

[1877

1877]

ALMANAC.

19

6590
Sept. 8
Sept. 9
Jan. 16

: three

enwich

enwich

enwich

enwich

Green-

s that of

1st contact with penumbra 3h 50.2m p. m. Last contact with penumbra 10h 6.6. 1st contact with shadow 5h 1.2. Beginning of total phase 6h 6.6. Moon rises Charlottetown 6h 47. Middle of Eclipse 6h 58.9* Last contact with shadow 8h 56.

Eclipse of Moon as seen at Charlottetown giving the position of the Moon in the earth's shadow and the penumbra at the time of rising and at 56 minutes past 8 respectively. The star shows the position of the Moon's center at the middle of the Eclipse, and the dotted curve the limit of the penumbra.

PLANETS.

MERCURY.—Apparent motion alternately direct and retrograde between the following dates, when he is stationary, to the east or west of the Sun—January 13, E.; February 7, W.; May 15, E.; June 7, W.; September 13, E.; October 4, W.; he will be in inferior conjunction with the Sun on January 26, May 26, and September 26; in superior conjunction April 6, July 19, and November 13.

VENUS.—Apparent motion direct throughout the year. She will be a morning star till her superior conjunction with the Sun on May 6, after which an evening star till the end of the year; occulted by the Moon on the 8th December; in conjunction with Mercury February 7, March 25, and May 23; with Jupiter January 9, and Nov. 9, and with Saturn on March 15.

MARS.—Apparent motion retrograde from August 6, till October 7, and direct during the rest of the year in opposition to the Sun and coming to the meridian at midnight, September 5; he will be occulted by the Moon May 6; in conjunction with Jupiter March 1: and he will three times pass and repass Saturn July 27, August 25, and November 3.

JUPITER.—Apparent motion retrograde from April 17, till August 20; in opposition to the Sun June 19; beside the conjunction above noted he will be in conjunction with Mercury December 14; his range of motion during the year is about $27\frac{1}{2}$ degrees in

SATURN.—Apparent motion retrograde from July 1 till November 17; in opposition to the Sun September 9; range of motion about $10\frac{1}{2}$ in.

URANUS.—Apparent motion retrograde till April 27; afterward direct till December 4; in opposition to the Sun Feb. 10; in conjunction August 6; range of motion about $8\frac{1}{2}$