

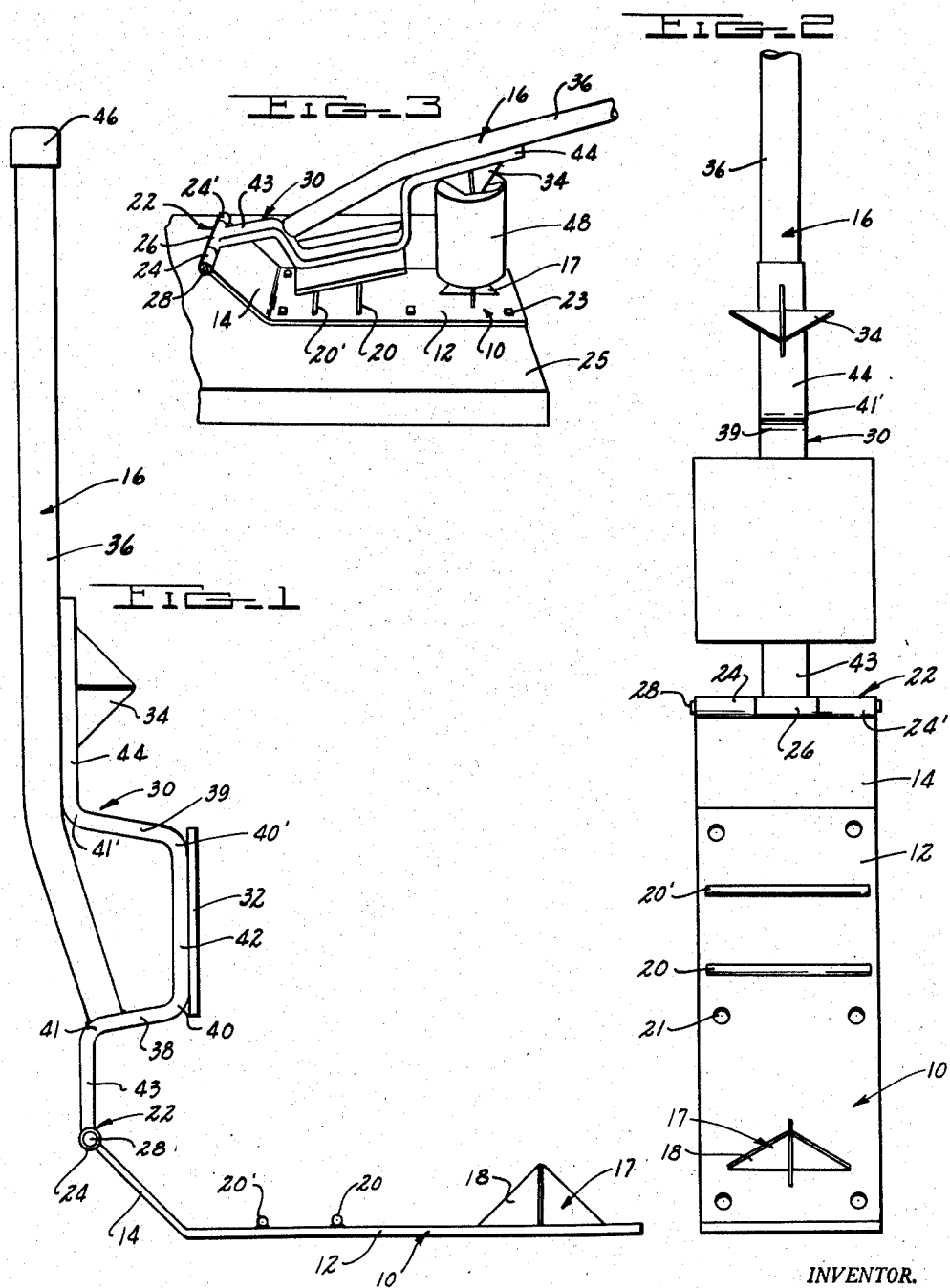
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CAN CRUSHER

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CAN CRUSHER

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This invention relates generally to a device for crushing cans and in particular to such a device that will pierce the ends of a can and flatten the can body.

With the wide and increased use of tin cans for storing and shipping goods, particularly liquids, disposal of cans after they have been emptied has become a problem. This problem is especially severe in gas stations. Gas stations usually have a limited amount of storage space. Since automobile lubricating oil is now generally packaged for retail sale in cans instead of in drums, service stations are burdened with a large number of such empty cans. Disposal of the cans in their original bulk is expensive.

There is a need, in such situations, for a device to crush the cans and thus reduce the needed storage space and the cost of disposal.

