Nov. 7, 1933. J. L. PARKER 1,933,598

BOAT

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Fig. 1.

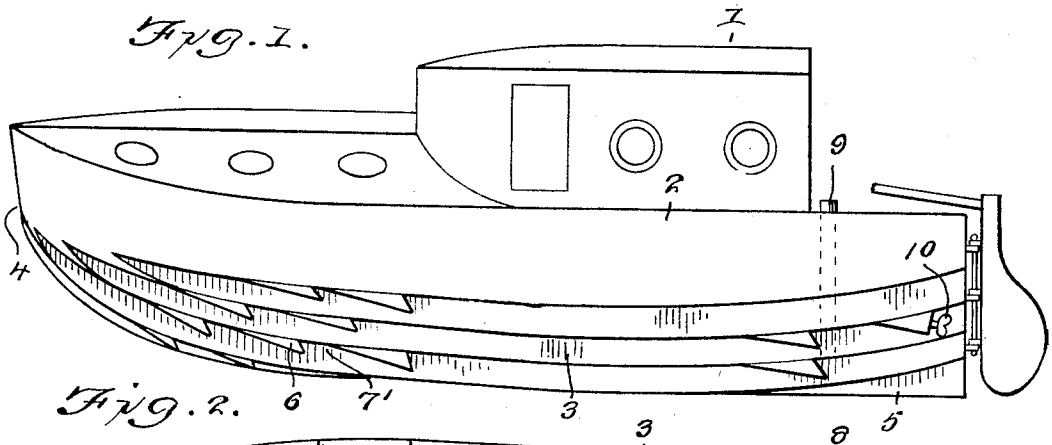


Fig. 2.

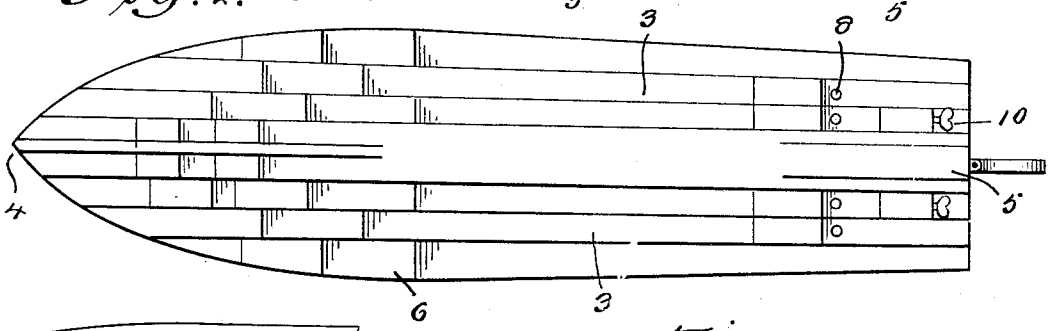


Fig. 3.

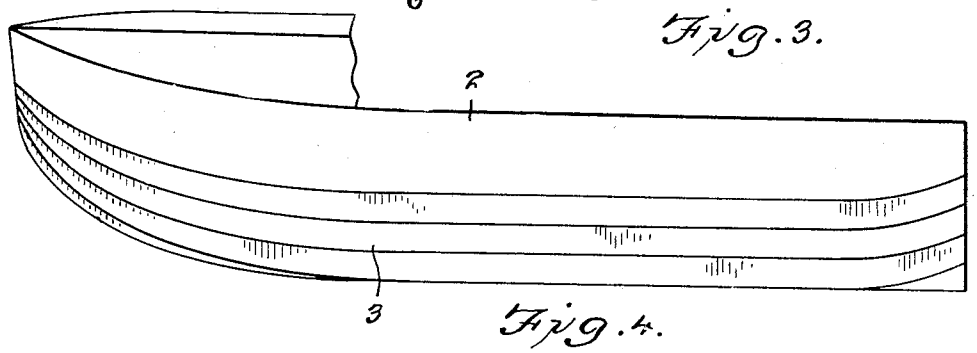


Fig. 4.

