

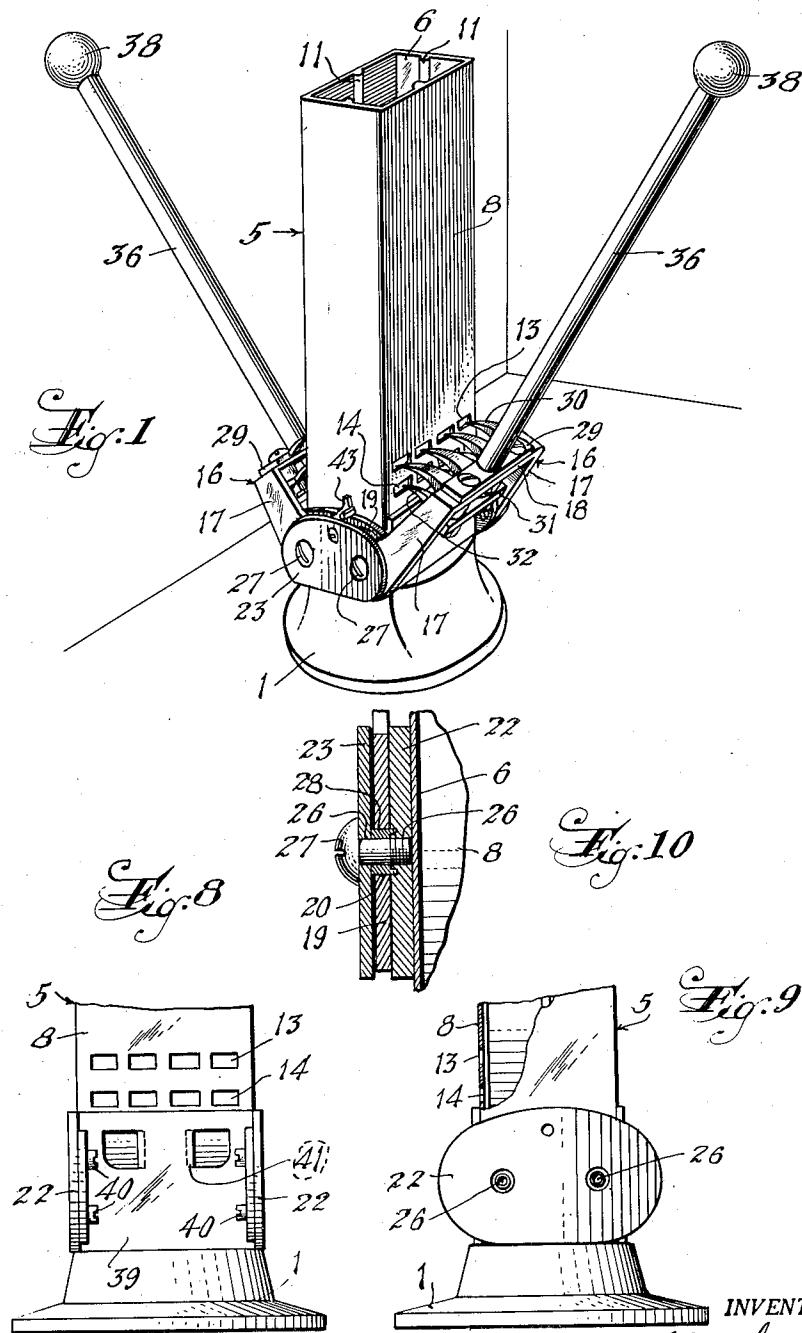
March 14, 1950

A. F. JACKSON
ICE CUBE BREAKER

2,500,828

Filed Jan. 30, 1947

3 Sheets-Sheet 1



INVENTOR.
Alexander F. Jackson,
BY
Harry N. Cook,
ATTORNEY.

