

(Model.)

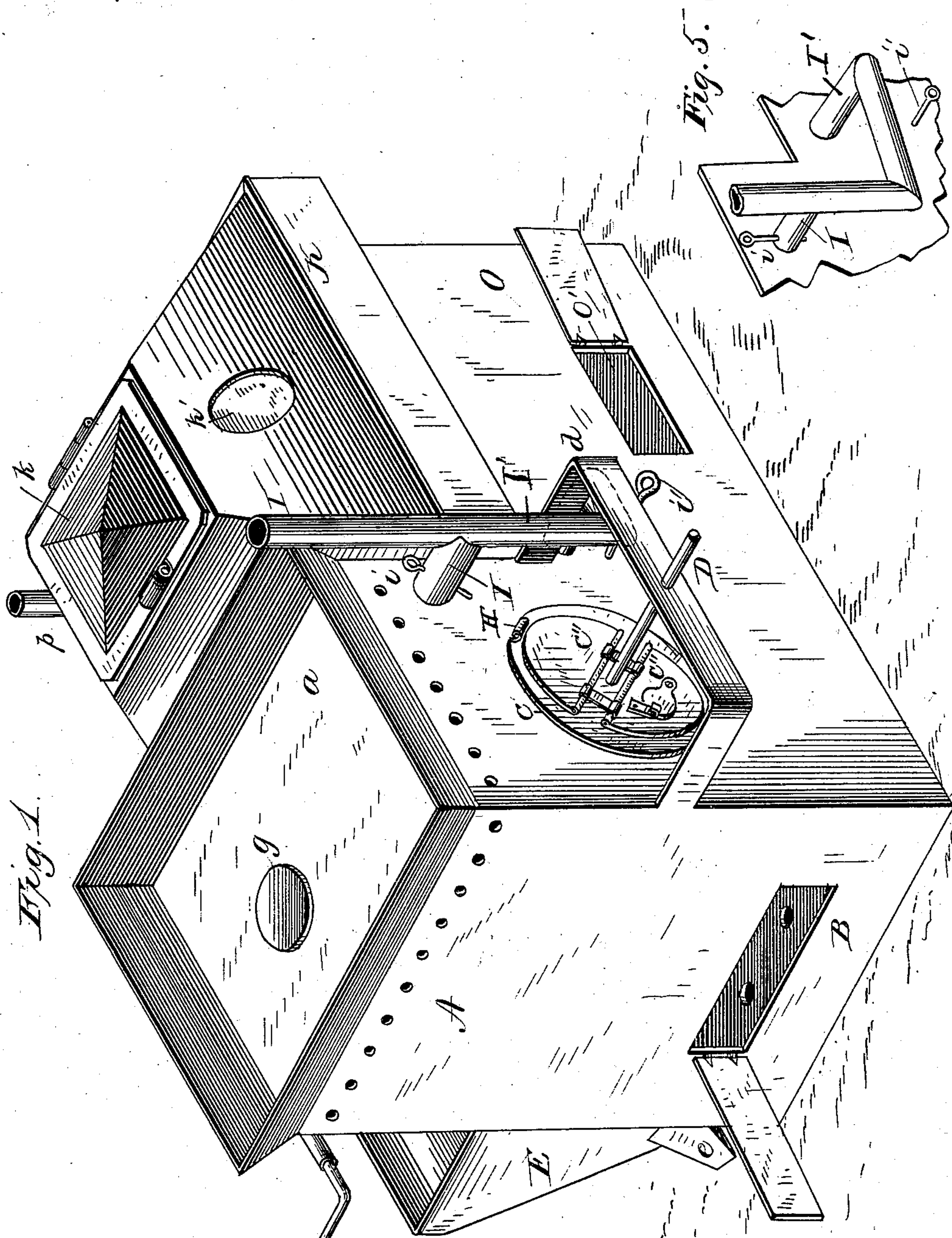
3 Sheets—Sheet 1.

C. L. COLE.

COFFEE AND PEANUT ROASTER.

No. 256,428.

Patented Apr. 11, 1882.



Witnesses,
Frank L. Curran &
George Cornell.

Inventor
Charles L. Bole
by L. Deane.
his Atty.

