No. 817,533. PATENTED APR. 10, 1906.

F. E. J. THOREEN.

COFFEE ROASTER.

APPLICATION FILED APR. 14, 1905.

Fig. 1.

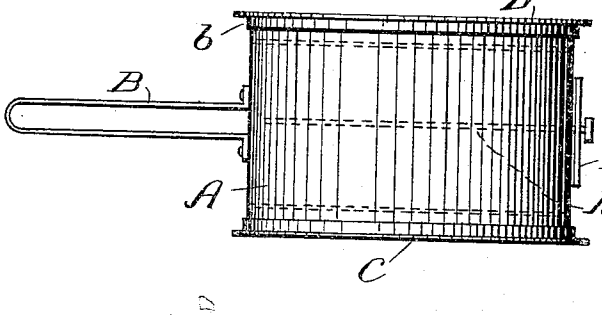


Fig. 2.

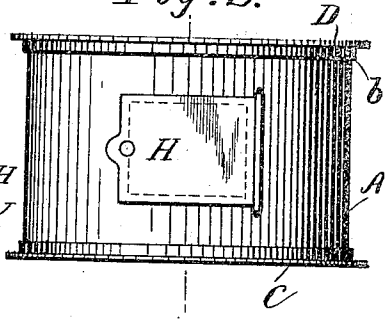


Fig. 3.

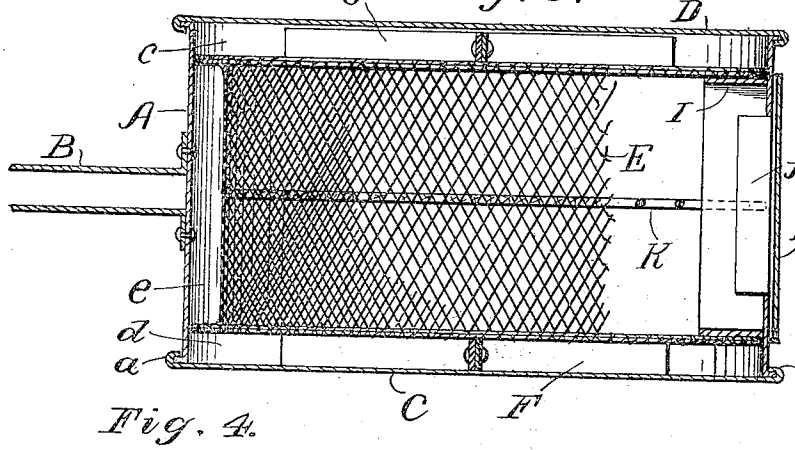


Fig. 3a.

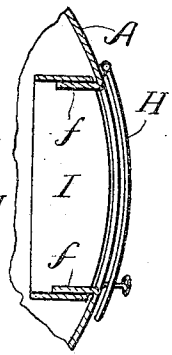


Fig. 4.

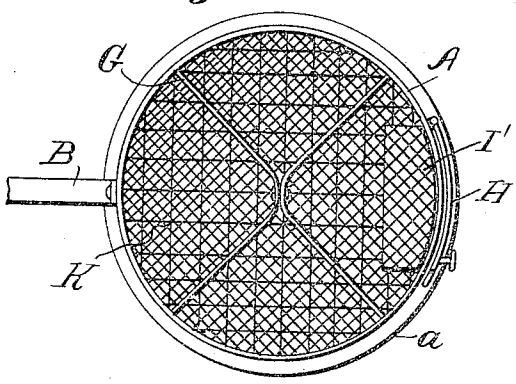
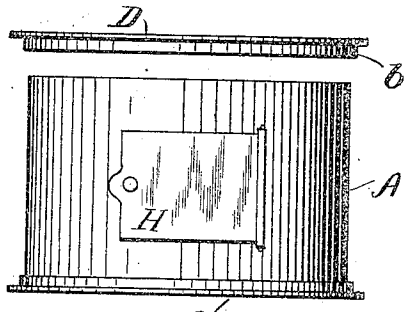


Fig. 5.



