

A Defense of One of *Titanic's* Sirocco Type Electric Fan Ventilators

By Bob Read, D.M.D.

Introduction

The purpose of this article is to provide a comprehensive defense of the current identification of one of *Titanic's* boat deck electric fan ventilators. The configuration of this fan has been nearly universally accepted since its identification in the early 2000's. The existence of this fan was first discovered on a rare general arrangement plan of *Titanic's* boat deck which briefly appeared in an early post-discovery *Titanic* documentary. Subsequently, this ventilator fan was identified in at least one photo of *Titanic* in 1912. The quality of photos in this area of the ship has been uniformly low. The final identification was made with the best quality photo of those available.

Within the last few years, there has been a challenge to the widely accepted configuration of the ventilator fan in question which will be referred to as "vent X" in the remainder of this article. These researchers who are challenging the configuration of vent X will not be named in this article. I will let them speak for themselves but I will do my best to present their case fairly and completely.

This article may seem overly long to defend the configuration of one ventilator fan but I want to provide as comprehensive a defense as possible to hopefully settle the matter once and for all.

Identification of Vent X

The precise location of vent X on *Titanic's* boat deck is just to starboard of the thermotank ventilator fan which is located on the midline of the forward bulkhead of the tank room deckhouse. The currently accepted understanding of vent X is that it is a 35 in. sirocco air delivery electric fan without any intake duct. Figure 1 shows a multi-view drawing of vent X. This particular size fan was not installed on *Titanic's* sister ship, *Olympic* during her earliest days in service. Experience gained during her first months in service led to the installation of this large fan as standard equipment on *Titanic*. *Olympic's* original 30 in. delivery fans were subsequently replaced with the larger 35 in. version. The only places where the smaller 30 in. fans were retained on both *Olympic* and *Titanic* were in two locations where they were joined with a thermotank attachment. Figure 2 shows a plan view of the location of vent X. Figure 3 shows an elevation showing vent X looking from starboard to port.

