

[54] **METHOD AND APPARATUS FOR CLOSING CONTAINERS**

[72] Inventor: **Ralph F. Anderson**, 332 Calvin Park Boulevard, Rockford, Ill. 61107

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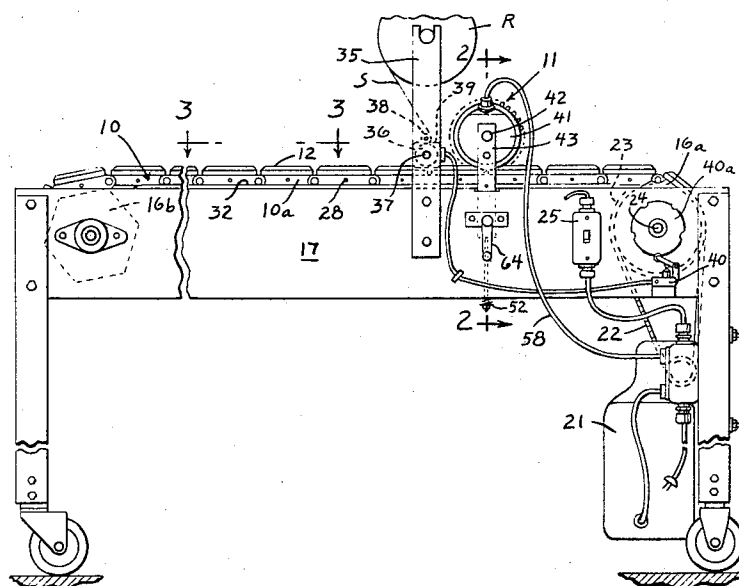
Primary Examiner—Robert L. Spruill

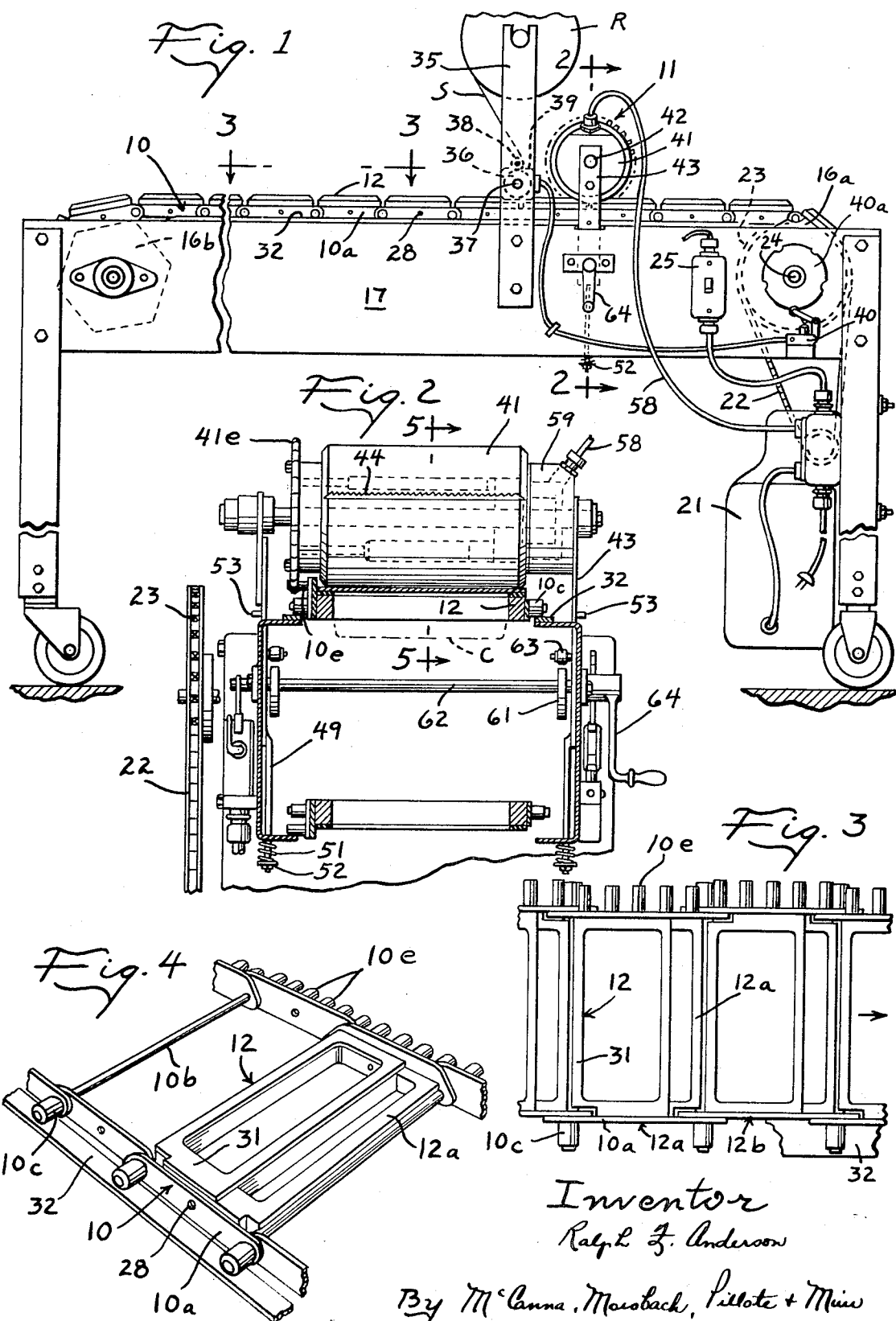
Attorney—McCanna, Morsbach, Pillote & Muir

