Dec. 21, 1954 O. K. GRONLI ET AL 2,697,235

METHOD OF CONSTRUCTING BOATS

Filed July 14, 1952

2 Sheets-Sheet 1

Fig. 1

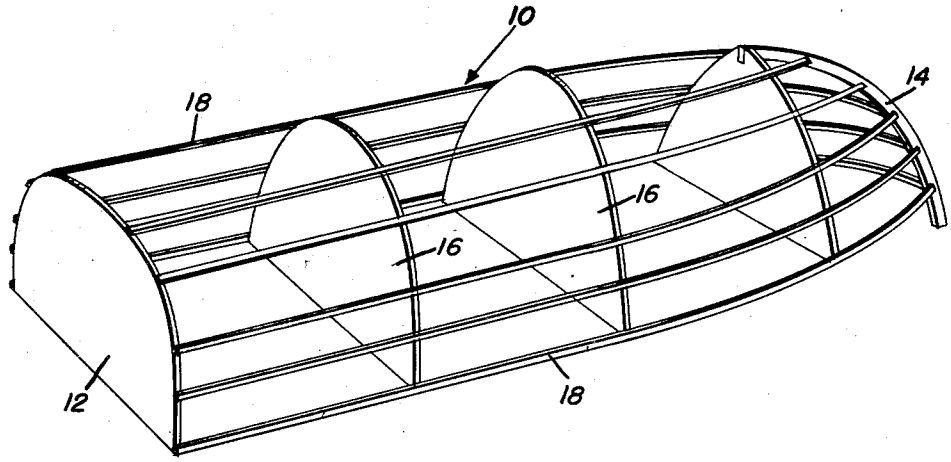


Fig. 2

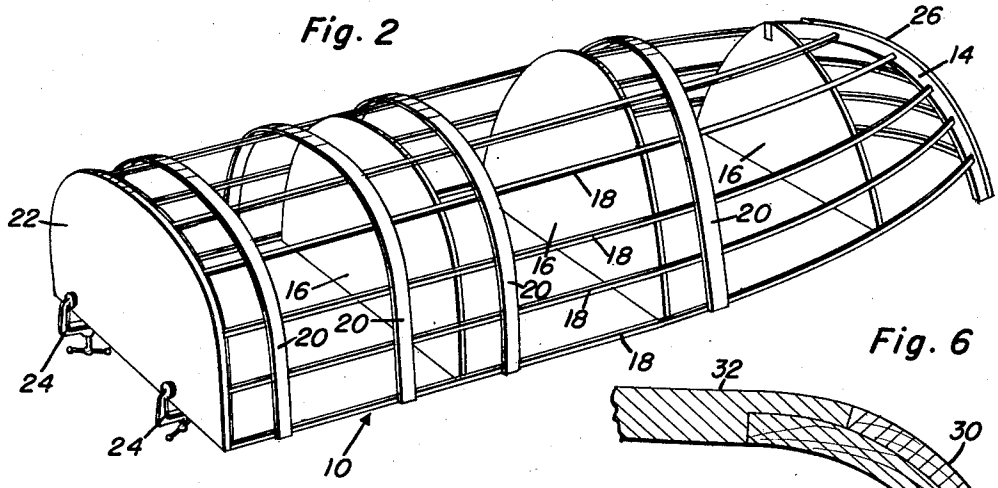
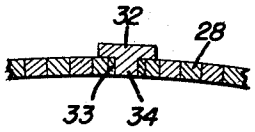


Fig. 6

Fig. 5



Ole K. Gronli
Arnold Gronli
INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