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COFFEE-ROASTER.

No. 817,533. Specification of Letters Patent. Patented April 10, 1906.

Application filed April 14, 1905. Serial No. 255,485.

To all whom it may concern:

Be it known that I, FRITZ E. J. THOREEN, a citizen of the United States, residing at New York city, in the county and State of New York, have invented certain new and useful Improvements in Coffee-Roasters, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact specification, sufficient to enable others skilled in the art to make and use my invention.

My present invention has relation, more particularly, to that class of coffee-roasters intended for ordinary household use and to be operated by hand, although the improved device may be made of any desired size.

The principal object of my invention is to provide or produce a simple, cheap, and efficient coffee-roaster which may be easily and conveniently handled and used and wherein the roasting may be effected in a uniform manner throughout the charge and without danger of burning and without unnecessary escape of the aroma.

Subordinate objects are to provide means for easily taking the roaster apart for cleaning, &c., and for charging and discharging the roaster.

To accomplish all of the foregoing objects and to secure other and further advantages in the matters of construction, operation, and use, my improvements involve certain novel and useful arrangements or combinations of parts and peculiarities of construction, as will be herein first fully described and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a side elevation showing the exterior of my improved coffee-roaster. Fig. 2 is a front elevation of the same. Fig. 3 is a vertical section and elevation on a plane through the axis of the roaster, this view being enlarged beyond previous figures and showing a different manner of mounting the top plate in place. Fig. 3ª is a horizontal section of a fragment, showing the inturned flanges on the shell for preventing disarrangement of the interior cage. Fig. 4 is a top or plan view with the cover removed. Fig. 5 is a view in elevation corresponding with Fig. 2, but showing the cover elevated or detached.

In all these figures like letters of reference wherever they occur indicate corresponding parts.

By preference I make the exterior shell of the roaster in general cylindrical form; but it might be made square or rectangular, if preferred.

A is the exterior shell of the roaster, and this is made of sheet metal, so as to be light and yet as strong as is consistent with the uses to which the device is destined. Connected with this shell is any suitable form of handle, as at B, for shaking and turning and otherwise moving the roaster, and this handle is preferably located near the middle of the shell.

C is the bottom plate, imperforate and preferably fixed in place upon one end of the outer shell. That the construction may be as simple as possible the shell and the bottom piece may be beaded together, as indicated at *a a*, forming the simplest kind of a joint; but other means of making this joint may be adopted, if preferred.

D is the top plate or cover, which is preferably made removable from the shell, as indicated in Fig. 5, wherein a flange *b* may be made to fit snugly over the end of the shell; but this manner of mounting the cover is not essential. It might be mounted as in Fig. 3 and fixed upon the shell after the other parts are introduced. However the cover D may be jointed with the shell, it should be so arranged that it is not likely to become accidentally displaced, because the roaster is to be turned at times with the cover down, as will hereinafter appear.

E is an interior cage, of wire or perforated material, having a mesh of size sufficient to prevent the escape of coffee-berries through it. This cage is provided with a top and bottom, likewise of wire or perforated material and of mesh similar to that of the vertical wall of the cage, and it is located in the shell A and occupies a position, as indicated in Fig. 3, affording a space *c* between the top of the cage and the cover D and a similar space *d* between the bottom of the cage and the bottom plate C and an annular space *e* between the vertical wall of the cage and that of the outer shell, except at a narrow part in front and opposite the charging and discharging

orifice. The bottom and top of the cage is extended, as in Fig. 3, so as to meet the wall of the outer shell, and these extended portions maintain the cage in its proper axial relation with the shell. Between the bottom plate C and the cage is a sheet-metal spider, as at F, which is preferably made of two pieces riveted together and bent so as to form projections for the support of the cage. Between the top of the cage and the top plate is another spider, as at G, similar to the one at F and interchangeable therewith. This last-named spider is represented also in Fig. 4.

