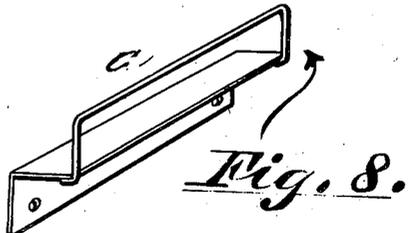
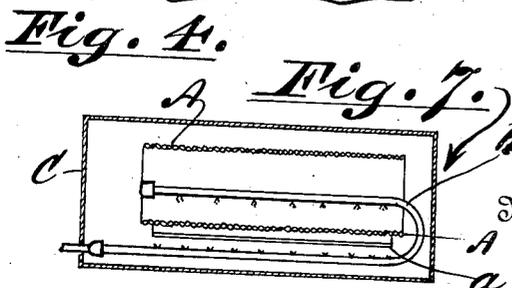
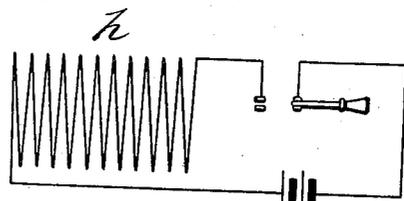
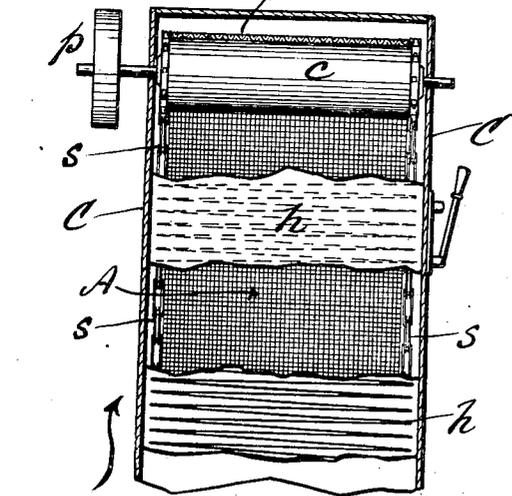
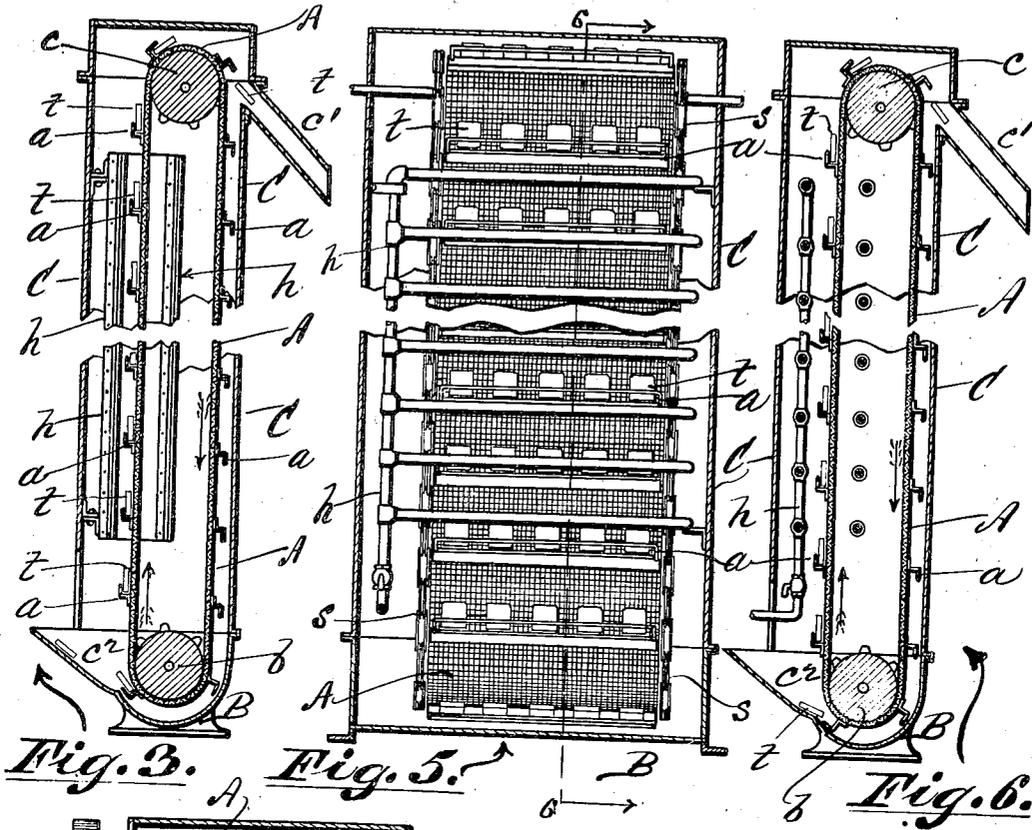


