(No Model.)

C. ABELE.

COFFEE ROASTER.

No. 254,582. Patented Mar. 7, 1882.

FIG. 1.

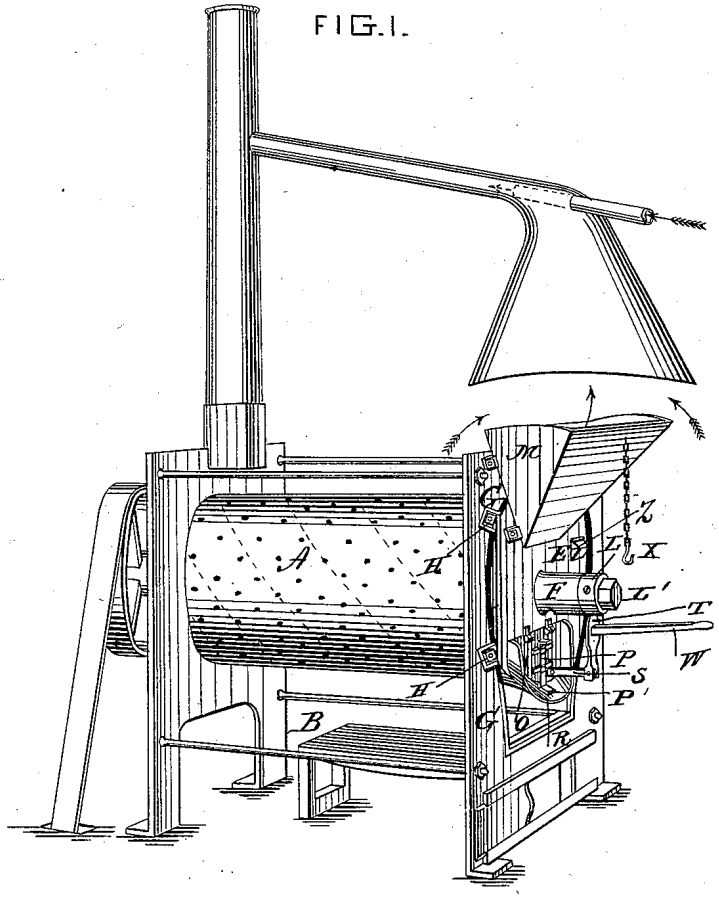


FIG. 2.

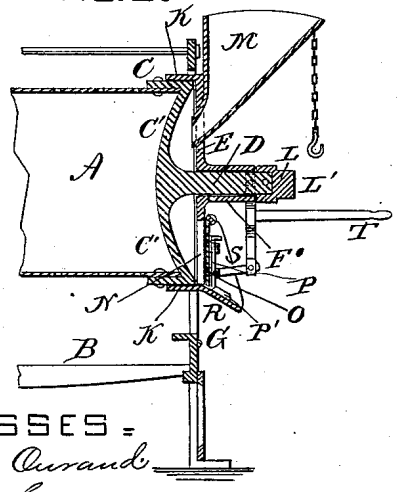
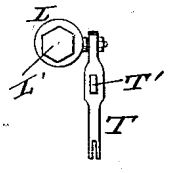


FIG. 3.



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UNITED STATES PATENT OFFICE.

CHRISTIAN ABELE, OF NEW YORK, N. Y.

COFFEE-ROASTER.

SPECIFICATION forming part of Letters Patent No. 254,582, dated March 7, 1882.

Application filed September 14, 1881. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN ABELE, of the city, county, and State of New York, have invented new and useful Improvements in Coffee-Roasters, of which the following is a specification.

This improvement pertains to the combination of certain devices or attachments in an apparatus for roasting coffee and similar berries; and the invention consists chiefly in the combination of a circular flanged plate with the front plate of the furnace in such a manner that the end of the roasting-cylinder is supported by said plate, and forms a covering for the end of the cylinder and an inlet and outlet for the coffee, as will hereinafter appear.

In the drawings, Figure 1 is a perspective view of the metal portions of the apparatus in position for the application of the brick walls of the furnace and the covering. Fig. 2 is a vertical section of the front plate through the length of the axis of the cylinder. Fig. 3 is a front elevation of the opening or pendulous lever that operates the door.