Dec. 21, 1954 O. K. GRONLI ET AL 2,697,235

METHOD OF CONSTRUCTING BOATS

Filed July 14, 1952

2 Sheets-Sheet 2

Fig. 3

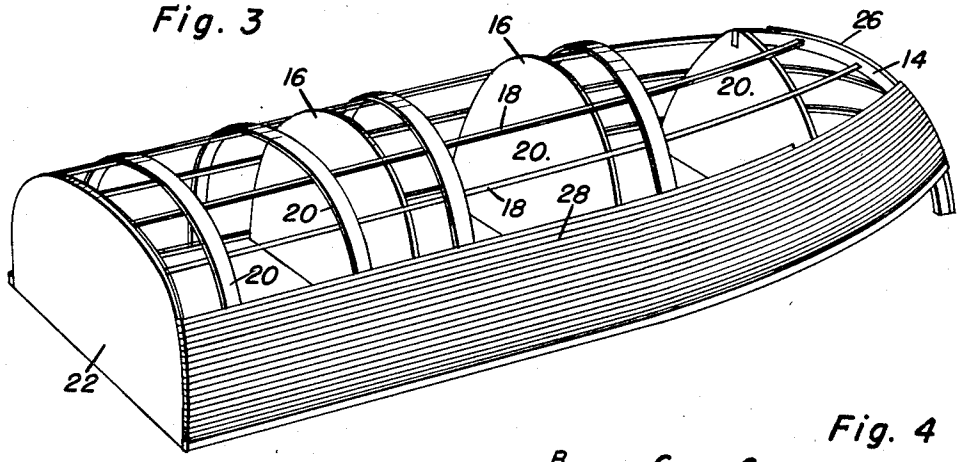
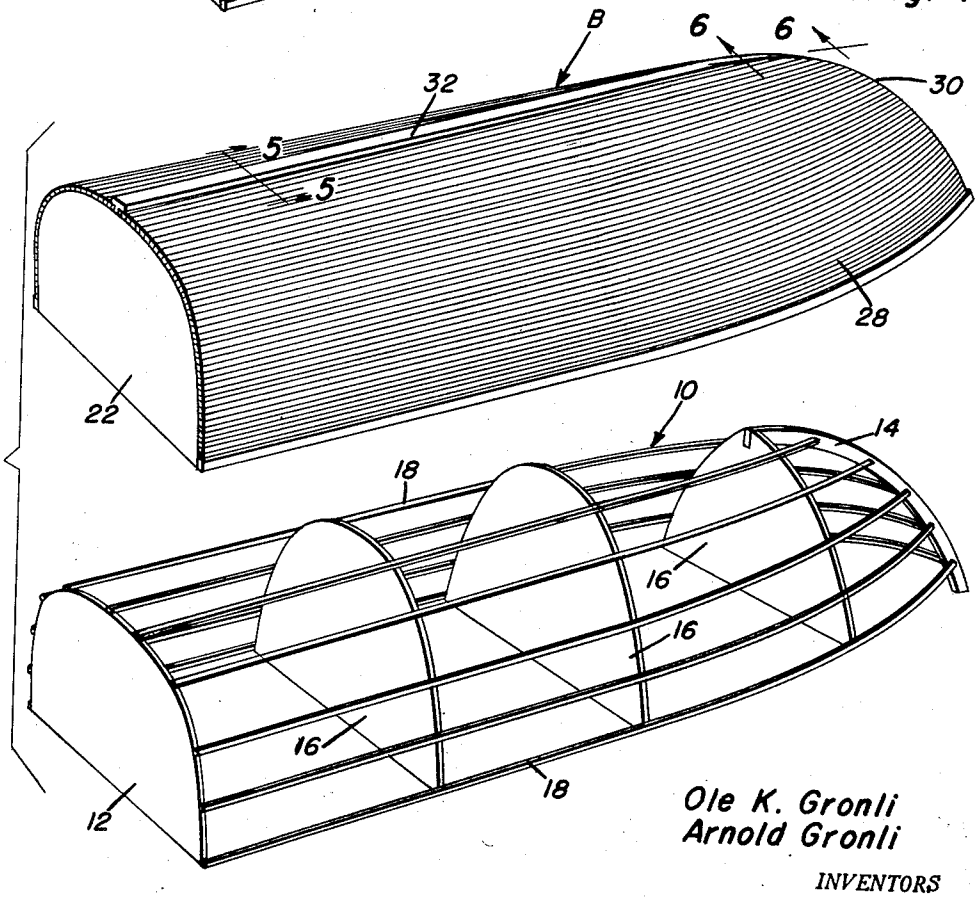


Fig. 4



Ole K. Gronli
Arnold Gronli

INVENTORS

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office

2,697,235

Patented Dec. 21, 1954

2,697,235

METHOD OF CONSTRUCTING BOATS

Ole K. Gronli and Arnold Gronli, Spicer, Minn.

Application July 14, 1952, Serial No. 298,712

2 Claims. (Cl. 9—6)

This invention relates to new and useful improvements in methods of boat construction and the primary object of the present invention is to provide a method for constructing a boat consisting of constructing the gunwale prior to the fastening of the keel.

Another important object of the present invention is to provide a method of constructing boats that will produce a stronger boat by bracing toward the keel as the boat is built.

Another feature of the present invention is to provide a method of boat construction that avoids the necessity of steaming planking or strips as the same are applied, therefore resulting in a more water-tight boat.

A further object of the present invention is to provide a method of boat construction wherein the gunwale is constructed prior to the application of the keel avoiding the necessity of having tapered planking or strips from back and rear in order to get the gunwale in the desired height or position.

A still further aim of the present invention is to provide a method of constructing a boat that is extremely simple and practical and which avoids the costly process frequently followed in constructing boats.

Other objects and advantages reside in the details of construction and operation as more fully hereinafter described and claimed, references being had to the accompanying drawings forming part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the shell or frame on which the present boat is constructed;

Figure 2 is a perspective view of the frame showing the initial steps of constructing the boat thereon by applying the inside stem, ribs and transom;

Figure 3 is a perspective view showing planking secured to the transom, ribs and inside stem starting from the gunwale;

Figure 4 is a group perspective view showing the boat completed and removed from the frame;

Figure 5 is a vertical sectional view taken substantially on the plane of section line 5—5 of Figure 4; and

Figure 6 is a sectional view taken substantially on the plane of section line 6—6 of Figure 4 to show the manner in which the keel is secured to the back end of the inside stem while abutting the back end of the outside stem.