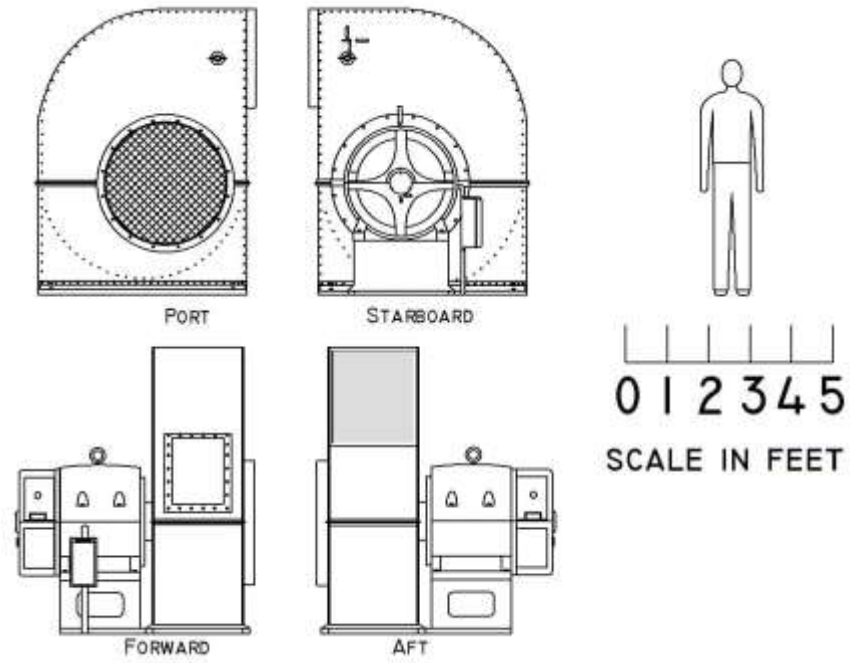


Figure 1

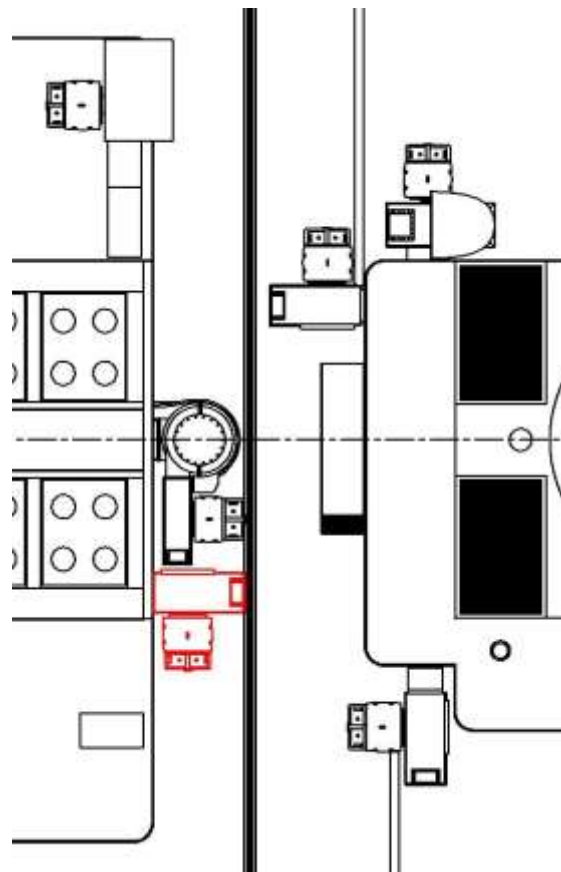


Figure 2

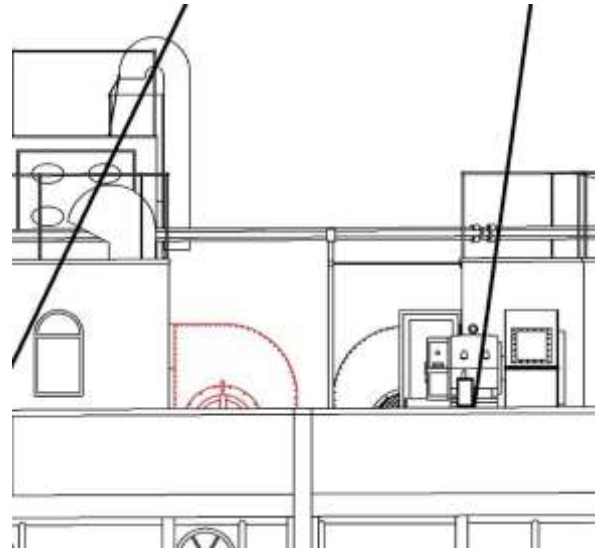


Figure 3

The Challenge: A Case for Vent Y

The challenge to vent X is that it is one of the older, smaller 30 in. delivery fans with a swan neck duct intake. Throughout the remainder of this article it will be referred to as vent Y. Figure 4 is a multi-view drawing of vent Y. Figure 5 is a plan view of vent Y. Figure 6 is an elevation of vent Y looking from starboard to port.