[57] **ABSTRACT**

A method and apparatus for applying a cover from a continuous strip to rim top containers as they are advanced by a conveyor, in which the cover strip is progressively sealed to a container rim as it is advanced and the cover strip is then severed at the trail side of a sealed container before being sealed to the next succeeding container. The cover strip advances with the container while it is being sealed thereto and advance of the cover strip with the container is interrupted after it is severed from the sealed container, until the next succeeding container is advanced to a position adjacent the severed end of the cover strip.

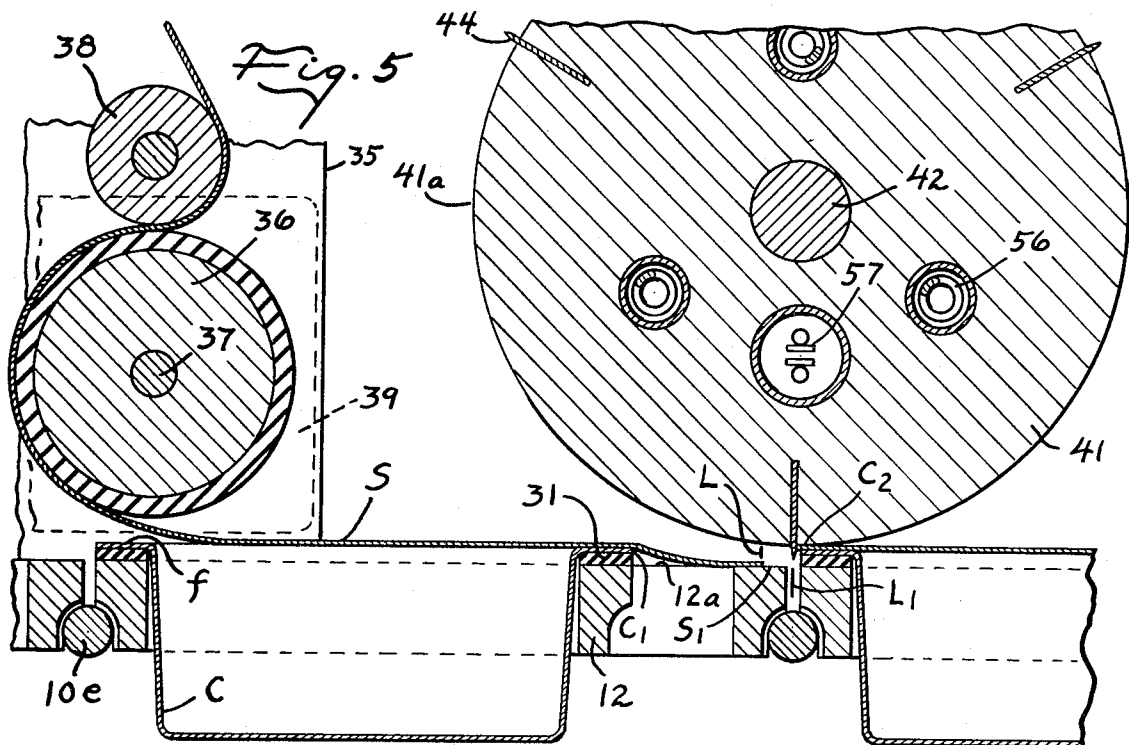
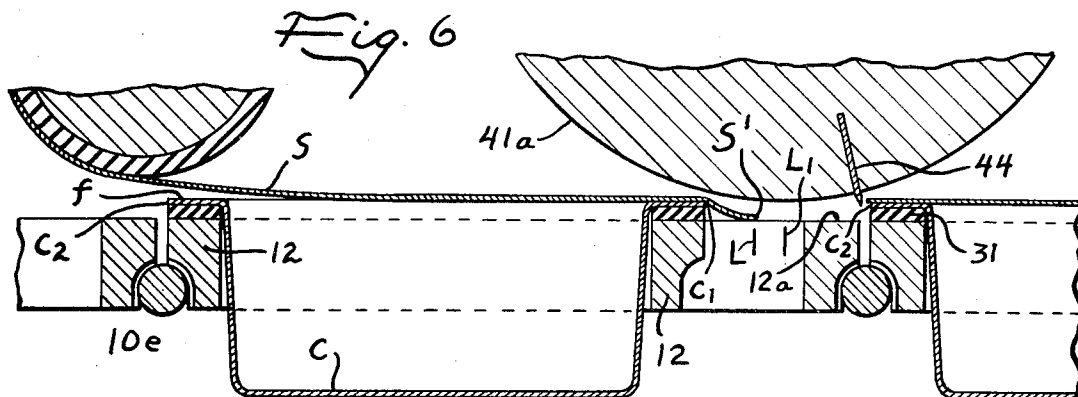
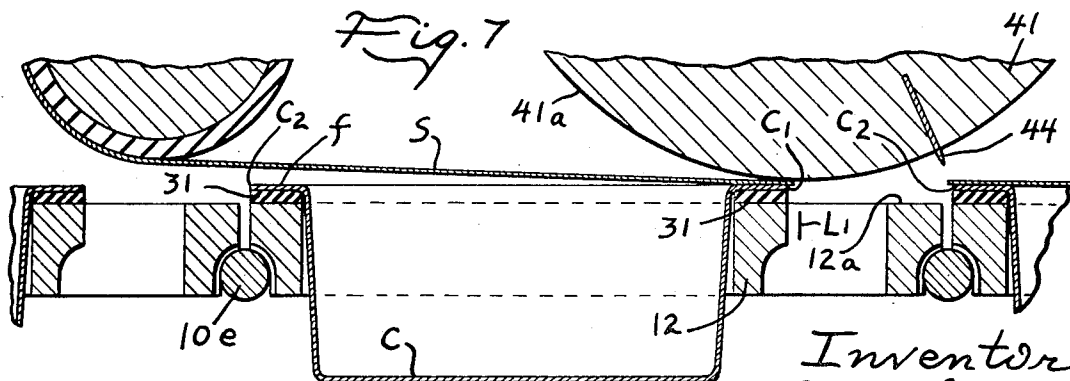
16 Claims, 9 Drawing Figures





