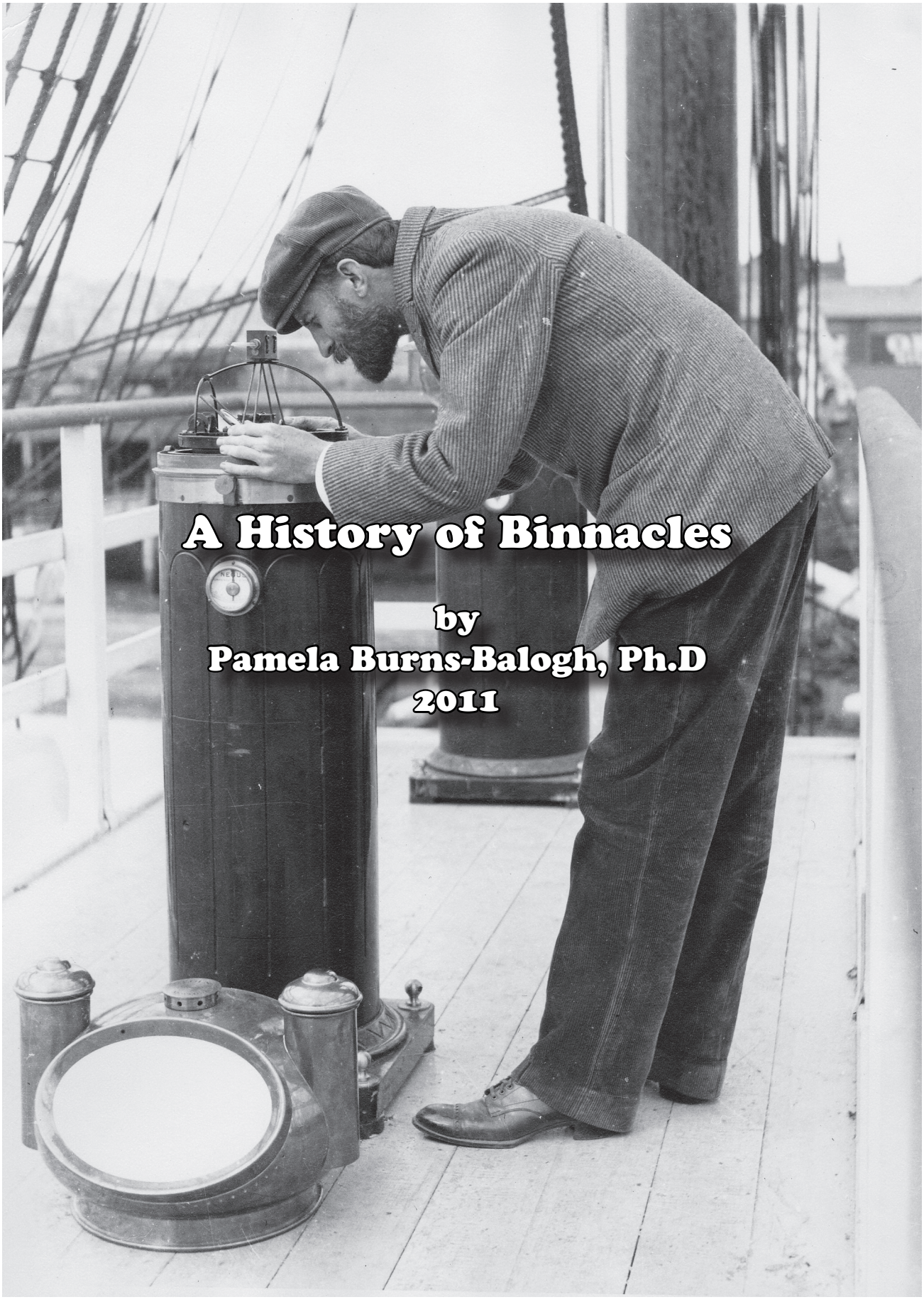


A History of Binnacles

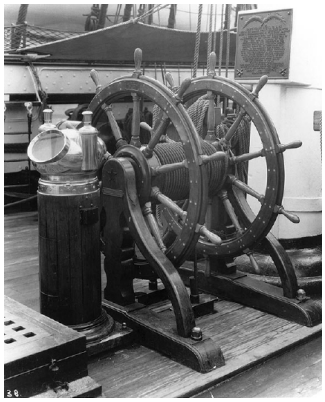
by

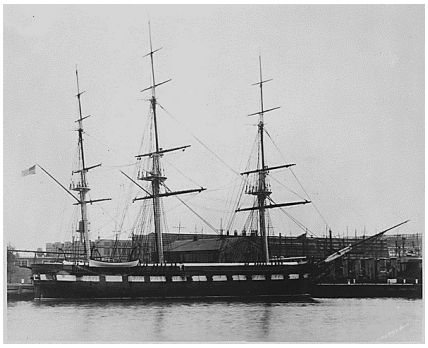
Pamela Burns-Balogh, Ph.D

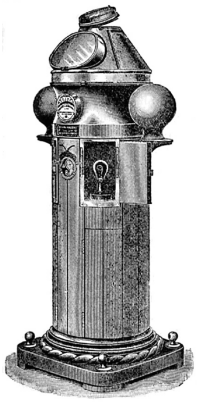
2011

New Book!
A History of Binnacles
by
Pamela Burns-Balogh, Ph.D.

A binnacle is the housing for the compass, magnets, and soft iron objects that make it possible for a ship to accurately navigate from one port to another. Most binnacles did not survive, ships were destroyed, binnacles were scrapped for the metals, and compasses were updated. The only knowledge we have of some binnacles is through the photographic record. This is a history of the development and styles of binnacles from the 16th to the 20th century. The book covers the