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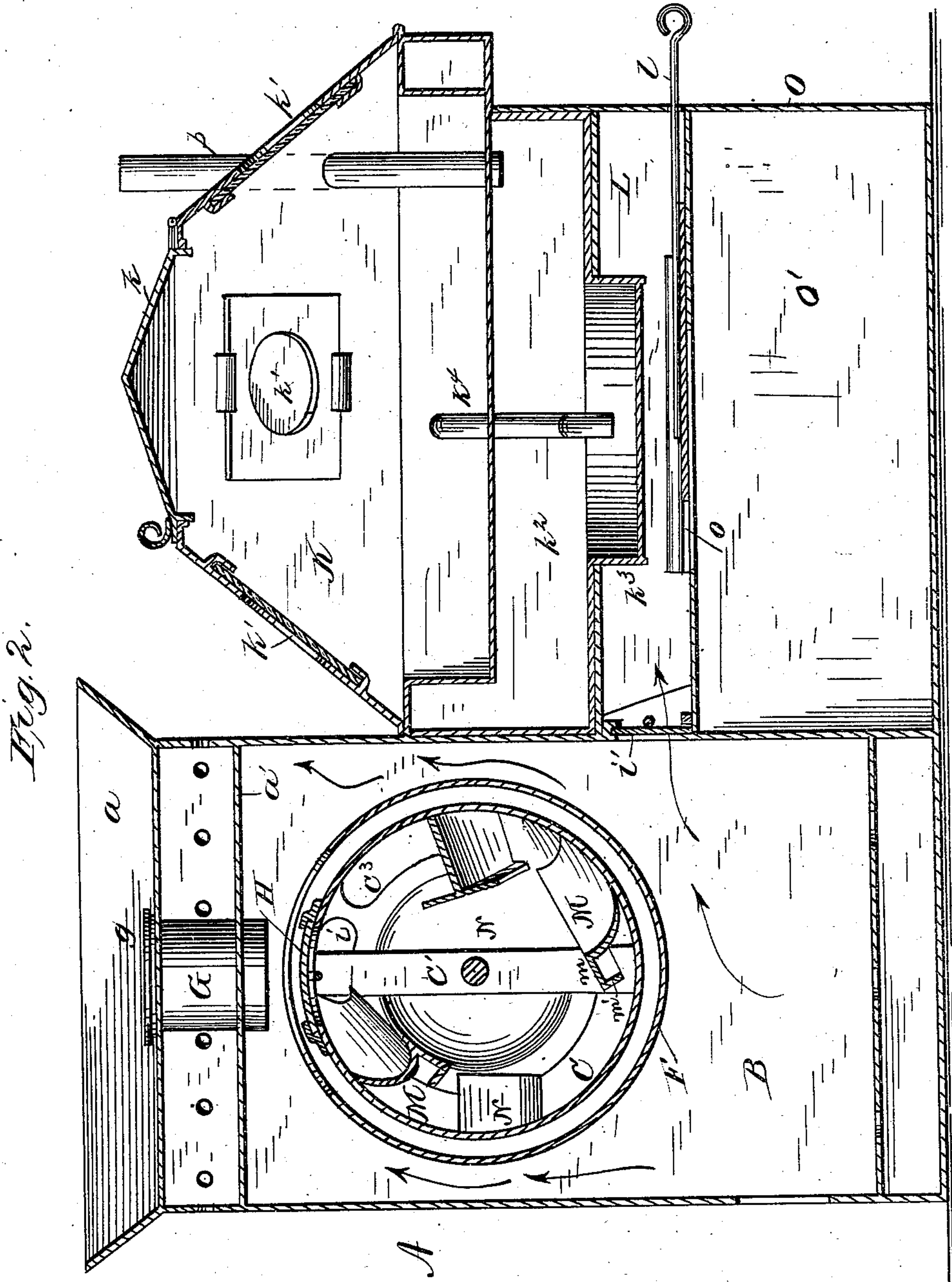
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