# 18th Century Material Culture
# Telescopes

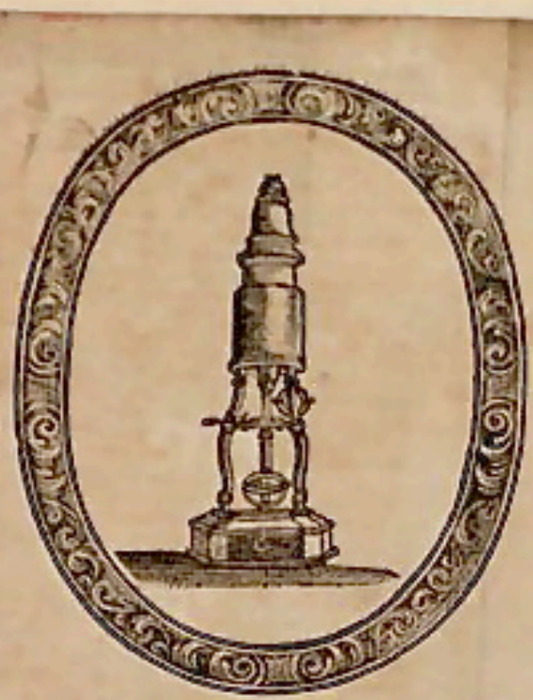




# Telescope Makers



John Cuff, London Optician, and His Assistant
by Johann Zoffany 1772
(The British Museum)



# JOHN CUFF,

## Optician, Spectacle, *and* Microscope *Maker*,

At the Sign of the REFLECTING MICROSCOPE and SPECTACLES,
against *Serjeant's-Inn* Gate in *Fleet-street*,

MAKES and Sells all Sorts of the most curious Optical Instruments, such as SPECTACLES and READING GLASSES, ground on Brass Tools in the Method approved by the Royal Society, of *Brazil* Pebbles, Rock Chrystal, or the finest Flint Glass, and set either in Silver, Mother of Pearl, Tortoise-shell, *&c*, in the most convenient Manner for Use.

REFRACTING TELESCOPES, proper for celestial or terrestrial Observations, either by Land or Sea; and also REFLECTING TELESCOPES, as invented by *Sir Isaac Newton* and Mr *Gregory*.

MICROSCOPES of several Kinds, both Single and Double, (either for the Study or the Pocket) particularly a new-constructed DOUBLE MICROSCOPE, invented by the said *John Cuff*, to remedy the Inconveniencies complained of in all the former Sorts; the SOLAR MICROSCOPE, as improv'd by him with a most convenient and manageable Apparatus for viewing Objects, and a Contrivance for drawing the Pictures of them with great Ease and Exactness, even by those that have never drawn before; the AQUATIC MICROSCOPE, invented also by him for the Examination of Water Animals; the OPAKE MICROSCOPE, which by a Light reflected upon Objects that have no Transparency, renders them distinctly visible; *Culpepper's* MICROSCOPE, *Wilson's* Pocket MICROSCOPE, *&c.*

The CAMERA OBSCURA for exhibiting Prospects in their natural Proportions and Colours, together with the Motions of living Subjects: MAGIC LANTHORNS; Convex and Concave SPECULUMS or LOOKING GLASSES, MULTIPLYING GLASSES, BAROMETERS, THERMOMETERS, OPERA GLASSES, SPECTACLES of true *Venetian* Green Glass, SPEAKING TRUMPETS, several Mathematical Instruments, and many other Curiosities, are sold by the said Operator at reasonable Prices, either Wholesale or Retale.

# MICROSCOPES

Made and Sold by

## JOHN CUFF, Optician,

Opposite to

## Serjeants-Inn, Fleet Street, London.

### *A DESCRIPTION of the* MICROSCOPE, *commonly called, the* Reflecting Microscope:

*(Objects, that are transparent, being illuminated by Reflection from a Concave Mirror, which turns beneath on a Semicircle, for the Convenience of being moved to a proper Angle.)*



THIS MICROSCOPE hath a Black Foot or Trunk at the Bottom, with a Drawer in it which holds the Object Glasses, and the other Apparatus belonging to this Microscope.

Upon this Trunk are fixed three Pillars, by which the Microscope is supported. There are five different Magnifiers (or Object Glasses) mark'd upon the Cells 1, 2, 3, 4, 5. The first is the greatest Magnifier, and its chief Use is, to discover the minutest and most transparent Objects.

All the Cells screw on to the lower End of the Microscope, and must be exactly adjusted to their focal Distance, by the sliding Brass Tube, which is mark'd with Figures answering those on the Cells, and may be moved, higher or lower, till it is exactly fitted to the Eye.

All Objects are to be placed in the Centre of the broad Brass Plate when view'd.

The round Object Plate hath in it Dust of Malogny; Down of a Moth's Wing; Dust of a Sun Flower; Eye of a Fly; Scales of a Sea Fish; a Louse.

The two little Concave Glasses therein are to receive a Drop of Liquid on, in order to observe the Animalcula, which Animalcula are found inconceivably numerous in stagnated Water, or in Water wherein Pepper, Hay, Grass, or any other Herb hath been sometime infused.

The little black and white Plates are to lay opaque Objects on, and are to be enlightened by the Plano Convex Glass, which will reflect a Spot of Light upon the Object, either from the Sun, a clear Sky-light, or a Candle; and it may be moved higher or lower, and also horizontally, according as the Situation of the Light requires.

The Cell which hath a Concave and Plane Glass in it, is to confine living Objects in, during Pleasure.

The three lesser Glasses, viz. one a Plane Glass, and the other two Concaves, are for the same Purpose, the more readily to confine any small Object which happens in the Way.

The black Ivory Case, fits on the Shank underneath the Brass Plate, and is to be found there chiefly when the first and second Magnifiers are employ'd; for Experience will shew, some Objects appear more distinct by cutting off some Part of the oblique Rays, reflected from the Concave Mirror.

The Brass Fish-pan is to lay a Fish on to see the Circulation of the Blood in the Tail. In order thereto, bind the Fish down, with its Tail over the oblong Hole at the smallest End of the Fish-pan, which fitters into the Brass Plate in the same Manner as the round Object-plate doth, in that long Hole, with a Spring underneath to keep them steady. Chuse either a Gudgeon, Smelt, &c. whose Tail is most transparent.

The Glass Tubes are intended to put a Frog into, to observe the Circulation, which can, without killing, or in the least tormenting it, be seen only in the Web of its Foot. Between the Toes, the which must be expanded on the upper Side of the Tube, and Care taken that no other Part of the Frog hinders the Light from coming to it. Apply the Tube with the Frog in it underneath the broad Plate, where there are two Springs, and a Cavity made in the Shank to hold it.

The little Pair of Pliers, with a Point at one End, is either to hold an Object between them, or stick any thing upon; and the Spring-beak in the Middle is to fit into the round Hole at the Edge of the Circumference of the Brass Plate.

The little Brush is to clean the Glasses, and the Tubes in the Ivory Box: and the small Rings of Wire, are to supply what may be lost, or to change the Objects at Pleasure.

*At the same Time are made to the greatest Perfection, all other Sorts of Microscopes, Telescopes, &c. either Reflecting or Refracting. Also various Spectacles made of Brazil Pebbles, with all other Optical Glasses, at reasonable Prices.*

Trade Cards of John Cuff, London Optician
18th Century
(Science Museum of London)



British Optician & Telescope Maker John Dollond
by Benjamin Wilson  Mid 18th Century
(Royal Museums Greenwich)






Peter Dollond
by John Hoppner  Late 18th Century
(British Optical Association Museum)




Advertisement for the Shop of George Wildey
Early 18th Century
(National Maritime Museum, Greenwich)

# Telescopes

Sailors use telescopes of long-focal length to sight distant ships and landfalls. Most eighteenth-century telescopes of this sort had draw tubes made of wood or carboard. Nineteenth-century instruments were made with brass draw tubes covered with rope, wood or canvas. Most nautical telescopes have a multi-element eyepiece that shows an erect image. And since John Dollond's British patent of 1758, most have been equipped with an achromatic objective lens.

