Oct. 15, 1935. A. G. SCHOETTEL 2,017,077

CONTAINER OPENING KEY

Filed Feb. 20, 1933

Fig. 1

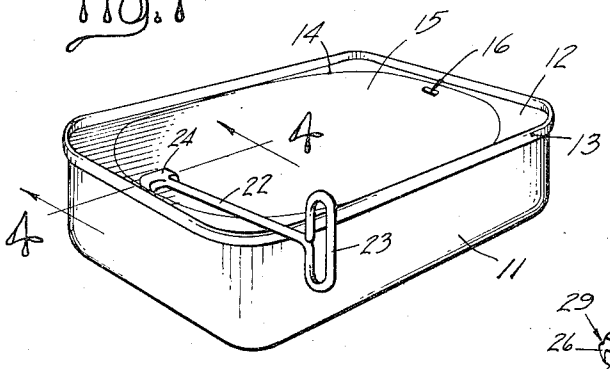


Fig. 2

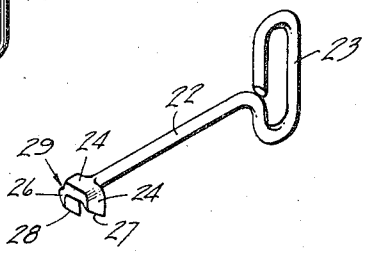


Fig. 3

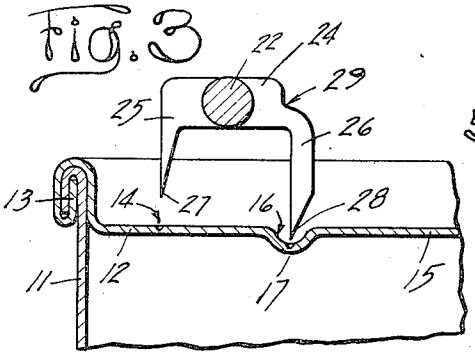


Fig. 4

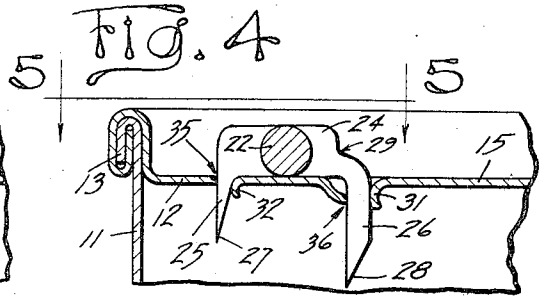


Fig. 6

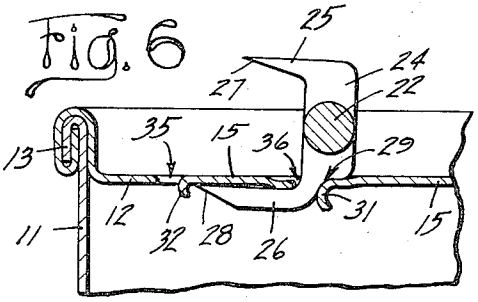


Fig. 7

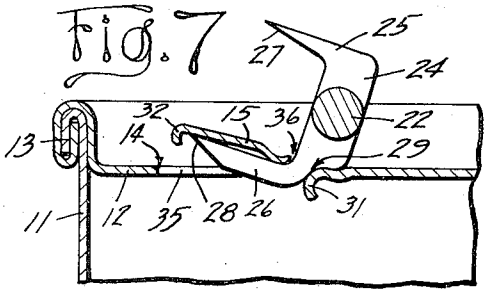
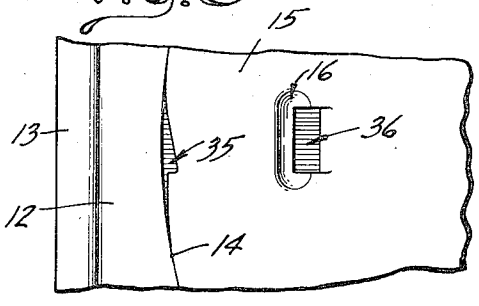


Fig. 5



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CONTAINER OPENING KEY

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Application February 20, 1933, Serial No. 657,550

4 Claims. (Cl. 220—52)

The present invention relates to metallic key opening cans and has for its object broadly provision for more easily opening the can by means of a double pointed combination perforating and wind-off key.