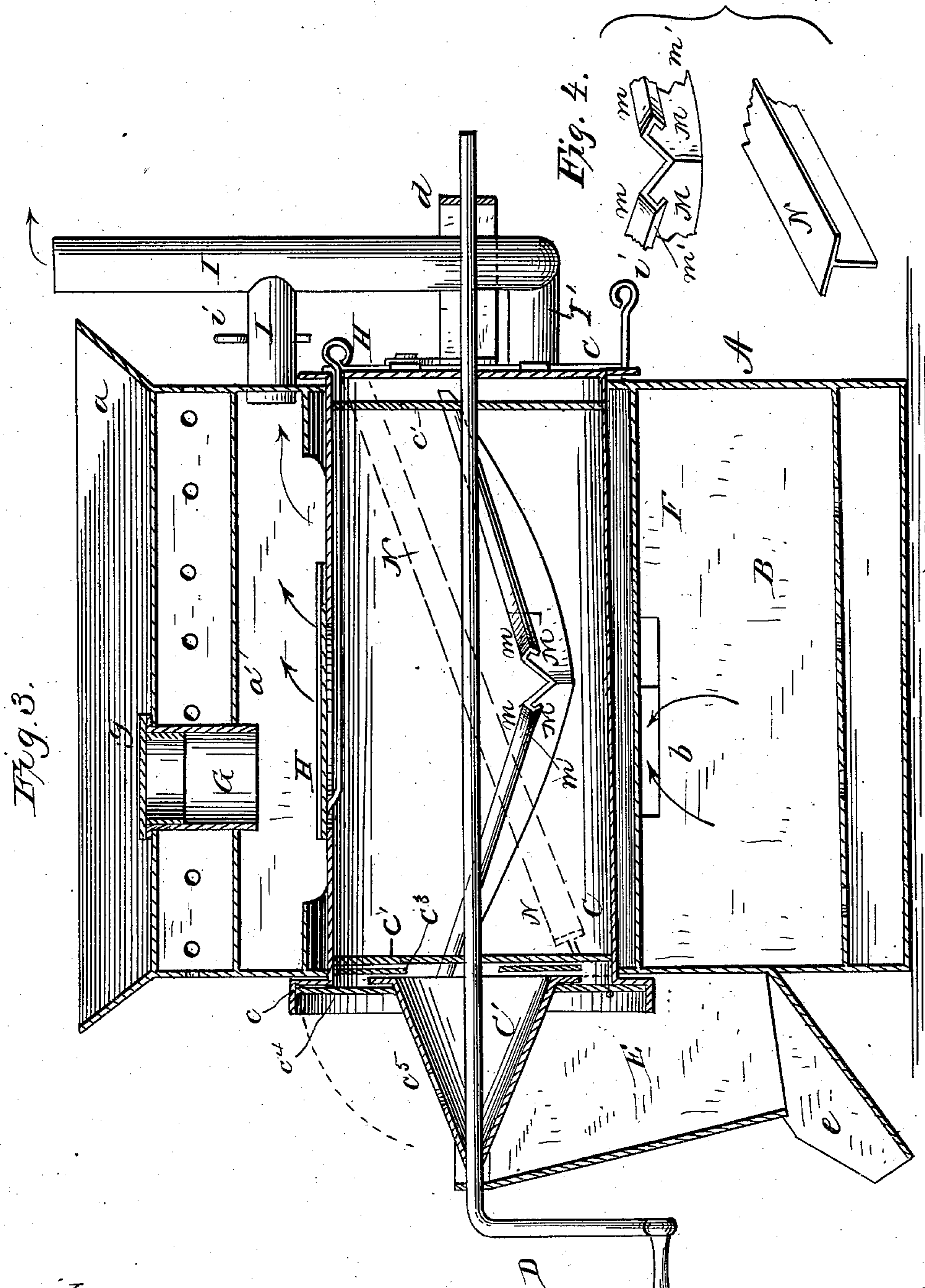
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UNITED STATES PATENT OFFICE.

