No. 813,274. PATENTED FEB. 20, 1906.

M. BOOF.

ROASTING APPARATUS FOR COFFEE, MALT, &c.

APPLICATION FILED MAY 31, 1905.

Fig 1

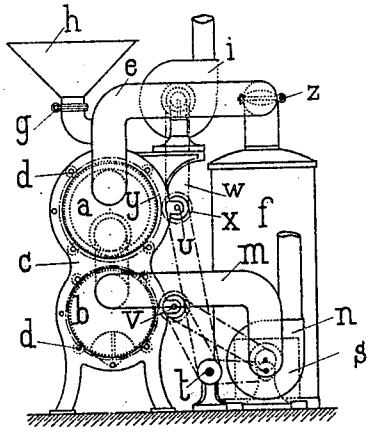


Fig 2

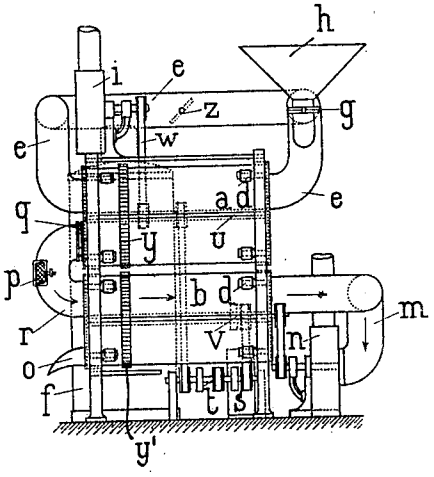


Fig 3

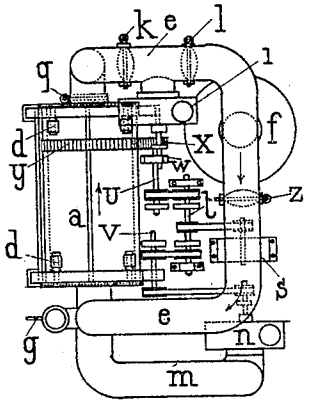
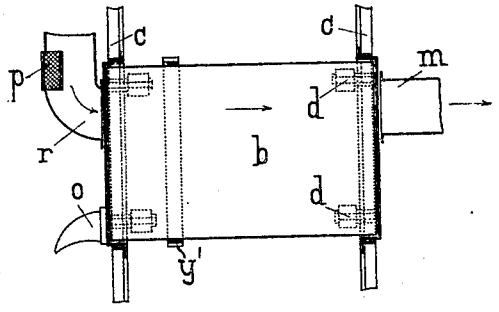


Fig 4



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ROASTING APPARATUS FOR COFFEE, MALT, &c.

No. 813,274. Specification of Letters Patent. Patented Feb. 20, 1906.

Application filed May 31, 1905. Serial No. 263,189.

To all whom it may concern:

Be it known that I, MICHEL BOOF, a subject of the German Emperor, residing at Strassburg, Germany, have invented certain new and useful Improvements in Roasting Apparatuses for Coffee, Malt, and the Like, of which the following is a specification.

My invention relates to an apparatus for roasting and subsequently glazing coffee, malt, and the like. For the purposes in view, two drums—viz., a roasting-drum and a cooling and glazing drum—are provided, superposed above another and connected by a pipe. On completion of the roasting process the now roasted material is fed into the cooling and glazing drum, in which it is cooled down to the desired temperature and thereupon glazed. In this manner roasting and glazing goes on continuously, and the roasting heat can be utilized for glazing in an extremely practical manner.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation, Fig. 2 a side elevation, and Fig. 3 is a top plan view, of the device with the hopper-section *h* removed. Fig. 4 is a vertical section through the cooling and glazing drum drawn to a larger scale.

