

XXXVI. *An Account of the Effects of
Lightening at South Weald, in Essex:
By W. Heberden, M. D. and F. R. S.*

Read June 28, ^{1764.} **S**OUTH Weald is a village in Essex, about eighteen miles distant from London, and two to the North West of Brentwood. In the road from London there is an almost continual ascent for the last four or five miles, which makes a considerable eminence above any parts of the neighbouring country. On the highest part of it stands the church, which has at the West end a tower, and in one corner of this there is a round turret, being a continuation of the stair-case, about four feet wide, eight feet high, and the walls of it one foot thick. In the top of the wall of this turret, which was leaded, are fixed several iron bars, that are bent so as to meet in the middle and support a weather-cock, which was put up about sixteen years ago.

On Monday June 18th, 1764, between twelve and one (about three hours before the time when the thunder and lightening happened in London, by which St. Bride's Steeple and Essex-Street were damaged) there was a storm at South-Weald, attended with uncommonly loud thunder. The lightening struck the weather-cock, and passing along the iron bars, upon which it stands, rushed against the wall of the turret, and has broken a space from the top of the turret to the leads of the tower, about four feet wide, being about one third of the circumference of the turret and facing the North. The weather-cock, and irons that support it seem to be unhurt. The

walls of the turret were made of rough stones and mortar ; and part of what is beaten down has fallen upon the leads of the tower underneath, and part upon the roof of the church, which is greatly damaged. The stair-case also, which leads up to the turret, is so full of the stones and mortar, that it is with great difficulty and some hazard that any one can go up it. From a leaden spout at this West end of the church, which only comes down to near the top of the West window, the plaster is beaten off the wall for some inches in breadth quite to the window ; and at the bottom of the upright iron bars of this window several of the stones are cracked, and the wall is chipped here and there from thence to the ground. The same is observable in the stones at the bottom of the upright iron bars in the East window, which is also near a leaden spout that comes down from the roof over the chancel, the end of which rests upon a buttress, and does not reach the ground by several feet ; which buttress is cracked, as well as the adjoining wall. On the inside of this wall, within the church, there is a large wooden frame, which holds the commandments. This frame at the left hand corner is supported by an iron holdfast driven into the wall, which was mentioned above as being cracked on the outside under the leaden spout. The plaster of the wall, for three or four inches all round this holdfast, within the church, is beaten off ; and to the left hand there is a space, slanting from the holdfast toward the ground, five or six inches wide and three or four feet long, from which all the mortar is forced away. That part of the wooden frame, where the holdfast is fixed, is shattered. The canvas, upon which the

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commandments are painted, which was in this wooden frame, is torn from the frame on the two sides of it next the holdfast, and is rent besides in several places.

The whole appearance of the damage done to this church very much favours the conjecture of that sagacious observer of nature, Dr. Franklin, who thinks it probable, that, by means of metallic rods or wires reaching from the roofs to the ground, any buildings may be secured from the terrible effects of lightning.