

corner, and included in the above horizontal dimensions, is a square tower, sixteen feet by sixteen feet, and forty-three feet in height, which is used for supporting the Anemometer. From the southern face of the main building and at right angles to it, extends a passage four and a-half feet wide; which communicates at its southern extremity with a room twenty by thirteen feet, appropriated to the observations for absolute magnetic intensity. On the east and west of the passage and communicating with it by a second transverse passage, are two small rooms, the former for observing transits, and the latter for observations of absolute declination. The three rooms just mentioned, with their connecting passages, form a cross seventy-two feet from north to south, seventy three feet from east to west, and eight and a half feet in height. The extreme length of the whole building is thus 126 feet, and its greatest width 73 feet. The smaller rooms and connecting passages were erected in the autumn of 1853, and were used for temporary offices during the demolition of the old building and the completion of the new one.

In the main building are placed the instruments used for observing the changes in the four magnetic elements. These instruments are as follows:

1. The Declinometer, for measuring the changes in the declination or variation of the magnet.
2. The Inclinator, for observing the changes in the inclination or dip.
3. The Bifilar, for observing the changes in the horizontal component of the magnetic force.