Inventor
Ralph F. Anderson

By M. Anna, Mosbach, Pillote + Minn
Attys



Inventor
Ralph J. Anderson

By McAnna, Marsbach, Pivato & Muir
Atty's

METHOD AND APPARATUS FOR CLOSING CONTAINERS

BACKGROUND

Various apparatus have heretofore been made which utilize a pocketed conveyor to advance preformed containers and which close the containers by sealing a cover strip to the containers. One such apparatus is disclosed in U.S. Pat. No. 3,436,894 and operates to seal the cover strip to containers in several adjacent pockets in a continuously moving conveyor and to thereafter sever the cover strip between adjacent sealed containers to form separate containers. While such apparatus can be initially designed for sealing containers of a given length, problems are encountered in making a machine of that type which is adapted for covering containers of shorter length, without incurring objectionable projection of the cover strip beyond the ends of the containers and waste of cover material.

An important object of this invention is to provide an improved method and apparatus for applying a cover from a continuous strip to rim top containers as they are advanced, and which enables closing of the containers of widely different size and shape.

Another object of this invention is to provide an improved method and apparatus for applying a cover from a continuous strip to containers as they are advanced which is so arranged as to apply a cover to each container having a length substantially equal to the length of the container and substantially independent of the spacing between adjacent containers during advance of the latter.

Yet another object of this invention is to provide an improved method and apparatus for applying a cover from a continuous strip to containers, in which the containers are advanced in continuous fashion and the cover strip is intermittently advanced with the containers a distance correlative with the length of each of the containers being covered.

A further object of this invention is to provide an improved method and apparatus for applying a cover sheet from a continuous printed strip to containers as they are advanced by a pocketed conveyor, which is so arranged as to register and apply printed covers to each container having a length substantially equal to the length of the container and substantially independent of the spacing between adjacent containers during advance by the conveyor.

Still another object of this invention is to provide an improved apparatus for closing and sealing containers as they are advanced in a pocketed conveyor, in which a rotary combination sealing and cutting head is arranged to progressively seal a cover strip to a container and sever the cover strip at the trail side of the sealed container before attaching the cover strip to a succeeding container.

Reference is now made to the accompanying drawings wherein:

FIG. 1 is a side elevational view of a container closing and sealing apparatus embodying the present invention;

FIG. 2 is a transverse sectional view taken on the plane 2—2 of FIG. 1 and illustrating the parts on a larger scale than FIG. 1;

FIG. 3 is a fragmentary planned view taken on the plane 3—3 of FIG. 1 and illustrating a portion of the conveyor mechanism for advancing the container;

FIG. 4 is a fragmentary perspective view of the container conveying mechanism;

FIGS. 5, 6 and 7 are fragmentary sectional views taken on the plane 5—5 of FIG. 2 and illustrating, on an enlarged scale, the container conveying mechanism and the sealing and cutting mechanism in different moved positions;

FIG. 8 is a partial perspective view illustrating a modified apparatus for registering and applying printed covers to containers; and

FIG. 9 is a fragmentary sectional view taken on the plane 9—9 of FIG. 8.