earliest cabinet binnacles in the 17th century to the complex binnacles of 1960's. Archival photographs, photographs from museums, old journals, patent drawings and descriptions, and photographs from nautical antique dealers are included to illustrate the history of binnacles.







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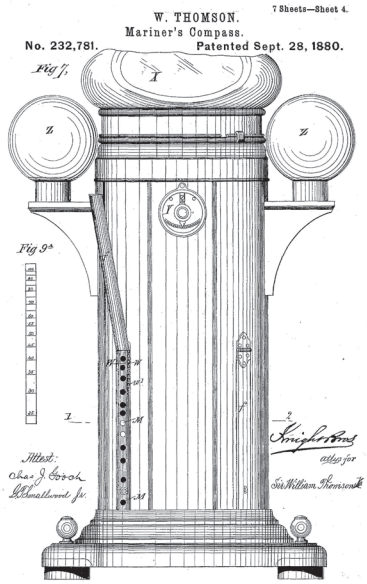

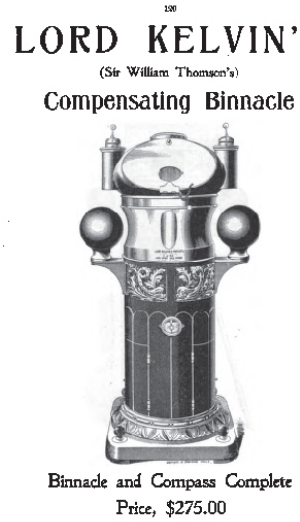

This book is supplied on a CD disk as an Adobe Acrobat file- binnacle.pdf. It may be viewed with Adobe Acrobat reader, already installed on your computer or you may download it from http:\\www.adobe.com. It is best viewed as a printed edition and may be printed on any modern printer or taken to a copy shop and printed out double-sided and bound.

