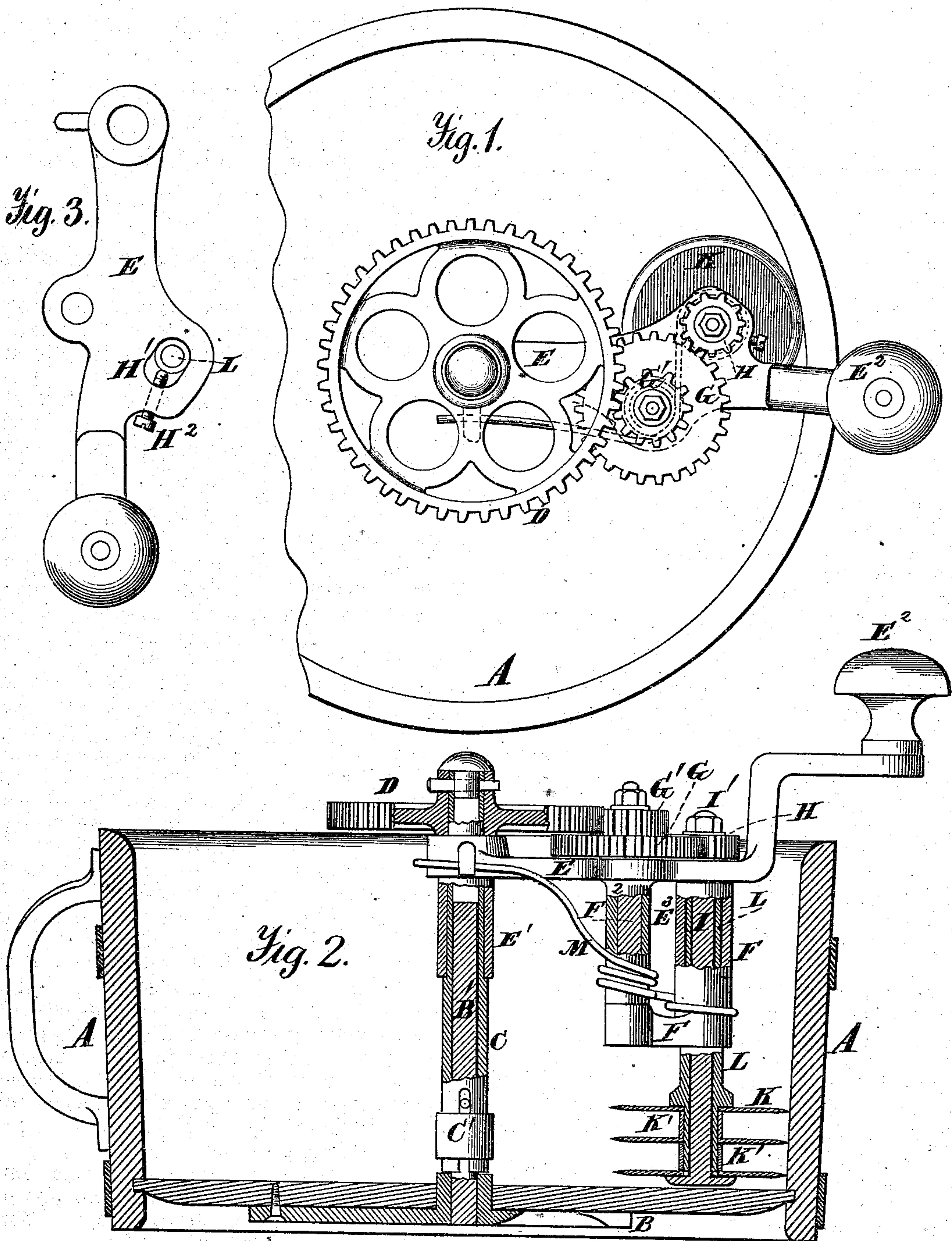


J. A. MORRELL.
Meat-Cutting Apparatus.

No. 158,805.

Patented Jan. 19, 1875.



Witnesses:
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R. J. Eib.

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UNITED STATES PATENT OFFICE.

JAMES A. MORRELL, OF NEW YORK, N. Y.

IMPROVEMENT IN MEAT-CUTTING APPARATUS.

Specification forming part of Letters Patent No. **158,805**, dated January 19, 1875; application filed October 30, 1874.