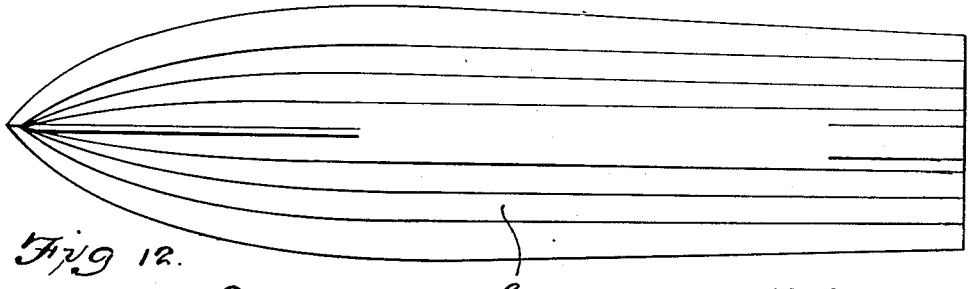
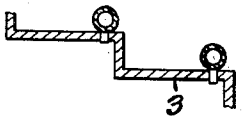


Fig 12.



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Fig. 5.

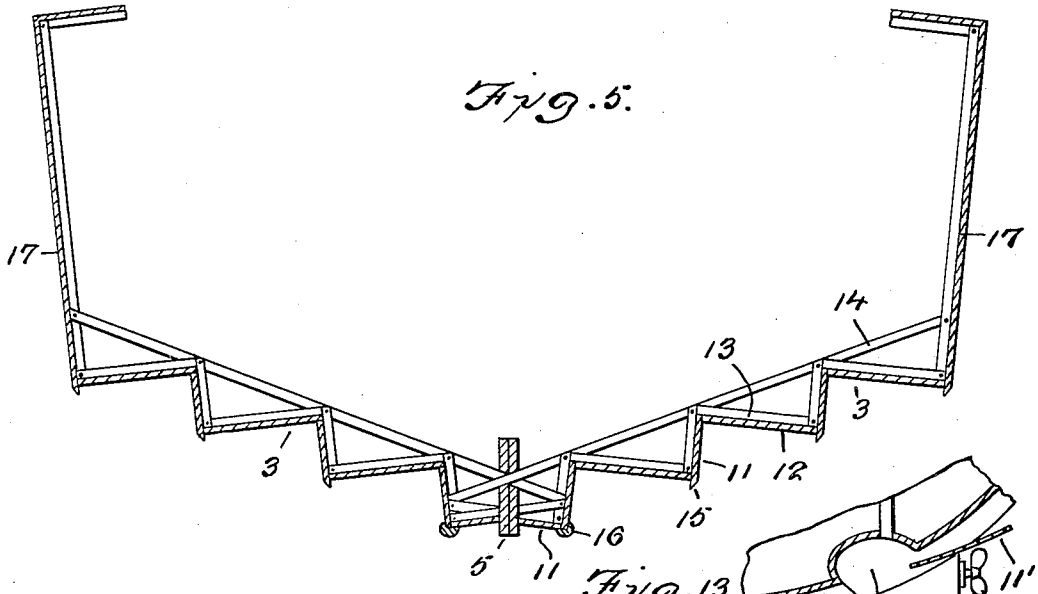


Fig. 13.

Fig. 6.

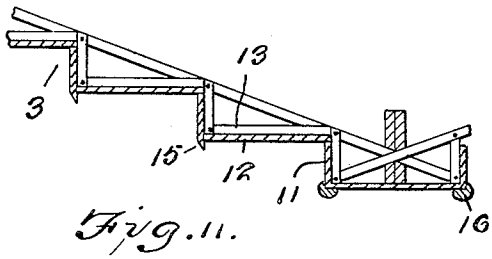


Fig. 7.

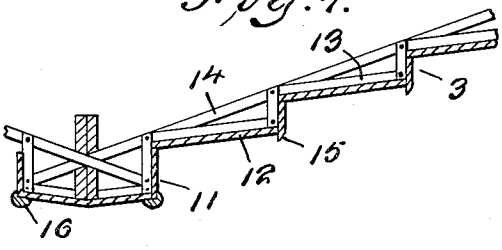


Fig. 11.

Fig. 9.



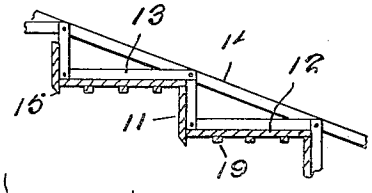


Fig. 10.

