

Planitium

First take off the orbits of Jupiter
which as all the other
mass and the earth and replace
the screws — Loosen the adjusting
screws of Saturn and Jupiter systems
and bring them into one direction
— enclose the three screws and shift
the system a little from the stack
so as to disengage the contact
wheel of the spindle & put directly
the spindle from the stack —
Take away Saturn orbit —
When put together it is proper
to try the motion before the
system is connected with the stack
It is absolutely necessary that
the spindle is connected and be
perfectly horizontal —

In the superior planets the small
circle shows the eccentricity
In Jupiter and Saturn, the lower
circle shows the eccentricity the
upper the perpendicular of the axis -
The degree and sign in both coincide
When Jupiter's orbit is to be put on
first take off the planet Mars so
prevent his being hurt -

The support of the spindle has two
screws with oblong holes to adjust
the spindle horizontally, a similar
screw also on the frame to adjust
perpendicularity -

The base is so composed as to suf-
fer no alteration by heat and cold

Dials

The lowest point out contains
and years - The middle has months
Days hours, has four indexes
two 12 hours, left hand the East
One Index has five points
with the months. The points next
to the month is used to find the

Day of the month -

The outermost index is made
fast to a pin which ~~is~~ can
move it with the clock by a screw
when this is taken out the hand
may be turned round, and all
the system will move in propor-
tion - This last index shows hours
The century circle commences
at the middle -

The strike between the ~~the~~ clock
and globe is only equal to one
day. It is better to turn it al-
ways forward.

Clocks

— When the clock is to be set
forward or backward unscrew the
upper index in the middle dial
and when adjusted make it fast
— when the clock is too fast do
not put the hand back, but stop
the clock — It is necessary to
adjust the pendulum by ob-
servation, it is not adjusted
for London — What change
would altering the point of
suspension, making it lower
make in the pendulum? —
— The Black Calendar for the
creation, but does not correspond
with any system of Chronology —

That part of the Clock case which
extends from the lower Dial to
the cornice consists of four parts kept
together by the capital, when the
latter is taken off, tie a string
round the frame, to prevent its
falling —

Globe.

— First take off the meridian, the
south point turned away from the
clock — Next unscrew the arms of
the north pole of the Equator, which
is in the Zenith, then lift off the
Globe, remembering when put
together, to put the pole of the Equator
to the proper Degree in the Ecliptic —
— Remove the sockets ^{at the}
north pole of the planets, & the
making fast the screws — Then
the nodes which all go on the
same socket so five no 1 upper
most, consequently 5 to on first —
— Remove the cheeks on the south
pole — Then the Sun, Moon and
Ascending and Descending node —

and take off the Ecliptic - Unscrow
the two Hemispheres - In adjusting
begin with the wheels of the Sun and
Moon for the apogee and perigee of both
- The planets can be adjusted without
taking all the wheels out. -

The systems of the planets are in
this order ^{Venus} Mercury Venus Mars
numbered from the center, and Jupiter
and Saturn on a level -
It will be proper to adjust the
Globe for some particular month
and day

To move the Globe

Fix on some certain spot sup-
pose 30 Dec. next when the Apheli-
um of the Moon corresponds nearly with
the perihelium of the sun i.e. 5219
- It is better to regulate for the Apheli-
um or perihelium because they can
be more accurately observed than other
points - Regulate the wheels of the
sun and moon for this Epoch -
- This is done on the Table. Then
put the machinery on the column
screwing it fast to the meridian
without the cover - The pole of the
Ecliptic because at the winter solstice
is south of the pole of the world and
directly under the meridian. Suppose
find the Degree of the ecliptic answering
to the sun place and bring it to the

with the sun to the ~~sun~~ to the me-
ridian, allowance being made for the
elevation of line - Then set loose
the friction screws of the four hands of
the middle dial and turn them to
the month, Day, Day of the week and
hour, which is 12 o'clock, the month
hand must be placed near the end
of Dial, which may be estimated by
the eye, Day of the month is by circle
line, therefore the hand placed to the
middle of the Division for the Day of the
month, The same middle ~~must~~ position
for the Day of the week - N. B. The short
hand to which the upper hand is af-
fixed to be screwed, is to be directed
to the hour - The Moon's ~~place~~ must
be put to her place in the Ecliptic
at the same time with the sun -

When the arms of the Globe are set
on they must be opposit, and towards
the poles -
+ Put on first the south Hemisphere
then the north ~~hand~~ supporting the
south Hemisphere on the line the
axis perpendicular to prevent motion
of the sockets - Make the Degrees
of Longitude to be both Hemisphere
to coincide and fix with the three
screws, then put on the Ecliptic
two nodes, Sun Moon and wheel
of 106 teeth on the south pole -
On the north pole, the Planets
nodes ~~no 5~~ ~~at the~~ ~~on one~~ ~~is~~ first node
the second &c - Then Saturn, Jupiter
Mars, Mercury and Venus -
- Then screw the Globe on the Meridian
and for the first part, bring the the north
pole of the Ecliptic between the north

poles of the Earth and South Meridian
— Thus are three little lines on the north
pole are the same on the axis to draw
to it being put on

In Determining the position of the
Earth and moon in the second or left
hand system, the perpendicular not the
oblique axis must be considered —

Three Systems.

Earth - Jupiter - Saturn
— Earth and Moon have both their
eccentricity — The three planets have
the signs all in one direction that
is anticlockwise on the left — This is also
the case with the great Eccentricities on
the left hand system.

The ^{three} connecting rods all turn over
in 23. 56' 4" 5''' —

The spin motion of the three systems
is the same —

All the wheels of the three rods
of the left hand system, turn wheels
of the same number of teeth —
The line of the sun's nodes must be

Directed to the 14th Gemini -

- All the calculations were made
from De la Lande's Astronomy

- The interior plate of the centers
which has centers marked
as it must have the first point
of ~~axis~~ ^{Taurus} put to ~~27~~ the first point
of axis nearly on the other plate

- Every planet requires 4 wheels
to give the first motion - The
Georgium Sidus, might be added
with the addition only of 4 wheels
for the primary motion -

In adjusting the right hand
system, put a thread with a noose
over the sun ^{sun} that put the planet
to the aphelion on the great
circle and let the thread just
touch the axis - make fast the
screw if it be Jupiter or Saturn
in the inferior planets, the little
circles ^{of ascending} are moved by the hand

The equation or eccentricity is
ascertained by bringing the line
from the sun to the mean and
eccentric axis, the angle on the
great circle is the eccentricity -

- after the aphelion or perihelion
points are adjusted, bring the
planet round to its place in the

great elliptic - In this system
the suns nodes must also be set
to the N. of Gemini -

The eccentricity must be regulated
in the same manner in the left
hand system - In this system when
the adjusting screw is taken out
of any part to turn that part would
hold the lower sheet fast to prevent
shaking -

In all the three circles of this
system the signs axis is placed in
the same direction, that is towards the
left hand, this is convenient tho' not
absolutely necessary - The great
circle belonging to this system may
be packed with the three circles on
The two interior plates of the system
of Jupiter and Saturn are only for
ornament -