Jan. 6, 1953 F. A. WISHART 2,624,489

CONTAINER OPENER

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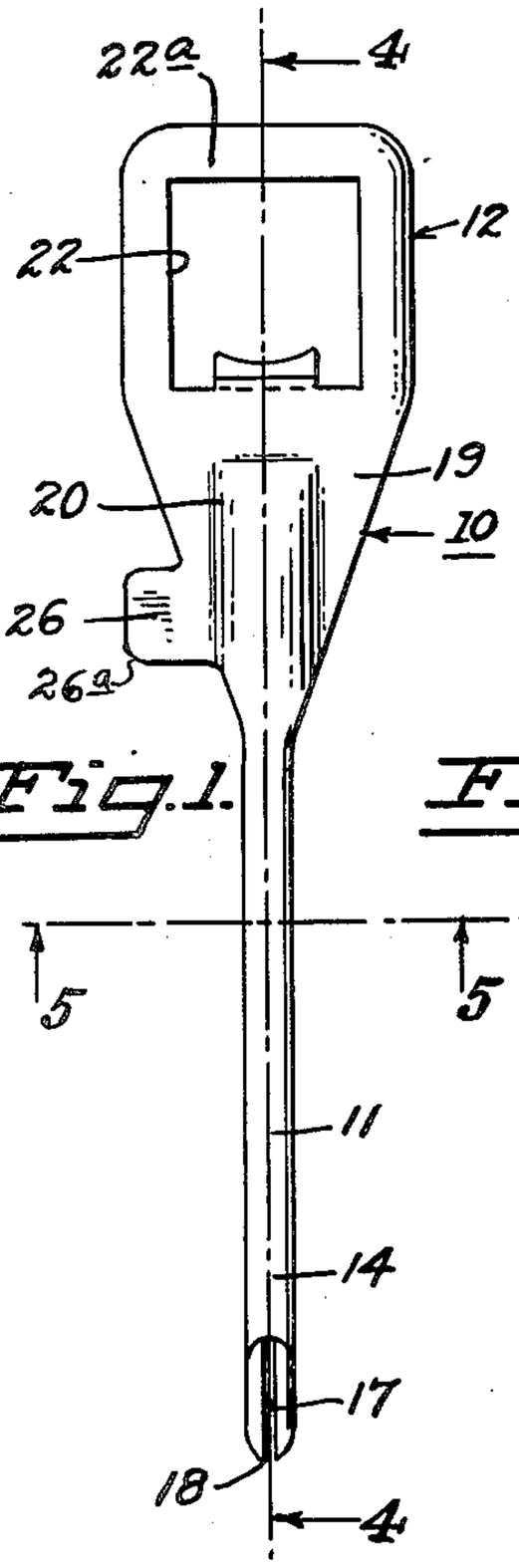

Fig. 1.

