

of which I gave an account in my treatise *de aver-tendi fulminis artificio*, page 10 and 11. Having drawn these seeds together on a heap upon the plate, I brought over them the sphere of metal, the size of which is arbitrary, impregnated with this electricity. Upon bringing this sphere near the plate, the electricity exploded, by which the seeds were set all on fire. These seeds were dry, and had no inflammable spirit mixed with them. The flame which arose from these seeds is true fire, as it lighted some flax, which lay upon the seeds, and extended itself beyond the metal.

On the 13th of January I put some *aurum fulminans* upon a circular piece of parchment: this parchment I cemented to a plate of metal, and caused the bottle replete with electricity to be discharged thereupon. Immediately the *aurum fulminans* exploded with a very loud report, and the circle of parchment was torn all to pieces.

XCI. *An Account of a Fire-Ball, seen at Hornsey, by William Hirst, F. R. S. communicated in a Letter to Samuel Mead, Esq; F. R. S.*

S I R,

Hornsey, April 6, 1754.

Read May 30,
1754.

HAD not illness prevented, I should have troubled you sooner with an account of a phenomenon, which I happened to see on the 26th of February last, about five minutes before eleven at night.

I was

I was then going down the hill adjoining to the south side of Hornsey-church, and was not a little surpris'd to find myself suddenly surrounded with a light equal to that of the full moon, though the moon (which was then four days old) had been set about fifty minutes.

I should perhaps have seen this appearance sooner than I did, if I had not had a lanthorn with me. The disadvantage however, which this might be, was more than balanced by the opportunity it gave of looking upon my watch, which a day or two before was adjusted by a meridian line and an equation table.

As soon as I perceived the sky so strongly illuminated, I turned towards that part of the horizon, from whence, by the shadows of objects, I concluded the light must proceed, and had a distinct, though short, view of a ball of fire, which, when I first saw it, appeared to be about 15° high, W. by N. Its descent was not exactly perpendicular, but made an angle of about 80° with the S. S. W. part of the horizon, moving from left to right, so that when it went below the horizon, its bearing from me was W. N. W.

It moved with great velocity, not continuing visible much longer than two seconds; though (the air being clear and favourable) I did not lose sight of it till it descended below the horizon. But short as this duration was, its shape might be well discerned. The diameter of the nucleus or head of the meteor appeared to be equal to the semi-diameter of the meridional full moon, and the tail, which terminated in a point, seemed not longer than twice the diameter of the nucleus. See TAB. XXXI. where

Fig.

Fig. 1. Shews its situation with regard to the cardinal points of the compass.

Fig. 2. Its declination from the zenith, and its altitude, when I first saw it.

Fig. 3. Is a draught of its form, and of the proportion of the nucleus to the tail.

This meteor was not attended with any noise, nor left any luminous stream after its descent below the horizon; neither have I heard of its explosion.

The appearance of such meteors at that cold season of the year is the more extraordinary, as their generation is attributed to exhalations caused by heat, or the action of the sun; for which reason they are generally seen after hot sultry weather.

By the distinctness and red fiery colour of this phenomenon, I imagined, that it was not very high in the atmosphere; but should be induced to think otherwise, if credit is given to the following extract from the public papers. Gentleman's Magazine for March 1754. p. 141.

“ Dublin, February 26. Between ten and eleven
 “ at night a meteor appeared in the sky, which arose
 “ in the west, and resembled two human bodies,
 “ which seemed to run at each other with great ra-
 “ pidity; illuminated the whole hemisphere, and
 “ continued about four seconds.”

This account seems to be so much blended with superstition, that possibly the form and number of the appearance might be nothing else but the extravagant suggestions of a fearful imagination. The near agreement however in these two accounts, as
 to

to the situation and time (allowing for the difference between the meridians of Dublin and Hornsey), it being nearly half an hour past ten at Dublin when eleven here, makes it very probable, that it was one and the same meteor; which, if so, is a proof, that its height in the atmosphere must be very considerable. I am,

S I R,

Your obliged humble servant,

William Hirst.

XCH. *A Letter from Monsieur Clairaut, Member of the Royal Academy of Sciences at Paris, and F. R. S. to Thomas Birch, D. D. Secret. R. S. containing a Comparison between the Notions of M. de Courtyron and Mr. Melvil, concerning the Difference of Refrangibility of the Rays of Light.*

Read July 4,
1754.