It is thus a principal object of the present invention to provide a device for crushing cans that will pierce the ends and flatten the body of the can.

It is a further object of this invention to provide such a device wherein the two steps can be performed quickly and easily.

It is another object to provide a can crusher whereby the operator can stand in one position while performing the two steps, thereby enabling the operator to crush large numbers of cans in a minimum time period and with a minimum expenditure of human effort.

Another object is to provide a can crushing device that is rugged and durable.

Still another object of this invention is to provide a can crushing device of simplified construction whereby the cost of production will be reduced and maintenance of the device will be minimal.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

In the drawings:

Fig. 1 is a side elevational view of one embodiment of the present invention.

Fig. 2 is a front elevational view in perspective of the Fig. 1 embodiment.

Fig. 3 is a view in perspective of the Fig. 1 embodiment showing the step of piercing the ends of a can.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

As best seen in Figs. 1 and 2, the can crushing device of the present invention comprises a base 10 and pivotally mounted lever 16.

The base 10 is constructed of a rectangular metal plate

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which has a horizontal portion 12 and an upwardly extending portion 14. The upwardly extending portion 14 is bent away from the horizontal portion 12 at an angle of less than 90°.

A cutter head 17 is mounted on the horizontal portion 12 at a location remote from the upwardly extending portion 14 and centrally of the horizontal portion 12. The cutter head 17 may be secured by any suitable means, such as by welding.

The cutter head 17 comprises a plurality of triangular blades 18. These blades 18 are formed of triangular sections of metal joined together to form an open-sided pyramid.

The base 10 is also provided with cradling means for positioning a can which is to be flattened. Two metal rods 20, 20' are secured to the base 10 in spaced relation adjacent to the upwardly extending portion 14. These rods 20, 20' are located transversely of the lever 16. They may be secured to the base by any suitable means, such as welding.

The horizontal portion 12 of the base 10 has a plurality of mounting holes 21. These holes 21 are located adjacent the outer edges of the horizontal portion 12. The can crusher is securely fastened to a suitable solid surface 25 by the use of bolts or screws 23 extending through the holes 21.

Lever 16 is pivotally mounted on the upper end of upwardly extending portion 14 by means of a hinge 22.

Hinge 22 comprises two hollow metal tubes 24, 24' secured on the upper end of portion 14. A third tube 26 is secured to one end of lever 16. This tube 26 fits between tubes 24, 24'. The three tubes 24, 24', 26 are aligned and a metal rod 28 is inserted into them. The rod 28 may be expanded at each end portion after insertion in order to prevent its slipping out. The end portions of the rod 28 may be expanded by punching a small depression centrally of each end.

The lever 16 comprises a generally U-shaped member 30, the aforementioned hollow tube 28, a flat plate 32, a cutter head 34, and an operating arm 36, all secured thereto. These parts are preferably secured by welding.

The member 30 is formed of a strip of metal. It comprises a U-shaped portion wherein the sides of the U 38, 39 extend downwardly and inwardly until they reach points 40, 40' where they are joined by a straight portion 42. Side 38 is shorter than the other side 39. The sides 38, 39 have extensions 43, 44 at the upper ends which are approximately parallel to straight portion 42.

When the lever 16 is rotated to its extreme downward position, extension 43, is parallel to the horizontal portion 12 of base 10 and extends from the hinge 22 as far as the juncture of the two portions 12, 14 of the base 10, side 38 extends to a point just above the rods 20, 20', the portion 42 extends across both rods 20, 20', the side 39 extends to a point above side 38, and the extension 44 extends for a short distance beyond the cutter head 17.

A flat metal plate 32 is mounted on portion 42 on the side nearest the base 10. The plate 32 acts as a movable jaw and coacts with the base 10 to flatten the body of a can positioned within the rods 20, 20'.

A cutter head 34 is mounted on portion 44 and so located as to be oppositely disposed to the cutter head 17 when lever 16 is in the extreme downward position. Cutter head 34 is of the same construction as cutter head 17.

An operating arm 36 is mounted on member 30. One end of the operating arm 36 is welded to the face of the portion 38 adjacent to the point 41. The operating arm 36 continues upwardly to point 41' where it is welded to and continues adjacent the portion 44. The operating

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arm 36 then continues for a distance to provide a lever of such length as to make the piercing and flattening of a can possible with a small amount of applied force.

The operating arm 36 is constructed of a hollow metal tube. A resilient cap 46 may be placed on the free end of the operating arm 36 to improve the grip and avoid the danger of sharp edges.

