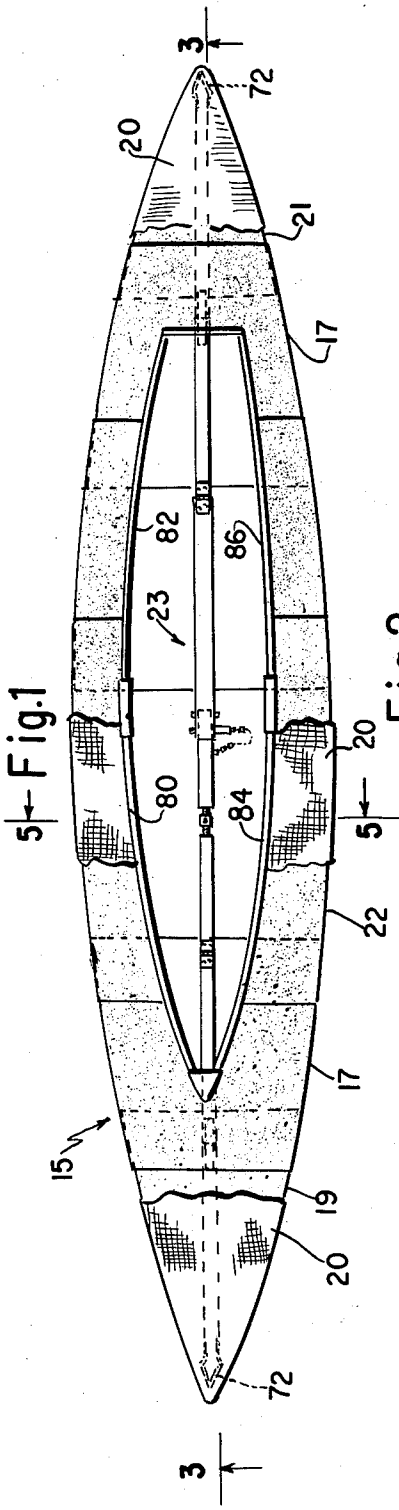
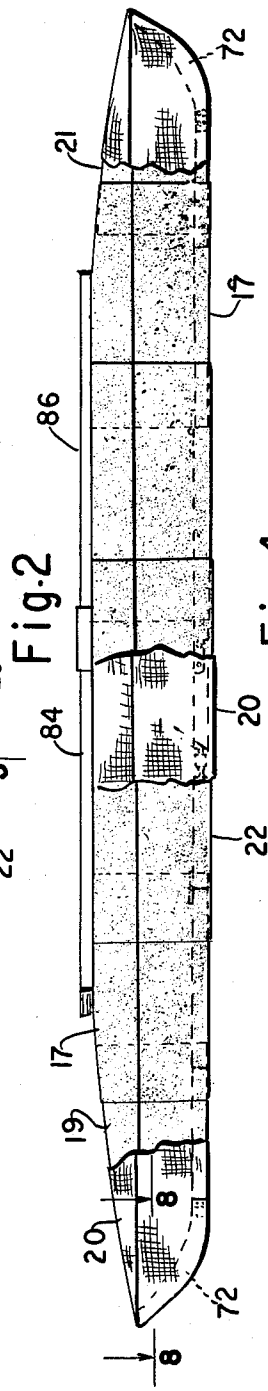
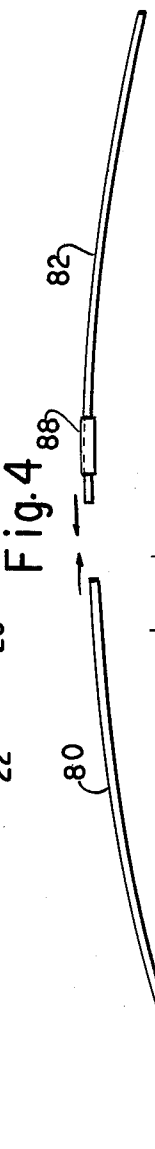
March 10, 1964 J. BRONNER 3,123,841