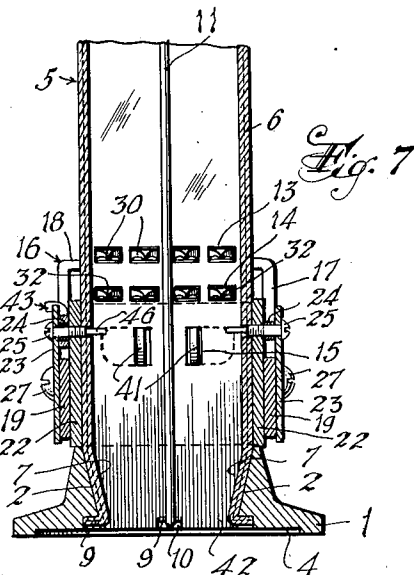
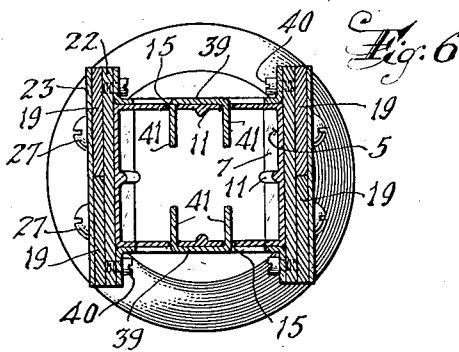
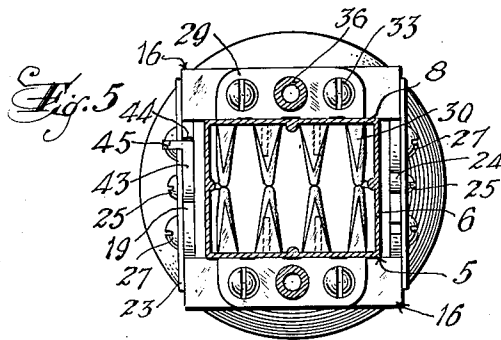
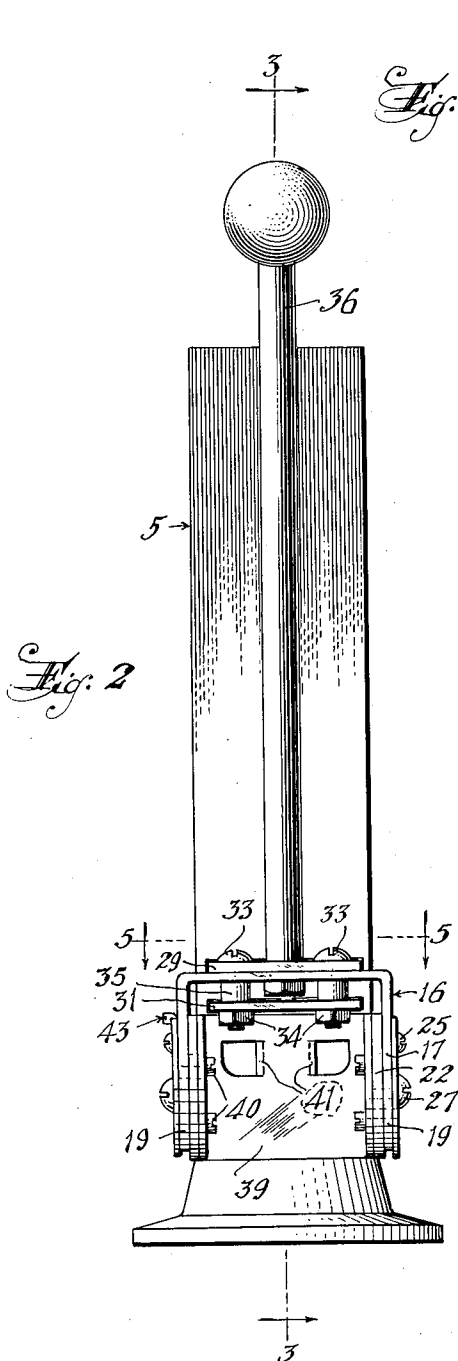
March 14, 1950

A. F. JACKSON
ICE CUBE BREAKER

2,500,828

Filed Jan. 30, 1947

3 Sheets-Sheet 2



INVENTOR.
Alexander F. Jackson,
BY
Harry M. Cook,
ATTORNEY.

