

Titanic's Engine Room Winches

By Bob Read D.M.D.

Introduction

The purpose of this article is to summarize a discussion that was started by *Olympic* class researcher Ralph Currell on the now defunct TRMA forum in October 2017. The forum discussion was about the two winches found in the reciprocating engine room. The evidence is from *Olympic* but there is no reason to believe that the same winches wouldn't have been found on *Titanic*.

The Photograph

There is only one photograph taken aboard *Olympic* which shows one of these engine room winches. It is seen in Figure 1.

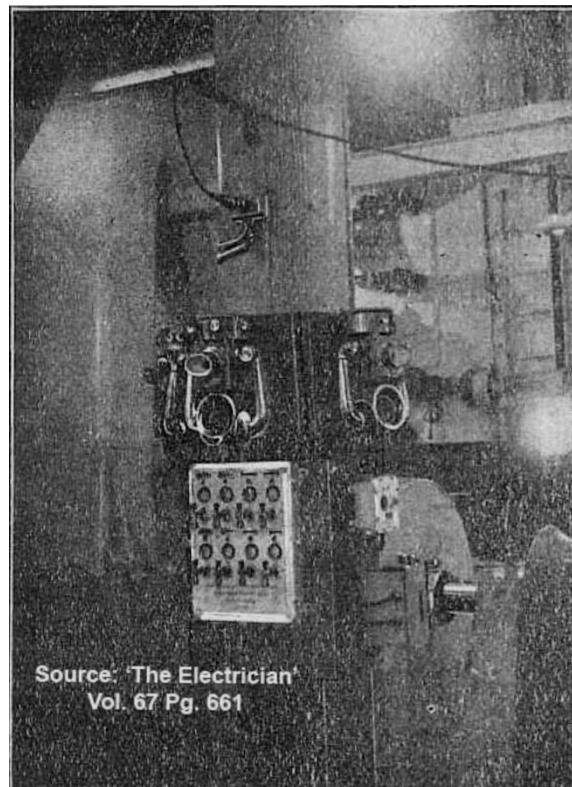


Figure 1

Photo of engine room winch taken aboard *Olympic*

The photo appeared in the journal "The Electrician" in 1911. The purpose of the photo was to show a telephone installation in the reciprocating engine room. In the lower right of the photo, a winch can be clearly seen.

Documentation

After this winch was noticed, several sources of documentation had to be consulted to get a more complete description of the winch(s) found in the reciprocating engine room. The first source was the so-called "Andrews Notebook" which describes two winches in the engine room. It also describes the capacity of each as 2 tons. This would be the lifting capacity without any mechanical advantage like blocks and tackle. This description is seen in Figure 2.

ELECTRIC WINCHES.
4 - 3 TON CARGO WINCHES.
6 ~~X~~ - ~~IS~~ BOAT WINCHES. LIFTING 6 TONS AT 20 FT. PER MIN.
2 - 2 TON WINCHES IN RECIPROCATING ENGINE ROOM.

Figure 2

The next documentation shown in Figure 3 was the Shipbuilder Journal special 1911 issue. It gives a short description of these winches as being manufactured by Chambers, Scott & Co.

There are also electric winches in the engine room in connection with the lifting gear, which have been supplied by Messrs. Chambers, Scott and Co., of Motherwell.

Figure 3

The final documentation was the 1935 *Olympic* auction catalog which lists on day 10 the horsepower of the winches. This is shown in Figure 4.

4399 Two 4 h.p. ditto (Engine Room winches)

Figure 4

Location

In the "Electrician" journal photo shown in Figure 1, it shows one of the winches near an engine room column. There were three columns in the reciprocating engine room. By analyzing the photo, we can determine that this is the aft reciprocating engine room column and the winch is aft of it. The reason we can tell this is the aft rather than the forward reciprocating engine room column is because of the locations of the watertight doors on the forward and aft bulkheads of the reciprocating engine room. We have no documentary or photo evidence of

the location of the second winch. Given this lack of documentation, it has been postulated that the second winch position was a mirror of the aft winch position. Though the position of the second winch is not definitive, it is plausible. Figure 5 shows a drawing of the Reciprocating Engine Room. The known position of the aft winch and the proposed position of the other winch is shown highlighted in yellow.