Ref: Deborah Warner, "Telescopes for Land and Sea," Rittenhouse 12 (1998): 33-54.

From the Website of the Smithsonian Museum of Natural History

# Non - Achromatic Telescopes




English Horn, Leather & Iron Non - Achromatic Telescope
c. 1650
(National Maritime Museum, Greenwich)



Vellum & Lignun - Vitae Non - Achromatic Telescope
c. 1660
(National Maritime Museum, Greenwich)



Vellum & Wood Non - Achromatic Telescope
c. 1660
(National Maritime Museum, Greenwich)



English Boxwood & Vellum Non - Achromatic Telescope
c. 1680
(National Maritime Museum, Greenwich)



English Vellum & Wood Non - Achromatic Telescope from London
by Christopher Cock  c. 1680
(National Maritime Museum, Greenwich)




English Vellum & Lignum Vitae Non - Achromatic Telescope from London
by William Longland c. 1690
(National Maritime Museum, Greenwich)




English or Italian Vellum, Wood & Paper Non - Achromatic Telescope
Belonged to the Reverend Ralph Taylor Who Went Into Exile with King James II
c. 1690
(National Maritime Museum, Greenwich)



Vellum & Horn Non - Achromatic Telescope
c. 1690
(National Maritime Museum, Greenwich)



English Vellum & Wood Non - Achromatic Telescope
c. 1690
(National Maritime Museum, Greenwich)



French Wood, Leather & Vellum Non - Achromatic Telescope
c. 1690
(National Maritime Museum, Greenwich)





English Wood, Vellum & Gilt Non - Achromatic Telescope from London
by John Marshall c. 1700
(National Maritime Museum, Greenwich)






French Wood, Vellum & Shagreen Non - Achromatic Telescope
c. 1700
(National Maritime Museum, Greenwich)



Vellum, Ivory & Shagreen Non - Achromatic Telescope
c. 1700 - 1710
(National Maritime Museum, Greenwich)



English Vellum & Brass Non - Achromatic Telescope
c. 1710
(National Maritime Museum, Greenwich)



English Vellum, Ivory & Shagreen Non - Achromatic Telescope from London
by George Wildey c. 1710
(National Maritime Museum, Greenwich)



Green Vellum, Brass & Lignun - Vitae Non - Achromatic Telescope
c. 1710
(National Maritime Museum, Greenwich)







German Wood & Paper Non - Achromatic Telescope from Freising
c. 1710
(National Maritime Museum, Greenwich)



Vellum, Tortoiseshell, Ivory & Silver Non - Achromatic Telescope
c. 1730
(National Maritime Museum, Greenwich)



English Vellum, Brass & Shagreen Non - Achromatic Telescope from London
by John Cuff, Maker of Spectacles & Optical Instruments on Fleet Street 1736
(National Maritime Museum, Greenwich)




English Vellum, Brass & Shagreen Non - Achromatic Telescope from London
by John Cuff, Maker of Spectacles & Optical Instruments on Fleet Street 1736
(National Maritime Museum, Greenwich)



French Vellum, Wood & Leather Non - Achromatic Telescope
by Hamel  c. 1740
(National Maritime Museum, Greenwich)



French (?) Card, Wood & Leather Non - Achromatic Telescope
c. 1740
(National Maritime Museum, Greenwich)




Vellum, Horn & Brass Non - Achromatic Telescope
c. 1740
(National Maritime Museum, Greenwich)



French Vellum, Wood & Ivory Non - Achromatic Telescope
c. 1740
(National Maritime Museum, Greenwich)



English Vellum, Wood, Shagreen & Brass Non - Achromatic Telescope from London
by George Sterrop  c. 1740
(National Maritime Museum, Greenwich)



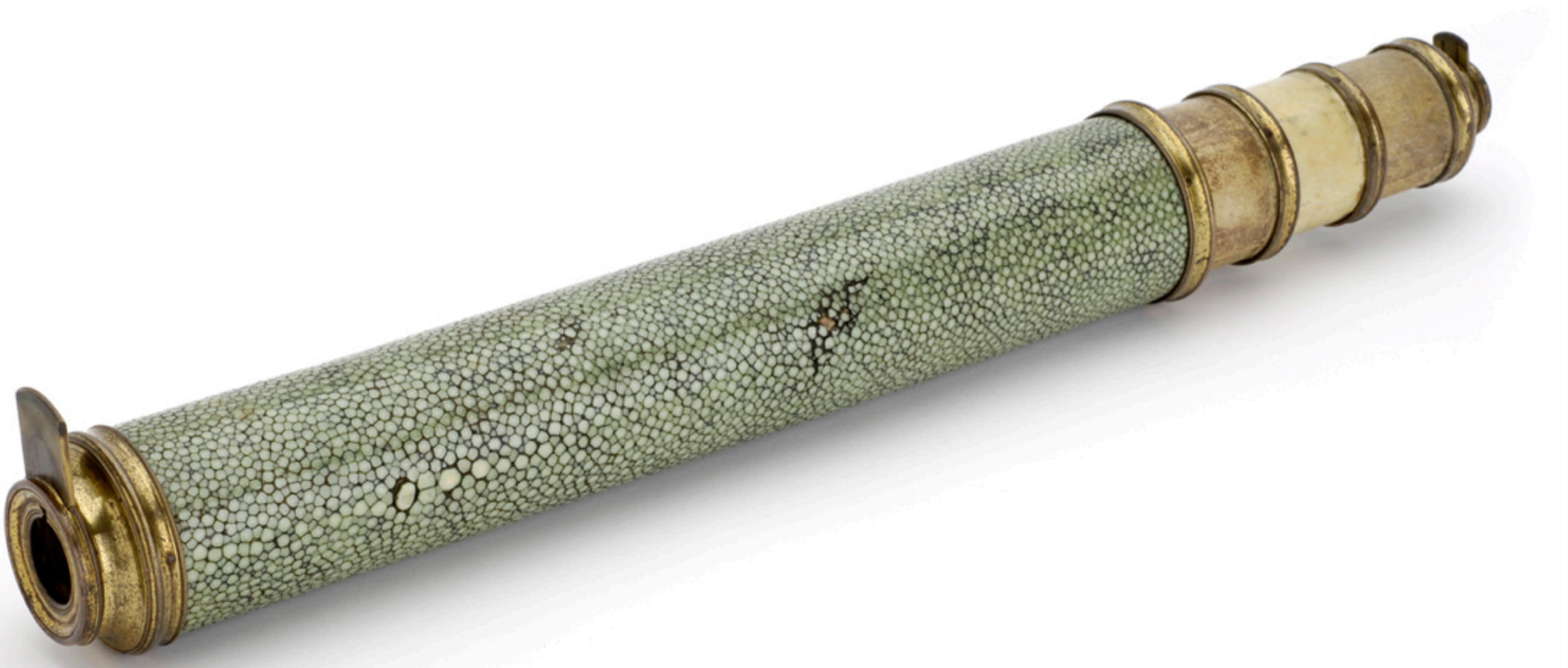
French Bone, Paper, Wood & Leather Non - Achromatic  Pocket Telescope
c. 1740
(National Maritime Museum, Greenwich)



French (?) Leather, Wood and Vellum Non - Achromatic Telescope
c. 1740
(National Maritime Museum, Greenwich)



Lignum Vitae & Brass Non - Achromatic  Pocket Telescope
c. 1750
(National Maritime Museum, Greenwich)



Brass, Wood, Shagreen & Vellum Non - Achromatic Telescope
c. 1750
(National Maritime Museum, Greenwich)



Vellum, Wood & Ivory& Leather Non - Achromatic Telescope
c. 1750
(National Maritime Museum, Greenwich)



English $\frac{3}{4}$ Inch Card, Vellum, Pink Shagreen & Gilt Brass Non - Achromatic Telescope from London
by J, Ayscough c. 1750
(Charles Miller Ltd.)




English $\frac{3}{4}$ Inch Card, Vellum, Pink Shagreen & Gilt Brass Non - Achromatic Telescope from London
by J, Ayscough c. 1750
(Charles Miller Ltd.)