March 14, 1950

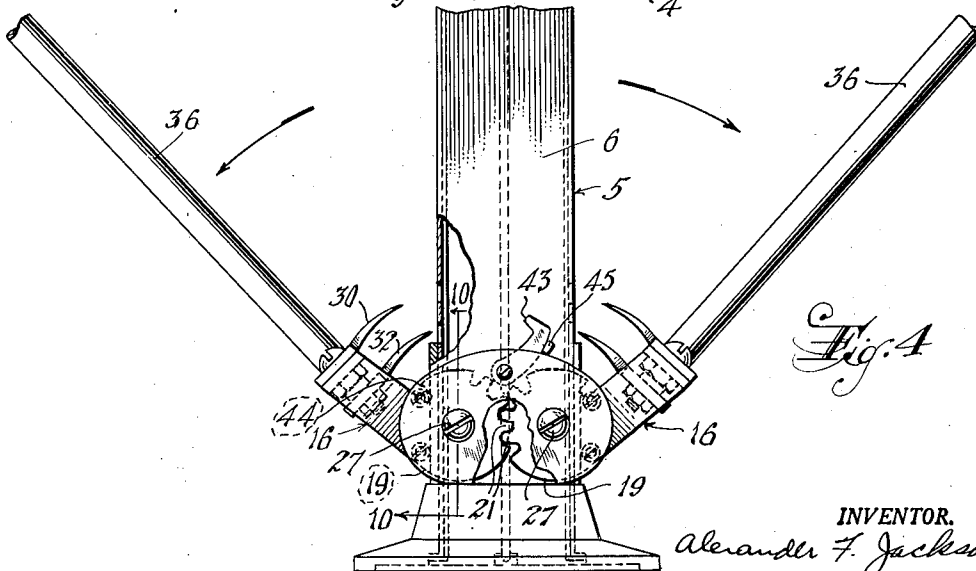
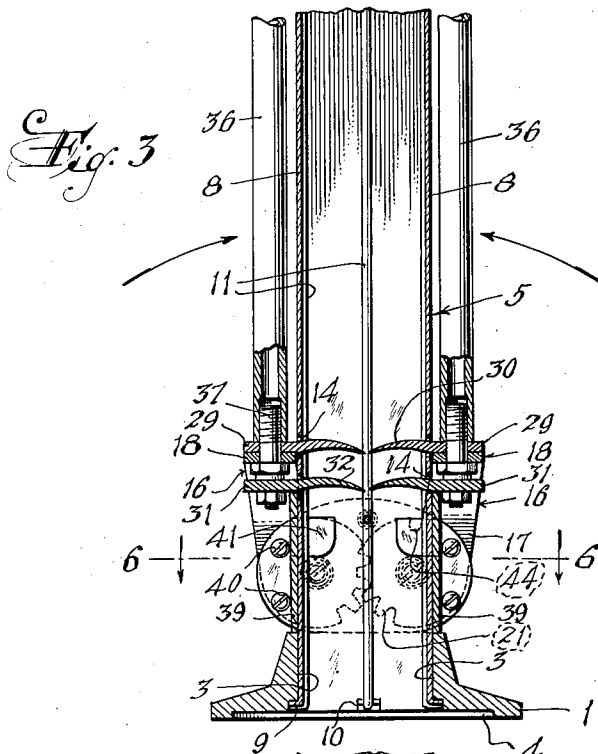
A. F. JACKSON

2,500,828

ICE CUBE BREAKER

Filed Jan. 30, 1947

3 Sheets-Sheet 3



INVENTOR.
Alexander F. Jackson,
BY
Harry B. Cook,
ATTORNEY.

UNITED STATES PATENT OFFICE

2,500,828

ICE CUBE BREAKER

Alexander F. Jackson, East Orange, N. J.

Application January 30, 1947, Serial No. 725,403

3 Claims. (Cl. 241-266)

1

This invention relates in general to devices for crushing, splitting or breaking small ice cubes into small pieces suitable for use in cooling beverages in glasses.

A prime object of the invention is to provide an ice cube breaker which shall include a magazine for ice cubes and a novel construction and combination therewith of opposed levers having rugged teeth whereby a maximum of crushing pressure may be applied to an ice cube by said teeth with a relatively small manual effort and in an efficient manner.

Another object is to provide such a device which shall include strong blade-like teeth mounted in a novel and improved manner on said levers whereby an ice cube can be easily and quickly broken with a minimum of danger of the teeth becoming loosened or broken and mixed with the crushed ice.

Another object is to arrange the cutting teeth on the levers so that the teeth will gnaw off pieces of ice from the cube progressively with a minimum of effort and will facilitate the discharge of the crushed ice.

Another object is to provide an ice breaker that shall have a novel and improved base so that the device can be set and operated directly on a receptacle such as a glass shaker or the like or can be operated while held over a bowl, ice bag filling opening, etc.

Another object is to provide means for preventing the ice cubes from freezing upon the inner wall of the magazine or hopper for holding the ice cubes.

Another object is to provide an ice cube breaker that is portable, compact, sturdy, simple in construction, economical to manufacture and highly efficient in use.

Other objects and advantages of the invention will be apparent from the description thereof to follow taken in conjunction with the accompanying drawings in which—

Figure 1 is a perspective view of an ice cube breaker embodying my invention.

Figure 2 is an elevational side view of the breaker in closed operative position.

Figure 3 is a fragmentary sectional view taken on the plane of the line 3—3 of Figure 2.

Figure 4 is a fragmentary sectional view showing the breaker in open inoperative position, parts being broken away.

Figure 5 is a cross sectional view taken on the plane of the line 5—5 of Figure 2.

Figure 6 is a cross sectional view taken on the plane of the line 6—6 of Figure 3.