The method and apparatus of the present invention is generally adapted for sealing a cover strip to rim top containers. As utilized herein the phrase rim top containers includes a container having a cavity C and a rim F adjacent the top of the cavity. The containers can be formed from many different rigid or semirigid materials such as plastic, paper, foil or laminates of these materials and may, for example, be formed by pressing or molding. The cover strip designated S may also be formed of different materials and attached and sealed to the rim by adhesives or by heat sealing the cover strip to the rim. For this purpose, the cover strip and container rim can be either formed of a sealable material or coated with an adhesive, to enable attaching and sealing of the cover strip to the container rim by pressure alone, where this is desired, or by heat and pressure as is customary in heat sealing. In the packaging of food products, a heat-sealed bond between the cover and container is preferred in order to provide a so-called "tamper-proof" container and for this purpose the apparatus is advantageously arranged to heat seal the cover strip to the containers. The containers can be of different size and shape and can be of single or multiple compartments. The rim on the container can be any peripheral surface adjacent the top of the container which is adapted to have a cover sealed thereto and in the embodiment illustrated comprises a peripheral flange extending outwardly of the container side walls. The container can have an inner cover for example, as disclosed in U.S. Pat. No. 3,344,974 and the cover strip can be sealed to the container rim alone or to the container rim and cover, if desired.

In general, the closing and sealing of the containers is effected by positioning a cover strip with one end at a selected location along a path and advancing the preformed containers along the path toward the end of the cover strip without concomitant advancing of the cover strip until the lead edge on one container reaches a position adjacent the end of the cover strip. At that time, the cover strip is attached to the container to advance the cover material with the container a distance corresponding to the length of the container measured in the direction of advance. The cover strip is then severed adjacent the trail edge of the sealed container before it is attached to the next succeeding container so as to interrupt advance of the cover strip with the containers and position the severed end of the cover strip adjacent the selected location until the lead flange of the next succeeding container reaches a position adjacent the end of the cover strip and the repeat container closing cycle is effected.

A rotary combination sealing and cutting head is advantageously utilized to progressively seal the cover

strip to the container rim and sever the cover strip adjacent the trailing edge of the sealed container as the containers are advanced in the container support frames of the conveyor. The container support frames and the sealing head are arranged so that the containers advance below the stationary cover strip until the lead rim on the container reaches a position adjacent the end of the cover strip, at which time the sealing head operates to press and attach the cover strip to the container rim for advance with the container. After the container has advanced the cover strip a distance corresponding to the length of the container, measured in the direction of advance, the combination sealing and cutting head severs the cover film adjacent the trail side of the sealed container and further advance of the cover film is then interrupted until the lead side of the next succeeding container reaches a position adjacent the severed end of the cover strip. A brake mechanism is provided to retard advance of the cover film and the brake mechanism is cyclically operated to tension the film during the cut-off operation to facilitate severing of the film and operation of the brake can be controlled by register markings on a printed cover strip to effect registry of printed covers with the containers.

Apparatus suitable for practicing the method is shown in the drawings and includes a conveyor mechanism 10 for advancing the containers past a cover applying station 11. In order to properly seal a cover strip to the container rim it is necessary to firmly support the container during the sealing operation and, for this purpose, container support frames 12 are provided on the conveyor mechanism 10, which support frames are shaped to support the containers adjacent their rim or flange. The endless conveyor 10 can be of any construction suitable for advancing the container support frames 12 at a fixed pitch along the conveyor and, in the form shown, comprises a plurality of links 10a having overlapping end portions pivotally interconnected by rods 10b. Rollers 10c are provided at the outer ends of the rods and engage star wheels 16a and 16b adjacent opposite ends of the frame structure 17. The conveyor mechanism is driven to advance the pockets in continuous fashion as by a drive motor 21 which is connected as through a chain 22 to a drive gear 23 on the shaft 24 of one of the star wheels 16a. As shown in FIG. 1, operation of the motor 21 is controlled by an on-off switch 25.

As previously mentioned, the container support frames 12 are shaped to support the containers and, in order to adapt the apparatus to close and seal containers of different size and shape, it is necessary to either use different support frames 12 for the containers of different size or shape, or to make the support frames adjustable so as to accommodate the different containers. In the embodiment disclosed, the frames 12 are removably mounted on the conveyor mechanism, as by releasable pins or removable fasteners indicated at 28 to enable use of different frames for different size containers.

The frames 12 have a container support surface 31 on the upper side arranged to engage and support the container, and the rollers 10c on the conveyor pivot pins ride on a track 32 so as to firmly support the frames and the containers therein a selected level during advance of the containers past the cover applying

station 11. The strip of cover material S is supported in overlying relation with the conveyor with its end S' adjacent a location L along the path of advance of the conveyor. As shown in FIG. 1, the strip S of material is supplied from a roll R conveniently supported as by brackets 35 on the frame 17 of the closing and sealing apparatus. For reasons described hereinafter, the strip is arranged so as to have a substantial wrap around a roll 36 rotatably supported as by a shaft 37 on the bracket 35 at a position in advance of the location L. An idler roll 38 is used to guide the strip onto the roll 36 and to provide a substantial wrap of the cover strip therearound to assure frictional engagement of the cover strip with the roll 36.

