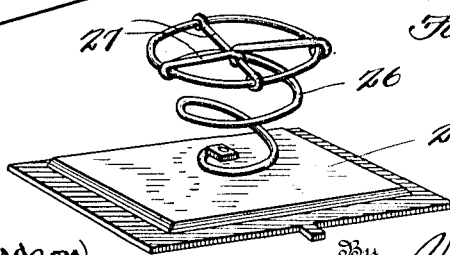
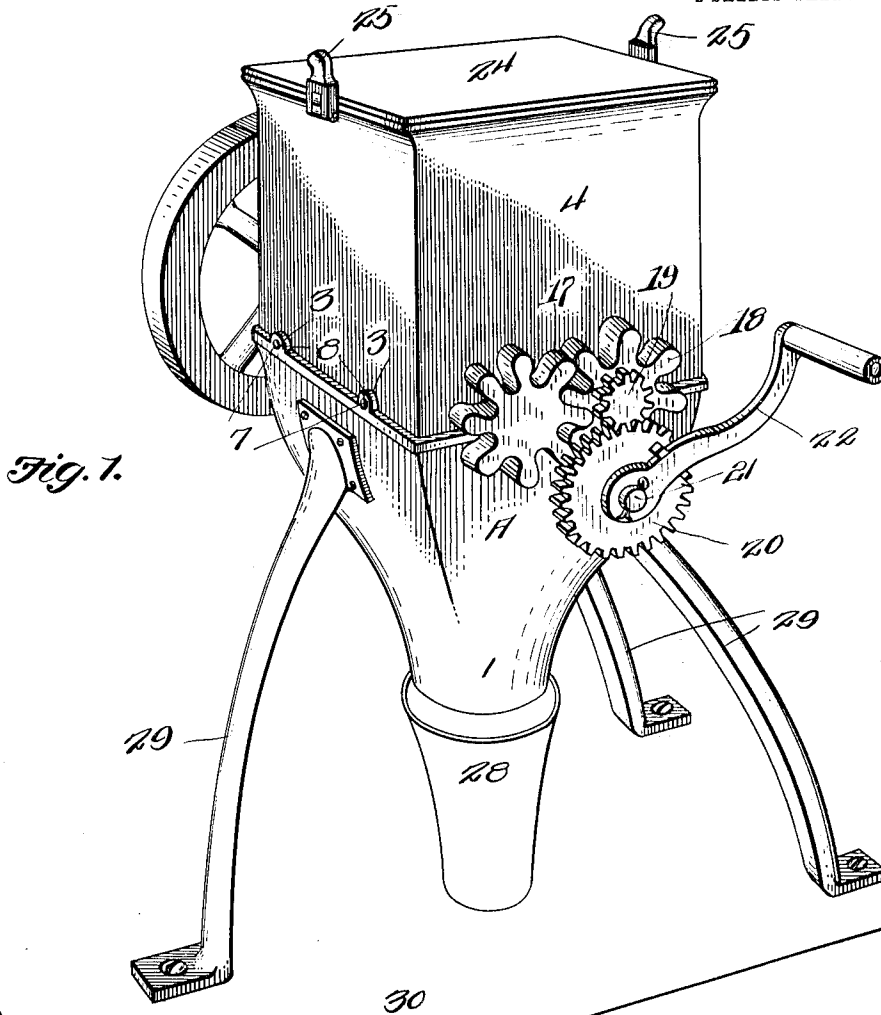


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ICE CRUSHER.
APPLICATION FILED AUG. 20, 1910.

1,048,332.

Patented Dec. 24, 1912.

2 SHEETS-SHEET 1.



Witnesses

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Fig. 2.

