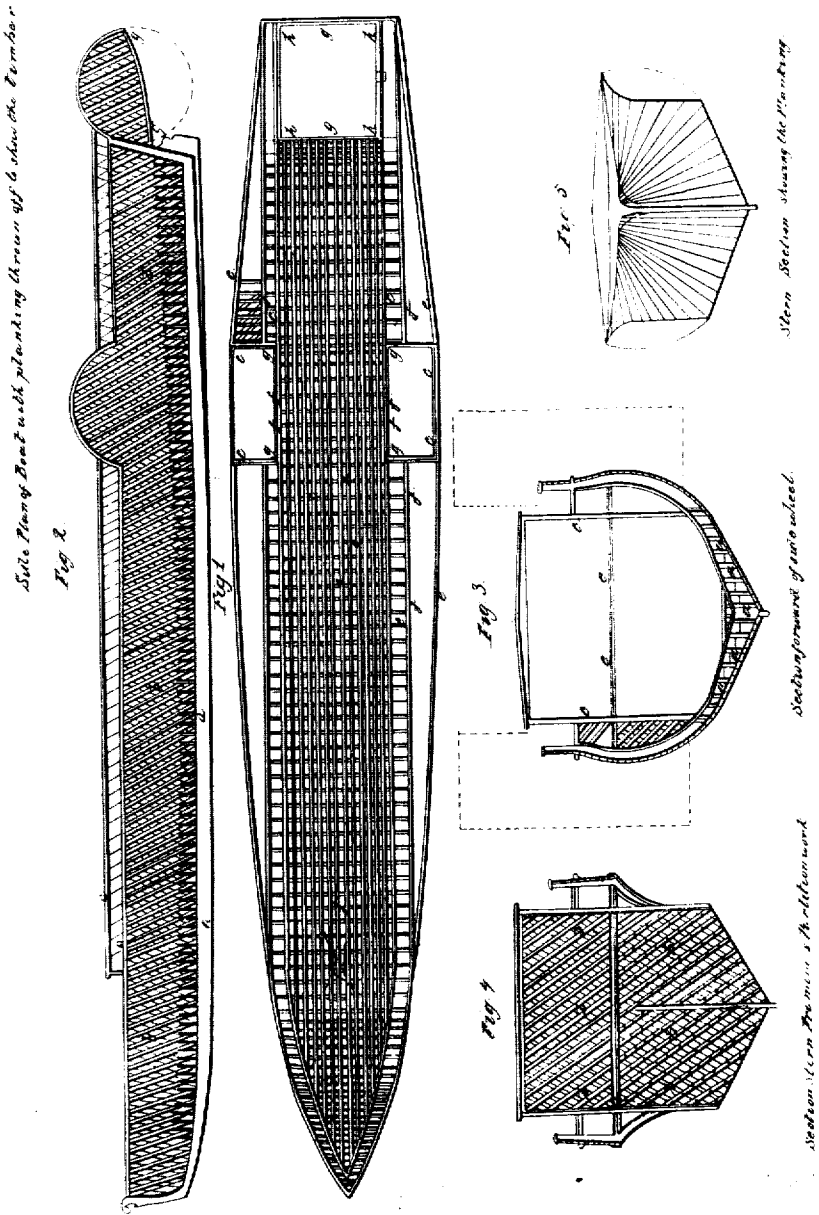
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D. GERRISH.

SHIP BUILDING.

Patented July 2, 1836.