2

Figure 7 is a fragmentary vertical sectional view of the breaker taken on a plane at right angles to the plane of the section of Figure 3.

Figure 8 is a fragmentary side view showing the bottom of the breaker, parts being omitted.

Figure 9 is a fragmentary front view showing the bottom, parts being broken away and parts being omitted.

Figure 10 is a fragmentary vertical sectional view on the line 10—10 of Figure 4, showing the yoke bearing construction.

Referring to the drawings, the ice cube breaker comprises a tubular base 1 of soft rubber or rubber composition whose inner wall is formed with two oppositely disposed tapered wall sections 2 and two oppositely disposed straight wall sections 3 and whose lower wall is formed with a recess 4. A tubular metal magazine or hopper 5 for receiving the ice cubes to be broken is supported by the base. This magazine is rectangular in cross-section and the lower end of each of its narrow walls 6 is tapered as indicated at 7 and fits against the adjacent tapered wall sections 2 of the base. The lower end of each of the wide walls 8 is straight and fits against the straight wall section 3 of the base. The magazine is fastened to the base by lugs 9 in struck from the lower edges of the walls thereof and projecting into notches 10 formed in the inner wall of the base adjacent its bottom end. Each wall of the magazine is formed with an elongated rib 11 disposed centrally thereof for preventing the ice cubes from coming into contact with and freezing to the inner surface of the wall.

Each of the wide walls 8 is formed with an upper row of openings 13 adjacent the lower end, with another row of openings 14 below the openings 13 and with a pair of openings 15 below the openings 14.

Pivotaly mounted on parallel axes on the narrow walls 6 of the magazine at their lower ends are opposed handle yokes or frames 16. Each yoke consists of a pair of spaced arms 17 connected at their upper ends by a cross bar 18. The lower end of each arm is enlarged to form a disc member 19 having a central pivot opening 20 and a portion of the periphery of which disc member is formed with teeth 21.

Positioned adjacent the lower end of each narrow side wall 6 is a pivot bearing plate 22, the lower end of which engages the upper edge of the base. Another plate 23 is positioned in alignment with the plate 22 but spaced therefrom by a spacer 24. A screw 25 extending through the plates and the spacer adjacent the upper edge of

the plates positions the plates relatively to the wall 6. The screw passes through the side wall 6 and projects into the inside of the magazine as seen in Figure 7. The side plates 22 and 23 project beyond the ends of the side walls 6 and are formed with aligned openings 26. The yokes are so arranged that each disc member 19 is positioned between the side plates 22 and 23 with its opening 20 in alignment with the openings 26 of the side plates. A pivot pin or screw 27 extends through the aligned openings in the side plates and disc member and has its inner end threaded into the side plate 22. A bearing member 28 is positioned in the opening 20 in the disc member 19 and around the screw 27 with its inner edge seated in an annular groove in the side plate 22. The disc member oscillates around this bearing member. The disc members of the respective yokes are disposed in opposite relationship to each other with their teeth 21 in continuous mesh with each other.

Carried on the upper surface of each cross bar 18 is a blade member 29 formed with projecting cutting teeth 30 which are approximately flat or elongate in cross section slightly curved transversely and taper to a point. Supported below the cross bar is another blade member 31 formed with similar cutting teeth 32. The blade members are rigidly secured to the cross bar by bolts 33 and nuts 34 which also support spacers 35 for spacing the blade member 31 away from the cross bar and blade member 29. The blade members are arranged different distances from the axes of the pivotal mounting of the yoke members with the larger dimensions of the teeth transverse of the direction of the length of the magazine.

A tubular elongated actuating handle 36 is fastened to each cross bar 18 by a bolt 37 passing through the cross bar and upper blade member 29 and threaded into the lower internally screw-threaded end of the handle. The handle may be provided with a ball 38 at its upper end which may be formed integrally with the handle or formed separately of plastic or other suitable material. The yokes are thus mounted to pivot about the bearing members 28 on pivot screws 27 in an arcuate direction as seen in Figure 4 and they swing synchronously by and upon actuation of either thereof by the operator.

Mounted on the outside of each of the wide walls 8 adjacent its lower end is a flanged plate member 39 which is secured to the projecting ends of the opposite side plates 22 by screws 40 passing through their flanges and screwed to said side plates. These clamp and position the pivot bearing plates 22 tightly to the tube member 5. Each of the flanged plates is formed with a plurality of inwardly projecting lugs 41 which pass inwardly through the pair of openings 15 in each wide wall 8 and project into the interior of the tubular magazine as seen in Figure 6. The lugs are positioned directly opposite each other and their upper edges are in alignment with the inwardly projecting ends of the screws 25 as shown in Figure 7, thereby providing with said screws a support for holding the ice cube in position for breaking.

