Nov. 25, 1941. C. W. KOEHLER 2,264,180

TUMBLING BARREL

Filed Feb. 24, 1940

Fig. 1.

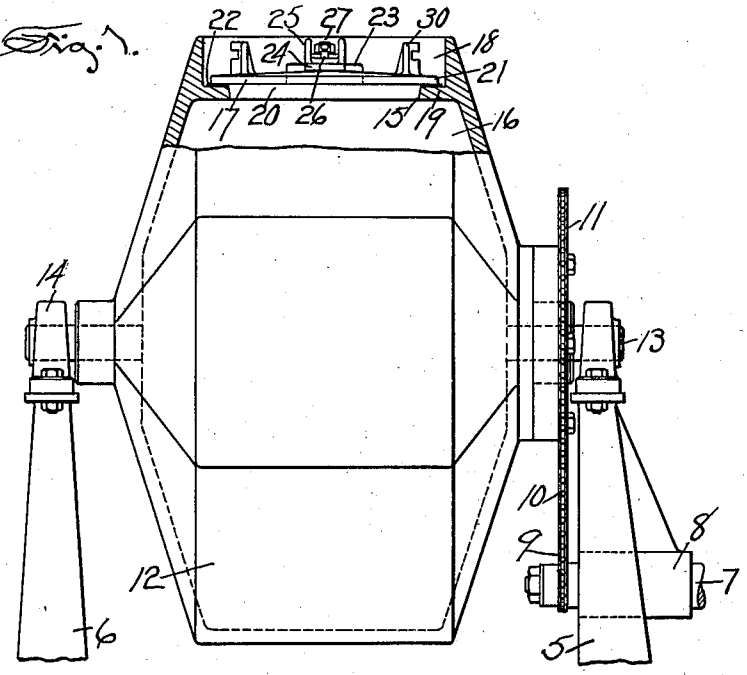


Fig. 2.

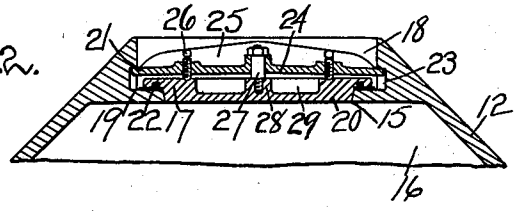
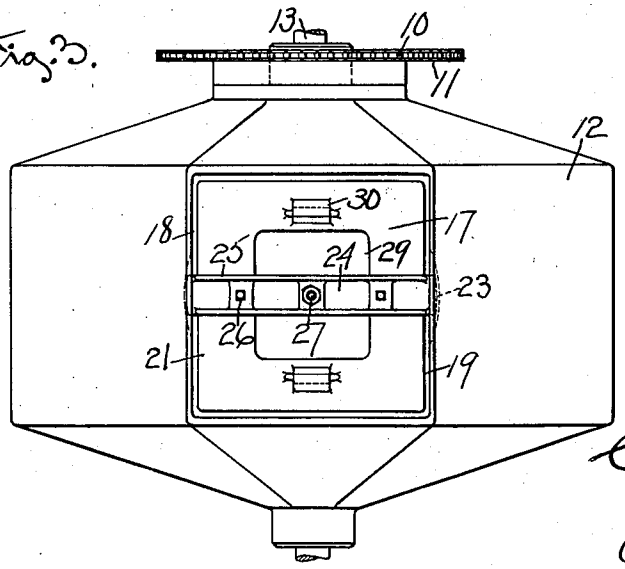


Fig. 3.



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Patented Nov. 25, 1941

2,264,180

UNITED STATES PATENT OFFICE

2,264,180

TUMBLING BARREL

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Application February 24, 1940, Serial No. 320,726

2 Claims. (Cl. 51—164)

My invention relates to the class of devices that are employed for reducing and shaping metallic articles, as balls, by means of an abrasive, and an object of my invention, among others, is the production of a barrel having particularly efficient means for loading and unloading and which will eliminate dangers to operatives existing in many structures now in use.

One form of a cutting barrel embodying my invention and in the construction and use of which the objects herein set out, as well as others, may be attained is illustrated in the accompanying drawing, in which—

Figure 1 is a view in elevation of a tumbling barrel partially broken away to illustrate my invention, the driving shaft also being broken off.

Figure 2 is a view of a fragment of the barrel broken away in section on a plane at right angles to the plane which is broken away in Fig. 1.

Figure 3 is a plan view of the device illustrated in Fig. 2.

In the accompanying drawing the numerals 5 and 6 denote standards for supporting a barrel which is rotatably mounted upon them. These standards may be of any suitable form with somewhat broad bases to afford stable supports for the barrel as it is rotated which bases may be provided with any suitable means for securing them to a floor if desired. A driving shaft 7 is rotatably mounted in a bearing 8 in the standard 5, this bearing being somewhat removed from the upper end of the standard. A sprocket wheel 9 is secured to the driving shaft and a sprocket chain 10 extends over the wheel 9 to a sprocket wheel 11 on a journal of the tumbling barrel, the sprocket chain extending around said sprocket wheels as a means for transmitting power from the driving shaft to the barrel. Any ordinary means, however, may be employed for transmitting this power, such means being immaterial.

