

On Examination, I find the five Appearances to answer the five *Stamina* on which the *Apices* are set; and from this Appearance, growing nearer and nearer to each other by degrees, they join at last all in one in the Stalk of the Flower.

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XIII. *Part of a Letter from Mr. Wm. Arden, F. R. S. to Mr. Henry Baker, F. R. S. concerning an Improvement of the Weather-Cord.*

S I R,

*Read April 24. 1746.* **T**HE Weather-Cord is an Hygrometer

of a very ancient Invention, and, if properly contructed, may be made use of with very good Success, to shew the various Alterations of the Atmosphere, in respect to Moisture and Dryness; but, as commonly made, it never rises or falls sufficiently to point out such minute Changes as the Curious would be desirous to know. A Sense of this Defect set me upon endeavouring to find out some Method of removing it; and how far I have succeeded, will best appear upon casting your Eye upon the Drawings, TAB. II. *Fig. 4.* and *Fig. 5.*

In the first of these Hygrometers which I made, as in *Fig. 1.* I only fixed the End of the Index *AB* fast to the Silk *CE* at *A*, leaving it lying loose upon the Point *D*; and in this manner the other End of the Index would nearly describe the Arch *FGH*: But then I soon perceived, that the Centre of Motion,

Y 2

whereon

whereon the Index turned, was changed whenever it moved ever so little; and, consequently, that the Arch struck by the End  $B$  must be irregular.

On considering this, I toothed two Pieces of Brass, as 1, 2, and 3, 4 (*See Fig. 5.*) to fit each other so exactly, that, upon the least Motion of the one, the other would move; then, fixing the Index upon the Centre  $C$ , its Motions were rendered much more regular.

I placed likewise a little Collar of Brass at  $B$ , upon the Cord  $SR$ , and to that Collar tied the Silk, which gave Motion to the Index, that the Cord  $SR$  might twist and untwist without any Impediment.

If there is no Weight placed at Bottom, as in *Fig. 4 X* the Piece of Brass 1, 2 must be so heavy as to keep the Cord  $SB R$  at a convenient Tightness, and also to counterbalance the End of the Index  $CE$ , provided it be heavier than the other.

The Length of the Cord  $SB R$ , its Thickness, and the Manner of preparing it, are already described in so many Books which treat of Hygroscopes, that to mention them would seem unnecessary; and I shall only add, that I am

*Yours, &c.*

*Norwich, Dec. 21. 1745.*

Wm. Arderon.

Fig. 1. p. 146.

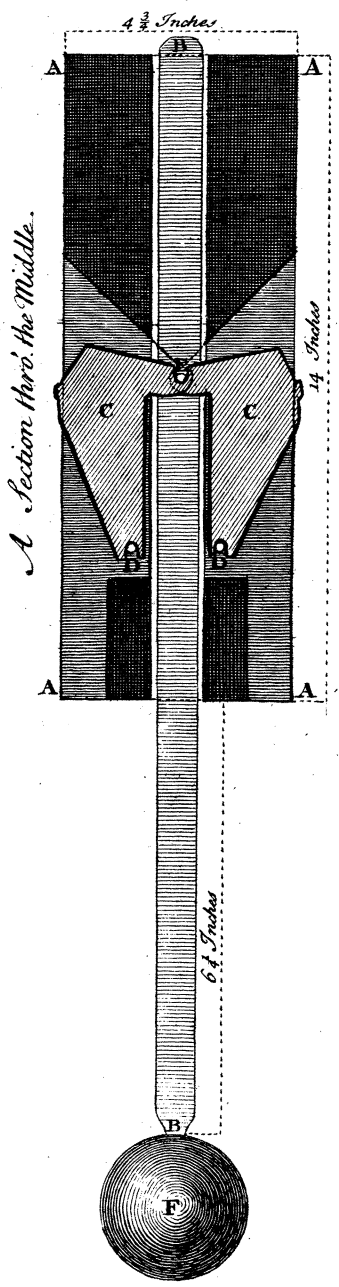


Fig. 2. p. 155.

