

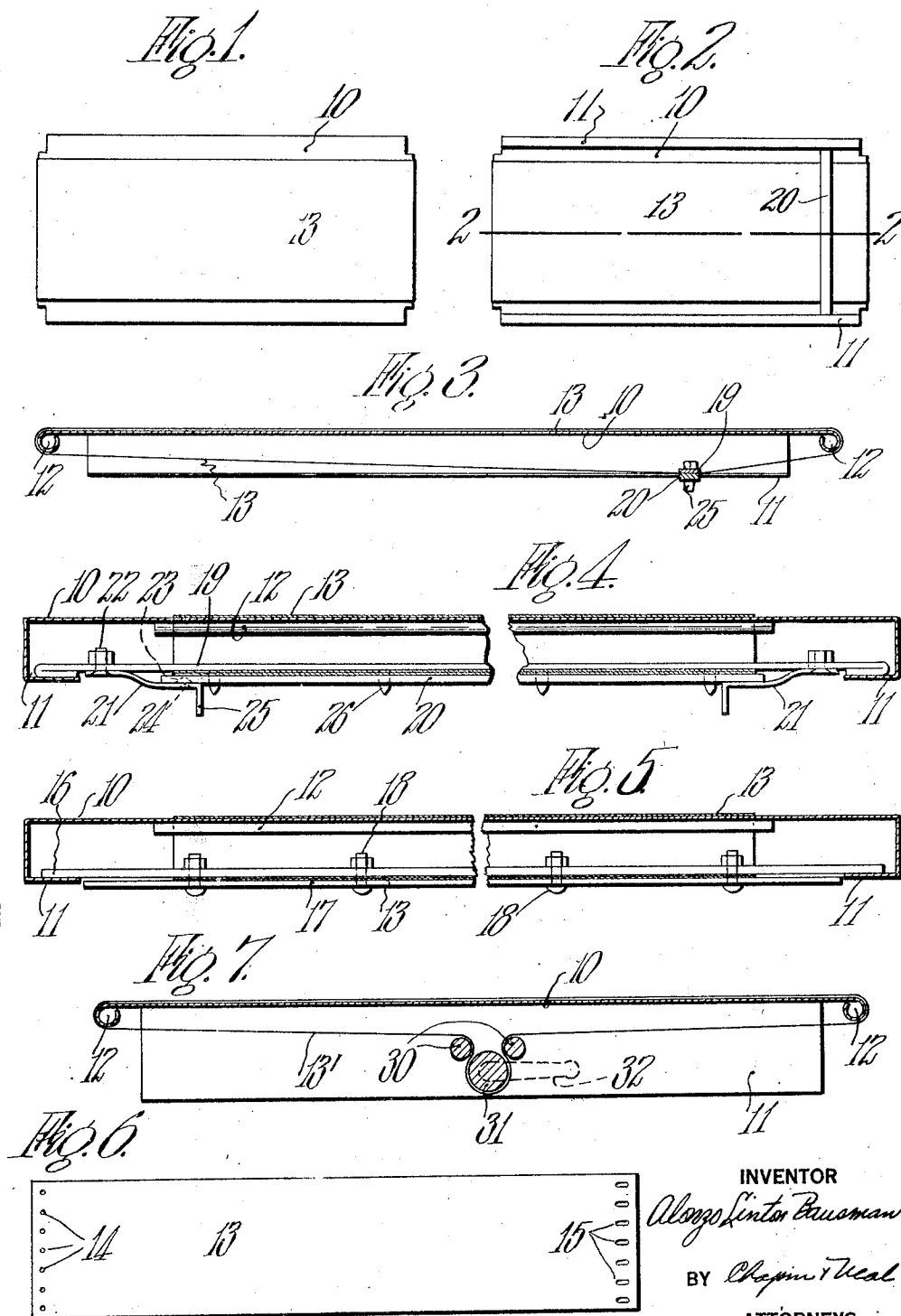
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PLAQUE BOARD

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UNITED STATES PATENT OFFICE.

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PLAQUE BOARD.

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To all whom it may concern:

Be it known that I, ALONZO LINTON BAUSMAN, citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Plaque Boards, of which the following is a specification.

This invention relates to improvements in plaque boards such as are adapted for use in the art of making confectionery.

