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ADJUSTABLE JAR TOP REMOVER

Herbert A. Simpson, Ionia, Mich.

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4 Claims. (Cl. 81—3.44)

The present invention relates to a top remover being primarily concerned with a simple practical and very useful hand implement for removing the tops of jars, cans or similar containers, whether said tops are screwed or pressed into place. Many jars and containers of like character, open at their upper ends, carry exterior threads around the open upper end portion thereof with closure caps usually of metal which are screwed thereon. The jars may be made of many types of characters of material, frequently of glass or the like. Other jars and like containers have metal caps pressed securely thereon which have to be pivoted upwardly for its disconnection. The top remover which I have produced is available for the removal of the tops of both characters, and a single top remover made in accordance with my invention may be used for removing said tops in all of their diameters from the smallest to the largest within the range of sizes of tops which are practically used.

My invention has for its object and purpose the production of a top remover having the characteristics and advantages set forth which is of simple construction, easily built and assembled and which may be produced at a low cost. Various other objects and purposes will appear as an understanding of the invention is had from the following description taken in connection with the accompanying drawings, in which,

Fig. 1 is a perspective view of the top removing implement of my invention.

Fig. 2 is a longitudinal section through the implement illustrating its use in the removal of a pressed on top and the position of the implement when it is applied to the jar and top.

Fig. 3 is a view similar to Fig. 2 showing the manner in which the top remover is applied to a top.

Fig. 4 is a fragmentary under plan view of the operative end of the implement as it is used with tops of small diameter.

Fig. 5 is a longitudinal section through the implement as it is being applied to a screw top.

Fig. 6 is a similar view showing it grasping the screw top in readiness to unscrew the top, and

Fig. 7 is an under plan view of the top removing implement of my invention.

Like reference characters refer to like parts in the different figures of the drawings.

In the construction of the top remover, a handle of sheet metal is made of a generally channel form, having a web 1 at its upper side with depending spaced flanges 2, which progressively increase in width dimension from what may be termed the outer end of the handle to its inner end. The web at said inner end is bent at an angle approaching but slightly greater than a right angle, forming a terminal section 3 which lies at its edge portions against the widened inner ends of the flanges or sides 2 of the handle.

Said section 3 however terminates a distance short of the lower ends of the widened end portions of the sides of the handle providing spaced apart edge abutments 4 below the lower edge of the section 3. In addition at the lower portion of the widened end portions of the sides 2, outwardly extending pointed prongs 5 are made, one at each side 2 as shown. A pin 6 extends through the sides of said handle at the inner widened end thereof back of the lower portion on the edge abutments 4 and is headed or riveted over at both ends. Such pin is desirable in the top remover in connection with the removal of tops of especially small diameters less than the distance between the sides 2 of the handle, but otherwise could be removed without essentially affecting the operation of the construction.

A pivot pin 7 is mounted upon and passes through the sides 2 of the handle adjacent the bend where the upper side 1 and the section 3 are joined. On said pin a stirrup member of metal is pivotally mounted. It comprises a short plate 8 having a free end lip portion 9, somewhat narrowed, and two spaced apart arms 10 extending from the edges of the plate 8 through the free end portions of which the pivot 7 passes. A torsion spring 11 around the pin 7, having one end engaging the handle and the other the inner end of the plate 8 normally turns said plate in an outward direction until in the structure shown, it is stopped by engagement of the arms 10 against the pin 6.

A flat elongated bar of metal 12 slidably passes through an opening 13 therefor made in the plate 8 between the arms 10. The opening 13 is of a size such that when the bar 12 is moved so that its sides approach in parallelism to the upper and lower sides of the opening 13 it slides freely through said opening, but when turned in the opposite direction the upper and lower sides of the bar 12 are engaged by opposite corner edges of the upper and lower sides of the opening 13 tending to bite therein in holding the bar from longitudinal movement. The bar at what may be termed its front end is turned downwardly substantially at right angles into a hook 14 and at its other end it is preferably formed with a downwardly and outwardly inclined end section 15.

Near the outer end of the handle 1 each side 2 may be equipped with a downwardly extending hook 16 of the shape shown which may be used for removing bottle caps. Such hooks however are not claimed as any part of the present invention.

