

VI. *A Letter from Maurice Johnson Esq; President of the Gentlemens Society at Spalding, to James Jurin M. D. Fellow of the Royal College of Physicians, London, and F. R. S. concerning a Metalline Thermometer, in the Museum of that Society.*

S I R, *Spalding, Jan. 16. 1747-8.*

Read Jan. 28. 1747.

AS I know it must give you Pleasure, and, being by you (as I desire it may be at their next Meeting) communicated to the *Royal Society*, may be of some Credit to the Memory of the Inventor the late Mr. *Samuel Frotheringham*, a Grazier at *Holbeach* in *Elloe Holland, Lincolnshire*, and of some Profit to the Maker, give me Leave to acquaint you, that he (Mr. *John Ingram*, of this Place, Watch-maker and White-Smith, whose Father, originally a Black-Smith at *Cowbitt*, and Inventor of the Machine for cutting Watch-Wheels, was also a most accurate Artificer) having made, and, at my Instance some time since, fixed up in our *Museum*, a Metal Thermometer, which we, on Experience and Observation, found to answer and go truly, I propos'd to the Company, at our last Meeting in *December*, that our *Society* should purchase it him, I send you, Sir, his Description thereof, as enter'd from his Mouth in our Minutes, which I trust may be agreeable to you, and the worthy Members of that Illustrious Body, for which we here have the highest Honour: And though Mr.

Beridge

Beridge (some time a Watch-maker at *Boston*) under the same Inventor's Direction, made and carried up to Town a Machine somewhat of this sort, which several of your Members may have seen, yet I trust this Account may not be unacceptable. I am

Your most affectionate humble Servant,

M. Johnson.

A Description of the Metal Thermometer in the Museum of the Gentlemens Society at Spalding in Lincolnshire.

IT is composed of an upright Staff or Bar (*a*) of the best Iron, four Feet long, and an Inch and a Quarter broad, having a polish'd brass Bar of the same Length and Width screw'd to it before it, with four Steel Screws, and being also capp'd (*b*) with Steel, and thereon a Lever (*c*) moving upon a Stud of Steel, which communicates with another less Lever (*d*) (also upon a Stud) having a Chain (*e*) at the End of it, which laps round an *Axis* (*f*), whereto the Index is fixed, which shews the Degrees marked on a semicircular Arch (*g*): Under the Steel Screw-Heads there are small Slits in the Brass Bar (except the lowermost which is fixed) which admit of its expanding, whereby it protrudes and operates on the first-mention'd Lever, which being raised moves the less Lever, and thereby draws the Chain which turns the *Axis* affixed to the Index, which shews the

R Degree

Degree of Warmth of the Weather marked on the femicircular Arch. At (*b*) is a Screw thro' two Studs, to draw the great Lever backwards and forwards, as Occasion may be; (*i*) is a Counter-balance to the small Lever to draw the Hand back when the Brass Bar shrinks. See the Figure prefixed in the TAB.

In the Beginning of the Year 1735. I invented, and caused to be constructed, a Thermometer on the same Principles as this: I found that a Rod of Brass 3 Feet long was sensibly affected by the Changes of Heat of the Weather, having one exposed in my Garden during the hard Frost of the Winter 1739 and 40. And my Instrument was very sensible with either a Brass Rod or an Iron Rod, when the Bottom of it was placed in a Sand-Heat for chemical Uses; but I shall refer the Reader to the Appendix to the preceding N^o. p. 672. & seq. whereip I have given, a full Description of my Invention, and the Reasons why I did not publish it before; tho' I have shewn the Instrument to Scores of People ever since May 1735. and sent a Description and Draught of it to M. *Buffon*, Superintendant of the *Royal Physick Garden* at *Paris* in the Year 1744. in order for his laying it before the *Royal Academy of Sciences* at *Paris*, from which I had some time before received a *Diploma* upon having the Honour of being appointed one of their *Corresponding Members*.

C. Mortimer.

E R R A T A.

Page 1. l. 9. for Febr. 14. read Jan. 7 and 14. P. 27. in the Column expressing the Nutation,

1729. Sept. 8. for — 6.9 read — 6.4

1730. Sept. 8. for — 3.4 read — 3.9

