July 19, 1932. J. D. CLARKE 1,867,563

AIR BOAT

Filed Feb. 23, 1929

FIG 1

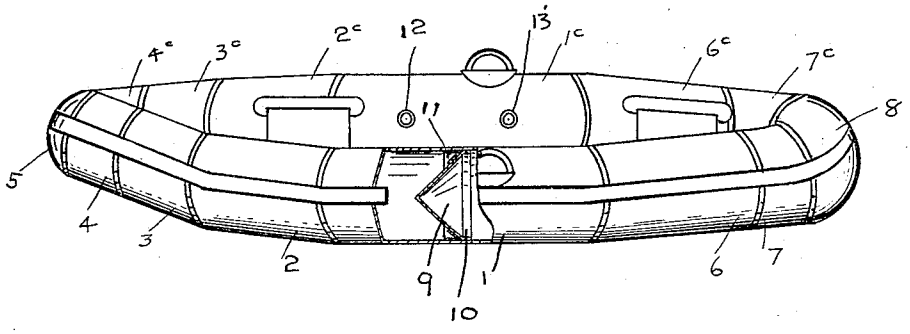


FIG 2

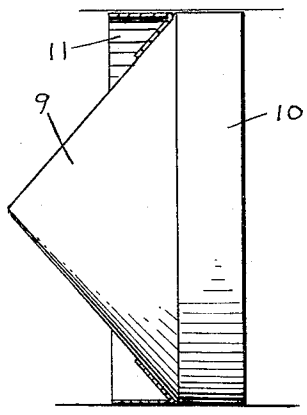
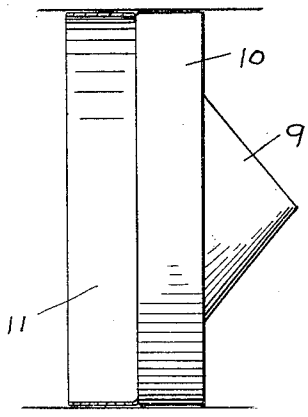


FIG 3



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AIR BOAT

Application filed February 23, 1929. Serial No. 342,036.

The invention relates to improvements in air boats and especially to that construction of inflatable rims set forth in a separate application for Letters Patent filed by me January 30, 1929, Serial Number 336,165, wherein the applicant discloses a series of geometrically planned and fitted straight sections fixedly and angularly connected to form an endless inflatable rim having an intermediate base portion and upwardly inclined bow and stern portions thus supported by the base portion upon the inflation of the rim as also illustrated by the Figure 1 of the present drawing. The former application further disclosed a rim interior divided into separate lower and upper compartments by an endless partition extending horizontally throughout the rim, but the present application seeks to cover the same geometrically constructed inflatable rim in combination with a rim interior divided into compartments by partitions of a different description and the objects of the invention are to provide for an inflatable rim of that type interior compartments divided by partitions transversely positioned and secured within the rim in a plane perpendicular to the general horizontal plane of the rim; and to provide for an inflatable and flexible rim cone-shaped partitions having an attaching marginal portion reinforced by a strip of flexible material secured to the base of each cone and cooperating with the marginal portion in providing a double flanged attaching means to support the flexible portion of the partition against strain in either one direction or the other due to the tendency of the air pressure within the several compartments to equalize.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain features of novel construction and arrangement of parts hereinafter described, illustrated in the accompanying drawing and particularly pointed out wherein patentable novelty is claimed for certain features of the device, it being understood that within the scope of what hereinafter thus is claimed various changes in form, proportion, size, and minor details of the construction, can be made without departing from the spirit or modifying any of the advantages of the invention.

The following is the description of an embodiment of the invention, reference being had to the accompanying drawing (one sheet) in which the Figure 1 is a side elevation of an air boat in perspective, the wall of the rim being broken to expose an interior; the Figure 2 is an enlarged side elevation of a flexible cone-shaped partition in normal position and with the reinforcing strip illustrated partly in cross-section; and the Figure 3 is a similar side elevation but illustrating the flexible portion of the partition in a reversed position.

Referring more particularly to the drawing, in which similar numbers refer to similar parts, the construction of the inflatable boat rim is identical to that described in the previous application for patent already referred to and comprises the straight sections 1, 2, 3, 4, 5, 4^c, 3^c, 2^c, 1^c, 6^c, 7^c, 8, 7, and 6, fixedly and angularly connected to form the flexible, endless, inflatable rim having the intermediate base portion and the upwardly inclined end portions thus supported by the base portion, as illustrated by the Figure 1. The partitions 9, one only of which is illustrated partly in cross-section by the Figure 1 (at least one other partition, not illustrated, being located within the rim at a place diametrically opposite the illustrated partition 9 in the Figure 1) are of cone shape, each having the attaching flange 10 adapted to be secured to the rim interior, the conical portion of the partition remaining flexible and thus adapted to assume either of the two positions as best illustrated by the Figures 2 and 3. These partitions 9, each being in a plane perpendicular to the general horizontal plane

of the rim, divide the rim interior into separate and distinct air-tight compartments extending longitudinally with the rim and between partitions, each compartment being substantially circular in cross-section. In the extreme position to which the conical portion of the partition may be air-pressed, and as illustrated by the Figure 2, all strain suffered by the partition is amply provided for by the attaching flange 10 secured to the rim interior. In the other extreme position illustrated by the Figure 3, however, the attaching flange 10 has proved inadequate as a holding means against the peculiar strain placed upon it by a reversed air pressure, and to provide for this inadequacy a reinforcing strip 11 of flexible material is secured to the exterior base of the cone and also to the interior wall of the rim to cooperate with the flange 10 in providing a double flanged holding means of which the rim attaching portions are relatively in close proximity and extend along the rim interior in opposite directions, as best illustrated by the Figures 2 and 3. 12 and 13 represent possible locations for valves of any appropriate type adapted to serve as a means for independently inflating and deflating the separate compartments.

What I claim is:—

1. A boat comprising, in part, multiple geometrically shaped pieces of flexible material capable of providing tubular sections so angularly interfitted and assembled as to form a shaped endless inflatable rim longitudinally providing an intermediate base supporting upwardly inclined bow and stern portions; flexible cone-shaped partitions, each having an annular integrally flanged marginal portion secured to the annular interior wall of the rim; a reinforcing member carried by the conical portion of the partition and having an annular flanged marginal portion secured to the annular interior wall of the rim, but in an opposite direction to that of the integral flange, the conical portion of the partition, and the portion of the reinforcing member carried thereby, having a hinged relation to both annular flanged marginal portions thus secured, the partitions dividing the endless course of the rim interior into separate relatively expansible air compartments; and means through which the compartments may be separately and independently inflated and deflated.

2. In an inflatable and collapsible air boat structure, the combination of a float member composed of impervious flexible material cut into sections of similar width but of varied curved-edged lengths adhesively assembled by overlapping seams exteriorly reinforced by adhesive strips and forming a shaped endless inflatable rim of angularly connected straight cylindrical sections, thus providing the rim with an intermediate base portion supporting upwardly inclined bow and stern portions; of flexible cone-shaped partitions, each having an annular marginal portion secured to the annular interior of the rim; and of a reinforcing member carried by the conical portion of each partition, the reinforcing member having an annular marginal portion secured to the annular interior of the rim, but in an opposite direction to that integrally provided by the partition, the partition being thus secured for resisting strain of air adjustment within adjoining compartments thereby divided upon the extension of the cone-shaped portion of the partition into either compartment.

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