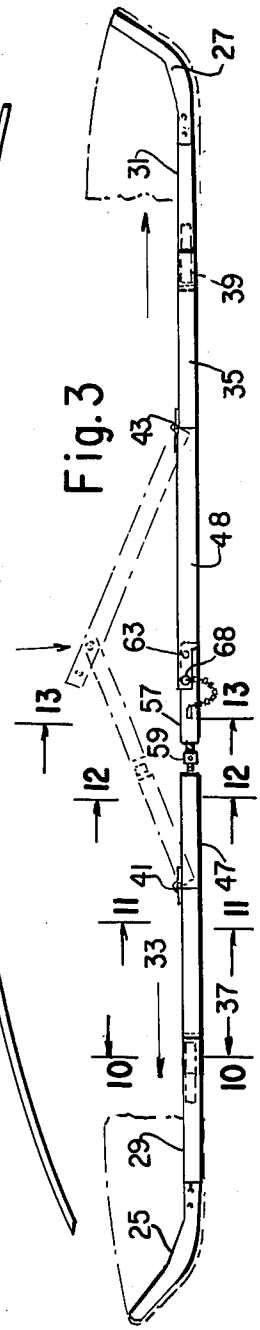
TELESCOPING FOLDING BOATS

Filed April 30, 1962 3 Sheets-Sheet 1









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TELESCOPING FOLDING BOATS

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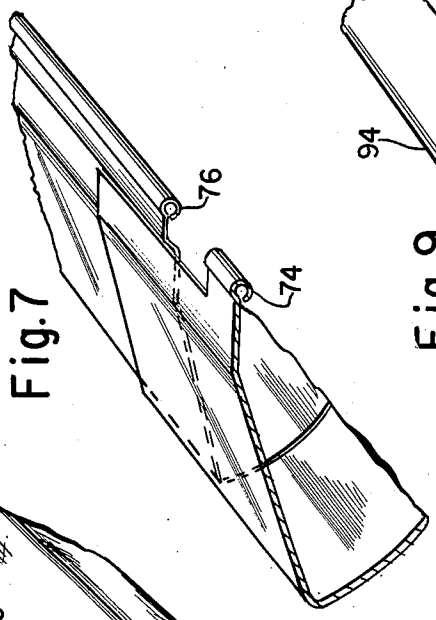