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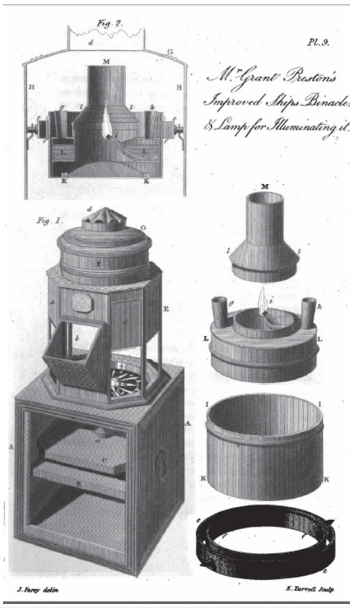
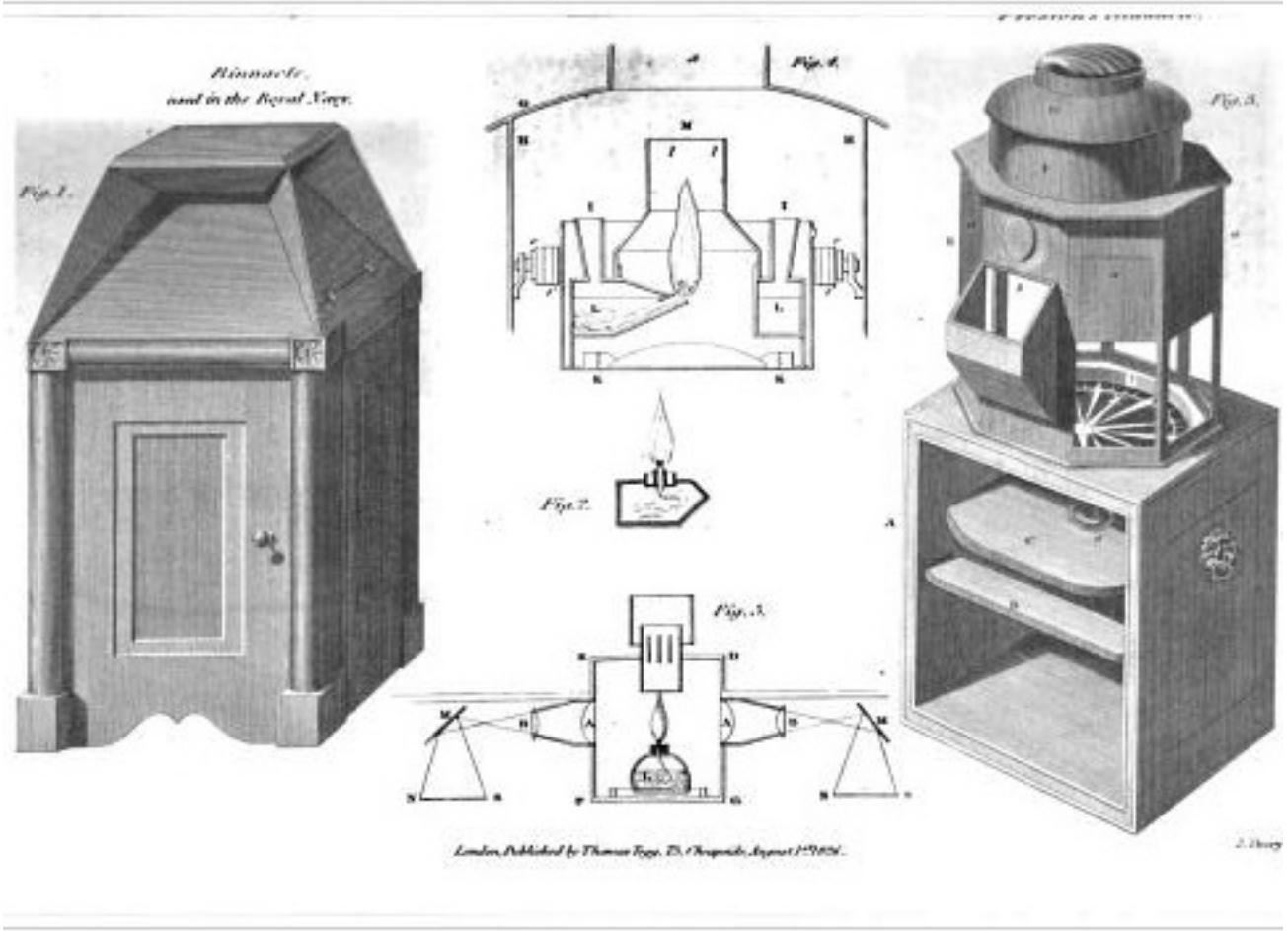
a viewing port (top right photograph). Before this, a candle was placed near the compass. He received the Silver Medal from the Royal Society of Arts...., for inventing a binnacle for viewing "with clearness and certainty". (*Transaction of the Society instituted at London for the Encouragement of Arts, Manufactures, and Commerce. Volume XXXI, p. 191. 1813*).



