

B. H. COOK.
CULINARY GRATER.

No. 448,794.

Patented Mar. 24, 1891.

FIG. 1.

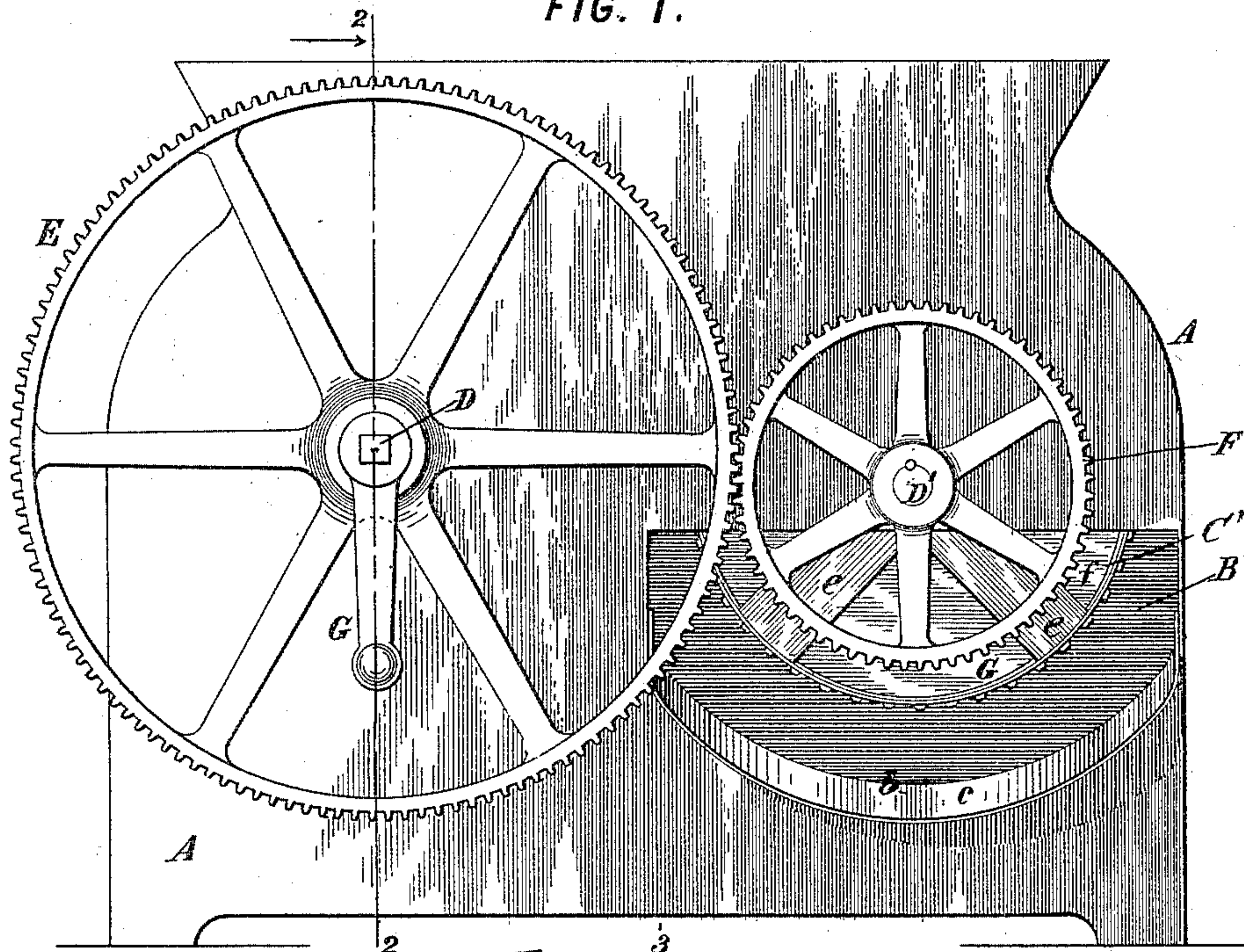
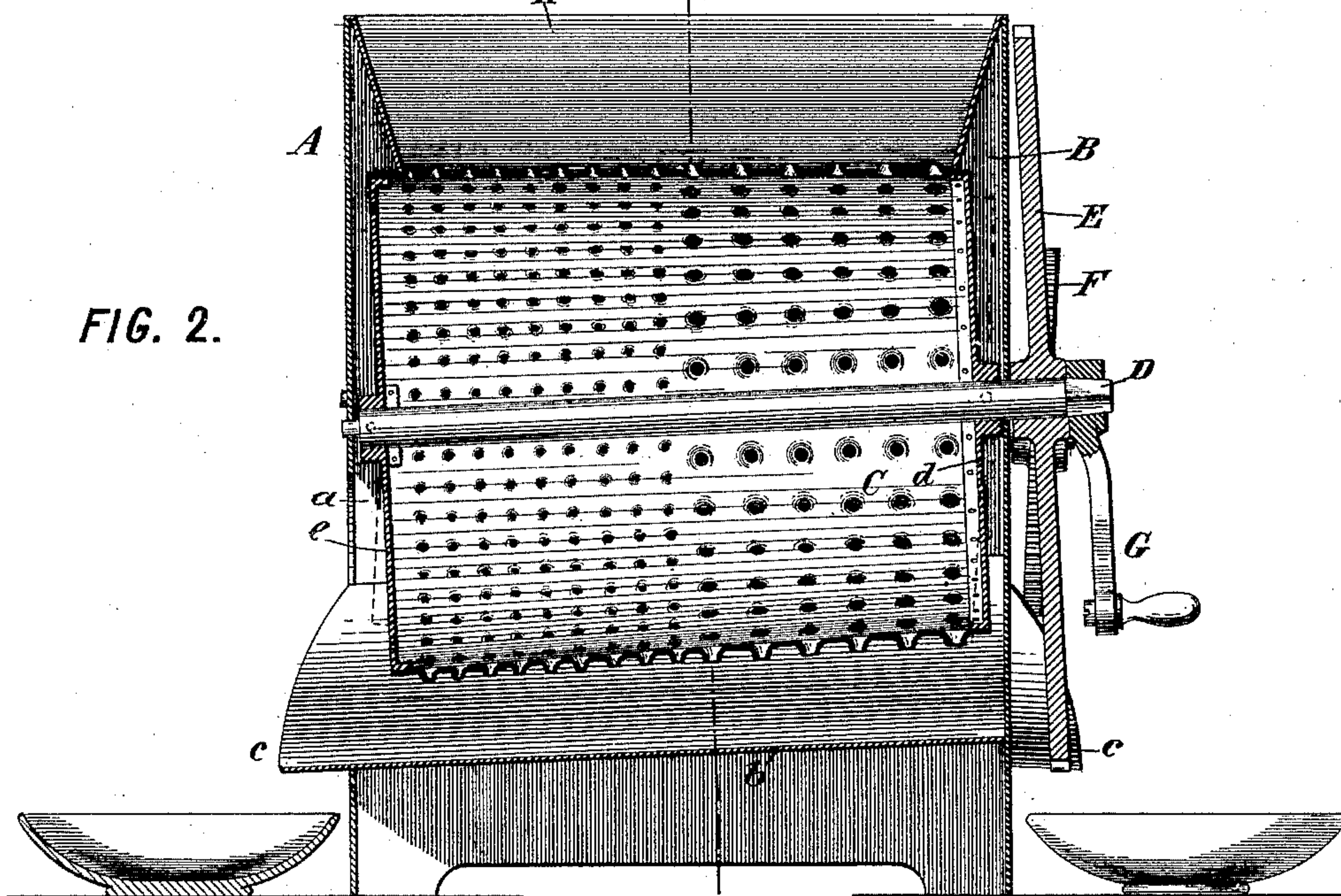


