

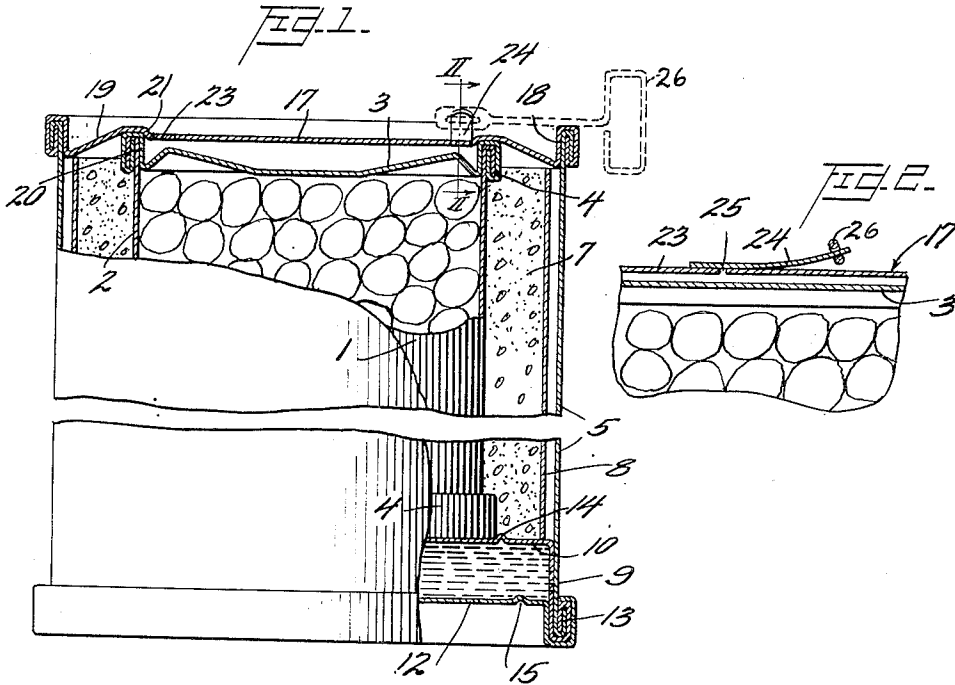
April 6, 1943.

L. KATZ

2,315,528

SELF-HEATING FOOD CONTAINER

Filed April 28, 1939



Inventor

Leo Katz

By

Sommers & Young

Attorneys

UNITED STATES PATENT OFFICE

2,315,528

SELF-HEATING FOOD CONTAINER

Leo Katz, Hollywood, Calif., assignor to Hotcan Corporation, Los Angeles, Calif., a corporation of California

Application April 28, 1939, Serial No. 270,648

3 Claims. (Cl. 126—263)

This invention relates to improvements in self-heating food containers and particularly to improvements in sealing and opening arrangements for such containers.

An object of this invention is to add to the facility with which a container, particularly for food, can be heated and then opened, while providing additional safeguards against contamination of the contents of the food container by the heating chemical.

The principal improvement relates particularly to self-heating cans of the kind illustrated in my United States Patent No. 2,265,172 dated December 9, 1941, for Self-heating preserving containers, which shows an arrangement comprising an ordinary can having a chemical-containing jacket surrounding the can in spaced relation thereto and extending beyond one end of the can, and a liquid vessel secured in the space provided by the extending length of the jacket at one end of the can. In using such cans the end having the water receptacle is placed uppermost and is punctured by passing a sharp instrument through the end closure disc of the liquid vessel and through the bottom of the liquid vessel adjacent the chemical compartment so that the liquid can flow into the chemical compartment. The liquid and chemical used are of such character that an exothermic reaction occurs when they are brought into contact, for instance, water and unslaked lime. When the content of the can is sufficiently heated, the can is reversed and the accessible end of the food container is removed by an ordinary can opener. In using such cans, especially if several cans are handled on the same supporting surface or table, there is always some possibility that some of the chemical will get on the table and may then get on the cover of one of the cans. This could, of course, be wiped off, but would require additional care, handling of hot articles, and even then might leave some unpleasant doubt in the mind of the user as to whether it had all been removed.

A particular purpose of the present invention is to provide an additional cover for the can integrally connected with the end cover of the chemical container and means for readily removing this additional cover so that all possibility of any of the chemical reaching the sealing cover of the food compartment is altogether eliminated.

In the accompanying drawing, Fig. 1 is an elevational view, partly in section, of a self-heating can having a readily removable additional cover.

Fig. 2 is a side elevational view, partly in section, showing a detail of the illustrative embodiment on line II—II of Fig. 1.

In the accompanying drawing, numeral 1 indicates a can having side walls 2 and ends 3 and 4 permanently sealed by intercrimping with the edges of the side walls as indicated at 4. A jacket 5 having larger diameter than the side walls 2 surrounds the can in spaced relation, thus providing a compartment for containing chemical 7 and also may contain a lining 8 of corrugated porous material, such as corrugated paper or cardboard, providing space for expansion and facilitating distribution of the liquid to the chemical. At both ends the jacket 5 extends beyond the ends of the can and a cup-shaped liquid vessel 10 is secured in the space thereby provided at one end 9. The liquid vessel is closed by a disc 12 and the edges of both the disc 12 and cup-shaped vessel 10 are intercrimped at 13 with the adjacent end of the jacket. The bottom of the liquid vessel, that is, the inner wall thereof, is provided with an embossed protuberance or ring 14 forming a seat for the adjacent end of the can to prevent lateral displacement thereof, and the outer disc 12 is provided with one or more dents 15 indicating the proper place to puncture the wall 12 and vessel 10 to let the water into the chemical compartment.

