The Extreme Breadth Measurement of Titanic

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Introduction

This article is being written to answer a question which occurred in an online forum about how the extreme breadth measurement of Titanic was determined.

The Plans

In a list of Titanic's particulars, the moulded breadth is given as 92 ft. The moulded breadth is measured to the outside of the frames. It does not include any shell plating. In measuring the breadth of Titanic's hull, only the hull structure up to B deck is included. The structure above B deck is the superstructure and is not considered part of the hull.

In Figure 1 we see the lines of the forward half of Titanic's hull.

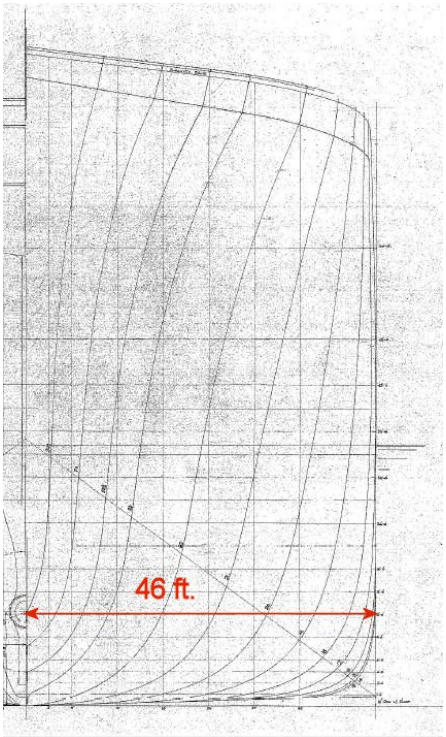

Figure 1

Lines of forward half of Titanic's hull

The width of the half hull from the centerline to the outside of the widest frame is 46 ft. In Figure 2 we see that body lines #13 and #14 are identical.

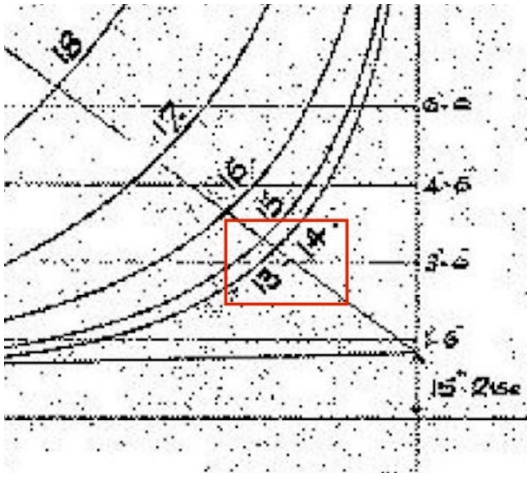

Figure 2

Identical body lines #13 and #14

All the hull frames between station lines #13 and #14 are identical in width. These hull frames within station lines #13 and #14 are hull frames 1F through 12F.

The extreme breadth given in Titanic's list of particulars is 92 ft. 6 in. For the half hull this would be 46 ft. 3 in. This means that the plating forms a thickness three inches wider than the breadth from the centerline to the outside of the widest frames.

Figure 3 shows the hull plating strakes and their letter designations.