FIG. 2.



WITNESSES:

John S. Rennie.
Fred White

INVENTOR:

Burton H. Cook,

By his Attorneys,

Arthur C. Graves & Co.

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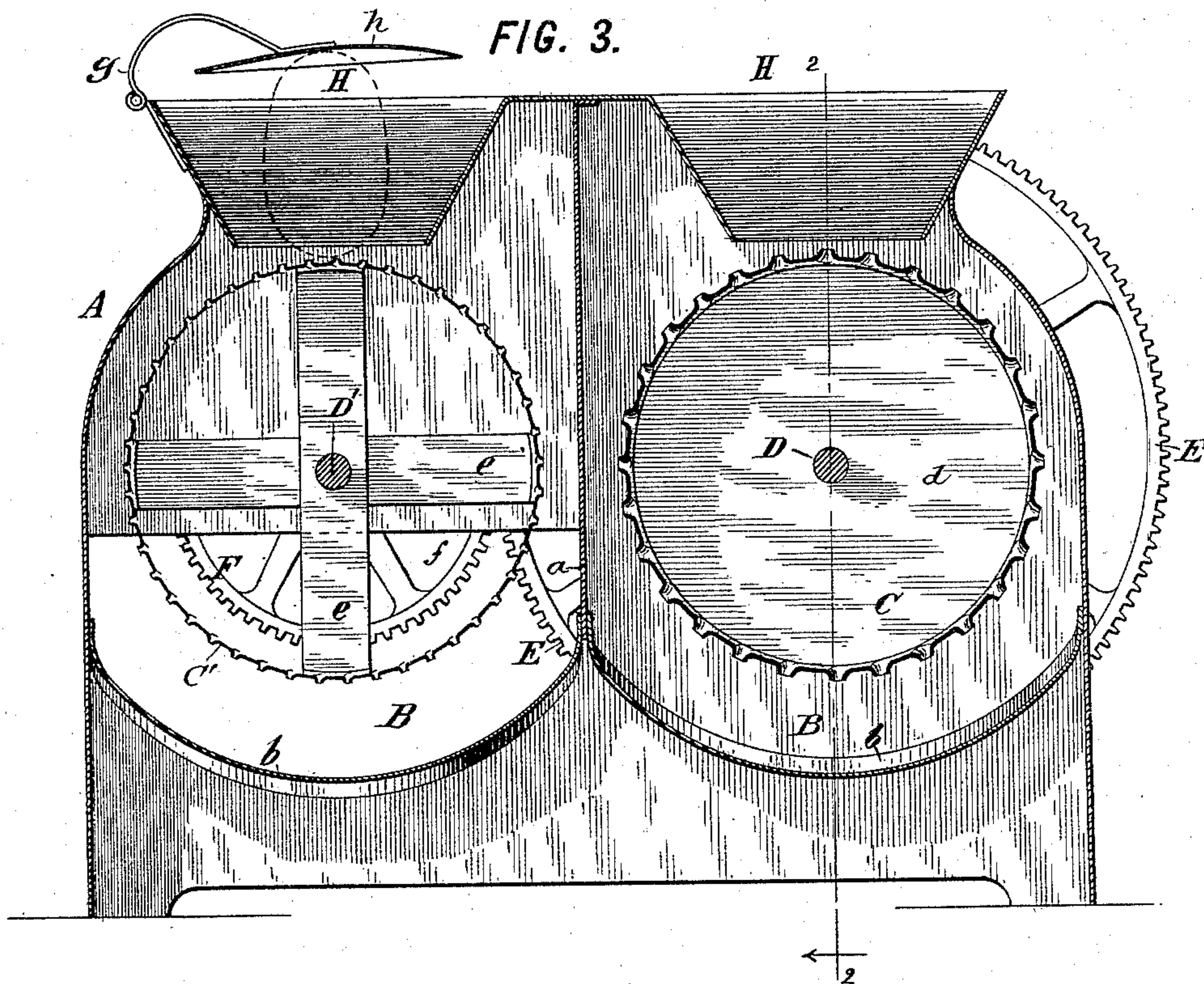
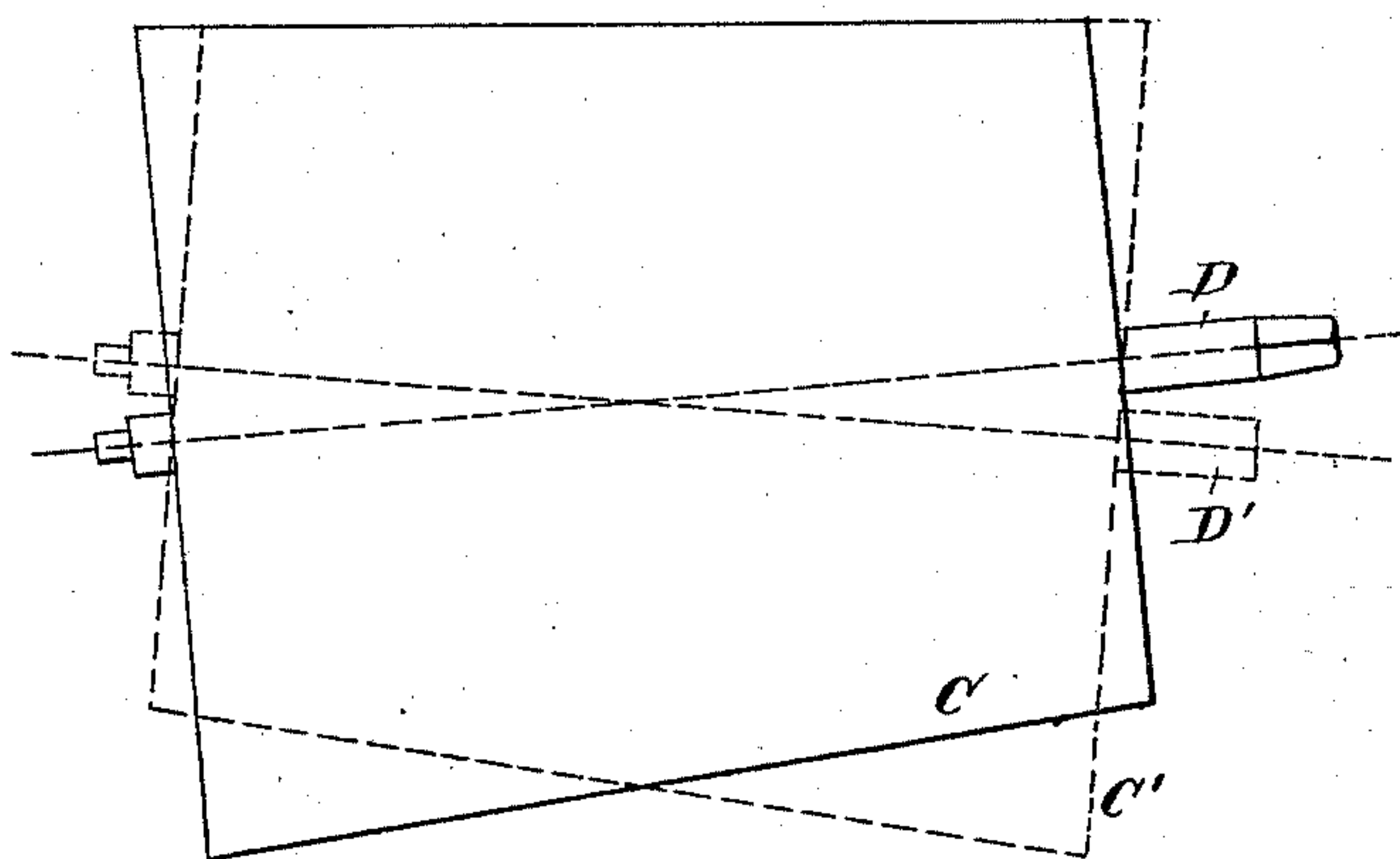