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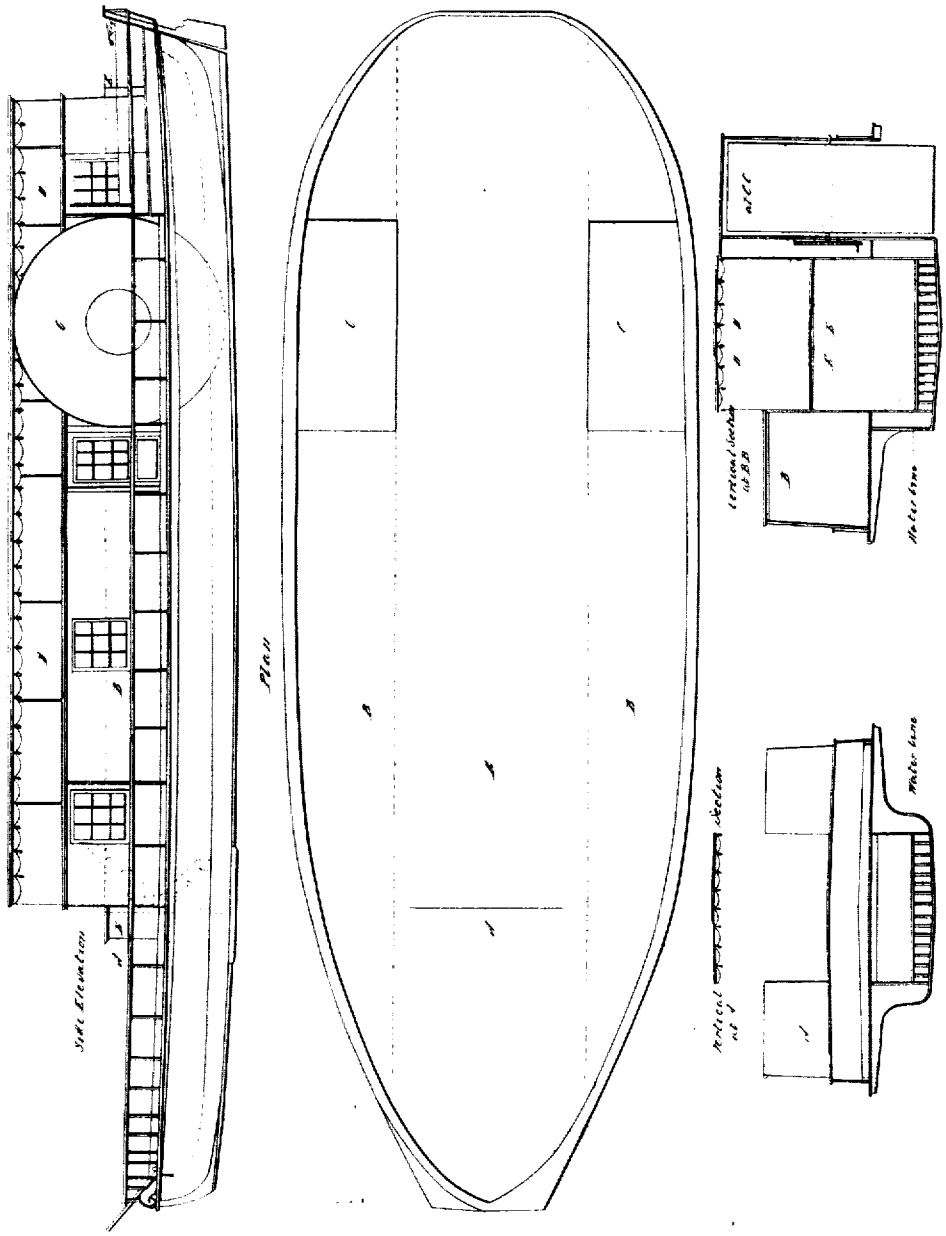
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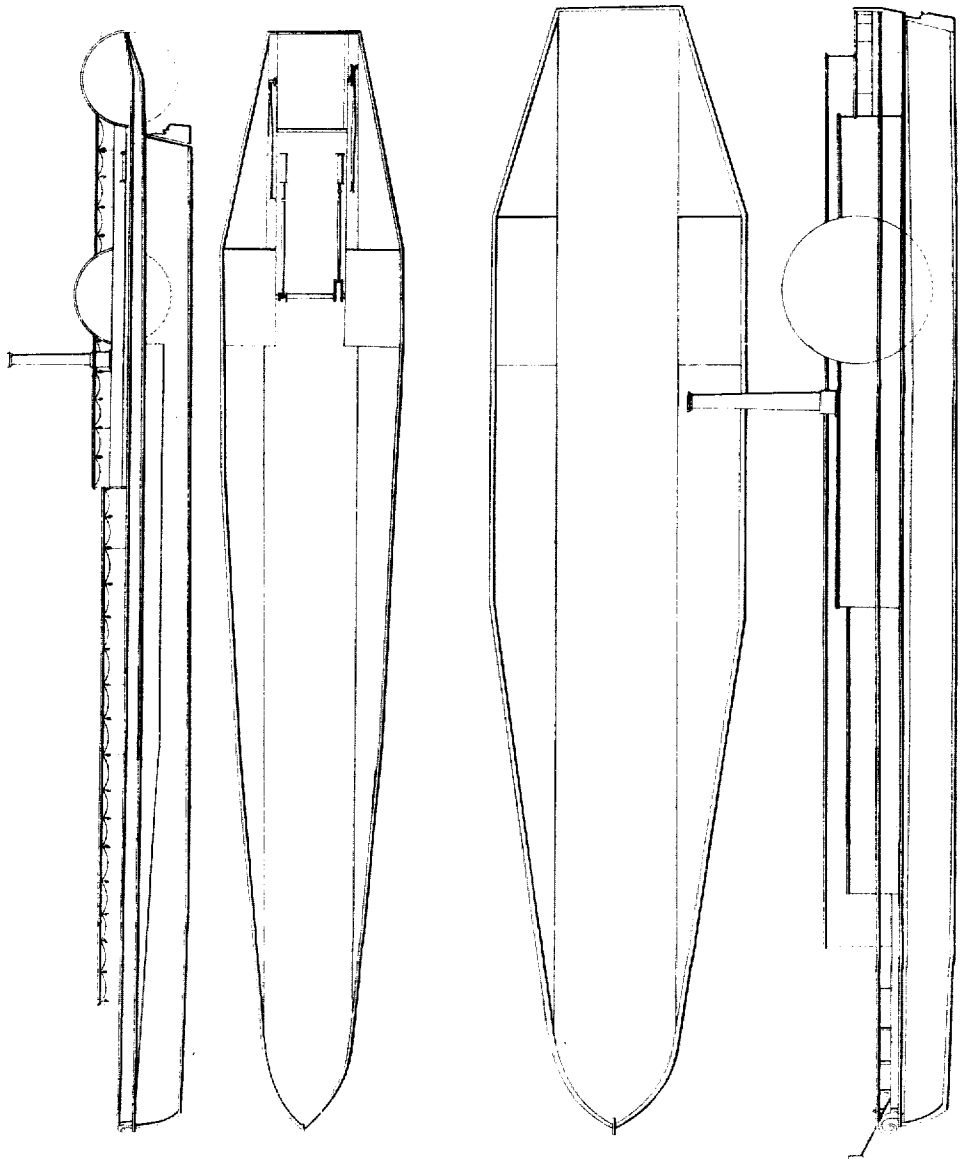
