

No. 834,178.

PATENTED OCT. 23, 1906.

H. B. WILLIAMS.
TONGUELESS KEY OPENING SARDINE CAN.
APPLICATION FILED AUG. 8, 1904.

Fig. 1

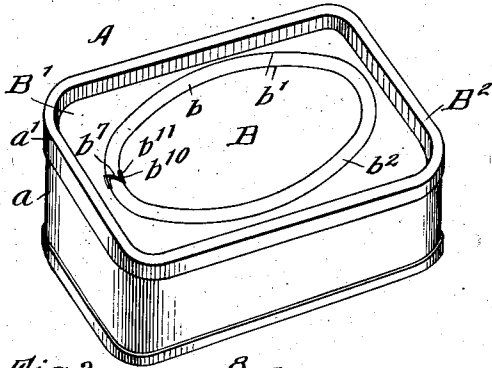


Fig. 5

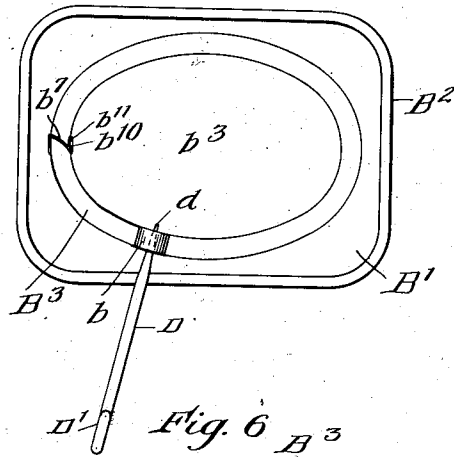


Fig. 2

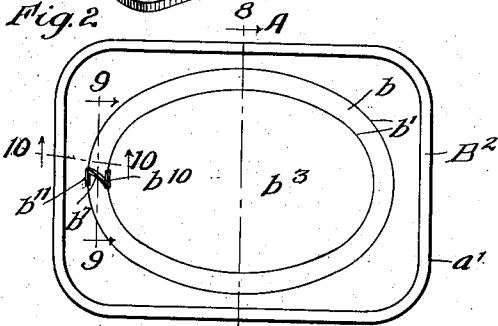


Fig. 6

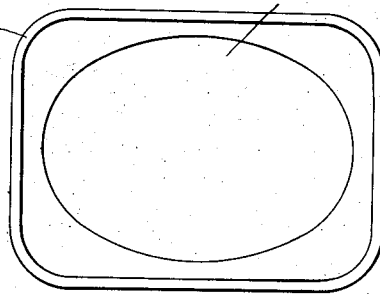


Fig. 3

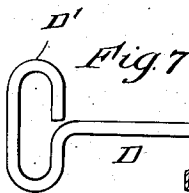
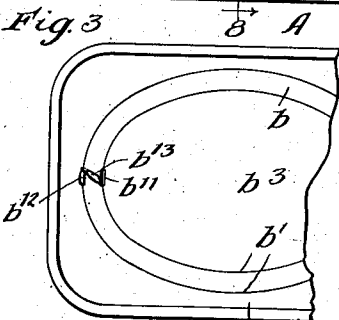


Fig. 7

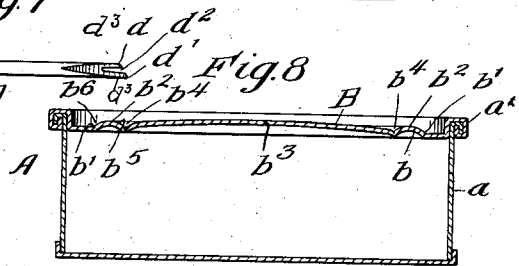


Fig. 8

Fig. 4

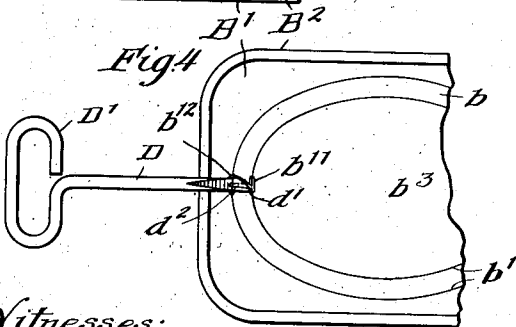


Fig. 9

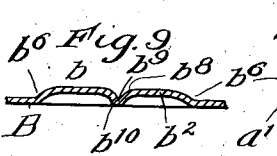
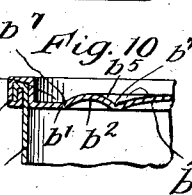


Fig. 10



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UNITED STATES PATENT OFFICE.