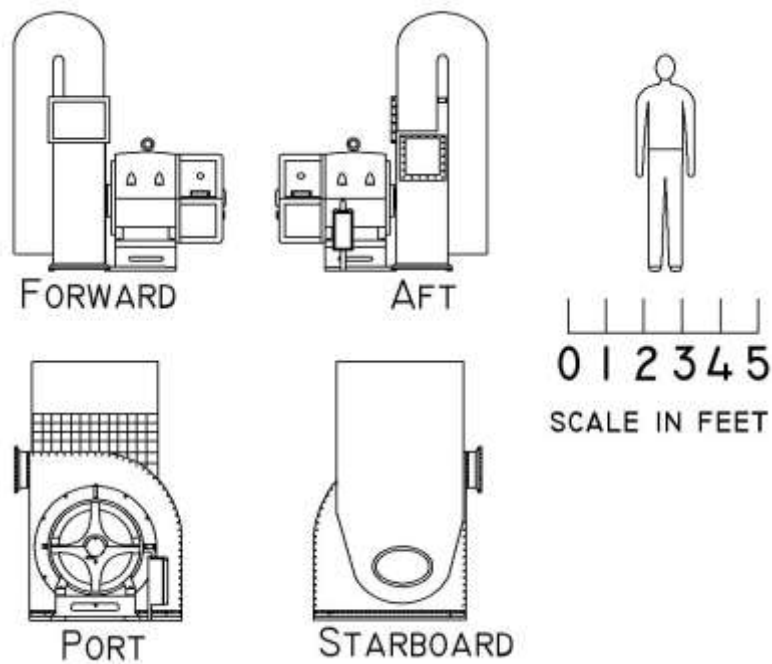


Figure 4

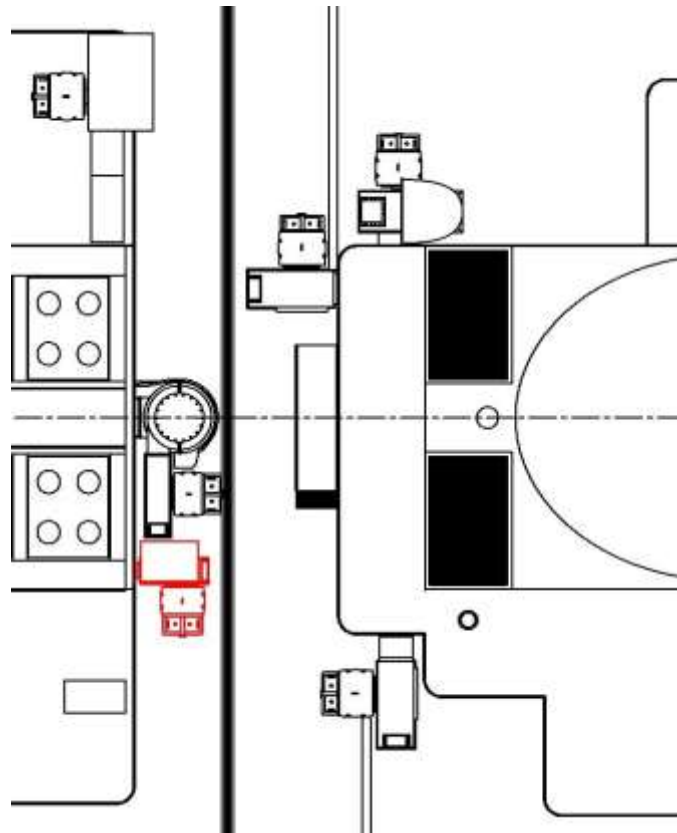


Figure 5

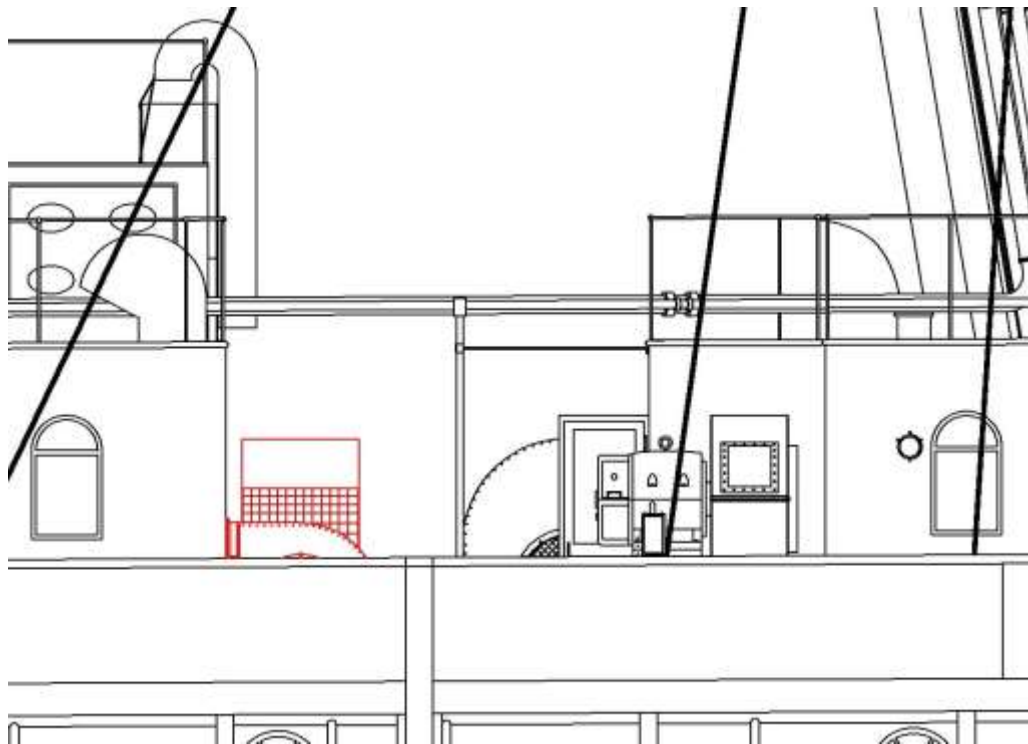


Figure 6

Basis of the Challenge

The challenge to vent X is based on *Olympic* evidence, photo evidence, and *Titanic* plan evidence. Each will be evaluated separately.

The *Olympic* Evidence

Figure 7 shows a segment of a general arrangement plan of *Olympic* in her post-1913 refit configuration.

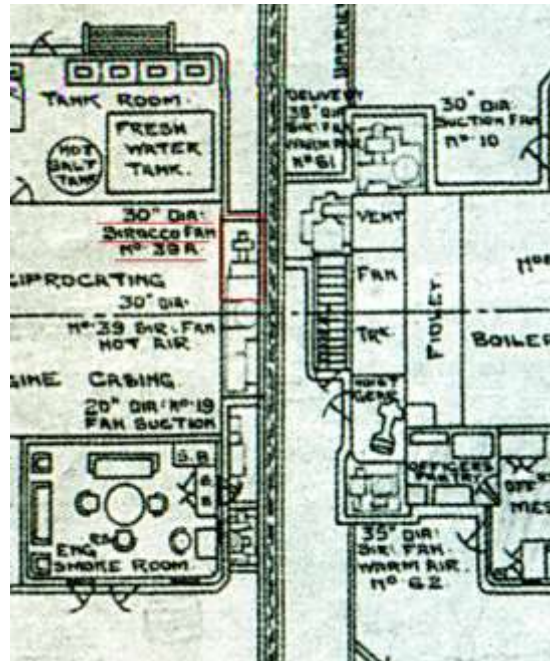


Figure 7

There are a number of ventilator fans shown that weren't part of her original inventory. This plan shows a fan, #39A, which was installed after the *Titanic* disaster. It is one of the older 30 in. fans, identical to vent Y, which in large measure was replaced on *Olympic* and *Titanic* with the larger 35 in. fans like vent X. The existence of a 30 in. fan on this post-*Titanic* plan is given as the reason why vent X could be the smaller vent Y. The legitimate question is why did they install one of the smaller 30 in fans on *Olympic* instead of one of the larger 35 in. fans like they did in all the other locations? The simple answer is because they had to. On the *Olympic* plan, the fan #61 on the port aft corner of the third funnel deckhouse was one of the large 35 in. fans with a swan neck intake duct. The smaller 30 in. fan (#39a) on *Olympic* was installed directly aft of the large 35 in. fan with the swan neck intake duct (#61). If one of the larger 35 in. fans had been installed opposite it, the space between them would only have been roughly 11 inches which would have prevented passage through this area. By installing a smaller 30 in. fan, the space between the fans would have been approximately 22 in. This would have been a narrow passage but it still would have been passable.

Figure 8 shows a plan view of the actual ventilator fan installation on post-1913 refit *Olympic*.

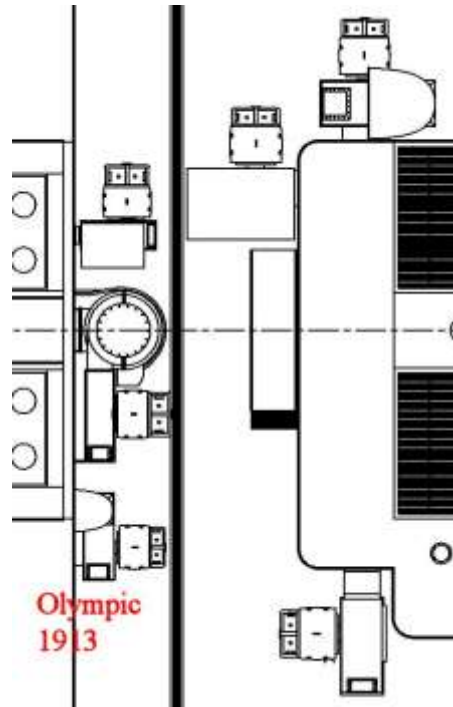


Figure 8

Figure 9 shows the restriction of space which would be created if they had installed a larger 35 in. fan.

