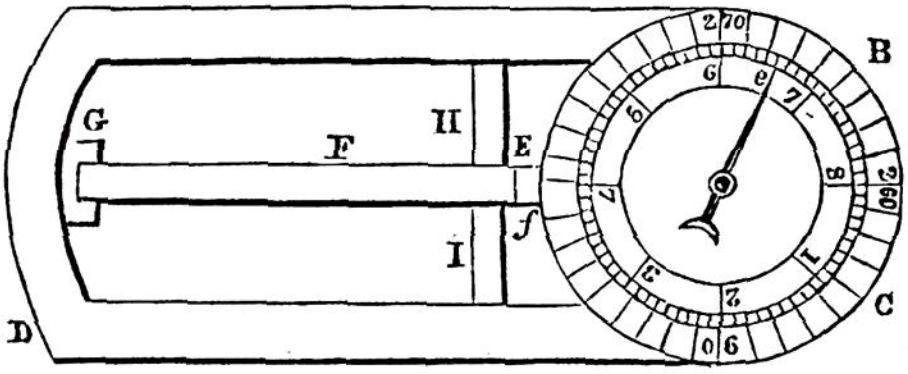
bar of iron to expand when heated, and contract when cooled, must influence all solid bodies more or less, and may possibly occasion terrestrial phenomena of the most violent character.



Ferguson's Pyrometer.

Many instruments called pyrometers have been invented for the measurement of the dilatation or contraction suffered by solid bodies, when their temperature is changed. Although many pyrometers have been invented, nearly all of which have some points of excellence, we shall only notice that invented by the celebrated Ferguson, whose mechanical genius has been rarely excelled, and scarcely, if ever, equalled. This instrument measures the expansion to 1-45,000th part of an inch. It consists of a mahogany frame B C D, attached to a disk divided into 360 equal parts, the central bar E being capable of motion, and of communicating that motion to the index. A dilatation of this bar, equal to one inch, will force the index round the circle, and it is easy to calculate the amount of expansion by the angular motion of the index.

The central bar is divided into two pieces, one long and one short. One end of the long bar F is fitted into an iron plate G, the other pressing upon the end of the short bar E, at the point F. When heat is applied to the bar F, its expansion acts upon the lever-formed bar E, which causes the revolution of the index.

It may be supposed, from what has been stated, that liquids also dilate when their temperature is raised. Liquidity is but the state of transition between solids and gases, and most substances may be made to assume either the one or the other. But all liquids do not suffer the same degree of expansion with the same increase of temperature, a statement