Oct. 30, 1928. 1,689,627

C. W. GRAHAM

KEY OPENING CAN

Filed Sept. 11, 1923

Fig. 1.

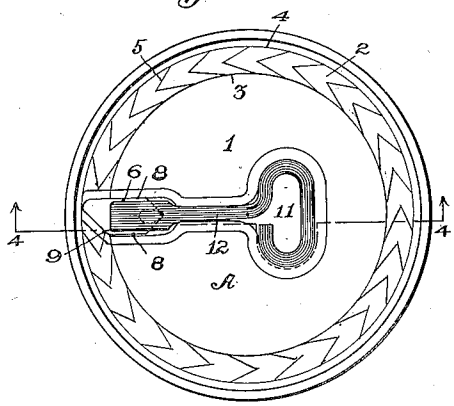


Fig. 2.

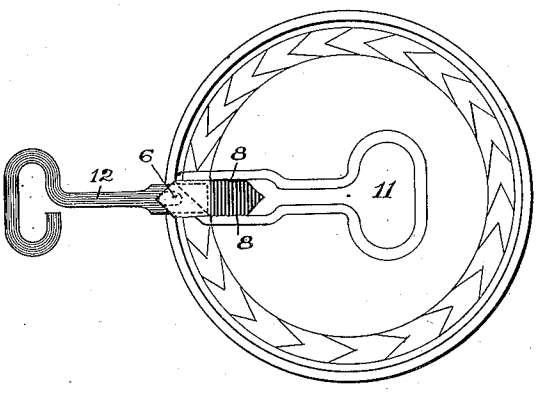


Fig. 3.

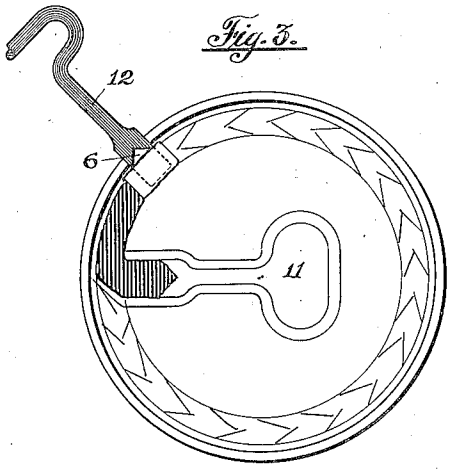


Fig. 5.

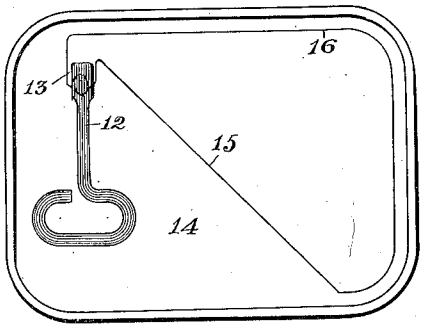
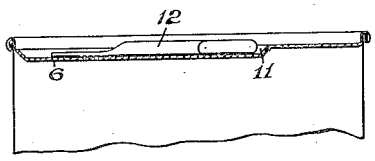


Fig. 4



Inventor

Charles W. Graham

By R. A. Acker

his Attys.

Patented Oct. 30, 1928. 1,689,627

UNITED STATES PATENT OFFICE.

CHARLES W. GRAHAM, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO AMERICAN CAN COMPANY, OF SAN FRANCISCO, CALIFORNIA, A CORPORATION OF NEW JERSEY.

KEY-OPENING CAN.

Application filed September 11, 1923. Serial No. 662,062.