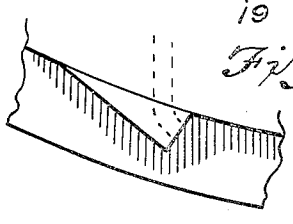
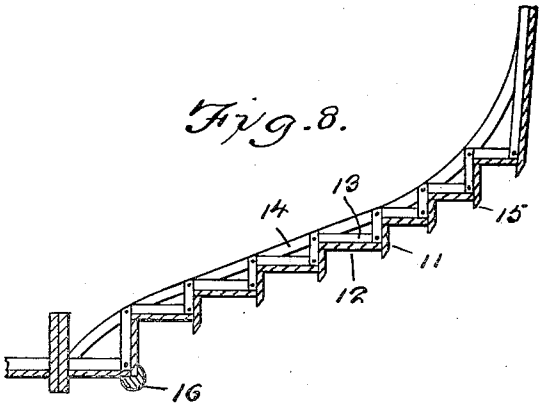


Fig. 8.



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UNITED STATES PATENT OFFICE

1,933,598

BOAT

James Lewis Parker, Daytona Beach, Fla.

Application July 29, 1932. Serial No. 626,122

3 Claims. (Cl. 114—66.5)

This invention relates to boats and more particularly to the construction of the hulls thereof, and has for the primary object, the provision of means for reducing friction between the hull and the water and thereby increase the speed of the boat and permit the latter to glide easier and the amount of motive power necessary to propel the boat at desired speeds to be materially reduced.

Another object of this invention is the provision of a plurality of alleys or channels in the hull and extending through the bow to the stern thereof, whereby air may be taken in at the bow of the hull during the forward motion of the latter and exhausted at the stern to reduce the skin resistance of the hull with the water and provide increased buoyancy to the hull for causing the latter to rise closer to the surface of the water as the speed thereof increases, thus materially reducing the amount of water displaced by the hull.

A further object of this invention is the provision of means whereby steam or air pressure may be directed into the alleys to aid in propelling the boat and also increasing the buoyancy of the hull thereof by decreasing friction between the water and the hull.

A further object of this invention is the provision of means for forming a series of pockets in the alleys to cause the air passing therethrough to increase its buoyant action to the hull and prevent any tendency of a reverse flow of the air in the alleys.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation illustrating a boat constructed in accordance with my invention.

Figure 2 is a bottom plan view illustrating the same.

Figure 3 is a fragmentary side elevation illustrating a slight modification of the arrangement of the alleys in the hull.

Figure 4 is a bottom plan view illustrating the same.

Figure 5 is a transverse sectional view illustrating the formation of the alleys in the hull.

Figure 6 is a fragmentary transverse sectional view illustrating a slight modification of the alleys.

Figure 7 is a similar view illustrating another modification of the alleys.

Figure 8 is a fragmentary sectional view illustrating the alleys arranged in closer formation.

Figure 9 is a fragmentary sectional view showing each alley equipped with ribs providing the same with a series of channels.

Figure 10 is a detail view showing a pneumatic tube for exhausting air or steam pressure in an alley.

Figure 11 is a detail view showing a modification in which the alleys may be formed in the exterior of the hull.

Figure 12 is a fragmentary sectional view illustrating means for introducing air or steam pressure into the alleys.

Figure 13 is a detail sectional view illustrating a modified form of my invention whereby the air in the alleys may be exhausted in front of the propeller.

Referring in detail to the drawings, the numeral 1 indicates a boat in which the hull 2 thereof has formed in the bottom and portion of the sides, a plurality of longitudinally extending alleys 3, the forward ends of which terminate at various points between the shoulders of the hull and the bow 4 as clearly shown in Figure 1, while the rear ends of the alleys extend through the stern of the boat and are slightly curved upwardly, as shown in Figure 1. The alleys extend from opposite sides of the keel 5 upwardly on each side of the hull. Each alley from the shoulder portions of the hull gradually taper towards its rear end as shown in Figure 2, thereby providing the forward end of the alleys of larger size so that they will readily collect air during the forward motion of the boat. Said air collected within the alleys passes rearwardly therethrough and exhausts at the stern of the boat, giving an increased buoyancy to the hull, causing the latter to more readily rise towards the surface of the water as its speed increases and reduces skin friction between the hull and the water.

Groups of tapering elements or blocks 6 are formed in the alleys forming therebetween a series of pockets 7'. The inclination of the blocks or elements is forward or toward the bow so that the air passing through the alleys will be forced towards the water as it passes each block or element increasing the buoyant action to the hull and as the air passes each block or element and passes into the pockets 7', prevents any tendency of the air to flow in a reverse direction in the alleys.