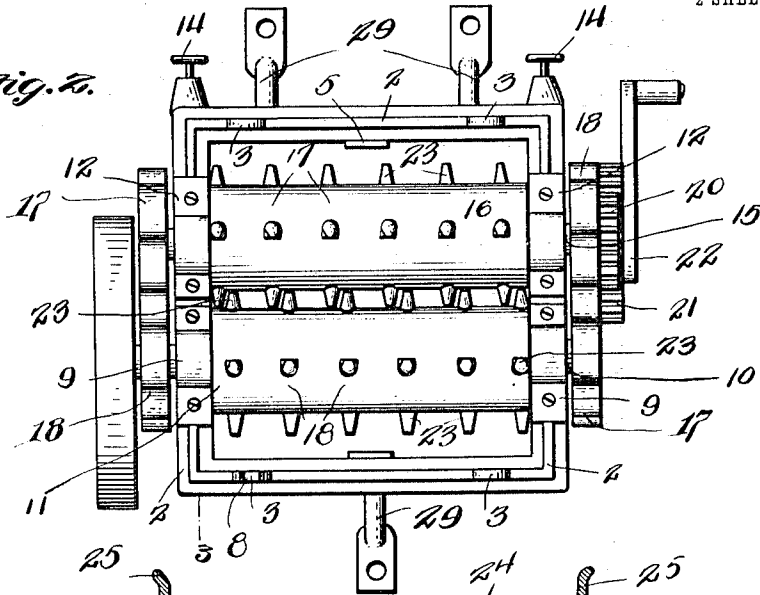


Fig. 4.

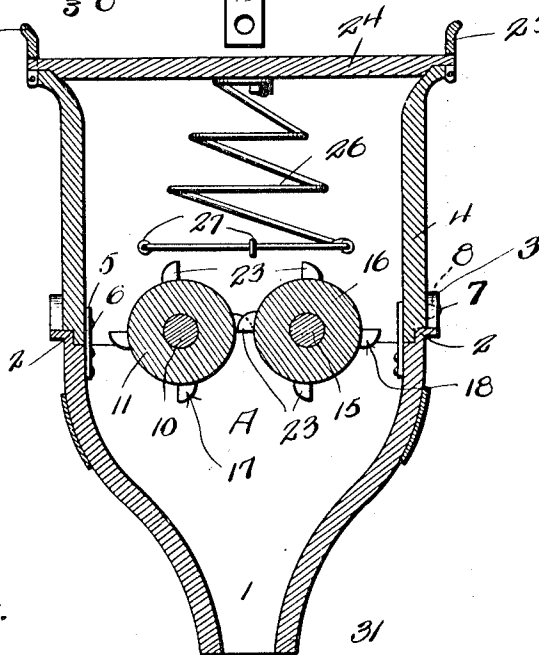
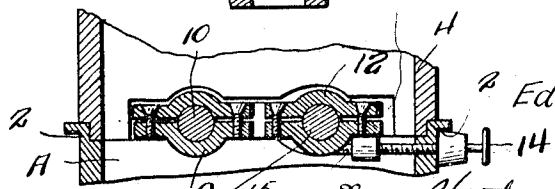


Fig. 5.



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UNITED STATES PATENT OFFICE.

EDWIN C. MILLER, OF SABINA, OHIO.

ICE-CRUSHER.

1,048,332.

Specification of Letters Patent.

Patented Dec. 24, 1912.

Application filed August 20, 1910. Serial No. 578,108.

To all whom it may concern:

Be it known that I, EDWIN C. MILLER, a citizen of the United States of America, residing at Sabina, in the county of Clinton and State of Ohio, have invented new and useful Improvements in Ice-Crushers, of which the following is a specification.

This invention relates to ice crushers of that class in which toothed rollers are employed to exercise a crushing action upon a piece or lump of ice supported in a suitable casing for the purpose of reducing the same to lumps of smaller dimensions without shaving or powdering the same, the special purpose being to supply crushed ice to be used for cooling drinks, the same presenting a pleasing and desirable appearance and being less liable to melt rapidly than shaved or powdered ice.

The invention has for its object to simplify and improve the construction of the crushing apparatus, to provide means whereby one of the crushing rollers may be adjusted to regulate the size of the product and to provide a casing of simple and improved construction which shall be equipped with an outlet spout beneath which a glass receptacle may be placed to receive the crushed ice.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the accompanying drawings has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claim may be resorted to when desired.

In the drawings,—Figure 1 is a perspective view of an ice crusher constructed in accordance with the invention. Fig. 2 is a top plan view of the same with the upper portion of the casing removed. Fig. 3 is a sectional detail view taken on the line 3—3 in Fig. 2. Fig. 4 is a vertical sectional view of the machine showing the parts assembled. Fig. 5 is a perspective detail view showing the lid or cover inverted.

Corresponding parts in the several figures are denoted by like characters of reference.