Means are provided adjacent the location L for progressively sealing the cover strip to the container rim as the container is advanced and for severing the cover strip adjacent the trail side of each container before the cover strip is sealed to the next succeeding container. This is achieved by a rotary combination sealing and cutting head 41 mounted adjacent the location L in overlying relation to the conveyor. The sealing and cutting head has a shaft 42 mounted on brackets 43 for rotation about a horizontal axis. For reasons pointed out hereinafter, the axis of the rotary sealing and cutting head is preferably located above a point L₁ which is spaced a short distance after the location L of the severed end S' of the cover strip. The sealing head has a peripheral sealing surface 41a, preferably of cylindrical form to accommodate container rims of different size and configuration. It is to be understood that if it is desired to have the sealing head only engage the cover around the container rim, a rim type sealing head as shown in U.S. Pat. No. 3,436,894 can be used, but that it will be necessary, in that event, to use different sealing heads for the different size containers. A plurality of cutter elements, herein shown in the form of three blades 44, are mounted in the rotary sealing head and project outwardly from the sealing surface 41a to sever the cover strip between the containers. The sealing head is rotated so that the peripheral speed of the sealing head equals the linear speed of the conveyor as it is advanced past the sealing head, and the cutter blades 44 are pitched apart around the sealing head a distance equal to the pitch of the container support frames on the conveyor, that is a distance equal to the spacing between the adjacent pivot pins 10e on the conveyor. Further, rotation of the sealing head is also timed with the movement of the conveyor so that the cutter blades 44 are operable to sever the cover strip adjacent the trail side of each container, as the containers move past the sealing head.

Rotation of the sealing head in timed relation with the conveyor is advantageously achieved in the manner more fully disclosed in the aforementioned U.S. Pat. No. 3,436,894 by the provision of longitudinally spaced teeth 10e on the conveyor means adjacent at least one side of the conveyor, and radially extending teeth 41e on the roll type sealing head. The teeth 41e on the sealing head are arranged to mesh with the teeth 10e on the conveyor as the conveyor is advanced so as to drive the sealing head in proper timed relation with the conveyor. The sealing head is yieldably urged in a direction to apply sealing pressure and for this purpose rods 49 are connected to the lower ends of the sealing head

support brackets 43 and are yieldably urged downwardly by a biasing means such as springs 51 or pneumatic cylinders, as disclosed in the aforementioned U.S. Pat. No. 3,436,894. As shown, the springs 51 are interposed between the frame 17 and stops 52 on the lower ends of the rods, to resiliently bias the sealing head downwardly. Downward movement of the roll 41, however, is positively limited as by stop pins 53 attached to the brackets 43 and arranged to engage the frame structure 17. The pins 53 limit downward movement of the roller to a position in which the underside of the roller is disposed at a level to engage and press the cover sheet against the container rim, when the lead edge of the container advances to a position adjacent the location L. More specifically, the stops limit downward movement of the roller to a position in which its underside is adjacent to, but slightly below the level of, the rim of the containers as they are advanced by the conveyor, so as to firmly press the cover strip onto the containers. The conveyor and frame structure, in the area 12a intermediate the trail edge designated C₂ on one container and the lead edge C₁ on the next succeeding container, is relieved or recessed as shown in FIGS. 5-7 below the container support surface 31 so as to be spaced below the periphery of the seal head 41 to prevent pressing of the cover film against the seal head until the lead edge of the container advances to a position adjacent the location L. The rotary sealing head engages and rides on the upper face of the cover strip to press it against the container rim and, when the trail side of the container rim moves past the location L₁, the head moves down slightly, due to the biasing means 51, until the stop pins engage the frame and support the head with its underside slightly below the level of the container rims as they are advanced by the conveyor. Thus, when the lead side of the next succeeding container reaches a position adjacent the location L (slightly in advance of the location L₁), the head presses the cover strip against the lead rim of the succeeding container to start advance of the cover strip with the container. The head is pressed upwardly as the container moves past the head so that the biasing means is effective to yieldably press the head into sealing engagement with the cover strip and container. In order to compensate for any irregularities or nonuniformities in the thickness of the container flange or cover strip, either the container supporting surface 31 on the frames or the pressure applying surface 41a on the roller, or both, are made of a yieldable material. In the embodiment shown, the container supporting surface 31 is made of a resilient elastomeric material which is yieldable under the sealing pressure applied by the biasing means 51 and which is capable of withstanding sealing temperatures.

The combination of sealing and cutting head is advantageously adapted to heat seal the cover strip S to the containers. For this purpose, the sealing head is formed of a body of heat conducting material such as metal and one or more heating units 56 are positioned within the heat conducting body, to heat the same. The temperature of the heat conducting body is preferably controlled by a thermostat 57 also positioned in the body and power is supplied to the heating units 56 from a power supply conductor 58 through a slip ring and brush assembly 59 at one end of the sealing and cutting head.

In order to prevent overheating of the cover material and container in the event the machine is stopped, a means is provided for raising the sealing head out of contact with the cover material. Such a means is shown in FIG. 2 and includes cams 61 carried by a shaft 62 and arranged to engage followers 63 on the sealing head support brackets 43. The shaft 42 can be rotated in any desired manner, either manually or automatically and, as shown, a manually operable crank 64 is provided to enable selective raising of the sealing head.

