THE GROWTH OF PLANTS IN ODD PLACES.

It has been said that if an absolutely clean plate were placed out of doors, it would, after a certain length of time, become covered with small plants taking root in and sustenance from the dust that had been deposited upon it. The fact is that mountains furnish us at every instant with examples of the facility with which trees and other plants obtain nourishment upon absolutely bare surfaces. In the mountains of the Jura especially, the firs adhere to and live upon the exposed rocks; and in the defile of the Roches, upon the route from Gros-Bois to Locle, all tourists are acquainted with the tree that has grown upon the very edge of the rock forming the northern crest. We have collected a few peculiar cases of plants that have taken root in the masonry of certain buildings We shall, in the first place, take our readers to the charming little church of Fenioux, in the department of Charente Inferieure. It is a little gem of Roman art situated between the villages of Grandjean and Mazeray, upon the line from Bordeaux-Etat to Paris. Arriving in front of the structure, we shall not take time to examine the charming details of the ornamentation of it, but shall simply advise you to raise your head and observe above the porch and immediately above an entablature supported by a row of heads, a Scotch fir that has succeeded in taking root upon this narrow space and in finding sustenance in the dust brought by the wind (Fig. 2). It owes its own origin to the wind, which deposited upon the entablature a seed of one of the trees, which are quite numerous in the vicinity.

It is probable that France possesses other examples of such odd growths as these, but we shall mention some that occur upon English edifices. In the city of Norwich, the church of St. Benedict is provided with a round tower having a series of windows at the top. From one of these issues a tree that rises several yards above the platform of the tower, and which is growing very vigorously (Fig. 3). At Bicknoller, in Somersetsbire, upon a tower of the church, there grows an evergreen oak which has already reached a height of five feet. It is well known and is much wondered at by tourists who visit the west of England. There may be observed, too, a sycamore which has been growing for more than half a century upon the tower of the little parochial church of Saint Petrochius, at Clanaborough, in North Devon. It has inserted its roots so deeply into the masonry as to threaten the solidity of the building. A few years ago the city of Stony Stratford possessed a plant curiosity of the same nature. In the wake of a great fire in 1742, one of the few structures that remained standing was the tower of the Saint Mary Magdalen church. A bird doubtless carried a seed to the summit of this, and there soon appeared a tree that buried its roots so deeply that it had to be pulled up in order to save the tower from falling in.

We are able, with our contemporary, *The Million*, to cite another church which is similarly situated. It is the parochial church of the village of Culmstock, in Devonshire. Here again there is an evergreen oak that has found a means of taking root at the top of the tower. To judge of it from its height and circumference, it must be at least two hundred years old. Its trunk is very straight and issues at an angle from the masonry, to which in days gone by some bird or the wind had brought an acorn from the evergreen oaks that grow in the neighboring cemetery. The oldest inhabitant of the village, who is eighty-eight years of age, says that in his childhood the tree had the same appearance that it has at present.

Finally, we shall mention a case that is still more curious, that of two trees growing in the interior of a church and through the pavement. This phenomenon is visible in the old church of Ross, in Herefordshire. These two trees grow near the pew occupied by John Kyrle, an inhabitant celebrated for the sums that he devoted to the planting of elms in his native city. A few years after his death, it became necessary to cut down several elms planted in front of the church, and two shoots were soon observed lifting the tiling of the church and increasing in size near the old pew in which Kyrle assisted in divine service. Since then the two trees have been allowed to continue their growth.—*La Nature.*