Fig. 3 illustrates the method of piercing the ends of a can 48 by use of this device. One end of the can 48 is placed upon the apex of the cutter head 17. The can 48 is inclined towards the cutter head 34. Lever 16 is rotated downwardly until the cutter head 34 contacts the other end of the can 48. Sufficient force is then applied to simultaneously pierce the ends of the can and to direct the segments inwardly.

After the ends have been pierced the lever 16 is raised and the can 48 is positioned between the rods 20, 20' with its axis parallel to said rods. Lever 16 is again brought down with sufficient force to flatten the body of the can. In this step, plate 32 acts as a movable jaw and the base 10 acts as a stationary jaw.

In the body flattening operation, the initial flattening force is applied at a point near the vertical center of the can 48 and essentially in a downward direction. This tends to prevent the can 48 from "shooting out." The aforementioned application of forces is made possible by the raising of the pivot point of lever 16 from the horizontal portion 12 to the upper end of the upwardly extending portion 14.

The can crushing device of this invention is preferably constructed throughout of heavy gage metal. This combined with its design features and a preferably welded construction, results in a strong and rugged device. The three movable parts make assembly simple and keep maintenance at a minimum. The long lever and convenient two-step operation provide an efficient method for crushing cans.

Having thus described my invention, I claim:

1. A device for crushing cans comprising a base plate; said base plate having a horizontal rectangular portion and a rectangular portion extending upwardly from one end, said horizontal portion having a plurality of mounting holes adjacent the edges thereof for securement of the device, a first can-end cutter head mounted on the base plate remote from said upwardly extending portion, spaced projections adjacent said upwardly extending portion for positioning a can with its axis horizontally disposed; said upwardly extending base plate portion having means on the upper end for pivotally mounting a lever; a lever pivotally mounted on said upper end; said lever provided with a flat plate adjacent said pivotal mounting and a second can-end cutter head remote from said pivotal mounting; said first and second can-end cutter heads comprising open-sided pyramids formed by the intersection of a plurality of triangular blades; said lever positioned to be pivoted downwardly whereby said first and second can-end cutter heads coact to simultaneously pierce the two ends of a can, and the base, can-positioning projections and flat plate coact to flatten the body of a can.

2. A device for crushing cans comprising a rectangular base having a portion extending upwardly at an angle, a first can-end cutter head mounted on said base remote from said upwardly extending portion, a pair of spaced rods on the base for positioning a can adjacent said up-

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wardly extending portion, a lever pivotally mounted on the upper end of the upwardly extending portion, said lever comprising a generally U-shaped member having first and second extensions at the upper ends thereof extending at approximately right angles to the legs of the U-shaped member; said first extension being pivotally secured to said base; a flat plate mounted on the bottom of said U-shaped member; a second can-end cutter head mounted on the underside of the second extension; said first and second can-end cutter heads comprising open-sided pyramids formed by the intersection of a plurality of triangular blades; an operating handle secured to and extending along said second extension to a fixed connection with the leg of the U-shaped member adjacent the first extension; said lever positioned to be pivoted downwardly whereby said first and second can-end cutter heads coact to simultaneously pierce the two ends of a can, and the base, can-positioning rods and flat plate coact to flatten the body of a can.

3. A device for crushing cans comprising a generally horizontally disposed base having one end portion extended angularly upwardly; a first can-end cutter head provided on the base remote from the upwardly extending base portion; cradle means provided on the base intermediate the upturned portion and the first cutter head for positioning a can with its axis horizontally disposed; a lever pivotally mounted on the upper end of the upwardly extending base portion; a second can-end cutter head provided on the lever remote from the pivot point; a crushing surface provided on the lever intermediate the pivot point and the second can-end cutter head; said first and second can-end cutter heads comprising pyramid-shaped elements; whereby when the lever is swung downwardly the can-end cutter heads will be oppositely disposed and the can-positioning cradle and crushing surface will be in registry.

4. A device for crushing cans comprising a generally horizontally disposed base having an end portion extending at an angle upwardly and outwardly; a first can-end cutter head provided on the base remote from the upwardly extending portion; cradle means provided on the base intermediate the upwardly extending portion and the first can-end cutter head for positioning a can with its axis horizontally disposed; a lever pivotally mounted on the upper end of the upwardly extending portion; a second can-end cutter head provided on the lever remote from the pivot point; a crushing surface provided on the lever intermediate the pivot point and the second can-end cutter head; said first and second can-end cutter heads comprising open-sided pyramids formed by the intersection of a plurality of triangular blades; whereby when the lever is swung downwardly the can-end cutter heads will be oppositely disposed and the can-positioning cradle and crushing surface will be in registry.

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