

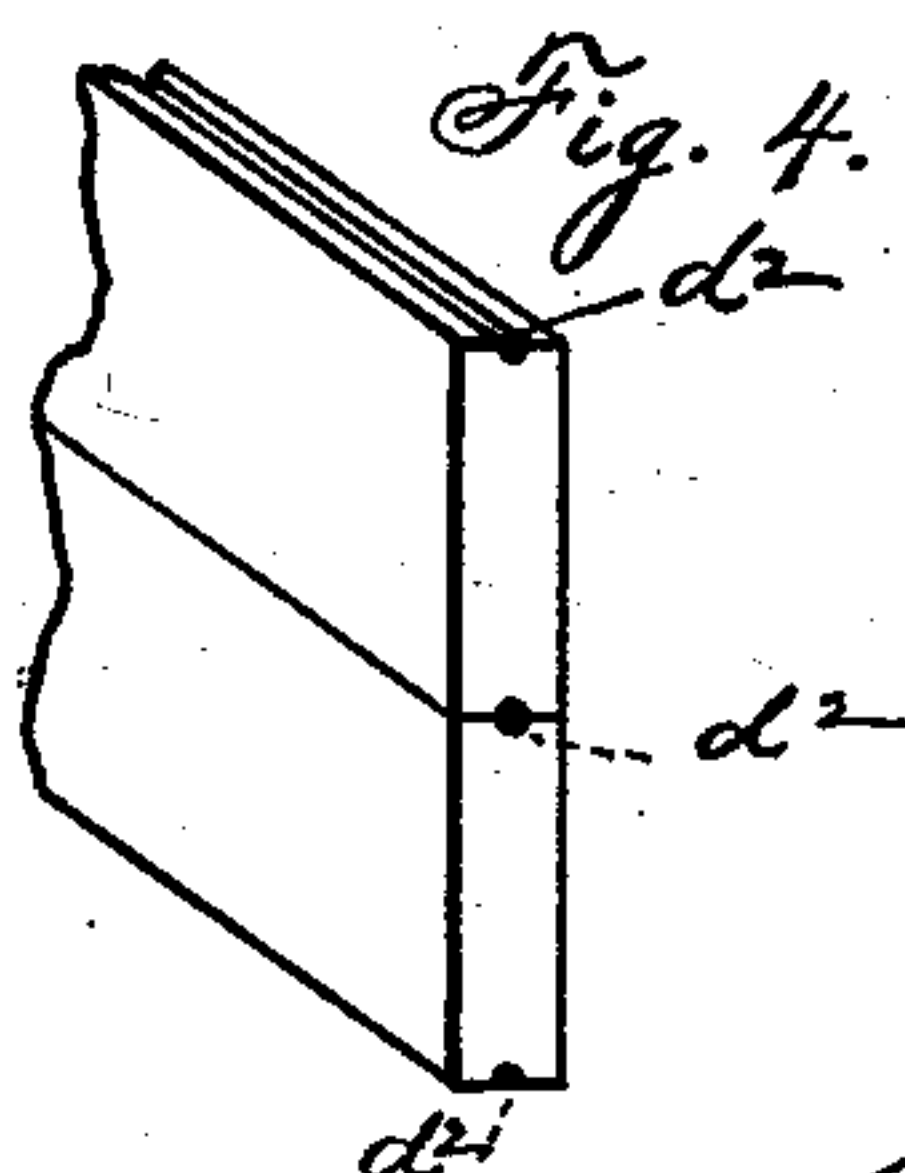
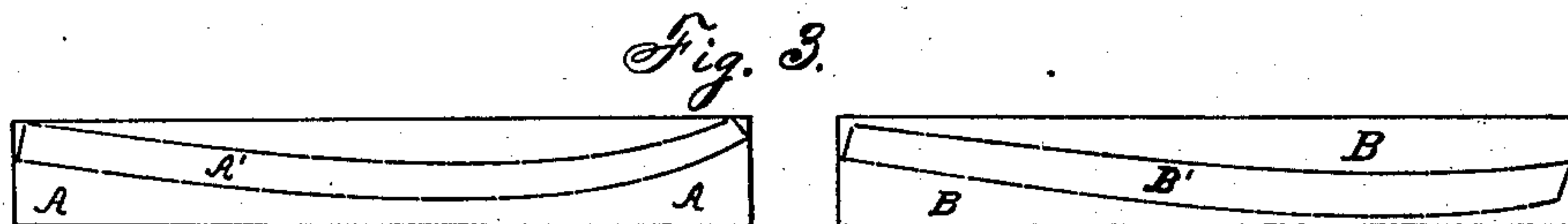
