Sept. 16, 1958 F. W. DEPPNER 2,851,840

FRANKFURTER WRAPPING TABLE

Filed Feb. 21, 1957 2 Sheets-Sheet 1

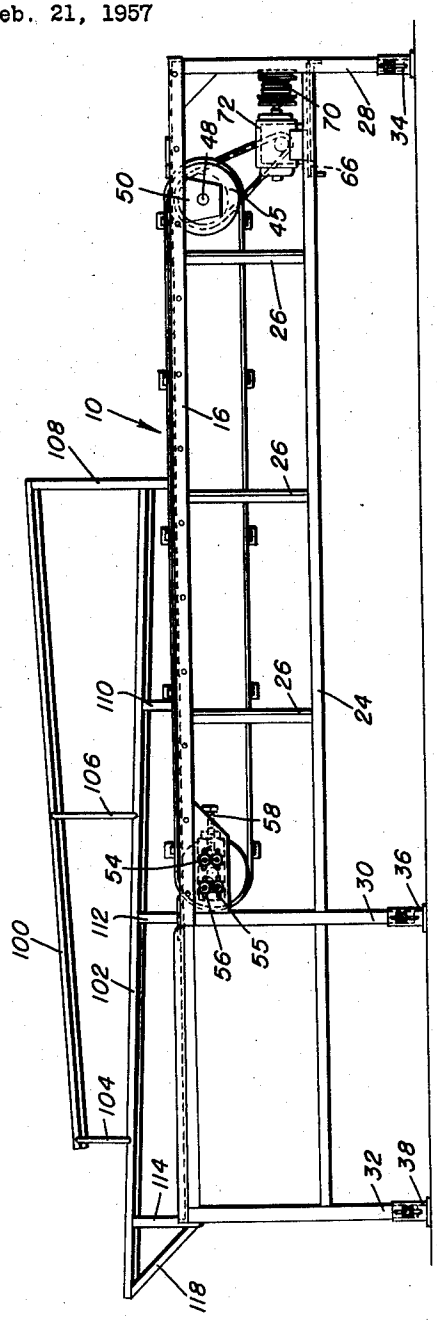


Fig. 1

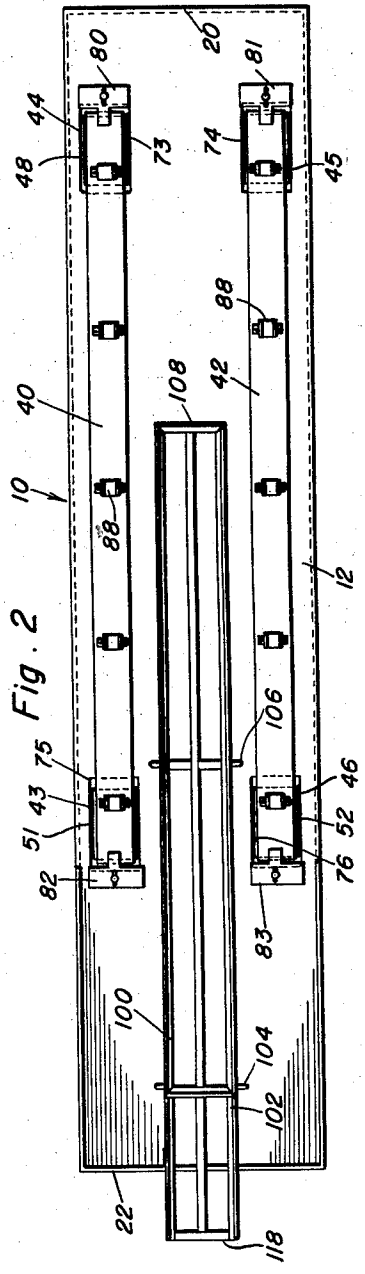


Fig. 2

Fred W. Deppner
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Sept. 16, 1958 F. W. DEPPNER 2,851,840

