Astrolabe to Chronometer.

The Mariner's astrolabe and the depth log are the oldest nautical instruments. The astrolabe was used to determine the latitude of the vessel. The depth log was used with coastal charts to determine how far the ship was from the near shore.

With the introduction of the compass, a heading could be established so that with the astrolabe to establish latitude and the compass to check the heading, a vessel could sail into open waters. Since the speed of the ship was difficult to determine, the only safe course was to sail East or West to the far shore and then navigate the shore to the destination. The trip was necessarily slow. The latitude chosen for East/West travel was determined by the prevailing winds.

With the introduction of the chronometer, it became possible to determine the longitude as well as the latitude. By this time the astrolabe had been replaced by the sextant or octant to provide observations of the sun or stars which provided local time and latitude. The chronometer provided longitude by keeping the time at a known location which was Greenwich England by convention. Each hour of difference between local time and reference time represented 15 degrees of longitude

Knowing the longitude allowed vessels to sail a direct route between two points and avoid the long route to the prevailing winds and East/West traverse of the ocean. This also eliminated much of the dangerous navigation in shallow coastal waters. The time of a journey across the Atlantic could be reduced to half or less of the time required by the old astrolabe/compass method.

Historically, the English have been considered the dominant nation in the development of chronometers, but by the 3rd quarter of the 19th century Europe and America were both producing high quality instruments.

The Negus brothers T.S. and J.D. Negus of New York were the leading American manufacturers of chronometers as established by the fact that the U.S. Navy was using more of their instrument than all the other American makers combined. The Negus instruments were built on frames supplied by chronometer frame makers in Prescott England just like all the English makers used. The frame maker's mark TCW appears under the barrel on the pillar plate. The finisher for the Negus chronometers was John Podmore. This example No. 1457 was made in the mid 1870's for a commercial or private client as indicated by the nickel finish on the tub and bezel. Over the 150 years of its life, it found its way to the Balkans where it lost its original box and received some serviceable but inelegant repairs. It remains a good example of a high quality chronometer that has worked hard for a long time.


DOWN
UP
WIND
T. S. & J. D. NEGUS,
New York.
No. 1457.


T. S. & J. D. NEGUS,
New York.
No. 1457.