The figure below is from the *London Encyclopedia, volume 4, p. 144, 1839*. It shows the type of binnacle used by the Royal Navy at that time (bottom left drawing). This binnacle was the design of Sir Home Popham. It was a square wooden box, 24 inches high, 18 inch wide, with four plate glass windows in a pyramidal shape. The top wooden part protected the glass. On one side an oil lamp was attached for night viewing. (*London Encyclopedia volume 4, p. 145, 1829*.). The figure to the right is Preston's binnacle for comparison.



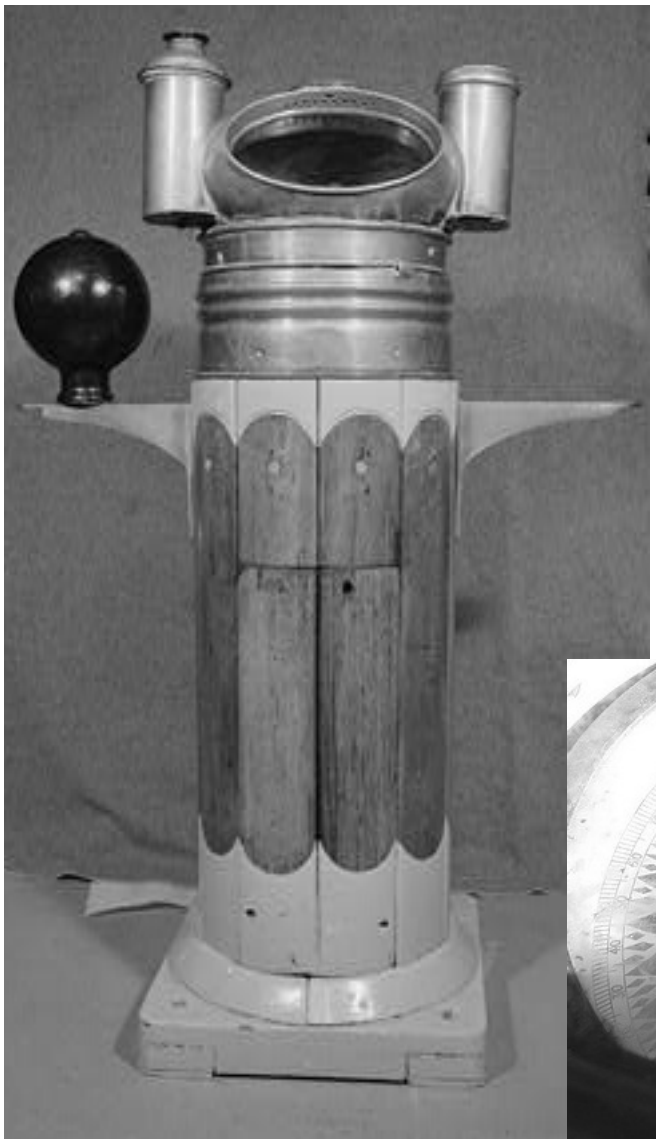
The Use of Magnets

The effects of iron on the ship's compasses became more of a problem after 1822, when ships were constructed with iron hulls and steam engines. The race to have the most modern warship among European rivals led to more cannons and iron plates being fitted on ships. They discovered that hardened iron became magnetic when it was pounded during the construction of the ship, turning the ship into

An 1872 painting of the Cutty Sark by Frederick Tudgay

The Tea Clipper, *Cutty Sark*, built in 1870, was an iron-framed and iron-clad ship. This is now a museum ship located in Greenwich, UK. According to the original specifications of the *Cutty Sark*, there were 3 compasses on board as well as spares: Compasses: Three binnacles to be found, viz. Steering Binnacle and Compass, Standard in front of Poop with Board of Trade Compass, Azimuth on Skids between Boats, one suspended Cabin Compass, two spare cards, two spare Agates and two spare pivots to each compass with deviation card to be found, and two spare brass compasses all to be properly adjusted by swinging the vessel. *(http://www.cuttysark.org.uk/resources/14/assets/images/Original%20Specifications/The%20Original%20Specification%20for%20Cutty%20Sark.pdf)*

