June 12, 1956 H. W. CLARKE 2,750,064

SEALED SEPARABLE FOOD CONTAINER

Filed April 25, 1952

Fig. 1

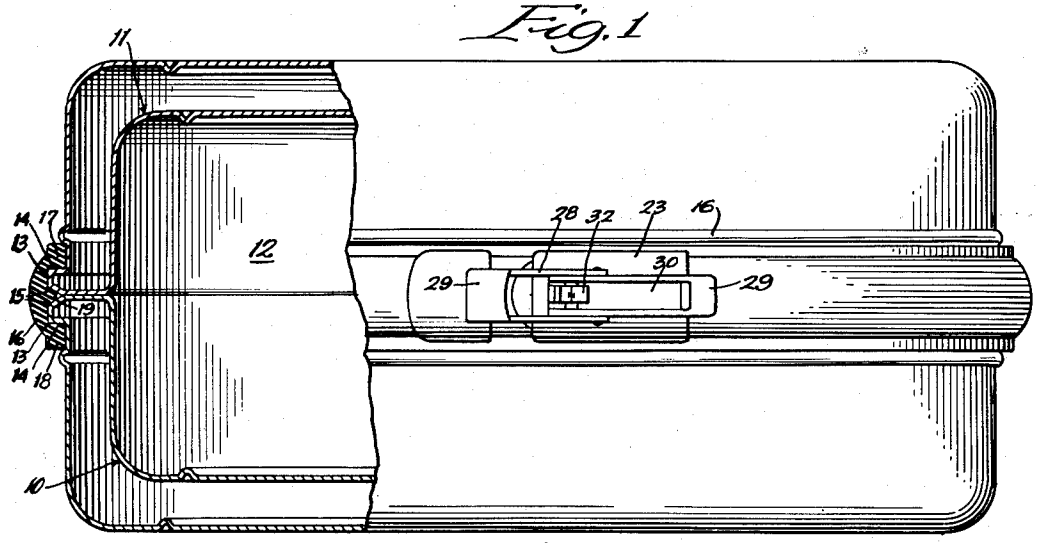


Fig. 2

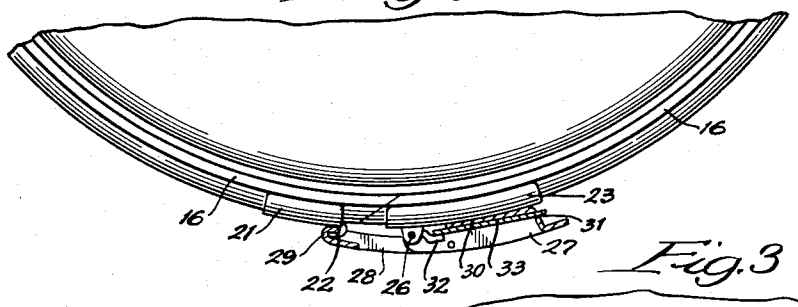


Fig. 3

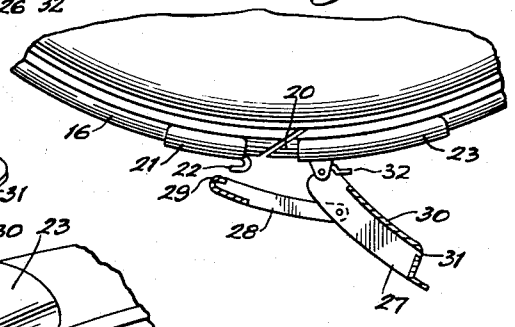
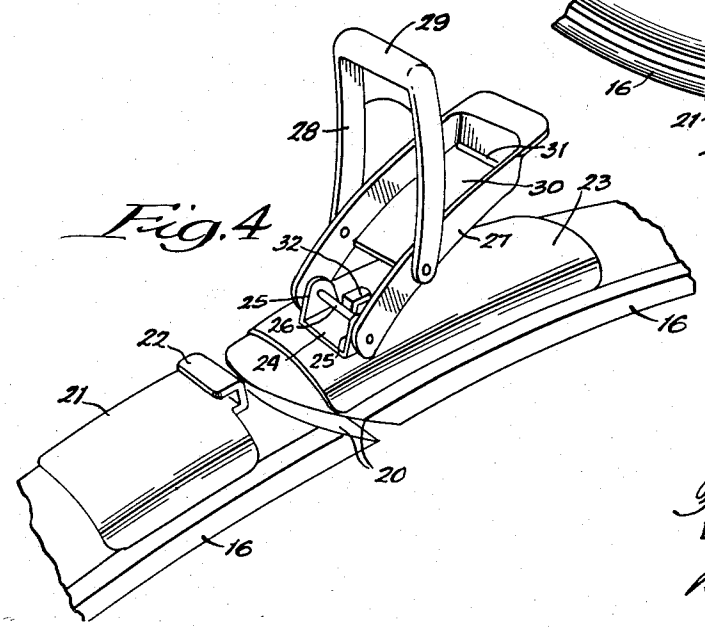