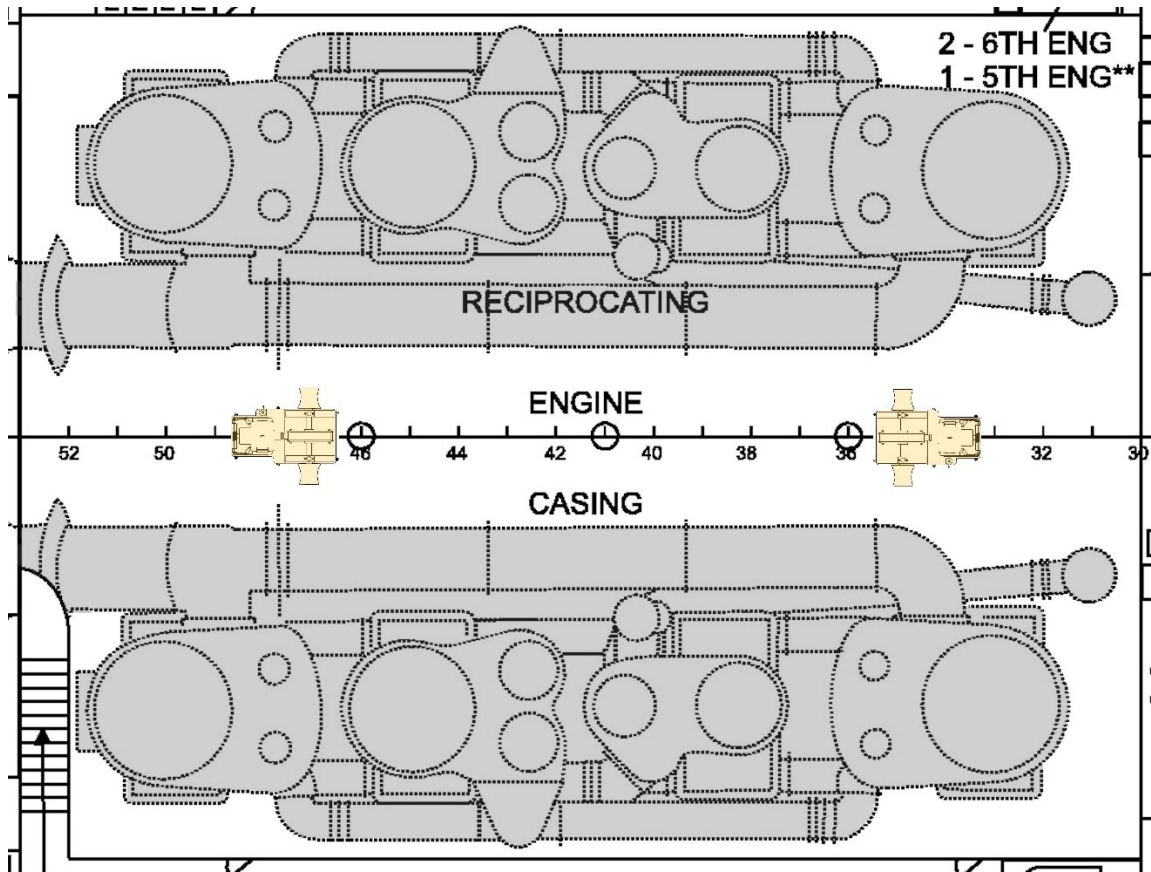


Figure 5

Location of the aft engine room winch and proposed position of the second winch

Configuration

While there was evidence regarding the locations and capacities of the winches, there was no information about the appearance of the Chambers, Scott winches. My contribution to the original discussion was to research the appearance of the winches. Even this aspect proved difficult since there was variation among the different Chambers, Scott winches.

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Figures 6 and 7 show photos of representative Chambers Scott winches.