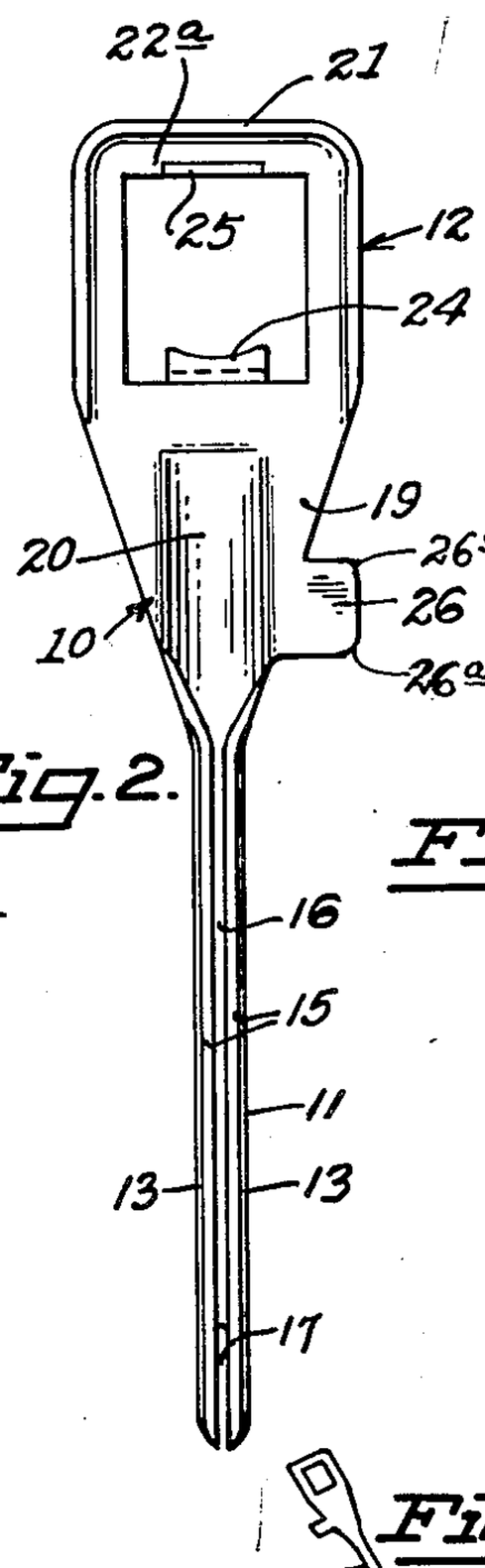

Fig. 2.

