or except under it even 12. 87 Chains for every Degree of this Allowance is made in Consequence of Sir James Newton's observing by 2 Miles to a Degree of great Circle. But we perhaps it may be improper to enter into any such Speculations in New Jersey without Leave first obtained and as after the Point shall be found the River in running the Line must be regarded against it a much shorter Passage it will I think be the most eligible Choice to travel the Road from Philadelphia through Derby and Chester as delineated on Fry and Jefferson's Map and there keep near the Mid Bank of the River till you get a little within the South of the Southernmost Point of Philadelphia and then endeavour as above to find the Eleven Point near the River Bank, The Instrument for taking these small Distances ought to be of Six feet Radius at least, but need not be more than a Sector of 12 or 15 Degrees made of Seasoned Mahogany with a large Telescope and Limb. The Degrees to be Divided into Sixths of an Inch and these Latter to be Subdivided by a Scale of Minutes and such an Instrument well formed and accurately divided may with a Telescope be worth £10 or £12

The Intervention of the Delaware for Measuring or ascertaining the Breadth (as I take it from a Map of an Inch to a Mile) will be a great Impediment to determining the Point of Eleven Miles by Angular Distance Instrument even by the Help of a Series of Triangles Land or measured Base, the same Inconvenience will Occur from the Mountainous Country West of the City.

The Variation of the Needle is so significant to be obtained to a degree of Accuracy Necessary to this Purpose in any Part that the Event of this alone would render it absolutely useless, add to this that it has been found from unquestionable Observations that Variation is continually varied almost Hourly fluctuating even in the same Place so as sometimes to alter whole Degrees in the Space of a Day (see Philosph: Transact: N° 389 Art 9 and a Prospect of Attention lately printed in the Land Off. of the Transactions of the Iron Mines mentioned in the Query must be also attended as a valid Objection to the use of the Compass in this Business.

A Number of upright Stones set off at Right Angles to the Meridian and Continued in the same Direction would be an Arch of such Circle,