

(No Model.)

F. E. ORMSBY.
ASTRONOMICAL CHART.

No. 531,060.

Patented Dec. 18, 1894.

Fig 1.

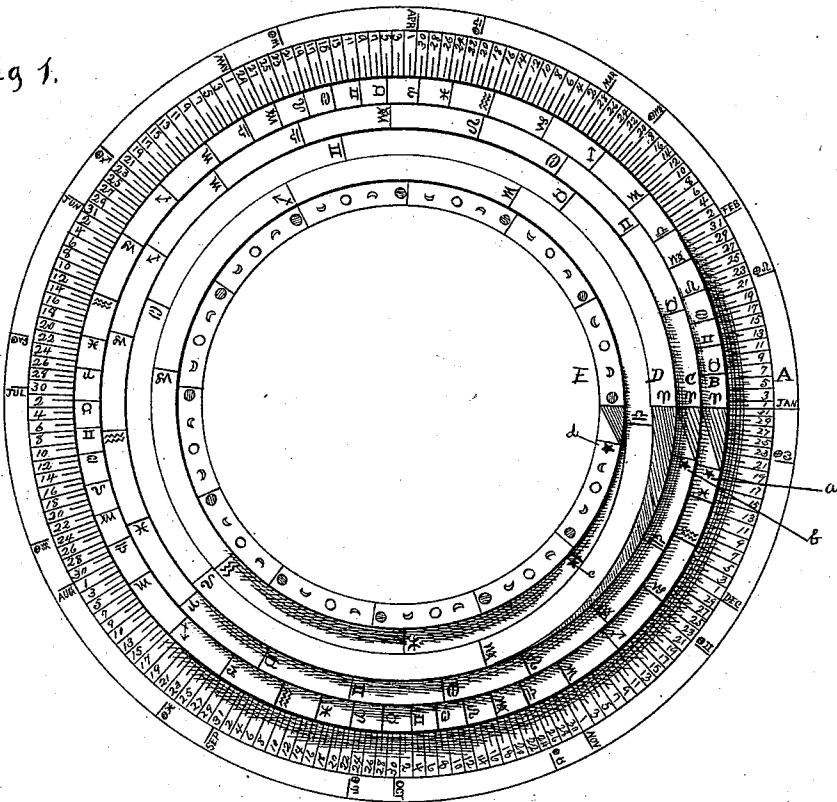
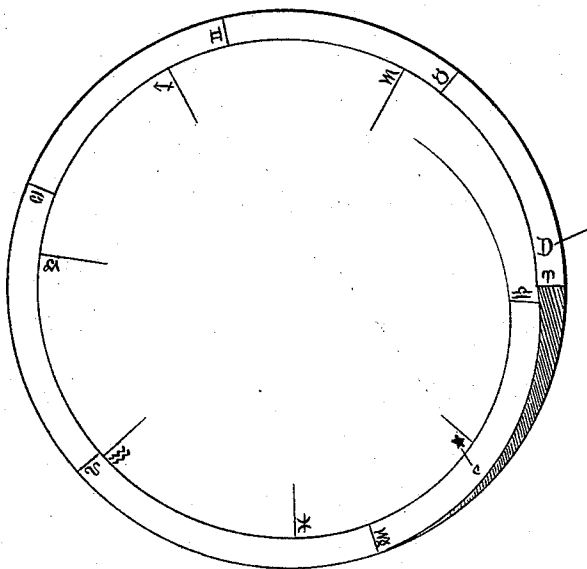


Fig 2.



Witnesses.

*J. Almon Austin,
Henry Hayes...*

Inventor,

Frank. E. Ormsby

UNITED STATES PATENT OFFICE.

FRANK E. ORMSBY, OF CHICAGO, ILLINOIS.

ASTRONOMICAL CHART.

SPECIFICATION forming part of Letters Patent No. 531,060, dated December 18, 1894.