Fig. 4



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SEALED SEPARABLE FOOD CONTAINER

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10 Claims. (Cl. 220—4)

This invention relates to a sealed, separable food container, and more particularly to a container device for packing, storing, or transporting and serving, hot meals and also cold meals.

In the preparation and serving of hot meals, particularly in hospitals, plants, factories, trains, airplanes, and in a large number of other establishments, it is extremely important that the insulating container sections in which the hot food is stored be readily sealable after the packing operation and then readily separable when the meal is to be served, the closure mechanism occupying a minimum of space or obstruction while at the same time providing evidence that the container has not been heretofore opened.

An object of the present invention is to provide a structure accomplishing the above desired results and providing a structure in which the hollow sections are locked securely in airtight relation while effecting, with the sealing means, a complete air seal about the entire container. A further object is to provide unique sealing means which brings the sealing strap ends together in sealing relation while locking the container sections together and providing means to indicate unauthorized opening of the container. Other specific objects and advantages will appear as the specification proceeds.

The invention is shown in an illustrative embodiment by the accompanying drawing, in which—

Figure 1 is a broken side elevational view of a sealed container structure embodying my invention, a portion of the container being broken away to show the container in vertical section; Fig. 2, a broken top plan view, with a portion of the clamping structure shown in section; Fig. 3, a view similar to Fig. 2 but showing the clamping device in released position; and Fig. 4, an enlarged perspective view of the clamping and strap structure.

In the illustration given, **10** designates a lower hollow body section, and **11** designates an upper hollow body section, the two sections, when placed together, as indicated in Fig. 1, providing an inner food-receiving chamber **12**. In the chamber **12** may be placed dishes or other receptacles for hot or cold foods, etc.

Each of the sections **10** and **11** may, if desired, be identical in construction. Each section is provided with an annular rib **13** having an outer vertical face **14** and having an inwardly-inclined face **15**, as shown best in the sectioned portion of Fig. 1.

About the container I provide a strap **16**, which is preferably formed of resilient, elastic material. The strap or band **16** may be formed of rubber or other resilient material and may, if desired, be reinforced or otherwise strengthened by the use of plastic, fabric, or other suitable means.

In the specific illustration given, the band **16** is provided with an upper bead **17** having an inner surface resting against the square shoulder **14** of the rib **13**, and similarly the band has a lower bead **18** having a flat inner surface abutting the shoulder **14** of the lower rib

13. Centrally the band may be provided with an inwardly-extending tapered rib **19** fitting tightly between the inclined faces **15** of the ribs which form a substantially V-shaped recess therebetween.

The strap or band **16** is preferably provided with inclined abutting ends **20** adapted to be forced together in tightly sealed relation. If desired, the ends of the band or strap may have flat, vertical meeting surfaces or various types of interlocking surfaces. I prefer, however, to have the inclined surfaces **20** illustrated so that in the clamping of the ends of the resilient strap together, a slightly sliding movement can be had while still effecting an airtight seal between the meeting ends of the band.

As shown more clearly in Fig. 4, the ends of the strap **16** are provided with clamping members. The clamping means may be of any suitable construction. In the illustration given, to one end of the strap **16** is secured a plate **21** having an upwardly and rearwardly-extending hook **22**. To the other end of the strap **16** is secured a plate **23** by means of a vulcanizing operation or adhesive or other suitable method. Plate **23** is provided with a bracket **24** having upwardly-extending ears **25**, to which is pivotally secured by a pin **26** a handle member **27**. To the handle member **27** is pivotally secured a draw clamp **28** having an end **29** adapted to engage the hook **22** of plate **21**.

