



EQUATORIAL OF THE MAIN BUILDING—UNITED STATES NAVAL OBSERVATORY.

been going on for some time past at the observatory. Congress, as our readers may be aware, in 1871, appointed a commission to have charge of America's responsibility in the work.

The superintendent of the observatory, Admiral Sands, Professor Peirce as head of the Coast Survey, and Professor Henry as President of the National Academy of Sciences, with two professors of the observatory, Newcomb and Harkness, form the commission. One hundred and fifty thousand dollars have been appropriated.

If we have now made the reader acquainted with the progress of the observatory, and, incidentally, with a part of its work, will he follow us through the building, and inspect the instruments and officers' work in the different apartments not yet described? If he has registered his name in the front hall, and will ascend to the dome of the central building, he will find himself winding around a circular wooden casement, which covers the pier of mason-work on which the equatorial purchased in 1845 rests. The foundation of this pier is laid in hydraulic cement. Its diameter at the base is fifteen feet, and it is solid to a height of ten and a half feet, where the diameter is twelve feet. On this

is a conical pier of hard-burned brick, of which the diameter at the base is twelve feet, and the height twenty-eight feet; the diameter at the top is seven feet, and the walls three feet thick to within ten feet of the top, gradually increasing in thickness, the last three feet being solid. The pier is capped by New York flagging stone, on which rests the pedestal, which is one block weighing seven and a half tons. On this stands the fine equatorial made by Merz and Mähler, Munich, at a cost of \$6000, its object-glass being valued at more than half that sum.

The work of this instrument under, successively, Professors Ferguson, Walker, Hubbard, and Hall, has been chiefly upon the smaller planets, the asteroids, and comets. Mr. James Ferguson was the first of Americans to discover an asteroid, naming Euphrosyne in 1854, the thirty-first on a list which has been recently enlarged beyond even a hundred.

by Peters of Clinton and Watson of Ann Arbor.

The object-glass of the equatorial has an aperture of 9.62 inches and a focal length of 14 feet 4.5 inches. Its powers of positive eye-pieces for use with its filar micrometer vary from 90 to 899.

If the visitor pass out from this revolving dome of twenty-three feet diameter to the platform and balustrade around it, he may enjoy a fine view of the city and the Potomac; and if he is visiting precisely at 12 M. he will see the ball drop from the flag-staff, giving the time to the city and the shipping on the river. The ball itself is a frame-work of oak ribs of two and a half feet in diameter. It is hoisted by halyards to the top of the flag-staff, the metal eye at the end of the rope passing over a steel spring, which is governed by a magnet. At the instant of noon the pressure on the key by the naval officer in the chronometer-room below breaks the electric circuit, the magnet above releases the metallic eye by the flying back of the spring, and the ball drops.

Descending from the dome, and passing the superintendent's office, in which are a most excellent mean time clock, with others, in the electric circuit with the clocks at the departments, ticking each, beat for beat, the