Nozzles 8 extend into the alleys 3, adjacent the stern of the hull and are connected to a supply pipe 9 which may receive steam or air pressure from any suitable source so that the steam or air pressure will be directed into the alleys and against the water giving a propelling action to the hull as well as a buoyancy thereto. This additional buoyancy being provided adjacent the stern prevents the latter from descending downwardly into the water as the bow rises due to the increase in speed of the hull through the water, thereby maintaining the hull substantially horizontally and close to the surface of the water.

The air passing through the alleys and also the air or steam pressure causes the hull to rise towards the surface of the water when under headway and thereby reduce the amount of water displaced and by so doing permits greater speed to be obtained by the boat and also the employment of less horsepower to the power medium employed for propelling the boat.

As shown in Figures 1 and 2, the propellers 10 may be arranged in certain of the alleys adjacent the stern of the hull and upon opposite sides of the keel 5.

The alleys adjacent the propellers may be provided with pockets 10' in advance of said propellers to which suction pipes are connected, whereby the air pressure in said alleys may escape, a substantially horizontally disposed plate 11' being located adjacent each pocket 10' extends over the propeller, as shown in Figure 13.

As shown in Figure 5 the alleys 3 are arranged in stairstep formation in which the alleys are constructed of vertically and horizontally arranged planks 11 and 12. The planks 11 and 12 being suitably secured together and to framework 13 of stairstep formation carried by the usual ribs or staves 14 of the hull. The planks 11 extend upwardly and outwardly from the keel while the planks 12 extend downwardly and outwardly from said keel and the planks 11 at their lower edges project slightly below the planks 12 to form fins or ribs 15 that aid in trapping the air within the alleys.

The planks 11 fasten to the opposite sides of the keel 5 and to the planks 12 next thereto and are provided with ribs or beading 16 on which the hull may rest when engaged with the bottom of the body of water or upon the carriage of a dry docking device. As shown in Figure 5 the alleys extend from the sides or gunnels 17 of the hull to the keel.

As shown in Figure 6 the planks 12 and 11 are disposed at right angles to each other with the planks 11 of less width than the planks 12 forming shallower alleys than those disclosed in Figure 5.

As shown in Figure 7 the alleys are shallower than those shown in Figures 5 and 6 and the planks 11 extend upwardly in a vertical direction, while the planks 12 extend outwardly and upwardly from the keel and each alley from the keel towards the sides of the hull decreases in depth.

As shown in Figure 9 a plurality of relatively spaced strips 19 may be secured to the planks 12 upon their outer faces to form in each alley a series of longitudinally extending channels.

As shown in Figure 8, the hull is of the round bottom type with the alleys extending from the keel to the sides or gunnels thereof and with a greater number of alleys between the keel and sides of the hull than that shown in Figures 5 to 7.

It is to be understood that during the construction of the hull the alleys 3 are formed, however, my invention may be constructed to be applied to the outer surface of the hull of a boat already constructed as shown in Figure 11. The alleys 20 being constructed as an auxiliary attachment and secured to the sides, bottom and keel of the hull in any suitable way.

As shown in Figures 3 and 4, the alleys 3 may converge from the shoulders of the hull to the bow thereof with the forward ends of the alleys terminating at the bow strip.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of my invention, as claimed.

Having thus described my invention, what I claim is:—

1. A boat construction comprising a keel, a hull frame secured to the keel and including side and bottom portions, planking secured to the side portions to form the sides of the hull, vertically and horizontally disposed plankings secured to the bottom portion of the frame and forming a series of longitudinally extending alleys, said vertical plankings projecting below the horizontal plankings to form fins to the alleys.

2. A boat construction comprising a hull frame including stern and bow portions and a keel with a propeller at the rear end thereof, planking on said hull frame to form longitudinally disposed alleys extending from the bow portion to the stern portion between the keel and the water line of the hull frame and exhaust pockets in communication with some of the alleys adjacent and in advance of the propeller.

3. A boat construction comprising a hull frame including stern and bow portions and a keel with a propeller at the rear end thereof, planking on said hull frame to form longitudinally disposed alleys extending from the bow portion to the stern portion between the keel and the water line of the hull frame and exhaust pockets in communication with some of the alleys adjacent and in advance of the propeller, and substantially horizontally disposed plates located adjacent the pockets and rearwardly of the propeller.

JAMES LEWIS PARKER.