AS I was perusing the last volume of the Philosophical Transactions, I fell upon a memoir of Mr. Melvil, the subject of which having been handled in a book, that I presented some time ago to the Royal Society, from a friend of mine, and written upon a matter, which I had

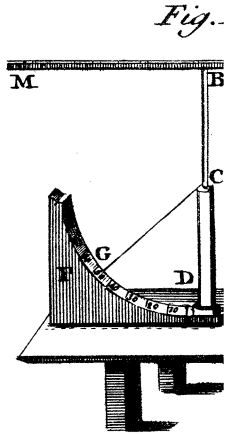
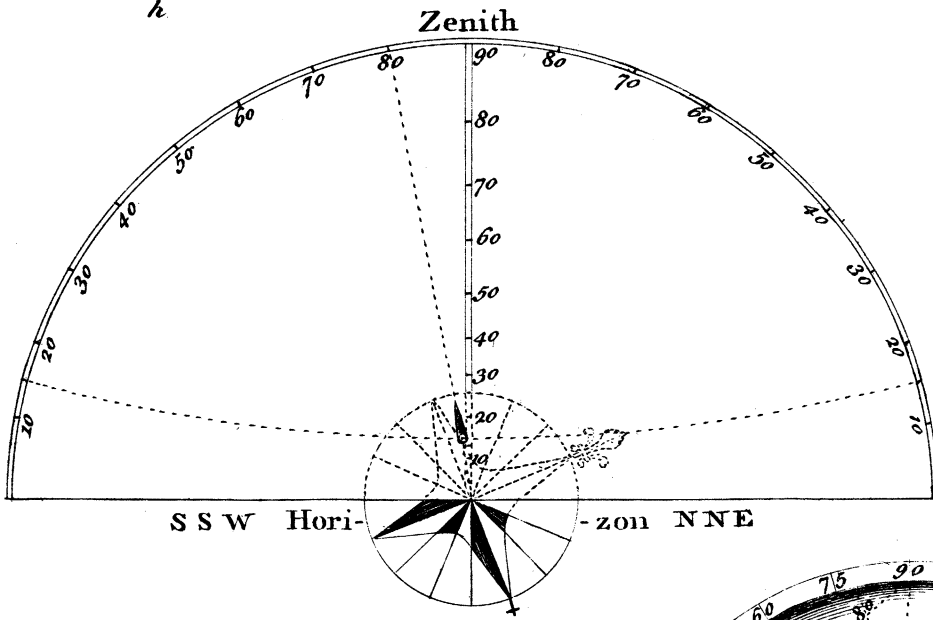
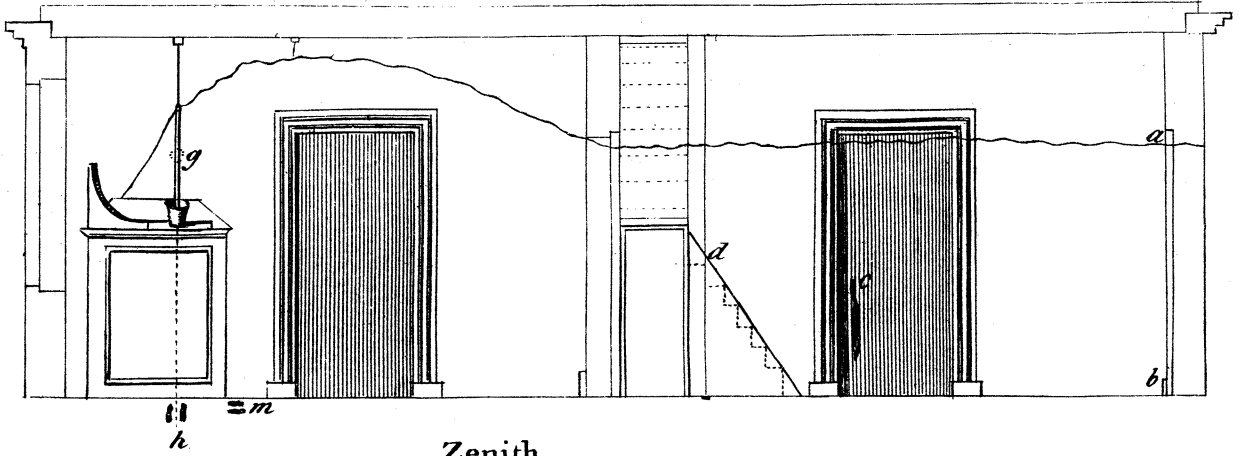


Fig. 3. p. 775.

