

July 22, 1958

G. J. VOLLMER
METAL BALLING MACHINES

2,844,184

Filed March 24, 1955

2 Sheets-Sheet 1

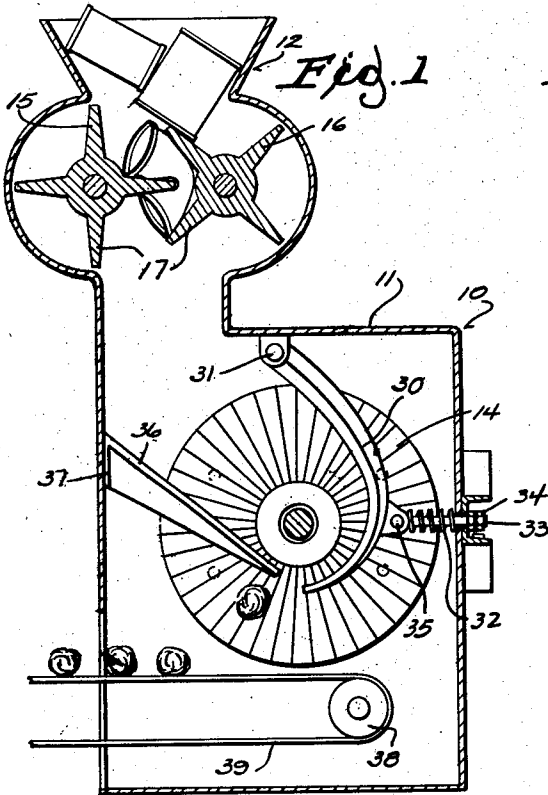
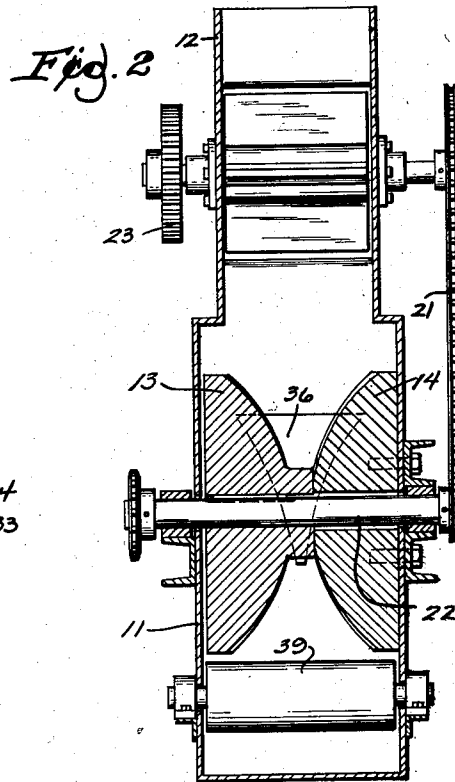
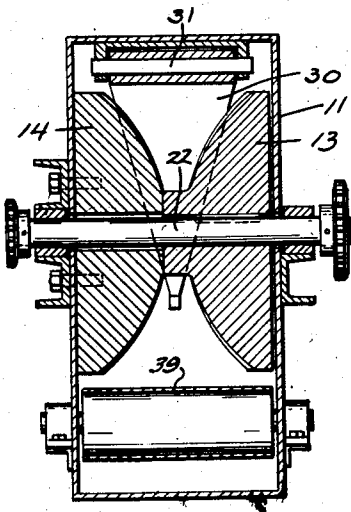