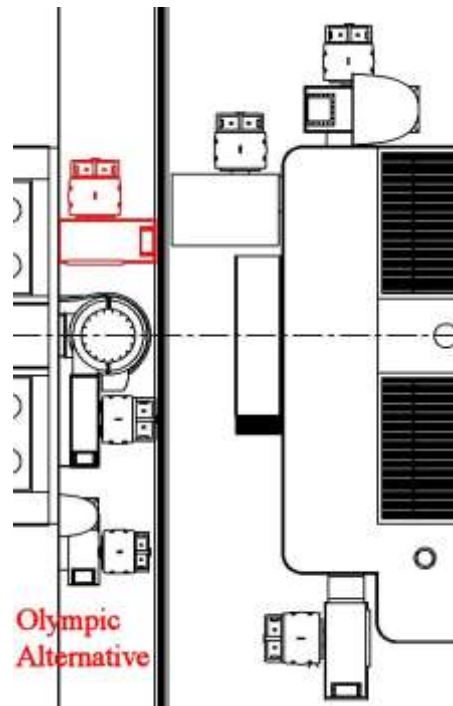


Figure9

The previous analysis shows why they were forced to install a smaller 30 in. fan opposite the larger 35 in fan. No such space considerations existed where vent X was installed.

Photo evidence

The photo “evidence” for vent Y consists of two photos. Both are poor quality because they were taken from a considerable distance. At these distances, it is difficult, if not impossible to interpret details in the photo.

The first *Titanic* photo is shown in Figure 10.

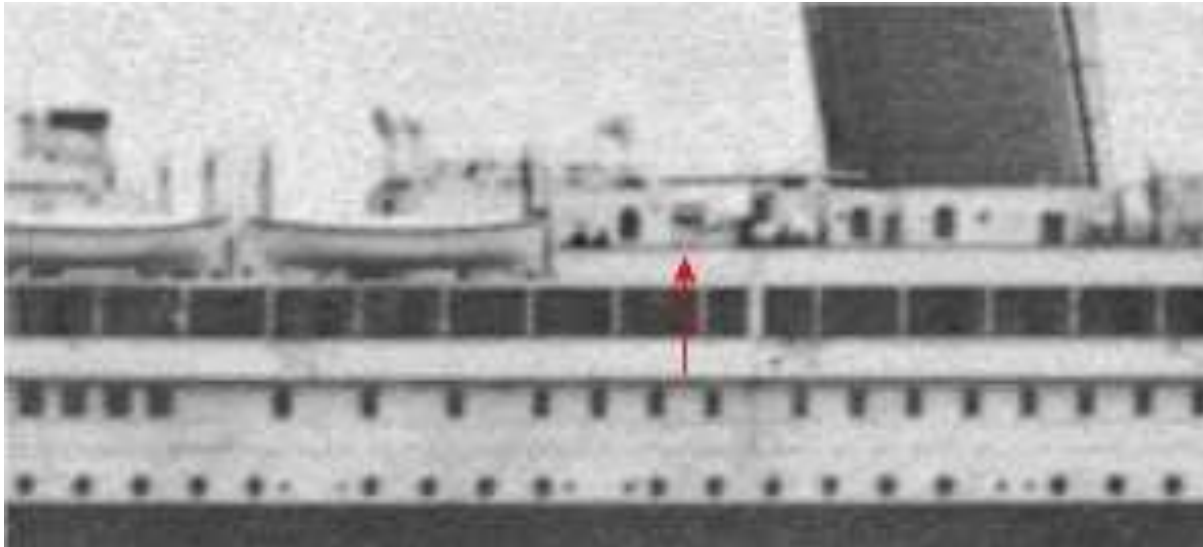


Figure 10

An arrow points to the area in the photo which is interpreted as vent Y. A simple photo comparison illustrates why this shape could not be one of the smaller 30 in. fans. If we compare the height of what is purported to be the top of the fan and the top of the dark intake opening to the height of the nearest tank room window, we see in Figure 11 that the unknown shape interpreted to be vent Y is much too tall.

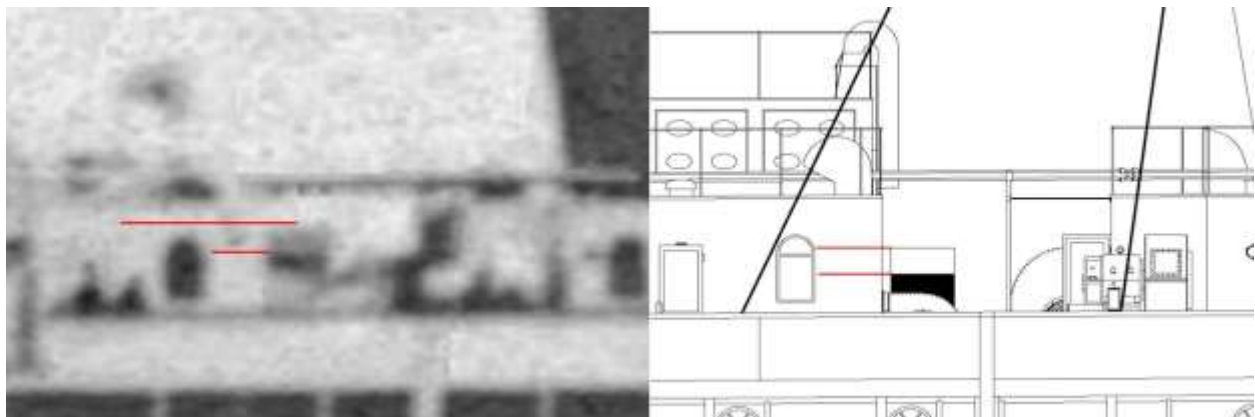


Figure 11

Just because the shapes in the photo can't be positively identified, doesn't mean we can't rule out proposed possibilities.