The invention contemplates the provision of a score line formed in a can wall to define a removable area and a double pointed key for removing this area, both points of the key being punched through the can wall so that one point comes within the score line into a pivotal seat while the other point initially breaks through the can wall on the score line, pivoting of the key within its seat positioning it to sever along the score line beginning at the initially broken section following which rotation of the key winds off the removable area. In severing at the score line adjacent the key seat, the operation of opening the can is greatly facilitated because in turning the key the shearing proceeds each way from the part initially ruptured and the force is concentrated progressively at the exact points of tear.

The principal object of the invention is the provision of a scored key opening can and an opening key therefor, the mere insertion of the key initially breaking the score line in a restricted zone and simultaneously placing the key in operating position for further tearing of the metal along the score line as the key winds off the removable area of the can.

An important object of the invention is the provision of a key opening can, in which the score lines may be ruptured with less effort than has been required to open those now generally upon the market.

An important object of the invention is the provision of a double pointed opening key for a can of the character described, one point being longer than the other so that as the points of the key are inserted into the can wall the longer point will first pass through the wall and locate the key so that its other point will enter the score line and initially tear through the metal.

A further object of the invention is the provision of a double pointed opening key for a scored can which is inserted into an exact position relative to the score line and which first breaks through the score line in a restricted zone during the insertion, this insertion forming a seat in which the key operates for placing it into winding position.

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 drawing, discloses a preferred embodiment thereof.

Referring to the drawing:

Figure 1 is a perspective view of a container and a key embodying the present invention, the view illustrating the key with its points inserted through the can wall;

Fig. 2 is a perspective view of the key;

Fig. 3 is an enlarged fragmentary sectional detail taken through the can and through the key, the latter being shown in position just above the can and just prior to its insertion;

Fig. 4 is a view similar to Fig. 3 illustrating the opening key with its points fully inserted into the can, this being a section substantially along the line 4—4 in Fig. 1;

Fig. 5 is a fragmentary plan view of the can as viewed from a position indicated by the lines 5—5 in Fig. 4, the key being removed, and showing the effects on the can wall of inserting the key; and

Figs. 6 and 7 are views similar to Fig. 3 illustrating different steps in the opening of the container.

For the purpose of illustrating the present invention the drawing discloses a container 11 which has a cover or top 12 secured in any suitable manner as by a double seam 13. A score line 14 is cut partially through the wall of the cover 12 and sets off a removable area 15. A plurality of defined key inserting positions (two being illustrated) are set off in the removable area 15 of the cover wall by depressions 16 (Figs. 1 and 3) at the base of which the metal may be weakened at 17. These depressions are located at a predetermined distance from the score line 14 adjacent the ends of the can and just within or inside of the score line.

An opening key 21 (Fig. 2) is preferably formed into a shank 22 and a head 23, the end of the key being enlarged into a transverse body section or arm 24 which at its ends is bent at right angles into two legs, a short perforating leg 25 and a longer winding leg 26. The short leg is formed with an inclined inner wall providing a long tapering sharp point 27.

The end of the longer leg is also tapered and sharpened as at 28 formed by an outer inclined wall, the outer wall of the short leg being substantially parallel to the inner wall of the longer leg as viewed in Fig. 4. This construction constitutes the double pointed feature of the key. The long leg 26 joins with the body section or arm 24 in a rounded shoulder 29, the stock of the

leg being of uniform thickness as viewed in Fig. 4 for a purpose hereinafter described.

In inserting the key 22 into position preparatory to opening of the can, it is held as illustrated in Fig. 3 so that the sharpened end 28 of the longer leg 26 is directly over the weakened part or marked puncturing point 17 of the depression 16. In such position the shorter leg 25 is in alignment with but spaced above the score line 14. Without turning the key is pushed downwardly from this position through the cover wall.