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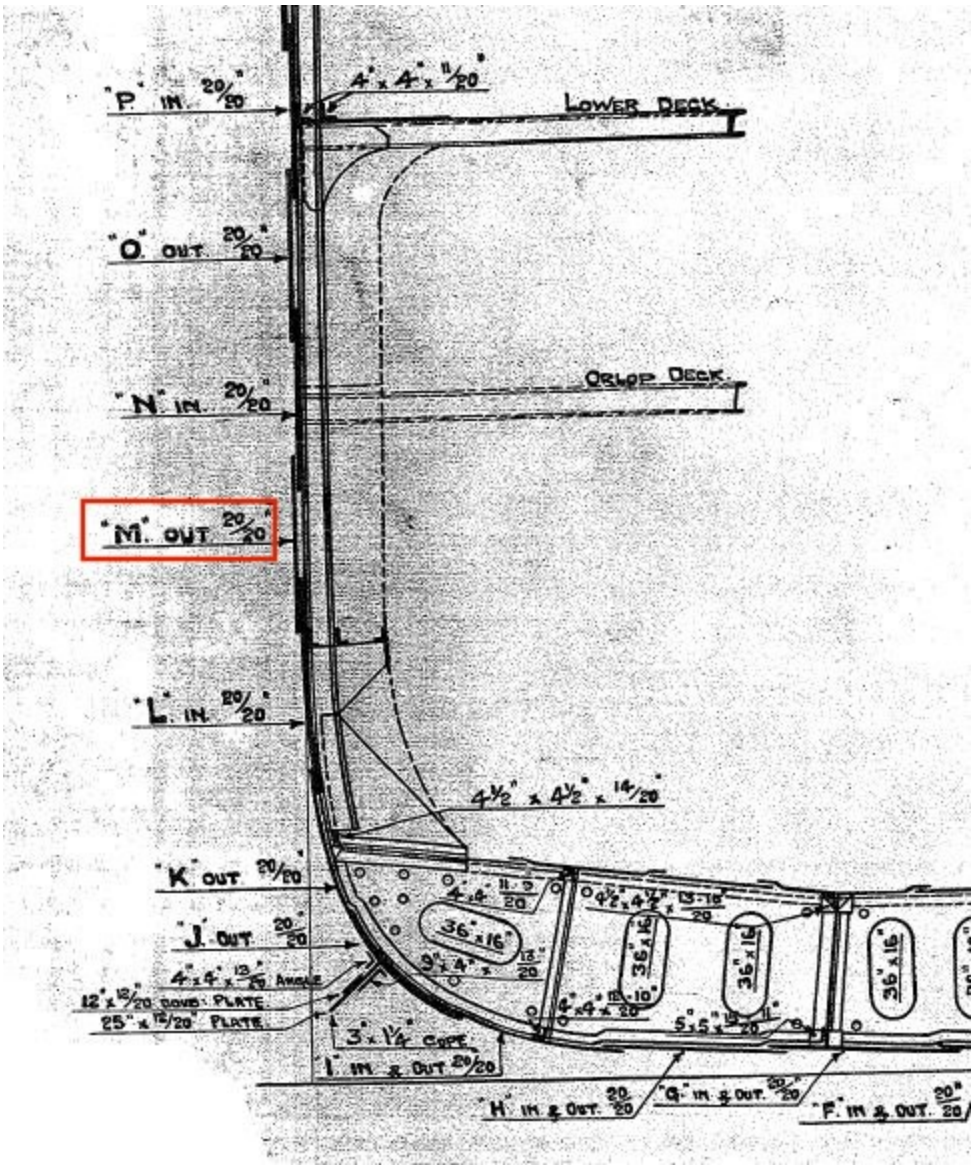

Figure 3

Shell plating with letter designations

The extreme breadth is found on strake “M” which is the first “out” strake above the turn of the bilge. Strake “M” is outside the two adjacent “in” strakes “L” and “N”. Strakes “L”, “M”, and “N” are all 1 inch thick. Since strake “M” is applied outside strakes “L” and “N”, the combined thickness of strake “M” applied over strakes “L” and “N” is 2 inches beyond the 46 ft. width to the outside of the frames. The third inch of thickness is formed by the butt laps in strake “M” between frames 1F and 12F. There are only two butt laps within this boundary and these two butt laps form the extreme breadth of Titanic’s hull.

Figure 5 shows the sections from Frame 1F to 12F where the widest hull frames are found.