In the confectionery art, fresh coated candies are placed on sheets of suitable material having a smooth glazy surface and these sheets, of which waxed paper is one representative example, are technically known as plaques. The plaques are placed on boards, of such size as to be conveniently portable, which boards are technically known as plaque boards and the latter are carried to a cooling room or to a cooling apparatus wherein they remain until the coatings of the candies are fully hardened. In the case of machine coated confections, the freshly coated confections are transferred automatically to plaques which are carried by and detachably secured to a delivery belt and the general practice is for an operator to place a plaque board alongside the delivery belt and slide the candy laden plaque onto the plaque board. The latter is then placed on a rack in a cold room or placed on the conveyer of a cooling apparatus.

According to this invention the usual plaque delivery system provided in connection with the coating machine may be dispensed with and a plaque board, having mounted thereon a movable, and preferably endless, plaque, substituted therefor. The board is placed with one end in close proximity to the delivery end of the coating machine conveyer and the coated confections automatically pass onto the plaque, which can be moved, as required, substantially like the coating machine conveyer is moved, until the board is fully loaded. The board is then placed on racks in the cold room or on the conveyer of a cooling apparatus and another board placed in receiving relation with the coating machine. The operation of placing the board in such relation, removing it therefrom, and moving the plaque relatively to the board may be accomplished in any suitable manner either automatically or by hand. The confections, when entirely cooled, may, if desired, be removed from the plaque

into a container by the act of restoring the plaque into its original position in which it is ready to be again laden with freshly coated candies.

According to another feature of the invention, an improved plaque board is provided for use with an endless plaque, characterized by rounded portions at opposite ends over which the plaque moves in passing from its lower to its upper lap of travel and by depending feet or runners between which the plaque moves in its lower lap of travel.

According to another feature of the invention, an improved plaque is provided consisting of a strip of suitable material having adjacent its ends transverse rows of apertures by virtue of which such ends, when brought into overlapping relation, may be conveniently fastened together, preferably in an adjustable manner, to form the endless plaque.

According to a further feature of the invention, an improved clamping means, preferably of a quick detachable nature, is provided for securing the ends of the plaque together.

According to another feature of the invention, the plaque clamping means is utilized as a means for moving the plaque relatively to the plaque board and may also be made to cooperate with the board to guide the plaque during its travel.

Other features and advantages will appear in the following description and in the illustrative embodiment of the invention in the accompanying drawings, in which,—

Figs. 1 and 2 are small scale top and bottom plan views respectively of a preferred type of plaque board embodying the invention;

Figs. 3 and 4 are enlarged sectional elevational and cross-sectional views thereof;

Fig. 5 is a view taken similarly to Fig. 4 and showing a modification in the clamping means for securing the ends of the plaque together to form an endless plaque;

Fig. 6 is a plan view showing the plaque prior to the joining of its ends; and

Fig. 7 is a sectional elevational view showing a modification in the plaque moving means.

Referring to these drawings: the plaque board proper, may according to some features of the invention be constructed in any suitable manner to accommodate a movable plaque. Preferably, however, it consists of

a flat, generally rectangular, plaque receiving portion 10, having along two opposite sides suitable depending feet or runners 11, and along two opposite ends rounded and substantially cylindrical depending portions 12 which are tangential, or approximately so, to the plaque receiving portion 10. The plaque board is of a size such as to render it conveniently portable. The portions 12 are desirable, where, as is preferable, the movable plaque is of endless form and is looped over the portion 10, travelling over the portion 10 in passing from its lower to its upper lap of travel. The feet or runners 11 are desirable to support the board and provide clearance between the support and the under face of portion 10 to accommodate the movable plaque in its lower lap of travel. The runners 11 need not necessarily extend substantially from end to end of the board as illustrated although this is desirable as the board is then adapted for use in certain types of cooling apparatus, as well as for the other ordinary uses. Desirably, the board may be constructed from thin sheet metal and the portions 11 and 12 may be formed integrally with the portion 10. A thin plaque receiving portion 10 of good heat conducting material is advantageous in that it facilitates the rapid cooling of the bottoms of the confections, which are naturally the hardest to cool. The runners 11 are desirably of a generally hollow nature to accommodate certain parts to be later described and as shown are right angularly shaped with the horizontal legs of the angles inwardly turned.

