

(No Model.)

A. H. EGE.

BROILER.

No. 264,867.

Patented Sept. 26, 1882.

Fig. 1.

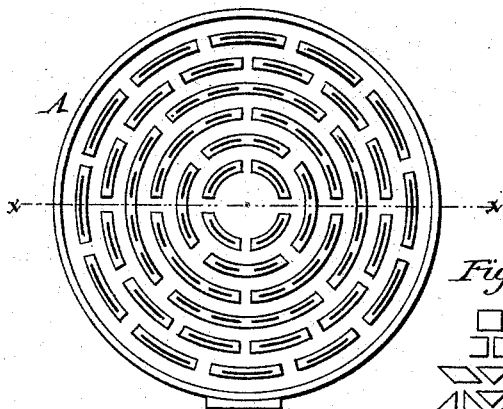


Fig. 2.

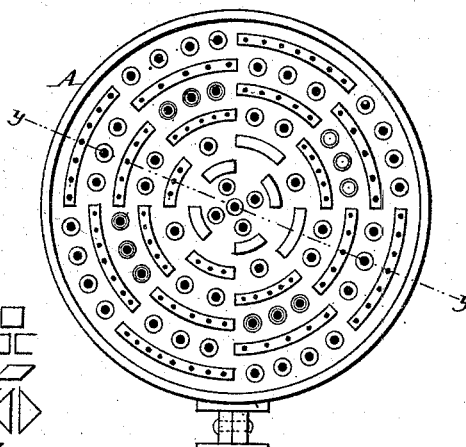


Fig. 8.

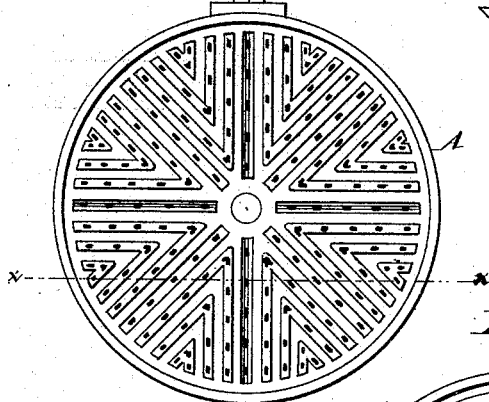
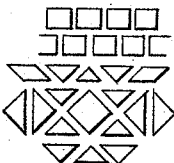


Fig. 3.

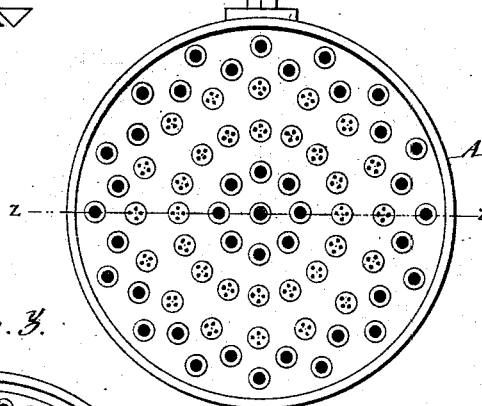


Fig. 4.

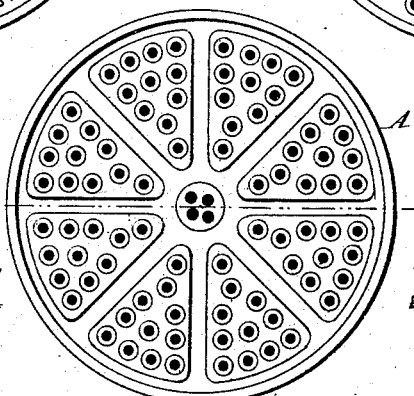
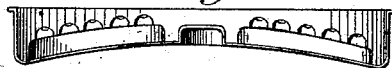


Fig. 5.

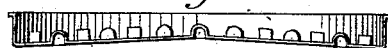


Fig. 6.



Witnesses:  
M. Kaib  
A. H. Ege

Fig. 7.



Inventor:  
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Atty.

# UNITED STATES PATENT OFFICE.

ALEXANDER H. EGE, OF MECHANICSBURG, PENNSYLVANIA.

## BROILER.

SPECIFICATION forming part of Letters Patent No. 264,867, dated September 26, 1882.

Application filed July 13, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER H. EGE, a citizen of the United States, residing at Mechanicsburg, in the county of Cumberland and State of Pennsylvania, have invented certain new and useful Improvements in Broilers; 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.

My invention consists in the construction of two plates or pans, the surface of whose bottom or bottoms consists of raised work or embossments, the object of which is to afford sufficient intermediate spaces for the retention of the juices of the meats or other substances placed thereon, the top of said embossments being perforated by a simple hole or orifice.

In the accompanying drawings, Figure 1 shows a plan view of two open hinged plates, in one of which the embossments are more or less oblong and of a general arc shape, while the other plate shows radial and V-shaped embossments, the upper walls of which in both cases are provided with circular or oblong perforations. Fig. 2 shows two open hinged plates, in one of which there is an association of both oblong and circular perforated embossments, and in the other all the embossments are in general of a circular form and perforated in the upper wall of the same. Fig. 3 shows a pan in which the bottom of the plate or plates is divided into sections whose entire surface is raised, and said raised surface is at the same time raised into separate embossments whose upper surface is perforated. Fig. 4 is a transverse section in part on line *xx* of Fig. 1, as when closed. Fig. 5 is a transverse section in part on line *zz* of Fig. 1. Fig. 6 is a transverse section on line *x'x'* of Fig. 3. Fig. 7 is a transverse section on line *yy* of Fig. 2. Fig. 8 is a plan showing several varying forms of embossments applicable to the subject.