The base of the machine consists of a hopper A preferably rectangular in shape at its upper end and tapered downwardly to form a discharge spout 1 at the lower end thereof. The hopper A is provided adjacent to its upper edge with flanges 2 and upstanding lugs 3 to confine the lower end of a casing 4 which, when mounted in position, may be secured by a spring latch member 5 engaging a lug 6 adjacent to one side of the lower end of the casing; the opposite side of the casing being provided with spurs 7 to engage apertures 8 in the upstanding lugs 3, thus enabling the parts to be securely connected together when assembled, but in such a manner as to permit the said parts to be readily disassembled when required. The hopper A is provided at its upper edge, adjacent to its front and rear ends, with stationary boxes or bearings 9 wherein a shaft 10 carrying a crushing roller 11 is supported for rotation. Adjacent to the stationary boxes 9 are slidable or movable boxes 12 for the adjustment of which any suitable means may be provided, such as screws 13 operating in threaded sockets in the boxes, said screws being swiveled in the casing and provided with handles 14, whereby they may be conveniently turned to effect the desired adjustment of the boxes. The boxes 12 afford bearings for a shaft 15 carrying a crushing roller 16.

The shafts 10 and 15 may be made integral with the rollers 11 and 16, and they are equipped with intermeshing cog wheels 17, 18, the teeth of which are of sufficient length to intermesh at various adjustments of the boxes or bearings 12 in which the shaft 15 is supported. One of the shafts is also provided with a pinion 19 meshing with a spur wheel 20 which is supported for rotation upon a gudgeon 21 extending from the hopper, said spur wheel being provided with a crank handle 22 whereby it may be conveniently rotated for the purpose of actuating the shafts carrying the crushing rollers.

The crushing rollers, which may be appropriately made of cast iron, are provided with radially extending teeth 23 which are arranged in such a manner as to break joint or intermesh with each other, as shown, thereby seizing upon a lump or lumps of ice supported above said rollers and breaking therefrom pieces which are subsequently crushed by passage between the rollers into

fragments of the desired size which may be regulated as herein described by proper adjustment of the bearings wherein one of the rollers is supported for rotation.

5 The casing 4 which is supported upon the hopper is made to fit snugly within the upstanding flange 2, the front and rear ends of said casing being slightly recessed at 31 to make room for the adjustable bearings 10 12. Said movable or adjustable bearings are thus guided between the upper edge of the hopper 1 and the lower edge of the casing 4, whereby said bearing members are retained in position for operation. At the 15 same time by simply removing the casing 4, the bearings are rendered accessible to enable the parts to be conveniently lubricated and repaired when needed.

The casing 4 is provided at the upper end 20 thereof with a flat lid or cover 24 which is supported detachably and which is adapted to be retained securely in position by means of pivotally mounted latch members 25. Secured upon the underside of the cover is 25 a cone-shaped helical spring 26, the lowermost coil of which is provided with cross bars 27 constituting a frame which is adapted to press downwardly against the contents of the casing.

20 In the operation of this device, by removing the lid or cover 25, the casing may be filled with ice, one or more lumps of which may be placed within the casing. The cover is then placed in position, and the frame 35 at the lower end of the coiled spring will engage and press downwardly against the ice which is thus forced in the direction of the crushing rollers. When crushed ice is desired, a glass or other receptacle 28 is 40 placed beneath the discharge spout, and the crushing rollers are then rotated by means of the crank or handle 22, thus reducing the

ice to fragments of the desired size which are discharged into the glass or receptacle. It will be particularly noticed that the frag- 45 ments are not in any sense reduced to shavings or to powder which would melt very rapidly, but all said fragments on the contrary will be in the shape of small lumps presenting a very pleasing and attractive 50 appearance when used in the manufacture of cooling drinks or for other purposes.

The hopper of the improved device is preferably provided with legs or supporting members 29, and it may be, in practice, 55 mounted upon a suitable base, as indicated at 30. This improved device may be utilized on a larger scale for the purpose of crushing ice for use in the manufacture of ice cream and for similar purposes. The device may 60 also be used for crushing or comminuting other substances than ice. When thus used, additional rollers may be employed for the purpose of increasing the capacity of the machine. 65

Having thus described the invention, what is claimed as new, is:—

In a device of the character described, a hopper having upstanding flanges, roller 70 carrying bearings supported upon the upper edge of the hopper adjacent to and within the upstanding flanges, a casing mounted upon the hopper within the flange, said casing being recessed to permit adjustment of the roller carrying bearings, means for se- 75 curing the casing in position, and means for adjusting the roller carrying bearings.

In testimony whereof I affix my signature in presence of two witnesses.

EDWIN C. MILLER.

Witnesses:

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GEO. M. PLYMIRE.