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CAN CRUSHING DEVICE

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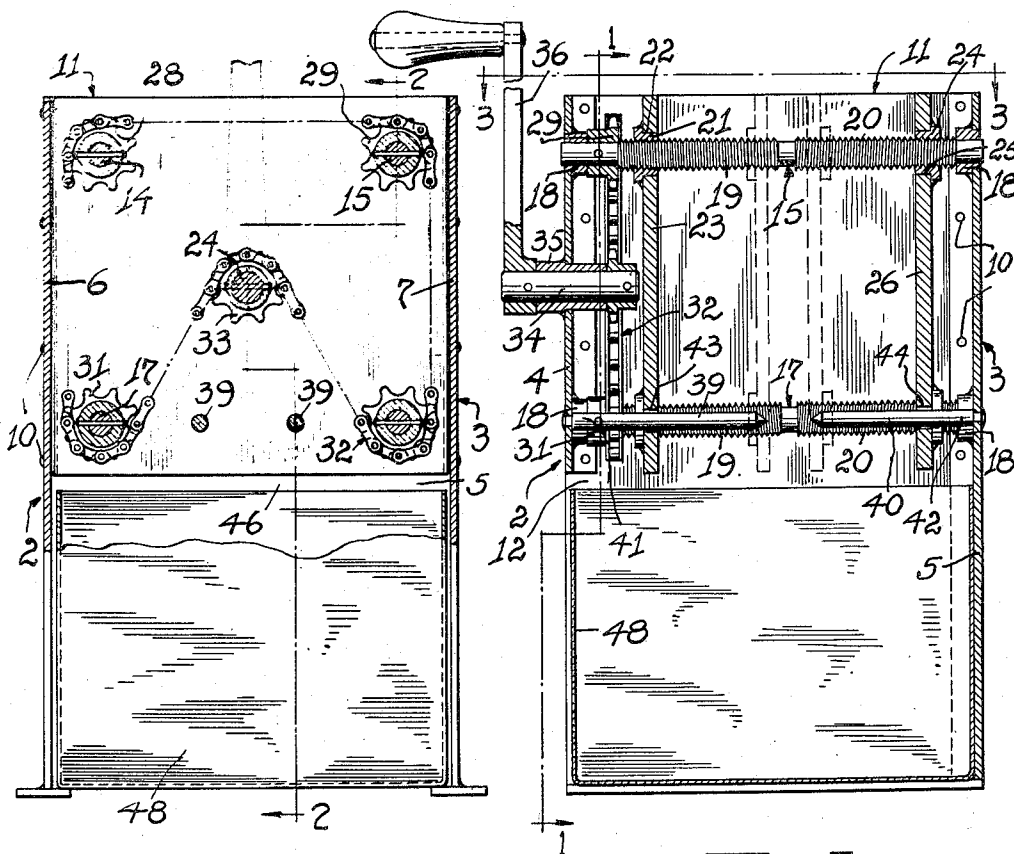


FIG. 1

FIG. 2

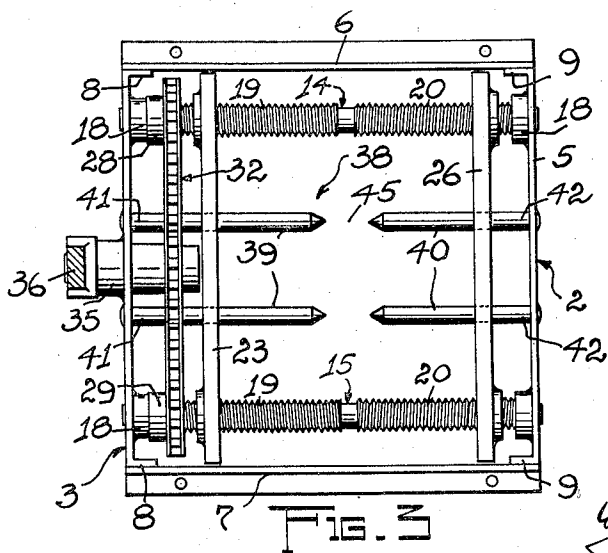


FIG. 3

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CAN CRUSHING DEVICE

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2 Claims. (Cl. 153—10.5)

This invention relates to devices for crushing and flattening empty cans and containers to facilitate their temporary storage prior to final disposal.

The primary object of the invention is the provision of a device for crushing and flattening empty cans, which includes vertically arranged plate members mounted to be shifted in parallel vertical position with respect to each other for crushing and flattening these cans and guiding the crushed cans into temporary storage space.

Another object of the invention is the provision of a device for crushing and flattening empty cans by oppositely arranged vertical plate members shiftably mounted for parallel movements in directions toward and away from each other to effect crushing and flattening of empty cans by the plate members when shifted toward each other and releasing and guiding of crushed and flattened cans by plate members when shifted away from each other.

A further object of the invention is the provision of a device for crushing and flattening empty cans, the device including substantially horizontally arranged can supporting means having an open break disposed to permit gravity discharge of crushed cans through said open break, and substantially vertically shiftably arranged crushing plate members shiftably mounted for vertical and parallel movement toward and away from each other effecting crushing and flattening of cans when said plate members are shifted toward each other and releasing and guiding crushed cans by laterally supporting same when the cans are automatically discharged by gravity from the crushing mechanism through said open break of the supporting means into temporary storage room arranged below the crushing mechanism.

