

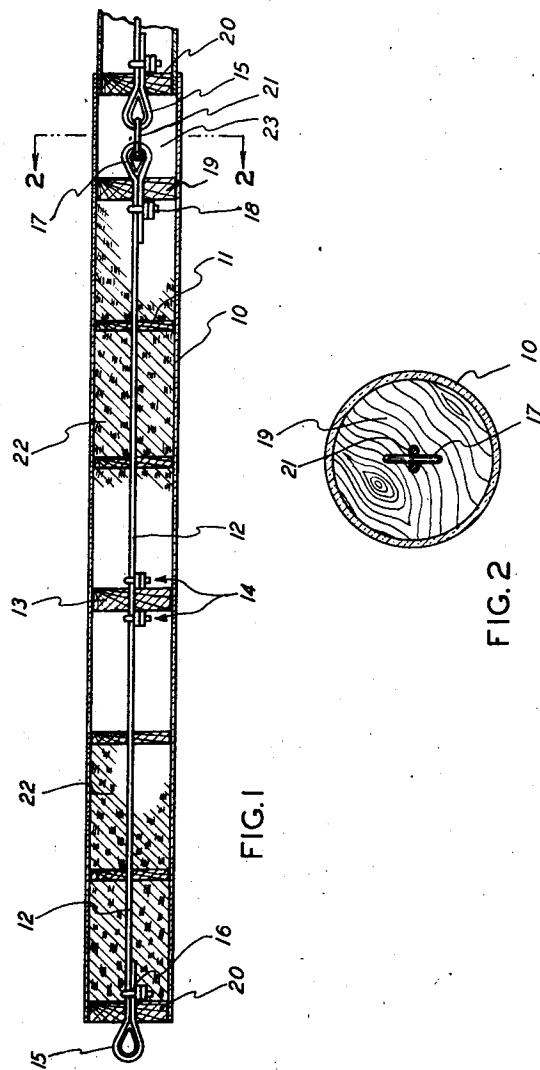
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TUBULAR SKIMMING BOOM

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TUBULAR SKIMMING BOOM

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3 Claims. (Cl. 210—51)

The object of the invention is to provide a flexible, floating boom for trapping and retaining oil floating on the surface of a body of water.

The invention may best be understood with reference to the attached drawing, in which

Fig. 1 is an elevation of a section of the boom, parts being broken away to show internal construction, and

Fig. 2 is a cross section as on the line 2—2 of Fig. 1.

Referring to the drawing, 10 is a woven, seamless tube of asbestos cord preferably having a bronze or brass wire in each strand. This material is highly resistant to fire and has considerable tensile strength. A suitable diameter is 6 inches, though it may be made larger or smaller if desired, and the tube may be had in any lengths needed for practical use. Unit lengths of 20 feet are convenient for assembly into a finished boom to any length desired.

The tube is held in an inflated form by inserting in each length a plurality of circular wood or cork blocks 11 which are of the internal diameter of the hose and may be say 1 inch thick and so spaced as to keep the ground cork filling uniformly distributed. These blocks are strung on a cable 12 which may be of $\frac{1}{8}$ inch bronze wire tiller rope. One block located centrally of the length of the tube as at 13 may be of excess thickness, say 2 inches, and be retained in position on the cable by bulldog rope clips 14 gripping the cable on each side of the block. These larger blocks provide anchorage of the cable to the tube at a number of places throughout the length of the boom; so that the strain of pulling on the cable is distributed. At one end of the section the cable is looped back through the block as at 15 and the loop provided with a thimble and fastened by a clip 16 on the opposite side of the block. A similar loop 17 and clip 18 are placed at the opposite end of the section, but at this end the block is located some distance from the end of the tube, as indicated at 19. Numerous methods will suggest themselves for this attachment of sections.

The left hand end (as illustrated) of each section of tube is sufficiently reduced in diameter to fit within the right hand end of the next section to the left, using at this point a block 20 of reduced diameter. Finally, the two loops 15 and 17 are joined by a clevis 21, making the cable continuous through any number of sections needed to make the length of boom desired. As we build it, the cable is slightly shorter

than the tube; so that the cable gets all of the strain of pulling.

As the device is assembled, each of the spaces 22 is filled with granulated cork. A good grade of ground cork should be used and it should not be packed too tightly or it will reduce the flexibility of the tube and may prevent it from being reeled up. As much cork as possible should be placed in the end compartments 23 to prevent collapse of the tube at these points. When all of the blocks 11, 13, 19, and 20 are in place, they should be fastened by nailing through the fabric of the tube with flat-headed copper nails.

It is convenient to place the assembled tube on any suitable type of reel from which it can be drawn when needed, as the tube should not be allowed to remain in the water when not in use. The continuous metallic cable through the center of the tube takes most of the tensional strain and adds greatly to the strength of the assembly, but even so, on withdrawing it from the water it will be found to have absorbed considerable water and to have increased materially in weight. For this reason it is desirable to reel it in slowly and allow as much water as possible to drain out.

The wetted tube will float with about half its diameter above the surface, providing a dam which, if closed at the ends, can be used for preventing the further travel of spilled oil, even if on fire. Even when the dry tube is subjected to a strong flame, the cork filling chars very slowly, and when in place in the water, the assembly is substantially completely fireproof.

Ordinary booms are made of logs, timbers, or built-up wooden sections jointed together. Each section is stiff and rigid. The flexible tube boom is far superior to the wood type in waves because it conforms to the water surface maintaining a uniformly submerged relationship throughout. A rigid boom will submerge in the crests of waves and ride clear in the valleys, thus permitting escape of oil both above and below. It is obvious that the flexible boom overcomes this difficulty. Other features of superiority over wooden booms are (1) speed of putting it into service; (2) its continuity at joints, being free from gaps through which oil can escape; (3) fireproof characteristic; (4) closures around oil bodies more easily made owing to flexible ends; (5) lighter weight.

I claim as my invention:

1. A skimming boom comprising: a fireproof fabric tube; a metallic cable extending axially through said tube; means for centering said cable in said tube, and a packing of ground cork

placed within said tube, said cork packing being in amount sufficient to maintain said tube in inflated shape.

5 2. A tubular skimming boom comprising: a woven fabric tube composed of asbestos threads and metallic wires; a wire rope extending axially through and substantially centered in said tube, and a filling of ground cork within said tube and surrounding said wire rope.

10 3. A sectional skimming boom, each section comprising: a fireproof fabric tube having one end reduced in diameter to fit within the end of the adjacent section; a metallic cable extending

axially through said tube and looped at each end; circular blocks of diameter substantially equal to the inner diameter of said tube and each provided with a central hole for said cable, said blocks being arranged transversely within said tube and around said cable at intervals along the length of said boom section; a filling of comminuted cork between said blocks within said tube, and means for attaching the loop at one end of said cable to the cable loop at the dissimilar end of the adjacent section. 5 10

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