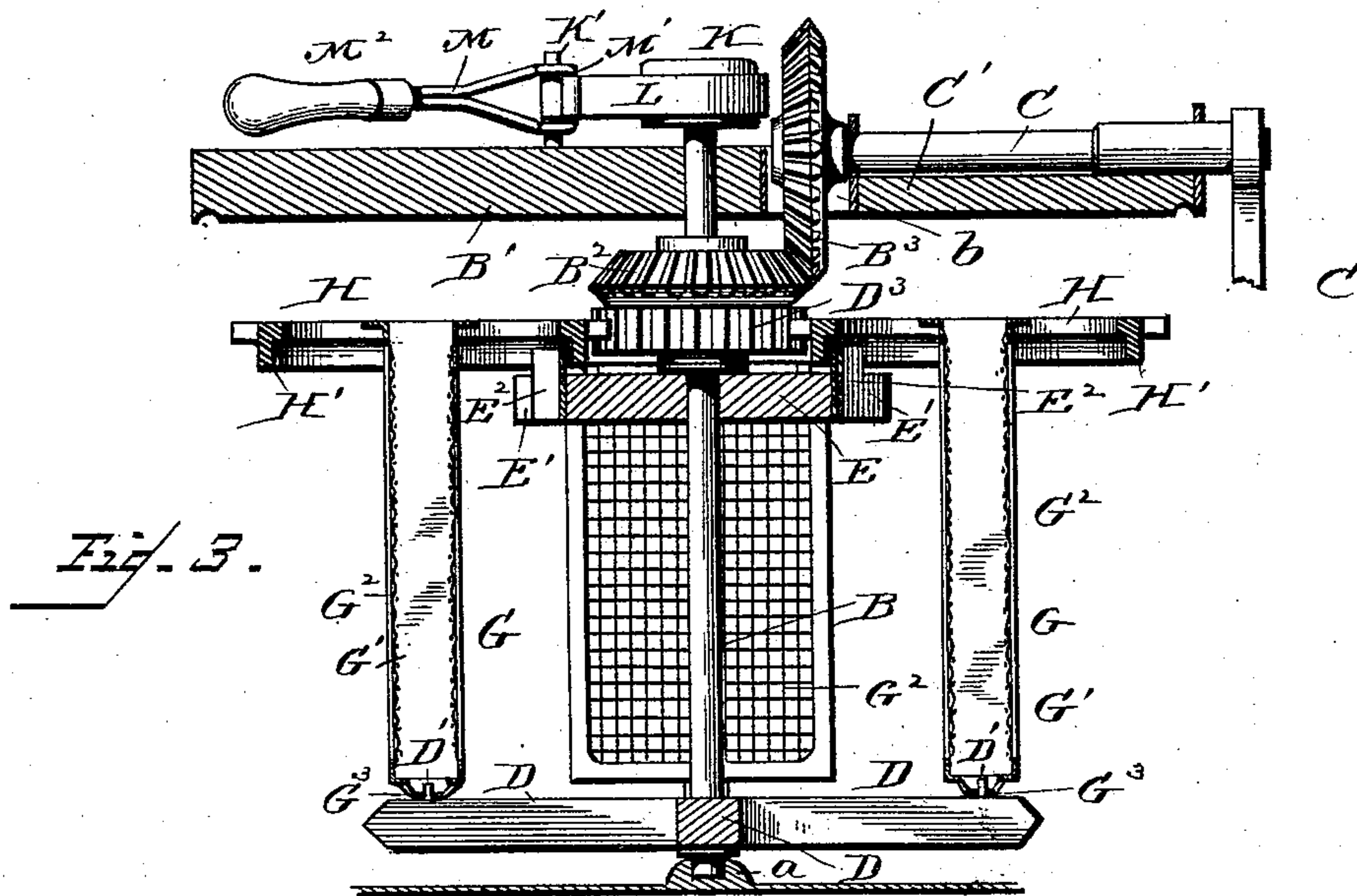
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2 Sheets—Sheet 2.

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"*Wm. L. Spence.*"

Chas. L. Hough

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UNITED STATES PATENT OFFICE.

ALLEN J. LAWSON, OF BRIGHTON, CANADA.

CENTRIFUGAL HONEY-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 456,043, dated July 14, 1891.

Application filed February 18, 1891. Serial No. 381,939. (No model.)

To all whom it may concern:

Be it known that I, ALLEN J. LAWSON, a subject of the Queen of Great Britain, residing at Brighton, in the Province of Ontario and Dominion of Canada, have invented certain new and useful Improvements in Centrifugal Honey-Extractors; 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.

This invention relates to certain new and useful improvements in centrifugal honey-extractors; and it has for its object to improve upon the construction and to render more efficient in operation this class of devices.

It has been found that in order to thoroughly extract honey from the comb by centrifugal force an exceedingly rapid rate of speed must be imparted to the honey-comb holders, the number of revolutions per minute varying from three to five hundred. The baskets or other devices which are employed in machines of this character for holding the honey-comb are necessarily so arranged as to present one of the surfaces of the comb to the outside of the circle of rotation, and usually means have been provided whereby when the honey has been extracted from the cells upon one face of the comb, the comb-carriers may be reversed, so as to present the opposite face of the comb to the outside without necessitating the removal of the comb from the comb-carrier. It has, however, been found that when this reversal of the comb-carrier has been accomplished while the machine is in motion the comb has frequently been broken or badly bruised, and the present invention has for one of its essential objects the providing of a machine which may be quickly checked in its movement when the honey has been extracted from the cells upon one side of the comb and in which the honey-carriers will be automatically reversed without injury to the honey-comb.