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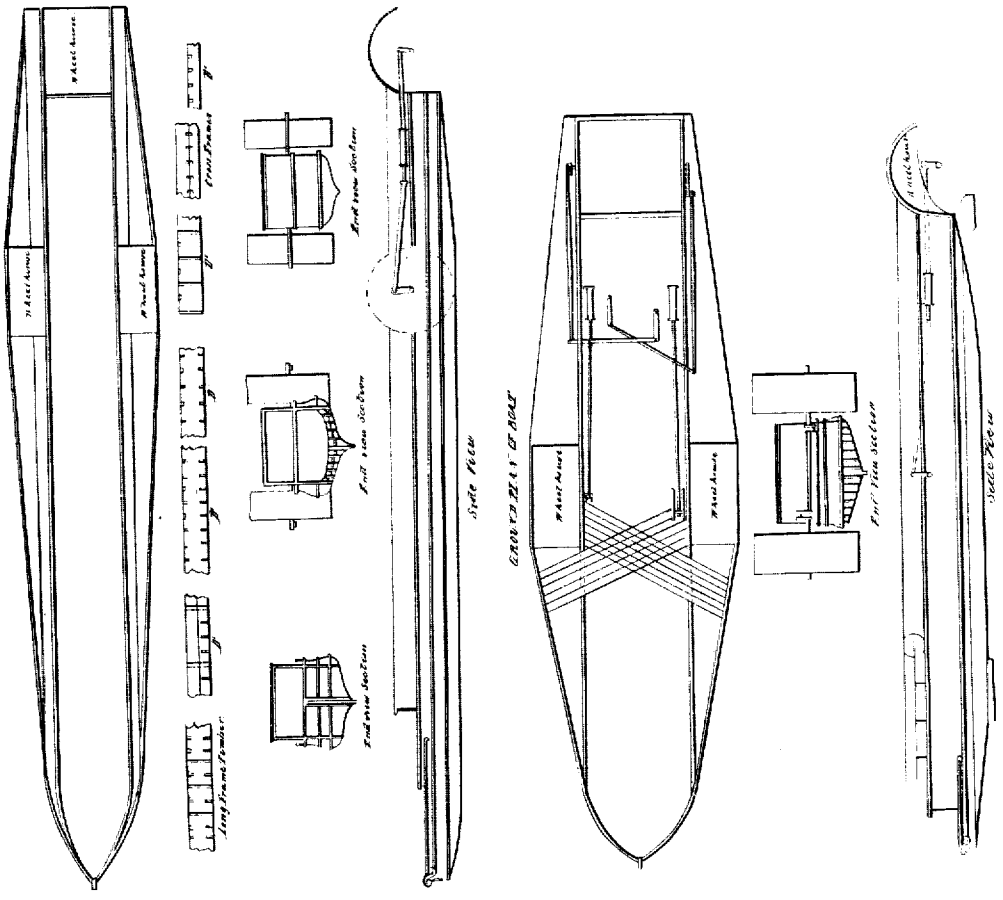
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July 2, 1836