English $\frac{3}{4}$ Inch Card, Vellum, Pink Shagreen & Gilt Brass Non - Achromatic Telescope from London
by J, Ayscough c. 1750
(Charles Miller Ltd.)



English Tortoiseshell and Silver Single Drawer Non - Achromatic Spyglass
by Thomas Ribright  c. 1750
(Charles Miller Ltd.)



Vellum, Wood, Shagreen & Brass Non - Achromatic Telescope
c. 1750
(National Maritime Museum, Greenwich)







English Brass & Lacquer Non - Achromatic Telescope
by Thomas Jones & Son c. 1775
(National Maritime Museum, Greenwich)



French Brass, Shagreen & Vellum Achromatic Telescope
c. 1750
(National Maritime Museum, Greenwich)



English Brass, Ivory, Shagreen & Vellum Non - Achromatic Telescope
c. 1750
(National Maritime Museum, Greenwich)



English 1Inch Three Draw Card and Shagreen Non - Achromatic Telescope
c. 1760
(Charles Miller Ltd.)



English Brass, Shagreen & Vellum Non - Achromatic Telescope
c. 1770
(National Maritime Museum, Greenwich)



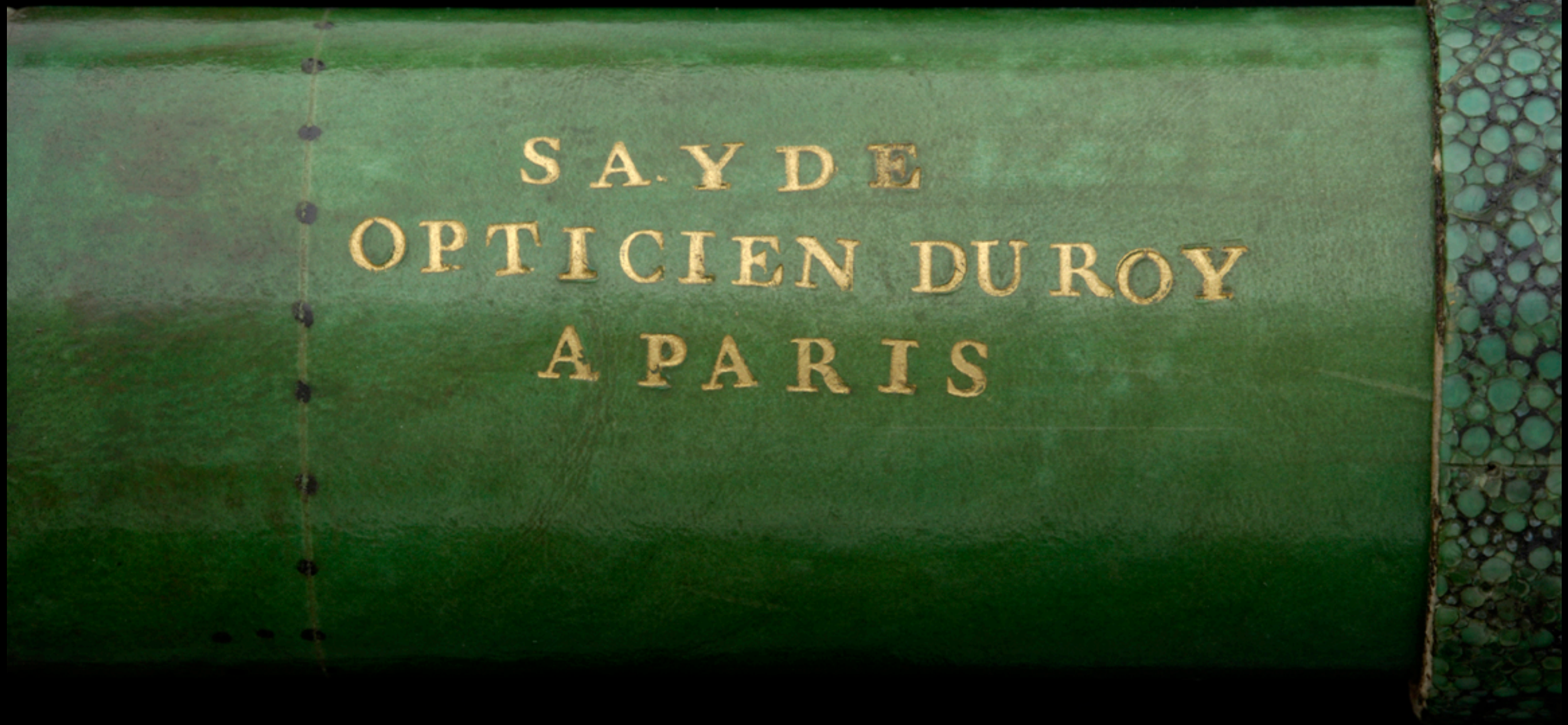
English Vellum, Brass & Shagreen Non - Achromatic Telescope
by Dollond & Atchison  c. 1770
(National Maritime Museum, Greenwich)



English Vellum, Wood, Brass & Shagreen Non - Achromatic Telescope
by Peter Dollond c. 1780
(National Maritime Museum, Greenwich)




French Vellum, Lignum Vitae, Brass & Shagreen Non - Achromatic Telescope
by Sayde  c. 1780
(National Maritime Museum, Greenwich)




French Vellum, Lignum Vitae, Brass & Shagreen Non - Achromatic Telescope
by Sayde c. 1780
(National Maritime Museum, Greenwich)



Papier-Mâché Non - Achromatic Telescope
c. 1750
(National Maritime Museum, Greenwich)



English Brass and Shagreen Refracting "Subscription" Telescope from London
by William Storer 18th Century
(Charles Miller Ltd.)



English Brass and Shagreen Refracting "Subscription" Telescope from London
by William Storer 18th Century
(Charles Miller Ltd.)

# Galilean Telescopes




German or Dutch Galilean Telescope
Marked "Jacob Cunigham 1661"
(National Maritime Museum, Greenwich)



French Turned Wood Galilean Telescope
c. 1700
(National Maritime Museum, Greenwich)



Ivory, Shagreen & Silvered Brass Galilean Telescope
c. 1730
(National Maritime Museum, Greenwich)




English Black Ivory, Wood & Shagreen Galilean Telescope from London
by Jones or W.H. Jones  c. 1750
(National Maritime Museum, Greenwich)




English Black Ivory, Wood & Shagreen Galilean Telescope from London
by Jones or W.H. Jones  c. 1750
(National Maritime Museum, Greenwich)




English Tortoiseshell, Ivory & Silvered Brass Galilean Telescope
by Dollond & Atchison c. 1760
(National Maritime Museum, Greenwich)