The hereinafter described invention is applicable for use in connection with hermetically sealed cans or metallic containers generally and this irrespective as to the shape of the said container and the same is designed so to speak to make the opening key for the container of a permanent or fixed union so far as relates to the removable tearing strip to be severed for an opening of the container for removal of the contents therefrom. Ordinarily, in connection with commodities sealed within a key opened container, the key is furnished as a separate element from the container and adapted to be applied with respect to a detached extension of the tearing strip, which detached section usually partakes of the nature of a tongue extension of the said strip or section to be removed for the opening of the container. If, for any reason, the key becomes lost, difficulty is experienced in the opening of a can or container and in case the tongue extension should be torn accidentally from the tearing strip section, the key is useless for the opening of the container. The object of the present invention is to overcome the mentioned objection and which object is attained by making the opening key a permanent portion of the tearing strip, while maintaining said strip an integral portion of the closing wall of the container structure, so that the free projecting tongue usually associated with the tearing strip is eliminated and the opening key at all times held in a fixed or attached position relative to the said tearing strip. Under this construction it is impossible for the opening key to become lost, each container carrying its own opening key in permanent association with a non-separated portion of the tearing strip.

For an understanding of the invention reference should be had to the accompanying sheet of drawings, wherein—

Fig. 1 is a top plan view disclosing a cover applied to a cylindrical container with my invention applied thereto.

Fig. 2 is a similar view illustrating the opening key thereon in extended position for the removal of the tearing strip of the cover.

Fig. 3 is a similar view illustrating the key with the tearing strip partly removed thereby from the cover.

Fig. 4 is a broken sectional view taken on the line 4—4, Fig. 1 of the drawings.

Fig. 5 is a plan view illustrating the invention as applied to the cover of a sardine can.

In the drawings, Figs. 1, 2 and 3 thereof, the numeral 1 is used to designate the cover applied to a cylindrical container, the said cover being of the depressed panel type usually employed in connection with the hermetic sealing of cans. Extending circumferentially of the cover is a tearing strip 2, which is set off by the scored lines 3 and 4 and said tearing strip is provided intermediate the scored lines 3, 4 with herringbone scores as indicated at 5, whereby a tear running inwardly from said boundary or scored lines 3 and 4 will be directed back thereto and severing or breakage of the tear strip during the separation thereof from the remaining wall of the cover is prevented. In the present case, the tearing strip as thus outlined at a suitable point terminates in an inwardly extended tear section 6 formed or set off by scored lines 8 and 9 and which section to all intents and purposes may be considered or treated as a tongue extension formed integral with the body metal of the cover 1, it being at no time detached or disassociated with the body metal until ruptured or torn therefrom by the action of the opening key when thrown into position for a severing of the tearing strip from the cover on the lines of its scored section. In the present case the integral tongue section 6 of the tear strip is formed mainly within the depressed panel section A of the cover 1 and in said section of the cover there is formed a depression 11 conforming in outline to the shape of the opening key 12, so that when the said key is positioned relative to the cover 1 of the container the same will lie within the depression or seat 11 and fall so to speak flush with the surface of the surrounding metal of the depressed panel portion A of the cover 1. As the key 12 is spot-welded to the upper face of the scored tongue section 6 of the tearing strip and therefore is non-separable therefrom, it is always maintained in proper position relative to the can cover so as not to interfere with the packaging of the filled containers for shipment and equally so, not to interfere with the packaging of the ends or covers to be shipped to canners or packing houses for use in connection with the hermetic sealing of food contents.

When it is desired to open the sealed container for the removal of the contents therefrom, the opening key 12 is raised from within its seat 11 and thrown outwardly to stand at right angles so to speak to the tearing strip, Fig. 2 of the drawings. During this movement or throw of the opening key the lever pressure brought to bear thereby serves to sever the scored tongue 6 from the surrounding metal of the can cover and the opening key will at such time stand in relation to the tearing strip as is usually its position when a slotted end of a separating key is applied to a loosely extended tongue of a tearing strip. With the key thus positioned and the scored tongue section 6 separated by rupture from the surrounding metal of the cover, it is only required to turn the key over along the edge of the sealed container to gradually separate the scored tearing strip circumferentially of the can cover, as indicated by Fig. 3 of the drawings.