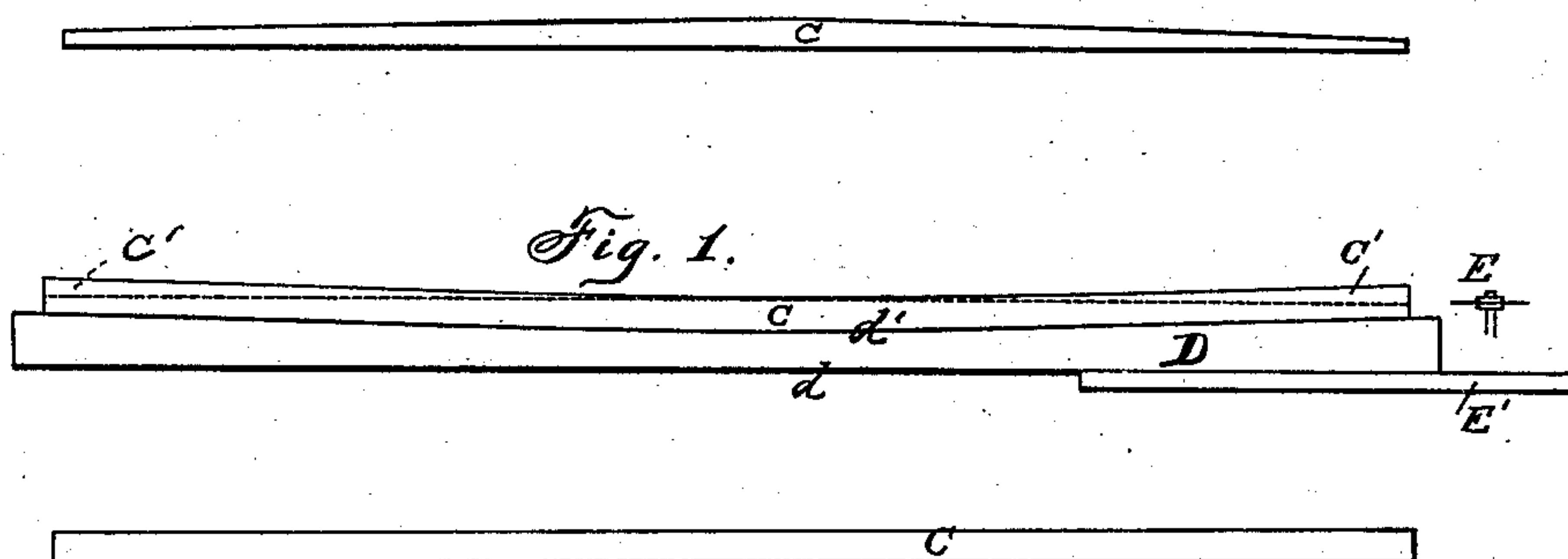
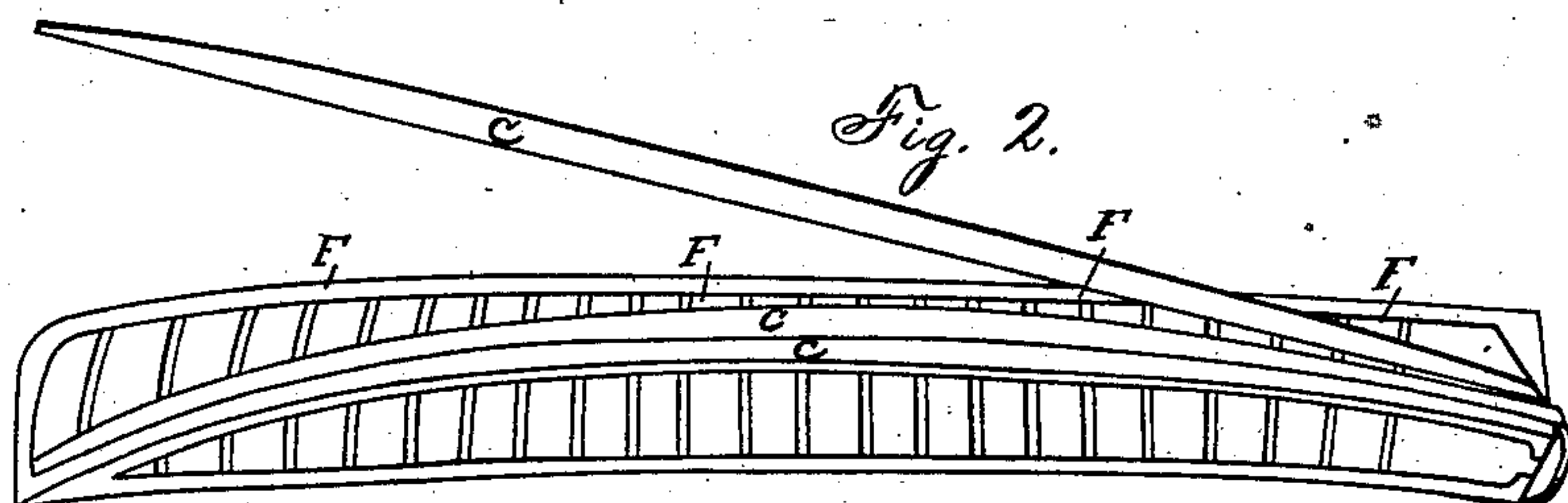
(No Model.)