HARRY B. WILLIAMS, OF NEW YORK, N. Y., ASSIGNOR TO AMERICAN CAN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

TONGUELESS KEY-OPENING SARDINE-CAN.

No. 834,178.

Specification of Letters Patent.

Patented Oct. 23, 1906.

Application filed August 8, 1904. Serial No. 219,868.

To all whom it may concern:

Be it known that I, HARRY B. WILLIAMS, a citizen of the United States, residing in New York, in the county of New York and State of New York, have invented a new and useful Improvement in Tongueless Key-Opening Sardine-Cans, of which the following is a specification.

My invention relates to improvements in key-opening cans, and more particularly to improvements in key-opening cans having tongueless tearing-strips.

The object of my invention is to provide a tongueless-tearing-strip key-opening sardine-can of a simple, efficient, and economical construction adapted to be easily and conveniently opened with certainty and without danger of failure in its countersunk top or cover by a neat smooth opening therein large enough to permit the ready removal of the sardines whole or without mutilation and in a neat and cleanly manner without danger of spilling any of the oil or liquid contents of the can.

My invention consists in the means I employ to practically accomplish this object or result—that is to say, it consists in a sardine-can of the customary rectangular form and having a countersunk or depressed sheet-metal top or cover which is provided with an oval or elliptical endless and tongueless tearing-strip marked off or bounded by parallel scores or weakened lines, the tearing-strip having a central or longitudinal raised rib extending between its parallel scores or weakened lines and the can-top having a raised central portion surrounded by the inner score or weakened line of the tearing-strip, and thus forming two parallel wide grooves having tapering sides, in the bottom of which the scores or weakened lines are formed, the tearing-strip being provided with a transverse depression or groove extending across it, preferably at an angle, and the can-top being also provided at one or both ends of this transversely-extending groove with a supplemental groove substantially parallel and closely adjacent to one edge of the tearing-strip, so that a sharp and pointed or chisel-edged key may be readily inserted through the can-top at the transverse depression or groove across the tearing-

strip and at the supplemental groove or depression at the end of the transverse groove, and thus form a free portion to receive the longitudinal slit or slot of the sharp-edged or pointed key, which is used for opening the can.

My invention also consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a sardine-can embodying my invention. Fig. 2 is a plan view. Fig. 3 is a plan view showing the can after the pointed or sharp-edged key has been inserted at the depressions or grooves preparatory to winding the tearing-strip about the key. Fig. 4 shows the key in position for starting the winding. Fig. 5 shows the can partially open. Fig. 6 shows the can after it has been fully opened. Fig. 7 is a detail view of the key. Fig. 8 is a cross-section on line 8 8' of Fig. 2; Fig. 9, a section on line 9 9' of Fig. 2, and Fig. 10 is a section on line 10 10' of Fig. 2.

In the drawings, A represents a key-opening sardine-can having a body *a* of the customary rectangular shape and a top or cover B, which closes the can after it is filled and which is preferably hermetically secured to the body *a* by a double seam *a'*, uniting the seaming-flanges of the body and cover without solder after the can is filled with sardines or other products. The can top or cover B has its central part B' countersunk or depressed below its rim B.

The top or cover B of the can has an endless and tongueless tearing-strip *b* in its central or countersunk portion B', marked off or bounded by parallel scores or weakened lines *b'*. The endless and tongueless tearing-strip *b* is preferably of an oval or elliptical shape and when removed forms an opening B³ in the can-top some three and one-half inches in its longer diameter by two and one-half inches in its shorter diameter, so that through this opening sardines or other articles contained in the can may be readily removed whole and without mutilation. The tearing-strip *b* has a central longitudinal raised rib or ridge *b³* extending between the parallel scores or weakened lines *b'* and forming, in connection with the raised center *b³*, a

wide groove b^4 , having flaring sides b^5 , in the bottom or apex of which groove the inner score or weakened line b' is formed. The outer score or weakened line b' is also at the bottom or apex of a similar wide or flaring groove b^6 in the can-top. Extending transversely across the tearing-strip, and preferably at an inclination or angle, is a transverse groove b^7 , having flaring sides b^8 b^8 , the apex or angle b^9 of which transverse groove may also have a score or weakened line b^{10} to further accentuate the weakness of the tearing-strip at this transverse groove, through which the pointed or sharp-edged key D is to be inserted. The can-top is further provided at one or both ends of the transversely-extending key-insertion groove b^7 , preferably at both ends thereof, with a supplemental key-insertion groove b^{11} at the edge of the tearing-strip and extending parallel thereto to guide the pointed or sharp-edged key in inserting the same through the can-top.