The handle member **27** is provided at its inner side with a bottom plate **30**, and at the rear of the bottom plate **30** the handle member **27** is provided with a slot **31**. To the bracket **24** is secured a finger **32** which extends upwardly and rearwardly, as indicated best in Fig. 2. When the handle is moved to closed position, a disc **33** formed of cardboard or other suitable material and preferably bearing indicia, such as a trade-mark or notice, etc., is inserted below the finger **32** with a portion of the disc extending through the slot **31**, as shown best in Fig. 2. With this structure, when the handle member **27** is swung outwardly to released position, the frangible disc **33** is gripped between the finger **32** and the inner plate **30**, and the disc is cut or marred by the relative movement between the handle member and the finger so as to indicate that the container has been opened.

Operation

In the operation of the structure, the food is placed within the container formed by the sections **10** and **11**, employing dishes or other receptacles which are placed within the chamber **12**. The strap **16** is then drawn about the ribs **13** of the two container sections. The clamp **19** is drawn forwardly over the hook **22** and the handle **27** swung to the position shown in Fig. 2, the indicator disc **33** being placed in position, as illustrated. In the clamping operation, the band **16** is drawn tightly about the container ribs **13** so as to lock them firmly in place, and finally the ends **20** of the resilient band member **16** are urged tightly against each other to form a tight seal at the ends of the band. Thus air may not leak through the band into the container, while at the same time the container is tightly held together by the stretching of the band to the closed position illustrated.

When the container reaches the intended recipient, the recipient can determine that the container has not been opened or tampered with by the condition of the sealing disc **33**. Should the handle **27** be swung to open position, the action of the finger **32** against the disc **33** brings about a tearing or marring of the disc to indicate such opening of the container.

When hot foods are placed within the container and the seal effected as described by drawing the clamping members together and causing the ends of the band to be brought into sealing relation, it is found that upon the cooling of the hot foods, a vacuum is produced within

the container, which vacuum makes it difficult to open the container sections. A quick breaking of the vacuum and ready opening of the container sections is effected by the use of the clamping structure shown, in that upon the raising of the handle **27**, the ends of the strap **16** automatically pull apart, causing a breaking of the vacuum within the container, and the container sections can then be readily separated.

While in the foregoing specification I have set forth a specific structure in considerable detail for the purpose of illustrating an embodiment of the invention, it will be understood that such details of structure may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

1. A device of the character set forth, comprising a pair of hollow body sections adapted to be secured together in sealed relation to form a heat-insulated food-receiving compartment, said sections having outer annular ribs near their meeting surfaces, each of said ribs having an inwardly-inclined inner edge providing between the sections, when the same are together, a V-shaped recess, a resilient band having socket portions receiving said ribs and providing beads resiliently enclosing the same and having an inner annular V-shaped bead received within the V-recess between said ribs, and clamping means secured to the ends of said band and drawing said band ends into tightly abutting relation.

2. The structure of claim 1, in which the ends of the band have parallel inclined surfaces.

3. In a device of the character set forth, a pair of hollow body sections adapted to be secured together in sealed relation to form a heat-insulated food-receiving compartment, said sections having outer annular ribs near their meeting surfaces, a resilient band enclosing said ribs, clamp members secured upon the ends of said band and engageable with each other to draw said band together with the ends thereof forming an airtight seal, at least one of said clamping members being provided with a bottom wall adapted to receive a disc thereon, a finger spaced slightly above and terminating adjacent the bottom wall for extending over and engaging said disc when said clamp members are in closed position and being carried by said band in substantially immovable relation with respect to said bottom wall, and a disc received within said clamping member and engaged by said finger for disfigurement thereof when said clamping member is moved to released position.

4. The structure of claim 3, in which the disc bears indicia and is formed of frangible material and is extended through a slot of said clamping member and below the finger thereof.

5. In a device for transporting and serving prepared foods and having a pair of hollow body sections providing a compartment therein and being adapted to be removably secured together by a band enclosing the meeting edges thereof, clamp members secured upon the ends of said band and engageable with each other to draw said band together with the ends thereof forming an airtight seal, comprising a plate secured to one end of said band and equipped with a hook, a plate secured to the opposite end of said band and equipped with a draw clamp engageable with said hook and providing also a handle for operating said draw clamp, said handle member being provided with a bottom wall adapted to receive a disc thereon, and a finger spaced slightly from and terminating adjacent said bottom wall and being adapted to extend over and engage an end portion of said disc when said draw clamp is in locking engagement with said hook, said finger being carried by said second mentioned plate and being adapted to mar the end portion when said handle member is moved to release the clamp.