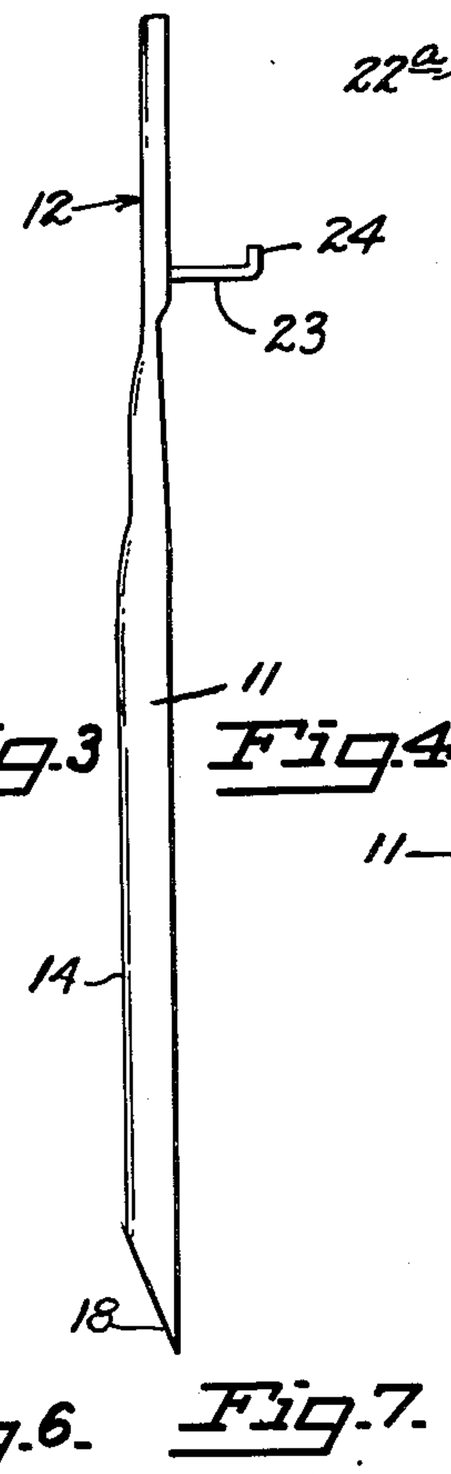

Fig. 3

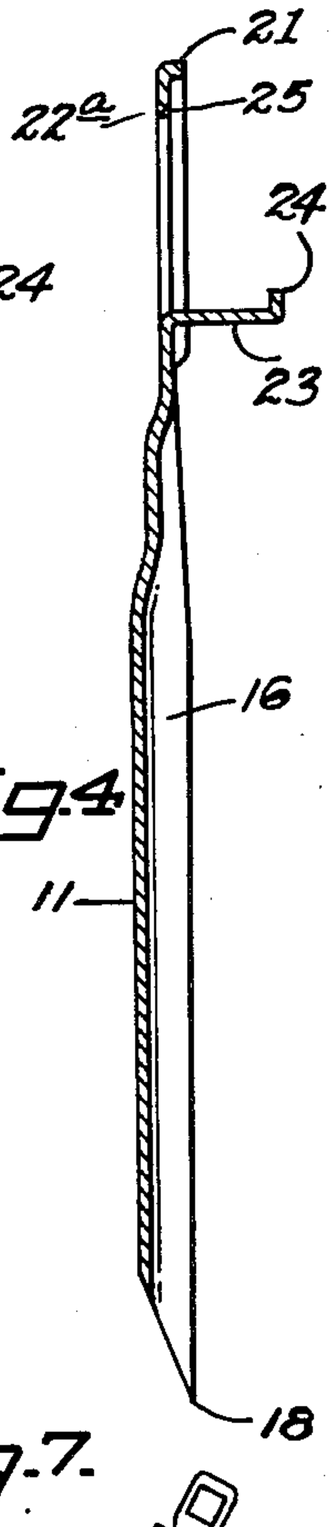

Fig. 4

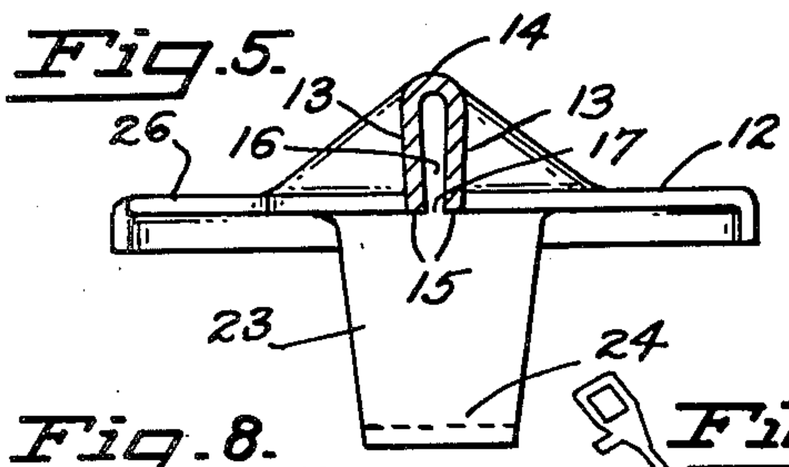

Fig. 5.

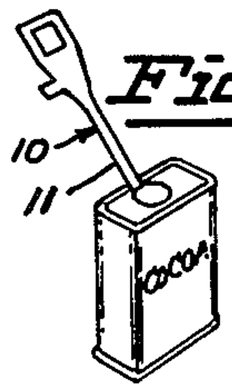

Fig. 6.

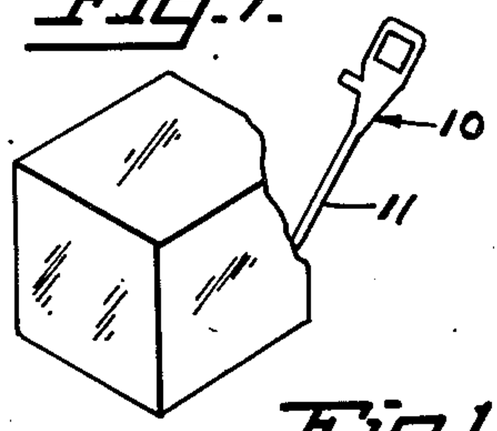

Fig. 7.

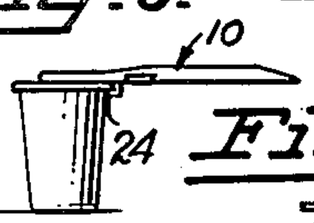

Fig. 8.

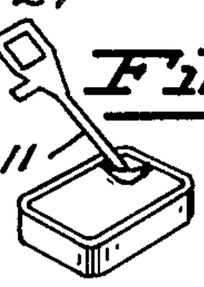

Fig. 9.

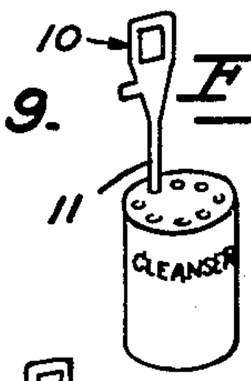

Fig. 10.

Fig. 11.

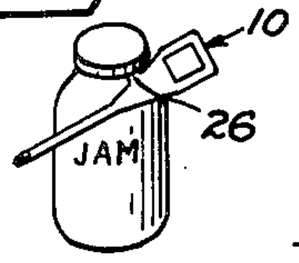

Fig. 12.

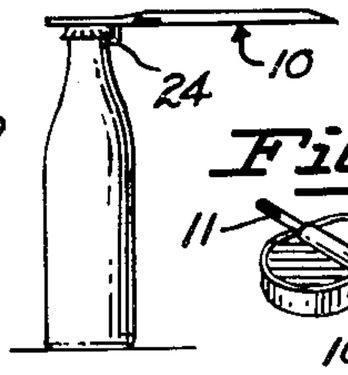

Fig. 13.