Fig.7

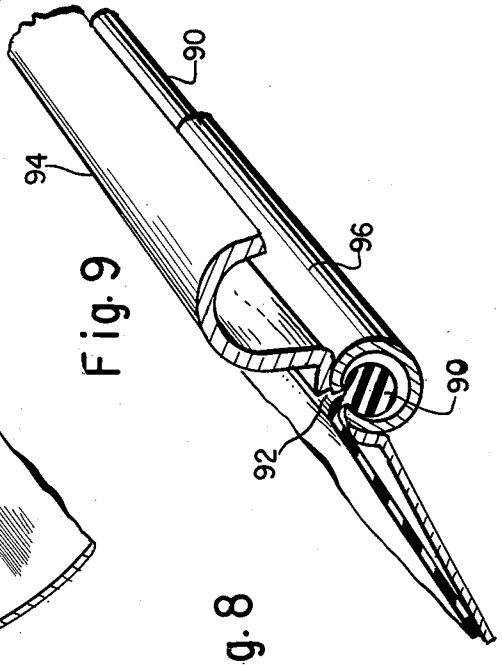


Fig.9

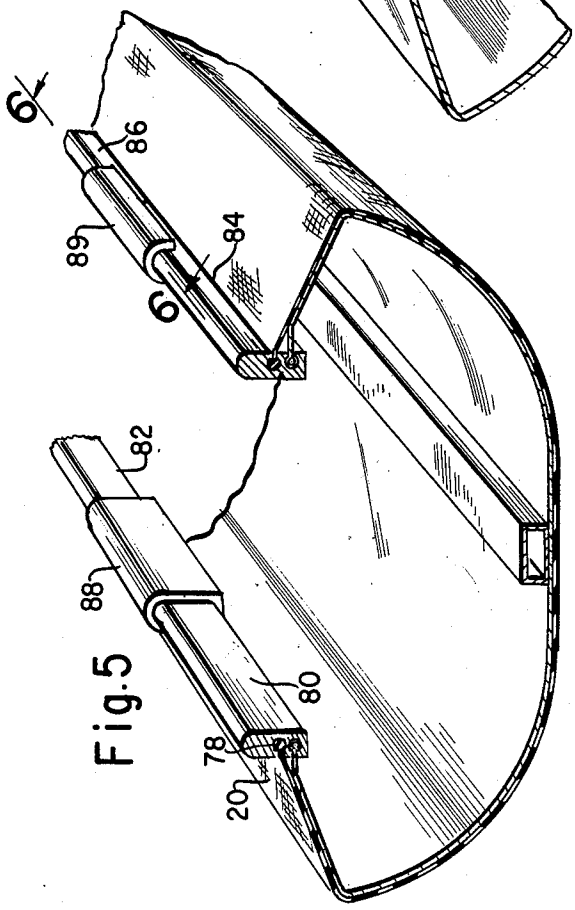


Fig.5

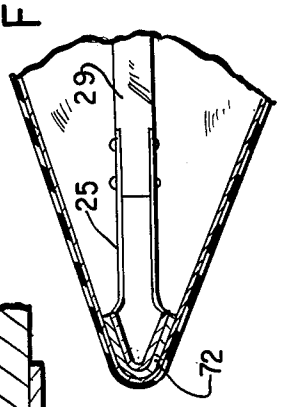


Fig.8

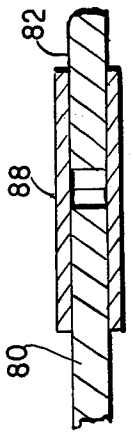


Fig.6

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TELESCOPING FOLDING BOATS

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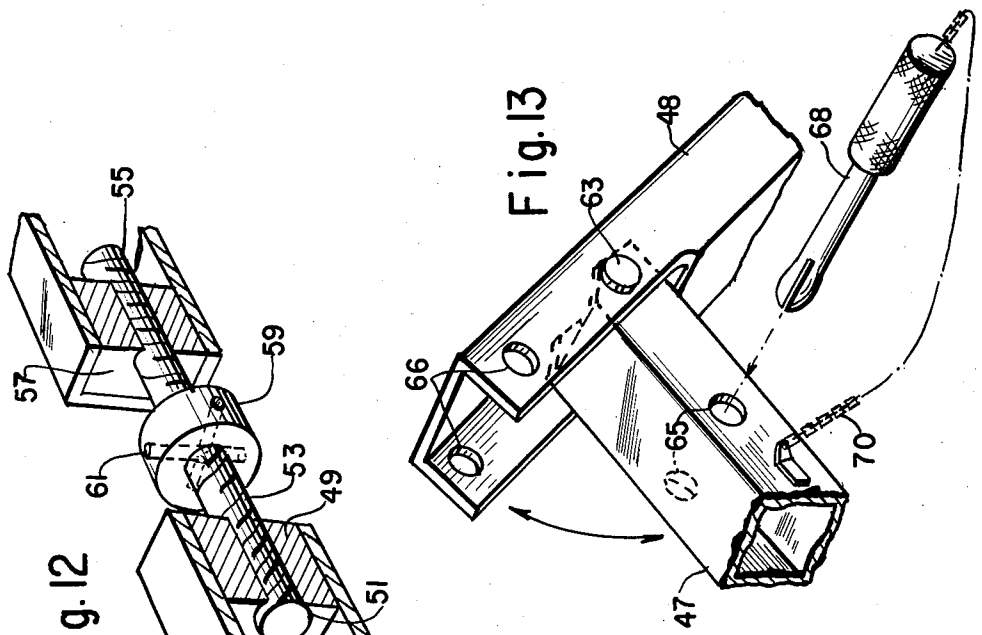


Fig. 12

Fig. 13

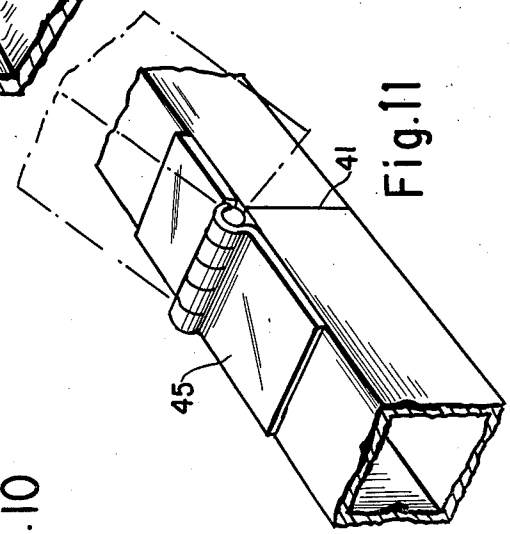


Fig. 11

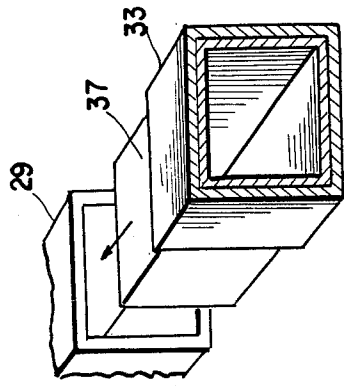


Fig. 10

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3,123,841

TELESCOPING FOLDING BOATS

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Filed Apr. 30, 1962, Ser. No. 190,865
5 Claims. (Cl. 9—2)

This invention relates to telescoping folding boats which can be quickly and easily assembled for use, or readily disassembled and reduced in size for transportation and storing.