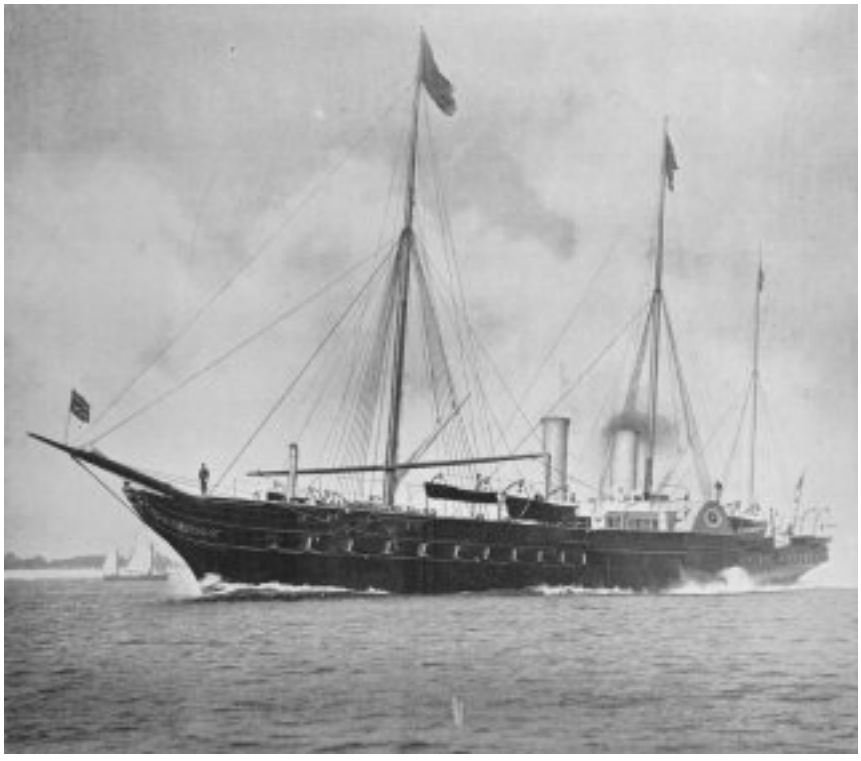
She was sold several times, altered and finally, in 1922 restored to her original appearance. The ship then served as a stationery training vessel until 1954. The binnacle, which is now on the museum ship is not original to the ship, but it is similar to the original without the short pedestal (photographs next page). Jessica Beverly, Cutty Sark Trust, believes this binnacle was added in the 1950's during restoration. It has a Lilley & Reynolds Ltd., London compass which is likely from the late 1800's to early 1900's and the casing says Hutchinson & Jackson makers, Sunderland, which was in business in the late 1800's.



Balclutha built in Glasgow in 1886. This is the original Kelvin compass and mushroom binnacle. Now a museum ship in San Francisco. (Library of Congress photos HAER CAL,38-SANFRA,200). Note one sphere is missing. The compass was supplied by James White using Lord Kelvin's patent.

The other binnacle was the yacht-type binnacle with the serpent pedestal. The top is missing. See p. 28, top center photograph for an idea how this might have looked.

Bridge Royal Yacht *Victoria and Albert II,* Queens Jubilee 1877. The Illustrated London News. The binnacles are skylight binnacles with ornate pedestals. The yacht was a paddlewheeler.