Since the cutter blades 44 extend radially outward of the head 41, the blades initially contact the cover sheet somewhat in advance of the location L. However, unless the cover sheet is taut the cutter blades will not reliably sever the cover sheet on initial contact, but will instead tend to progressively depress the cover sheet adjacent the trail side of a sealed container, as the blades approach the location L₁. In order to cut and completely sever the cover sheet from the sealed container, means are provided for tensioning the cover sheet. A constant tension on the cover sheet would tend to retard advance of the cover sheet with the containers when it is sealed thereto and it is accordingly preferred to momentarily retard advance of the cover sheet during the time the cutter blade on the head is in contact with the sheet, to tension the cover sheet at that time, and to release the cover sheet after it is severed so that it can advance with the next succeeding container, when it is sealed thereto. Retarding of advance of the cover sheet is effected by a brake mechanism 39 conveniently associated with roll 36 and the latter is preferably provided with a friction covering such as rubber. In the embodiment of FIG. 1, the brake 39 is cyclically operated in timed relation with movement of the cutter blades 44 by a switch 40 controlled by a cam 40a on the conveyor shaft 24, it being apparent that the switch 40 could be operated directly off the conveyor or off the rotary head 41 if desired. The switch 40 is cyclically operated to actuate the brake 39 and retard advance of the cover strip while a cutter blade is in a position engaging the cover strip S to facilitate severing of the cover strip by the cutter blade. Since the cutter blades are in engagement with the cover strip through a small but discreet portion of the angular movement of the head 41, it will be appreciated that timing of the actuation of the brake can, within these limits, control the instant at which severing of the cover sheet is effected. In other words, the brake can be actuated anytime between shortly after a blade 44 engages the cover and shortly before that blade moves out of engagement with the cover strip. It is preferable, however, to actuate the brake sometime during movement of the blade from position adjacent the location L to a position adjacent the location L₁, to effect severing of the cover slightly before the blade reaches its lowermost position at the location L directly below the axis of the head. In this manner, the position of the end S' of the cover strip, when it is severed from the sealed container, can be varied or controlled.

This ability to control the point at which severing of the cover sheet occurs, (within the limits described) is utilized in the embodiment of FIGS. 8 and 9, for effecting cover registration. As shown in that embodiment, the cover film is provided with registration or indexing marks in the form of printed marks M or openings which are pitched apart along the length of the cover

strip a distance correlative with and preferably slightly greater than the length of the containers, measured across their rims. As is conventional, package labels or designs (not shown) are printed or otherwise applied to the cover strip in a repetitive series corresponding to the pitch of the registration marks. The marks on the cover strip are sensed by a unit 70 such as a photoelectric unit which operates, as through a time-out relay 71, to actuate the brake 39 for a short interval, each time one of the registration marks is sensed by the unit 70. The unit 70 is located in relation to the cutting and sealing station 11 to sense the registration marks M on the cover strip and actuate the brake when the trail side of a cover moves to a position adjacent the cutting station. For example, if the registration marks are located at the trail sides of the individual covers printed on the strip, then the sensing unit 70 is located either at the cutting station or a distance in advance of the cutting station measured along the strip equal to a multiple of the pitch of the printed marks M on the cover strip. In the form shown, the sensing unit 70 is located a distance equal to three pitches of the registration marks M on the cover strip from the location L.

From the foregoing it is thought that the method and apparatus will be readily understood. The containers can be deposited in the frames 12 either manually or automatically by a dispensing apparatus, and the containers can be filled either before depositing in the conveyor frames or after, as desired. In this regard the containers can be filled either manually or automatically by a dispenser as also disclosed in the aforementioned U.S. Pat. No. 3,436,894. Briefly, a cover strip S is positioned in overlying relation to the containers on the conveyor with one end S' positioned adjacent the location L along the path of advance of the conveyor. The containers are supported by the conveyor in spaced apart relation along the length of the conveyor and the conveyor is relieved or recessed in the area 12a between adjacent containers so that the containers are advanced by the conveyor without concomitant advance of the cover strip until the lead edge C₁ on one container reaches the location L (somewhat in advance of the end of the location L₁). At that time, the cover strip is pressed against the lead edge C₁ of the container (as shown in FIG. 7) and the cover strip then begins advance with the container while being sealed thereto by the rotary sealing head. After the cover strip has advanced a distance approximately equal to the length of the container, measured in the direction of advance of the conveyor, one of the cutter blades 44 on the cutting head moves downwardly into engagement with the cover strip adjacent the trail side of the sealed containers, as shown in FIG. 5. When the brake 39 is actuated, the cover strip is tensioned and the blade 44 operates to sever the cover strip. The severed end of the cover strip then drops downwardly into the relieved area 12a and out of contact with the seal head so that advance of the cover strip is interrupted during continued advance of the containers by the conveyor until the lead flange of the next succeeding container approaches the location L. Thus, a cover strip is automatically sealed to the containers in such a manner that the length of the cover applied to each container is substantially equal to the length of the container measured in the direction of advance of the conveyors, not-

withstanding variations in the spacing between adjacent containers on the conveyor. This not only avoids the problem of waste of the cover strip but also avoids substantial projection of the cover strip beyond the ends of the container. Moreover, the length of the cover strip is automatically adjusted to substantially equal the length of the container without requiring any change in construction or adjustment in timing of the sealing or cutting mechanism. Thus, the apparatus can be readily converted for use with different size containers by merely changing the pockets 12 without changing the pitch of the pockets on the conveyor or the pitch or timing of the cutter blades 44 in relation to the conveyor. In addition, pockets of different size can be intermixed in the conveyor, if desired.