Fig. 3

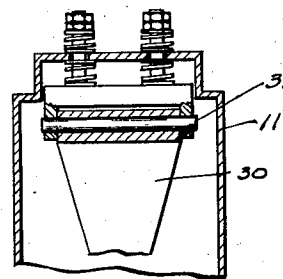


Fig. 8

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2 Sheets-Sheet 2

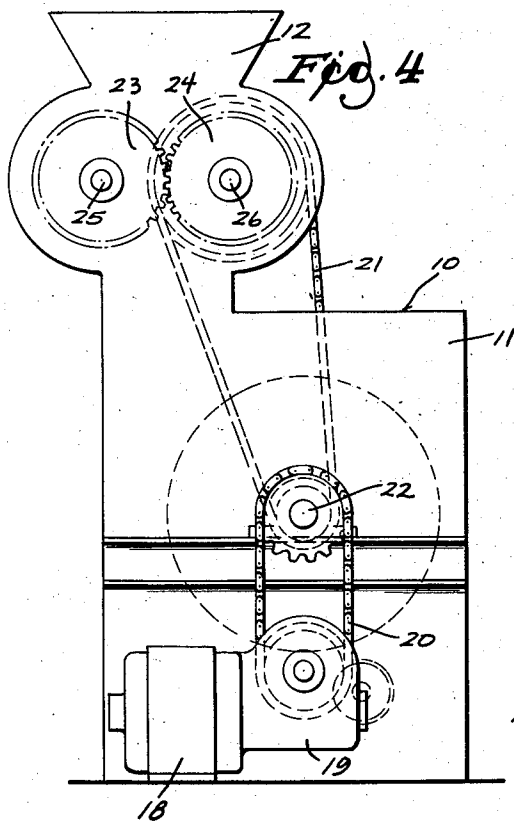
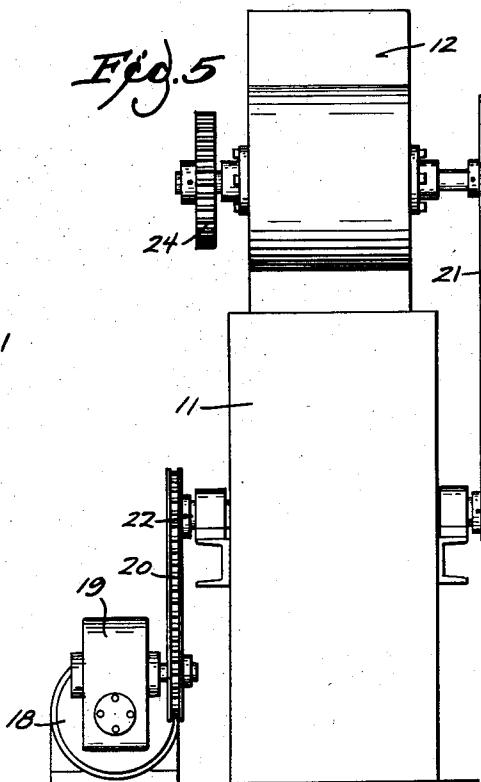
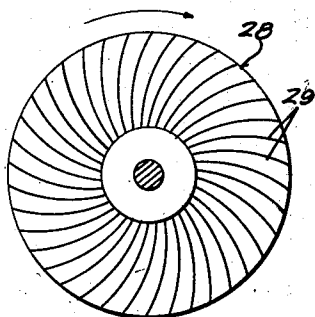
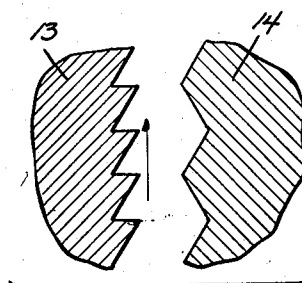


Fig. 6

Fig. 7

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METAL BALLING MACHINES

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2 Claims. (Cl. 153—10.5)

This invention relates to improvements in metal balling machines, and more particularly to a novel can or sheet metal balling machine.

One object of the invention is to provide a device of the type which may be used to roll discarded tin cans into balls or rolls whereby the problem of transportation of the waste material is made more economical. Metal tin cans as usually discarded require too much space in a vehicle thus making the hauling of these items unprofitable.

Another object of the invention is to provide means of the type which may be used to compress automobile fenders or other sheet metal into round or rolled units.

Other and further objects of the invention will appear as the description proceeds, reference being had to the accompanying drawing, in which:

Fig. 1 is a view in vertical section taken from the side of a metal balling machine embodying the invention.