1.

Daniel Gerrish.

Letters Patent. Patented July 2d 1836.

The Schedule referred to in these Letters Patent and making part of the same, containing a description in the words of the said Daniel Gerrish himself, of his Improvement in the construction of Vessels."

To all whom it may concern. Be it known, that I, Daniel Gerrish of Boston, in the State of Massachusetts, have invented certain Improvements in the manner of constructing or building Vessels, which are applicable to Vessels of war, and those intended to navigate the ocean, as well as to those employed in rivers or other waters, all which may be propelled by steam or otherwise. And I do hereby declare that the following is a full and exact description thereof, reference being had to the drawings which accompany, and form a part of this specification.

And I do further declare that although I have herein given certain general and particular admeasurements, I have done so for the purpose of facilitating the description only, and not with any view or in any manner to limit myself in this respect, as much latitude may be allowed therein, whilst the principle of construction remains unchanged.

The accompanying drawings Figures 1 and 2 represent plans of the skeleton framing of the vessel or steam boat, figure 2 being a side view, and are drawn on a scale of $\frac{1}{16}$ of an inch to a foot, figures 3 and 4 are cross sections, fore and aft, the side wheels drawn to a scale of $\frac{1}{8}$ of an inch to the foot. Fig. 5 shows the planking of the stern, the other figures will be referred to under their appropriate specifications.

The vessel is supposed to be 240 feet in length 30 in width forward, and 35 feet abaft the side wheels.

The improvement consists in, 1st, the manner of constructing and connecting the bottom and sides of the vessel, as it is thought it will combine the greatest possible degree of strength with the least possible weight of timber. To effect which, the lower part or bottom of the vessel is composed of deep timbers in width about two feet, in thickness five inches, extending in parallel lines, at the distance of one foot, each from the other the whole length of the vessel, Fig. 1 & 3 a, a, a, a.

The lower half of these main timbers, are to be crossed at right angles, at the same distance of one foot, from each other, by similar timbers, of one foot in width, halved and grooved into them. The lower edges of all which timbers, are to be so shaped, as to receive the covering, which forms the bottom of the vessel, and the upper edges of said cross timbers, are to be flush even, between the main timbers, thus forming a series of eight cells, of one square foot, each diameter, as fig. 1, 2 & 3.

The upper half of the main timbers, are to be crossed, in a similar manner, at the distance of four feet, or immediately over every fourth cross timber, in the lower series of cells, as sections b, b, b, b.

Additional timbers may be laid flat ways, between each of these, as at fig. 3 a, at any angles, crossing each other, and being halved, and grooved into the main timbers, as seen at fig. 1, 2, c, c, c, and (after the side timbers are framed into the keel, or bottom timbers,) these upper edges of all the timbers, are to be planked over thereby forming the flooring of the vessel, and constituting a second series of cells, of one by four feet each, which may be made air tight, or a part of them finished with hatchways, for the purpose of stowing ballast or cargo, as sections d, d, d, d.