To all whom it may concern:

Be it known that I, JAMES A. MORRELL, of the city, county, and State of New York, have invented a new and useful Improvement in Meat and Vegetable Cutters, of which the following is a specification:

In the annexed drawings, Figure 1 is a top or plan view. Fig. 2 is a vertical transverse section. Fig. 3 is a top view of the crank.

The same letters are employed in all the figures in the designation of identical parts.

My invention relates to that class of cutters in which a series of cutters are made to revolve on their own axes, and at the same time around a common center.

My improvements consist in certain details of construction, which will be hereinafter specified.

The articles to be operated upon are contained in the tub A, which is open at the top. On the bottom is bolted the spider B, which sustains the stem B', rising into the center of the tub. The sleeve C slides over the stem B', and is held from turning by the feather and groove C'. On the upper end of the sleeve C the spur-wheel D is fastened by a key, so as to be fixed in position. Below it the crank E is attached, so as to turn on the central fixed sleeve, C, which receives the crank-sleeve E'. The outer end of the crank is turned up over the edge of the tub, and receives the handle E² by which it is revolved. A cast piece, composed of the sleeve F, arm F', and stem F², is attached below the crank, the stem F² passing through it, and forming a bearing for the double spur intermediate G G', the upper and smaller engaging the teeth of the fixed wheel D, while the lower and larger one engages with the small pinion H, to which it communicates a rapid rotation, carrying with it the shaft I, which passes through the pinion, and is suspended on the nut I', and is supported by the sleeve F below the crank, to which stability is given by another sleeve, E³, cast with the crank and inclosing the stem F². The shaft I extends nearly to the bottom of the tub, and terminates with a flat head, on which rests another sleeve, L, which turns within the fixed sleeve F, and with the shaft I, which it incloses. A series of circular knives K are attached to the sleeve L, and turn with

it, their edges running close to the surface of the tub, so as to cut the material contained by the tub with a slicing cut, as the knives rotate on the axis I, and around the axis B'. As these knives are ground away, to maintain their contact with the hub they must be set out. This is done by means of the slot H', through which the shaft I and sleeve L pass, the latter, however, terminating in the slot. This slot is an arc of a circle, of which the stem F² is the center, and the arm F' is the radius. A set-screw passes through the edge of the crank-arm E, and bears against the sleeve L. By turning the set-screw the knives K may be set so that their edges will just touch the tub, in which position they are held by a spring, M, which is wound around the fixed sleeve E, and then around the sleeve F, in such manner that its tension will cause the sleeve L to bear against the set-screw. The other end of the spring engages a projection on the crank-arm at the hub. This slot and spring also permit the knives to yield to the resistance of any hard substance which they cannot cut, which may come between their edges and the tub. The knives are easily removed for regrinding. The whole mechanism may be lifted from the central stem. Then, by taking off the nut I', the stem I may be taken out of the sleeve L. The lower knife rests on the flat head of the shaft, between it and the lower end of the sleeve, so that it does not turn with the sleeve necessarily. Short sectional sleeves K' K' are interposed between the knives, the upper one bearing against a flange on sleeve L. The knives have flat parts in their eyes, fitting onto a corresponding flat surface on the sleeve L, to prevent their turning on the sleeve.

I am aware that machines have been long known in which a tub was made to revolve on a vertical axis, and inclosing a set of cutters turning around a fixed vertical axis, so as to cut substances between the tub and the knives with the same mechanical action, substantially, as mine. My claims will, therefore, be confined to the mechanical peculiarities of my machine.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with the vertical sides of

the tub, the knives K, having a double rotation, revolving on their own vertical axis, and with it around a central vertical axis, substantially as set forth.

2. In combination with the stationary central wheel, D, carrying the intermediate double wheel G G', pinion H, vertical rotating shaft I, and knives K, substantially as set forth.

3. In combination with the crank-arm E, slotted at H', and adjustable knives and shaft swinging in said slot, the spring M, for maintaining the knives in relation to the tub, substantially as set forth.

4. In combination, the crank-arm E, slotted at H', stem F², swinging sleeve F, knife-shaft I, and adjusting set-screw and spring, substantially as set forth.

5. The crank-arm E, and knives and operative gearing attached thereto, in combination with the sleeve C and central supporting-stem, B', substantially as set forth.

6. The knives K, in combination with the shaft I, sleeve L, and intermediate sectional sleeves K', substantially as set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES A. MORRELL.

Witnesses:

THOMAS D. ROBINSON,
M. M. BUDLONG.