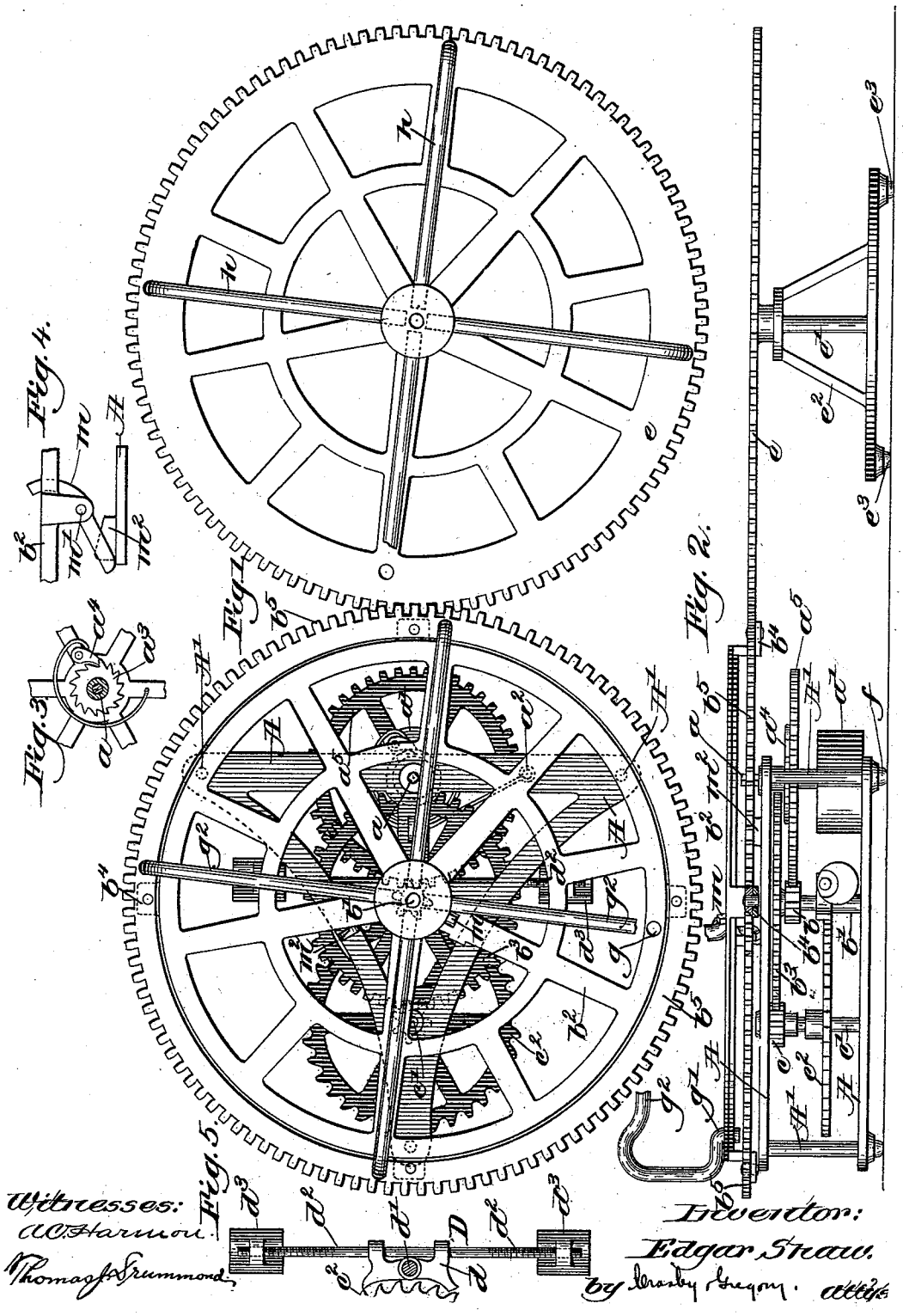
(No Model.)

E. SHAW.

ROTARY STAND FOR BAKING, &c.

No. 557,344. Patented Mar. 31, 1896.



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UNITED STATES PATENT OFFICE.

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ROTARY STAND FOR BAKING, &c.

SPECIFICATION forming part of Letters Patent No. 557,344, dated March 31, 1896.

Application filed December 5, 1895. Serial No. 571,177. (No model.)

To all whom it may concern:

Be it known that I, EDGAR SHAW, of Swampscott, county of Essex, Commonwealth of Massachusetts, have invented an Improvement in Rotary Stands for Baking, &c., of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In the process of cooking various articles of food the cook has frequently to open the oven-door to turn the article being cooked, in order that it may be baked or browned uniformly, for it is well known that one part of an oven is always hotter than the other part, and if the food is not turned it will be burned or browned too much on one side and insufficiently on the other side.

My invention relates to an automatic apparatus for turning the food in the oven when it is being baked.

My invention comprehends a stand having a clock-spring which through a train of gears drives a carrier on which is set the dish, plate, or pan containing the article to be baked, the application of the dish, plate, or pan to the carrier starting the latter in rotation automatically and the removal of the dish, plate, or pan stopping the rotation of the carrier; and I have so constructed my improved stand that it may be made to drive one or more other stands not provided with a driving-train, and I have arranged on my stands auxiliary plate or dish supports, so that two or more dishes or pans may be rotated by each apparatus.