2nd. The timbers which form the sides, and bow frames, of the vessel, are framed or mortised into the cross timbers, of the bottom, and are strengthened, by an additional framing, of the lattice work, halved into them, and covered in the usual manner, by planks, and ceiling, as fig. 1, 2 & 3, d, d, d, d.

3rd. To give additional strength, and firmness, to the vessel, a frame is erected at the distance of four feet, from each side, and extends its whole length, being framed into the timbers of the bottom, and forms the sides of the vessel, at the ends occupied by the wheels, and the frames of the cabins, and upper works, as seen at fig. 2, & 3, e, e, e, e. The four feet space between this frame, and the sides, is to be inclosed by transverse partitions as may be desired.

4th. In order to establish, a thorough system, of ventilation, in every part, and throughout the timbers, which form the main deck, are also halved, and grooved into each other, crossing at any angles, as ling ways, and cross fastened to the side frames, as at fig. 1 & 3, e, e, e, e.

5th. Such vessels, or steam Boats, thus constructed, an additional number, may be em-

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a vertical, inverted cone, or shaft, which descends through an open trunk, or well, from the deck to the middle, which will when required, secure a more perfect control over the direction of the vessel, and may be preserved from injury by being more or less raised within the recess formed for that purpose, as seen at fig. 1. f. f.

4th. In steam vessels, designed for sea service, I propose to place a part of the Paddle Wheels, in a recess of four feet, formed in the sides of the vessel, allowing them to project six feet, they being ten feet wide, and twenty four in diameter, as fig. 1. g. g. The lines e. e. show the wheel guards and ff, the sides of the vessel.

I propose also to place an additional wheel in the stern occupying the entire width of that part of the vessel, say 20 feet, in length, and 22 feet in diameter as at fig. 1. h. h.

Figs. 6 & 7, show the location of two horizontal Engines, within the guards and each on a line, and connected by a shackle bar, with the crank, of its appropriate side wheel, and also by another shackle bar, to the crank, on inward end of the stern wheel shaft, this last named shackle bar, being connected, to or with the cross head, by a guide rod, i, i, i, i.

The three wheels, being thus connected, with the two cranks, on the outside at right angles with the two cranks, of the other side f, f, all the wheels, will be in such a position, during the full action of the engines, viz as much so while two of the cranks, are passing their head centres, as at any other part, or point, of the revolution. And also, when by the motion of the waves, either of the three wheels has little or no bearing upon the water, the whole power of both Engines will still be exerted upon the immersed wheel or wheels.

7th. I propose, when it is deemed able, to place the chimney, or smoke pipe, horizontally, along the side, or guards of the vessel, allowing the smoke to escape, in the direction of the stern, or side wheels, the action of which will be calculated to promote the draft through the engine fires, see fig. 7. h. h.

8th. I intend sometimes, to form the covering of the bottom timbers, of sheet iron, or other metal, instead of plank, which will secure most of the benefit, arising from iron Steam Boats, whilst the vessel will be lighter, and much more secure, from danger in case of leaks or accident, as the water would be confined to a comparatively small number of the

9th. When the vessel is intended to navigate shallow waters, the form of the bottom

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should be nearly flat, as shown at figs. 7 & 8, & 10.

What I claim as my invention in the above described Boat or Vessel is, 1st The manner of constructing or framing and connecting the bottom and sides of the Vessel as fully described in specification Articles 1 & 2.

2d. The additional frame as erected, and for the purpose set for the and described in Art. 3, and 4, in combination with the bottom, as in Art. 1, and 2.

3d The use and construction of a second or additional bandelet, in combination with a Boat or Vessel of this construction as shown in Art. 5.

The application of forming the bottom covering of sheet Iron or other suitable without planking, confining my claim to its combination with the sides of this construction, as in art. 1.

Witnesses
B. H. Howell
W. Tucker

Daniel Gerrish

Exd. & Filed.

(Remit and Bonds sent Dec. 14. 1840.)

(Drawing.)

(1568 words)