FIG. 4.



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UNITED STATES PATENT OFFICE.

BURTON H. COOK, OF BROOKLYN, NEW YORK.

CULINARY GRATER.

SPECIFICATION forming part of Letters Patent No. 448,794, dated March 24, 1891.

Application filed December 24, 1890. Serial No. 375,679. (No model.)

To all whom it may concern:

Be it known that I, BURTON H. COOK, a citizen of the United States, residing in Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Culinary Graters, of which the following is a specification.

This invention provides an improved grater suitable for grating nutmegs, horse-radish, potatoes, and other vegetable or alimentary substances.

The object of the invention is to combine in one instrument various grades of grating-surfaces so adapted and proportioned as to be capable of simultaneous use, thereby effecting an economy of time in using the grater and avoiding the necessity for a multiplicity of distinct graters for different purposes. For some purposes a coarse grater is required and for others a fine-toothed grater is needed. For some purposes the grater should be moved at a high speed relatively to the article being grated and for other purposes it should be moved at a low speed. My improved grater comprises both fine and coarse toothed grating-surfaces moving relatively at high and low speeds, so that substances requiring to be grated by a coarse grater at a low speed and others requiring to be grated by a fine grater at high speed may be simultaneously operated upon, while those requiring to be grated by a fine grater at a low speed and a coarse grater at a high speed may be operated upon simultaneously.

My improved grater comprises a casing in which are mounted two grating-cylinders revolved from a common crank through differential gearing, whereby they are moved at different speeds. The cylinders are provided with any suitable form of grating-teeth, which toward one end of each cylinder are relatively coarse and toward the other end thereof are relatively fine. Each grating-cylinder is of conical form and mounted on an axis so inclined that the upper side of the cylinder shall be approximately horizontal, while the lower side is inclined at twice the angle of the axis to facilitate the discharge of the grated material which falls within the cylinder. The larger end of the cylinder is made open or formed with openings to facilitate the discharge of the material, and the casing

is provided with a discharge-spout at the lower and larger end of the cylinder. The upper part of the casing is formed with an elongated opening or hopper into which the material to be grated may be placed to bring it into contact with the upper or horizontal portion of the grating-cylinder, so that by holding the material in the half of the hopper or opening toward one end it will be coarsely grated, and in the opposite half or end portion of the opening it will be finely grated. By reason of the grating-cylinder being horizontal at the opening there is no tendency of the article being grated to shift toward either end, so that its retention against the portion of the cylinder on which it is placed is facilitated. The two grating-cylinders are alternated—that is to say, although being arranged with their axes in parallel vertical planes they are turned end for end, and their axes slope downwardly toward opposite ends of the casing, so that the discharge-spouts from the respective cylinders open at opposite ends of the casing.

Figure 1 of the accompanying drawings is an end end elevation of my improved grater. Fig. 2 is a vertical longitudinal section thereof through one of the grating-cylinders, as denoted by the line 2 2 in Figs. 1 and 3. Fig. 3 is a vertical transverse section on the line 3 3 in Fig. 2. Fig. 4 is a diagrammatic side elevation of the two grating-cylinders removed, one of them being shown in outline in full lines and the other in dotted lines.

Let A designate the casing, which may be formed as a box of metal or other suitable material, divided longitudinally by a partition *a* into two compartments B B, each of which has a rounded and sloping bottom *bb*, these two bottoms sloping toward opposite ends of the casing and terminating in spouts *c c*, discharging from the opposite ends thereof. The two grating-cylinders C C' are mounted on axial shafts or arbors D D', extending longitudinally of the casing and having bearings in the opposite ends thereof.

On the shaft D is fixed a gear-wheel E, meshing with a wheel F, fixed on the shaft D'. The wheel D is of much larger radius than the wheel F, in order that the grating-cylinder C' shall be revolved at a higher speed than the cylinder C. A crank G is applied to either

shaft, preferably, as shown, to the shaft D, whereby by turning this crank both cylinders are revolved simultaneously.