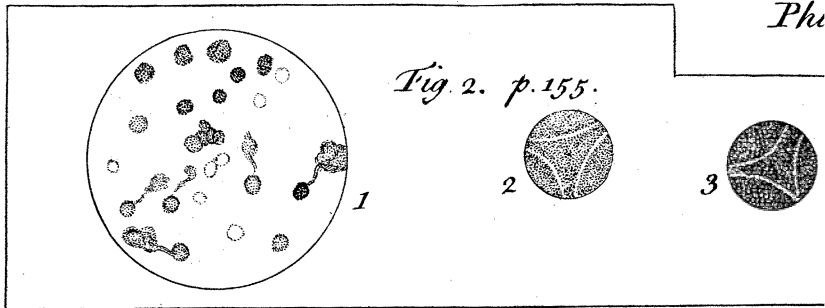


Fig. 4. p. 169.

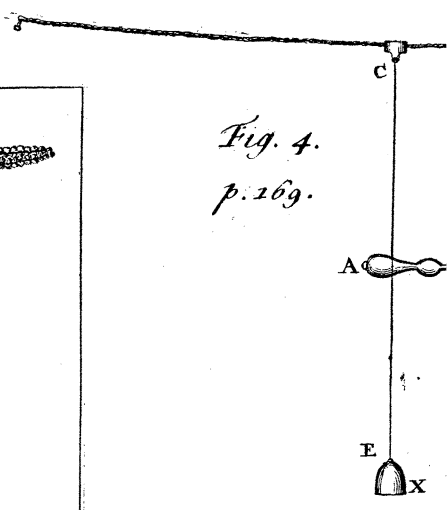


Fig. 3. p. 167.

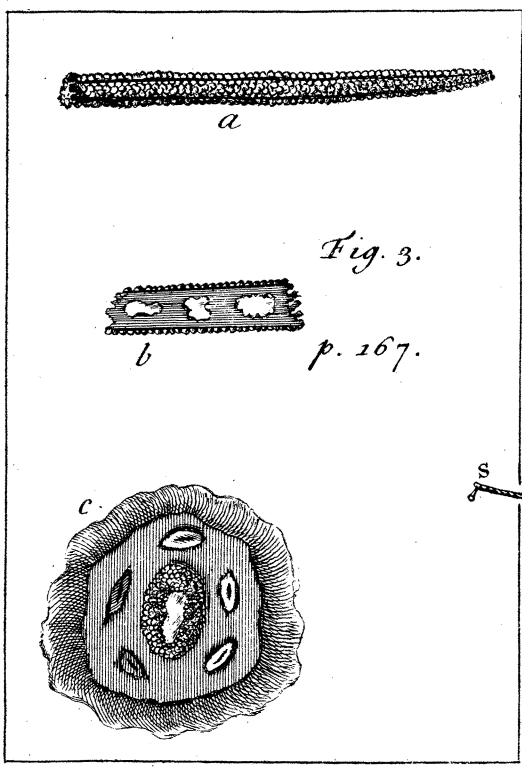
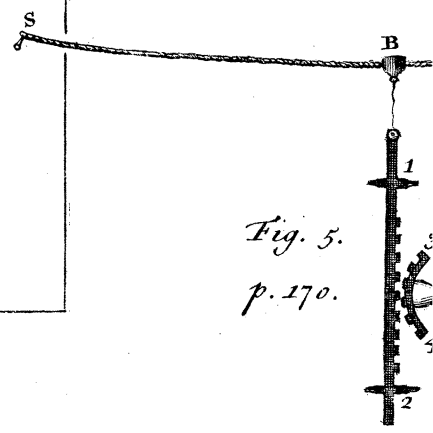


Fig. 5. p. 170.



