Jan. 29, 1952 C. A. PETERSON 2,583,705

CELLOPHANE PACKAGE SEALING APPARATUS

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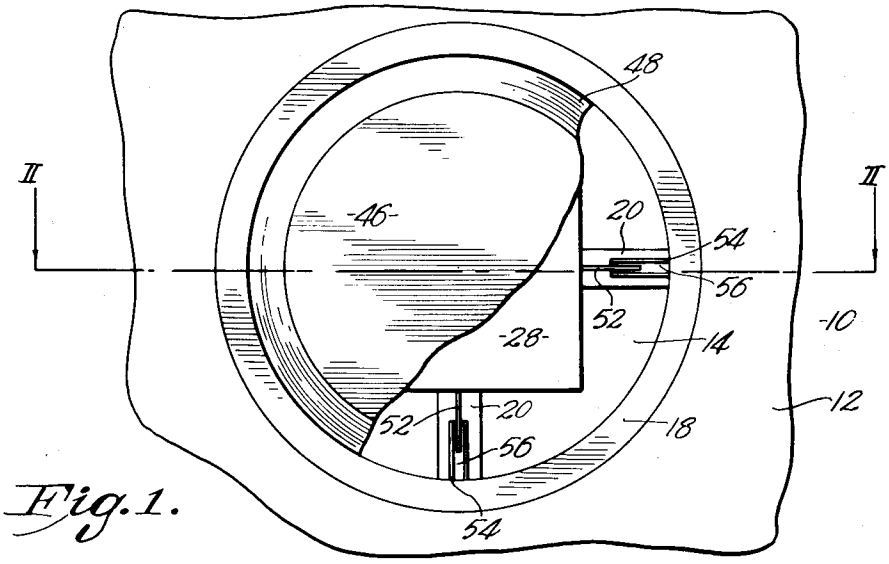


Fig. 1.

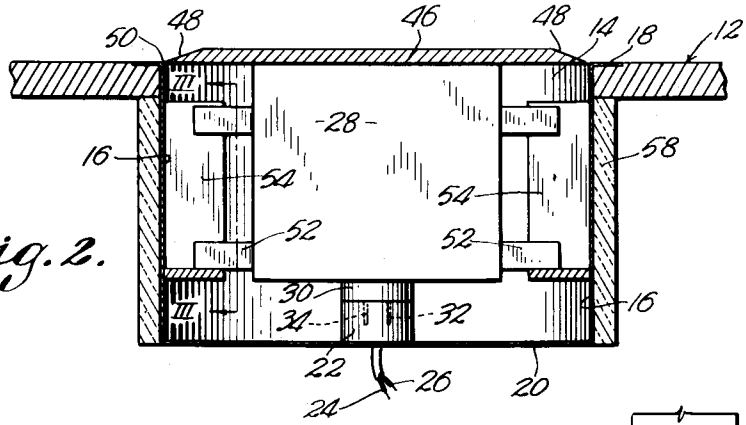


Fig. 2.

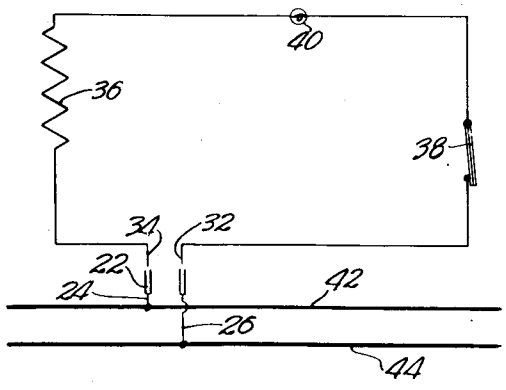


Fig. 4.

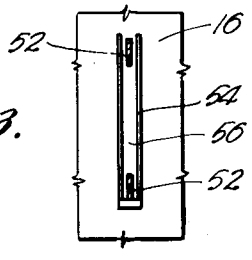


Fig. 3.

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CELLOPHANE PACKAGE SEALING APPARATUS

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4 Claims. (Cl. 219—19)

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This invention relates to the art of package wrapping and sealing and has for its primary aim the provision of apparatus usable wherever the application of heat to packaging materials is necessary or desirable in effecting a complete seal.

One of the important objects of this invention is the provision of a package sealing apparatus that may be used in small establishments where the packaging of commodities takes place and wherein automatic machinery is impractical or prohibitive to use.

Other aims of the invention reside in the manner of constructing the sealing apparatus to effectively employ all of the heat generated by the heating element; the manner of forming the sealing plate to eliminate destructive action upon the package as it is moved to and from the sealing position thereon; the manner of holding the sealing plate and its related heating unit in the operative position within a pocket formed by the work support; and the unique manner of automatically establishing and breaking electrical connection for the heating unit when the plate and said unit are moved to and from the normal operative position within the pocket of the said work support.

Other aims of the invention are of vital importance and will become apparent during the course of the following specification, referring to the preferred way of commercially employing the invention in the manner illustrated in the accompanying drawing, wherein:

Fig. 1 is a fragmentary, top plan view of a work support having the package sealing apparatus made in accordance with this invention associated therewith.

Fig. 2 is a fragmentary, vertical, central sectional view taken on line II—II of Fig. 1.

Fig. 3 is a fragmentary, detailed, sectional view taken on line III—III of Fig. 2; and,

Fig. 4 is a wiring diagram illustrating the electrical portion of the apparatus.