Fig. 14.

Fig. 15.

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CONTAINER OPENER

Frank A. Wishart, Oakland, Calif.

Application January 18, 1950, Serial No. 139,159

1 Claim. (Cl. 220—52)

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This invention relates to a container opening tool and more particularly to such a container opening tool which is adapted for opening general groups or various types of closures for containers, regardless of whether such closures be of types known as tear strip, rollable sheet metal, vacuum sealed pressure closures, circumferentially clinched bottle crowns or caps, punchable sifter tops, inset frictional tops, and the like.

These various types of closures, examples of which are shown in the accompanying drawing, each presents a different form of closure means which may be simultaneously present in any ordinary household, and, therefore, it is advantageous to provide a simple, rugged, economical and efficient utility tool for opening a wide variety of such containers.

The invention centers around the novelty of a shank of the tool and the cooperative relationship of other features of the invention to the novel shank.

Broadly the invention comprises a manually operable container opening tool having an elongated shank which is slotted between overlying walls of the shank and providing a pointed shank which is preferably substantially flatly U-shaped in section transversely of the shank, the edges of the shank at the opening of the slot being substantially angular to the walls of the shank, and further providing for such a shank a handle member having means for facilitating the exerting of a thrust force longitudinally for penetrating a container closure, as well as rotatively of the shank axis for leverage in rotating the shank for opening other containers; and in providing those facilities in the shank handle so that they may be employed for opening other types of container closures by reversing the gripping of the tool and employing the shank as a handle.

A preferred form of the invention is described in the specification herein and illustrated in the accompanying drawing, it being understood that variations of details may be resorted to without departing from the invention which is defined in the appended claim.

In the drawing

Fig. 1 is a front plan view of the device of the invention.

Fig. 2 is a rear plan view of the device of the invention.

Fig. 3 is a side elevation of Fig. 1.

Fig. 4 is a longitudinal section on line 4—4 of Fig. 1.

Fig. 5 is an enlarged transverse section on line 5—5 of Fig. 1.

Figs. 6 to 15 are views reduced in size showing various manners of operation of the opening tool of the invention.

Referring to the drawing in which like reference characters indicate corresponding parts in

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the several views, 10 indicates generally the tool of the invention preferably made of sheet metal of sufficient thickness and hardness to provide rigidity. Preferably the tool is made by suitably stamping the sheet metal to provide the tool elements and desired reinforcement.

The tool is provided with an elongated shank 11 at one end portion, and having a handle 12 connected thereto preferably integrally, at the opposite end portion.

The elongated shank 11 comprises a fold of the sheet metal by retroverting the sheet metal upon itself providing overlying opposed walls or layers 13 which are preferably in substantially parallel planes. The strips of the shank are integrally joined at one edge by a closed bend 14 and are open relatively at the opposite edges, which may be termed the free longitudinal edges 15. The shank is thus a substantially flat U-shaped member in transverse section and has a longitudinal slot 16 which extends lengthwise of the shank and is open at its free end portion 17, the free longitudinal edges 15 being substantially perpendicular to the slot walls 13. The free end portion of the shank is cut at an angle from its closed edge 14 providing a slotted relatively sharp point 18 at its free end. The width of the side faces of the elongated slotted shank is very slightly tapered from the handle end in the direction of its free end so that the parallel walls of the U-shaped shank at the free pointed end portion are narrower than adjacent the handle, such taper being hardly perceptible in the drawing, but being about twenty thousandths of an inch between opposite ends of the shank. The tapered side faces are those faces shown in side elevation in Figs. 3 and 4.

At its opposite end portion the tool has its sheet metal body flared or spread into a planar portion 19, the terminal end portion of which provides the relatively wide planar handle 12. The cooperation of the facilities of the handle with the grooved shank may be more fully described following the description of the elements of the handle.

It will be noted that the planar handle is substantially in co-planar alignment with the plane of the free longitudinal edges 15 of the shank. Suitable reinforcing ribs 20 and an edge fillet rib 21 may be formed in the planar portion of the handle in a well-known manner.