At the opposite end from the water vessel 10, a disc 17 covers the entire end portion of both the chemical compartment and the end of the can. This disc is secured to the jacket 5 by intercrimping, as indicated at 16, and between the jacket and the edge of the can has a sloping surface 19. Just inside the flange 20 of the can, the cover disc 17 is bent inwardly, as indicated at 21, thus, with the sloping portion 19, providing a seat for the flange 20 of the can. The central portion of disc 17 may be flat and plane, but just inside the inwardly-turned portion 21 a circular scored ring 23 having a rip tongue 24 is provided. This ring is formed simply by a pair of circular scorings, or by a separate ring attached as by soldering. The rip tongue 24 may be readily lifted and inserted in an ordinary key of a type well known for opening cans. In Fig. 2 the rip tongue is shown as separately attached and the scored ring 23 is discontinued a short distance beneath the portion of the tongue attached to the cover, as at 25.

When the liquid has been admitted to the chemical and the contents of the can have become sufficiently heated, the can is inverted with the end having cover disc 17 uppermost, and the

central portion of the disc is removed by applying key 26 to the rip tongue 24 and removing the ring 23 by turning the key. This exposes the end closure disc 3 of the can free of all possibility of being contaminated with chemical, and this disc 3 can then be cut out in the usual way by an ordinary can opener without danger of contaminating the contents.

I claim:

1. A self-temperature-varying preserving container comprising walls forming sides and ends of a receptacle for containing food, a jacket surrounding the food receptacle in spaced relation thereto and providing a chemical compartment, a closed liquid vessel extending across one end of the food receptacle and of the chemical compartment and against the inner transverse wall of which one end of the food receptacle bears and is thereby supported, said jacket, at its opposite ends, extending longitudinally beyond the end of the food receptacle and beyond the outer wall of the liquid vessel respectively so as to serve as a bearing wall for carrying forces applied to the container longitudinally whereby the food receptacle and liquid vessel are protected from said forces and transmission thereof to the liquid vessel is prevented, the inner transverse wall of said liquid vessel having raised elements for holding the adjacent end of the food receptacle against lateral shifting, and a cover over the end of the jacket opposite the liquid vessel, said cover being secured at its outer edge to the jacket and extending inwardly to the edge of the food receptacle at an acute angle to the side wall of the food receptacle whereby the cover offers resistance to movement of the food receptacle away from the raised means for holding its opposite end against lateral displacement.

2. A self-temperature-varying preserving container comprising walls forming sides and ends of a container for food; a jacket around said food container in spaced relation thereto and providing a chemical compartment; a liquid receptacle having a wall extending transversely across one end of the food container and of the chemical compartment and against which transverse wall one end of the food container bears and is thereby supported; said jacket, at its opposite ends, extending longitudinally beyond the end of the food container and beyond the outer wall of the liquid receptacle respectively so as to serve as a bearing wall for carrying forces applied to the container longitudinally whereby the food con-

tainer and liquid receptacle are protected from said forces and transmission thereof to said wall of the liquid receptacle is prevented; the said wall of the liquid receptacle having raised elements for holding the adjacent end of the food container against lateral shifting; and a cover over the end of the jacket opposite the liquid receptacle, said cover being secured at its outer edge to the jacket and extending inwardly to the edge of the food container at an acute angle to the side wall of the container whereby the cover offers resistance to movement of the container away from the raised elements of the liquid receptacle for holding its opposite end against lateral displacement.

3. A self-heating food container comprising side walls and end walls forming a food receptacle, said receptacle having a flange extending longitudinally at one end substantially in elongation of its side walls, a jacket enclosing said food receptacle, said jacket being formed by side walls spaced from the side walls of the food receptacle so as to form a space for chemical, one end of the jacket being closed by a water vessel having an inner and outer wall extending transversely of the jacket across both the chemical space and an end of the food receptacle, the inner wall of said water vessel having raised surfaces engaging the adjacent end edges of the food receptacle to prevent lateral displacement thereof, the other end of said jacket being closed by a wall, a portion of which extends inwardly to the food receptacle end flange at an acute angle to the food receptacle side wall, said end wall being slightly depressed immediately within said flange so as to form with the inclined portion a socket for holding the end of the food receptacle against lateral displacement and also against axial displacement away from the raised surfaces of the water vessel wall, the portion of said jacket end wall between the jacket side walls and the food receptacle end serving at all times to prevent leakage of the chemical, and the portion of the end wall within the food receptacle end flange serving to protect the adjacent food receptacle end wall from contamination, and a rip tongue extending circularly around the portion of the jacket end wall inside said depression for enabling removal of the inner portion of the jacket end wall without disturbing the portion between the jacket side walls and the food receptacle end flange.

LEO KATZ.