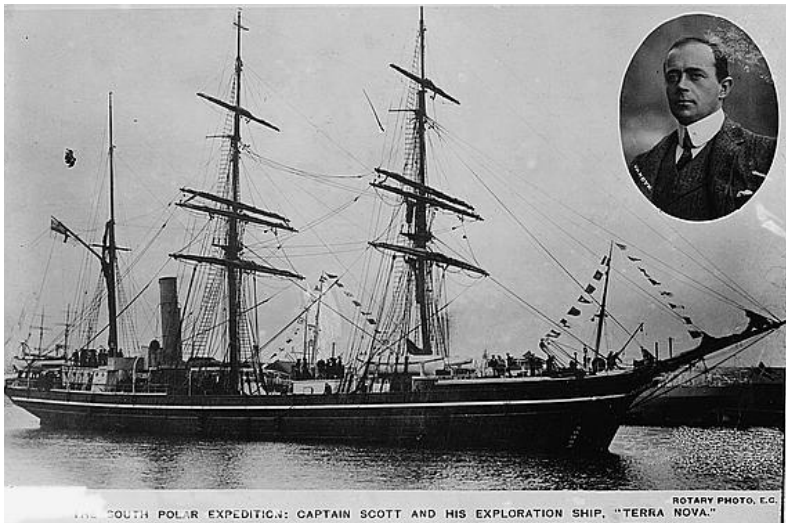


John Bliss & Co., New York (1857-1956)

Late 1890's?, the ornate brass pedestal is missing. The front brass viewing window covering is missing and the right hand lantern has been replaced by a crudely-made replacement. The burners are also missing. The Kelvin Spheres are covered with brass. This is typical for antiques of this age. As they were used on the ship, parts were often broken or lost and needed to be replaced. 23"H X 26"W. Property of author.

Late 1890's-early 1900's. Has Royal Yacht *Britannia* decoration on neck (which is most likely just decoration). From Lannan Gallery, Boston Harbor Auctions.

British Antarctic Expedition, *HMS Terra Nova* 1910-13



Antarctic Expedition - Capt. Scott and his exploration ship: *Terra Nova.* Digital ID: (digital file from original neg.) ggbain 10191 http://hdl.loc.gov/loc.pnp/ggbain.10191 ; Reproduction Number: LC-DIG-ggbain-10191 (digital file from original neg.)

The *Terra Nova* was built as a steam whaler in 1884 and was part of the second expedition led by Commander Scott. The purpose of this expedition was to reach the South Pole and on January 1912, 33 days after Roald Amundsen's expedition, they succeeded. Sadly, Scott and his entire party died trying to get back to the base camp. Their bodies, photos, etc., were found by a search team eight months later *(http://en.wikipedia.org/wiki/Terra_Nova_Expedition)*.

According to *Scott's Last Expedition, 1913, Volume I1, p. 340*, all the binnacles and compasses were supplied by Kelvin & James White Co. There were 4 binnacles with 2 styles on this expedition (see deck plan page 60-61).

Three of the binnacles were an older type Kelvin & James White, most likely fitted to the ship before 1902. This was the same type found on *Discovery* (photo left). It had a large eliptical brass cover and large eliptical viewing window.

The 4th binnacle, which was situated atop the icehouse, was a Kelvin & James White tucked-waist style binnacle with a Kelvite compass patented in 1902. This style continued when the company be-

Description: McCarthy at the wheel [Original caption]. Date: 1910. McCarthy stands at the wheel of the sailing ship *Terra Nov*a. From the British Antarctic Expedition 1910-13 (Ponting Collection).
Artist/Photographer: Ponting, Herbert George (1870-1935)
People: Mortimer McCarthy
Country: Antarctica, Ross Dependency
Source: Scott Polar Research Institute, University of Cambridge, UK
Expedition: British Antarctic Expedition 1910-13 (Ponting Collection)

7 Sheets—Sheet 4.

W. THOMSON.

Mariner's Compass.

No. 232,781. Patented Sept. 28, 1880.

Fig 1.

