July 12, 1927. 1,635,509

J. A. STEWART

CAN

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Fig. 1

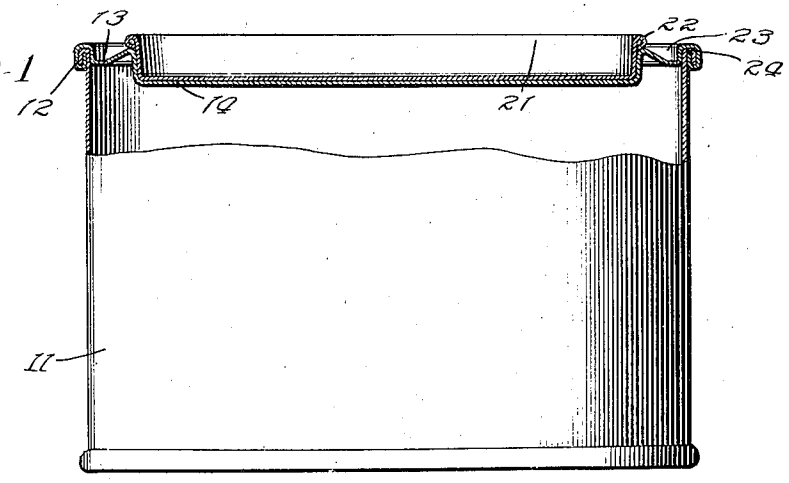


Fig. 2

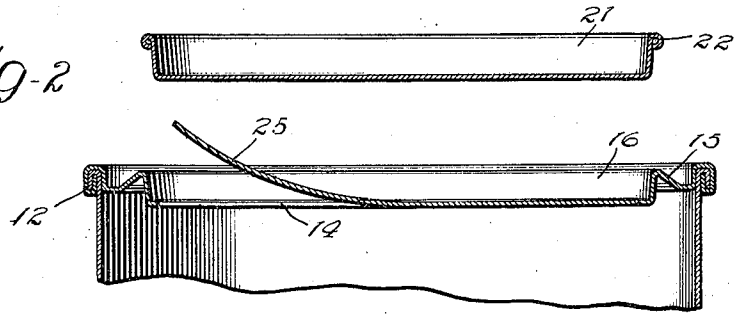
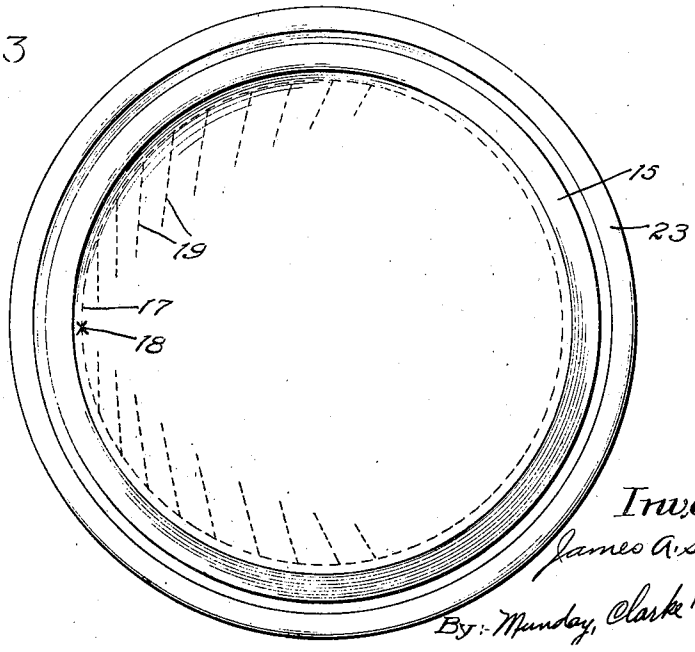


Fig. 3



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UNITED STATES PATENT OFFICE.

JAMES A. STEWART, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

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Application filed August 15, 1921. Serial No. 492,235.

This invention relates in general to containers and more particularly to vacuum containers for coffee and the like, having provisions for ready and easy opening and for sure and effective temporary closing after being first opened for removal of a portion of the contents.

A principal object of the invention is the provision of a container of the general type above specified having a hermetic cover or closure provided with opening score lines of particularly efficient character and located in exceptionally convenient and protected position.

A further object of the invention is the provision in a container of this type of a permanent hermetic closure having means for opening without the use of a can opener or other particular instrument, and formed to receive a temporary closure adapted to completely and effectively close the open part of the permanent closure while the contents of the container are being consumed.

Numerous other objects and advantages of the invention will be apparent as it is better understood from the following description, which, taken in connection with the accompanying drawings, discloses a preferred embodiment thereof.

Referring to the drawings,

Figure 1 is an elevational view, partially in section, of a container embodying the principles of my invention;

Fig. 2 is a vertical section of a top portion of said container, the temporary closure being shown removed, and the hermetic closure partially opened; and

Fig. 3 is a top plan view of the container cover showing the main and directing score lines.