a is the roasting-drum, which is lagged or otherwise provided with a non-conducting jacket, and *b* is the cooling and glazing drum. Both drums are provided with stationary ends supported by the standards *c*. The body of each drum rests on rollers *d*. The end walls of the roasting-drum are connected by a pipe *e*, into which conducts the pipe from the air-heating stove *f*. The feed-hopper *h*, provided with slide *g*, and the ventilator *i* also conduct into the pipe *e*. At both sides of the inlet of the ventilator dampers *k* and *l* are provided in the pipe *e*, and on the other side of the stove likewise a damper *z*. From the one end of the cooling and glazing drum *b* a pipe *m* leads to an exhauster *n*, while the other end is provided with the discharging-mouth *o* and is connected with the roasting-drum by a pipe *r*, furnished with a grating *p* and a slide *q*.

The apparatus is preferably driven by an electric motor *s*, which transmits its power to the counter-shaft *t* and thence to the shafts *v* and *u* by means of belting. The shaft *u* drives the ventilator *i* by means of the belt *w*, and by means of the pinion *x*, meshing with the toothed rim *y* of the roasting-drum, also causes this latter to rotate. In like manner the shaft *v* drives the exhauster *n* and the cooling and glazing drum, provided with a toothed rim *y'*. The shafts *t*, *u*, and *v* are provided with fast and loose pulleys, whereby the roasting-drum and ventilator can be driven either alone or in conjunction with the glazing-drum and exhauster.

The manner of operation is the following: On heating the stove the damper *l* is opened, while the dampers *k* and *z* are closed. In this manner the smoke and impure furnace-gases are prevented from entering the roasting-drum and escape directly into the air through the ventilator. The drum *a* is then charged with the material to be roasted by opening the slide *g* of the hopper *h*. The dampers *k* and *z* are now opened and the damper *l* closed. The drum *a* and the ventilator *i* are set in rotation, and the ventilator will cause a current of hot air from the stove *f* to pass through the drum *a* in the direction of the arrows, Fig. 3. By closing the damper *z* more or less the degree of heat can be regulated. On completion of the roasting process the slide *q* is opened to allow the contents of the drum *a* to descend through the pipe *r* into the cooling and glazing drum *b*. Hereupon the slide *q* is closed again. On rotation of the drum *b* and the exhauster *n* the latter causes a current of cool atmospheric air to pass through the grating *p* in the direction of the arrows, Fig. 2. In this manner the charge in the drum *b* can be cooled down to the temperature desired. The glazing agent is now introduced through the grating *p*, which can be opened for the purpose, and when the operation is complete the charge is run out through the outlet *o*.

Owing to the employment of the rotating drum for glazing, no vapor can escape into the air, so that the aroma of the coffee or the like is not lost during the process. While the roasting, cooling, and glazing are going on, the hopper *h* can be recharged and immediately after each roasting operation be emptied into the drum *a*, so that the work proceeds continuously, while the fast and loose pulleys admit of the roasting and glazing being conducted separately, if desired.

What I claim is—

1. A roasting, cooling and glazing apparatus, comprising a rotary roasting-drum having stationary ends, a rotary cooling and glazing drum located below said roasting-drum and having stationary ends, means for heating the said roasting-drum connected by

piping with both ends of the latter, a ventilator communicating with the piping, dampers controlling the passage of air and hot gases through said piping, a pipe, presenting a perforated portion, connecting the one end of each of the two drums, and an exhauster communicating with the other end of said glazing-drum, substantially as set forth.

2. A roasting, cooling and glazing apparatus, comprising a roasting-drum and a cooling and glazing drum located below said roasting-drum, each drum having stationary ends and a rotary body, means to revolve said drums, means for heating said roasting-drum, connected by piping with both ends of the said roasting-drum, a ventilator communicating with the said piping, dampers controlling the passage of air and hot gases through said piping, a pipe presenting a perforated portion, connecting the one end of each of the two drums, an exhauster communicating with the other end of said glazing-drum, and means for driving the two said drums both in conjunction or independently of each other, substantially as set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

MICHEL BOOF.

Witnesses:
JOSEPH ROHMER,
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