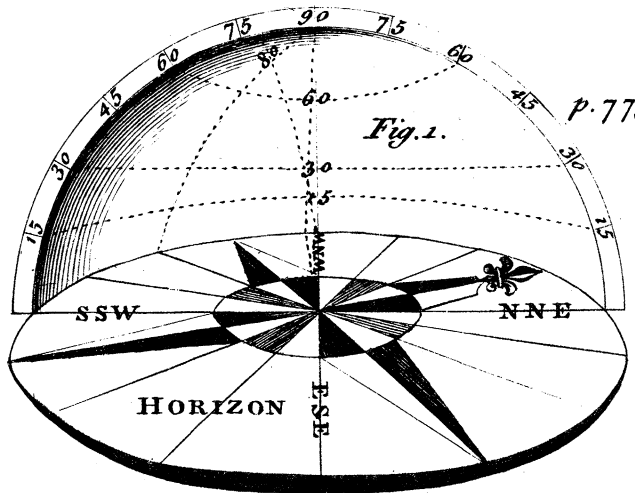


Fig. 2. p.770.

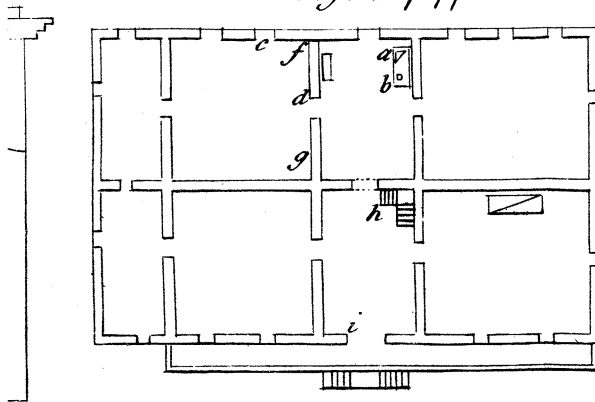
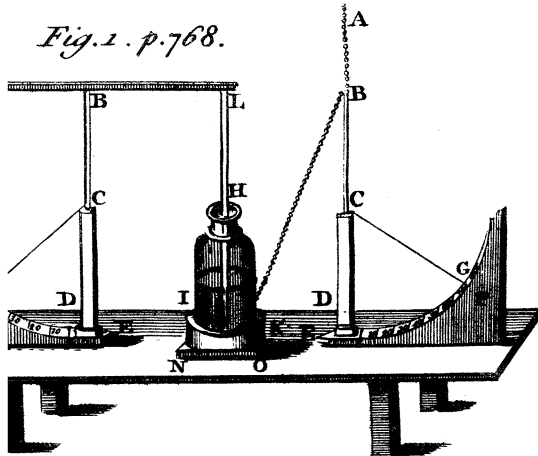


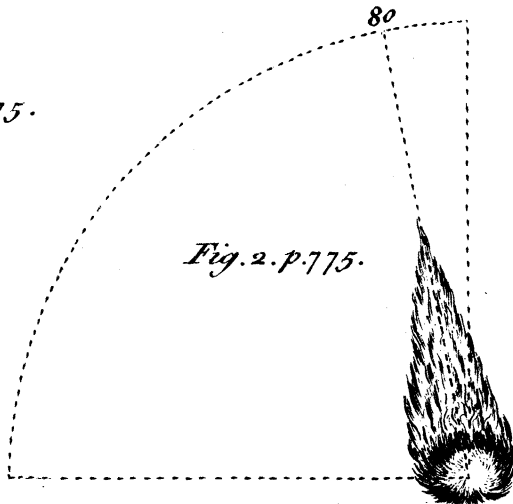
Fig. 1. p.768.



p.775.



Fig. 2. p.775.