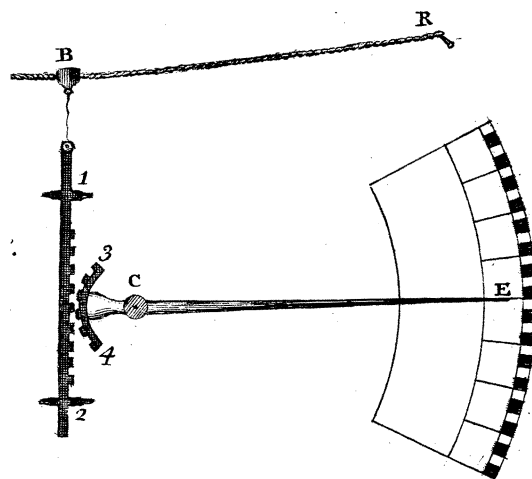
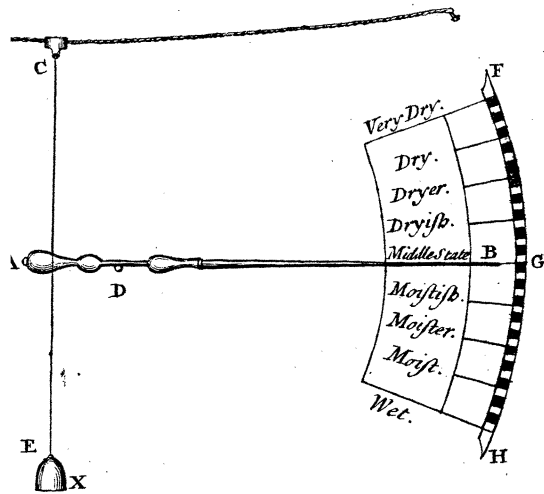
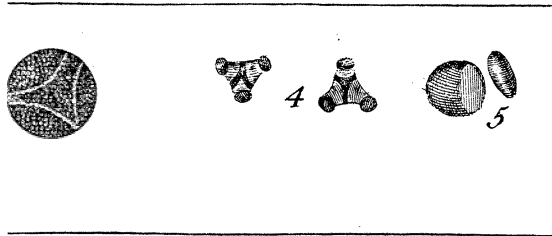


Fig. 1. p. 146.

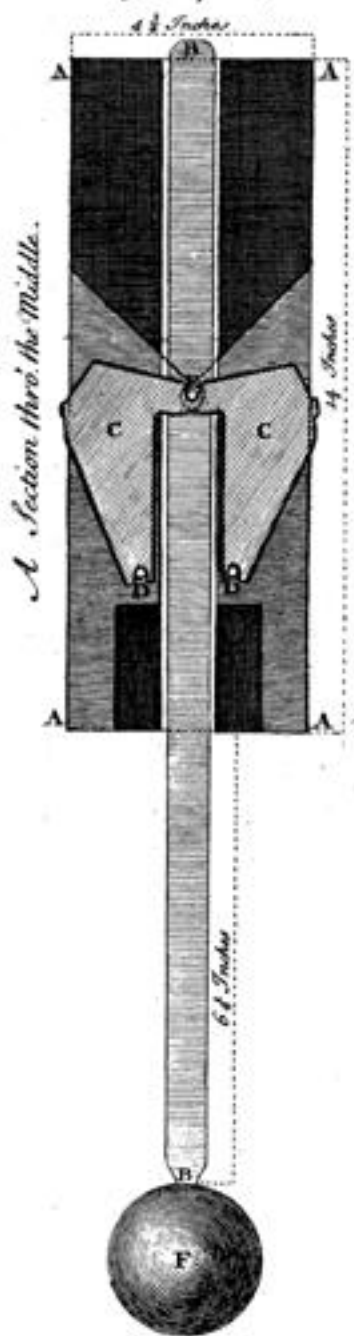


Fig 2. p. 155.