When the cage and the spider and the top and bottom plates are in place, the cage will be maintained in the proper relation with respect to the shell and its end plates.

The charging and discharging orifice is preferably located opposite the handle, as indicated, and it is covered by a hinged door H. Within the cage E and around a suitable opening therein is a reinforcement or flange, as at I, the same being arranged to include all of the opening covered by the door H and to prevent escape of the coffee-berries, except in and out of the cage and through the opening provided for the purpose. This flange I may be made of sheet metal and imperforate, as indicated in Fig. 3, or it may be made of wire or perforated material, as indicated at I′ in Fig. 4.

At the opening covered by the door the material of the shell is turned in a trifle, forming flanges, as at *f f*. These small flanges enter the opening formed by the flange I and prevent the cage from turning within the outer shell, so that the charging and discharging opening will always be in proper place.

With the roaster constructed as thus far explained the turning of the device to bring the top or the bottom in contact with the stove or over the fire or the shaking of the device would result in collecting the berries at one part or heaping them unevenly over the heated surface, the result of which would be an imperfect and uneven roasting. This has been a difficulty ordinarily encountered in the use of coffee-roasters as heretofore usually constructed. Now to obviate this difficulty I supply the roaster with a distributer or evener operating when the roaster is reversed to cause the berries to be distributed evenly over the surface of the lowermost portion of the cage and prevent them from banking up. This distributer is represented at K. It is located about at the middle of the cage and parallel with the ends, being composed of wire or perforated material having a mesh larger than that of the cage and of size sufficient to permit coffee-berries to pass through it, but not too frely. With this distributer in place when the roaster is reversed the berries come in contact with the distributer, pass through its meshes, and are thus evenly dropped upon the then lower end of the cage. The result of this is to expose the berries to the heat only when they are evenly distributed and not when they are heaped up in one part of the roaster. The distributer is intended to be fixed in place in the cage at least in a semipermanent manner. Whenever the roaster is shaken, it is then to be reversed in position, by which operation the even distribution of the berries will be automatically effected. The berries are introduced at the doorway provided for the purpose, and this doorway also serves as the opening through which the roasted berries are to be discharged. The opening being opposite the handle is in convenient position for the purposes for which it is intended. The cage being sustained in the shell and at a distance from the walls and the top and bottom plates, its contents are exposed for roasting without danger of burning, and the result is an even distribution of the heat, and consequently a more perfect roasting than could otherwise be effected. The cage and the interior parts may be easily removed whenever required by first removing the cover.

The improved device being constructed and arranged substantially in accordance with the foregoing explanations will be found to be of few and simple parts, easy to make and assemble, and to answer all the purposes or objects of the invention hereinbefore alluded to.

Having now fully described my invention, what I claim as new herein, and desire to secure by Letters Patent, is—

1. In a coffee-roaster, the combination with an exterior sheet-metal shell, of an interior cage for the berries and a foraminated distributing-plate located in said cage, the cage having meshes and being arranged within the shell at a distance from its vertical wall and top and bottom, substantially as shown and described.

2. In a coffee-roaster, the combination of an exterior shell having an imperforate top and bottom, of an interior open-work cage for the berries, and spiders for maintaining the cage in position within the shell, substantially as shown and described.

3. In a coffee-roaster, the combination with the exterior shell having a hinged door, of an interior cage for the berries, said cage being supplied with a flange for surrounding the doorway, substantially as and for the purposes set forth.

4. In a coffee-roaster, the combination with the cage for containing the berries, of a foraminated distributing-plate, the same being located within the cage and arranged to operate substantially in the manner and for the purposes set forth.

5. In a coffee-roaster, the combination

with the sheet-metal shell having a fixed bottom and a removable top, of an interior removable open-work cage and the spiders for sustaining the latter at a distance from the wall of the shell and from the top and bottom thereof, substantially as shown and for the purposes set forth.

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

FRITZ E. J. THOREEN.

Witnesses:

ERNST LUNDGREN,

C. SEDGWICK.