CHARLES L. COLE, OF BUSHNELL, ILLINOIS, ASSIGNOR OF ONE-HALF TO
JAMES R. KAY, OF SAME PLACE.

COFFEE AND PEANUT ROASTER.

SPECIFICATION forming part of Letters Patent No. 256,423, dated April 11, 1882.

Application filed September 13, 1881. (Model.)

To all whom it may concern:

Be it known that I, CHARLES L. COLE, a citizen of the United States, residing at Bushnell, in the county of McDonough and State of Illinois, have invented certain new and useful Improvements in Coffee and Peanut Roasters; and I do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective of the entire device. Fig. 2 is a vertical central section of the device as shown in Fig. 1. Fig. 3 is a cross-section of that part of the device which contains the furnace and roaster. Fig. 4 is a detail of one of the strips inside the cylinder. Fig. 5 is a detail, showing the exit-flue.

This invention belongs to that class of devices known as coffee or peanut roasters; and the distinguishing features or points of novelty consist in the structure of the parts adapted to roast the coffee or peanuts, and also of those parts designed to keep said articles warm after they have been roasted; also, in the general details of the device and in the combination of all the parts, as will now more fully and particularly be set out and explained.

In the accompanying drawings, A denotes that part of the device which contains the furnace B and the roasting-cylinder C. This part is preferably of the shape of a parallelogram in horizontal cross-section, but is considerably higher than it is broad. The furnace or heating-chamber B is constructed and finished in any desired way to insure the greatest amount of heat in the chamber about the roasting-cylinder, which is placed centrally lengthwise in the part A and above the furnace. This cylinder is made of sheet metal, and, while called a "cylinder" for ease of description, is slightly larger in diameter at the end next the crank D, or that end adjacent to the discharge and hopper E. Thus when said cylinder is revolved, its ends being left open, its contents will be discharged into said hopper and then flow down through the spout e into any con-

venient receptacle. Around the under side of said cylinder is the semi-jacket F. This extends from end to end of the casing A, but is of less diameter, and thus is allowed a free space at each side of the cylinder C for the upward flow of the heat and volatile products of combustion from the furnace. This cylinder is hung on and revolved by means of shaft D, which is mounted in the strap d, projecting from one end of the casing A and in the wall of the discharge-hopper at the other end. The flanged heads c, at the ends of the cylinder, are outside of the end walls of the structure A. Across the middle of the cylinder and near each end are the strips c'. The axle D passes centrally through them. In the head opposite the crank are hinged the semicircular doors c'', which open outwardly, and are properly supplied with latches, so that they may be opened or closed, as desired, to put into or remove peanuts, coffee, &c., from the cylinder. These doors may also have sliding doors, if desired. In the opposite head of the cylinder C is fixed centrally the cone C'. In the head around the edges of the cone are slots or openings c³. The annular door c⁴, around the cone, is adapted to cover these. The crank D passes through the apex of the cone. Coffee or peanuts may be fed into the cylinder C through the opening c⁵ in said cone while said cylinder is in motion, so that its revolution need not be stopped for the purpose of supplying the material to be roasted. This opening should be provided with a suitable cover. By opening the annular door c⁴ the cylinder may be emptied without stopping its revolution.

When at rest the cylinder C may be filled through the pipe G, which extends down from the dished shaped receptacle a in the top of the structure A. By pulling outward the valve H an opening in the periphery of the cylinder is uncovered, which can be brought directly under the lower end of this pipe G. Thus the cylinder can be easily filled from the coffee or peanuts in this receptacle a. The pipe G has a suitable cover, g. To prevent this supply-receptacle from being overheated, a diaphragm, a', extends entirely across the top of the chamber of combustion beneath the receptacle a. The walls of the structure A, in the space be-

tween the diaphragm a' and bottom of the hopper a , are pierced with a sufficient number of holes to insure a free circulation of air between them. The heat and volatile products of combustion from the fire-chamber B circulate up, over, and around the sides of cylinder C, and will escape through the exit-pipe I. A damper, i , suitably controls this exit.

If desired to throw some heat under the warming chamber or receptacle K, the damper i' , which controls the passage-way b between the furnace-chamber B and space L in the center horizontally of the structure K, may be opened. The volatile products of combustion will escape from this chamber through the pipe I', which extends from the upper front end of the heating-chamber under the exhibitor K and connects with the exit-pipe I.

The provision of the jacket or shield F beneath and extending something more than one-half around the cylinder C will prevent volatile products of combustion from escaping through the holes in fire-chamber B, out of which the ends of the cylinder protrude. The open space between its upper edges will afford ample room for the action of the heat reverberated from the top a' of the chamber of combustion, and thus the action of the heat on the entire cylinder will be equalized.