D represents the sharp or pointed key employed in opening my improved can, the same having a sharp and preferably inclined cutting edge d , point d' , and a narrow longitudinal slot d^2 to receive the free portion of the tearing-strip after the slots b^{12} b^{13} have been formed in the can-top at the key-insertion grooves b^7 and b^{11} . The longitudinal slot d^2 in the key divides its cutting edge d into two parts separated by this narrow slot; but this does not interfere with the production of a continuous slot in the can-top when the key is inserted, as the gap in the cutting edge at the slot d^2 is or may be so narrow or small as to carry the intervening stock of the sheet metal with the cutting edge of the key. The narrow longitudinal slot d^2 in the key gives the key two forks d^3 , so that after the openings b^{12} b^{13} are formed in the can-top by placing the forks of the key astride the free portion b of the tearing-strip the tearing-strip may be wound around the key and the can opened.

In operation the key D, which is made of steel wire and has a broad integral handle-loop D' , is pushed through the can-top at the transverse and longitudinal key-insertion grooves therein, and then the forks of the key are placed astride the free portion b of the tearing-strip and the tearing-strip wound around the key, thus removing the same and forming a large, smooth, even, elliptical opening B^3 in the can-top, so that the sardines in the can may be readily removed whole. As the cover is countersunk or dish-shaped, its rim projecting above the opening B^3 in the can-top renders it impossible for any of the oil or other liquid contents to spill or become smeared over the can. The central longitudinal rib on the upper side of the tearing-strip gives it a wide groove form on its under side, and this, in connection with the parallel wide grooves at the apexes or bottoms of

which the scores or weakened lines are formed, not only stiffens the tearing-strip and causes it to separate or tear with greater ease and certainty along its parallel scores or weakened lines, but also causes the coil of the same around the key to form with a central hollow or groove on its periphery, which tends to guide the strip and cause it to wind or coil truly about the key, thus also adding to the ease and certainty of opening the can.

While my invention is specially intended and adapted for use upon sardine-cans, it will be understood by those skilled in the art that it may be used on other sheet-metal cans and that the tearing-strip may be located on other portions of the can than the top—as, for example, the bottom or the body—and some of the results and advantages of my invention secured.

I claim—

1. A tongueless-tearing-strip key-opening sardine-can having a countersunk top or cover provided with an endless and tongueless longitudinally-ridged tearing-strip having parallel scores or weakened lines at its edges, the ridge of the tearing-strip being external and stiffening the metal adjacent to said weakened lines to facilitate the tearing, and a transversely-extending key-insertion groove, said tearing-strip being outwardly curved or arched in cross-section substantially as specified.

2. A tongueless-tearing-strip key-opening sardine-can having a countersunk top or cover provided with an endless and tongueless longitudinally-ridged tearing-strip having parallel scores or weakened lines at its edges, the ridge of the tearing-strip being external and stiffening the metal adjacent to said weakened lines to facilitate the tearing, a transversely-extending key-insertion groove, and a supplemental key-insertion groove at the edge of the tearing-strip adjacent to said transverse key-insertion groove, said tearing-strip being outwardly curved or arched in cross-section substantially as specified.

3. A tongueless-tearing-strip key-opening sardine-can, having a countersunk top or cover provided with an endless and tongueless tearing-strip, and parallel external grooves at the edges of the tearing-strip, parallel scores or weakened lines in said grooves, the intermediate ridge formed by said groove stiffening the metal adjacent to the weakened lines to facilitate the tearing, said can-top having a key-insertion groove extending across the tearing-strip, and supplemental key-insertion grooves one at each edge of the tearing-strip and adjacent to said transverse key-insertion groove, substantially as specified.

4. A can having an endless weakened line and an endless, tongueless longitudinally-ridged tearing portion adjacent to said end-

less weakened line and serving to stiffen the material adjacent to the weakened line and to facilitate the insertion of the point of a tool or key, said longitudinally-ridged tearing portion being outwardly curved or arched, substantially as specified.

5 5. A can having an endless weakened line and an endless tongueless longitudinally-ridged tearing portion adjacent to said weakened line and serving to stiffen the material

adjacent to the weakened line and facilitate the insertion of the point of a tool or key, and a plurality of key-insertion grooves, said longitudinally-ridged tearing portion being outwardly curved or arched in cross-section, substantially as specified. 15

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Witnesses:

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