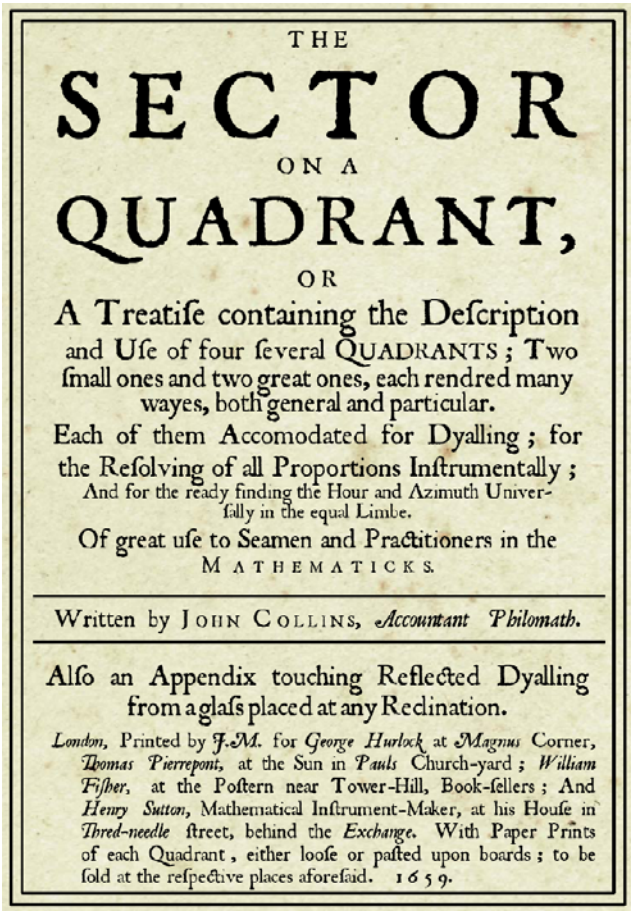
JOHN COLLINS, THE SECTOR ON A QUADRANT

London 1659



THE

SECTOR

ON A

QUADRANT,

OR

A Treatiſe containing the Deſcription and Uſe of four ſeveral QUADRANTS; Two ſmall ones and two great ones, each rendred many wayes, both general and particular.

Each of them Accomodated for Dyalling; for the Reſolving of all Proportions Inſtrumentally; And for the ready finding the Hour and Azimuth Univerſally in the equal Limbe.

Of great uſe to Seamen and Practitioners in the MATHEMATICKS.

Written by JOHN COLLINS, *Accountant Philomath.*

Alſo an Appendix touching Reflected Dyalling from a glaſs placed at any Reclination.

London, Printed by *J.M.* for *George Hurlock* at *Magnus* Corner, *Thomas Pierrepont*, at the Sun in *Pauls* Church-yard; *William Fiſher*, at the Poſtern near Tower-Hill, Book-ſellers; And *Henry Sutton*, Mathematical Inſtrument-Maker, at his Houſe in *Thred-needle* ſtreet, behind the *Exchange*. With Paper Prints of each Quadrant, either looſe or paſted upon boards; to be ſold at the reſpective places aforeſaid. 1659.

"THE **SECTOR** ON A **QUADRANT**" is a small book showing how to construct and use a Quadrant. It has the following chapters:

Of the Lines on the foreside of the
QUADRANT

The Uses of the
PROJECTION

Of the Stars graduated on the
PROJECTION

Some Affections of Plain
TRIANGLES.

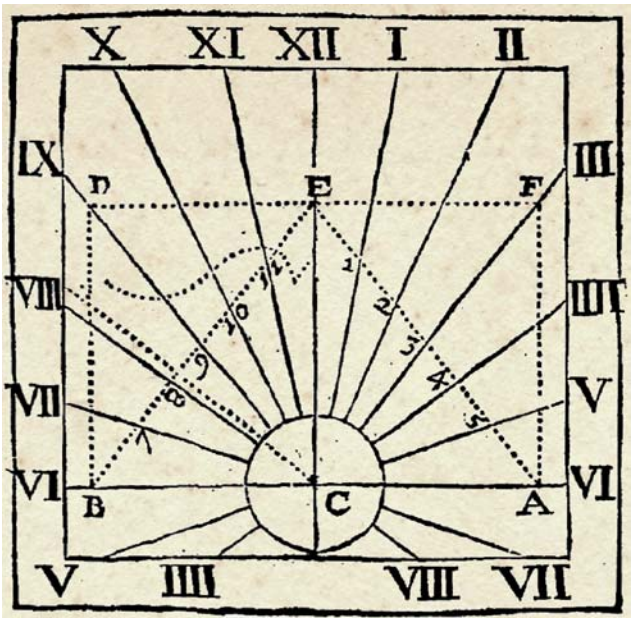
Cases of Oblique Spherical Triangles.

The 16 Cases of right Angled Sphœrical Triangles, Translated from *Clavius de Astrolabio.*

Cases of Oblique Sphœrical Triangles.

Affections of Sphœrical Triangles.