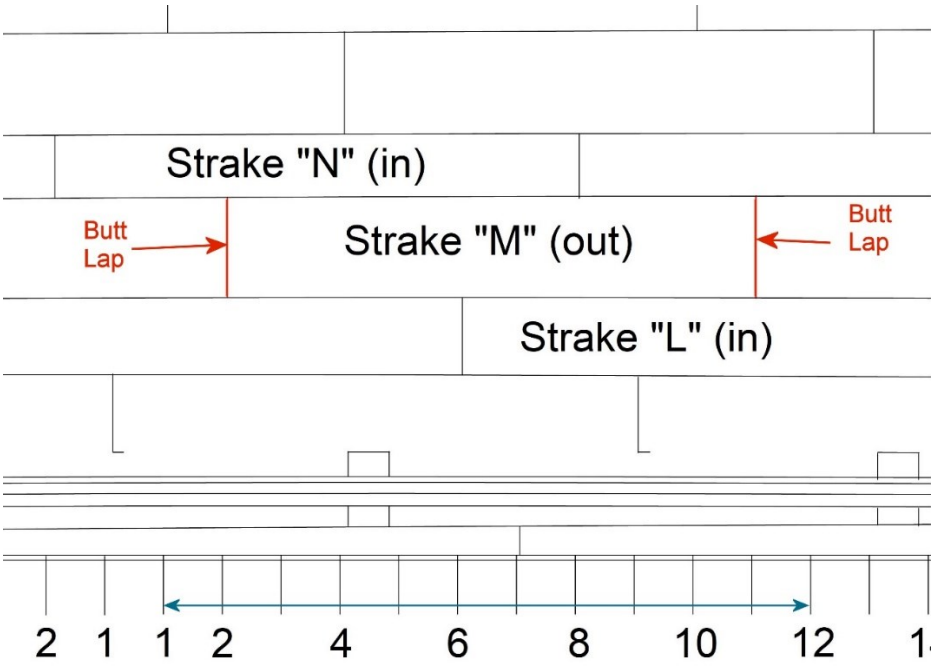

Figure 5

Drawing of area where extreme breadth of hull is found

The “in” strakes “L” and “N” and “out” strake M are shown.

Figure 6 shows how the 3 extra inches are added to the 46 ft. half hull moulded breadth.

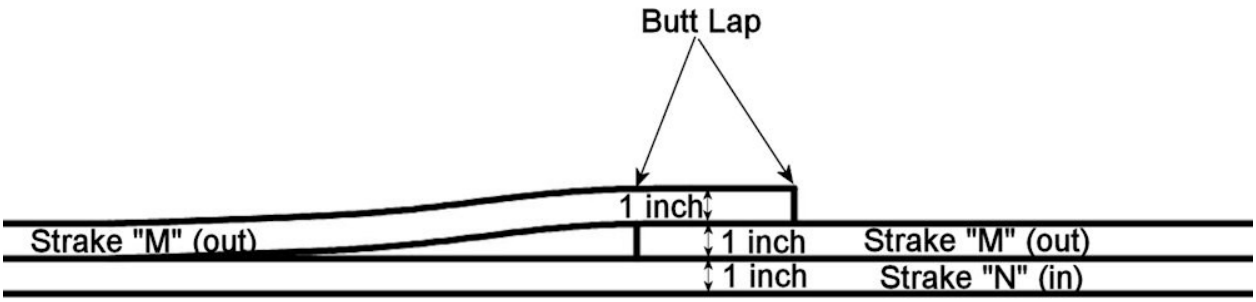

Figure 6

Section of plating showing 3-inch thickness at butt lap

It can be seen that the “in” strake “N” has a thickness of 1 inch. Strake “M” which sits outside strake “N” also has a thickness of 1 inch. The butt lap in strake “M” adds an extra 1 inch. This creates an extreme breadth of the half hull of 46 ft. 3 in. Therefore, doubling this gives a full hull breadth of 92 ft. 6 in in this area where the butt laps occur in strake “M” between frames 1F to 12F.