FRANKFURTER WRAPPING TABLE

Filed Feb. 21, 1957 2 Sheets-Sheet 2

Fig. 3

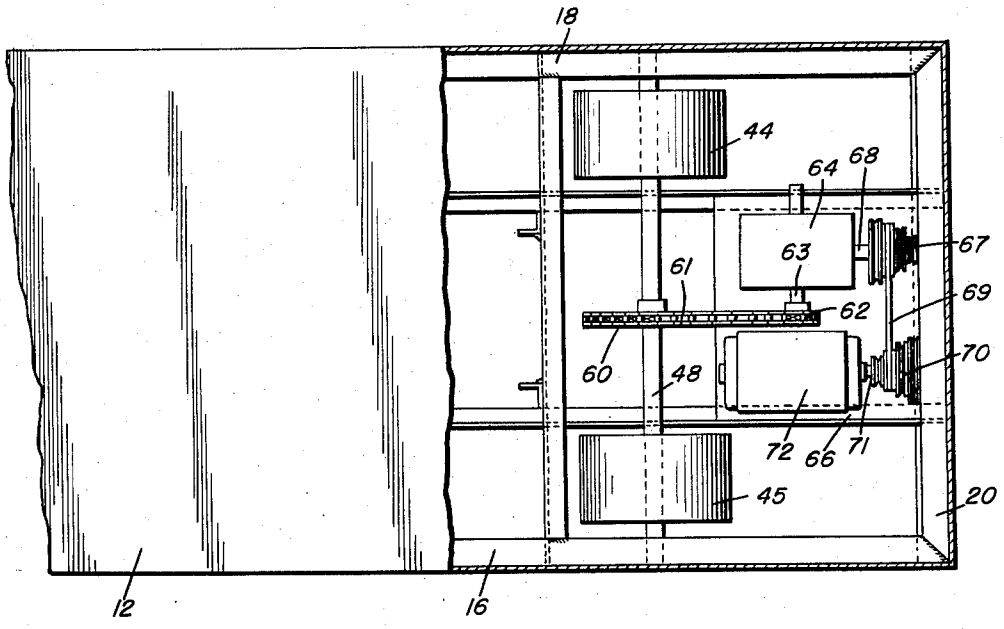


Fig. 5

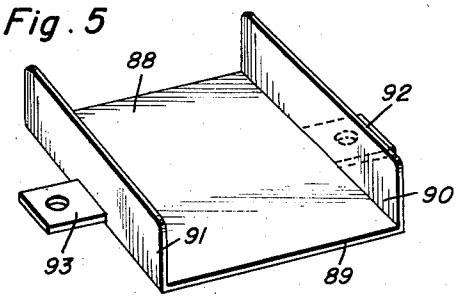


Fig. 4

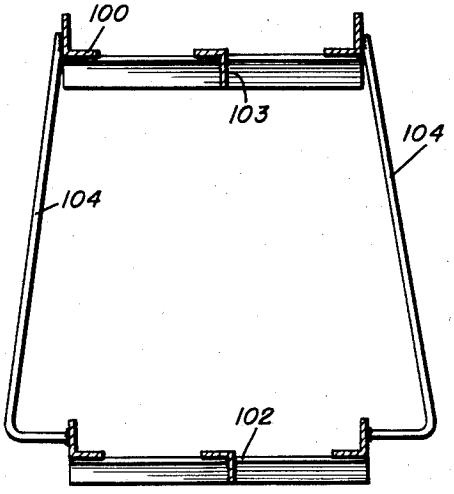
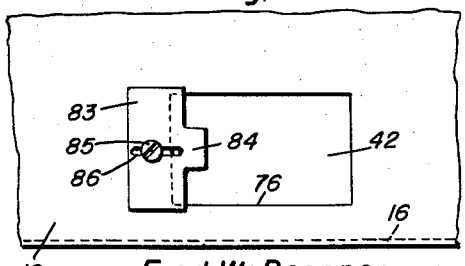


Fig. 6



Fred W. Deppner

INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson

Attorneys

United States Patent Office 2,851,840 Patented Sept. 16, 1958

2,851,840

FRANKFURTER WRAPPING TABLE

Fred W. Deppner, Hutchinson, Kans., assignor to Samuels & Company, Inc., Dallas, Tex., a corporation of Texas

Application February 21, 1957, Serial No. 641,640

4 Claims. (Cl. 53—391)

This invention relates to a machine which facilitates the wrapping of frankfurters into meat packages.

An object of the invention is to provide a frankfurter wrapping table which facilitates the wrapping of frankfurters in neat orderly packages by presenting to the workers means by which the handling, including wrapping and sealing of packages, is extremely simplified. More particularly, it is an object of the invention to provide a table which is fitted with two endless conveyors that have spaced forms or jigs thereon which move at a predetermined, controllable speed so that an assembly line formed by a plurality of workers is easily formed, with the first step being the application of wrapper, with or without backing, after which the particular form in question moves to the next station where the next worker applies the proper number of frankfurters so that upon moving to the next station, the following worker is able to wrap the frankfurters and heat-seal the wrapping. Finally, trademarks, names on labels, may be subsequently applied if they are not already applied in the initial step in the process when the wrapping is placed in the form.

Another object of the invention is to provide a practical frankfurter wrapping table which has sloped upper racks on which to support frankfurters in trays so as to be readily accessible to the workers. By having the racks inclined, the trays move always to the lower end of the rack, thereby further facilitating the use of the same.