Jan. 2, 1923.

H. C. LYONS.
TOASTER, ETC.
FILED FEB. 1, 1922.

1,440,786

2 SHEETS-SHEET 2



Inventor
Harry C. Lyons,
By his Attorney,
Geo. W. Math

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2 SHEETS-SHEET 1

Fig. 1.

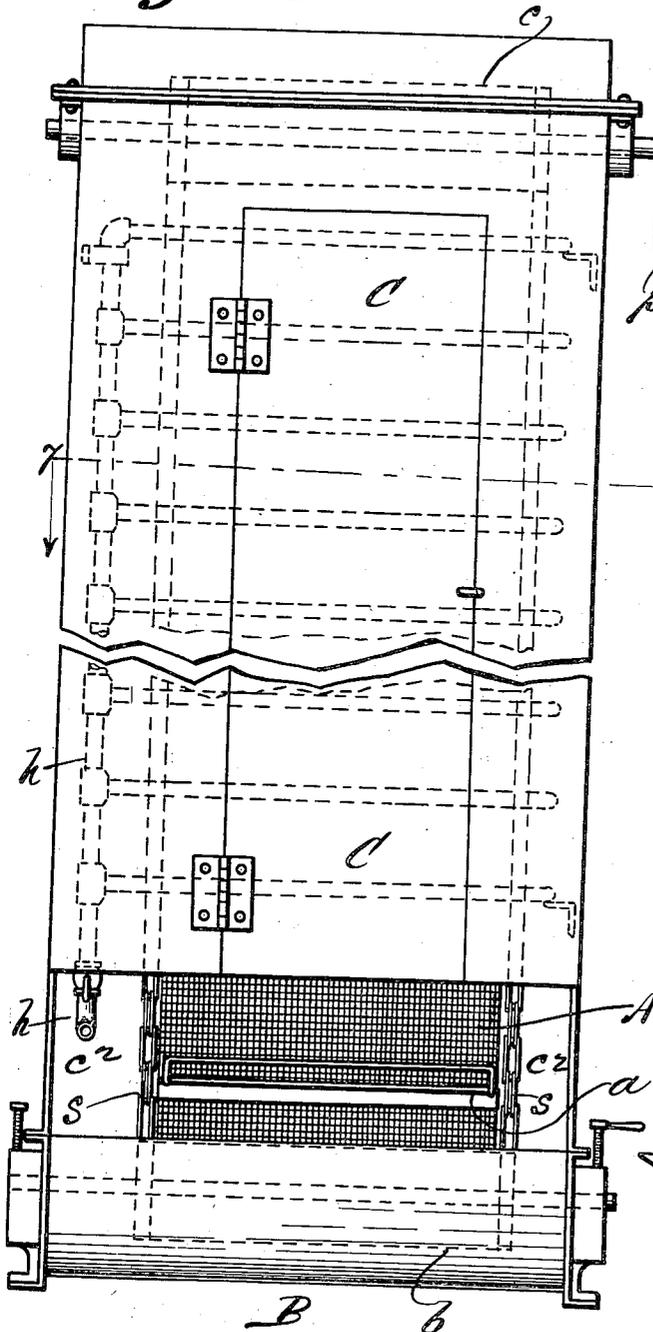
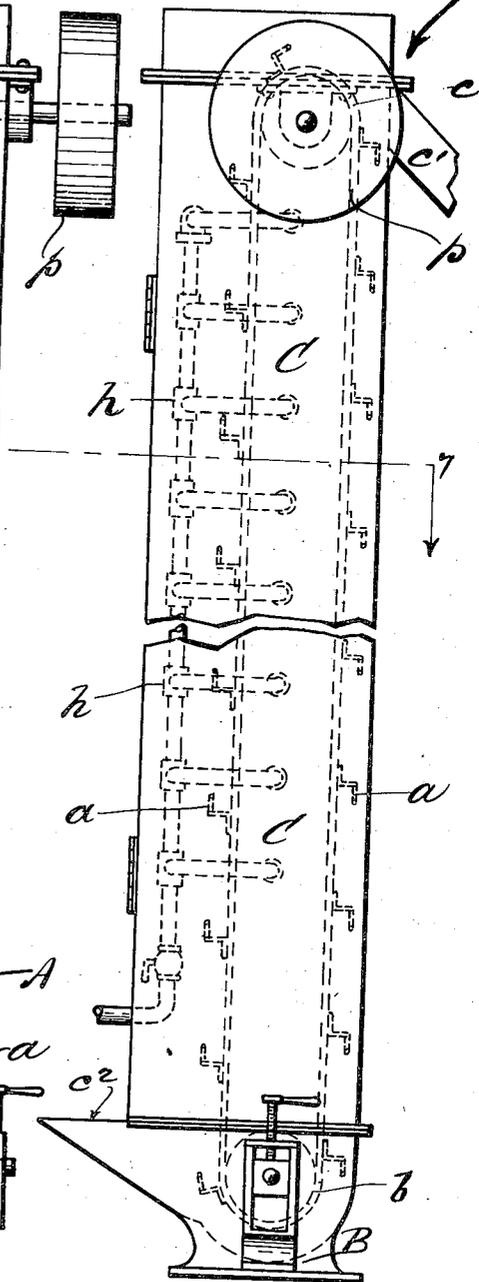