The material used in the manufacture of the plates A A is preferably sheet metal, which will be found in practice to be sufficiently durable for ordinary use, besides being less expen-

sive than cast or wrought metals. I do not, however, confine myself to the use of sheet metal, but am free to use any other kind or material that practice may show to be suitable; nor do I confine myself absolutely to the circular form of the broiler, though I consider this shape in the main preferable, in order to conform to the usual circular shape of the pot-holes in cooking stoves or ranges in general use. The two plates are also preferably hinged together in order to open and shut conveniently, and are also furnished with suitable handles.

In practice, while I prefer to make the aggregate surface of the bottom of my pan, either one or both, concavo-convex or slightly inclined from the periphery of the same toward the center thereof, and emboss said general surface or surfaces with raised work or bosses, still I do not confine myself to this structure, but reserve the right to preserve the bottom of the plates also flat, although in either case I do not claim this form, broadly. Also, as regards the shape of the embossments, I shall vary the contour thereof as practice may demonstrate to be the best, whether oblong, circular, angular, or of any other convenient shape that taste or economy may suggest to manufacturers. I do not limit myself to any particular distance between the embossments nor to any particular height of the same, but seek only to secure such intervening spaces as will afford sufficient room for the free passage of the gravies or other fluid extracts exuding from the meats or other substances subjected to the action of heat, and at the same time prevent the escape of the same through the perforations pierced in the top of the embossments.

My broiler I consider to be an improvement upon the ordinary perforated broilers on account of its being formed with portions in positive relief, having side or vertical walls that return laterally to form horizontal bearing-surfaces, which limit the size of the perforations or openings provided for the direct heat of the flames. These portions, which I call "bosses," afford broad bearing-surfaces or indirect heating-surfaces, for the article being broiled and in the process of cooking. By reason of the comparatively small or narrow openings I save almost all of the juices set free. It is my design to have these openings so small that a

drop of fluid will not readily pass through from the meat.

The mode of using the broiler and the function of the co-operating parts are simple and easily understood. After the broiler and its contents are placed over the fire and the side exposed to the heat has been sufficiently cooked to cause a partial flow of the natural juices of the inclosed meat the broiler is turned over and the other side exposed to the fire. Meanwhile the excess of the exuding juices falls into the communicating channels between the underlying embossments, and is conducted off toward the outer rim of the broiler or into the intermediate more open spaces, and thus is secured a more equal distribution of the exuding fluids than could otherwise obtain by any other location or arrangement of the perforations. Being thus distributed, the stored juices are utilized by being, upon the reversal of the broiler, allowed to fall back upon the parbroiled side of the meat, and then reabsorbed. Thus by the operation of basting the desiccation of the same is prevented—a result that otherwise inevitably follows the permanent expulsion of the natural juices. By repeating the process of reversing the broiler a number of times all the fluid extracts are retained, and the fiber of the cooked material is softened to an extent to be attained in no other way.

I am aware that two flat-bottomed pans hinged together and containing cupped or flanged perforations have been used for the purpose to which I propose to use my device, and also that concavo-convex plates have been similarly perforated; but in neither case have the perforations been in the upper surface of an embossment. I am also aware that two plates have been similarly used having their surfaces corrugated, which in a measure overcomes the weakness and tendency to warping found in the cases of flanged perforations. But while the embossed surfaces secure the same features of strength and counteract the tendency to warping as do corrugated surfaces, yet, in consequence of the corrugations or folds being continuous, there is no means of communication between the interposed channels or

grooves, and thus the excess of juices cannot be conducted toward the more capacious depressions of the periphery and the intermediate spaces, and hence it is inevitable that a portion of the same, particularly in the central portions of the broiler, must escape through the perforations in the top of the corrugations into the fire, and thus occasion the generation of smoke and the odors of burning food material. In my invention, however, in the combination of the inclined surfaces and the perforated embossments, or in the use of the embossed surfaces alone, I avoid all the objections capable of being advanced against the cupped or flanged or perforated corrugated surfaces, and yet secure at the same time advantages that those forms obviously are incapable of conferring.

I wish it understood that I desire not to be debarred in a future application from using embossments without perforations for strengthening metal plates, which I propose to file at an early date.

I am aware that patents have been granted for broilers in which pans are perforated so that the metal thrown up stands in relief inside of the same, said openings occupying almost the entire area of said projections; and to such I make no claim.

I claim—

1. A broiler consisting of two opposite plates or pans provided with embossments formed with vertical walls which turn laterally inward to inclose openings, as and for the purpose specified.

2. A broiler composed of two dished plates hinged together, each of which is provided with embossments of varying configuration, formed with their side walls turning laterally inward to inclose one or more openings or perforations, substantially as set forth.

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

ALEXANDER H. EGE.

Witnesses:

WM. HELMICK,  
P. F. MANROSOS.