July 16, 1957 W. E. MEAGHER 2,799,146

DEVICE FOR FACILITATING THE REOPENING OF AN ICE FISHING HOLE

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Fig. 1

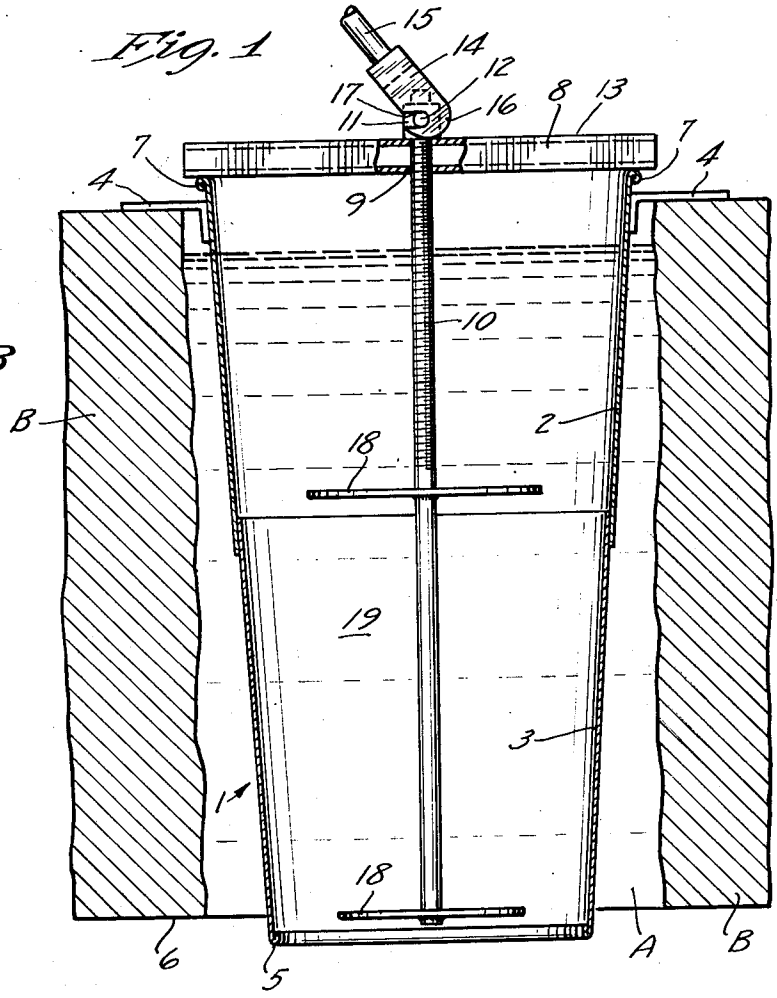


Fig. 3

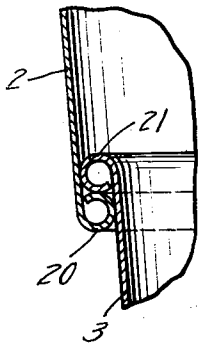
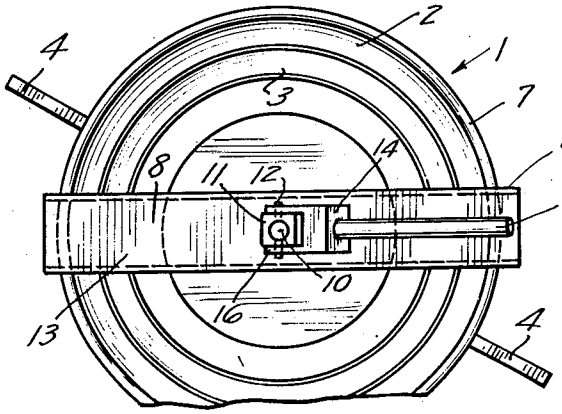


Fig. 2



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DEVICE FOR FACILITATING THE REOPENING OF AN ICE FISHING HOLE

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4 Claims. (Cl. 62—110)

My invention relates to ice fishing gear, and more particularly to apparatus for facilitating the reopening of an ice fishing hole after initial opening thereof and subsequent refreezing.

The primary object of my invention is the provision of a device of the class described which comprises a frusto-conical tubular boot which may be inserted into an opening in the ice and supported from the ice surrounding said opening, and which is provided with means for removing the plug of ice which thereafter forms within the boot due to freezing, without actually removing the boot from the hole.

A further object of my invention is the provision of a device of the class immediately above described wherein the boot comprises a pair of telescoping sections which are movable to their extended positions when inserted into an opening in the ice and which may be retracted for purposes of storage, transportation and the like.

A further object of my invention is the provision of a device of the class generally above described which is relatively inexpensive to produce, which is rugged and durable, and which is positive in its operation.

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

Referring to the drawings, wherein like characters indicate like parts throughout the several views:

Fig. 1 is a view partly in vertical axial section and partly in side elevation showing my novel device in operation, some parts being broken away;

Fig. 2 is a view in top plan of the structure of Fig. 1; and

Fig. 3 is an enlarged fragmentary view in vertical section of a portion of the structure of Fig. 1, showing a slight modification thereof.

