## JOHN COLLINS, DESCRIPTION AND USE OF FOUR SEVERAL QUADRANTS

London 1770



"THE **Description and Use** Of Four several **QUADRANTS**" is a small book with engraved images by Henry Sutton, the well known Instrument Maker. It contains:

## A DESCRIPTION of the QUADRANT,

Five Inches Radius.

Of the Lines on the Foreside of the  $Q \cup A D R A N T$ .

Sect. I. Of the Quadrant and Shadows.

## ТНЕ

Use of the Dialling SCALES: SHEWING

How to draw Hour Lines on all Horizontal Dials, East, West, North and South Dials; also declining Dials to any Declination: With an easy Way to draw declining Dials, without taking the Declination of the Plane.

Sect. I. How to draw an Horizontal Dial for the Latitude of 51 degrees 30 minutes

Sect. II How to make a direct South-Dial, in the Latitude of 51 deg. 30 min.

Sect. III. Concerning a direct North-Dial.

Sect. IV. How to draw Hour-Lines upon a direct East or West-Dial.



## Construction of a Horizontal Dial

- Sect. V. How to find the Declination of any Plane, from either the South or North Points of the Horizon.
- Sect. VI. How to draw Hour-Lines upon South or North Planes, Declining either East or West, in the Latitude of 51.30.
- Sect. VII. How to draw the Hour-Lines upon a Far Declining Dial Geometrically.
- Sect. VIII. How to make an Upright South-Dial, without knowing the Declination of the Plane, the Elevation of the Pole being given.

Sect. IX. How to find the Requisites of upright Decliners, by the particular Lines on the Quadrant, without proportional Work.

Sect. X. By the Epact, to find the Moon's age, and the Time of her coming to the South.



Vertical West Declining Dial

Page Size:

Number of Pages: 52 Illustrations: 5



Due West Dial

Sect. XI. To find the Time of High-Water by the Moon's Age, or Southing, by the following Table.

Sect. XII. Of the Line of Inscribed Bodies.

Sect. XIII. To find the Requisites for direct East or West Recliners or Incliners, for this Latitude.

Sect. XII. Of the placing of the stars on this Projection, and on other Places of the Foreside of the Quadrant.

ТНЕ

Description of the Diagonal S C A L E.

The USE of the Diagonal-Scale.

I. To find the Time of the Sun's Rising and Setting.

 $2.\,To find \,the \,Hour \,of the \,Day \,or \,Night for \, {\rm South-} Declination.$ 

For North-Declination.

5. To find the Amplitude of the Sun and Stars.

6. To find the Azimuth of the Sun, or any Star in the Hemisphere.

For South-Declination.

For North-Declination

On the Back-side are drawn all these Lines.

The Use of these Scales.

Of the Line of the Stile's Height.

Of the Substiler Line.

Of the Line of the Angle of 12 and 6.



An 80° Westward Declining dial I. The Substile's Distance from the Meridian.

2. For the Stile's Height.

3. For the Inclination of the meridians.

4. For the Angle of 12 and 6.

Of the Hour and Azimuth-Scales.

Sect. I. The Description and Use of a Semicircle for this Latitude.

Sect. II. Concerning the Projection for the Latitude of Barbadoes and Greenland, that is annexed to the Cut of the Semicircle.

The Instrumental Work of some of the foregoing Treatise of Mr. *John Collins*, Performed by Artificial Sines and Tangents.

Sect. I. His greatest Declination and Place given, to find his present Declination.

Sect. II. The Sun's greatest Declination and present Declination given, to find his Place.

Sect. III. The Sun's Declination and Distance, from the nearest Equinoctial-Point given, to find the Right Ascension.

Sect. IV. To find the Sun's Amplitude, or Coast of Rising and Setting from East or West.

F I N I S.