J. DEAN.

BOAT.

No. 260,459.

Patented July 4, 1882.



WITNESSES

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JAMES DEAN, OF DETROIT, MICHIGAN.

BOAT.

SPECIFICATION forming part of Letters Patent No. 260,459, dated July 4, 1882.

Application filed January 27, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES DEAN, of Detroit city, county of Wayne, State of Michigan, have invented a new and useful Improvement in Small Boats; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists in the combination of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of a saw and apparatus illustrating how my strips are sawed to a form. Fig. 2 illustrates a side view of a boat partially completed, showing some of my strips in position and one partially in place. Fig. 3 illustrates the old plan. Fig. 4 is a sectional view, illustrating how I purpose to prepare the adjacent strips so as to do away with the necessity of calking.

In the construction of boats—such as yawls and other similar small or row boats—the distance from the edge of the boat to the keel is greater at the middle of the boat than it is at either the bow or the stern. For this reason, in the manufacture of such boats, the sheathing strips or boards have heretofore been made from broad boards, the strip being made to a pattern, and then the material cut away so as to leave the board of a peculiar form, this form being that which is necessary to bring it to its proper place on the side of the boat when it is steamed and bent into place. This process, however, as explained, required broad boards. It was necessarily expensive, owing to the difficulty in obtaining broad and perfect boards, and owing also to the large amount of waste arising from the material cut away. This process, which has been the process generally in vogue, presumed the board to be simply bent in a direction normal to its face. Another difficulty attending the old process was that in thus cutting to form from a broad board along a part of the board the grain would start in at one side and out at the other, thus rendering it very liable to split open at such places, greatly impairing its strength and rendering

breakage very frequent in warping the boards to their places upon the side of the boat. So, also, where boards of this character have been employed, the butts, where the ends of the boards come together in the side, are the first to give way. By my invention, however, I propose, first, to employ for my strips long narrow boards, the board at its broadest point being only as broad as is required at the middle of the boat; second, to give to this board the shape that it is to have in the finished structure, supposing that strip to be developed into a straight piece; third, after having so shaped the piece, to soften it by steaming, and then to apply it to the side of the boat and bend it edgewise as it is warped over the side of the boat, so as to bring it into place against the adjacent strip from end to end; fourth, to sheathe the side of the boat with boards, all of which are straight narrow planks of the same breadth, and all cut to exactly the same pattern; fifth, to shape any board by employing a common pattern straight upon one edge and suitably curved upon the other, then forcing the plank edgewise into contact with said curved edge, and passing the two together through a ripping-saw; sixth, in shaping each plank to saw away material only for one edge of the plank, thereby giving to it at every point its proper breadth, and subsequently bringing it into contact with the edge of the adjacent plank on the boat by steaming it, and then bending it over the body of the boat and edgewise in against the adjacent preceding plank.

In carrying out my invention I will illustrate by first explaining the former method of preparing sheathing-planks.

In Fig. 3, A represents a board, and A' a plank, made to pattern and formed from said board, showing the parts above and below it that had to be cut away and wasted, and illustrating also the great breadth of a board required for such a sheathing-plank and indicating also the direction of the grain across such a sheathing-plank.

B and B' represent another plank formed in a similar manner, but requiring a different pattern, and so on, requiring a different pattern for each separate sheathing-plank, the great

breadth of the plank and the variety of patterns illustrating the difficulty of shaping the planks by a rip-saw. By my invention, however, these difficulties are all overcome, as follows:

C represents a long narrow strip or board. This is only as broad as the sheathing-plank itself is required to be at its broadest point.