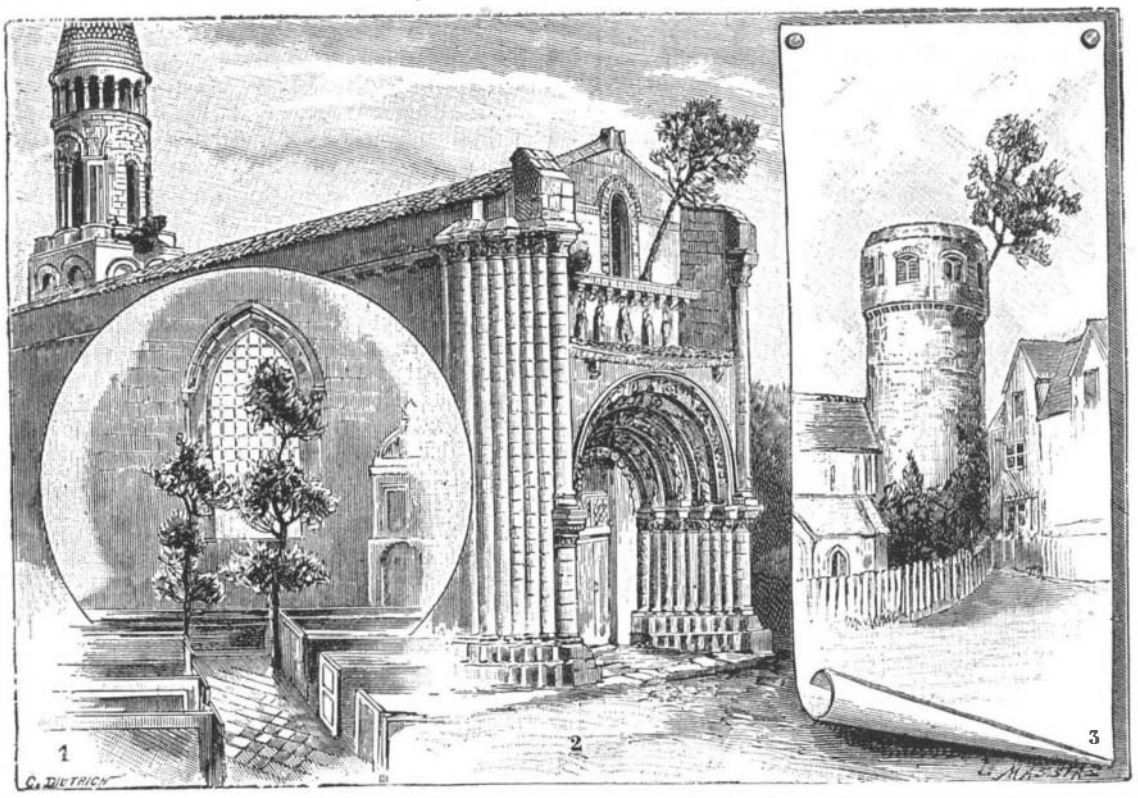

Fig. 1.—Trees growing in a church of Herefordshire in England. Fig. 2.—Tree on the church of Fenioux.
Fig. 3.—Tree on the Saint Benedict tower at Norwich.

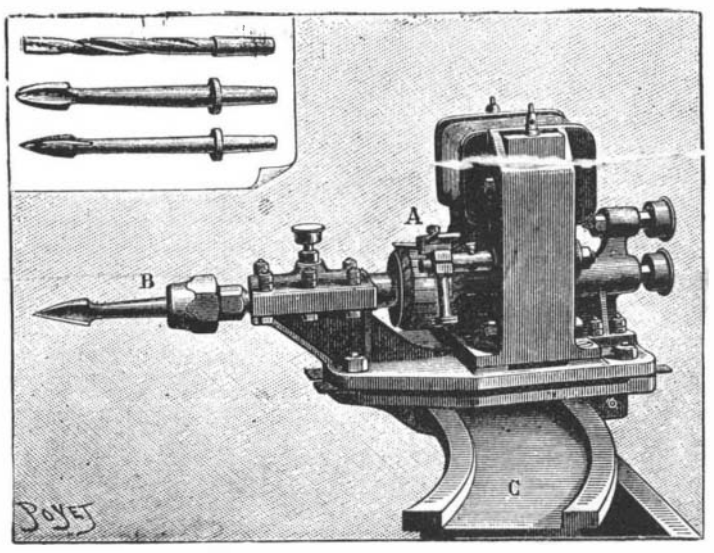

Fig. 2.—ELECTRIC DRILLING MACHINE.

AN AUTOMATIC SCULPTURING MACHINE.

We have recently had an opportunity of examining a new application of electricity that is worthy of being made known. It is a question of a sculpturing machine actuated electrically. This machine is evidently not designed to replace the hand of artists, but is valuable for making copies, and is capable, in a short time, of making rough-hewn statues, upon which the talent of the professional sculptor can afterward exercise itself usefully. The first idea of this application is due to Mr. Delin, a manufacturer of religious statues at Paris. It is he who conceived this arrangement and installed it practically in his studios.