Fig. 2 is a similar view taken from the front.

Fig. 3 is a horizontal sectional view of the same.

Fig. 4 is a side view in elevation of the machine.

Fig. 5 is a front view in elevation of the same.

Fig. 6 is an elevational view of a modified form of drum.

Fig. 7 is a fragmentary sectional view of facing surfaces of the drums.

Fig. 8 is a fragmentary sectional view of a modification of the mounting for the compressor bar wherein the hinge pin is carried by a separate frame resiliently mounted in the casing.

Referring more particularly to the drawings, the numeral 10 refers to the device generally, having a casing 11, a hopper 12, and a pair of convex drums 13 and 14. Immediately under the hopper 12 are a pair of crusher wheels 15 and 16, carrying the longitudinal vanes 17. The drum 13 is driven by motor 18, gear reduction mechanism 19 and the chain 20. A second chain 21 on shaft 22 drives the crusher wheels 15 and 16. Gears 23 and 24 on shafts 25 and 26 are in mesh to synchronize movement of the crusher wheels and the vanes 17 thereon. Drum 14 is fixed and remains stationary.

As shown in Fig. 7, the drum 13 has surface vanes extending radially and having a saw-tooth formation in cross-section, whereas the surface of fixed drum 14 is ribbed radially as shown.

In Fig. 6 a modified form of drum 28 is shown in which the vanes or ribs 29 are arcuately formed to draw material toward the axes of the drums.

A guide or compressor bar 30 depends from a pivot connection 31 in casing 11 and is urged toward the axes of the drums by the spring 32 on the rod 33 anchored by threaded means 34 externally of the casing and pivoted at 35 to the guide 30. A baffle plate 36 is attached interiorly of the casing 11 at 37 thereof to prevent clogging of the device.

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A drum 38 is journaled in the casing 11 adjacent the bottom thereof, and carries the conveyer means 39.

In use, discarded tin cans are fed into the hopper 12 and are given a preliminary crushing by the vanes 17 of the wheels 15 and 16. The cans then drop onto the baffle plate 36 and are then caught between rotating drum 13 and the fixed drum 14. The guide 30 forces the material toward the axes of the drums and the cans are rolled into balls of crumpled metal in compact form.

It will be understood that the device is capable of many modifications in structure and design, without departing from the spirit of the invention, within the scope of the appended claims.

Having thus described the invention, what is claimed and desired to be secured by Letters Patent of the United States, is:

1. A metal balling machine including a casing, a hopper at the top thereof, a neck portion between the hopper and said casing, a pair of vaned intermeshed spaced crusher wheels housed in said neck portion for preliminary crushing of metal objects, a drum rotatable about a horizontal axis in the casing, a fixed drum in horizontal coaxial alignment therewith, convex faces on the mutually adjacent sides of said drums, surface means on said drums to catch material being rolled therebetween, a triangular curved compressor bar pivoted within the casing above said drums and depending downwardly to extend between said convex faces and beneath and around the axis of said drums, spring means for urging the lower end of said compressor bar toward said axis, and a triangular fixed baffle based within the side of the casing inclined downwardly to a point between said drums beneath the plane of the axes thereof.

2. A metal balling machine including a casing, a hopper at the top thereof, a neck portion between the hopper and said casing, a pair of vaned intermeshed spaced crusher wheels housed in said neck portion for preliminary crushing of metal objects, a drum rotatable about a horizontal axis in the casing, a fixed drum in horizontal coaxial alignment therewith, convex faces on the mutually adjacent sides of said drums, ribs saw-toothed in cross section on the surface of the rotatable drum disposed radially thereof, radial ribs on the convex face of the fixed drum, a curved compressor bar pivoted within the casing above said drums and depending downwardly to extend between said convex faces and beneath and around the axis of the drums, spring means for urging the lower end of said compressor bar toward said axis to press metal objects between the narrowing surfaces of the two drums, and a pointed baffle fixed to the side of the casing extending between the drums to prevent clogging thereof.

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