Application filed March 29, 1894. Serial No. 505,586. (No model.)

To all whom it may concern:

Be it known that I, FRANK E. ORMSBY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful mechanical table or chart, for use in determining the positions of planets in our solar system at a given time, of which the following is a specification.

10 The title of this invention is the Play of the Planets.

My invention relates to the study of astronomy, and is used with a table of annual corrections; and the objects of my invention are, first, to provide a method by which the positions of the planets of our solar system may be determined without the necessity of using an elaborate ephemeris, which very few are able to possess, and secondly, to interest
15 20 people generally in the study of astronomy. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

25 Figure 1 is a vertical sectional view of the entire chart. Fig. 2 is a detached view of the disk thereof, representing the planet Mars.

Similar letters refer to similar parts throughout the two views.

30 B, C, D, and E, are flat disks representing different planets, Mercury, Venus, Mars, and the moon only, being shown in the illustrations.

35 A Fig. 1 is a stationary bed piece, upon which is printed figures and signs denoting the days of the month, months of the year, the movement of the earth, and date of her passing into each sign or constellation.

B is a flat disk with division lines and signs denoting the planet Mercury in its movement, as related to the days upon the earth, as represented upon bed piece A. C, D, and E, are similar disks representing the planets Venus, Mars, and the moon, in like manner, all of which are connected to the bed piece A at the center by an eyelet on which they may be revolved. In Fig. 2 is disk D representing the planet Mars, before being attached. Each of the said disks is spaced with lines to show the divisions or signs of the zodiac, and also to
40 45 50 indicate the days that each of said planets remain in, or the time necessary for their passage through different hours or constella-

tions. These disks may be mounted separately upon bed pieces, A, Fig. 1, or together. They may be made from any material suitable for the purpose—metal, wood, paper, celluloid, papier maché or combinations thereof.

To illustrate its operation and use, suppose the planet Mercury crosses the meridian dividing Pisces from Aries on January 3, any year, according to table of annual corrections accompanying each chart, by turning the Mercury circle or disk B, Fig. 1, so that the sign Aries, or the first portion thereof is on
60 65 the line beginning January 3, the position of Mercury may be found for any given date that year by observing what sign is on the Mercury circle opposite the date, indicated in the outer circle A, Fig. 1.

70 With one annual correction each year, this device is a perpetual guide to positions for all time past and future.

The stars *a, b, c, d*, one upon each of the revolving circular plates or disks denote the end, and signify that the plate must be turned
75 back to the sign that follows, the space between the stars *a, b, c*, and *d*, and the sign Aries, or new moon, if any being blank. This movement is necessary only when the date
80 figured upon is in the latter part of the year, or past one of these stars, after being set, as heretofore explained.

The correction in annual table to accompany and be used with this device, as applied
85 to the moon, E Fig. 1, will be the day of the first phase indicated for the year, which when placed in position will give the dates of the phases for the balance of the year. Other planets in our system may be shown by similar disks if desired. It is not necessary to
90 move the disks after being properly set, according to correction table, during the year, except in the cases mentioned when the date is past one of the stars denoting the end.

95 I am aware that certain calendars are made in circular form giving information of an astronomical nature concerning our earth, but I am not aware that any such combination relating to the movements and relation of
100 other planets to our earth, and the days thereof, has ever been produced as is herein described; therefore,

Having fully described my invention, what

I claim, and desire to secure by Letters Patent is—

In an astronomical or educational chart, the combination, with a stationary bed-piece or disk bearing a circular arrangement of figures representing a yearly calendar, and certain signs relating to the movements of the earth, of movable or revoluble rings or disks superposed upon said bed-piece or disk, on a com-

mon axis or pivot at the center of the latter, and bearing the signs of the zodiac and certain division lines denoting the movements thereof due to the movement of the earth, substantially as set forth.

FRANK E. ORMSBY.

Witnesses:

HENRY HAYES,
J. ALMON AUSTIN.