Fig. 2.



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Patented Jan. 2, 1923.

1,440,786

UNITED STATES PATENT OFFICE.

HARRY C. LYONS, OF NEW YORK, N. Y.

TOASTER, ETC.

Application filed February 1, 1922. Serial No. 533,333.

To all whom it may concern:

Be it known that I, HARRY C. LYONS, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Toasters, Etc., of which the following is a specification.

While applicable for use generally, my improved toasting apparatus is designed more particularly to meet the requirements of boarding houses, hotels, restaurants, etc., where relatively large quantities of toasted bread are required periodically or continuously,—the object of my invention being, primarily, to increase the out-put, economize in time and labor, and to produce a product of uniform quality; and secondarily, to attain these results by means of compact apparatus occupying a minimum of floor space, and adapted for installation in areas and locations that would otherwise be unavailable for the purpose, all as hereinafter fully set forth.

To this end, the invention consists in the specific construction, combination, and arrangement of parts and elements herein described and claimed, a distinctive feature being the use of an endless upright toasting apron and parallel heating means arranged in vertical alignment, or substantially so, whereby the requisite basic support is rendered comparatively slight in area as related to the extension and operative working requirements of the apparatus, considered in a unitary sense. In other words, the gist of the invention may be said to consist essentially in positioning and supporting the apparatus up on end, or in essentially vertical extension, as compared with the method heretofore resorted to in the state of the art, in which the travelling toasting apron, heating means, etc., are or have been extended in horizontal alignment and parallelism with the supporting surface, which arrangement must thus necessarily involve a maximum of area and floor space.