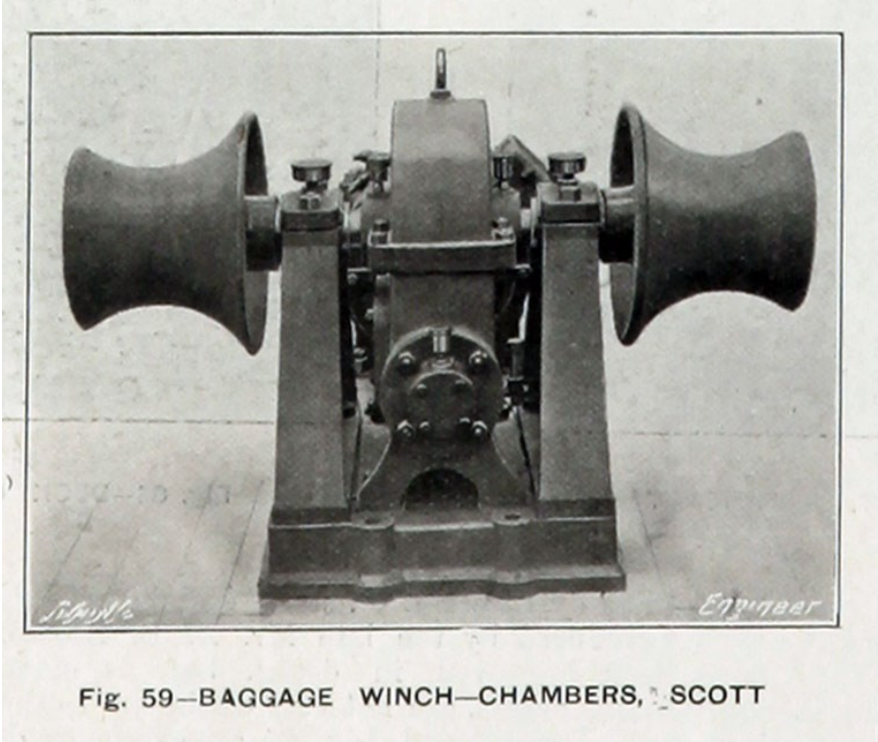


Figure 6

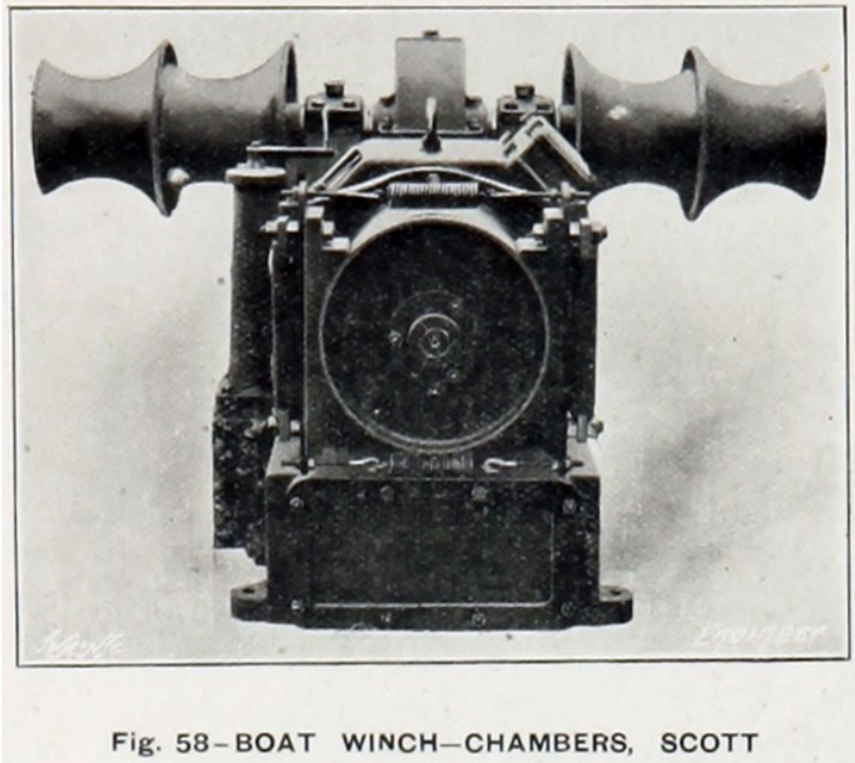


Figure 7

One unique aspect of the Chambers, Scott winches was that they used a “flapper brake”. Rather than use a foot brake, the braking was automatic. When there was a light load, the flapper brake engaged and kept the motor from turning too fast. If the power was off, the brake was fully engaged, stopping the winch. Figures 8 and 9 show two images of winch motors with flapper brakes.

