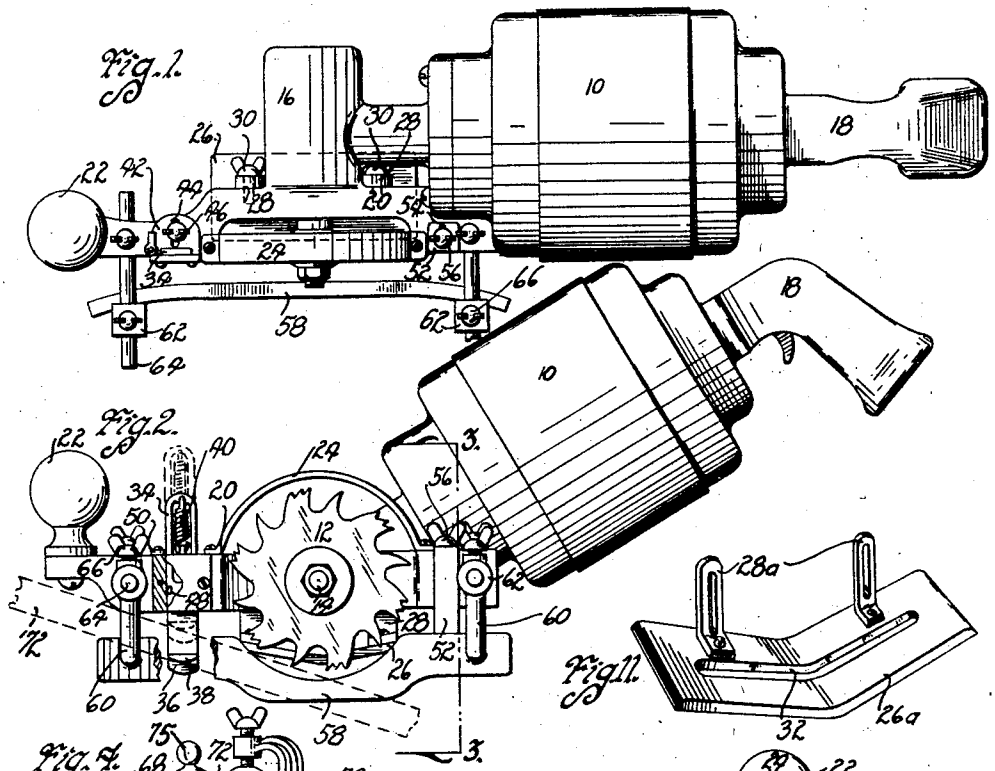
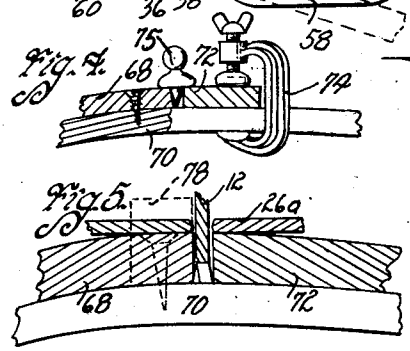
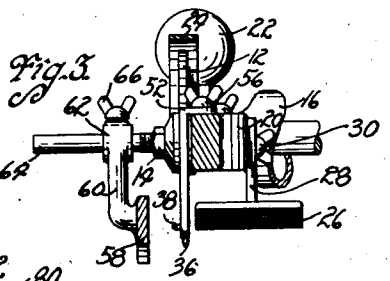
Oct. 20, 1931. A. R. DE WITT 1,828,103

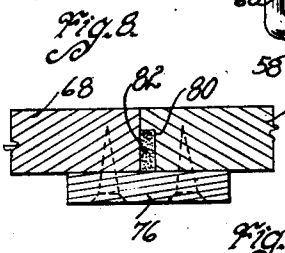
BOAT PLANK FITTING METHOD

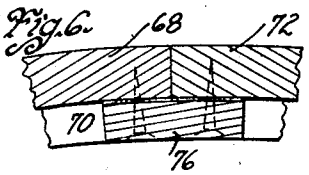
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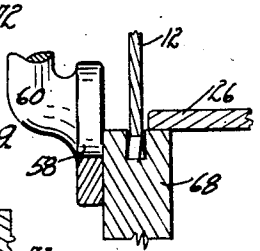


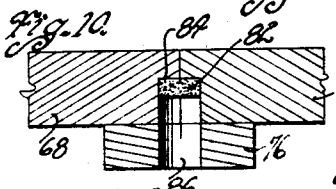


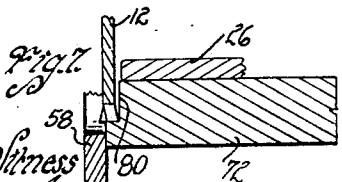












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UNITED STATES PATENT OFFICE

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BOAT PLANK FITTING METHOD

Application filed March 3, 1930. Serial No. 432,684.