6. The structure of claim 5 in which a disc is received within said handle and engaged by said finger for disfigurement thereof when said draw clamp is moved to released position.

7. In a device for transporting and serving prepared foods, a pair of hollow body sections adapted to be secured together in sealed relation to form a food-receiving compartment, each of said sections having an outwardly-extending annular rib adjacent the meeting surface thereof, each of said ribs having an inwardly-inclined inner edge providing between the sections, when the same are together, a V-shaped recess, a resilient band having socket portions receiving said ribs and provided with beads enclosing said ribs and resiliently urging the same together and having also an inwardly-extending annular complementary V-shaped bead receivable within the V-shaped recess between said ribs, and clamp means for securing said band about said sections, said clamp means comprising a hook portion carried by one end of said band, a handle member pivotally carried by the other end of said band, a draw clamp pivotally carried by said handle and being adapted to engage said hook, and a finger extending laterally and into a recess provided by said handle, said handle being movable with respect to said finger and providing a bottom wall terminating adjacent an end of said finger and lying in a plane slightly below said finger when said handle is in locked position, said bottom wall being adapted to support a disc thereon having a free end portion extending below said finger.

8. In a structure of the character described having a pair of hollow body sections adapted to be brought together in sealing relation and each of said sections having an outwardly-extending annular rib adjacent the meeting surfaces thereof with inwardly-inclined surfaces providing therebetween a generally V-shaped recess, a resilient band equipped at the ends thereof with interlocking clamp members adapted to draw said band tightly about said ribs, said band having a central annular bead of generally V-shape adapted to be received within said V-shaped recess, and said band having also upper and lower beads spaced from said central bead for engaging said ribs and for resiliently urging the same together, whereby when said band is drawn tightly about said ribs, said central bead is urged into said V-shaped recess tending to urge the body sections apart while said upper and lower beads tend to urge said body sections together with the result that said band provides a tight seal about said body sections and is operative to secure the same together.

9. In a structure of the character described having a band equipped at the ends thereof with clamping means adapted to secure the ends of the band together, said clamping means comprising a hook portion carried by one end of said band, a handle member pivotally carried by the other end of said band, a draw clamp pivotally carried by said handle and adapted to engage said hook, and a finger extending laterally and into a recess provided by said handle, said handle being movable with respect to said finger and providing a bottom wall terminating adjacent an end of said finger and lying in a plane slightly below said finger when said handle is in locking position, said bottom wall being adapted to support a disc thereon having a free end portion extending below said finger, whereby upon movement of said handle from locking to release position, said finger is operative to mar said disc.

10. In combination with a draw band adapted for use in sealing closed a pair of hollow body sections along the contiguous meeting edges thereof, said draw band having free end portions, indicia clamping means adapted to draw said free end portions into tight abutting relation comprising a hook carried by one of said end potrions, a handle pivotally carried by the other of said end portions, a draw clamp pivotally mounted upon said handle for releaseable engagement with said hook and, when said handle is moved to closed position, to lockingly engage said hook to draw said free end portions into tight abutting relation, said handle being provided with a wall portion adapted to receive and support an indicia disc

thereon, and a finger fixedly carried by said second mentioned free end portion and terminating, when said handle is in closed position, adjacent an end of said wall portion but spaced slightly therefrom to afford free pivotal movement of said handle and being spaced slightly from the plane of said wall portion in the direction of movement of said handle toward open position, whereby an indicia disc placed on said wall portion, when said handle is in closed position, with an end thereof projecting between said wall portion and finger will be disfigured by engagement with said finger when said handle is swung from closed to open position.

References Cited in the file of this patent

UNITED STATES PATENTS

815,505	Blacker	Mar. 20, 1906
1,268,550	Dunlap	June 4, 1918
1,711,115	Johnson	Apr. 30, 1929
1,784,516	Fairbanks	Dec. 9, 1930
2,183,049	Shofner	Dec. 12, 1939
2,249,764	Hothersall	July 22, 1941

FOREIGN PATENTS

360,479	Germany	Oct. 3, 1922