The mechanism is of extreme simplicity, and includes the use of electric motors skillfully combined. Fig. 1 gives a general view of the apparatus in a studio. In the center there is arranged a vertical axis, provided with a carriage capable of moving throughout the entire length, thanks to a gearing and to the motion furnished by an electric motor placed at the upper part. The carriage in question, which may be seen in the center of the figure, carries two supports, that extend to the right and left in front of the statues. These supports are provided with slides, in which are placed the apparatus that serve for the work, viz., to the right the pantograph that the workman operates in front of the model and to the left the sculpturing machine. The two apparatus, with their supports, are capable of moving around the central axis, and every motion at the extremity of the one is reproduced at the extremity of the other, as in every pantograph. The two apparatus can be brought in front of the statues, as shown in our engraving. One of them, that to the right, is the statue that serves as a model and that it is a question of reproducing. The block to the left is the reproduction of it. In front of the model stands a workman, who, by means of a small apparatus placed upon the slide, holds a wooden rod designed to follow the exterior contours of the model at a distance of from one to two millimeters. The model is mounted upon a vertical axis and a rotary motion is communicated to it at the lower extremity through an endless screw. The same motion is transmitted to the second statue, which at the beginning is but a shapeless piece of wood. In the figure may be seen the endless screw, as well as the transmitting shaft, with the pulley and belt that actuates it.

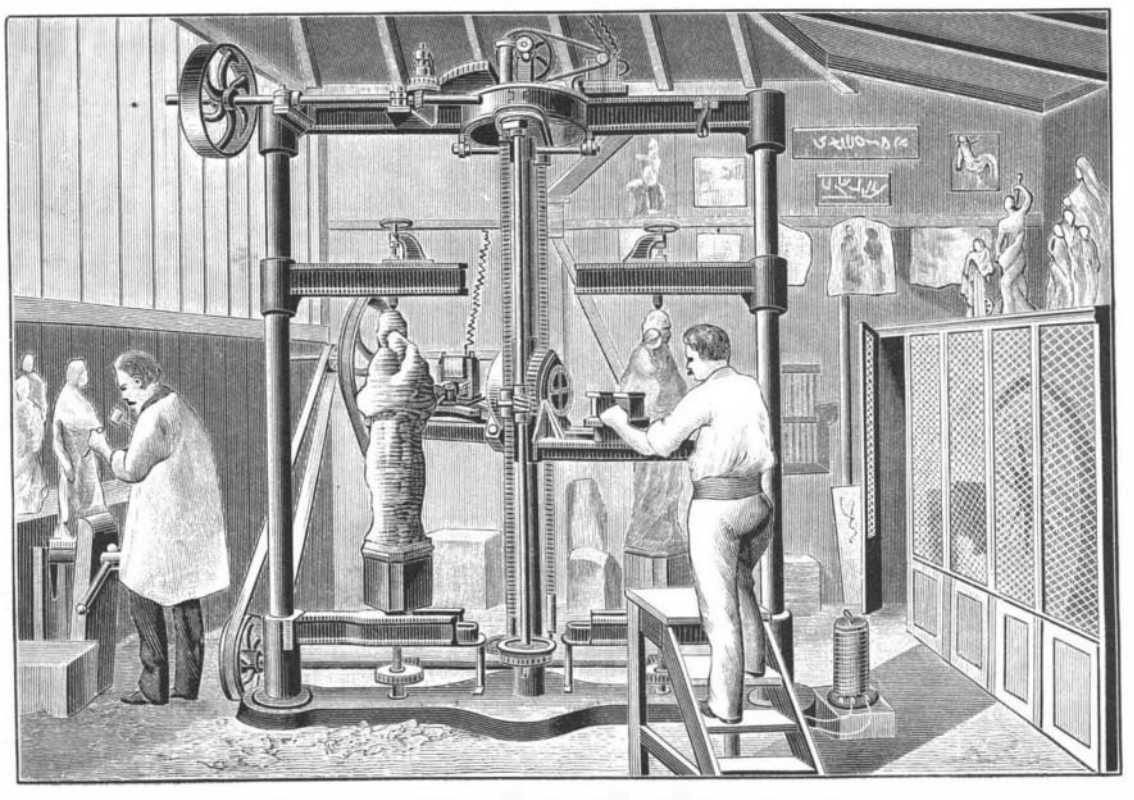

Fig. 1.—AUTOMATIC SCULPTURING MACHINE.

At the extremity of the second arm, to the left, is placed an electric drill, which is represented in Fig. 2. This motor is installed at C, upon a recurved part of the slide. It receives the electric energy at A, and sets in motion an auger bit, B, that revolves with great velocity. This bit may be replaced by others of various shapes, such as are shown in the upper left hand figure. When the machine is in operation, it suffices for the workman to bring the wooden rod near the model (an operation that he is performing in our figure), when the auger bit immediately approaches the piece of wood and cuts out a portion in such a way as to reproduce the model. The workman can likewise cause the carriage to rise or descend in order to effect the same work throughout the whole length of the statue.

This machine permits not only of accurately repro-