The object of my invention is to provide a fitting method for boat planks which is simple to perform and which greatly facilitates the operation of fitting planks to the frame of a boat.

More particularly, it is my object to provide a plank fitting method in which a plank may be secured to the frame of a boat and another plank may be positioned adjacent thereto after which a cutting tool may be passed between the two planks for the purpose of cutting their adjacent edges parallel with each other so that they can be subsequently positioned in contact with each other and will form a well fitted joint.

With these and other objects in view my invention consists in a method for fitting planks to the frame of a boat as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 is a plan view of the tool used in fitting boat planks.

Figure 2 is a side elevation of the same.

Figure 3 is a sectional view on the line 3—3 of Figure 2.

Figure 4 is a sectional view through two planks of a boat showing them secured to a rib of the frame of the boat and showing a gauge in use for spacing them apart.

Figure 5 is a similar view showing the cutter of the tool cutting between the two planks.

Figure 6 is a similar sectional view showing the planks fitted together at their adjacent edges and a batten secured in position on the planks.

Figure 7 is a sectional view through a plank showing the cutter tool in use for rabbeting the edge of the plank.

Figure 8 is a sectional view similar to Figure 6 showing a rabbeted plank in position adjacent another plank and secured thereto by a batten.

Figure 9 is a sectional view similar to Figure 7 showing the tool in operation for grooving the edge of the plank.

Figure 10 is a sectional view illustrating two of the planks shown in Figure 9 arranged edge to edge and

Figure 11 is a perspective view of a depth gauge for the tool.

On the accompanying drawings, I have used the reference numeral 10 to indicate an electric motor for operating a tool 12. The tool 12 is a small circular saw or cutter attached to a drive shaft 14 which may be geared by a suitable bevel or worm gear connection with the shaft of the motor 10, a housing 16 being provided for such gearing. A suitable handle 18 is provided on the motor 10. It is to be understood, of course, that any other suitable source of power may be provided for the tool 12 instead of the motor 10.

A frame 20 is secured to the housing 16 and is provided with a knob 22 for convenience in manipulating the tool in conjunction with the handle 18 of the motor 10. A guard 24 is secured to the frame 20 and extends over the tool 12.

A depth gauge 26 is provided for the tool 12 and is preferably of V shape with an obtuse angle as best shown in Figure 2 of the drawings. A pair of angle brackets 28 extend upwardly from the depth gauge 26 and are slotted to receive wing cap screws 30 which are screwed into the frame 20. One edge of the depth gauge 26 is adjacent the surface of the tool 12 as best shown in Figure 7.

Another type of depth gauge 26*a* is provided which may be substituted for the depth gauge 26. This gauge is provided with slotted brackets 28*a* and with a slot 32 through which the tool 12 may operate.

A front guide is provided for the tool 12 and consists of a bar 34 having a guide portion 36 and a guide shoulder 38. The shoulder 38 is adapted to be normally held down against any material on which the tool is being used by a spring 40. The bar 34 is guidingly carried by a bracket 42 which may be adjusted in a direction parallel with the drive shaft 14 by means of a slot 44 and wing cap screw 46 which serve to connect the bracket with the frame 20 of the device. The bar 34 is provided with a notch 48 into which a pivoted pawl 50 may be swung for holding the guide in a raised position.

A trailing guide 52 is provided with a slot 54 through which a wing cap screw 56 ex-

tends for connecting such guide to the frame 20. By reason of the slot connections, the bracket 42 and the guide bar 34 carried thereby as well as the guide 52 may be adjusted for different thicknesses of cutting tools 12 and for adjusting the guides to proper positions for cooperating with the material on which the tool is used.

A rabbet fence or gauge 58 is provided having a pair of up-standing arms 60 terminating in hubs 62. Rods 64 are secured in the frame 20 for supporting the rabbeting gauge 58 and extend through the hubs 62. Wing set screws 66 are provided for holding the arms 60 and the gauge 58 in any adjusted position relative to the rods 64.

Referring to Figure 4, my method of fitting planks to the frames of boats consists in first securing a plank 68 which has been cut on a band saw or the like to proper shape from a suitable pattern to the frame of the boat, a rib of which is indicated at 70. Another plank 72 is then positioned adjacent the plank 68 and secured by means of clamps 74. A gauge 75 is used for positioning the closest adjacent portions of the planks 68 and 72 a predetermined distance apart. The planks may have to be steamed and possibly altered in shape before being secured and clamped to the boat frame so that they will follow the irregular contour of the boat frame.