Referring now to the drawings in detail, wherein for the purpose of illustration, there is disclosed a preferred embodiment of the invention, the numeral **10** represents a rough frame including a transom portion **12**, a stem portion **14**, longitudinally spaced wall sections **16** and spaced longitudinal frame strips **18** that are secured by nails or the like to the transom portion **12**, stem portion **14** and wall sections **16**. Obviously, any suitable number of the wall sections **16** may be employed depending upon the length of the boat. The frame **10** will have an outside dimension conforming to the inside dimension of the boat that is to be constructed thereon. The above construction forms a jig on which boat B can be constructed.

A plurality of longitudinally spaced arcuate ribs **20** are disposed about the frame **10** on the outside of the strips **18** and these ribs are removably secured by screws to the strips **18** between the walls **16**. The transom **22** of the boat is shaped and fastened into position on transom portion **12** of frame **10** by clamps **24** and an arcuate inside stem **26** is secured over stem **14** by screws passing through the ends of the stem **26** into stem **14**.

With the ribs, inside stem and transom in position, the next step is to secure thereon the gunwale of the boat.

The hull of the boat is formed by cedar planking or strips **28** that are secured to the transom **22** inside stem **26** and ribs **20** by fasteners or the like. As the strips **28** are fastened, the screws holding the ribs to the frame

are removed before their accommodating apertures are covered by the strips.

After all of the strips **28** have been applied, the front ends of the strips are trimmed flush with the inside stem **26** and an outside stem **30** is made, steamed and fastened about six inches forward of the back end of the stem **26** to allow for the keel to be fastened to the inside stem. At intervals, the stem **30** is bent into position outside of inside stem and covers the forward ends of the strips **28**.

Keel **32** is then made and a router or other tool is used and a space **33** is cut out for the keel from the transom to the back end of the outside stem **30**. The keel **32** is provided with a rib **34** that enters space **33** so that the keel will overlap the two center strips **28**. Keel **32** is temporarily fastened to the back end of the inside stem **26** and is also fastened to the transom **22**.

The boat B is then removed from the frame **10** making sure all screws holding the boat to the frame were removed as they were about to be covered up by the planking **28**. The ribs are loosened from the frame and the boat is removed from the frame, turned over, and the two center plankings **28** nailed to keel (Figure 5) and also every rib **20** is nailed to the keel. The boat may then be finished, painted, etc.

Having described the invention, what is claimed as new is:

1. In a method of constructing a boat, the step of first providing a rough frame having a forward stem portion and a rear transom portion; placing arcuate ribs about the frame at longitudinally spaced intervals and securing the ribs to the frame; placing a transom behind the transom portion of the frame; positioning a first stem over the stem portion of the frame, fastening longitudinal strips to the transom, ribs and outwardly of the stem from the ends of the ribs toward the centers thereof; cutting the strips flush with the side edges of the first stem; securing an outside stem over the first stem and over the cut off ends of the strips; cutting a space between the transom and back end of the outside stem at the centers of the ribs; placing a keel in the space; securing the keel to the ribs and the strips also the transom and the first stem; removing the securing means between the ribs and the frame; and finally removing the boat from the frame.

2. In a method of constructing a boat, the step of first providing a rough frame having a forward stem portion and a rear transom portion, placing arcuate ribs about the frame at longitudinally spaced intervals and securing the ribs to the frame; placing a transom behind the transom portion of the frame, positioning a first stem over the stem portion of the frame, fastening longitudinal strips to the transom, ribs and outwardly of the stem from the ends of the ribs toward the centers thereof while progressively detaching said ribs from said frames; cutting the strips flush with the side edges of the first stem; securing an outside stem over the first stem and over the cut off ends of the strips; with the back end of the outside stem terminating forwardly of the back end of the first stem; cutting a space from the transom to the back end of the outside stem at the center of the ribs; placing a keel in the space to overlap the strips adjacent the space; securing the keel to the transom, ribs and the back end of the first stem; and removing the finished boat from the frame.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,293	Francis	Oct. 11, 1841
613,693	Liddy	Nov. 8, 1898
1,119,101	Minett	Dec. 1, 1914
1,885,198	Hale	Nov. 1, 1932
1,941,586	Snadecki	Jan. 2, 1934
2,110,017	Galbraith	Mar. 1, 1938

FOREIGN PATENTS

Number	Country	Date
445,251	Great Britain	Apr. 6, 1936
542,800	Great Britain	Jan. 28, 1942
573,522	Great Britain	Nov. 23, 1945
781,072	Great Britain	Feb. 18, 1935