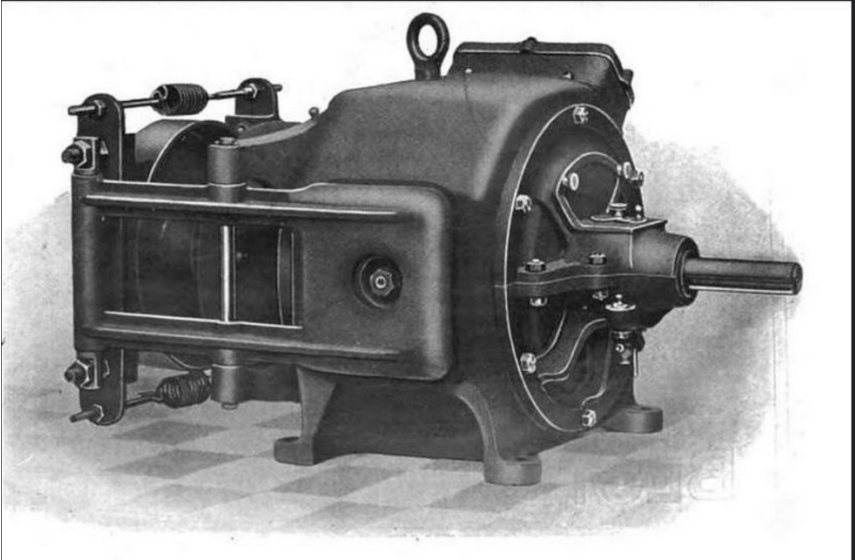


Figure 8

Winch motor with “flapper brake”