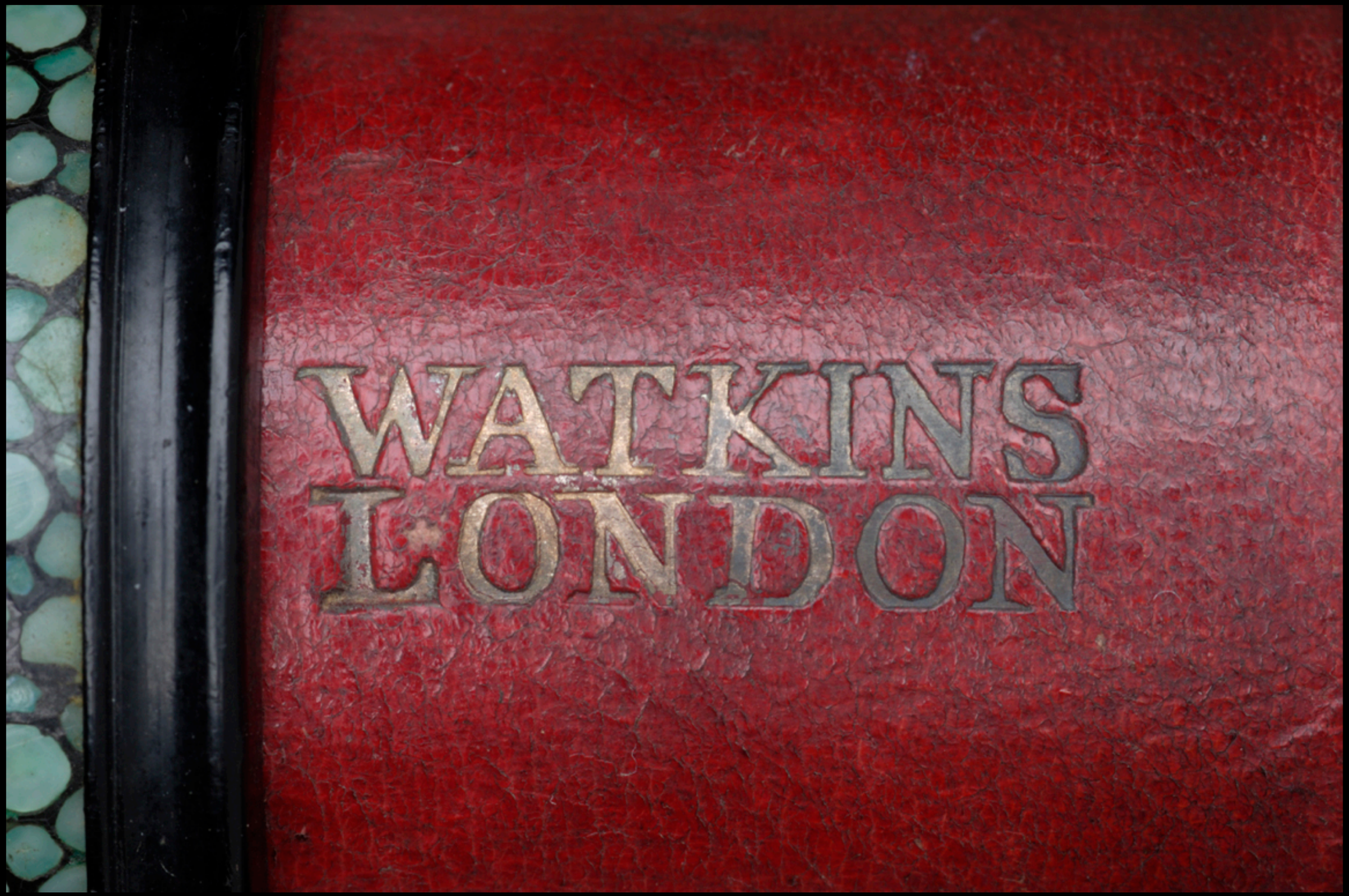

English Silver, Leather & Shagreen Galilean Telescope from London
by Watkins  c. 1760
(National Maritime Museum, Greenwich)




English Silver, Leather & Shagreen Galilean Telescope from London
by Watkins  c. 1760
(National Maritime Museum, Greenwich)



English Black Ivory, Leather, Wood & Shagreen Galilean Telescope from London
by Watkins  c. 1760
(National Maritime Museum, Greenwich)




English Black Ivory, Leather, Wood & Shagreen Galilean Telescope from London
by Watkins  c. 1760
(National Maritime Museum, Greenwich)




English Silver, Leather & Shagreen Galilean Telescope from London
by Nairne & Blunt  c. 1780
(National Maritime Museum, Greenwich)




English Silver, Leather & Shagreen Galilean Telescope from London
by Nairne & Blunt  c. 1780
(National Maritime Museum, Greenwich)



English Wood, Leather, Brass & Shagreen Galilean Telescope from London
by H. Pyefinch  c. 1780
(National Maritime Museum, Greenwich)



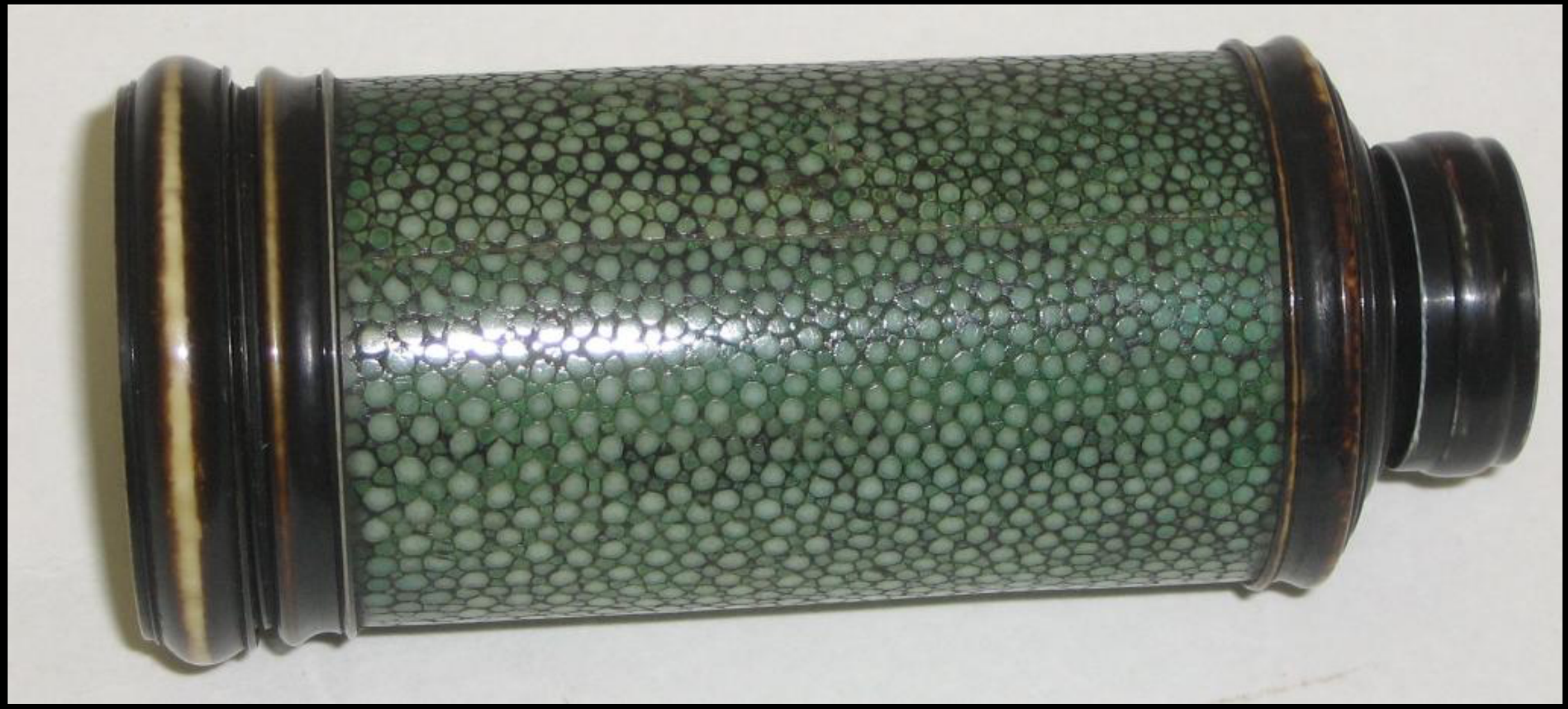

English Wood, Leather, Brass & Shagreen Galilean Telescope from London
by H. Pyefinch c. 1780
(National Maritime Museum, Greenwich)



English Brass, Wood & Shagreen Galilean Telescope from London
by Dollond & Atchinson  c. 1780
(National Maritime Museum, Greenwich)




English 1¼ Inch Leather & Shagreen Galilean Monocular Spy Glass
by Benjamin Martin 18th Century
(Charles Miller Ltd.)





English 1½ Inch Single - Draw Shagreen, Ivory, and Card  Galilean Monocular Spy Glass from London
c. 1760
(Charles Miller Ltd.)



English 1½ Inch Single - Draw Shagreen, Ivory, and Card  Galilean Monocular Spy Glass from London
c. 1760
(Charles Miller Ltd.)




"The Female Pyramid"
"The Oxford Magazine" for 1771
(The British Museum)

# Monoculars




English Ivory Monocular from London with Red Morocco Covered Wooden Case
by Jesse Ramsden  Late 18th Century
(Charles Miller Ltd.)