In use, the ice cube breaker is mounted on the glass or other receptacle which is to receive the broken ice by placing the recessed portion 4 of the base on the rim of said glass. The yokes are swung by the handles to the outward inoperative or open position as shown in Figure 1. The ice cubes are inserted through the open top of the tubular magazine and slide along the ribs 11 to the lugs 41 and screws 25, the bottom cube being

supported opposite the openings 13 and 14 in the walls 8. The yokes are then swung inwardly in an arc so that the teeth 30 and 32 are thrust through the openings 13 and 14, respectively. The arrangement and shape of the teeth and direction of movement are such that the lower teeth 32 first engage the ice cube and partially break it and immediately thereafter the upper teeth engage the remaining unbroken portion of the cube and break it. Both sets of teeth in addition to breaking the ice cube assist in feeding the broken ice downwardly through the outlet 42 of the magazine directly into the receptacle for receiving the broken ice. The inherent resiliency of the material of the base permits the upper edge of the receptacle to be pressed into liquid tight engagement with the lower wall of the base.

For the purpose of holding the handles 36 normally in an out-of-the-way position alongside of the magazine 5, I pivotally mount a latch 43 on one of the spacers 24 between the plates 22 and 23 to cooperate with a notch 44 in one of the discs 19, and for ease in operation the latch may be formed with a finger piece 45. When the handles are swung upwardly as shown in Figures 2, 3 and 5, the latch 43 is swung downwardly into the notch 44 to hold the handles in vertical position, while when it is desired to crush ice cubes, the latch is manually swung upwardly out of the notch 44 to release the yoke 16 and handles as shown in Figures 1 and 4.

Preferably the yokes are identical in construction and the teeth 21 are cut differently on the discs at the opposite ends of each yoke so that the yokes can be interchangeably used on either the right-hand side or left-hand side of the machine by simply reversing the yokes. It will be noted that the outward and inward swinging of the yokes is limited by engagement of the end teeth of one yoke with the end teeth of the other yoke as best shown in Figure 4.

Changes in details might be made without departing from the scope or principle of the invention.

What I claim is:

1. An ice cube breaker comprising a tubular magazine for holding ice cubes and having a plurality of rows of openings in and spaced longitudinally of opposed walls thereof, a pair of inverted U-shaped handle yoke members pivotally mounted in opposed relation on spaced parallel axes on the outside of the magazine, each handle yoke member having a disk-like portion on each of its arms intergeared with the juxtaposed disk-like portion of the other yoke member, a plurality of blade members on each handle yoke member at different distances from said axes of the pivotal mounting of said handle yoke member and each provided with a row of approximately flat projecting teeth for each row of openings disposed with their larger dimensions transverse of the direction of the length of said tubular magazine, so that said handle yoke members will be synchronously pivotally actuated by and upon swinging movement of either thereof and said teeth are moved in an arc through the respective openings and into the interior of the magazine for cutting the ice cubes therein.

2. An ice cube breaker as defined in claim 1 with the addition of lugs projecting inwardly from the walls of said magazine below said teeth for supporting the ice cubes in the magazine, whereby said approximately flat teeth will break ice cubes and force the broken pieces of ice between

5

said lugs as the handle yoke members are moved toward each other.

3. An ice cube breaker comprising a vertical tubular rigid-walled hopper having a plurality of rigidly inwardly projecting lugs near its lower end and supporting an ice cube in the hopper, a pair of opposed lever handles pivotally mounted on spaced horizontal parallel axis on said hopper exteriorly thereof, means intergearing said handles for swinging toward and from each other, a plurality of horizontal rows of cutting blades on each handle at different distances from the axes of the pivotal mounting of said handles and above said lugs, said hopper having holes in its walls for entry and exit of said blades into and out of the hopper and said axes of pivotal mounting of said handles being disposed relatively to said hopper and said lugs so that said blades upon forceable swinging of the handles toward each other enter said holes with the blades nearer said axes first gripping and holding the ice cube

6

firmly in contact with said lugs and against upward movement in the hopper and thereafter the other blades piercing the tube in directions substantially perpendicular to the axis of the hopper, thereby to break the cube into pieces capable of passing said lugs and through the lower end of said hopper.

ALEXANDER F. JACKSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
62,539	Fowler	Mar. 5, 1867
419,200	Kahlenberg	Jan. 14, 1890
464,039	Richard	Dec. 1, 1891
1,019,031	Emery et al.	Mar. 5, 1912
1,351,243	Graves	Aug. 31, 1920
2,123,827	Eyrick et al.	July 12, 1938