Of working Proportions by the Lines on the Quadrant



Constructing a Horizontal Dail

Of the Line of Tangents on the left edge of the Quadrant

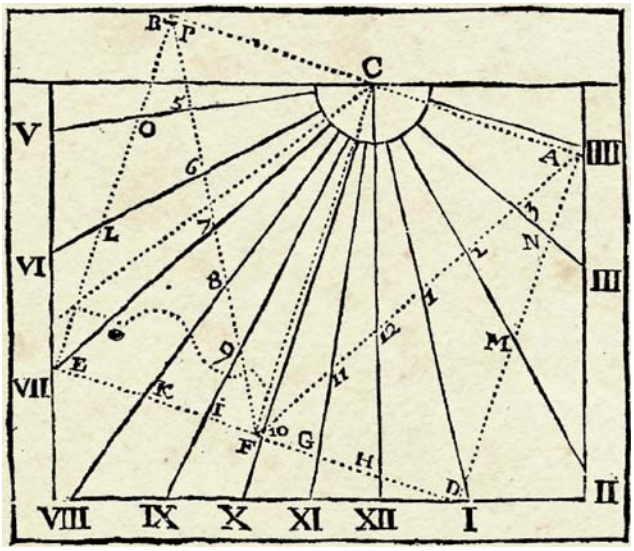
Of the Line of (Sines) on the right Edge of the Backside

The Uses of the Hour Scale.

The Description of the Diagonal Scale.

The Uses of the Diagonal Scale.

THE
DESCRIPTION
AND
VSES
Of a Great
Universal Quadrant



Constructing a Vertical Dial declining East

Number of Pages: Dialling 22 plus Appendix 26.
Illustrations: On some pages.

The
DESCRIPTION
Of the
Great Quadrant

The Description of the Fore-side.

The Description of the Back-side.

Of the Line of Versed Sines, on the left Edge, issuing from the Center.

Of the fitted Particular Scale, and the Line of Entrance thereto belonging.

The joynt use of the Fitted Scale, with the Versed Sine of 90^{d} in the Limb.

Of the Hour and Azimuth Scales on the Back-side thereof.

Proportions in the Analemma.

General Proportions for the Hour.

The Geometrical Construction of M$^{r.}$ Fosters *Circle.*

Uses of the Graduated Circle.

To Draw a Horizontal Dyal

Of Upright Decliners

To Draw an Upright Decliner

To prick off the former Dyal in an Oblique Parallellogram, or Scalenon alias *unequal sided Triangle from the Meridian.*

An Advertisement about observing of Altitudes

The Description of an Universal small Pocket Quadrant

THE DESCRIPTION
AND USES OF A GENERAL
QUADRANT,
WITH THE
HORIZONTAL PROJECTION,
UPON IT INVERTED.

The Description
OF THE
HORIZONTAL QUADRANT.

To draw the Curve.

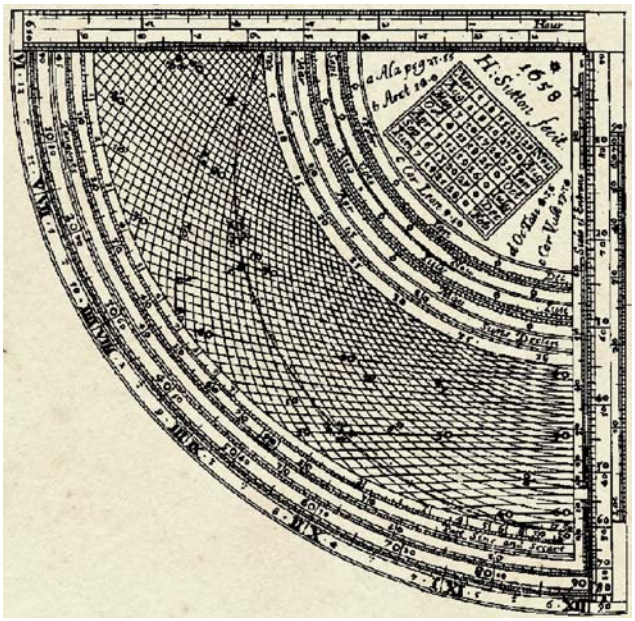
The description of the Back-side.

The Uses of the Quadrant.

A Table shewing the houres and Minutes to be added to the time of the Moons comming to South for the places following being the time of high Water on the change day.

The Uses of the Quadrant.

The Uses of the Projection.



Quadrant as Made by Henry Sutton

Of the Houre and Azimuth Scale on the right Edge of the Quadrant.

The Uses of the said Scale.

The requisite Arkes of an upright Decliner will be given by the particular lines on the Quadrant for the Latitude *without trouble of Proportionall worke.*

Also the requisite Arkes af a direct East or West, reclining or inclining Dial may be found after the same manner for this Latitude.

Of the Line of Solids.

Of the Line of inscribed Bodies.

A TABLE
Of the Latitude of the most eminent Places in *England, Wales, Scotland* and *Ireland.*

AN
APPENDIX
Touching
REFLECTIVE DIALLING.
By JOHN LYON.

DIRECT DIALLING
By a Hole or Nodus.

Of Dials to stand in the Weather

Of Refracted Dials

Reflected Dialling

Of Reclining Reflecting Glasses
Reflected Dialling from any Reclining Glasse.

FINIS.