These, together with other objects and advantages which will become subsequently apparent, reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is an elevational side view of a frankfurter wrapping table constructed to demonstrate the principles of the invention;

Figure 2 is a top plan view of the frankfurter wrapping table of Figure 1;

Figure 3 is an enlarged fragmentary plan view with parts broken away in section showing principally the drive for the endless conveyors;

Figure 4 is an enlarged transverse sectional view showing the racks which constitute a part of the invention;

Figure 5 is a perspective view of one of the forms that is attached to the two endless conveyors in the racks, these forms or jigs accommodating the wrapper and frankfurters during the normal operation of the frankfurter wrapping table; and

Figure 6 is an enlarged fragmentary plan view showing an adjustable guide which is operatively associated with the endless conveyors of the frankfurter wrapping table.

In the accompanying drawings, there is a frankfurter wrapping table **10** which is constructed in a way to demonstrate the principles of the invention. This table consists of a flat table top **12** supported by an angle iron rectangular frame having sides **16** and **18** together with ends **20** and **22**, respectively. A lower supporting shelf is formed

by sides **24** and end angle irons or other types of bracing, and they are held to the upper rectangular frame by means of vertical supports **26** and three pairs of legs **28**, **30**, and **32**, respectively. Each of the legs is fitted with a foot, there being feet **34**, **36**, and **38**. Foot **34** typifies all of the others and is made of a sleeve having a longitudinal slot in the side wall and an adjustable fastener passed through the slot and connected to the lower extremity of leg **28**. This fastener may be a machine bolt or some other equivalent device and is used for adjusting foot **34** so that the table top **12** is perfectly level.

Two endless conveyors **40** and **42**, respectively, are entrained around their end rollers, there being rollers **43** and **44** for conveyor **40** and rollers **45** and **46** for conveyor **42**. Rollers **44** and **45** are mounted for rotation by axle **48** which is mounted for rotation in depending brackets **50** suspended from the upper frame sides **16** and **18**. Rollers **43** and **46** are individually mounted on their axles **51** and **52**, respectively, each being supported by a travelling block at each end, the latter being held captive by a plurality of bolts as at **54** (Figure 1) which are movable but held captive in slots **55**, the latter being formed in the depending hanger plate **56** which is suspended from and fixed to the upper frame of the machine. Adjustment screw **58** bears on the travelling block and is carried by a threaded bearing on plate **56**, thereby functioning as a belt tightener.

Axle **48** has a sprocket **60** keyed or otherwise secured to it and a chain **61** enmeshed therewith. This chain is entrained around a sprocket **62** which is on shaft **63**, the latter protruding from gear box **64**. This gear box is mounted on a table **66**, the latter being fixed to the side braces **24** near one end of the table. Multiple pulley **67** is attached to the input shaft **68** of the gear box and has flexible belts **69** operatively connected to a selected diameter thereof. Another multiple pulley **70** is attached to the shaft **71** of motor **72** and has the same flexible belt **69** drivingly connected with it. The motor is electrically operative and is mounted on table **66**. This establishes a drive for both of the endless conveyors and at the same time enables the selection of a proper speed through the selection of diameters of the two multiple pulleys **67** and **70**.

There are four openings **73**, **74**, **75**, and **76** in the table top **12**, allowing the upper flight of conveyors **40** and **42** to be supported on the top surface of the table top inasmuch as the four openings are in vertical alignment with the four endless conveyor pulleys. Four adjustable guides **80**, **81**, **82**, and **83**, respectively, are mounted on the table top **12** and each consists of a plate having a longitudinal slot therein (Figure 6). Tongue **84** protrudes from one edge of the plate **80** and overlies the longitudinal center part of the endless conveyor with which it is associated. Bolt **85** is in slat **86** of the guide **80** so that after the proper adjustment of guide **80** is obtained, the guide may be held rigidly in place by tightening the bolt.

Forms or jigs (Figure 5) are attached at spaced places along the entire length of each of the endless conveyors **40** and **42**. One of these jigs **88** is illustrated in detail, having a general U-shape in cross-section and being formed of a bottom wall **89**, together with two parallel and shorter side walls **90** and **91** at the side edges of bottom wall **89**. Laterally protruding ears **92** and **93** are attached to the side walls **90** and **91** near the lower edges thereof and are adapted to accommodate fasteners holding the forms or jigs onto the endless conveyors. The jigs may be varied in size or shape. However, the jig **88** shown in Figure 5 is the correct size to handle one pound packages of frankfurters.

There are two racks **100** and **102**, respectively. The rack **100** is made of a generally rectangular, upwardly opening frame having a center support **103**. Upper rack

100 is angulated toward one end of the machine, being supported by pairs of legs 104, 106, and 108, respectively. Legs 108 are attached to the table top 12, while legs 104 and 106 are attached to the lower rack 102. Lower rack 102 is angulated toward the opposite end of the machine and is constructed of a generally rectangular angle iron frame supported by the previously mentioned legs 108 and three additional pairs of legs 110, 112 and 114, respectively. Braces 113 are at the outer extremity of rack 102, these braces showing schematically that suitable bracing may be used where found desirable or necessary. Legs 104 and 108 diverge downwardly (Figure 4) and are angulated inwardly to enable the supporting of lighter trays.