The plaque may be constructed of any suitable material and various different materials available for the purpose will readily occur to those skilled in the art. A representative example of one suitable material now commonly used for plaques is waxed paper, of proper grade and gage to afford the requisite mechanical strength. While the invention, in its broader aspects, is independent of the particular style of plaque and is concerned primarily with its mounting on the plaque board for relative movement, the invention contemplates as a desirable and important feature an endless plaque mounted on the plaque board much in the manner of a belt. While various ways will occur to those skilled in the art for providing the endless plaque, one preferred and advantageous way is illustrated in the drawings. Thus, as shown in Fig. 6, the plaque consists of a generally rectangular strip 13, the ends of which are suitably joined together, as indicated in Figs. 4 and 5, to form the endless plaque. To facilitate the joining operation, it is preferred to provide along each of the two ends, which are to be overlapped, a transverse series of apertures and these apertures may be holes, as

shown at 14, or slots as shown at 15. It is desirable to have one series of apertures of the slot type as this arrangement permits adjustment of the effective length of the endless plaque and permits the proper tensioning of the plaque when mounted on the board. The apertures, according to the broader features of the invention are not necessarily essential as a pure clamping of the overlapped ends of the plaque might suffice. The apertures, however, are desirable and constitute an important feature of the invention.

Various ways of clamping the overlapped ends of the plaque will occur to those skilled in the art and one desirable way is illustrated in Fig. 5. As there shown, the clamping means comprises two members 16 and 17, each in the nature of flat bars, between which the overlapped ends of plaque 13 are firmly clamped, as by bolts 18. Preferably, one member as 16, is made longer than the other and its ends extend into the hollow runners 11 and are supported on the horizontal legs thereof. The runners thus coact with the member 16 to guide the plaque in its movement relatively to the board. The ends of member 17 may also be disposed in close proximity to the inner edges of the horizontal legs of runners 11 to obtain some guiding advantage. The clamping members, either or both, afford a convenient means for moving the plaque relatively to the board and may be moved manually or automatically as desired.

Another means of clamping the overlapped ends of the plaque is shown in Fig. 4 and such means incorporates all the desirable features of the means first described and in addition has the additional advantage of quick detachment of the clamping members. The latter, designated as 19 and 20, are held together near each end by resilient latching means. Thus, at each end of the longer member 19, a latch 21 is secured, as by a bolt 22, in such a manner as to permit it to be swung laterally about the axis of bolt 22 and each latch extends inwardly and is offset to overly an end of member 20. The latter has a depression, as 23, to receive a projection, as 24, on the latch, the better to hold the latch in position. The free end of each latch may be bent downwardly, as at 25, to provide a handle for convenient operation of the latch. The latter is preferably of spring metal bent to exert a sufficient pressure on member 20, when positioned as shown. One clamping member, as 19, is preferably provided with a series of dowels 26 adapted to extend into suitable apertures in the other member, as 20, and these dowels and apertures are spaced to correspond with the spacing of the apertures 14 and 15 in the plaque.

As heretofore described, the plaque is

adapted for movement by means having a substantially straight line movement. This particular movement is not, however, essential according to all features of the invention. Thus, as shown in Fig. 7, an endless plaque 13', mounted to move over the upper face of the plaque board and around the rounded portions 12 in the same manner as before, passes over idler rolls 30 and around a driving roll 31. The rolls 30 and 31 are rotatably mounted at their ends in and extend between runners 11' and roll 31 may be supplied with a crank 32 or other suitable means whereby the roll may be conveniently turned. The particular plaque shown has its ends suitable joined together in a manner such as to work properly with the driving and idler rolls.

In assembling the plaque on the board, the plaque is laid on a flat surface and the plaque board inverted and placed thereon. The ends of the plaque are then folded over the rounded ends 12 and brought into overlapping relation. Previously, however, the upper clamping member 19 is laid in place with its ends positioned in the hollow runners. One end of the plaque is first laid over the member 19 and the dowels 23 passed through holes 14. The other end of the plaque is then laid in place with the dowels passing through the slots 15. The lower clamping member 20 is then applied. The last named end of the plaque is then drawn up until the proper tension is secured, after which the latches are swung into place to force and hold the members 19 and 20 together.

The apparatus of this invention may be operated in various ways, as will be readily obvious to those skilled in the art. The operation will be described in connection with the machine coating of confections,—one of its more frequent uses. One common type of coating machine coats the candies while on a pervious conveyer and this, or other conveyers, delivers the coated candies from the machine. The plaque board is then positioned with one end 12 in close proximity to the delivery end of the coating machine conveyer, preferably with the upper surface of the board at the same level as the belt so that plaque 13 virtually forms a continuation thereof. The plaque is then moved so that its upper lap of travel is in the same direction as that of the coating machine conveyer and is usually moved in a similar manner and at substantially the same rate of speed as said conveyer. The coated confections are thus transferred to the plaque and the latter moved to make room for more. Eventually, when plaque 13 is loaded, the board is removed and a new one substituted therefor. After the confections have cooled, the plaque may be moved in a reverse direction which will move the confections off

the board, the confections as they travel over the rounded portions 12 being stripped from the plaque. The operation has been described as performed manually but obviously it may be performed by suitable automatic mechanism which has not been illustrated as it forms no part of the present invention.