English Ivory & Gilt Brass Monocular from London
by Jesse Ramsden  Late 18th Century
(Charles Miller Ltd.)

# Telescope Cases






English Wood & Rayskin Telescope Case
1774
(Charles Miller Ltd.)



English Card & Shagreen Telescope Case
by Jesse Ramsden  c. 1790
(Charles Miller Ltd.)



English Wood, Shagreen & Velvet Telescope Case
by Jesse Ramsden c. 1790
(Charles Miller Ltd.)

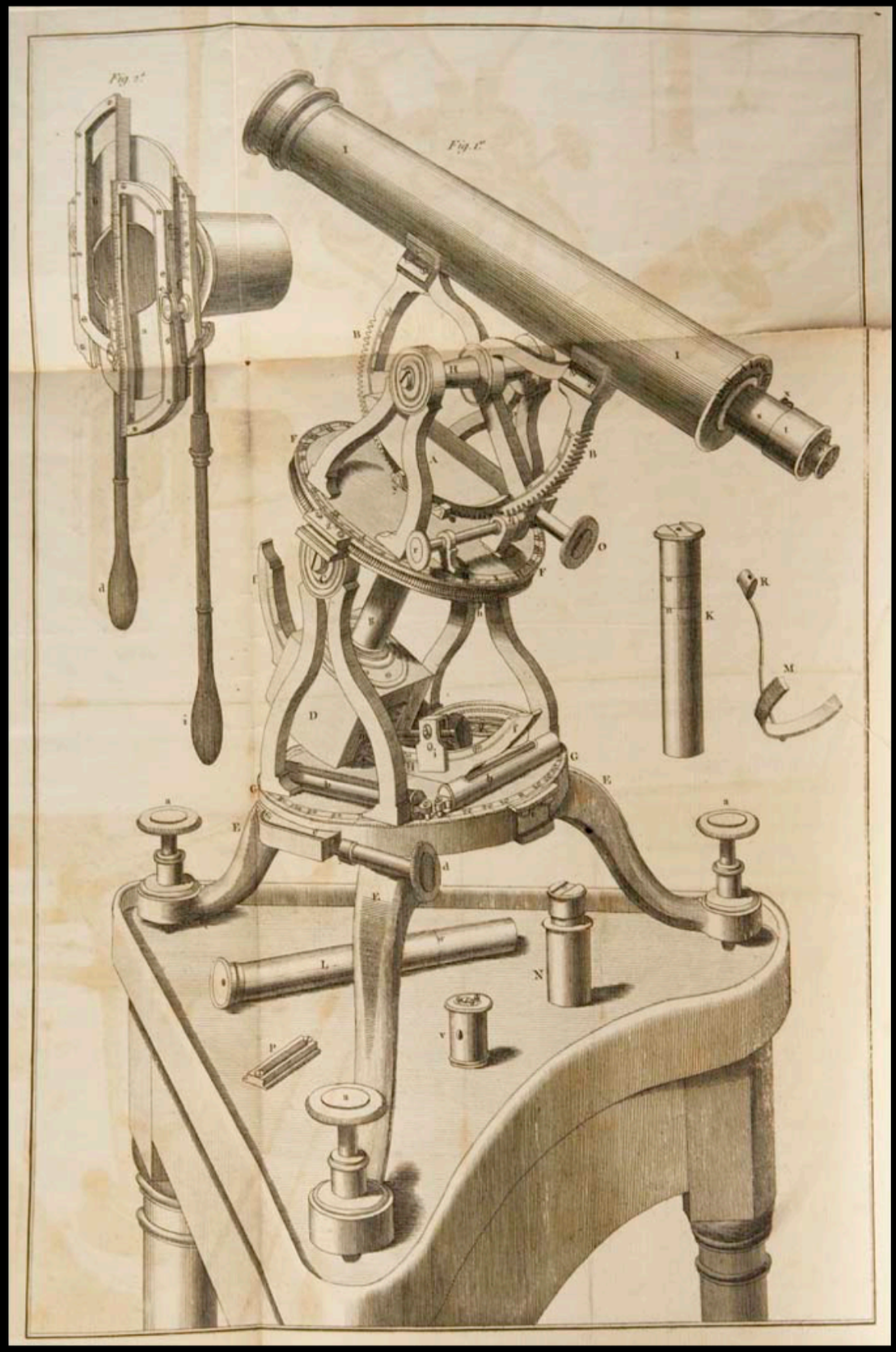
# Telescopes on Stands




"La Lunetière "
France 18th Century
(National Maritime Museum, Greenwich)



4 Inch Refractory Telescope & Stand
by John Dollond (Tube) & J. Ramsted (Stand)  c. Mid 18th Century
(Vilniaus University Library)




From: "Descriptions and Uses of the New Invented Universal Equatorial Instrument..."
by Peter & John Dollond 1775
(Doyle)

# Portable Table Telescopes



Thomas Newenham
by Edward Haytley 1749
(Yale Center for British Art)



English Brass & Speculum Reflector Telescope
by James Short 1734
(National Maritime Museum, Greenwich)






English Brass, Mahogany & Sharkskin Reflector Telescope
by John Cuff c. 1740
(National Maritime Museum, Greenwich)



English Brass, Specula & Sharkskin Reflector Telescope
by John Liford  c. 1750
(National Maritime Museum, Greenwich)



English Brass, Speculum & Sharkskin Reflector Telescope
by George Adams  c. 1750 - 1760
(National Maritime Museum, Greenwich)






English Brass Reflector Table Telescope from London
by Thomas Wright c. 1710 - 1748
(National Maritime Museum, Greenwich)




English Mahogany & Brass Reflector Table Telescope from London
by James Short c. 1748
(National Maritime Museum, Greenwich)



English Brass Reflector Table Telescope from London
by Thomas Wright  c. 1720 - 1730
(National Maritime Museum, Greenwich)



English Brass Reflector Table Telescope from London
by Joseph Hurt  c. 1736
(National Maritime Museum, Greenwich)



Brass Reflector Table Telescope
by Jan Bildt  c. 1750
(National Maritime Museum, Greenwich)



English Brass, Ivory, Mahogany & Speculum Reflector Telescope
by James Short  c. 1738 - 1768
(National Maritime Museum, Greenwich)



English Brass, Mahogany & Speculum Reflector Telescope
by James Short  c. 1752 - 1756
(National Maritime Museum, Greenwich)



Brass Reflector Table Telescope
18th Century
(National Maritime Museum, Greenwich)



English Brass Reflector Table Telescope from London
by Watkins & Smith  c. 1770
(National Maritime Museum, Greenwich)



English Brass Reflector Table Telescope from London
by Dolland & Atchison  c. 1770
(National Maritime Museum, Greenwich)




English Brass Reflector Table Telescope from London
by Dolland & Atchison  c. 1770
(National Maritime Museum, Greenwich)






English Brass Reflector Table Telescope from London
by Francis Watkins c. 1780
(National Maritime Museum, Greenwich)



English Brass Reflector Telescope with Shagreen Case from London
c. 1760
(National Maritime Museum, Greenwich)



English Brass Reflector Telescope with Shagreen Case from London
c. 1770
(National Maritime Museum, Greenwich)



English Brass Reflector Table Telescope from London
Mid 18th Century
(Charles Miller Ltd.)