It will thus be seen that, since it is obvious that the capacity or out-put of the apparatus must necessarily be restricted to the available length of the endless toasting apron, and the opposed heating elements used in conjunction therewith, I am enabled by my improvement, construction and arrangement of parts and elements, to extend the available length of my apparatus indefi-

nitely within a fixed, minimum area of floor space and support, which is a great practical advantage under ordinary conditions of use and installation, and especially so in situations and environments which render economy of floor space the main desideratum.

In the accompanying drawings I represent more or less symbolically operative means for the embodiment of the essential features of my invention in practical form in conjunction with alternative heating methods or elements:—it being understood however that I do not limit and restrict myself in this particular to the identical form and construction shown, since various modifications in details and arrangement of parts and appurtenances may be resorted to in adapting the apparatus to location and environment without departing from the spirit and intent of my invention in this respect, and with substantially like results.

With this understanding,

Fig. 1 is a front elevation of my improved toasting apparatus in which gas heating elements are employed;

Fig. 2 is a side elevation thereof;

Fig. 3 is a vertical sectional elevation, upon a smaller scale, showing a form of apparatus in which electric heating elements are employed;

Fig. 4 is a detail view illustrative of an electrical resistance heating means, such as used in the preceding figure;

Fig. 5 is a frontal sectional view showing a form of my upright toasting apparatus in which gas is used as the heating medium;

Fig. 6 is a sectional elevation taken upon plane of line 6—6, Fig. 5;

Fig. 7 is a horizontal section taken upon plane of line 7—7, Figs. 1 and 2, but on a reduced scale;

Fig. 8 is a perspective view of a toast shelf suitable for incorporation with my endless travelling upright toaster apron;

Fig. 9, is a diagrammatic representation illustrative of an electrical heating element and system suitable for use in conjunction with my endless vertical travelling toaster apron.

The base B, of my new and improved toasting apparatus may be of any suitable or desired form and construction provided it is adapted to be rigidly attached to a floor or other fixed support. A superstructural casing C, rests upon and is rigidly

secured to said base B. The lower sprocket drum *b*, is mounted in the base B, and the upper sprocket drum *c*, is mounted in the upper part of the casing, the two being connected by sprocket chains *s, s*, so as to rotate in unison, the rotative power being applied to either, as by a pulley *p*, shown in Figs. 1, 2 and 4, as applied to the shaft of the upper drum *c*, although any other driving mechanism may be substituted with like effect,—the object being to afford means for actuating the endless apron A, supported upon and extending between said sprocket drums *b, c*, which, being of equal diameter, impart a taut uniform motion to said endless travelling apron A, in the direction indicated by the arrows in Figs. 3 and 6 of the drawings.

The said endless apron A, is provided with transversely positioned shelves or holders *a, a*, adapted to afford support, on the upward travelling side or strand of the apron, for slices of bread *t*, or other food to be toasted, but to automatically release such slices from the bight portion of the apron A, passing over the upper sprocket drum *c*, as indicated in Figs. 3 and 6, particularly. The toasted product thus released from the upper bight of the endless apron A, may be received into a discharge chute *c'*, or otherwise disposed of as may be found most expedient or convenient under the circumstances of installation and use of the apparatus.

The toast slices *t*, may be fed to the lower part of the endless apron A, automatically, or by hand through an aperture *c''*, formed for the purpose in the lower front portion of the casing C, as shown more particularly in Figs. 3 and 6.

The upward travelling strand of the toasting apron A, passes in juxtaposition to heating means *h*, adapted to impart the requisite degree of heat to the slices *t*, exposed thereto, and such heating means is preferably duplicated on each side of said upward travelling strand of the apron A, as shown more particularly in Figs. 3 and 6 of the drawings, so as to toast both sides of the slices simultaneously although this is not an indispensable feature since the slices *t*, might obviously be passed through the apparatus twice if only one heating element were provided therein.

