Oct. 23, 1962

L. C. ANDERSON

3,059,451

ICE BLOCK EXTRACTOR

Filed May 16, 1960

FIG. 1

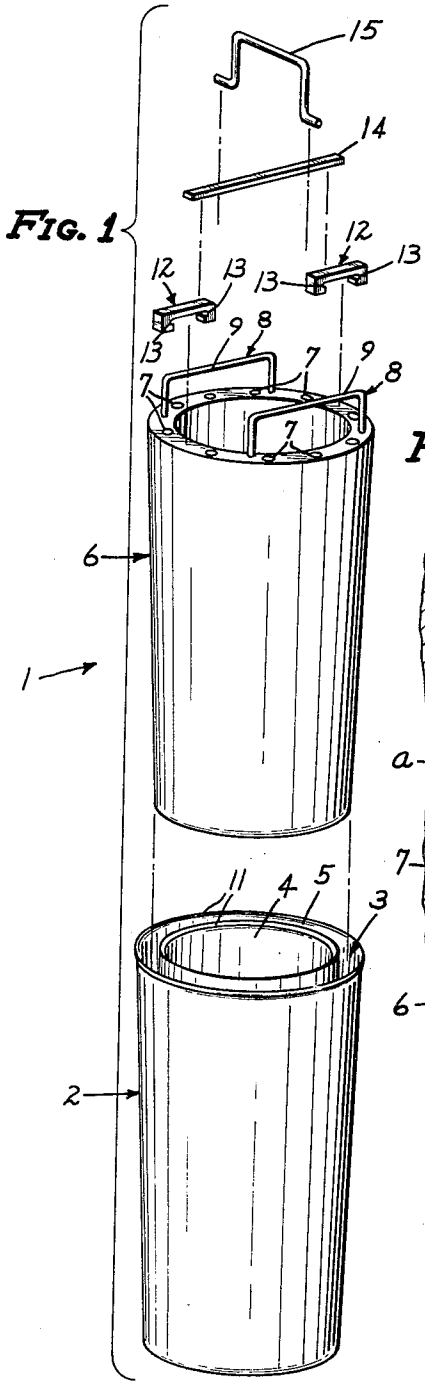


FIG. 2

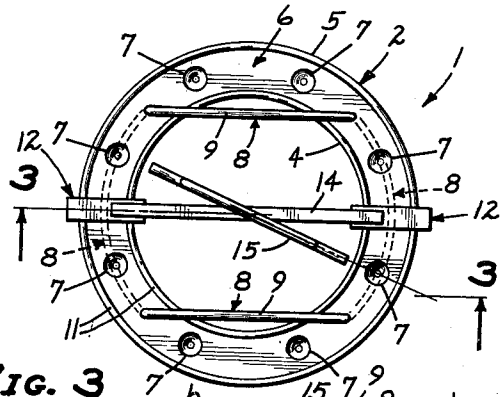
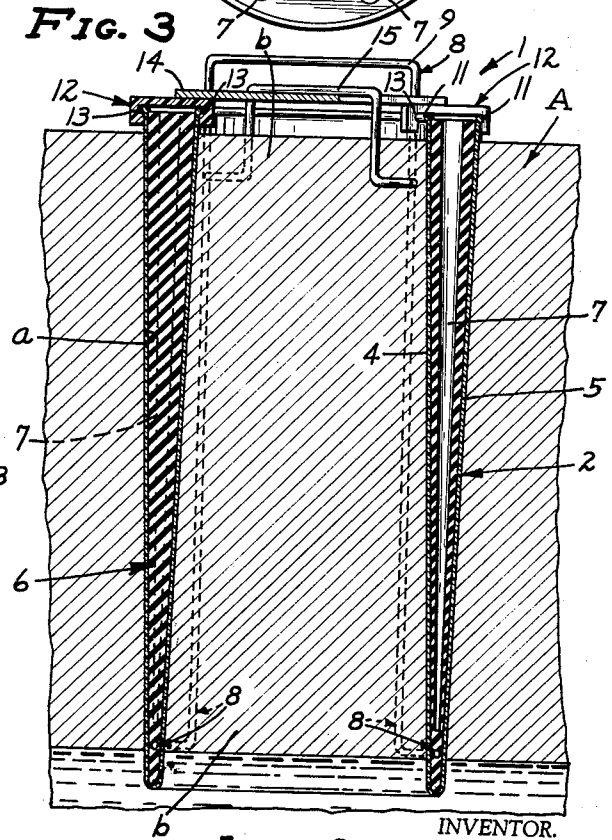


FIG. 3



INVENTOR.