A tumbling barrel 12 is provided with journals 13 extending from opposite sides of the barrel and rotatably mounted in bearings 14 at the upper ends of the standards 5 and 6 as shown in Fig. 1. This barrel may be of any desired shape in a plane extending crosswise of its axis, this shape usually being angular, that shown herein being octagonal. The device thus far described is of old and well-known construction and, except for structure now to be described, of itself forms no part of the present invention.

An opening 15 is formed through one of the sides of the barrel into the chamber 16 therein, this opening being preferably of rectangular shape and it is closed by a cover 17. This opening is formed in the bottom of a recess 18 in one of the sides of the barrel, said recess being preferably of rectangular shape, substantially the size of the side of the barrel in which it is formed. This recess has a bottom which is in fact a ledge 19 extending completely around and bounding the opening 15, as shown in Figs. 1 and 2 of the drawing. The cover comprises what I term a plug 20 fitting the opening 15 and a flange 21 resting on the ledge 19 and extending some little distance from the edge of the ledge to form a liquid tight joint to prevent leakage of the contents from within the barrel. This flange may be provided with a packing 22 if desired to increase the tightness of the joint. A groove 23 is cut in each side of the side walls of the recess 18 at the bottoms thereof, the ends of these grooves terminating preferably short of the ends of the walls. A clamping bar 24 extends across the recess 18 the opposite ends of the bar projecting into the groove 23, and ribs 25 extend across the bar lengthwise thereof, these ribs being spaced apart and terminating short of the ends of the bar. These ribs form a groove constituting a housing for the heads of clamping screws 26 and a pivot bolt 27, the latter being screwed into a projection 28 rising from the floor of a depression 29 in the cover 17.

To place the cover in position to close the opening 15 the pivot bolt 27 is unscrewed far enough to permit the bar 24 to be thrust up against the tops of the grooves 23 by the screws 26 in the final operation of securing the cover in place. Now, with the bar swung to one side, the plug 20 of the cover is entered into the opening 15, the bar is swung to clamping position as shown in Figs. 2 and 3, the clamping screws 26 are screwed in tightly against the cover, forcing the bar into tight engagement with the upper sides of the grooves 23 and the pivot bolt 27 is tightened. To remove the cover the operation is reversed.

In the use of barrels of this type operatives have frequently been injured by the catching of clothing or waste or other material projecting from the pockets upon fastening bolts for securing the covers in place, and it is to avoid this objectionable feature that the present invention has been conceived. By forming the opening into the barrel in the bottom of the recess and making the recess of a depth to locate the heads of the bolts well below the plane of the edge of the recess all danger from the causes above noted are substantially removed. If desired a lug or lugs 30 may be formed on the cover with openings for

the reception of a bar by means of which the cover may be pried loose.

In accordance with the provisions of the patent statutes I have described the principles of operation of my invention, together with the device which I now consider to represent the best embodiment thereof; but I desire to have it understood that the device shown is only illustrative and that the invention may be carried out by other means and applied to uses other than those above set out.

I claim:

1. In a tumbling barrel construction, wherein a tumbling barrel of polygonal formation has a plurality of peripheral faces, one of said faces being constructed to provide feeding and discharge facilities for the barrel, all of said other faces being flat, constituting the peripheral surface of the barrel and being free of projections, said one face having an opening therein and a surrounding outwardly extending guard wall forming a recess closed on all sides with said opening at the bottom of the recess communicating with the chamber in the barrel, a cover within the recess to close said opening, a clamping bar removably engaged with fastening means within the recess, and means for securing the clamping bar to fasten said cover in place, said clamping bar and fastening means being all located below the plane of the edges of said recess two of which edges extend across the path of rotation of said fastening means as guards therefor to remove them from danger of catching upon articles of clothing or the like.

2. In a tumbling barrel construction, wherein a tumbling barrel of polygonal formation has a plurality of substantially rectangular peripheral faces, one of said faces being constructed to provide feeding and discharge facilities for the barrel, all of said other faces being flat, constituting the peripheral surface of the barrel and being free of projections, said one face having a rectangular opening therein and a surrounding outwardly extending guard wall forming a recess closed on all sides with said opening at the bottom of the recess communicating with the chamber in the barrel, a rectangular cover within the recess to close said opening, a clamping bar removably engaged with fastening means within the recess, and means for securing the clamping bar to fasten said cover in place, said clamping bar and fastening means being all located below the plane of the edges of said recess, two of which edges extend across the path of rotation of said fastening means as guards therefor to remove them from danger of catching upon articles of clothing or the like.

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