C. MACKH.

Coffee Roaster.

No. 91,553. Patented June 22, 1869.

Fig. 1

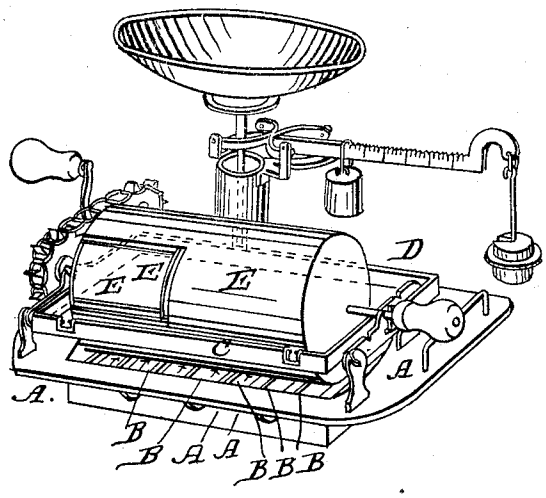


Fig. 2

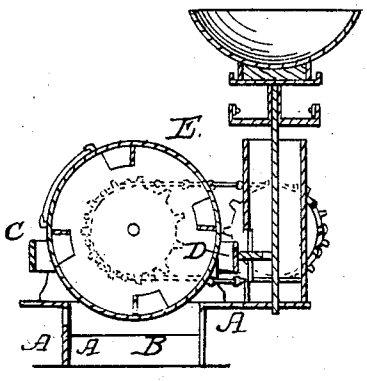
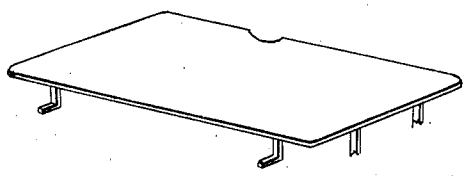


Fig. 3



Witnesses

Jno. S Flaters

Frank A Jackson

Inventor

Charles Mackle

By Wm C Wood

his atty

N. PETERS, Photo-Lithographer, Washington, D. C.

United States Patent Office.

CHARLES MACKH, OF ELGIN, ILLINOIS.

Letters Patent No. 91,553, *dated June* 22, 1869.

COFFEE-ROASTER.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, CHARLES MACKH, of the city of Elgin, county of Kane, and State of Illinois, have invented a certain new and useful Coffee-Roasting Apparatus.

My invention consists in mounting a cylinder or vessel, of any of the well-known and desirable forms, upon a balanced frame, and so connecting the same with a weighing-device, that the degree of roasting requisite or desired for the coffee, having once been determined, will be automatically indicated as the roasting-process progresses to completion, thereby practically preventing injury to the coffee by any excess of roasting or burning.

To enable persons skilled in the art to make and use my invention, I do hereby declare that the following specification, taken in connection with the drawings furnished, and forming a part of the same, is a full, clear, and true description thereof.

Figure 1 represents in perspective one of my "coffee-roasters" complete.

A represents the platform or base. It is constructed of sheet or cast-metal, with an opening therein, so arranged that when it is placed upon a stove, or over a fire, heat can pass up, coming in contact with the drum, hereafter described.

Projecting downward from the edges of this opening, is a flange of metal extending entirely around it, forming, as it were, an oblong box, without top or bottom.

Extending from front to rear of the sides of this flange are strips of metal, marked B, secured at their ends, and so bent and set as to direct the rising heat in two currents, one toward the right, the other toward the left, causing them to meet midway, and effect a concentration of heat to an obviously considerable degree.

In the flange, at the rear side of the opening, are several apertures cut therein, so that when used in a stove, (a portion of the top of which has been removed,) the gas and smoke will escape thereby into the stove and chimney.

That portion of the platform marked A A, is the part above described, and the openings last referred to are plainly shown, it being understood that the perspective view is shown from the rear.

C and D are two scale-levers, erected upon the platform A. These levers are balanced upon centres, and sustained, as is not uncommon in platform-scales, upon four standards or uprights. The levers are so connected, one with the other, by means of pivots, that any movement of one lever, produces a corresponding movement of the other.

The lever D is connected by means of a forked arm with the pendent rod of a weighing-apparatus, possessing no novel features of special value, as any kind of scales, arranged to support the lever D, or its equivalent, would serve the required end. By means of the connection referred to, the levers C and D, with whatever may be thereon, are supported by the pendent rod. which is attached to the scale-beam in the usual manner.

E represents a sheet-metal cylinder, mounted upon a shaft, fitted at each end to bearings cut in the arms of the lever D, which, in turn, is connected with the lever C, as before described, and all being sustained, when connected therewith, by the pendent rod of the scales.

An opening is shown at E E, provided with a suitable door, by means of which the coffee is to be inserted and withdrawn.

One end of the cylinder-shaft is provided with a wooden handle, to facilitate the handling of the cylinder when heated. The other end of the shaft is secured to a so-called rag-wheel, to which motion is communicated by means of an endless chain, carried upon another rag-wheel, which is separately supported by standards, and operated by a hand-crank. By the use of this chain and the rag-wheel, the roasting-cylinder can be revolved, practically, without any vertical pressure and consequent variation.

Figure 2 represents, in lateral vertical section, the same as in fig. 1, and the parts are lettered as in that figure.

Figure 3 represents a platform, which, upon the removal of the cylinder, can be mounted upon the levers C and D, in an obvious manner, thus constituting a platform-scale.

In order to render my "roaster" a very desirable article of household-furniture, and one that would possess a varied value, the weighing-apparatus can be so constructed that light articles may be weighed in a scoop mounted on the top of the pendent scale-rod, arranged as shown in the drawing, or upon a platform, already described, it only being necessary to so graduate the beam as to meet the requirements in a manner well known to persons skilled in the art.

The operation of my apparatus is as follows:

It is placed with scales to the front upon a hot stove, from which a portion of the top may have been removed or not, as may be desired, and the scales made to balance in an obvious manner by the adjustment of the weights. Green coffee is then put into the cylinder, care being taken to ascertain its true weight. It being a well-known fact that Rio coffee, for instance, loses in weight about twenty per cent. in being properly roasted, we should, therefore, if five pounds of that coffee be put in, set the weight on the beam at four pounds, which would allow of the elevation of the beam. The cylinder is then revolved by means of the crank and endless chain, and as the roasting-process progesses, the coffee becomes lighter in weight, and the scale-beam descending to a level, indicates a completion of the process.

In large establishments where motive-power would

be applied to the revolving drum, a simple attachment of mechanism could be made, by means of which a bell could be rung, or an alarm sounded, by the action of the beam.

It is obvious that by the use of my invention it will matter but little whether the fire be regular or not; if the cylinder but be kept in motion, the coffee cannot be unevenly roasted or burned, involving only a question of time, in completing the operation, and requiring, if used with the alarm referred to, but little attention or care from skilled attendants.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent of the United States—

1. The revolving cylinder E, or its equivalent, mounted upon a balanced frame, composed of the levers C and D, or their equivalents, in combination with a suitable weighing-device, in the manner substantially as described, for the purposes specified.

2. The heat-directors B, when constructed and arranged substantially as described, for the purposes specified.

3. The combination of the rag-wheels, endless chain, and crank-shaft, or its equivalent, with a coffee-roasing apparatus, when arranged and operating substantially as described, for the purposes specified.

CHARLES MACKH.

Witnesses:

JOHN DIETRICH,

FRANK C. LAMERSALL.