Upon the drawings, which illustrate a preferred embodiment of the invention, I have shown a type of container adapted for the packaging of coffee and like articles, which for best preservation require storing in a vacuum. Upon the body 11 of the container is secured by a seam 12 a cover 13 which has a central depressed portion 14 which is formed, in the present instance, by raising the material of the cover as at 15 and bending it sharply downward to form a substantially vertical wall 16. In the bottom part of this depressed portion and near the wall 16 is a circular score line 17, which may be entered by a sharp instrument as at the point 18, and the material easily torn thereabout to open the container. Directing score lines 19 are provided interiorly of the line 17 and leading thereto, these lines being arranged at suitable angles to direct an irregular line of tear back to the main tearing line 17 at any particular point in the periphery of the cover.

A friction plug closure 21 is adapted to be positioned within the wall 16, and frictionally engaged thereby, and has a rolled shoulder 22 adapted to rest upon the raised portion 15 when said plug is pressed home within the depression 14.

It will be observed that the outer edge 23 of the cover which is seamed upon the body flange 24 of the container is of suitable height to serve as a fulcrum for the prying off of the closure 21 by engagement of an instrument with the shoulder 22. This plug closure is normally positioned in the depressed portion of the cover, as indicated in Fig. 1, and upon receipt of the container by the consumer, is removed, as hereinbefore stated, or in any suitable manner. The bottom part 25 of the permanent closure may then be opened by tearing the desired distance around the score line 17 and such portion of the contents as are needed, removed.

When the sharp instrument is entered at the point 18 the tears will begin along the main circular tear line 17, in both directions from said point (upward and downward in Fig. 3), because the tin is weakened in said directions from the point 18. Then the tin of the removable top is pried up or lifted up more and more, the tears continuing along the line 17. If either tear should leave the main tear line it would encounter a line 19 along which it would be conducted very quickly back to the line 17. After the torn out part of the depressed panel 14 has been removed the plug closure 21 may be again positioned within the wall 16 and serves as an effective and easily handled closure for the open portion of the principal cover. It will be seen that in this manner the container may be hermetically closed to provide the required vacuum during storage and handling of the package, and may be opened with exceptional ease by the consumer and temporarily closed in an efficient manner, as desired, during the time the contents are being consumed.

In the tearing operation any substantial

outward departure of the tearing from the main line 17 is limited by the vertical or outstanding friction seat wall of the container. The usual tendency of departure in tearing, from the line 17, is in an inward direction, and any such inward departure is limited by the score lines 19 as already described.

It is thought that the invention and many of its attendant advantages will be understood from the foregoing description, and it will be apparent that various changes may be made in the form, construction and arrangement of the parts without departing from the spirit and scope of the invention or sacrificing all of its material advantages, the form hereinbefore described being merely a preferred embodiment thereof.

I claim:

1. A can end having a circular score line and a point in said line at which an opening instrument is to be inserted, and directing score lines on said end arranged at intervals away from said point and inward from said circular score line and inclined towards said insertion point at successively greater angles to said circular line.

2. A vacuum container having a substantially flat wall on which is a scored tearing line located around a portion of said flat wall which is to be torn along said line and forced out of the plane of said wall, for obtaining access to the interior of the container, said flat wall having also scores 19 arranged within said tearing line and at varying acute angles thereto.

3. A vacuum container having an outstanding wall, and adjoining the same at an angle thereto a substantially flat wall on which is a scored tearing line located substantially at said angle and around a portion of said flat wall which is to be torn along said line and forced out of the plane of said wall, for obtaining access to the interior of the container, said flat wall having also scores 19 arranged within said tearing line and at varying acute angles thereto.

4. A vacuum container having a friction seat wall and a friction cover engaging around said seat wall of the container said container having a flat wall joining integrally the base of said seat wall at an angle thereto, on which flat wall is a scored tearing line located around a portion of said flat wall, which is to be torn along said line and forced out of the plane of said wall for obtaining access to the interior of the container, said flat wall having also scores 19 arranged within said scored line and at varying angles thereto.

5. A container comprising a body portion and a frangible closure portion, said closure portion being provided with a main scored tearing line and a plurality of spaced auxiliary scored tearing lines intersecting said main scored tearing line and each disposed at an acute angle thereto, the angles of said auxiliary scored tearing lines with said main scored tearing line successively increasing and said auxiliary scored tearing lines being adapted to intercept and direct a tear back to said main scored tearing line in the event that said tear should depart therefrom when said closure is opened.

6. A container body having an end secured thereto, said end having a depressed central part and a friction wall around the same and a main score line near said wall, and two series of score lines arranged at opposite sides of a point where the tearing of said central part is to begin, the score lines of said two series leading at acute angles outward to said main score line, and a friction cover engaging within said friction wall and covering said scored and depressed central part.

7. A vacuum container having a substantially flat wall on which is a scored tearing line located around a portion of said flat wall which is to be torn along said line in opposite directions from a point of beginning and forced out of the plane of said wall, for obtaining access to the interior of the container, said flat wall having also scores 19 arranged within said tearing line and at varying acute angles thereto.

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