By Fig. 5 of the drawings the key 12 is illustrated as spot-welded to a scored tongue extension 13 integral with the scored section of a cover to be opened and integral with the metal wall of a can cover 14 usually employed in connection with the hermetic sealing of sardine cans. In this case, the section of the cover to be removed is that portion of the cover within an area bounded by the score lines 15 and 16, or in other words, a section of somewhat extended area is the tear portion of the cover to be removed for an opening of the container. As in the case with the disclosure of Figs. 1 to 3 inclusive of the drawings, the throwing of the key 12 over to stand or project outwardly from the sealed container tears or separates the tongue 13 from the surrounding metal of the cover 14 and as a turning action is applied to the key when thus extended the metal of the cover within the boundary of the score lines 15 and 16 is ruptured, or torn apart from the surrounding metal of the cover by a turning action of the key.

It will be noted from the foregoing that the opening key 12 to all intents and purposes constitutes a permanent element of the tear strip when applied to the can cover, inasmuch as it is spot-welded thereto and is therefore non-detachable therefrom and incapable of separation, as is the case of the opening keys supplied for use in connection with the opening of sealed containers having a tear strip associated therewith. While the opening key is illustrated and has been described in association with a cover provided with a tearing strip, it is obvious that the tearing strip may be formed circumferentially of the body structure of a container and in such case the opening key will be spot-welded to a section of the tearing strip to be removed and while I have illustrated the tearing strip as having associated therewith an inwardly extended scored portion serving to constitute a weakened tongue constituting an integral unbroken portion of the body metal of the cover, it is apparent that the said tongue extended portion may be dispensed with, if so desired, and the opening key spot-welded at a point relative to the tearing strip intermediate the scored lines 3 and 4 of Figs. 1, 2, 3 and the scored lines 15 and 16 of Fig. 5 of the drawings. However, preference is given to extended inwardly from the tearing strip a scored tongue formed integral with the surrounding body of the cover and integral with the tear section to be removed and constituting a continuation thereof.

While I have illustrated a preferred embodiment of the invention I do not wish to be understood as limiting the invention to such detailed construction, but wish to be understood as claiming as broadly as the state of the art will warrant the permanent attachment of an opening key to the tearing strip or section of a cover to be removed and this without continuing or extending from the tear strip a section non-integral with the remainder of the metal constituting the cover or a body of the container.

Having thus described the invention, what I claim as new and desire to be protected by Letters Patent, is:

1. A cover for the hermetic sealing of metallic containers provided with a removable tear section situated within an area of the cover bounded by scored lines formed in the metal thereof and terminating in an inwardly extended tongue section which lies within an area bounded by scored lines in the metal and an opening key permanently united to the tongue extension section of the tear strip.

2. A hermetically sealed container provided with a tearing section situated within an area bounded by scored lines formed in the metal thereof and which terminates in an inwardly extended tongue section which lies within an area bounded by scored lines in the metal, and an opening key permanently united to the tongue section of the tear strip.

3. In a hermetically sealed tearing strip container, a scored portion to be torn away and a key permanently welded to a starting section of said scored portion, said key being adapted to be lifted from inoperative position to tearing position thereby severing said starting section from the unscored portion of said container.

4. The combination of a can body, and top secured thereon having an imperforate tearing strip arranged near the margin of the top and set off by scored lines, and a key welded to said imperforate strip at a point between two of said scored lines and lying on the can top between and substantially parallel with the last mentioned scored lines, so that the lifting of the key will tear said parallel lines.

5. A sanitary can top having a flange for

double seaming to a can body, an imperforate tearing strip set off by scored lines and extending on said top near said flange, said tearing strip having an inward extension, and a key fixedly attached to said extension, and arranged on the top, so that when the key is lifted and turned the other side up to extend out beyond the margin of the top it will thereby tear out said extension and be in position to be rotated and wind up the remainder of said tearing strip.

In testimony whereof I have signed my name to this specification.

CHARLES W. GRAHAM.