As previously described, severing of the cover strip can be controlled by the brake 39 at any time while the cutter blade is in substantial engagement with the cover strip, for example while the cutter blade is moving from a position adjacent the location L to a position adjacent the location L₁. In this manner, the position of the severed end S' of the cover strip in relation to the location L can be varied within the relatively narrow limits between L and L₁. If the brake is energized when the blade reaches location L, the severed end S' of the cover strip will be positioned at location L and if the brake is actuated at a later point in the rotation of the head, the end S' of the cover strip will be positioned intermediate the locations L and L₁. If the end S' is deposited at the location L at which the head presses the cover strip against the lead side of the container, as shown in FIG. 6, then the cover strip will be sealed to the container rim with the end S' of the cover strip substantially coterminous with the lead edge of the container rim as shown in FIG. 7. However, if the end S' of the cover strip is positioned after the location L, then the end S' of the cover strip, when sealed to the container rim, will project slightly forward of the container rim.

In the embodiment of FIGS. 1-7, where the operation of the brake is timed by the conveyor, it is preferable to time operation of the brake to occur as the cutter blade moves past the location L at which the head presses the cover sheet against the container to advance the strip with the container. In the embodiment of FIGS. 8 and 9, where timing of operation of the brake is controlled by registration marks on the cover sheet, the position of the cutter blade and containers at which severing occurs will vary slightly depending on the difference between the pitch of the register markings on the cover and the length of the containers measured across their flanges.

What is claimed is:

1. An improved method of applying a cover from a continuous cover strip to rim top containers comprising, positioning a cover strip with one end adjacent a selected location along a path, advancing spaced containers in continuous fashion along the path and toward said location without concomitant advancing of the cover strip until the lead side of one container reaches a position adjacent said location, attaching the cover strip to the lead rim of a container when the lead rim of that container reaches a position adjacent said location to thereafter advance the cover strip with that container, sealing the attached cover strip to the rim of that

container as it is advanced, severing the cover strip adjacent the trail side of that container when the trail side advances to a position adjacent said selected location and before attaching the cover strip to the next succeeding container, and thereafter interrupting advance of the cover strip with the container to position the severed end of the cover strip adjacent said selected location until the lead side of the next succeeding container reaches a position adjacent said location.

2. The method of claim 1 wherein the containers are advanced by depositing containers in an endless conveyor having container support frames spaced apart along the path and shaped to support the containers.

3. An improved method of applying a cover from a continuous cover strip to rim top containers comprising, depositing rim top containers in container support frames spaced apart along a path and shaped to support the containers with the rims on adjacent containers spaced apart, positioning a cover strip with one end at a selected location along said path, advancing said frames and the containers deposited therein along said path toward said location without concomitant advancing of the cover strip until the lead rim on one container reaches a position adjacent said location, pressing the end of the cover strip against the lead rim of the container when that container reaches a position adjacent said location to thereafter advance the cover strip with that container and progressively pressing the cover strip against the rim of that container as it is advanced to seal the cover strip to the container rim, severing the cover strip adjacent the trail side of the sealed container when the trail side advances to a position adjacent said selected location and before the cover strip is pressed and sealed to the next succeeding container, and thereafter interrupting advance of the cover strip with the containers to position the severed end of the cover strip adjacent said selected location until the lead rim of the next succeeding container reaches a position adjacent said location.

4. An improved method of applying a cover from a continuous cover strip to rim top containers comprising, advancing the rim top containers in continuous fashion along a path successively past a cutting station with the trail rim on each container spaced from the lead rim of the next succeeding container, pressing an end portion of a cover strip against the lead rim on each container when the lead rim reaches a position adjacent the cutting station and progressively sealing the cover strip to that container beginning at its lead rim and ending at its trail rim while advancing that container and the cover strip a distance corresponding to the length of the container measured across its lead and trail rims, severing the cover strip adjacent the trail rim of the sealed container when its trail rim reaches a position adjacent the cutting station and before the cover strip is pressed and sealed to the next succeeding container, and thereafter interrupting advance of the cover strip while continuing advance of the containers until the lead rim of the next succeeding container advances to a position adjacent the cutting station.

5. An improved method of applying covers to containers from a cover strip having register indicia spaced therealong a distance approximately equal to the length of the containers comprising, positioning the cover strip with one end adjacent a selected location along a

path, advancing the containers in the direction of said container length along said path and with the lead side of each container spaced from the trail side of a preceding container without concomitant advancing of the cover strip until the lead side of one container reaches a position adjacent said location, attaching the cover strip to said one container when the lead rim of that container reaches said location to thereafter advance the cover strip with that container, continuing advance of that container past said location, severing the cover strip adjacent the trail side of that container when the cover strip has been advanced a distance corresponding to the spacing of the register indicia on the cover strip and before attaching the cover strip to the next succeeding container, and thereafter interrupting advance of the cover strip with the container to position the severed end of the cover strip adjacent said location until the lead side of the next succeeding container reaches a position adjacent said location.

