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WASTE CARTON CRUSHER

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3 Claims. (Cl. 100—295)

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This invention relates to devices for crushing waste material, and more particularly to a crushing apparatus for crushing waste cartons and the like to reduce their bulk.

A main object of the invention is to provide a novel and improved waste carton crushing apparatus which is simple in construction, which is easy to operate, and which may be employed on pavements and in similar locations without risk of injury to said pavements.

A further object of the invention is to provide an improved flattening machine for compressing waste cartons and similar waste material, the machine involving only a few parts, being relatively inexpensive to manufacture, being rugged in construction, and being readily adaptable for transportation on moving vehicles, such as motor trucks and the like.

Further objects and advantages of the invention will become apparent from the following description and claims and from the accompanying drawings, wherein:

Figure 1 is a side elevational view, partly in cross-section, of an improved crushing apparatus constructed in accordance with the present invention;

Figure 2 is a top plan view of the apparatus of Figure 1;

Figure 3 is an enlarged cross-sectional detail view taken on the line 3—3 of Figure 1.

Referring to the drawings, the crushing apparatus is designated generally at 11, and comprises a supporting base 12 having a vertical sleeve portion 13 in which is rotatably received the crane-supporting body 14. As shown in Figure 1, the body 14 comprises a reduced portion 15 which is rotatably received in the sleeve member 13 and a shouldered portion 16 which is supported on the top rim of sleeve member 13. Integrally formed with the shouldered portion 16 are the vertically rising, parallel plate members 17, 17. Designated at 18 is a boom which is pivoted to the corner portions of the plate members 17, 17 on a transverse bolt 19, said boom having end plates 20 through which the bolt 19 passes, said end plates 20 being disposed outwardly adjacent the plates 17 and being lockable with respect to the plates 17 by locking pins 21 insertable through openings in the plates 20 and registering openings 22 in the adjacent plate members 17, 17, whereby the boom 18 may be locked in a desired elevated position.

Journalled between the plates 17, 17 is a winch shaft 25 carrying a winch reel 23 on which is wound a cable 24. As shown in Figure 2, the

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cable 24 extends under a concave roller 26 rotatably mounted on the bolt 19, through the boom 18 and over a pulley 27 journaled to the upper end of the boom 18, said cable passing between guide rollers 29, 29, journaled in the intermediate portion of the boom 18. The winch shaft is provided with a crank handle 30 and with the ratchet wheel 31 which is lockingly engageable by the pivoted dog 32 carried by one of the plate members 17 adjacent said ratchet wheel, said pivoted dog being provided with the release handle 33 arranged to be grasped by the operator to allow the operator to rotate the dog 32 to a position of disengagement relative to the ratchet wheel 31, whereby the winch shaft 25 may be released when desired.

Secured to the end of the cable 24 is the relatively flat crusher member, designated generally at 34. The crusher member 34 comprises a circular metal plate of relatively large diameter, shown at 35, to the center of which is secured the eye bolt 36. The cable 24 is secured to the eye bolt 36 in any suitable manner, as by the use of the clamping sleeve 37, shown in Figure 3. The plate 35 is provided with an upstanding peripheral flange 38, and secured to the plate 35 at the flange 38 is the convex metal disc 39, the periphery of the disc 39 being crimped around the flange 38, as shown at 40 in Figure 3. Designated at 41 is a wire mesh screen also crimped to the flange 38 by the crimped edge 40, the edge of the screen extending around said crimped edge 40 and being thereby locked against the flange 38. Interposed between the screen 41 and the convex plate member 39 is the layer of resilient padding material 42, said padding material being of any suitable deformable nature, such as rubber or the like.

The plate member 35 is provided with a removable cover 43 providing access to the interior of the cavity defined between plate member 35 and the convex plate member 39, and enabling said cavity to be filled with any suitable weighting material, such as sand or the like.

In using the device, the cavity defined in the crusher member 34 is filled with suitable weighting material, such as sand or the like. The apparatus is transported to the location where the material to be crushed is located, and the crusher member 34 is elevated by the use of the winch mechanism above described. The boom 18 is then swung over the material to be crushed, and the winch shaft 25 is then released by rotating the release handle 30 to disengage dog 32 from ratchet wheel 31, as above described. The crusher mem-

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ber 34 is thus allowed to descend with considerable force on the cartons or other material to be crushed, said material being compressed and flattened by the impact of said crusher member. Due to the padding of the crusher member afforded by the cushioning layer 42 and the deformable screen 41, the impact of the crusher member is cushioned, and damage to the underlying pavement is therefore minimized.

Obviously, the apparatus may be mounted on any suitable vehicle, such as a motor truck or the like, for transportation thereof to the location at which the material to be crushed is disposed, or, alternatively, may be mounted in a fixed location.

While a specific embodiment of an improved crushing apparatus for crushing cartons and the like has been disclosed in the foregoing description, it will be understood that various modifications within the spirit of the invention may occur to those skilled in the art. Therefore, it is intended that no limitations be placed on the invention except as defined by the scope of the appended claims.

What is claimed is:

1. In a crushing apparatus of the character described, a relatively flat hollow crusher member having a top wall, a removable closure element mounted in said top wall to provide access to the interior of said crusher member for filling said member with weighting material, and a layer of padding on the bottom surface of said crusher member.

2. In a crushing apparatus of the character described, a relatively flat hollow crusher member having a top wall, a removable closure element

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mounted in said top wall to provide access to the interior of said crusher member for filling said member with weighting material, a layer of padding on the bottom surface of said crusher member, and a foraminous flexible retaining screen secured to the crushing member over said layer of padding.

3. In a crushing apparatus of the character described, a relatively flat hollow crusher member having a substantially flat top wall and a downwardly convex bottom wall, a removable closure element mounted in said top wall to provide access to the interior of said crusher member for filling said member with weighting material, a layer of padding on the bottom surface of said crusher member, a foraminous flexible retaining screen engaging said layer of padding and being substantially coextensive with said bottom wall, and means securing the peripheral edge of said screen to the marginal portion of said crusher member.

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