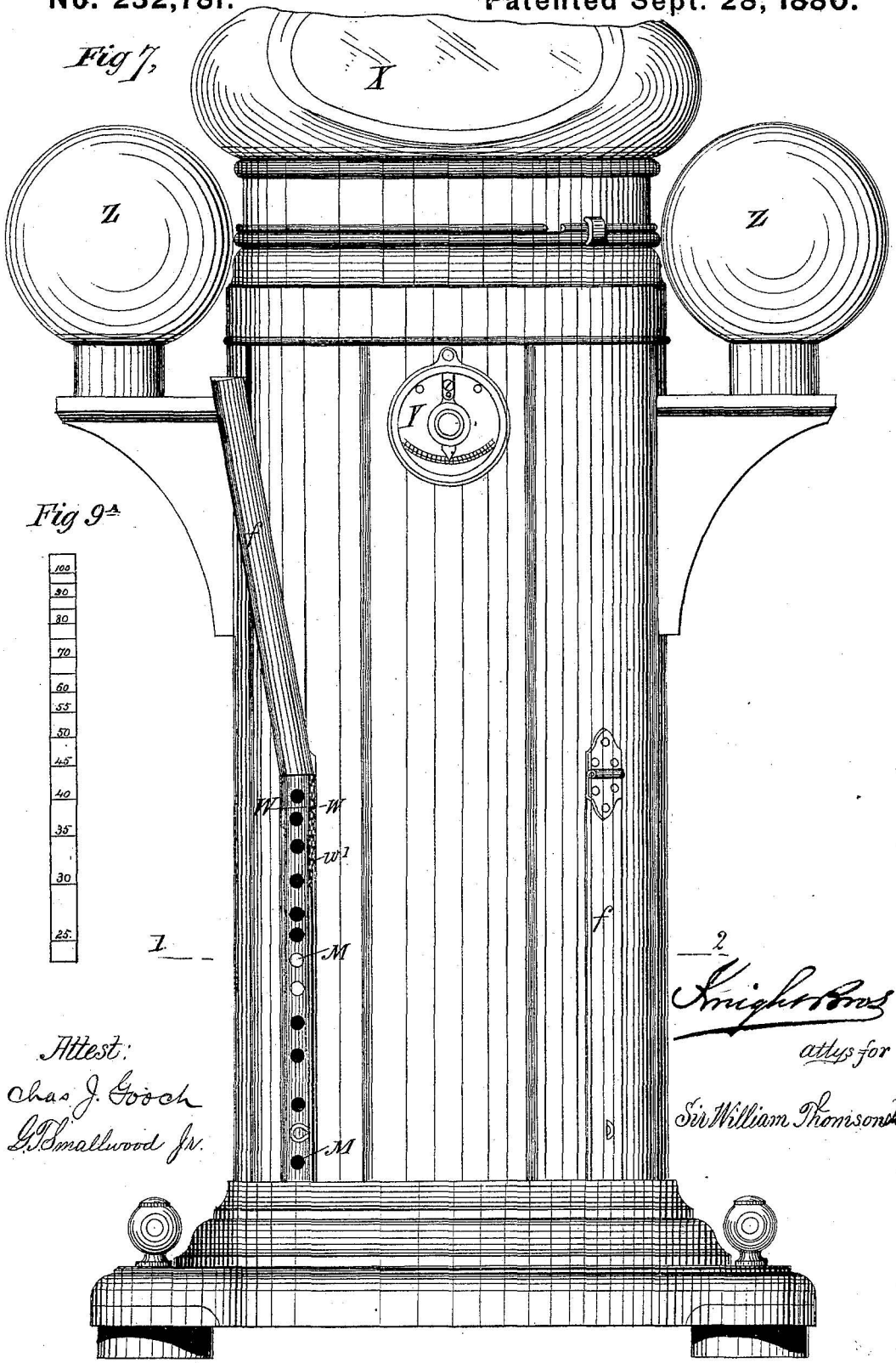


Fig 9A

1

2

Attest:
Chas J. Gooch
G. Smallwood Jr.

Knight Bros
attys for
Sir William Thomson

421

423

422

Kompaßstände

421 **Kompaß-Teak-Stand,** Messinghaube, Kompensiereinrichtung mit Magneten, Flinderstange, elektrisches Unterlicht mit Abblendung, 2 Reserve-Petroleumlampen, Deckverschraubungen.