The second *Titanic* photo which has been presented to advocate for vent Y has many of the same deficiencies as the first. This photo is shown in Figure 12.

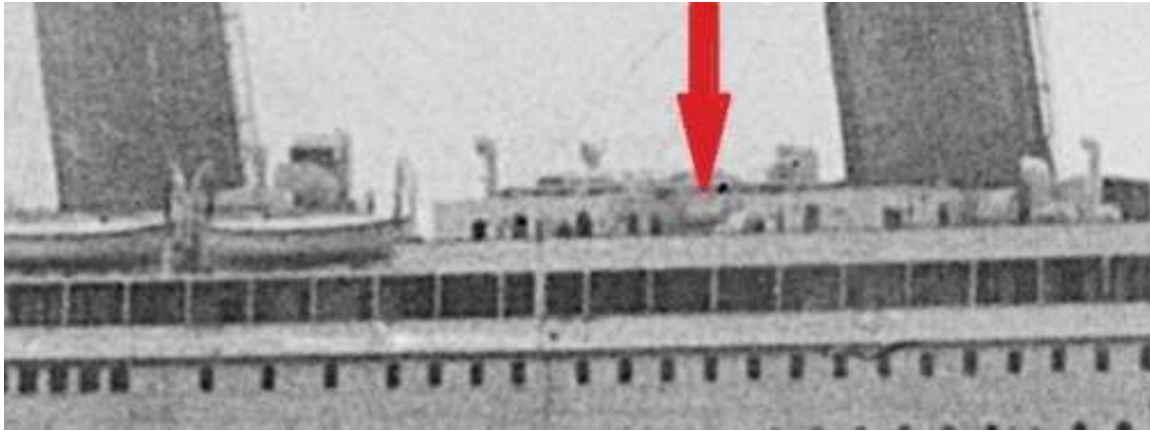


Figure12

Figure 13 is a comparison of the height of the shape proposed as vent Y and the height of a scale elevation drawing of the forward bulkhead of the tank room.

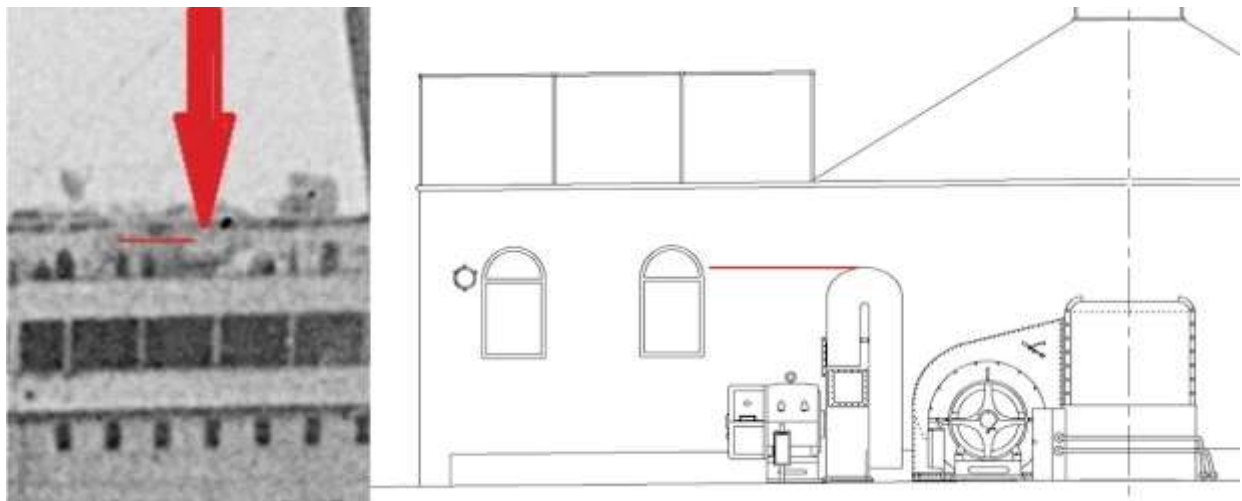


Figure 13

This comparison shows the top of the intake duct of vent Y in comparison to the tops of the windows on the forward bulkhead of the tank room. Again we see that the shape in the photo identified as vent Y is considerably larger than the actual height of vent Y.

This concludes the positive evidence which has been offered for Vent Y. One other component of the case for vent Y is the objection to vent X. It will be presented at the end of the case for vent X.

The Case for Vent X

In this section, I will present the evidence which has been accepted as the positive identification for vent X. The photo evidence will consist of one photo which, although not perfect, surpasses the quality of all photos offered to try to refute the identification of vent X. Additionally, one small aspect of the *Titanic* general arrangement plan will be introduced.

In Figure 14 we see the *Titanic* general arrangement plan captured from a video. The quality is poor but it is the only glimpse we have ever had of this rare plan.