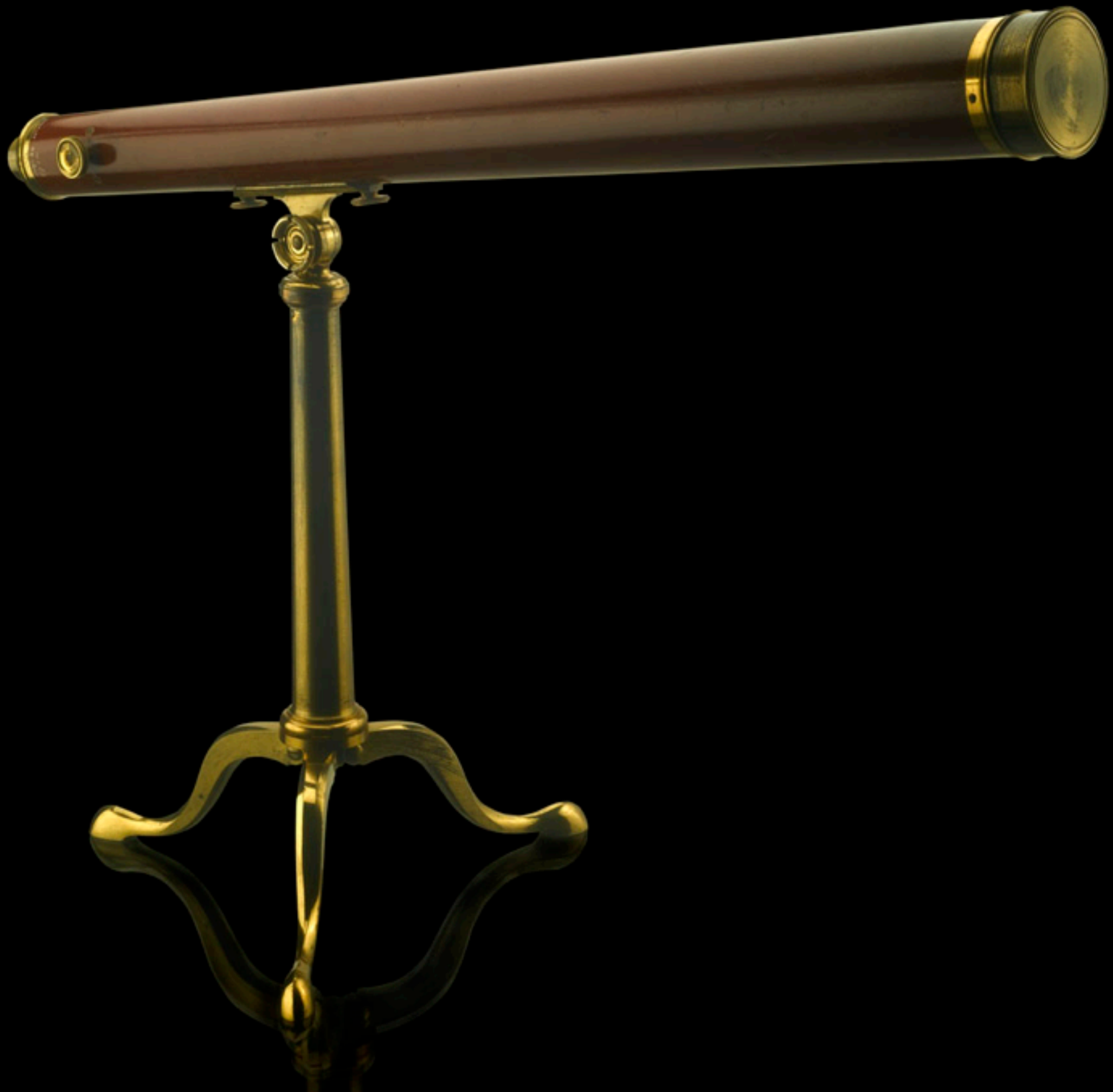
English Brass Refracting Table Telescope from London
by Ramsden  18th Century
(Charles Miller Ltd.)



English Brass Refracting Table Telescope from London
by Jesse Ramsden  c. 1775 - 1780
(National Maritime Museum, Greenwich)



English Brass Refracting Table Telescope from London
by Dolland & Atchison  c. 1780
(National Maritime Museum, Greenwich)



English Brass, Mahogony, & Ivory Refracting Table Telescope from London
by Dolland & Atchison  c. 1770
(National Maritime Museum, Greenwich)




English Brass Miniature Refracting Table Telescope with Fish Skin & Card Case from London
by Dolland & Atchison  Late 18th Century
(National Maritime Museum, Greenwich)



English 1½ Inch Brass Reflector Telescope
c. 1740
(Charles Miller Ltd.)



English Mahogany & Brass Reflector Table Telescope from London
by James Short c. 1748
(National Maritime Museum, Greenwich)

# “Naval”

# Wood Telescopes



Portrait of a Naval Officer, Possibly Isaac Townsend
by British School Prior to 1707
(National Maritime Museum)



Portrait of a Naval Officer, Possibly Isaac Townsend
by British School Prior to 1707
(National Maritime Museum)



Admiral George Darby
by George Romney c. 1784
(National Maritime Museum, Greenwich)



Admiral Sir Francis Geary
by British School c. 1780
(National Maritime Museum, Greenwich)



Admiral Nicholas Haddock
by British School 1742
(National Maritime Museum, Greenwich)



Admiral Nicholas Haddock
by British School 1742
(National Maritime Museum, Greenwich)




Admiral Sir Charles Hardy
Admiral of the White Squadron and Commander of the Grand British Fleet c. 1780
(Grosvenor Prints)



Captain (Later Rear Admiral) Samuel  Hood
by John Wallaston  c. 1748
(National Maritime Museum, Greenwich)



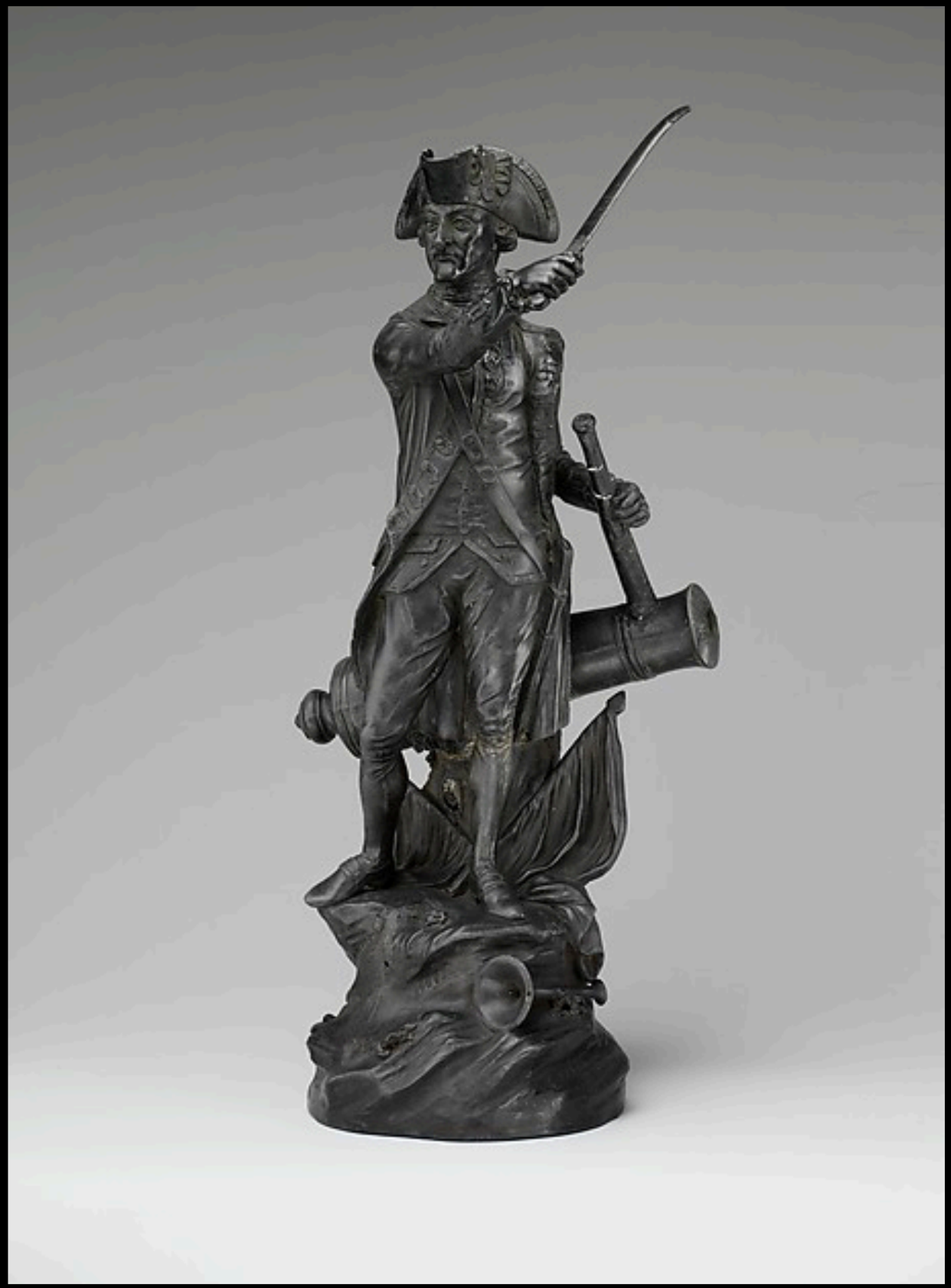


Figure of Admiral Samuel Hood
Pierre Stephan c. 1785
(Metropolitan Museum of Art)