Each of the grating-cylinders is in the form
5 of a truncated hollow cone, which may be closed at its smaller end by a cap *d*, being open at its larger end, as shown best in Fig. 3, this end being supported on the shaft by arms *e e*, or otherwise leaving discharge-open-
10 ings *f f*. Each of the cylinders is mounted with its axial shaft sufficiently inclined to bring its upper side horizontal, or approximately so, as best seen in Fig. 2. This causes the lower side to be inclined to twice the extent
15 of the axis, so that its inclination becomes steep enough to facilitate the discharge of the grated material from the interior of the cylinder, throwing it out toward its open end to the spout *c*. The grating-cylinder is
20 formed of sheet metal, which is punched or struck up to constitute grating-teeth, which may be of any suitable shape or dimensions. The half of the cylinder toward one end is formed with coarse grating-teeth, and the
25 half at the other end with relatively fine grating-teeth.

The casing A is formed over each grating-cylinder, with a hopper or opening II, of the shape shown in cross-section in Fig. 3, and
30 extending longitudinally the entire length, or nearly so, of the grating-cylinder, as shown in Fig. 2. An article to be grated is simply placed in this hopper and pressed against one end or the other of the grating-cylinder to
35 bring it into contact with the coarse or fine teeth thereof.

The two grating-cylinders, while both level on top and preferably at the same height, are turned end for end and inclined in opposite
40 directions, as shown in Fig. 4, where the full lines show the outlines of the cylinder C and the dotted lines those of the cylinder C'. The material grated by the two cylinders is discharged at opposite ends of the casing by the
45 two spouts *c c*.

In the use of the grater whenever the crank is turned both cylinders revolve at different speeds. An economy of time may be effected by grating two articles simultaneously by
50 placing one in one hopper II, against either part of one of the cylinders, and the other in the other hopper against the proper portion of the other cylinder. Thus, for example, a nutmeg and horse-radish may be simultaneously
55 grated, the nutmeg requiring to be grated fine and the horse-radish coarse; or, two articles requiring to be grated together, and each requiring to be grated to different degrees of fineness, may be simultaneously
60 grated and mixed by placing them both in one of the hoppers, the one requiring coarse grating being placed at the end for the coarse teeth of the cylinder and the other at the
65 end for the fine teeth thereof.

My invention may be in part availed of by

omitting one of the grating-cylinders and its compartment of the casing.

When desired a presser for the material to be grated may be added to the device. This is illustrated in its preferred form at the left
70 in Fig. 3, wherein a spring *g* is attached to the hopper II, and carries on its free end a presser *h*, which it tends to move toward the grating-cylinder C', thereby pressing the material (shown in dotted lines) against the cyl-
75 nder and facilitating the grating operation.

I claim as my invention the following defined novel features, substantially as hereinbefore specified; namely:

1. In a grater, the combination of a casing
80 having two compartments with discharge-spouts from each and two grating-cylinders mounted to turn in said compartments, a crank for turning them simultaneously, and gearing constructed to rotate one cylinder
85 faster than the other.

2. In a grater, the combination of a casing having two compartments with discharge-spouts for the respective compartments opening at opposite ends of the casing, two grating-cylinders mounted to turn in said compartments, arranged on inclined axes inclined in opposite directions and directed downward toward the respective spouts, and a crank for driving the cylinders.
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3. In a grater, the combination, with a casing, of a grating-cylinder consisting of a cone mounted to turn in the casing with its upper side approximately level, whereby its axis is inclined from the horizontal and its lower side
100 is inclined to twice the extent, and constructed with its larger and lower end open, and the casing formed with an inclined bottom sloping in the same direction as the lower side of the cylinder and terminating at its
105 lower end in a discharge-spout.

4. In a grater, the combination, with a casing, of a grating-cylinder consisting of a cone mounted to turn in the casing with its upper side approximately level, whereby its axis is
110 inclined from the horizontal, and its lower side is inclined to twice the extent, and constructed with its larger and lower end open, said cylinder formed with relatively-fine grating-teeth toward one end and with relatively-
115 coarse grating-teeth toward the other end, and said casing formed with an elongated opening in its upper part exposing the upper and level portion of the cylinder and adapted to permit a substance to be grated to be
120 pressed against either the coarse or fine toothed end thereof.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

BURTON H. COOK.

Witnesses:

J. B. DAVENPORT,
R. J. SLANDORFF.