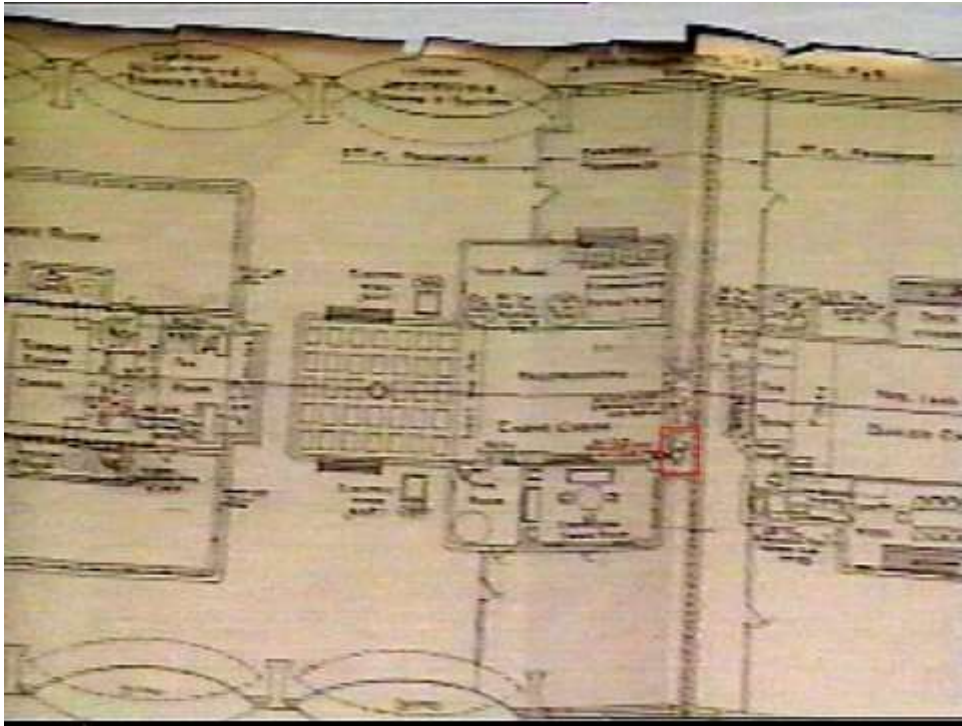


Figure 14

The ventilator in question is indicated on the plan by a red outline. The only important aspect of this image is that it shows that the fan motor was on the starboard side of the fan. This small piece of evidence will be important later.

Continue to Next Page

The Photo

Figure 15 is a cropped photo of *Titanic* in Queenstown.

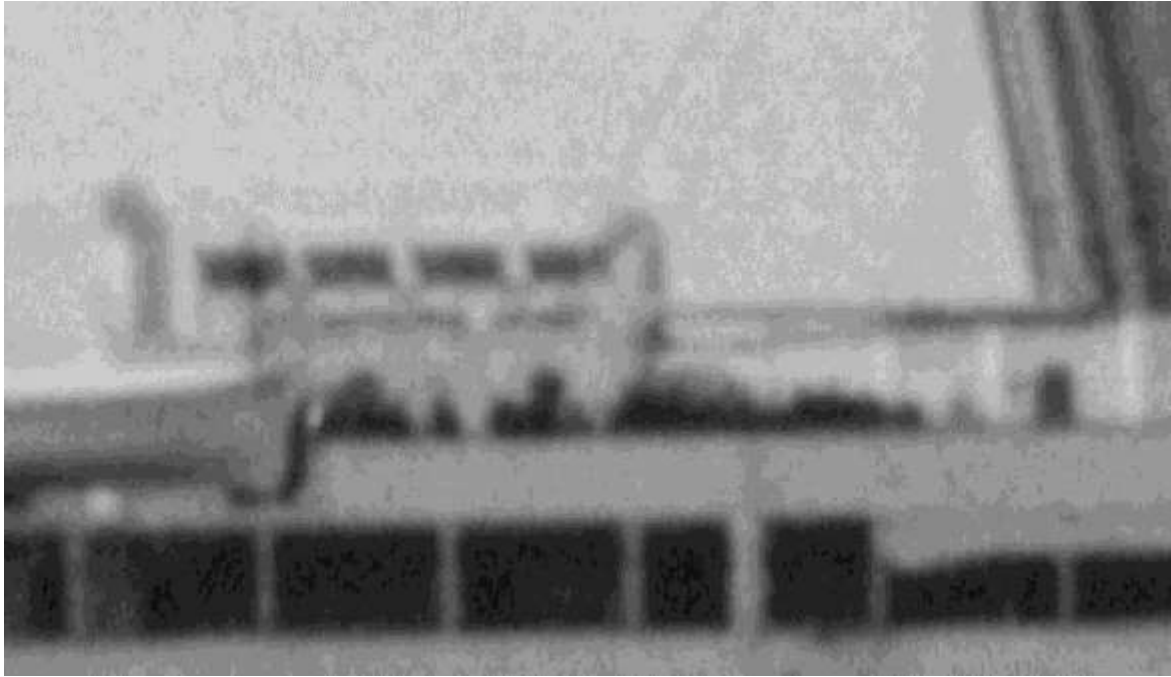


Figure 15

This photo is taken from starboard looking to port. The value of this photo is that it is the highest resolution photo of this area we have and it was taken from an angle almost perpendicular to the side of the ship.

In Figure 16 the shape indicated is what is identified as vent X.