The central portion of the planar handle is provided with an opening 22 which at its end is closed by a cross-bar 22*a*. The opening 22 is preferably substantially rectangular, and in providing such opening there may be stamped from the plane of the opening area an integral depending tongue 23 having a hook 24 at its terminal end. Also, if desired, a sharpened edge 25 may be stamped in the inner edge of the

opening **22**. Intermediate the ends of the planar portion of the handle, and preferably adjacent to the connected end of the shank there is provided at the edge of the planar portion an extended ear **26**.

In operation for opening containers which have a free tab connected to a well-known scored tear strip in a side wall (see Fig. 11) or containers having a scored top closure (see Fig. 14) and in which a free tab is engageable by a slotted key for progressive rotation to wind the tear strip or scored top spirally thereon, the free tab of the metal of the tear strip or scored top is engaged in the slot **16**, and the shank of the tool is rotated by the planar handle to wind the tear strip or can top in a substantially spiral manner on the shank. The flatness of the shank and its body of substantial cross-sectional volume, and the angles of the faces **15** wind the tear-strip or a metal closure sheet at angles rather than in a true spiral, such angles being beyond the limit of elasticity or resilience of the metal of the tear strip or sheet top of the container, and thus make a tight roll rather than a true spiral which is springy and has a tendency to unwind when an ordinary flat slotted key is employed. Yet by reason of the slight taper of the shank, the shank may be freely removed from the tightly wound metal coil merely by ceasing the winding tension and withdrawing the shank from the axis of the coil by sliding the tab of the tear strip along the slot and out through the open free end **18**. In the event that the free tab of the metal strip of the container body should break, as frequently happens, the shank, because of its taper, may likewise readily be withdrawn from engagement within the partially coiled strip, and reinserted within the coil to engage the groove **16** with the next adjoining end portion of the tear strip or scored sheet metal, and thus continue the winding to open the container. If the tear strip or scored top tears away from its scored line, the tool may similarly be removed from the coil and the split prongs at the point **18** may be employed to split the container metal and direct the tearing edge back to the scored lines, whereupon the shank may again be inserted in the coil to continue removal of the closure.

As stated, the planar portion of the handle is substantially co-planar with the faces **15** of the slot **16** whereby the axis of rotation of the handle is substantially coaxial with the axis of rotation of the shank faces **15**, which facilitates accurate tearing of a tear strip or container top along defined scored lines. The planar handle provides a wide planar surface which affords a grip within the palm of the hand of the operator rather than a mere finger grip as usual in ordinary slotted keys, and in addition, provides a wide transverse handle end **22***a* against which the thrust may be received for inserting the slotted point **18** into a partial coil or for puncturing of sealed container tops such as hermetically sealed cans of liquid ordinarily employed for fruit juices or evaporated milk.

The tongue and hook **23**, **24** serve to provide lateral width to the handle, since it is always much easier to tightly grip and rotate a handle which has a lateral as well as a transverse dimension to its body; and at the same time, this desired lateral dimensional member provides a hook which may be engaged under the edge of certain types of container closures, such as crimped or crown bottle caps and vacuum sealed frictionally held closures, and be thus employed as a lever which fulcrums on the cross-bar **22***a* which closes opening **22**. In such mode of operation it will be noted that the operation of the tool is reversed and the shank is used as a handle (see Figs. 8 and 13).

The ear **26** likewise serves dual purposes. Firstly, being at the edge of the planar portion **19** of the handle which is grasped in the palm of the hand of the operator and close to the axis of rotation of the shank, it furnishes a base against which the thumb of the operator may be pressed in rotating the shank to open containers in which the metal body is of unusually heavy metal, since the thumb is the most muscular of the fingers and can therefore exert a greater leverage force for rotating the shank; secondly, in providing such a leverage member, it has been adapted as an ear which may serve in the nature of a pry bar to be inserted between a frictionally mounted container top and an underlying bead, whereby such a container cap may be pried loose from the container (see Fig. 12). The point **18** of the tool may also serve as an instrument for puncturing scored sift top containers (see Fig. 10) for cracking ice and for other like purposes (see Fig. 7).

Having described the invention, what is claimed as patentable is:

A container opening tool comprising an elongated slotted shank U-shaped in transverse section for its entire length, a hand grip handle portion at one end of the shank, said shank being tapered the entire length of the U-shaped portion in the direction from the handle portion towards its opposite free end so that said free end portion is the smaller portion of the shank in such transverse section, said shank being pointed at its free end, and said slot extending through said point, whereby a portion of a container body engaged in the slot may be slid from the slot at said pointed free end.

FRANK A. WISHART.

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