An important object of this invention is to provide telescoping folding boats which have rigid, strong, safe, simple and well balanced structures and which are light in weight.

Another important object of the invention is to provide telescoping folding boat constructions of the above kind which are adaptable for use in canoes, row boats, motor boats, sail boats and the like regardless of size, be these of the smallest or largest dimensions.

A further important object of the invention is to provide improved telescope folding boats comprising a plurality of longitudinally telescoping rigid shell sections and an enclosing flexible waterproof outer covering in intimate contact with the outer face of the rigid shell sections when these are telescoped the maximum predetermined length of a particular boat.

Yet another important object of the invention is to provide telescoping folding boats in which the aforesaid shell sections will provide a firm support for the outer waterproof covering impervious to the impact of underwater obstructions, punctures, rips and tears.

Yet another important object of the invention is to provide, in telescoping folding boats, a longitudinally extending stress-resisting disassemblable adjustable compression member or assembly adapted to be connected together and to the bow and stern shell sections to longitudinally stress the rigid shell sections to provide a sturdy hull form for the enclosing flexible waterproof outer covering.

The above and other important objects of the invention will be apparent from the following description of the preferred embodiment thereof described with reference to the accompanying drawings forming a part of this specification.

It should be understood, however, that these are given by way of illustration and not of limitation, and that various changes in the details, form and arrangement of the parts may be made without departing from the scope of the invention.

In the drawings:

FIG. 1 is a plan view partly in section of the boat embodying the present invention;

FIG. 2 is a side elevational view, partly in section of the boat shown in FIG. 1;

FIG. 3 is a side elevational view of the longitudinally extending stress-resisting disassemblable compression member;

FIG. 4 is a plan view of one of the disassemblable handrails of the boat;

FIG. 5 is an enlarged detail taken on line 5—5 of FIG. 1, showing the construction and method of assembling the handrails, the rigid shells and the outer flexible covering of the boat;

FIG. 6 is a detail cross-section taken on line 6—6 of FIG. 5;

FIG. 7 is an enlarged detail of the assembly of rigid shell sections of FIG. 5;

FIG. 8 is a section taken on line 8—8 of FIG. 2;

FIG. 9 is an enlarged detail showing an alternate method of securing the handrail, the shell and the outer flexible covering;

FIG. 10 is a cross-section taken on line 10—10 of FIG. 3;

FIG. 11 is a cross-section taken on line 11—11 of FIG. 3;

FIG. 12 is an enlarged detail perspective view, partly in section, of the compression member, taken on line 12—12 of FIG. 3; and

FIG. 13 is an enlarged detail of the compression member taken on line 13 of FIG. 3.

Referring now to the drawings in detail, the boat according to the invention, generally indicated by the numeral 15, comprises a plurality of rigid shell sections 17, a rigid bow shell section 19 and a rigid stern shell section 21, which are shown in telescoped form in which the ends of each section engage with the ends of the following section in an overlapping manner, as shown in FIGS. 1 and 2. A covering of flexible waterproof material 20 is provided. A longitudinally extending, stress-resisting disassemblable compression member 23, shown in greater detail in FIGS. 3, 8, 10, 11, 12 and 13 comprises a bow member 25, a stern member 27 rigidly secured to members 29, 31, respectively of rectangular cross-section.

There are further provided two members 33 and 35 of the same cross-section one end of each of said members being adapted to snugly fit against the free ends of members 29 and 31 respectively. Cores 37 and 39 are provided in these respective members to guide and stop the longitudinal movement of the members 29 and 31, respectively. Hingedly secured to the other end of member 33 at 41 and 43 by means of hinges 45, as shown in FIG. 11, are rectangular section members 47 and 48. The free end of member 47 is provided with an integrally secured block 49 provided with a right-hand threaded aperture 51 adapted to receive the righthand threaded end 53 of an adjusting screw which is also provided with a left-hand thread 55 adapted to be received in a threaded block 57^1 integral with one end of member 57. The adjusting screw is provided with an integral knob 59, by means of which the screw may be turned in either direction to space member 47 and 57 as desired. Knob 59 has bores 61 to permit the insertion of a rod (not shown) for the convenient turning of the knob. The other end of member 57 is hinged to member 48 by means of a pin 63 and is also provided with a pair of apertures 65 which may be aligned with another pair of apertures 66 in member 48, to permit the insertion of a locking pin 68, which is conveniently attached to member 47 by means of chain 70, as shown in FIGS. 1, 3 and 13.