Secured to the inside of the cylinder C is a double-inclined plane, M, set at right angles to the inside periphery, and on the edges of the double inclines are the lips m , which are bent at right angles to the planes M, and these likewise at their inner edges, m' , are bent so as to be parallel with M, so that conveying-troughs are thus made having an opening all along their length. There may be two of these inclined planes M on the inside of the cylinder. By means of these when the cylinder is rotated the contents, being by gravity greater on the lower side thereof, lodge against said double-inclined planes and are carried up; but as they are carried upon said double-inclined planes, the apex being in the middle lengthwise of said cylinder, they begin to slide down said double-inclined planes, one-half to each end, and then lodge against the lip m as the cylinder still revolves, and next slide toward the middle of said cylinder on the lip between the double-inclined planes and the lip on the lip of said inclined planes. Thus at each revolution each double-inclined plane with the lips throws the contents to the end of said cylinder and then to the middle. There are also secured to the inside of said cylinder, and alternating with said double inclines M, the single inclines N, extending from end to end of the cylinder, having a flange on their edges at right angles therewith, so that a section of said inclines will be T-shaped. Thus on each side of said inclines N are formed channels, down or along which the contents are carried from end to end of the cylinder at each revolution thereof. By this construction is assured the most thorough and continuous

stirring in all ways of each grain or nut of the contents. It is not enough that the grains or nuts shall be caused to slide and be pushed about as they are roasted, because even then, with the utmost care, they may sometimes be burned, but the several pieces must be picked up, turned over, and thrown in all ways to insure even, thorough, and perfect roasting.

The peanut warmer and exhibitor K, which is preferably of the shape of a truncated pyramid, is permanently or detachably fixed in the upper part of the structure or casing O, which is attached in any suitable way to the side of the structure A. The roasted peanuts can be placed within it through the doors k in its top, and the condition of the contents can be observed through the glass-covered receptacle K in the four inclined faces from its top. The contents may be kept warm by means of water in the chamber k^2 in the bottom, which will be heated by the circulation of hot air and the volatile products of combustion through the chamber L beneath it, or, when the damper i' is closed, by means of a lamp or suitable heating agent placed in the base O'. When such a heater is placed centrally under the opening o' , which is controlled by the damper l , said damper being drawn out, the heater acts directly against the depending part k^3 of the chamber k^2 and effectually raises the water to the desired degree of heat. It will be noticed that the water or steam chamber surrounds the base of the chamber K. To insure a flow of steam from the base into the upper part of k^2 , which comes about the interior sides of the part K, pipes k^4 may be used. The chamber k^2 may be filled with water by pipe p , and this may also be used as an escape for the steam. It may be supplied with a cut-off, and also have a whistle to indicate the state of steam in the water-chamber k^2 .

Thus is offered in a combined and very compact device the entire apparatus for roasting peanuts and for keeping them in readiness in the best condition for use. The capacity of the roasting apparatus is so considerable that with a proper degree of heat and ordinary care a very great quantity of peanuts can be roasted, and with the very least per cent. of damage—indeed with almost none.

The means provided for heating the warmer to a proper temperature are such that all this is done without any considerable cost and in the easiest and most thorough manner.

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

1. In a coffee-roasting cylinder, the double-inclined plane M, one or more, set at right angles to the inside periphery, and having the bent edges $m m'$, substantially as described.

2. In a roasting-cylinder, the combination of the double-inclined plane M, having edges $m m'$, with the single inclines N, extending from end to end of the cylinder, substantially as described.

3. The cylinder C, having at one end the cone C', in which is opening c^5 and annular door c^4 , and at the other the doors c'' , having valved openings, substantially as described.

5 4. In combination with furnace B, having the strap d at one end and the hopper E at the other, the cylinder C, larger at one end than at the other, and provided with annular doors c^4 and internal central cross-pieces, c' ,
10 through which the shaft D passes to its bearings in parts d and E, all substantially as set forth.

15 5. The exhibitor K, having water-chamber k^2 and its connecting-pipes, steam-pipe p , door k , and glazed openings k' , combined with flue L, passage-way b , damper v' , and furnace B, substantially as described.

6. In combination with exhibitor K, the hot-water chamber k^2 , having pit k^3 , and which not only forms its entire bottom, but extends up 20 and around its lower sides, and is provided with pipe k^4 and steam-escape pipe p , all substantially as described.

7. The cylinder C, slightly larger at one end than at the other, and having an annular dis- 25 charge-door, c^4 , at the larger end, in combination with cone C', fixed in said larger end, substantially as set forth.

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

CHARLES L. COLE.

Witnesses:

E. E. CHESNEY,
JOHN MULL.