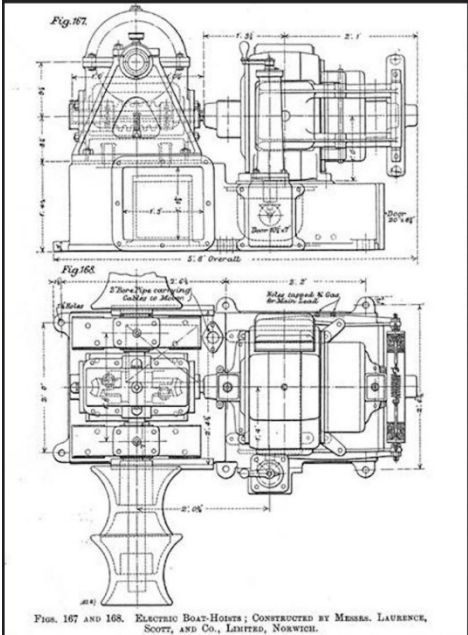
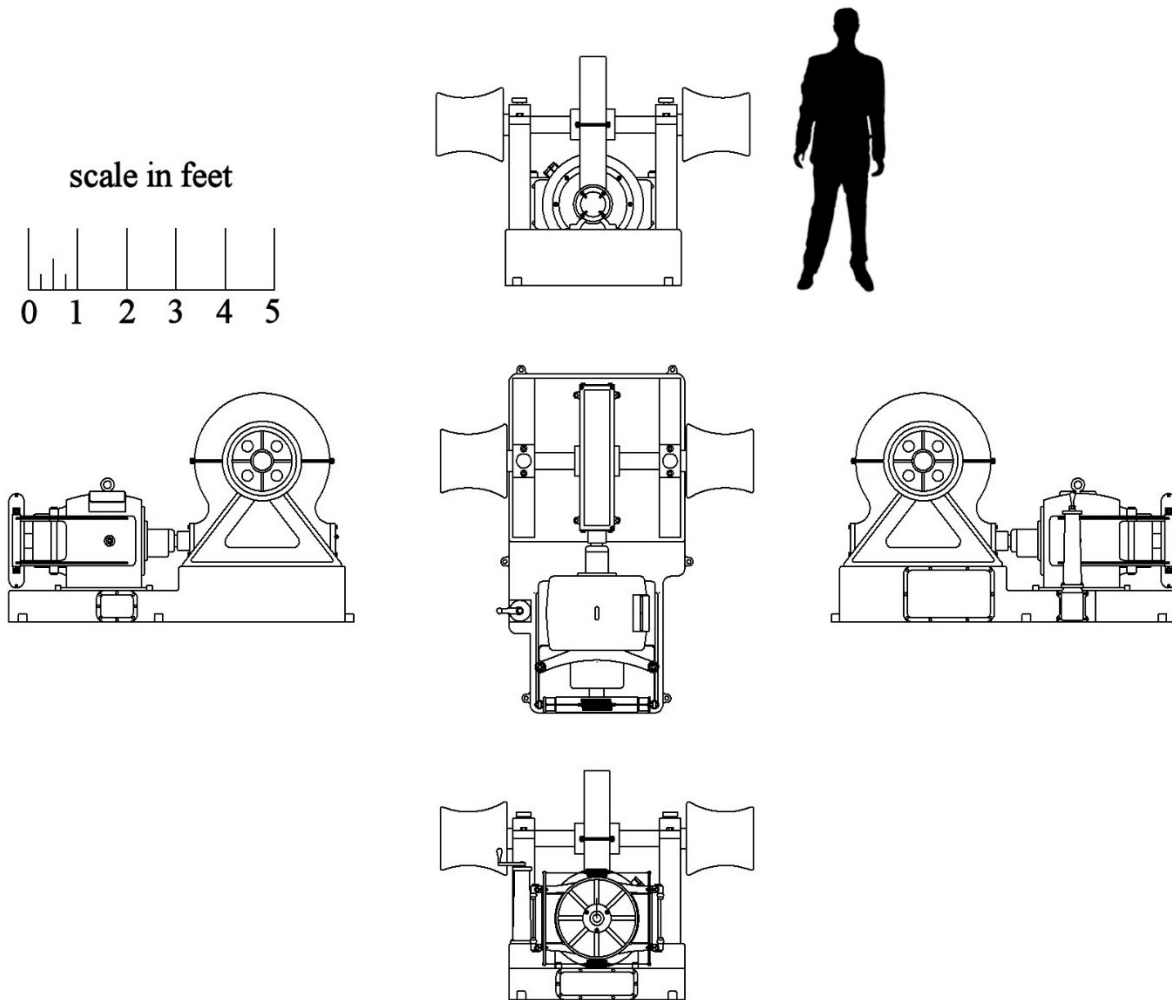


Figure 9

Plan of winch with “flapper brake”

Using this information, the size of the winches was estimated from the “Electrician” photo. The mouthpiece of the telephones shown in the photo was estimated as being 5 ft. in height. Using this measurement, the photo and the plan shown in Figure 9 were used to estimate dimensions of the winch. Figure 10 shows what the Chambers, Scott engine room winches most likely looked like.



Chambers, Scott & Co. 4 h.p./ 2 ton winch

Figure 10

Purpose

The exact purpose of these reciprocating engine room winches is more speculative. No specific purpose is given for them so it is likely that they were general purpose winches. They were likely used in the assembly of the reciprocating engines aboard *Titanic*. Beyond that, they were likely used for general maintenance purposes. The question might be asked why did they use this type of winch instead of the Sunderland Forge winches used everywhere else? The cargo winches were used by workers who were not part of *Titanic's* crew. They used similar cargo

winches every day aboard other ships. The cargo winches were more powerful to produce more speed for handling cargo rapidly. A foot brake was sufficient for these skilled operators. In the reciprocating engine room, the winches would be operating in a confined space by engine crew. There was no need for speed of operation. Safety was the more important factor. The Chambers, Scott winches turned more slowly. In addition, the flapper brake was automatic and would stop a load from falling if the power were interrupted. The Scott, Chambers winches were also self-regulating so that they would be kept at a slow speed even if the load were light.

Summary

The major aspects of the reciprocating engine room winches aboard *Titanic* have been discussed in this article. Their specifications, locations and configurations were described. This article may be helpful to those trying to model *Titanic's* reciprocating engine room.