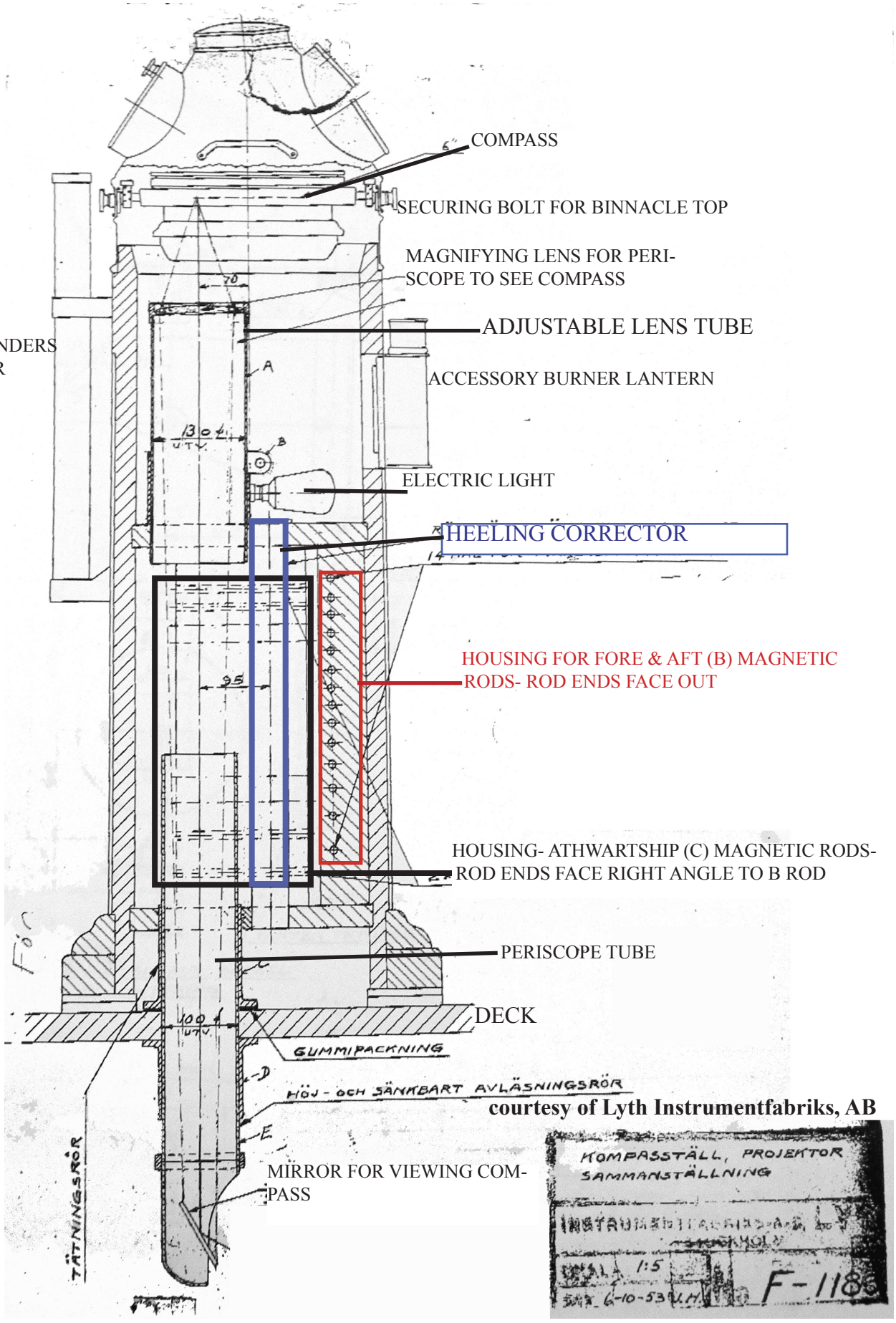
Standard Compass Teak Stand, Brass Binnacle, Corrector spheres and magnets, Flinder's Bar, Electric lighting from bellow, 2 oil lamps with light reducer, deck fittings.

422 **Kompaß-Teak-Stand,** Messinghaube mit 1 Lampe, Zubehör wie 421.

Standard Compass Teak Stand, Brass Binnacle with 1 oil lamp, accessories as 421.

423 **Kompaß-Teak-Stand,** Messinghaube mit Spiegelsatz für vertikales Rosenbild, 2 Lampen, Zubehör wie 421.

Vertical Card Steering Compass Teak Stand, Binnacle with 2 oil lamps, accessories as 421.



courtesy of Lyth Instrumentfabriks, AB