3rd. Let the figure be constructed.

With the distance of the observer from the S. end of the street, and the SSE. line there will be found by Trig for the base of the triangle D C B. 110. 8 which added to 810= 921 8 with this last and perpen. D C = 45.92 or direct distance from the observer to the south extremity of 110.8. Then find the distance from the north end of the street to the observer = 921.84, the angle made with this line and the perpendicular let fall from the observer to the elongated extremity of the S. end of street = 87°.9′, from which take 67°. 30′ the compt. to 2 pts. the remainder = 19° 39′ the angle made by two lines from the eye of the observer to the N. and S. ends of the street. Again, if this angle be added to that made in the street, and a line from the S. end thereof to the observer = 157° 30′ that sum taken from 180° leaves 2° 51′, made by the street, and a right line from the N. end thereof to the observer; this last added to the angle made by the two streets = 160. 21. By oblique trig., the angle made by the ray of light from the observer's eye, and the line therefrom to the N. end of the street = 0 56. This taken from 19°39′ leaves 18°43′, = the angle made by the said ray of light, and a line to lamp No 1. Then find the distance from said lamp to the intersection of the longest ray and the street between No, 18 and 19 = 584. 8. Also, having the semi-diameter of ths lamp and angle made by the ray and the right line passing through the centre of the lamps = 3° 35′ the distance between said intersection and No. 19 = 16. 15, which added to 584. 8 gives 600.9 = distance from 1st to 19th lamp.

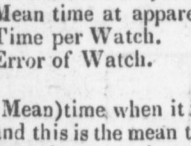
	yds	lps	yds	
Thus say, as	600.9	: 19 ::	810	: 25. the No. of lamps. Fractions omitted.

Solution, of J. Owen's Astronomical Problem, No. 4.

By Hugh McIver, senior, Yarmouth.

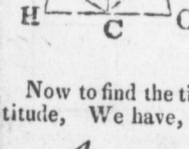
On the 9th June, 1838, equation of time is	0 I 14
Mean time at apparent noon on that day is	11 58 46 a m
Time per Watch.	11 52 0
Error of Watch.	0 6 46

(Mean)time when it is 12 o'clock by the watch 12 6 4 from midnight, and this is the mean time at the first place of observation when the observation was taken at the 2nd place, (if the watch performed regularly.)



Sun's declination June 9th, 1838, at noon	22° 55′ 56 N=ES
Co Lat of Place	35 30 0 N=HE
Meridian Alt. of Sun's centre	58 25 56=HS
Difference	22 0 0
Altitude at 2nd observation	36 25 56

Now to find the time at the 2d. place when the sun had this given altitude, We have, the three sides of the triangle Z P S.



ZS = 53° 34′ 4′ = Co-Alt.
ZP= 68 44 10 = Co-declination at noon on the 17th July, 1838.
SP = 35 30 0 = Co-latitude.
To find the hour angle ZPS = 56° 30′ 32″
= 3 hours 46 min. 2 sec. from noon.