The work support is broadly designated by the numeral 10 and constitutes a normally-horizontal surface 12 upon which the wrapping material in sheet form, the articles being wrapped and the finished packages may rest during the normal use of the apparatus. This work support may be in the nature of a counter or table and is provided with a pocket 14 formed by a part of the work support 10 and in a manner more clearly illustrated in Fig. 2.

A sheet metal, cylindrical, open-top member 16 having flanges 18 depends from the horizontal

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upper surface 12 of work support 10, and the lower end of this member 16 has a spider 20, a portion of which carries the female member 22 of a conventional electrical connection having supply wires 24 and 26 extending therefrom. The openings provided by spider 20 insure the escape of any material that may collect within pocket 14 and, also, allow access to the pocket in the event the operator needs to exert upward pressure on the hereinafter-described parts during the removal thereof from said pocket 14.

A heating element 28 of well-known, conventional resistance type has a male connecting member 30 integral therewith, and prongs 32 and 34 of this connecting member 30 are in circuit with the resistance element 36 of heating element 28, as illustrated in Fig. 4. A thermostat 38 is in the circuit including resistance element 36, and a pilot light 40 serves as a signal to the operator with respect to the off or on condition of the apparatus and may be located in any suitable support.

Wires 24 and 26 are joined to the utility supply lines 42 and 44 respectively; and, when the parts are as shown in Fig. 2 and thermostat 38 is closed, heating element 28 will be imparting heat to plate 46 which closes the upper end of member 16 in a particular manner. This plate 46 is specially contoured to have its marginal portion 48 inclined downwardly and outwardly to a sharp meeting edge 50 at the lower face of the plate. This edge 50 and lower face of plate 46 should be substantially on the plane of the upper face 12 of work support 10; and, when the package to be sealed is moved along face 12 and upwardly along inclined portion 48 to the upper flat face of plate 46, no shearing, abutting or other destructive or retarding elements will be encountered.

Obviously, if plate 46 were provided with a vertical sharp edge at the zone of juncture between surface 12 and plate 46, resistance in the form of a destructive member would be encountered, and many of the packages would be destroyed. This problem is solved through the utilization of a plate 46 such as that above described and illustrated.

A number of radial lugs 52 extending outwardly from heating element 28 cooperate with retaining brackets 54 mounted on member 16. These retaining brackets 54 are slotted as at 56, and one of lugs 52 rests upon a portion of each bracket 54 respectively when the heating unit and plate assembly 28 and 46 is in the operative position. These lugs 52 are held against

lateral movement when within slots **56**; and, as heating element and plate **46** are moved to and from a place within pocket **14**, these interengaged lugs **52** and brackets **54** will guide the electrical connections **22** and **30** into a closed condition.

Thus, the completion of the electrical circuit becomes automatic when the operator moves the plate and heating unit into pocket **14**. When these said parts are in this said pocket **14**, the updraft through the openings formed in spider **20** will serve to effectively heat plate **46**, maintain a cool condition around heating element **28** and avoid the collection of any foreign matter within the pocket. Insulating substance **58** formed around the side wall of member **16** augments the action of the air within the pocket **14**, and only plate **46** is elevated to a temperature where sealing of the package wrapping material will take place when the package is motivated across the horizontal surface **12** and onto the top of plate **46** by way of inclined portion **48**.

The apparatus above described and about to be claimed has been extensively employed in a meat packaging shop where the temperature remains unaffected by the presence of the sealing equipment, all of which is due to the structure and arrangement of parts that insures a full utilization of the heating capacity of unit **28** through plate **46**. Obviously, the apparatus may be altered with respect to structural details if so desired without departing from the spirit of the invention or scope of the appended claims.

Having thus described the invention what is claimed as new and desired to be secured by Letters Patent is:

1. Package sealing apparatus of the character described comprising a substantially horizontal work support having a pocket formed therein; a plate closing the mouth of the pocket; a heating element for the plate housed within the pocket; radial lugs on the heating element; and retaining brackets on the work support within the pocket and engaged by the lugs for holding the plate in place, said lugs and brackets being slidably interengaged whereby to permit removal of the plate and heating element as a unit.

2. Package sealing apparatus of the character described comprising a substantially horizontal work support having a pocket formed therein; a plate closing the mouth of the pocket; a heating element for the plate housed within the pocket; radial lugs on the heating element; and retaining brackets on the work support within the pocket and engaged by the lugs for holding the plate in place, said lugs and brackets being slidably interengaged whereby to permit removal of the plate and heating element as a unit, said heating element and the work support at the bottom of the pocket having interengageable electrical connectors separable and interconnectable as the plate and heating element are moved from and to the operative position in the pocket, said lugs and retaining brackets serving as guides for the said electrical connectors during manipulation of the plate and heating element from and to said operative position.

3. Package sealing apparatus of the kind defined in claim 1, wherein the lugs and brackets serve to hold the heating element spaced from the work support forming the sides of the pocket and the bottom of the pocket is provided with vent and access openings.

4. Package sealing apparatus of the kind defined in claim 1, wherein the lugs and brackets serve to hold the heating element spaced from the work support facing the sides of the pocket, the bottom of the pocket is provided with access openings, and the said sides of the pocket are insulated against the passage of heat.

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