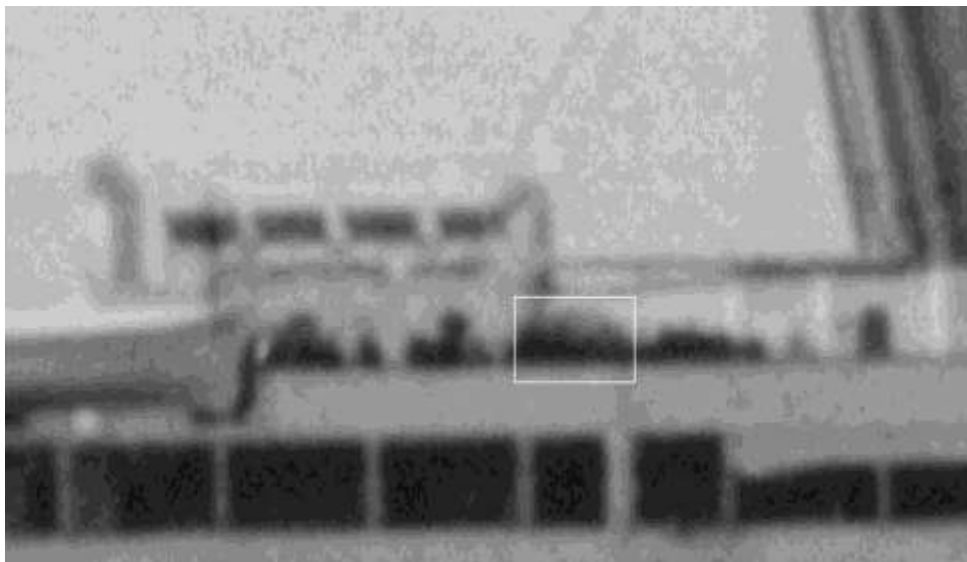


Figure 16

In Figure 17 we have a comparison where a profile of vent X and vent Y are placed over the original shape in the photo.

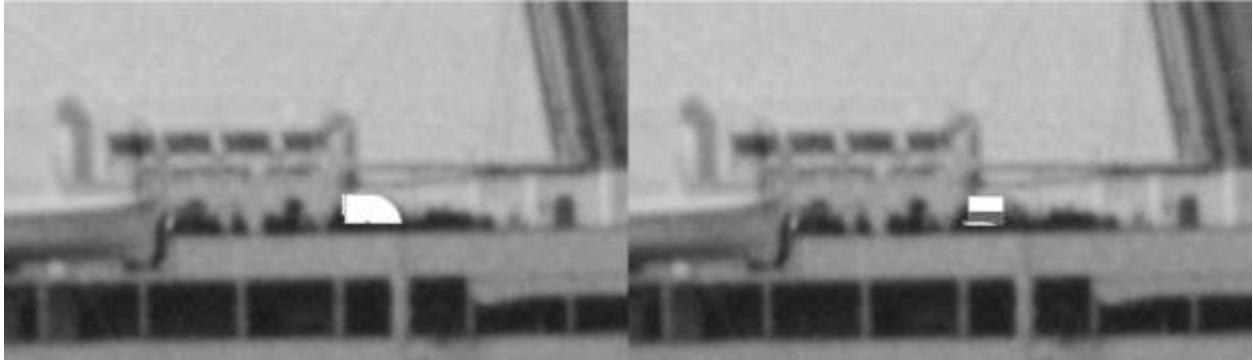


Figure 17

It is evident that the rounded profile of vent X is close match for the shape in the photo while the profile of vent Y is not.

The case and evidence for vent X as a 35 in. sirocco ventilator fan is relatively simple and straightforward. Nobody has yet successfully challenge the photo presented here in Figure 15. One challenge which was presented postulated that vent X was indeed a 35 in fan but with a swan neck intake duct. The problem is that no such intake duct could be installed on the port side of this 35 in. fan. Figure 18 shows a plan view of the area.

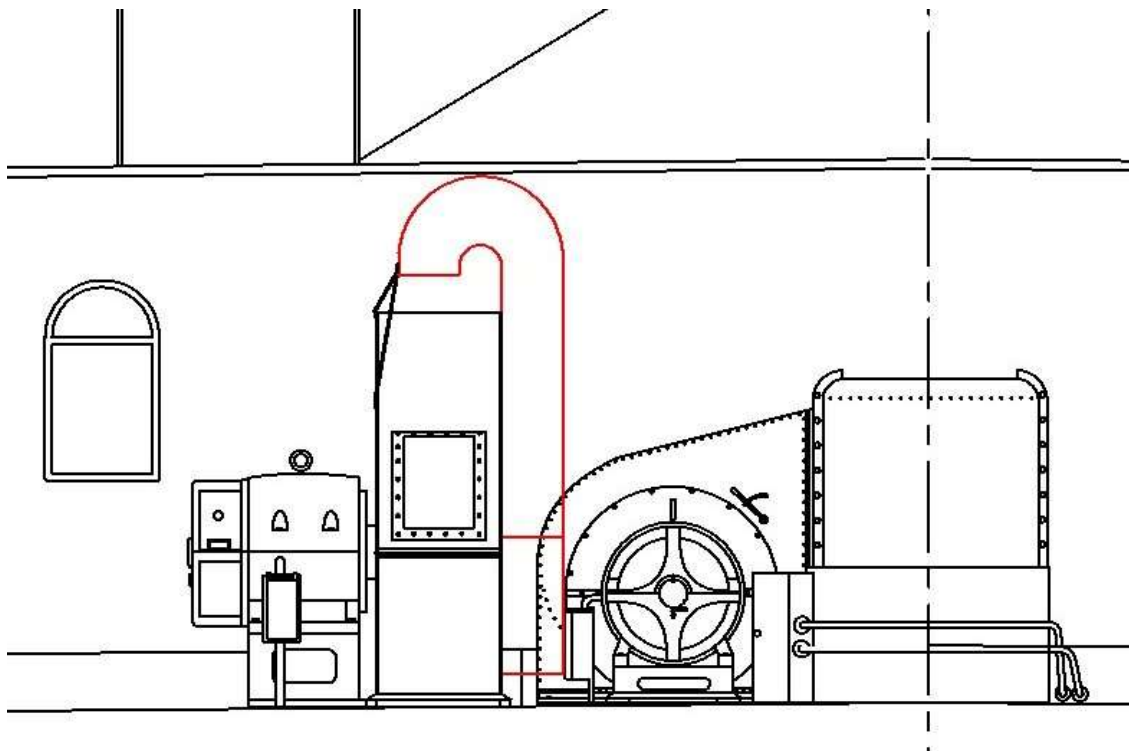


Figure 18

The red outline shows the narrowest profile intake duct that existed which was used on the roof of the port tank room. As can be seen, there is insufficient room between this 35 in. fan with a swan neck attachment and the fan attached to the thermotank.