In use, the wrapping table is preferably located in a refrigerated room inasmuch as the packaging of frankfurters should be done at a low temperature. Frankfurters in trays are placed on the upper racks 100 and 102, while an assembly line of workers is formed on each side of the table. At the first station (left side of Figures 1 or 2), the worker will apply a wrapping of "cellophane," polyethylene, or some other flexible plastic or wax paper, fitting it neatly within the upwardly opening jigs at that station. Should inspection numbers, advertising, etc. be desired, it may be applied at this time; however this is an optional factor. At the next station, the next workers, one on each side of the table, place the proper number of frankfurters in the jig with the ends of the hotdogs facing the open ends of the jigs or forms. With the endless conveyor continuing to move all during this time, the frankfurters on the wrappers and in the jigs move to the next station where the next step is to close the wrapper, this usually being done by folding and then heat-sealing. Should additional steps be desired, as the application of advertising or final wrapping operations, two additional workers in the assembly line will be used. Then, as the packaged frankfurters move to the end of the table, they are accepted and placed into cartons for transportation.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A frankfurter packaging table comprising a table top, a plurality of legs supporting said table top in an approximately horizontal position, an endless conveyor, said table top having a pair of spaced openings therein, said endless conveyor having an upper flight over the top of said table top and a lower flight below said table top, with the endless conveyor being passed through both of said openings, whereby the table top supports the upper flight of the endless conveyor, a plurality of jigs having open ends and opening upwardly, means fastening said jigs in spaced places on said endless conveyor and in alignment with the longitudinal axis thereof, guides for said endless conveyor, said guides being located at said openings and having parts which protrude over said endless conveyor and within the open ended jigs as they pass under said guides so that at the discharge end of said endless conveyor the packaged frankfurters are automatically guided and ejected from the jigs.

2. A frankfurter packaging table comprising a table top, a plurality of legs supporting said table top in an approximately horizontal position, an endless conveyor, said table top having a pair of spaced openings therein, said endless conveyor having an upper flight over the top of said table top and a lower flight below said table top, with the endless conveyor being passed through both of said openings, whereby the table top supports the upper flight of the endless conveyor, a plurality of jigs having open ends and opening upwardly, means fastening said jigs in spaced places on said endless conveyor guides for said endless conveyor, said guides being located at said openings and having parts which protrude over said endless conveyor and within the open ended jigs as they pass under said guides so that at the discharge end of said endless conveyor the packaged frankfurters are automatically guided and ejected from the jigs, an upper rack which is angulated and which is supported above said table top adjacent one end thereof on which to hold a supply of frankfurters, said upper flight traveling in a direction away from said rack, said jigs, guides and endless conveyor being aligned longitudinally.

3. A frankfurter packaging table comprising a table top, a plurality of legs supporting said table top in an approximately horizontal position, an endless conveyor, said table top having a pair of spaced openings therein, said endless conveyor having an upper flight over the top of said table top and a lower flight below said table top, with the endless conveyor being passed through both of said openings, whereby the table top supports the upper flight of the endless conveyor, a plurality of jigs having open ends and opening upwardly, means fastening said jigs in spaced places on said endless conveyor guides for said endless conveyor, said guides being located at said openings and having parts which protrude over said endless conveyor and within the open ended jigs as they pass under said guides so that at the discharge end of said endless conveyor the packaged frankfurters are automatically guided and ejected from the jigs, an upper rack which is angulated and which is supported above said table top adjacent one end thereof on which to hold a supply of frankfurters, said upper flight traveling in a direction away from said rack, said jigs, guides, and endless conveyor being aligned longitudinally, a second upper rack superposed above the first-mentioned upper rack and also angulated on which to support trays of frankfurters.

4. In a frankfurter wrapping table, the combination of a table top, a pair of endless conveyors, each conveyor having a plurality of upwardly opening and open ended jigs thereon in which to support the wrapping and the frankfurters, controllable speed driving means for actuating said endless conveyors, means connected with said table to support a supply of frankfurters in a position readily accessible to insert them in the wrapping that is placed within each of said jigs, a guide operatively connected to each of said endless conveyors at the discharge end thereof by which the packaged frankfurters are adapted to be ejected from the jigs after being placed therein and packaged, said guide, jigs, and conveyors being aligned longitudinally, said conveyors traveling away from said support means.

References Cited in the file of this patent

UNITED STATES PATENTS

1,366,169	Davis	Jan. 18, 1921
2,048,156	Gardner et al.	July 21, 1936
2,321,387	Jackson	June 8, 1943