LYLE C. ANDERSON

BY

Merchant & Merchant

ATTORNEYS

United States Patent Office 3,059,451 Patented Oct. 23, 1962

3,059,451

ICE BLOCK EXTRACTOR

Lyle C. Anderson, % Anderson Bros. Construction Co., P.O. Box 95, Fergus Falls, Minn.

Filed May 16, 1960, Ser. No. 29,250
7 Claims. (Cl. 62—355)

This invention relates generally to devices for obtaining access to an ice-covered water supply, and more particularly it relates to a new and useful ice block extractor for use in reopening a hole in an ice-bound water supply.

Previous devices of the class described have been somewhat inconvenient because of the necessity for using a cutting tool or a heat process in connection therewith. Therefore, an important object of this invention is the provision of an ice block extractor which is extremely efficient in reopening a hole in an ice-bound water supply without the use of a cutting tool or with the aid of a heat process.

Another object of this invention is the provision of an ice block extractor which when placed in an opening in the ice facilitates the removal of an ice plug formed therewithin after the subsequent refreezing of the opening merely by first removing the extractor and then removing the ice block freed thereby.

Another object of this invention is the provision of an ice block extractor which is formed from a buoyant material so as to maintain the extractor floating in a nearly submerged position, and which therefore does not require extraneous supporting means.

Still another object of this invention is the provision of an ice block extractor which includes means for dispensing a disposable handle in the area in which the ice block is formed so as to facilitate easy removal of the same.

Other objects of this invention reside in the provision of an ice block extractor which is simple in design, strong and durable in construction and extremely efficient in the vindication of its purpose.

The above and still further objects of this invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings wherein like reference characters indicate like parts or elements throughout the several views:

FIG. 1 is an exploded view in perspective of my invention;

FIG. 2 is a view in top plan thereof; and

FIG. 3 is a view in vertical section taken on the line 3—3 of FIG. 2;

Referring to the drawings, and particularly to FIG. 3 thereof, the reference letter A represents generally a portion of a slab of ice covering a water supply such as a lake or river. The reference numeral 1 represents the ice block extractor in its entirety. The extractor comprises an endless cross-sectionally generally V-shaped upwardly opening casing, represented generally by the reference numeral 2, which is adapted to be inserted in an opening or hole *a* in the ice A. The casing 2 forms an upwardly opening receptacle 3. It is preferred that the casing 2 is integrally formed from an elastomer, such as a heavy gauge polyethylene material, which is resilient enough to permit sufficient flexing when removing the casing 2 from its frozen position, but is also rigid enough to retain its desirable shape. It has been determined that the casing 2 can be satisfactorily formed by a molding process from a material lacking in affinity for ice. It is further desirable that the casing be produced with smooth surfaces so that its affinity for ice is further decreased.

The height or vertical dimension of the casing 2 should be greater than the thickness of the ice in which it is

adapted to be used, and it has been determined that a height of approximately two feet is satisfactory in most cases. The casing 2 defines downwardly converging inner and outer wall portions 4, 5 respectively.

In accordance with my invention, an endless generally tubular core, represented generally by the reference numeral 6, and formed from a buoyant material, is provided. The outer configuration of the core 6 corresponds approximately to the receptacle 3 and is therefore adapted to be removably received within the casing 2 so as to substantially fill the same. The core 6 must be formed from a material which will maintain the extractor 1 floating in a nearly submerged position, as seen particularly in FIG. 3, when the core 6 is received within the casing 2. It has been determined that a core 6 formed from a rubber material, the specific gravity of which is slightly less than one, gives satisfactory performance.

As seen particularly in FIG. 2, the core 6 defines a plurality of generally transversely centered perimetrically-spaced void-forming recesses 7. The core 6 is further provided with a flexible cord 8 which is embedded therewithin at perimetrically-spaced points thereabout so as to define upwardly projecting loops 9 which are grasped by the user when removing the core 6 from the receptacle 3.

The upper edges of the inner and outer wall portions 4, 5 of the casing 2 define perimetric beads 11. It will be noted that a plurality of perimetrically-spaced clips, represented generally by the reference numeral 12, are provided. Each of the clips 12 defines opposed recesses 13 which communicate with the beads 11 so as to removably engage the beads 11 of the inner and outer wall portions 4, 5 after insertion of the core 6 within the receptacle 3 so as to keep the core disposed within the casing 2.

Preferably, and as shown, the extractor 1 is also provided with an elongated bar 14 disposed across the top of the clips 12, as shown, or across the beads 11 of the casing 2 when the extractor 1 is disposed in its operative position. A depending ice block handle 15 hangs from the bar 14 and is adapted to become embedded in the ice block *b* which is formed within the casing 2 so as to facilitate easy removal of the ice block *b* after removal of the casing 2.