The invention has been disclosed herein, in an embodiment at present preferred, for illustrative purposes but the scope of the invention is defined by the appended claims rather than by the foregoing description.

Claims:

1. In combination, a plaque board for confectionery machines having runners on which it is adapted to slide into and out of position with relation to said machine, and a plaque to receive the confections and movably mounted on said board.
2. The combination with a plaque board having runners on which it may be moved, of a plaque mounted for movement on the upper face of the board, and means beneath the lower face of the board by means of which the plaque may be moved.
3. The combination with a plaque board having rounded portions at opposite ends and depending runners along opposite sides by means of which the board may be supported for sliding movement, of a plaque mounted for movement on the upper face of the portion and having a portion trained over one of said rounded ends, and means beneath the board for moving said plaque.
4. The combination with a plaque board of an endless plaque movably mounted thereon.
5. The combination with a plaque board, of an endless plaque mounted for longitudinal movement thereon, and means for guiding the plaque during its movement.
6. The combination with a plaque board, of an endless plaque mounted for longitudinal movement thereon, and means for moving the plaque.
7. The combination with a plaque board of runners provided along two opposite edges thereof, an endless plaque movably mounted on the board to traverse the upper face thereof in one lap of its travel and passing around the other oppositely disposed edges of the board and having its lower lap of travel beneath said upper face and between said runners.
8. A plaque board having at two opposite ends rounded portions and provided along its two opposite sides with runners, a plaque passing over the upper face of the board and having its ends carried around said rounded portions and joined together beneath the board.
9. A plaque board having at two opposite ends rounded portions and provided along its two opposite sides with hollow runners, a plaque passing over the upper

face of the board and having its ends carried around said rounded portions and joined together beneath the board, and clamping means for said ends extending transversely of the board and having portions engaging in said hollow runners.

10. A plaque board having at two opposite ends rounded portions and provided along its two opposite sides with runners, a plaque passing over the upper face of the board and having its ends carried around said rounded portions and joined together beneath the board, and clamping means for said ends.

11. A plaque board, having at two opposite ends rounded portions and provided along its two opposite sides with runners, a plaque passing over the upper face of the board and having its ends carried around said rounded portions and joined together beneath the board, and quickly detachable clamping means for such ends.

12. The combination with a plaque board, of a plaque trained over the upper face thereof with its ends carried over the ends of the board and brought together in overlapping relation therebeneath, clamping members arranged one on each side of the overlapping ends, dowels provided on one member to pass through such ends and engage in apertures provided in the other member, and means for detachably securing the members together.

13. The combination with a plaque board, of a plaque trained over the upper face thereof with its ends carried over the ends of the board and brought together in overlapping relation therebeneath, clamping members arranged one on each side of the overlapping ends, dowels provided on one member to pass through such ends and engage in apertures provided in the other member, and resilient means for forcing the clamping members together.

14. The combination with a plaque board, of a plaque trained over the upper face thereof with its ends carried over the ends of the board and brought together in overlapping relation therebeneath, a transverse

series of perforations provided along one end of the plaque, a similar series of slots provided along the other end of the plaque, clamping members arranged one on each side of the overlapping ends, dowels provided on one member to pass through said perforations and holes and engage in apertures provided in the other member, and means for detachably securing the members together.

15. The combination with a plaque board, of an endless plaque mounted for movement thereon, means for moving the plaque, and means for guiding the plaque during its movement.

16. The combination with a plaque board having rounded portions at opposite ends and depending runners along opposite sides by means of which the board may be supported for sliding movement, of a plaque mounted for movement on the upper face of the portion and having portions trained over said ends and extending over said ends and extending beneath the board, and means beneath the latter for moving said plaque.

17. A plaque board having along two opposite sides depending portions and portions inturned from the latter and extending toward one another in parallel relation to the face of the board, an endless plaque trained over the ends of the board with one lap of travel over the upper face of the board and the other beneath the latter and between said depending portions, and means secured transversely to the plaque and extending beyond the sides thereof for engagement with said inturned portions.

18. A plaque board, comprising a metal sheet having two opposite edges bent downwardly to form feet or runners and having its other two opposite edges bent downwardly to form substantially cylindrical portions which are tangential to the upper face of the board and whose axes are substantially at right angles to said runners.

In testimony whereof I have affixed my signature.

ALONZO LINTON BAUSMAN.