The next operation as shown in Figure 5 is to pass the cutting tool 12 between the planks 68 and 72 from one end to the other so that the adjacent edges of the plank will be parallel with each other. At the stem of the boat where it is not desired to cut through the stem post, the front end of the fitting tool may be rested on the plank and then the rear end tipped downwardly until the tool cuts into the plank and the depth gauge 26*a* engages the planks 68 and 72. The front guide bar 34 will be in a raised position when the front end of the fitting tool is tipped downwardly as shown in dotted lines in Figure 2 in which the position of the plank relative to the tool is also illustrated in dotted lines.

The depth gauge 26*a* is used so as to have a firm bearing on both the plank 68 and the plank 72 to prevent any side twisting of the tool 12.

After the fitting tool has been run lengthwise between the planks 68 and 72, the plank 72 may be unclamped and then secured in position on the boat frame adjacent the plank 68 as shown in Figure 6. It will be found that the contacting edges of the two planks fit perfectly their entire length and no further fitting need be done to obtain a tight joint between the planks. Subsequently, a batten 76 may be glued and suitably secured over the seam between the two planks 68 and 72 as illustrated in Figure 6 or in a boat construction where sawed ribs are used, the boat frame is set up and the bats are fastened to the ribs in notches sawed into ribs so the battens will be flush and subsequently the plank is fastened to ribs and battens.

When a plank is fitted adjacent the keel 78 of the boat, it is necessary to use the depth gauge 26 in the event that the keel 78 is thicker than the planking as the left half of the gauge 26*a* would interfere with the keel which is shown by dotted lines in Figure 5.

In some instances, it is desirable to make a joint as illustrated in Figure 8 in which a rabbet 80 is formed in the edge of the plank 72 for the reception of a sealing compound 82 as described in my co-pending application, Serial No. 430,499, filed February 24, 1930. To form this rabbet the depth gauge 26 and the rabbeting gauge 58 are used as illustrated in Figure 7. In order to use the tool in this manner, the plank 72 is removed from the position illustrated in Figure 5 and secured to a work bench or the like.

In Figure 10 I illustrate another type of boat seam in which grooves 84 are formed in the adjacent edges of the planks 68 and 72 and are adapted to be filled with compound 82 forced into the seam through an opening 86 as described in my co-pending application above referred to. The grooves 84 may be formed in planks 68 and 72 by using the fitting tool as illustrated in Figure 9. The boat planks are removed from the boat frame and held in a vice or the like during such grooving operations. My tool will also be found desirable for other types of rabbets and grooves and various work involved in connection with the fitting of planks to boat frames.

My method and tool are designed to eliminate a great deal of skilled hand work in connection with the fitting of planks to boat frames. Heretofore, it has been customary to saw the boat planks from a straight plank according to a pattern which has previously been drafted. This is usually done on a band saw as the shapes of the planks are usually curved and are wider at some points in their length than at other points. The band saw, of course, cuts at right angles to the face of the plank.

When the planks are subsequently fitted to the frame of a boat the adjacent edges are not parallel as illustrated in Figure 4 and it has heretofore been necessary to do a lot of marking and removing of the planks from the boat frame and planing of the marked edges, refitting and sometimes replaning in order to get the joints to fit together. Each time the planks are put on the boat frame some or all must be steamed if required so as to follow the contour of the frame and all of this involves considerable time and only skilled men can do the job properly.

With my fitting method and tool it is a

simple matter to clamp the plank 72 spaced from the plank 68 a predetermined distance as governed by the gauge 75 (which is of slightly greater width than the guiding end 36 of the front guide bar 34) and then pass the cutting tool between the planks whereupon the adjacent edges of the two planks are exactly parallel even where it happens that a slight variation has been made in the shape of the plank edge when cutting it on the band saw. Thereafter the batten 76 may be glued into position or a cotton calked or compound filled seam may be made between the planks of the boat.

The guide 34 and the guide 52 (which is thicker than the guide portion 36 of the guide 34 and is in alignment therewith as shown in Figure 3) insure that the tool 12 will follow the space between the planks accurately, the depth gauge 26 or 26*a* regulating the depth of the cut so that the saw cuts just to the ribs 70 but not into them as best shown in Figure 5.

In my claims it is to be understood that the word plank refers to the keel or any other portion of the boat between which and a plank the tool may be passed for fitting the joint between them. My method may be practiced with slight changes and changes may be made in the arrangement and construction of the various parts of the fitting tool without departing from the real spirit and purpose of my invention and it is my intention, therefore, to cover by my claim such modified methods or use or mechanical equivalents as will be reasonably included within their scope.

I claim as my invention:

In a boat plank fitting method, the attachment of one or more planks cut to outline shape to a boat frame, temporarily clamping the next plank in proper position on said frame but in slightly spaced relation to the next adjacent plank, the passage of a cutting tool therebetween whereby the adjacent edges of said planks are cut parallel with each other and then shifting the latter plank to its final position on the boat frame and securing it.

Des Moines, Iowa, February 19, 1930.

ARTHUR R. DE WITT.