Referring with greater particularity to the drawings, the numeral 1 indicates in its entirety a tubular boot comprising a pair of cooperating frusto-conical boot sections, the upper one of which is identified by the numeral 2 and the lower one by the numeral 3. Boot sections 2 and 3 may be extended to their operative position of Fig. 1, or retracted to substantially the height of one thereof for the purpose of storage or transportation. As shown in Fig. 1, boot 1 is adapted to be inserted into an opening A in the ice B and to be supported from the ice B surrounding the opening A by means of a plurality of radially projecting circumferentially spaced supporting arms 4 which are adjacent the open upper end of the boot 1. It will be noted that the combined lengths of the sections 2 and 3 is always greater than the thickness of the ice B in conjunction with which the boot 1 is adapted to be used, whereby the lower end 5 thereof extends below the level of the bottom surface 6 of the ice B. Note also, that the beaded upper end portion 7 of the boot 1 projects above the level of the upper surface 7 of the ice B when the supporting legs 4 are resting thereon.

The crosshead 8, preferably and as shown, is rectangular and tubular in shape and formed from any suitable strong metal; and is adapted to extend across and be supported by the open upper end 7 of the boot 1 as shown in Fig. 2. At its intermediate portion, the crosshead 8 is provided with an aperture 9 through which loosely extends the upper end of a jack shaft 10. Note that the jack shaft 10 in operative position, extends axially of the boot 1 and has an enlarged head 11 at its upper end, above the level of the crosshead 8, which limits downward movement of the jack shaft 10 with respect to the crosshead 8. Projecting laterally outwardly from opposite sides of the head 11 are trunnions 12. Trunnions 12 overlie the upper surface 13 of the crosshead 8 in spaced relationship thereto. Jack means for said jack shaft 10 comprises a bifurcated hook-shaped cam lifter 14 which is provided with a handle 15. The cam lifter 14 comprises a pair of laterally spaced hook-acting forks 16 which define openings 17.

Below the level of the supporting arms 4, and above the level of the lower end portion 5 of the boot 1, the jack shaft 10 is provided with a plurality of disc-like lifting plates 18, the function of which will hereinafter be explained in detail.

The use and function of the structure above described is as follows: after the opening A has been made in the ice layer B, the boot 1 is inserted into the opening A with the enlarged open upper end 7 upwardly, whereby to cause the boot sections 2 and 3 to move to their extended positions under the action of gravity. Supporting legs 4 are caused to engage the upper surface 7 of the ice B immediately surrounding the opening A and the day's fishing is accomplished through the boot 1. After completion of the given day's fishing, the crosshead 8, and the jack shaft 10 carried thereby, is placed into the position of Fig. 1, with the lifting plates 18 lying within the thickness of the ice layer B. In due course an ice plug 19 will form within the boot 1 during the interval between fishing periods. This plug 19 may be readily removed from the boot 1, without removal of the boot 1 from the opening A, merely by causing the trunnions 11 to enter the opening 17 defined by the hook-acting forks 16 of the cam lifter 14, and thereafter rocking the handle 15 clockwise. It will be noted that the hook-acting forks 16 exert pressure upon the upper surface 13 of the crosshead 8 in raising the jack shaft 10. It will also be noted that one or more of the lifting plates 18 become imbedded in the ice plug 19 and hence greatly facilitate breaking loose of the plug 19 from the boot 1. After the plug 19 has been broken loose from the boot 1, same may be removed entirely from the boot 1 by lifting upwardly on the crosshead 8, one hand of the operator being placed on each side of the jack shaft 10.

In the modified structure of Fig. 3, the lower end portion of the upper section 2 is rolled inwardly upon itself to provide a bead 20, whereas the upper end portion of the lower section 3 is rolled outwardly upon itself to provide a bead 21. Engagement of the beads 20, 21 obviously positively limits the extensible movements of these sections.

My invention has been thoroughly tested and found to be completely satisfactory for the accomplishment of the above objects, and while I have disclosed a preferred embodiment thereof, it should be specifically understood that same is capable of considerable modification without departure from the scope and spirit of the appended claims.

What I claim is:

1. In a device of the class described a frusto-conical tubular boot, radially projecting supporting means adjacent the enlarged upper end of said boot, a crosshead

adapted to be supported over the open top of said boot, a jack shaft having its upper end working freely through an aperture in the intermediate portion of said crosshead, a lifting plate carried by said jack shaft below the level of said supporting means, and jack means associated with the upper end of said jack shaft overlying said crosshead.

2. The structure defined in claim 1 in further combination with means limiting downward movements of said jack shaft with respect to said crosshead.

3. The structure defined in claim 2 in which said means limiting said downward movements of said jack shaft with respect to said crosshead comprises an enlarged head, and in which said jack means comprises a pair of trunnions projecting horizontally outwardly one each from opposite sides of said head in overlying relationship to said crosshead, and a handle equipped hook-shaped cam lifter adapted to detachably receive said trunnions.

4. In a device of the class described a tubular boot comprising a pair of telescoping frusto-conical sections,

circumferentially spaced radially projecting supporting arms carried by the enlarged upper end portion of the upper section, a crosshead adapted to be supported over the open top of said upper section, a jack shaft having its upper end working freely through an aperture in the intermediate portion of said crosshead, a plurality of axially spaced lifting plates carried by said jack shaft below the level of said supporting means and above the level of the restricted lower end of said boot when said sections are in their extended positions, an enlarged head on the upper end of said jack shaft limiting downward movements thereof with respect to said crosshead, a pair of trunnions projecting one each from opposite sides of said enlarged head in overlying spaced relationship to said crosshead, and a bifurcated hook-shaped cam lifter adapted to receive said trunnions therein and to elevate said jack with respect to said crosshead and boot sections.

No references cited.