Among the further objects of the present invention may be mentioned the construction and means of attaching the comb-carriers,

whereby the same may be quickly and easily removed or replaced when necessary.

To the above ends and to such others as the invention may pertain the same consists in the peculiar construction, and in the novel combination, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference indicating like parts throughout the several views, and in which—

Figure 1 is a perspective view of a honey-extractor embodying my improvements, parts being broken away. Fig. 2 is a top plan view of the machine. Fig. 3 is a central vertical section through the operative parts of the machine. Fig. 4 is an enlarged detail in perspective of one of the comb-holders.

Reference now being had to the details of the drawings by letter, A represents the outer can.

B is a vertical shaft, which is stepped at its lower end within the raised portion *a*, provided for the purpose at the central point of the can-bottom. The upper portion of the shaft is journaled within the end of the bar *B'*, the opposite end of which bar is attached to the upper edge of the can.

At a point upon the shaft B directly below the bar *B'* is loosely sleeved the beveled pinion *B²*, with which pinion the teeth upon the crown-wheel *B³*, carried upon the inner end of the horizontal shaft C, mesh. The said shaft C is journaled within a groove formed upon the upper face of the board or plate *C'*, which board is attached at its outer end to the upper edge of the can and at its inner end is attached to the inner end of the bar *B'* by means of the metallic strips *b*. The shaft C is provided at its outer end with an operating-crank *C²*, as shown.

At a point near the lower end of the shaft B are secured the cross-arms D, preferably four in number. These arms are of equal length and carry upon their upper faces near their outer ends the vertical pins *D'*.

Directly beneath the beveled pinion *B²*,

and secured thereto, but loosely sleeved on the shaft, is the gear-wheel D^3 , beneath which the platform E is secured to the shaft, the shaft passing through the center of the platform. The platform E is preferably rectangular in form and upon each of its sides is cut away or recessed, as shown at E' , and within these recesses E' the sheet-metal strips E^2 are attached to the edges of the platform, the upper edges of the said strips being extended for a short distance above the upper face of the platform, for a purpose which will be presently explained.

F F are rollers which are sleeved upon vertical stub-shafts rising from the upper face of the platform at points adjacent to its corners.

The comb-holders G are rectangular in form, and consist of sheet-metal edges G' and faces G^2 of wire gauze or meshing. At their lower ends the said comb-holders are provided with openings G^3 , adapted to fit over the vertical pins D' upon the arms D, and the upper ends of the comb-holders are secured within the inner rim of the segmental gear-wheels H. The rims H' of the wheels H, when the comb-holders are in position for use, as shown clearly in Figs. 1 and 3 of the drawings, are fitted over the upper edges of the sheet-metal strips E^2 , said strips thus serving as a guide for the wheel and holding it in mesh with the gear-wheel D^3 .

The upper end of the shaft B is provided with a drum K, and rising from the bar B' at a point adjacent to the drum is a vertical stub-shaft K' .

L is a strip of sheet metal, having one of its ends provided with a loop, which loop is sleeved upon the shaft K' , and the opposite end of the strip is attached to the short arm M' of the lever M, said lever being pivoted at its angle upon the stub-shaft K' and the long arm of the lever provided with a handle M^2 .

The operation of the machine is as follows:
The combs are uncapped and placed within the comb-holders G. The shaft C is rotated by means of the crank C^2 , and the several comb-holders are caused by reason of the engagement of the teeth upon the segmental gear-wheels H to turn, so as to present one of the faces of the comb-holder to the outside or at right angles to radial lines from the shaft B, at which point the rotation of the comb-holder will be arrested by reason of the engagement of the large teeth or lugs k upon the segmental gear-wheels with the gear-wheel D^3 . This locking of the segmental gear-wheels to the gear-wheel D^3 , which is normally loose upon the shaft B, serves to lock the said gear-wheel against rotation upon the shaft. The

comb-holders having been thus locked in position, the continued rotation of the crank will serve to cause the several comb-holders to be carried around with the central shaft to which they are connected. When a sufficient velocity has been acquired to cause the honey contained in the cells upon the outer face of the comb, the brake is applied to stop the movement of the machine and the crank is turned in the opposite direction. This reversal of the machine will cause the teeth upon the segmental gear-wheels to again engage the teeth upon the gear-wheel D^3 , and each of the several comb-holders will thus be reversed, so as to present the opposite face of the comb to the outside of the circle of rotation, and at this point the holders will be locked against further rotation about their vertical axes, and a further rotation of the central shaft in the same direction will cause the several comb-holders to be carried around the central shaft, thus expelling the honey from the cells upon the opposite face of the comb.

The several comb-holders may be removed readily from the machine when it may be desired and as readily replaced, and the brake mechanism permits the ready stoppage of the machine without danger of breaking or bruising the comb.

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

1. The combination of a vertical shaft mounted in suitable bearings, the gear-wheel D^3 , loosely mounted on said shaft, arms D, rigidly mounted on the shaft, comb-holders pivotally mounted on said arms, segmental gears on the comb-holders meshing with the gear D^3 and provided with enlarged cogs k , and means for operating the gear D^3 .

2. The combination, with the platform provided with strips E^2 , extended above the upper face thereof, the vertical shaft, the gear-wheel upon the shaft, means for operating said gear-wheel, a perforated comb-holder, a support therefor connected with the shaft, and a segmental gear-wheel attached to the comb-holder and with the rim fitting over the upper edge of the strip E^2 , adapted to mesh with the gear-wheel upon the shaft, and means for locking the comb-holder in position, substantially as and for the purpose described.

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

ALLEN J. LAWSON.

Witnesses:

HENRY F. YOUNG,
J. B. YOUNG.