Additional objects and novel features of construction, combinations and relations of parts by which the objects in view have been attained will appear and are set forth in detail in the course of the following specification.

The drawing accompanying and forming part of the specification illustrates a certain practical embodiment of the invention, but it will be apparent as the specification proceeds that the structure may be modified and changed in various ways without departure from the true spirit and scope of the invention.

In the drawing:

Fig. 1 is a vertical sectional view through a can crushing device constructed in accordance with the invention, the section being taken on line 1—1 of Fig. 2;

Fig. 2 is a vertical sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a plan view partly in section of the can crushing device shown in Figs. 1 and 2, the view being taken from line 3—3 of Fig. 2.

Referring now in detail to the exemplified form of the invention shown in the drawing, reference numeral 2 represents a can crushing device embodying a box-like housing 3 which is assembled from a flanged short front wall 4, a longer flange rear wall 5 and side walls 6 and 7 attached to the flanges 8 and 9 of said front and rear

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walls by rivets 10 or secured thereto in any other suitable manner. Front wall 4 is aligned with the top edge 11 of housing 3 to provide same with a front opening 12 for a purpose later to be described.

The thus constructed box-like housing 3 mounts in its upper portion in front and rear walls 4 and 5 four symmetrically arranged, equally constructed screw spindles 14, 15, 16 and 17, each of which is freely rotatably supported in bearings 18 arranged in the front and rear walls 4 and 5 and includes symmetrically arranged right and left-hand threaded portions 19 and 20. Screw spindles 14, 15, 16 and 17 have their right-hand threaded portions 19 threadedly engaged with right-hand threaded nut members 21 which are secured in bores 22 of a vertically arranged plate member 23 and their left-hand threaded portions 20 threadedly engaged with left-hand threaded nut members 24 which are secured in bores 25 of another plate member 26 arranged opposite and aligned with plate member 23 to effect by simultaneous rotation of the screw spindles in one or the opposite direction a parallel shifting of plate members 23 and 26 toward or away from each other. The front portions 27 of spindles 14, 15, 16 and 17 mount adjacent to their bearings 18 sprocket gears 28, 29, 30 and 31, respectively, which are engaged by an endless sprocket chain 32 engaged with and driven by a drive sprocket 33 mounted on a drive shaft 34 which is journaled in a bearing 35 in the central portion of front wall 4 and has attached to its outside exposed end a hand crank 36.

Cans to be crushed and flattened are inserted through the open top 37 of the device between the plate members 23 and 26 of the crushing and flattening mechanism and supported in proper position with respect to the plate members by a grill-like support 38 formed by pairs of axially aligned round steel bars 39 and 40, each bar 39 of a pair being attached with its outer end 41 to the front wall 4 of box-like housing 3 and each bar 40 of a pair being attached with its outer end 42 to rear wall 5 of such housing. Steel bars 39 and 40 of each pair are slidably extended through bores 43 and 44 in plate members 23 and 26, respectively, and dimensioned to oppose each other with their inner ends in axially spaced relation, thus providing the grill-like support 38 with an open break 45 permitting discharge of crushed and flattened cans through such open break into compartments 46 directly below the crushing and flattening mechanism described above when the plate members 23 and 26 after crushing and flattening operations are being shifted away from each other. Bars 39 and 40 are dimensioned to locate the open break 45 in grill-like support 38 in symmetrical relation with respect to plate members 23 and 26 to effect guiding of the crushed and flattened cans by said plate members toward and through said open break into the lower portion 47 of housing 3. This lower portion is open at its front end, as previously described, to removably place in said lower portion a box 48 temporarily storing crushed and flattened cans until final disposal.

Having thus described my invention:

What I claim is:

1. In a can crushing device a box-like housing with parallel front and rear walls, pairs of aligned grill rods in said housing subdividing same into superposed compartments, each of said pairs of grill rods having the outer ends of its grill rods attached to the front and rear walls of the housing and the inner ends of the grill rods spaced from each other to form the grill-like means provided by said pairs of grill rods with an open break permitting gravity discharge of crushed cans from the upper compartment of the housing into the lower compartment thereof, symmetrically arranged pairs of left and right-handed threaded spindles arranged in spaced parallel relation within said housing and journaled in the front and

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rear walls thereof, chain drive means for said spindles arranged within said housing near its front wall adapted to effect simultaneous rotation of the spindles, and can crushing plate means threadedly mounted on opposite end portions of the spindles to be shifted in parallel relation and in opposite directions with respect to each other when the spindles are rotated by the drive means, said open break in said grill-like means located midway between the plate means to effect in can crushing operations alignment of crushed cans with the open break in the grill-like means.

2. A can crushing device as described in claim 1, wherein the chain drive means embodies a sprocket chain

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and sprocket gears mounted on the spindles adjacent the front wall of the housing, and a drive shaft for said chain drive means journaled in the front wall of the housing in symmetrical relation to said spindles, said drive shaft mounting a sprocket gear engaged with the sprocket chain of the chain drive means.

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