Earlier the general arrangement plan for Titanic was shown. It was noted that the motor for vent X was on the starboard side. There is no way to rearrange vent X to add a swan neck intake vent. The only way it could be done is if the thermotank had the motor on the port side. However the plan shows that it was oriented as is shown and there is no photo evidence indicating otherwise.

Objections to Vent X

While vent X would seem to have the greater weight of evidence behind it, the proponents of the alternative vent Y have raised objections to the accepted configuration. These will be discussed below.

Size of the 35 in. fan.

The problem with any discussion of the size of any ventilator fan is the fact that there are no known plans which show the dimensions of the fans. Our knowledge of the dimensions of the ventilator fans has come about through painstaking photo analysis. The accepted method is to use objects in photos which have known dimensions and compare them to the fans in the photos and calculate a close estimate for the unknown dimensions. For the 35 in. fan, the height is probably the most accurate estimate. The width estimate is less accurate but at most this fan could only be 5 in. wider than the drawings in this article. How this affects the criticism is that the contention is that the 35 in. fan is too wide (measured from the connection of the duct at the tank room deckhouse to its forward extent).

It is argued that vent X would impinge on the brass plate which covered the aft expansion joint. Is this a disqualification for vent X? The question is why would it be? If the fan impinged on the brass plate, it could be accommodated in a couple of ways. First, the fan could be raised slightly by shims so that it cleared the brass plate. The fan would still be securely bolted to the concrete base upon which it rested.

The second way of dealing with any impingement would be by cutting the brass plate. The plate served no structural function. It just provided a covering over the expansion joint for the safety of anyone walking on deck.

In an extreme case, the expansion joint could be cut away under the fan. A section in way of the fan could be removed altogether and the fan could overlap the entire expansion joint as long as it was shimmed up sufficiently to clear the deck on the side opposite the fan.

By my calculations, vent X was 60 in. wide. This would cause it to overlap the brass plate by only about one inch. This would pose no problem in shimming the fan slightly as can be seen in Figure 18.

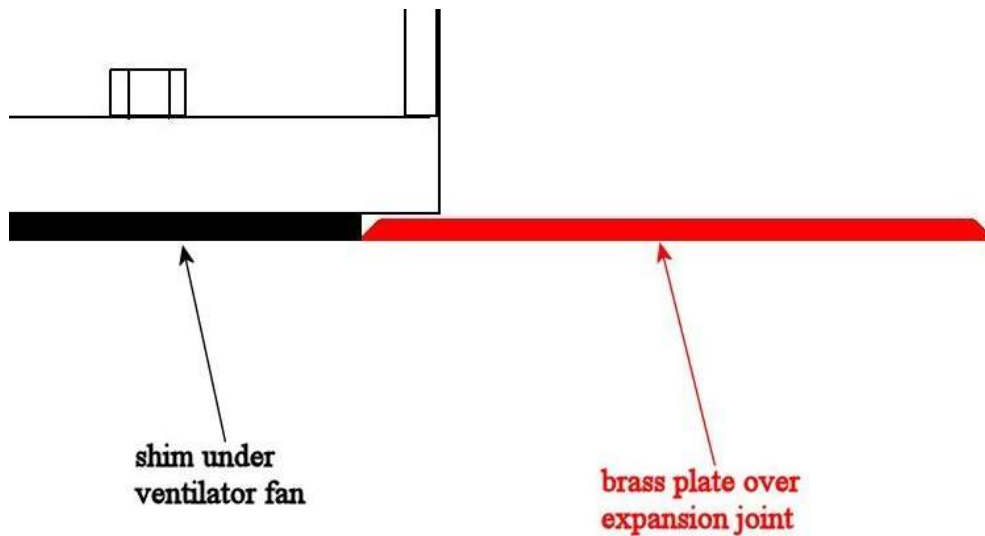


Figure 18

Another objection that has been made is that in the drawing of vent X, the output extension which attaches to the tank room bulkhead is too short. As we can see by examining a lot of other ventilator fan installations, the length of the output ducts could be modified to suit the application. Figure 19 shows the output duct of a 35 in. fan in another installation. We can see that when inserted into other ducting that the output duct extension is very short. In this photo we can also see the flange on the deckhouse bulkhead. With no height restrictions as is the case with the forward bulkhead of the tank room, this connection could be quite short.



Figure 19

The only other “objection” to vent X as a 35 in. fan is the inability to identify unknown shapes and shadows in poor quality photos. This is not a disqualification because the unknown objects in the photos were proven not to be vent Y by their sheer size. At this point the burden of proof rests with those who would challenge the accepted identification of vent X.

Summary

This article has sought to provide a definitive defense of the electric ventilator fan on the forward starboard bulkhead of *Titanic's* tank room deckhouse. The evidence which has been presented as a challenge to the accepted configuration of this ventilator fan has been addressed point by point. After all the points of the challenge were answered and refuted, the evidence for the accepted configuration of this ventilator fan was presented. It would be desirable to have more and better information to aid in the identification, but in this case it doesn't exist at this time. However, I believe the currently accepted identification of this ventilator fan has withstood this challenge.