D is a form straight along the edge d and curved along the edge d' . To this curved edge d' , I bring the straight edge of one of my narrow planks and force the form with the planks through a ripping-saw, E, as shown in Fig. 1, being careful to crowd the edge of the board in against the curved form, so that they shall be in contact when opposite the saw. The guide E' will thus serve to keep the same amount of material at all times between the guide and the saw. The saw will therefore cut away a piece, C', from the edge of the board C, and yet it is done by simply passing the piece straight through the saw, as described.

In order to determine the exact breadth of the strip or plank at each point along its length, and so make a form which shall have the proper curve d' , it is only necessary to lay off at different points F on the boat certain lines or measurements which will indicate the entire breadth of the required sheathing at each said point. Dividing that entire distance along any said line by the total number of planks required to sheathe the boat at its middle or broadest point will give the breadth of each piece at the corresponding point F, and so on for the other points F.

It will be seen that this method leaves each piece with one straight edge and one curved edge. This is not material, however, because it gives to the piece at each point its proper breadth, and when the piece is subsequently steamed and applied to the side of the boat it can without difficulty be bent edgewise in against the edge of the adjacent piece.

It will be observed that this process enables me to sheathe the entire side of a boat with narrow planks, all of which are cut to precisely the same breadth and to the same pattern, so that one pattern serves for the entire sheathing, and the entire number of boards can be ripped out with the saw by straight ripping with one pattern and by any inexperienced boy or other hand. So, also, in applying the planks to the side of the boat it is only necessary to fasten one end of the plank at the bow or stern, then bend it sidewise and edgewise across one or two adjacent ribs, crowding it always in against the adjacent planks, and so on throughout the length of the strip. This also dispenses entirely with the necessity of a skilled hand for this grade of work, and it can be done by any boy of ordinary capabilities.

By the old process it required a skillful hand to properly sheathe a boat, for each plank had to be shaped to a pattern, which pattern

itself had to be made by the process well known to boat-builders, termed "spiling," which was both tedious and very particular, and consequently very expensive. By my process of employing narrow planks of uniform breadth and of uniform shape, an unskilled hand can readily do the work which formerly required three or four skilled laborers. Moreover, the boat, when finished, has the wood all lying in the direction of the grain. There is no liability of splitting along the grain across the plank, and the boat is therefore much stronger and of greater durability.

It is also apparent that by my process there is nothing lost from the breadth of the board, and consequently the sheathing can be accomplished by the use of about one-half (more or less) of the usual material. Moreover, the pieces being very narrow, the lumber employed may be of a lower grade, because I can with little difficulty secure clear pieces of such narrow breadth from almost any grade of lumber, whereas the former process required broad boards, necessitating that they should be equally clear, and consequently expensive. I propose, also, to employ a means for overcoming the necessity for calking.

It is well known with furniture-makers and other wood-workers that where the surface of the wood has been broken and crowded in beyond the general surface—as, for instance, by a mis-stroke with a hammer—when this part is subsequently soaked with water it will expand and come out beyond its original position. Wood-workers take advantage of this to cover such accidents by swelling the wood and subsequently planing it down to the proper surface. I propose, however, to press in or break in the fiber on a line between the two edges of the plank at d^2 , and along the edge, and then to bring this plank up close against the edge of another plank which may have been similarly prepared. When the planks are subsequently wet, or when they are subsequently moistened by the oil of the paint that may be employed, they will swell out and press firmly against each other, making an effectual stop-water, and avoiding the necessity of calking.

What I claim is—

1. In the manufacture of boats, the sheathing-planks having portions of their adjacent edges crushed in longitudinally, adapted to be secured together, as shown, the crushed portion swelling where exposed to the action of water beyond the uncrushed surface, forming a stop-water at each joint, as specified.

2. The sheathing-planks C, having portions of their edges crushed in, as shown at d^2 , combined with each other and with a boat-skeleton, and adapted to serve as and for the purposes set forth.

3. A boat having its sides sheathed with narrow planks, said planks being all of the same pattern, each straight upon one edge and

curved upon the other edge, substantially as described.

5 4. A boat having its sides sheathed with narrow planks, said planks being all of the same pattern, each straight upon one edge and curved upon the other edge, said planks bent edgewise into contact and in this position secured to the frame of the boat, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

JAMES DEAN.

Witnesses:

J. EDWARD WARREN,
W. E. HOIT.