In the use of the top removing implement constructed as described, a jar 17 (Fig. 5), having a screw connected top 18 thereon, is brought into conjunction with the implement, the bar 12 being located diametrically across the upper side of the top with the downturned hook 14
against a depending side thereof. The handle and bar being relatively adjustable the handle may be moved so that the abutment edges at 4 are brought into close proximity to or in touching engagement with the diametrically opposite depending portion of the top 18 as shown in Fig. 5. Then by grasping the handle and the bar 12 and turning said bar and handle relative to each other by exerting pressures thereon with the hand in the directions indicated by the arrows in Fig. 6, the hook 14 is moved toward the abutment edges 4 and a tight grip on the top 18 is provided. Thereafter by turning the implement laterally in the proper direction the top may be unscrewed.

In Figs. 2 and 3 the top removing implement in conjunction with the jar 10 has a top 21 of such character closing its upper end. The top in its closed position, in Fig. 2, is located at its lower edges a short distance above an annular ledge 20, or in some cases an annular rib disposed a short distance below the lower edge of the top. The free end of the lip 9 is introduced into the annular groove between the lower edge of the top and said ledge or rib, the upper sides of the pointed projections 5 coming underneath the depending edge of the top 21, one at each side of the lip 9. Then by exerting pressure upon the handle and bar to move them toward each other as indicated by the arrows in Fig. 3, said projections 5 are forced upwardly, the end of lip 9 resting on the ledge 20 as a fulcrum, and the projections 5 forcing the top 21 upwardly to disconnect it from the jar which it has closed.

It is evident that the top removing implement as described is applicable to screw tops of all diameters within the practical limits of adjustable change of position of the bar 12 with respect to the handle described, so that any and all diameters of tops may be engaged and removed wherein said tops are of a diameter greater than the distance between the abutment edges 4 of the sides of the handle. Where the diameter is less than such distance between said sides 2 of the handle, on which the abutment edges appear, the top to be removed, instead of being at one side against the edges 4, bears against the pin 6 as shown in Fig. 4, in which the top to be removed is indicated in dashed lines at 22 gripped between the hook 14 and pin 6.

The structure described is of a simple, durable and practical nature. The bite upon the bar 12 which comes into action when, as in Fig. 6, said bar and handle are moved toward each other insures against any slipping of the bar 12 through the opening 13 when a gripping engagement on opposite sides of a top by the hook 14 and the abutments 4 occurs. The top removing implement is one available to remove tops of jars or similar articles of substantially all practicable sizes and diameters whether screwed or pressed on.

The invention is defined in the appended claims and is to be considered comprehended in all forms of structure coming within their scope.

I claim:
1. A top removing implement comprising, a handle member, a stirrup member pivotally connected to the handle member adjacent its inner end, said stirrup member having spaced arms through the outer ends of which and the handle member the pivot passes and a connecting plate between the arms, said plate having an opening therethrough between its ends, a longitudinal bar passing freely through said opening in one position and bearing against sides of the opening in another position when pressed toward the handle member, said bar at one end extending beyond the free end of the handle member and being intercepted by a hooked end, and at its other end having a portion extending generally in the direction of the handle member and spaced therefrom, said handle member at its inner operating end having an abutment located between the stirrup member and said hook between which abutment and the hook a top is adapted to be located and gripped.

2. In a construction of the class described, a handle of metal of generally channel shape in cross section having an upper web and depending spaced apart sides, said sides progressively increasing in width from the outer to the inner end of the handle and the edges of said sides at the inner end of the handle providing abutments, a stirrup member having a plate and arms extending from opposite sides of the plate located between the sides and adjacent the free end of the handle and pivotally connected therewith, the pivot passing through the outer ends of said arms and the sides of the handle, said plate of the stirrup member having an opening there-through, a bar of less cross sectional dimension than the opening passing through said opening and extending at one end beyond the inner free end of the handle and provided at said one end with a downturned hook and at its other end providing abutment and the bar moving toward each other causing the bar to bear against opposite sides of the opening through which it passes to hold and bind it against longitudinal movement, whereby a top may be disposed at one side against said abutments and the bar moved to bring the hook thereon against a diametrically opposed side of the top and by pressing said handle and bar toward each other, grip the top between the abutments and the said hook.

3. A construction as defined in claim 2, and yielding spring means associated with said stirrup member tenaciously turning the top outwardly in the direction of the hook on said bar.
4. A construction as defined in claim 2, said web on said handle at the inner end thereof being bent at an angle to the major portion of the web and bearing against the edges of the sides of said handle at their widened inner ends for a distance but terminating above the said abutments and the bar passing through said stirrup member.

HERBERT A. SIMPSON.

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