The leg 26 first passes through the can wall and breaking the metal first at the base of the weakened part 17, its tapered end 28 curls back the metal adjacent the depression as illustrated at 31 in Fig. 4. As soon as the sharpened end 27 of the shorter leg 25 engages the can cover it breaks through the score line and in so doing curls back a part of the adjacent metal as shown at 32.

In the fully inserted position (Fig. 4) the enlarged body part 24 of the key lies flat against the outer surface of the can wall, this engagement preventing further downward movement of the key. The straight parallel side walls of the legs 25—26 prevent curling of the metal adjacent and accordingly both of the curled parts 31, 32 are confined to the right hand of the legs 25, 26 as viewed in Fig. 4. This is important in keeping the key in a predetermined lateral position relative to the score line. The breaking of the score line by the insertion of the leg 25 creates an opening 35 (Fig. 5) which is inside of the score line 14 at this point and in like manner the leg 26 during its insertion creates an opening 36.

In punching through for the opening 35, this being the initial breaking of the score line, a minimum of effort is required since the sharpened point 27 enters progressively along the score line. Further tearing of the score line by starting from the opening 35 requires relatively very little effort as this is also a progressive action.

Curling back of the metal 31 adjacent the opening 36 provides a seat for the shoulder 29 of the key and the key is now moved to seated position by turning it through approximately 90°, or from the position of Fig. 4 into that of Fig. 6. During this movement the short leg 25 is lifted clear of the opening 35, its service having been completed. The shoulder 29 thus engages the curled edge 31 of the can wall which holds the key against lateral shifting and insures that its sharpened point 28 properly engages under the wall of the removable area 15 adjacent the opening 35.

The key is now in position for winding off the removable area, the first part movement of the key (positions from Fig. 6 into that of Fig. 7) lifting the end of the removable area. The key pivots on the curled edge 31 of the can wall in such movement. In getting into such position the key removes a further section of the score line 14 at the end of the can. Further turning of the key entirely winds off the removable area 15, thus opening the can.

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 key for opening cans having a removable area defined by score lines, said key having a shank portion provided at one end with a transversely disposed arm having spaced sharpened legs adapted for insertion into said removable area, a said leg breaking the can wall at said score line during such insertion and a second leg breaking the can wall at a spaced position inside of said score line while forming a seat for the key, the turning of the key in its inserted position and utilizing said seat moving said second leg to bring it under said removable area for opening the can by further breaking along said score line as the key is further rotated.

2. A key for opening cans having a removable area defined by score lines, said key having a handle portion and a shank portion terminating at one end in a transversely disposed arm provided with a short pointed perforating leg and a longer pointed winding leg spaced therefrom, both legs being adapted for insertion into said removable area, said winding leg first breaking through the can wall inside of said score line during such insertion and forming a seat for the key, said perforating leg also breaking through the can wall on the score line so that opening of the can is started by the initial breaking of the score line while at the same time the key is positioned in the can wall for further opening by further breaking along said score line.

3. A key for opening cans, said key having a rotatable shank, a transverse body section at one end of the shank and legs extending from the opposite ends of said body section at substantially right angles to said shank, said legs being adapted to fracture and wind up a can part which is to be opened.

4. An opening key for a can having a removable area defined by score lines and having depressions spaced inside of said score lines and within said removable area, said key including a shank, a head on one end of said shank and a pair of transversely spaced sharpened legs on the opposite end of said shank and projecting substantially at right angles to the axis thereof, said legs being adapted for insertion into said removable area, one of said legs during such insertion passing into a said depression and the other leg breaking through the score line, whereby initial rotation of said key from its inserted position by manipulation of its head moves one leg upwardly out of the broken score line and moves the other leg upwardly against the removable area of the can with its end adjacent the broken score line, and continued rotation of the key moves said engaged leg through said score line and winds said removable area on said key.

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