The endless travelling apron, as shown in the accompanying drawings, is presumed to consist of a woven wire belt, although any other form of flexible apron may be utilized for the purpose, as may be found most expedient in practice.

In so far as the heating elements *h*, are concerned, these also may be of any suitable character. Thus in Figs. 3, 4, and 9, of the drawings, the use of electrical resistance heating elements is indicated, whereas in the

other figures of the drawings the heating elements are gas-burner pipes, adapted for connection with a suitable source of gas supply.

A comparison of a transverse horizontal sectional area of my improved toasting apparatus as related to the height thereof (which is only limited by the height of the compartment in which the apparatus is installed) will give a fair idea of the economy of floor space attained as related to the prior state of the art, in which the greater extension of apparatus is horizontal, and parallel to the floor space preempted thereby. Thus my apparatus is available and adapted for installation and use under conditions, and in locations, that would be prohibitory in so far as the prior state of the art is concerned.

In this connection it may be stated that by the term "upright" as herein employed, I mean to designate any substantially or approximately upward extension, from the supporting base, of the endless toasting apron and the heating means used in conjunction therewith, in contradistinction to the old method of horizontal extension, and support at both extremities thereof. For instance, it is obvious that, provided the basic support is ample and secure, the actual upward extension of the said operative parts and elements of my new "upright" toasting apparatus may be inclined materially from the actual perpendicular as related to such basic support, with like or analogous results, without deviating from this invention.

Furthermore by the term "toast slice supports" in the claims I intend to designate and include any suitable means for carrying slices of bread or the like on the upward travelling strand of the endless apron.

It is to be understood that I do not limit myself to the identical form and construction of parts herein shown and described, since various modifications may be resorted to in details without departing from the spirit and intent of my invention in this respect. For instance, the apparatus may be so arranged and operated as to feed the toast slices onto holders on the downward travelling strand of the endless apron, the heating means being arranged accordingly, and the result attained being essentially the same as herein set forth.

What I claim as my invention and desire to secure by Letters Patent is,

1. Toasting apparatus of the character designated, comprising a basic support and superstructure, an endless travelling toasting apron mounted thereon in upright extension as related to said basic support, toast-slice supporting means on said travelling toasting apron, means for imparting motion to said toasting apron, and heating means positioned in substantial parallelism

to the upward travelling strand of said
toasting apron, for the purpose, and sub-
stantially as set forth.

2. Toasting apparatus of the character
5 designated, comprising a basic support and
superstructure, an endless travelling toast-
ing apron mounted thereon in upright ex-
tension as related to said basic support,
10 toast-slice supporting means on said travel-
ling toasting apron, means for imparting
motion to said toasting apron, and heating
means positioned on both sides of, and in
15 substantial parallelism to, the upward trav-
elling strand of said toasting apron, sub-
stantially in the manner and for the pur-
pose described.

3. Toasting apparatus of the character
designated, comprising a basic support and
20 superstructure, an endless travelling toast-
ing apron mounted thereon in upright ex-
tension as related to said basic support,
toast-slice supporting means on said travel-

ling toasting apron, means for imparting
motion to said toasting apron, and heating
25 means positioned in substantial parallelism
thereto for the purpose, and substantially as
set forth.

4. Toasting apparatus of the character
designated, comprising a basic support and
superstructure, an endless travelling toast- 30
ing apron mounted thereon in upright ex-
tension as related to said basic support,
toast-slice supporting means on said travel-
ling toasting apron, means for imparting
motion to said toasting apron, and heating 35
means positioned on both sides of, and in
substantial parallelism thereto, substan-
tially in the manner and for the purpose de-
scribed.

HARRY C. LYONS.

Witnesses:

GEO. W. M. MIATT,
DOROTHY M. CARMICHAEL.