Admiral Richard “Black Dick” Howe
1782
(Private Collection)



Augustus John, Third Earl of Bristol
by Thomas Gainsborough c. 1768
(National Trust)



Rear Admiral Richard Kempenfelt
byTilly Kettle 1782
(National Maritime Museum, Greenwich)



Admiral Sir Charles Knowles 1st Bt. Portrait When Governor of Louisburg
c. 1743 - 1745
(Portsmouth Antheneum)




"The Honourable Charles Knowles Esq Vice Admiral of the Blue Squadron of His Majesty's FLEET"
by Thomas Hudson
(National Maritime Museum)




"The Honourable Charles Knowles Esq Vice Admiral of the Blue Squadron of His Majesty's FLEET"
by Thomas Hudson
(National Maritime Museum)



Admiral Thomas Matthews
by Claude Amulphy 1743
(National Maritime Museum, Greenwich)



Admiral Sir George Rooke
by Michael Dahl c. 1705
(National Maritime Museum, Greenwich)




The Hon.ble William Rowley, Esqr.
by John Bowles, after Claude Arnulphy 1745
(Grosvenor Prints)




The Honble: William Rowley Esqr.
Vice Admiral of the White and Commander in Chiefof His Majesty's Fleet in the Mediterannean in 1745
(Sanders of Oxford)



Admiral Edward Russell
by Godfrey Kneller  c. 1693
(National Maritime Museum, Greenwich)



Admiral Sir Cloudesley Shovell
by Michael Dahl c. 1702
(National Maritime Museum, Greenwich)



Admiral Sir Cloudesley Shovell
by Michael Dahl c. 1702
(National Maritime Museum, Greenwich)



Admiral Sir Cloudesley Shovell
by Michael Dahl c. 1702 - 1705
(National Maritime Museum, Greenwich)



Rear - Admiral Richard Tyrrell
by Thomas Hudson  c. 1759 - 1762
(National Maritime Museum, Greenwich)




Admiral Edward Vernon
by Charles Phillips  c. 1735 - 1743
(National Maritime Museum, Greenwich)




Admiral, Sir Peter Warren
by Thomas Hudson 1748
(National Maritime Musuem)



Lord John Augustus Hervey
by Thomas Gainsborough 1779
(National Trust)



Commodore Curtis Barnett
by John Ellys  c. 1743 - 1744
(National Maritime Museum, Greenwich)



Commodore Charles Brown
by British School  c. 1740
(National Maritime Museum, Greenwich)



Commodore, the Honorable William Kerr
by Michael Dahl  c. 1706
(National Maritime Museum, Greenwich)



Commodore, the Honorable William Kerr
by Richard Wilson c. 1744
(National Maritime Museum, Greenwich)



Captain Wood of Boiling Hall
by Dominic Serres
(Private Collection)



Captain James Ferguson
by British School 18th or Possibly 19th Century
(National Maritime Museum, Greenwich)



Wax Portrait Plaque of Captain Richard Gwyn, R.N.
c. 1760
(National Maritime Museum, Greenwich)



Captain Robert Harland
by Michael Dahl c. 1707 - 1711
(National Maritime Museum, Greenwich)




Captain Charles Maurice Pole
by Rancis Rigaud 1781
(Bonhams)




Captain Sir Walter Stirling
by James Northcote c. 1780
(National Maritime Museum, Greenwich)



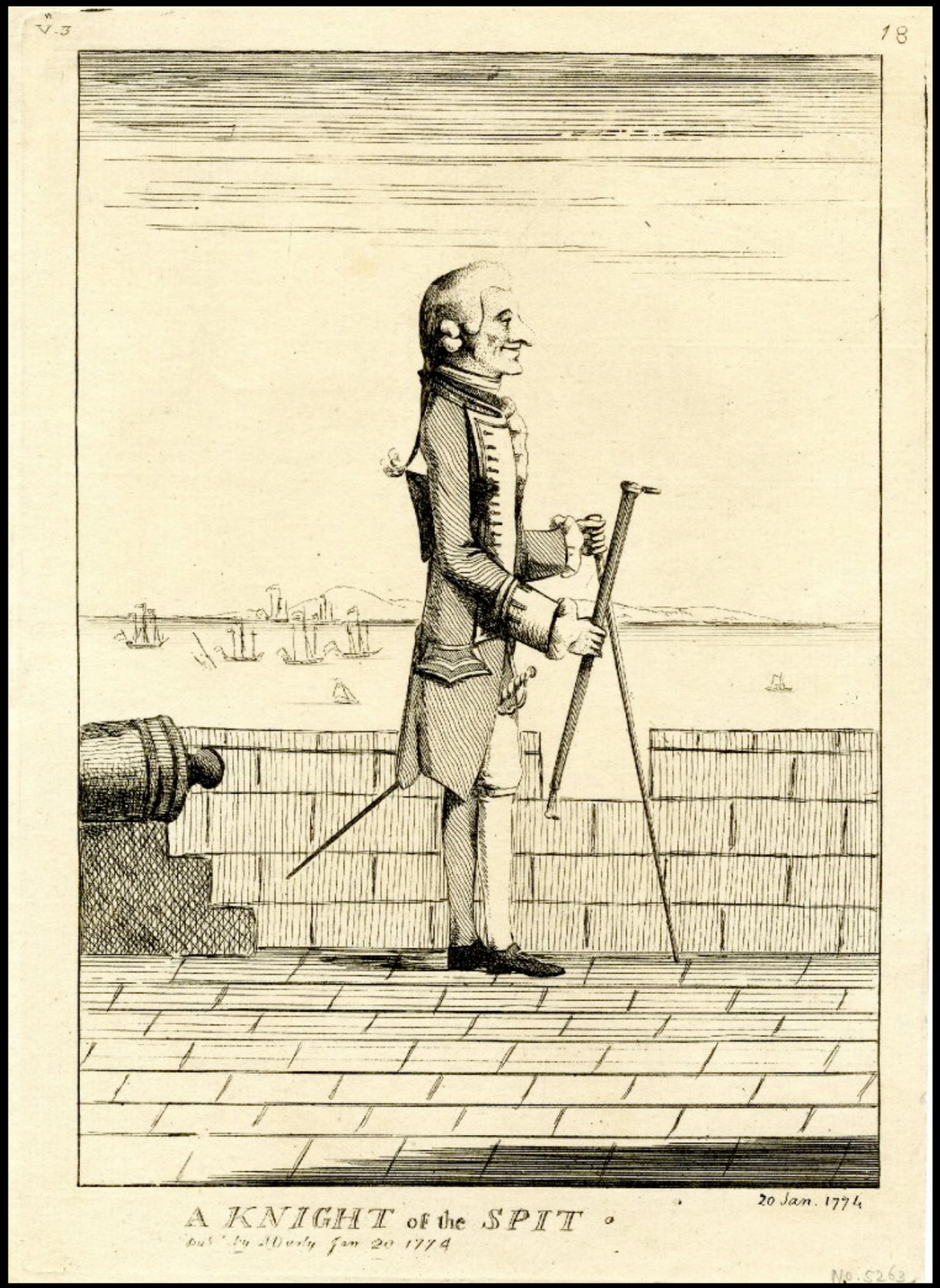
Captain, Sir Edward Vernon
by Francis Hayman c. 1753 - 1756
(National Maritime Museum, Greenwich)