Having specifically described my invention, the operative simplicity will be noted. Although my invention would be extremely useful in any situation in which it was desirable to reopen a hole in an ice-bound water supply, it is particularly useful to ice fishermen when they have finished fishing through a hole in the ice and wish to prepare the same for easy reopening upon their return. In this connection, the core 6 is inserted within the receptacle-forming casing 2, and both thereof are placed in the previously-opened hole *a* in the ice A. The buoyancy of the extractor 1 causes it to assume a nearly submerged position, as seen particularly in FIG. 3. Then the clips 12 are snapped on the bead 11 of the casing 2 so as to span the inserted core 6. Thereafter, the bar 14 is placed upon the casing 2, and the handle 15 is hung therefrom. When the ice block *b* within the extractor 1 becomes frozen, and it is desired to reopen the hole *a* in the ice, the bar 14 is first removed from the casing 2 so as to leave the handle 15 frozen within the ice block *b*. Then the clips 12 are removed, and the loops 9 of the cord 8 are grasped by the user, and the core 6 is removed from the receptacle 3. Then, after removing the casing 2 from the ice A, the ice block *b* may be easily removed by pulling on the handle 15 which has been frozen therein. It should be obvious that the extractor 1 may be reused an indefinite number of times since it is constructed from materials which will not be harmed by the freezing action of the ice A.

This invention has been thoroughly tested and found

to be completely satisfactory for the accomplishment of the above objects; and while I have shown a preferred embodiment thereof, I wish it to be specifically understood that the same may be modified without departure from the scope and spirit of the appended claims.

What I claim is:

1. An ice block extractor for use in reopening a hole in an ice-bound water supply, said extractor comprising an endless cross-sectionally generally V-shaped upwardly opening generally tubular receptacle-forming casing adapted to be inserted in an opening in the ice and integrally formed from a flexible material having smooth surfaces, said material lacking in affinity for ice, the height of said casing being greater than the thickness of the ice in which it is adapted to be used, said casing defining an inner wall portion and an outer wall portion which is spaced from said inner wall portion in downwardly converging relationship thereto, and an endless generally tubular core formed from a buoyant and compressible material and adapted to be removably received within said casing so as to adapt said extractor for floating in a nearly submerged position.

2. An ice block extractor for use in reopening a hole in an ice-bound water supply, said extractor comprising an endless cross-sectionally generally V-shaped upwardly opening receptacle-forming casing adapted to be inserted in an opening in the ice and integrally formed from a resilient material having smooth surfaces, said material lacking in affinity for ice, the height of said casing being greater than the thicknes of the ice in which it is adapted to be used, said casing defining downwardly converging inner and outer wall portions, an endless generally tubular core formed from a buoyant material and adapted to be removably received within said casing and substantially filling the same so as to maintain said extractor floating in a nearly submerged position, and a plurality of perimetrically spaced clips adapted to span the top of said casing and removably engage the tops of said inner and outer wall portions after insertion of said core so as to keep said core within said casing.

3. The structure defined in claim 2 in which said core defines a plurality of generally transversely centered perimetrically spaced void-forming recesses.

4. The structure defined in claim 3 in further combination with a flexible cord embedded within said core at perimetrically spaced points thereabout so as to define upwardly projecting loops for removing said core from said receptacle.

5. The structure defined in claim 4 in further combination with an elongated bar disposed across the top of said casing, and a depending ice block handle hung from said bar and adapted to become embedded in the ice block surrounded by said casing so as to facilitate easy removal thereof.

6. An ice block extractor for use in reopening a hole in an ice-bound water supply, said extractor comprising an endless cross-sectionally generally V-shaped generally tubular casing which is internally open throughout its length, said casing being adapted to be inserted in an opening in the ice and formed from flexible sheet material, said sheet material having relatively smooth surfaces and lacking in affinity for ice, the height of said casing being greater than the thickness of the ice in which it is adapted to be used, said casing defining an inner wall portion and an outer wall portion which is spaced from said inner wall portion in downwardly converging relationship thereto, and a buoyant and compressible core material substantially filling the space between said inner and outer wall portions of said casing so as to adapt said extractor for floating in a nearly submerged position.

7. The structure defined in claim 6 in further combination with an elongated bar disposed across the top of said casing, and a depending ice block handle hung from said bar and adapted to become embedded in the ice block surrounded by said casing so as to facilitate easy removal thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

186,589	Lucaw	Jan. 23, 1877
1,143,185	Grant	June 15, 1915
1,547,709	Winfree	July 28, 1925
1,785,078	Gibson	Dec. 16, 1930
2,914,926	Meagher	Dec. 1, 1959