There are further provided in the bow and stern shell sections reinforcing V-shaped flanges 72, integrally secured to these sections, as shown in greater detail in FIG. 8, so that bow member 25 and 27 may be snugly received therein and centrally guided.

The upper edges of adjoining shells starting at the cockpit are formed with tubular flanges 74, 76 in such a manner that these are in alignment when the shells are telescoped, as shown in FIG. 7. The flexible waterproof material outer covering 20 is provided with a welted edge 78, which together with flanges 74, 76 are adapted to slidably fit in internally longitudinally slotted hand-rail members 80, 82 and 84, 86 respectively, when the shells are assembled and the outer covering is applied. It will be noted that one of each pair of the hand-rail members is bent to permit a firm engagement in the similarly internally bent end of sleeve 88 which locks each pair of the sections in secure engagement when the boat is assembled.

In the alternate form shown in FIG. 9 the welted edge 90 fits into groove 92 of the hand-rail 94. Sleeves 96 and 98 hold the edge 90 in place.

FIGS. 1, 2, 3 and 7 illustrate the manner in which the individual shell sections and the flexible waterproof ma-

terial are assembled. From an initial nested position of the shell sections (not shown), the bow and stern sections are extended through the intermediate respective sections 17 which are in turn extended through the central section 22, so that the adjoining sections overlap one another. The compression member 23, which serves to compress the male portions of the shells in the respective female shells is assembled by sliding members 33 and 35 into engagement with the bow and stern reinforcing flanges respectively, so that the compression member is in the position shown in FIG. 3 in dotted lines, and its ends such as 25 engage in the flanges such as 72 (FIG. 8). The member 43 is pressed downwardly into the position shown in solid lines in FIG. 3. The adjusting screw may be used to set the exact length of the compression member for proper engagement with the bow and stern reinforcing flanges. The cover 29 is next drawn over the assembled shell and hand rail sections 69 and 82 are slid over tubular flanges such as 74, 76 and over welted edges 78 thereby securing the cover on the shell. The sleeves 88, 89 are slid over the hand rails to hold these together. The entire assembly is accomplished in a short time. To disassemble the boat the procedure is reversed.

From the foregoing, it will be apparent that the objects of the invention heretofore enumerated and others have been accomplished and that a new and improved collapsible boat has been provided, which boat is light in weight and can be arranged into a relatively small package when dismantled and which can also be readily assembled for use. While the preferred embodiment of the invention has been described in considerable detail, it is to be understood that the invention is not limited to the particular constructions shown, which constructions may be varied within the scope of this invention and it is my intention to hereby cover all adaptations, modifications and variations thereof which come within the practice of those skilled in the art to which the invention relates and within the spirit and scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States is:

1. A telescoping folding boat comprising a hull of rigid material having a continuous outer surface and consisting of a bow section, a stern section and at least one intermediate section, said sections being adapted to telescope relative one another, an outer cover of flexible waterproof material in intimate contact with the outer surface of said hull, and compression means biasing said bow and stern sections for compressing the shell sections in overlapping extended relationship.

2. A telescopic folding boat comprising a hull of rigid material having a continuous outer surface and consisting of a bow section formed with a converging closed end and an open male end, a stern section formed with a converging closed end and at least one intermediate shell section having open ends and an open top portion adapted to receive the open ends of said bow section and said stern section respectively, in overlapping relationship, a longitudinally extending compression member adapted to bias said bow and stern section in opposite directions relative to said intermediate section, and a flexible cover of waterproof material in intimate contact with the outer surface of said hull, said cover having an open top portion adapted to coincide with the open top portion of said intermediate section, and means for securing said open top portion of the cover in coincidence with the open top portion of said intermediate section.

3. The telescopic folding boat according to claim 2, wherein said longitudinally extending compression member comprises at least a pair of members having curved ends conforming to the converging ends of said bow and stern sections respectively and having straight ends, a pair of intermediate members, means for detachably securing each of said intermediate ends to each of said straight ends, each of said intermediate members consisting of a pair of hinged portions and means for locking said hinged portion.

4. The telescopic folding boat according to claim 3, wherein one of said hinged portions consists of a pair of longitudinally spaced elements and adjusting means connecting said elements for adjusting the space therebetween.

5. The telescopic folding boat according to claim 4, wherein said adjustment means comprises a screw element threaded oppositely on its respective ends and said pair of elements are provided with threaded portions for receiving the ends of said screw.

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