6. An apparatus for applying covers from a continuous cover strip to rim top containers comprising, endless conveyor means having a plurality of container support frames each shaped to support the rim of a container at a selected level and pitched along the conveyor means a distance greater than the length of the container support frames so that adjacent frames are spaced apart in a direction lengthwise of the conveyor means, said conveyor means having frame spanning portions between the trail side of one container support frame and the lead side of a succeeding container support frame offset below said preselected level, means for positioning a cover strip in overlying relation to said conveyor means with one end of the cover strip at a selected location along the conveyor means for advance with a container when attached thereto, a rotary sealing head overlying said conveyor means at said location and having a sealing face on its periphery, means mounting said rotary sealing head for limited vertical movement relative to said conveyor means from a lower position in which the underside of the sealing face on the head is disposed above said frame spanning portions but slightly below said selected level of the container rims as they are advanced with the frames whereby each frame operates to press the lead rim of a container and the overlying end of the cover strip against the sealing face on the sealing head when the lead rim reaches a position adjacent said location and the sealing head is thereafter forced upwardly by the advancing frame and container rim to ride on top of the container rim and progressively press and seal the cover strip to the container rim as the container advances past said head whereby to advance the cover strip with the container, cutter means on said sealing head having a pitch therearound corresponding to the pitch of said frames on the conveyor means for severing the cover strip adjacent the trail rim of a sealed container as the trail rim advances to a position adjacent said location, said frame spanning portions being offset below the underside of the sealing face on the sealing head when the latter is in its lower position to allow the end of the cover strip to move downwardly away from the sealing head whereby to interrupt advance of the cover strip with the containers and position the severed end of the cover strip adjacent said location preparatory for attachment to the lead rim of the next succeeding

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container, and means for rotating said sealing head at a peripheral speed corresponding to the linear speed of the conveyor means.

7. An apparatus according to claim 6 including brake means selectively operable to retard advance of the cover strip, and means for operating said brake means when said cutter means is in engagement with the cover strip to tension the cover strip to facilitate severing of the cover strip by the cutter means.

8. An apparatus according to claim 7 wherein said brake means has an electro-responsive actuator and said means for operating said brake means includes switch means operated in timed relation with the movement of said conveyor means.

9. An apparatus according to claim 7 wherein said cover strip has register indicia spaced therealong a distance approximately equal to the length of the containers, said means for operating said brake means including means for sensing the register indicia on the cover strip to operate the brake means each time the cover strip has advanced a distance corresponding to the spacing of the register indicia on the cover strip.

10. An apparatus according to claim 6 wherein one of the items comprising the sealing head and the container support frames has a resilient face.

11. An apparatus according to claim 6 including means yieldably urging said sealing head downwardly to said lower position.

12. An apparatus according to claim 6 wherein said frames are removably mounted on said conveyor means to enable interchanging with frames of different size or shape.

13. An apparatus according to claim 6 wherein said cover strip is heat sealable to the container rim, said sealing head including a heat conducting body, means for heating said head to a temperature for heat sealing the cover strip to the container rim, said cutter means including blades mounted in said body in heat conducting relation therewith and extending outwardly of the sealing head to sever the cover strip.

14. An apparatus for applying a cover from a continuous cover strip to rim top containers comprising, conveyor means having a plurality of container support frames each having an overall length substantially equal to the length of a rim top container and uniformly pitched along the conveyor means a distance substantially greater than the length of a container and each shaped to support a container with the lead rim of each container spaced a substantial distance from the trail rim of a preceding container, means on the machine for positioning a cover strip in overlying relation to the

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containers with one end adjacent a selected location along said conveyor means for advance with the container when attached to the container rim, means for advancing said conveyor means and the containers sequentially past said location, a combination rotary sealing and cutting head at said location having a sealing face on its periphery operative when the lead rim of a container reaches a position adjacent said location for attaching the cover strip to the container rim to advance the cover strip with that container and to progressively seal the cover strip to the container rim as it is advanced past said location, cutting means extending outwardly from the periphery of the sealing head and pitched around the head a distance corresponding to the pitch of the container support frames on the conveyor means, means for rotating said sealing and cutting head at a peripheral speed corresponding to the linear speed of said conveyor means, said cutter means being operative when the trail rim of the container advances to a position adjacent said location to engage and sever the cover strip adjacent the trail rim of the sealed container before said sealing face attaches the cover strip to a succeeding container, brake means operable to retard advance of the cover strip, and means for cyclically operating said brake means each time the trail rim of a container advances to a position adjacent said location to interrupt advance of the cover strip with the containers whereby to position the severed end of the cover strip adjacent said location preparatory for attachment to the lead rim of the next succeeding container when it advances to a position adjacent to said location.

15. An apparatus according to claim 14 including means supporting said sealing and cutting head for limited vertical movement relative to said conveyor means from a lower position with its underside disposed at a level slightly below the level of the container rims as they are advanced by the conveyor means to press the cover strip against the container rim as it moves to a position below said sealing head, said conveyor means having frame spanning portions between the trail side of one support frame and the lead side of a succeeding support frame offset below the underside of the sealing head to avoid pressing the cover film against the sealing head as the frame spanning portion of the conveyor means moves below the sealing head.

16. An apparatus according to claim 15 including means yieldably urging said sealing and cutting head downwardly to said lower position.

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