An Unidentified British Naval Officer
by John Wollaston 1745
(National Gallery of Art, Washington)



An Unidentified British Naval Officer
by John Wollaston  c. 1749 - 1752
(Art Institute Chicago)




"A KNIGHT of the SPIT"
by M.Darly 1774
(The British Museum)



Portrait of an Unidentified Naval Lieutenant
by Sir Joshua Reynolds 1749
(National Maritime Museum, Greenwich)



Portrait of an Unidentified Naval Lieutenant
by British School
(Australian National Library)



Flagman of Lovestoft, Sir Jeremiah Smith
by Peter Lely 1666
(National Maritime Museum, Greenwich)



Flagman of Lovestoft, Sir Jeremiah Smith
by Peter Lely 1666
(National Maritime Museum, Greenwich)



An English or French Seaman
by Louise Phillipe Boltard c. 1733 - 1763
(The British Museum)



English Naval Telescope from London
by  Nairne & Bluntc  1775
(National Maritime Museum)



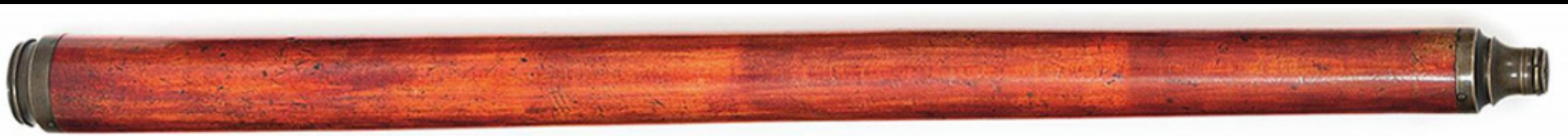
English Mahogany Naval Telescope, Likely from London (Eye Cup is Missing)
49½ Inches by 1½ Inches
Engraved "Matthew Smith R.N."
Mathew Smith Was Made a Lieutenant on 4, December, 1779 and Commander 18 April, 1782
Was Made a Captain on 18 April, 1783 and Dismissed from Service in 1796
(Charles Miller Ltd.)



English Naval Telescope from London
36 Inches by 1½ Inches
by Lincoln c. 1770
(Charles Miller Ltd.)



English Naval Telescope from London
29½ Inches by 1½ Inches c. 1780
(Charles Miller Ltd.)



English Naval Telescope from London
25½ Inches by 1½ Inches  c. 1780
(Charles Miller Ltd.)



Mahogany & Brass Non - Achromatic Telescope Owned by Rear - Admiral Charles Steevens (1705 - 1761)
c. 1750
(National Maritime Museum, Greenwich)



English Brass & Leather Non - Achromatic Telescope Owned by Admiral R. Gotcome Howe (1725–1799)
Made at West 92 & 93 Fleet St. London 1773
(National Maritime Museum, Greenwich)




Mahogany & Brass Non - Achromatic Telescope
by Dollond & Atchison c. 1780
(National Maritime Museum, Greenwich)




Mahogany & Brass Non - Achromatic Telescope Owned by Lord Howe, First Lord of the Admiralty in 1783
by Dollond & Atchison c. 1760
(National Maritime Museum, Greenwich)



English Vellum, Ivory & Shagreen Non - Achromatic Telescope Owned by Admiral Augustus Keppel (1725 - 1786)
c. 1750
(National Maritime Museum, Greenwich)






English Mahogany & Brass Non - Achromatic Telescope from London
by Dollond & Atchison c. 1760
(National Maritime Museum, Greenwich)



English Mahogany & Brass Non - Achromatic Telescope from London
by Dollond & Atchison  c. 1770
(National Maritime Museum, Greenwich)




English Mahogany & Brass Non - Achromatic Telescope from London
by Dollond & Atchison c. 1770
(National Maritime Museum, Greenwich)



English Mahogany& Brass Non - Achromatic Telescope
c. 1770
(National Maritime Museum, Greenwich)



English Mahogany& Brass Non - Achromatic Telescope from London with Baize Bag
by Nairne & Blunt  1775
(National Maritime Museum, Greenwich)




English Mahogany& Brass Non - Achromatic Telescope from London with Baize Bag
by Nairne & Blunt 1775
(National Maritime Museum, Greenwich)



English Mahogany & Brass Non - Achromatic Telescope
by Peter Dollond  c. 1770
(National Maritime Museum, Greenwich)



English Mahogany & Brass Non - Achromatic Telescope
by Dollond & Atchison  c. 1770
(National Maritime Museum, Greenwich)




English Mahogany & Brass Non - Achromatic Telescope
by Dollond & Atchison c. 1770
(National Maritime Museum, Greenwich)



English Mahogany& Brass Non - Achromatic Telescope
c. 1780
(National Maritime Museum, Greenwich)



English Mahogany& Brass Non - Achromatic Telescope
c. 1780
(National Maritime Museum, Greenwich)



English Mahogany, Brass & Copper Non - Achromatic Telescope Once Owned by Captain John Shortland
c. 1780
(National Maritime Museum, Greenwich)




English 1 Inch Single Draw Mahogany & Brass Non - Achromatic Telescope from London
by Dollond c. 1780
(Charles Miller Ltd.)



English Mahogany & Brass Non - Achromatic Telescope Recovered from the Wreck of the “Royal George” Capsized in 1782
by Dollond & Atchison  c. 1782
(National Maritime Museum, Greenwich)




English Brass & Whipcord Non - Achromatic Telescope Believed to be Used on the Deck of a Ship
by Gilbert & Sons  c. 1780
(National Maritime Museum, Greenwich)






English Mahogany & Brass "Gregory & Wright Improved Telescope" from London
by Gregory & Wright 1785
(National Maritime Museum, Greenwich)

# Astronomy

# Telescopes



"The Astronomer's Club"
by Robert Smirke  c. 1770 - 1840
(National Maritime Museum, Greenwich)



"The Astronomer's Club"
by Robert Smirke c. 1770 - 1840
(National Maritime Museum, Greenwich)




The Servants of George Parker, Thomas Phelps & John Bartlett
by James Watson & James Bretherton 1778
(National Maritime Museum, Greenwich)



The Servants of George Parker, Thomas Phelps & John Bartlett
by James Watson & James Bretherton 1778
(The British Museum)




"L' Astrologie"
by Nicholas Bonnart c. 1678 - 1700
(The British Museum)



Hard Paste Porcelain “Astronomy Group” from Frankenthal
Frankenthal Porcelain Factory  c. 1770
(Victoria & Albert)




English Mahogany & Brass Astronomic Telescope Meant to be Mounted on a Stand
by Ascough c. 1760
(National Maritime Museum, Greenwich)



English Mahogany & Brass 7 Foot Newtonian Reflector Table Telescope
by William Herschel c. 1770 - 1790
(National Maritime Museum, Greenwich)

# Bone
# Telescopes
# Microscopes



Bone Telescope / "Flea Glass" Microscope
c. 1700
(National Maritime Museum, Greenwich)




Bone Telescope / "Flea Glass" Microscope
c. 1700
(National Maritime Museum, Greenwich)



Bone Telescope / "Flea Glass" Microscope
c. 1750
(National Maritime Museum, Greenwich)



Bone Telescope / “Flea Glass” Microscope
c. 1750
(National Maritime Museum, Greenwich)



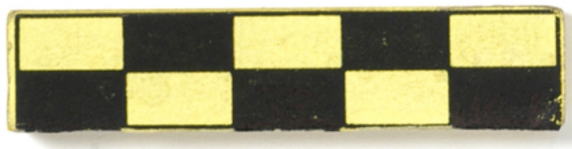












Dutch Telescopes Made from Cow Bone
c. 1725 - 1775
(Dutch Office for Monuments & Archaeology)

# Telescope Stands



Dutch Iron & Brass Telescope Stand
17th Century
(Metropolitan Museum of Art)

# Heliometers



English Brass Heliometer for Sun Observation
by J. Dolland & Son c. 1755
(National Maritime Museum, Greenwich)

# Acknowledgements

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