At A is represented the cylinder, made of heavy sheet metal, and perforated in the usual manner, and mounted over the grate B, to permit the direct action of the heat through the perforations, as well as the body of the cylinder. The front end of the cylinder is supported by a metal rim at C, which is made with arms, like a pulley, at C′, curved inward and cast with a hub, D, that extends out through the plate at E, and which has a bearing, F, cast upon its outer surface to serve as a support for the said journal or hub D.

The plate E is of circular form to correspond to the front end of the cylinder, and is inserted in a corresponding opening in the front plate, G, of the furnace proper; but the said opening in the plate G is about two inches larger than the plate E, so that an open space is left around the plate E of circular form, and outside of the cylinder and through said opening the air and gases can pass or escape at that end of the roasting-cylinder to free it from any overcharging of the matter thrown off in the process of roasting. This plate E is held in the said opening by lugs cast upon its outer edge, as shown at H, and by bolts that fasten it to the front plate, G.

Upon the inner face of the plate E is a flange at K, made to fit closely around the rim C, so that the coffee-berries cannot work out between the end of the cylinder and the plate E. To further hold these two parts closely together the hub D is extended through the bearing F, and has a cap at L, fastened by a pin or set-screw on its outer end, to press against the outer end of the bearing F, and thereby prevent the cylinder from working back from the inner face of the plate E. This cap L has a square projection on its outer end at L′ to receive a crank for turning the cylinder by hand when required.

Upon the upper portion of the front plates a hopper, M, is fastened, and is of sufficient size to receive a sack of coffee at one time, and the lower portion of said hopper extends down to match an opening in the plate E, and has a chute to conduct the coffee directly into the roasting-cylinder in the ordinary form of hoppers for bolts and grain-cleaning reels.

Upon the interior of the cylinder are fastened curved plates, to serve as lifters and stirrers to agitate the coffee and work it to and fro, as in the old form of such an apparatus.

After the roasting process is completed the coffee is discharged at the front end of the cylinder through an opening, N, in the lower portion of the plate E.

A door or valve, O, is fastened upon the plate to cover the said opening. It is hinged at its upper edge, and fastened by a drop or vertical sliding bolt at P, which engages with a stop at P′ on the bottom of the spout R, that is fastened or cast upon the outer face of the plate E.

To raise said door or valve to open it, a link at S connects it with a lever at T, the upper end of which is pivoted to the hub or bearing F, and in the upper portion of said lever a socket, T′, is formed (see Fig. 3) to receive a corresponding bar, W, that serves as a lifting-lever to vibrate the lever T outward; and the lifting-lever is held up by a hook at X upon a chain depending from the hopper, as shown, and thus the lower end of the door is held open, while the spiral plates on the interior of the cylinder work the coffee out through the opening into a box or receiver that may be run under the chute in front of the furnace.

For the purpose of testing or trying the condition of the coffee during the process of roasting, an opening, Z, is made in the plate E, through which a spoon may be introduced to catch samples as the cylinder rotates by holding the open dish of the spoon in the said opening, as represented in the drawings.

The hub F on the plate E, serving as a bearing for the axis of the cylinder, is formed with an opening on its under side, near the plate E, as shown at F′, to permit the escape of the oil on the outside of the cylinder, and thereby prevent it from mixing with the coffee.

Over the hopper a funnel is placed to conduct off the smoke and gases to the flue, and in this a circulating fan may be placed to increase the draft.

Having thus described my invention, I claim—

1. In a coffee-roasting apparatus, the combination of the cylinder, its supporting-rim and journal, with the bearing or hub upon the front plate, E, as hereinbefore set forth.

2. The combination of the roasting-cylinder, having a supporting-rim, C, arms C′, and journal supported in a hub, with the front plate, E, the outer edge of which is flanged to receive the end of the cylinder or its supporting-rim C, as hereinbefore set forth.

3. The combination of the plate E with the front plate of the furnace, provided with bearings for the cylinder, and having a space around its outer edge to permit the escape of the gases and smoke, as hereinbefore set forth.

4. The plate E, outlet-opening, and door, and the link and levers T and W, all combined and arranged as and for the purposes hereinbefore set forth.

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

CHRISTIAN ABELE.

Witnesses:
EUGENE N. ELIOT,
BOYD ELIOT.