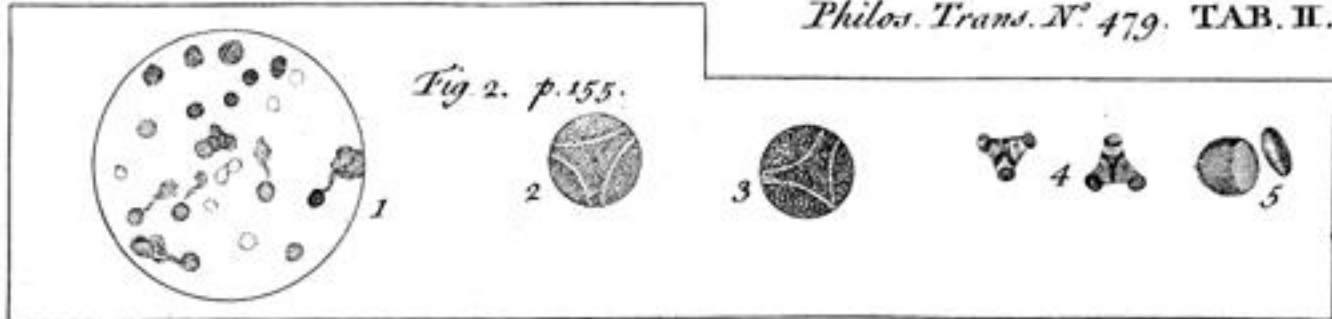


Fig. 4.  
p. 169.

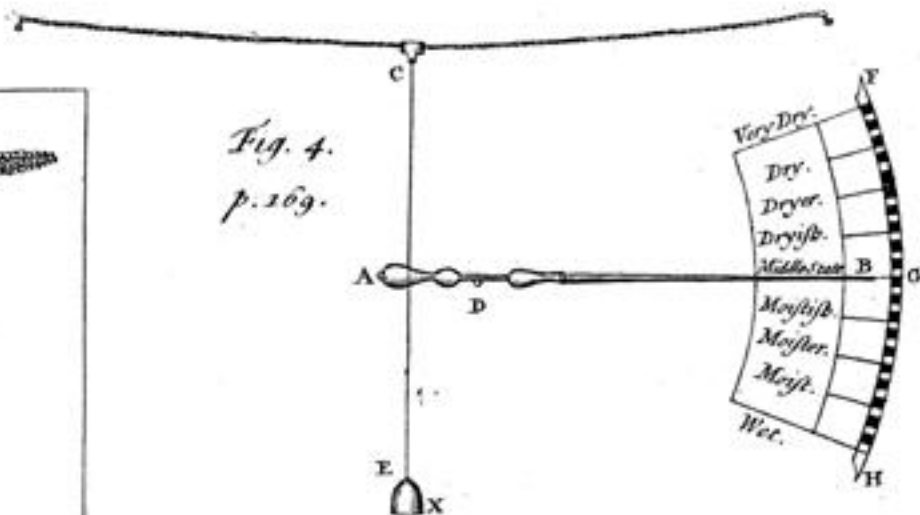


Fig. 3.

p. 167.

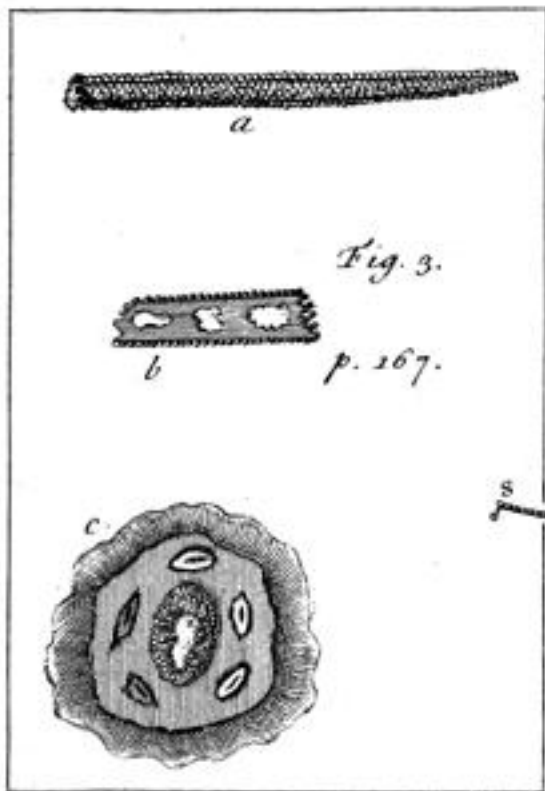


Fig. 5.  
p. 170.