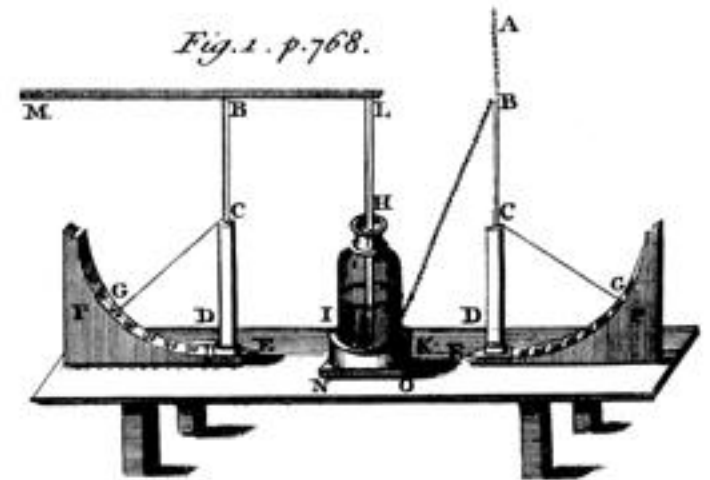
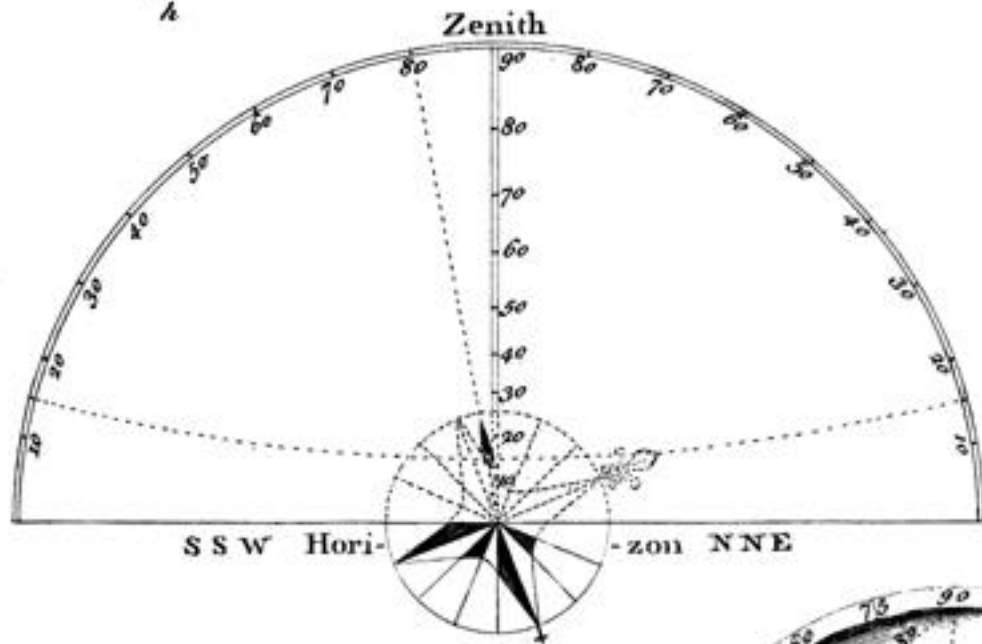
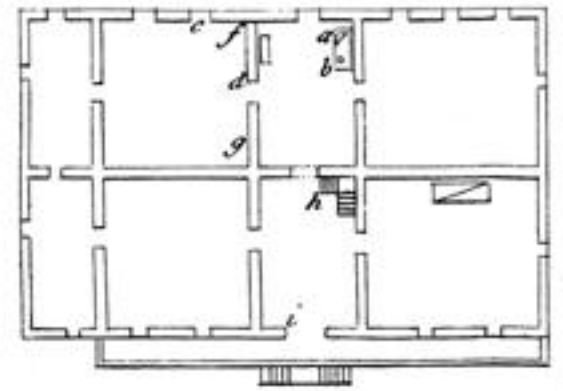
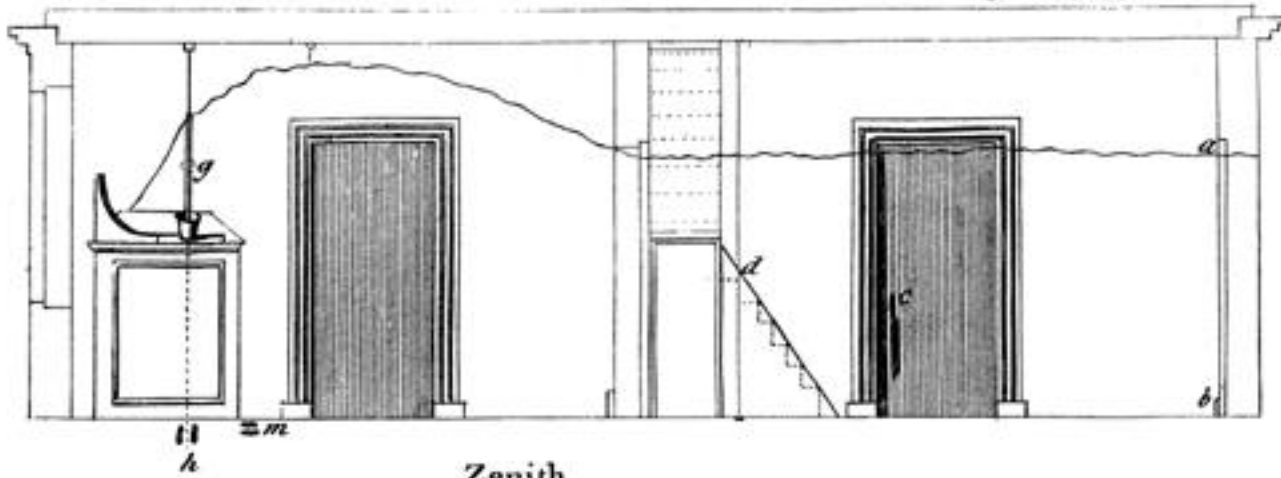


Fig. 3. p. 775.

