> "I knew there was, if I may mention it, this light on the port bow about two points." – Charles Lightoller, Second Officer, RMS *Titanic*.

Titanic presented what is called an acute angle-on-the-bow to *Californian*, from ½ point (5.6°) to 2 points (22.5°), as *Titanic* swung to starboard very slowly after first coming to a stop facing northwestward. As with *Californian*, the swinging of *Titanic* would be caused by the very light airs and calms that prevailed that night, and possibly by some slight differential movement of the sea surface near each vessel since they both stopped relatively close to the edge of this vast field of floating pack ice.[3] As a result, *Titanic* would not appear full of light as one might expect, especially when being viewed at a great distance, and being somewhat hull-down below the horizon. At 12 to 13 miles away, the broadside view of a ship the size of *Titanic* would take up an angular width of only about 40 arcminutes if her entire hull from bow to stern had been visible. Presenting a two-point angle-on-the-bow, she would take up only 16 arcminutes (foreshortened by 60%), presenting a one-point angle-on-the-bow, she would take up only 8 arcminutes (foreshortened by 80%), and presenting a half-point angle-on-the-bow, she would take up only 4 arcminutes (foreshortened by 90%). As a point of reference, the average diameter of a full moon takes up an angular width of almost 30 arcminutes, almost ½ of a degree.

The swinging of *Titanic* as well as *Californian* that night is shown in Figure 8-03, and the foreshortening of *Titanic*'s angular width is shown in Figure 8-04.

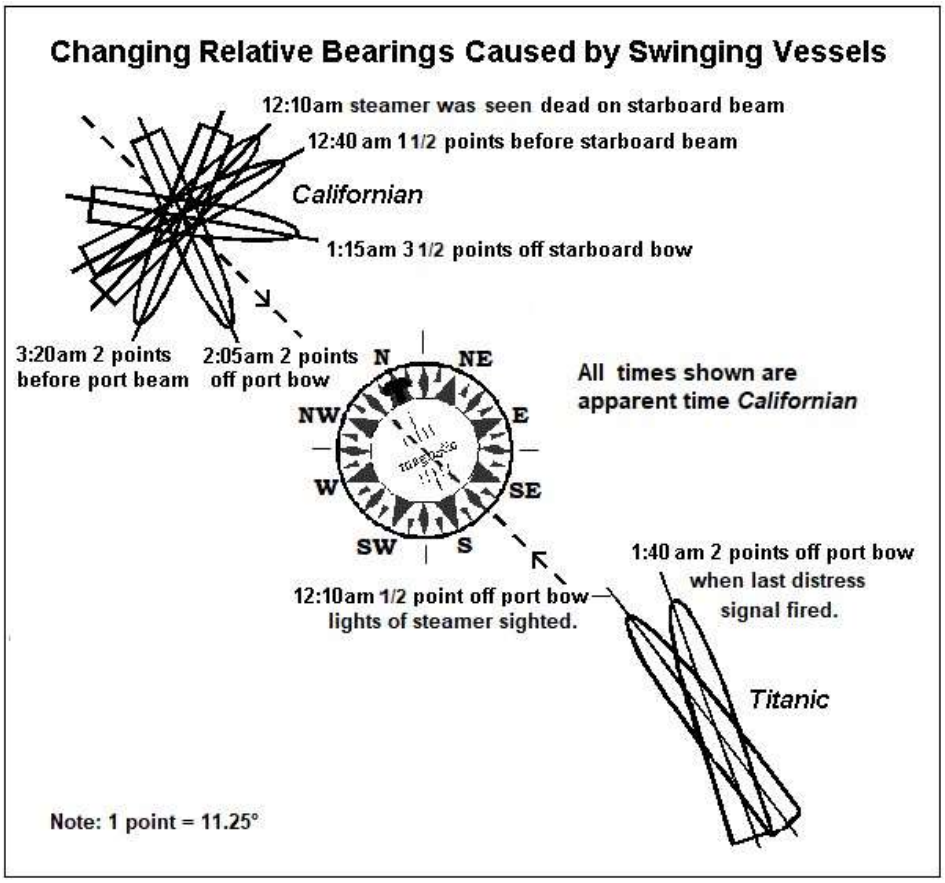

Fig. 8-03. The swinging of *Californian* and *Titanic*.

The swinging of *Californian* shown in Figure 8-03 is based on the relative bearings given by Apprentice James Gibson in his written report to Captain Lord on April 18, 1912

(Appendix C). The swinging of *Titanic*, also shown in Figure 8-03, is based on the evidence provided by Quartermaster George Rowe before the British Wreck Commission on Day 15 of that inquiry.[4] All times shown in Figure 8-03 are *Californian* apparent time. (*Titanic* apparent time was 12 minutes ahead.)

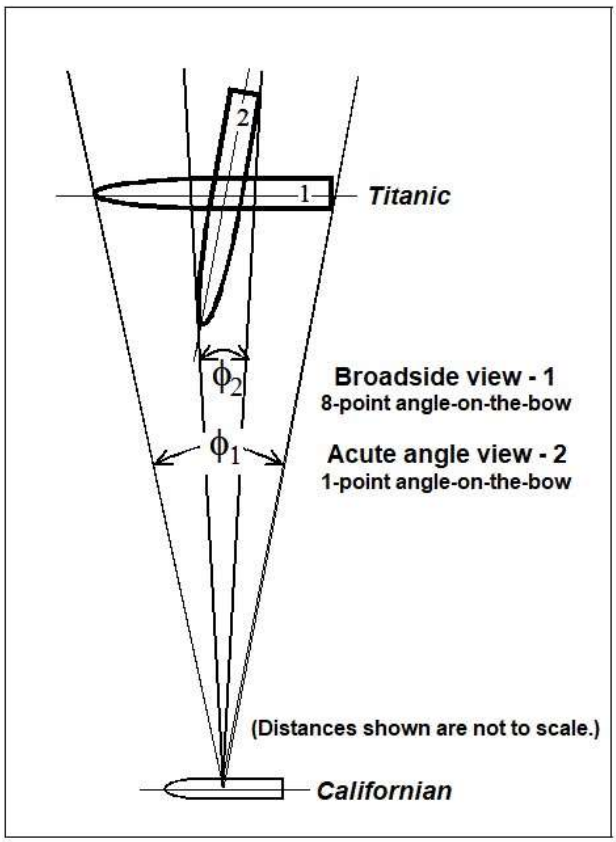

Fig. 8-04. Angular width foreshortened when presenting an acute angle.

How *Titanic* may have appeared looking through a pair of glasses to those on *Californian* that night is presented in Figure 8-05.

Fig. 8-05. *Titanic* at night from 12 to 13 miles as seen through glasses.