Figure 1 is a top or plan view showing my invention as adapted for rotating two carriers side by side, and each carrier is provided with an extra dish or plate support. Fig. 2 is a side elevation of Fig. 1, with the dish-support entirely omitted from one carrier and the other partially broken out to save space on the drawing. Fig. 3 is a detail showing the pawl to hold the spring when its shaft is turned to wind the spring. Fig. 4 shows the locking device, and Fig. 5 the escapement and part of the escape-wheel.

In the drawings, A A represent two plates or spiders secured together, one parallel with relation to the other, by pillar-posts A'. These spiders A have suitable bearings for the driving-train, composed of a shaft a, squared at its upper end to be rotated by a key to thus wind the driving clock-spring a', connected at its inner end to the said shaft and at its outer end to a stud a^2 of the top plate or spider A, said shaft having a ratchet-wheel a^3, (see Fig. 3,) acted on by a spring-pressed pawl a^4 and also a driving-gear a^5. The gear a^5 engages a pinion b on the shaft b', to the upper end of which is attached the dish, pan, or plate carrier b^2, the said shaft also having attached to it a gear b^3, which engages a pinion c on a third shaft c', having an escapement-wheel c^2, which is engaged by an escapement D, (shown as composed of a double pawl or detent d,) pivoted at d' and having two arms d^2 d^2 screw-threaded and provided with adjustable balls d^3, the adjustment of the balls on the arms controlling the speed of rotation of the train, it being very desirable to do this, for the hotter the oven the faster the carrier b^2 should rotate, and vice versa.

The carrier b^2, as herein shown, has its outer edge turned down, and said edge is shown as provided with ears b^4, to which is bolted a toothed ring or segment b^5, which teeth engage the teeth of an auxiliary carrier e, connected to a shaft e', mounted in a stand e^2.

The main carrier may rotate one or more auxiliary carriers.

The rotation of the gearing in the oven, if means are not provided to prevent it, makes a very objectionable noise, and to obviate this I have provided the lower spider A with feet f, composed of asbestos, crowded and held in holes made for it, the asbestos feet acting as sound-deadeners, and also, inasmuch as the asbestos is fireproof, they will not deteriorate by the heat of the oven. The auxiliary stand e^2 has like asbestos feet e^3.

The main carrier has a series of holes, as g, near its edge, which receive the feet g' of an auxiliary dish-support g^2, composed, as herein shown, of wire, the top of the support being located above the main carrier b^2 and adapted to support a separate dish or plate above the one to be placed on the main carrier. The auxiliary carrier also has a dish-support h located above it.

The space between a carrier and a superimposed dish-support is sufficient to allow room for a plate, pan, or dish.

The dish-support g^2 or h may have four or any desired number of legs.

The spring a' is of sufficient power to rotate the carrier for about three hours, and in order to control this rotation and have it take place only when the stand is in use I have provided the carrier with a lever m, having its fulcrum at m', the upper end of the lever being adapted to project normally above the top of the carrier, so as to be acted upon by a dish, plate, or pan set upon the carrier, the weight of the said dish, plate, or pan elevating automatically the heavier lower end of said lever, raising it above the tops of the lugs m^2, (preferably three lugs,) thus releasing the carrier from the stand and letting the spring act to rotate the carrier.

The removal of the dish, plate, or pan from the carrier enables the lower end of the locking device to immediately drop and effect the stopping of the carrier as the locking device meets the first of the lugs m^2. In this way the power of the spring is not wasted, and the spring will act only when in use in the oven.

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

1. The combination with a baking-stand having a driving mechanism, of a dish, plate or pan carrier rotated thereby, and a locking device to prevent the rotation of the carrier, said locking device being adapted to be acted upon by placing the dish, plate or pan in place on the carrier, thus releasing the locking device and automatically starting the carrier in motion, the removal of the dish, plate or pan from the carrier enabling the locking device to again act and stop the rotation of the carrier, substantially as described.

2. A stand, a driving mechanism mounted therein, and a carrier mounted on a shaft of the said driving mechanism and adapted to be rotated thereby, a locking device mounted on said carrier for locking the said driving mechanism when a plate or dish is absent, the presence of a plate or dish on said carrier releasing the said locking mechanism, and a toothed ring attached to said carrier, combined with an auxiliary carrier having teeth in mesh with the teeth of the main carrier, a shaft to which the said auxiliary carrier is attached, and a stand to support the said shaft, substantially as described.

3. A stand, a driving mechanism thereon, and a dish, plate or pan carrier driven thereby, combined with a dish-support erected on and above the said carrier to rotate a second dish, plate or pan, substantially as described.

4. A rotary baking-stand, comprising a dish, plate or pan carrier, a driving mechanism, means interposed between the carrier and the driving mechanism whereby as a dish, plate or pan is respectively placed upon and removed from such carrier the driving mechanism is started and stopped, and a supplemental carrier erected upon the first-named carrier and having its motion controlled thereby, substantially as described.

5. A baking-stand, a dish, plate or pan carrier, a spring, gearing actuated thereby to rotate the carrier, and an escapement-wheel driven by a gear actuated by the shaft of the carrier, combined with an escapement-pawl having adjustable balls to control the speed of rotation of the carrier according to the heat of the oven, substantially as described.

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

EDGAR SHAW.

Witnesses:
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