

appear very strange, has the effect of neutralizing every liquid with which it is mixed, even ardent spirits. This is a fact, try it as you will.—*New Jersey Adv.*

GRAFTING PEARS AND APPLES.

Pears may be grafted on stocks of the Mountain Ash and the Service tree, both of which will grow and thrive where pear stocks would not. I have also seen apples grafted on quince stocks, and planted in a soil so wet that an apple could not live; but they are doing very well, and making exceedingly fine shoots.

Rusticus in Urbe, in Loudon's Magazine.

NEW ENGLAND FARMER.

BOSTON, FRIDAY, AUGUST 28, 1829.

CONDUCTORS OF LIGHTNING.

The many accidents which, at this time of the year, occur almost daily, in consequence of discharges from the great natural batteries of electricity, with which the atmosphere is replete during the summer months, render the means of obviating the more dangerous effects of such discharges a subject not merely of interesting, but of anxious inquiry. It appears to us that some useful information relative to this object may be obtained from a circumstantial and scientific account of the descent of lightning on Mr J. G. Carter's house in Lancaster, Mass. furnished by Mr Carter himself, and published in a late Lancaster Gazette.

This account states, that "The house had, attached to one of its chimneys on the northern aspect, a conductor of the usual form, extending about four feet above the top of the bricks: this was fastened at the top of the chimney by a thin strip of iron, hugging it close, and interlocking with the bricks. At the roof the conductor was bent to fit that part of it which was outside of the chimney, being about two feet. Here an iron staple of four or five inches in length, enclosing the conductor, was driven into a block of maple wood of about the thickness of the length of the staple, which block was nailed to the roof of the house with nails of sufficient length to hold it fast. From the roof the conductor passed down without touching the body of the house, and entered the ground the usual depth.

"From a careful examination of the effects of the discharge the following is supposed to have been its course. Although the body of the house is spacious and presented to the cloud coming over it three other larger chimneys than the one to which the conductor was attached, and of equal height with it, from one of which a smoke was issuing at the time, the points seem to have done what was expected of them in gathering the whole charge. It apparently passed down without interruption to the staple on the roof, where the conductor being less perfect on account of the oxide accumulated by the spattering of water from the shingles it separated. A part followed the conductor to within a few feet of the ground, where it divided again, one branch striking the ground by the nearest direction, the other following the rod to where it entered the earth, displaced the stones around it, and passed off without leaving any other marks of its progress. Not so with this part of the charge displaced the maple block to which the conductor was fastened, and entered the

roof rending the shingles somewhat, though not so much as one would have supposed it must, from its effects below.

"After entering the roof no marks of its progress are visible till it reached the horizontal timbers of the chamber floor. Here this branch seemed again to divide; one part followed the perpendicular timbers, drawing every board nail for the space of ten feet from the chamber floor to the sill, and breaking some of the studs. Some of the boards and clapboards were quite thrown off from the corner of the house, and the whole started out from the timbers two or three inches. At the sill some of this part of the charge took the ground, where its marks may be traced several feet to a wet spot at the mouth of the kitchen drain; the rest took the cellar wall and moved a part of it inward two or three inches, throwing out the lime in which it was laid.

"At the chamber floor, the branch of the charge which followed the horizontal timbers, crossed on them the room occupied for a study, where several of the family had been all the forenoon, and where they would have again been in a few minutes, and loosened the upper ceiling so that some of it fell to the floor. On the side of the room opposite to the chimney was a wire communicating with a bell. The electricity found this and followed it, destroying it as it went across the entry to the bell, which it put in motion, and thence it took the wire, leading through a long entry to the parlor, doing no damage but consuming the wire. Just before entering the parlor the wire passed through a ceiling, and here the casings of a door were shattered to pieces. Where the wire to which the bell rope was attached entered the parlor, the casings of another door were torn off, and thrown across the room, a distance of 18 feet. After passing down the casings of these two doors, which stand very near to each other, these two streams seem to have united themselves. They followed for a few feet a row of nails fastening to the entry floor an oil cloth carpet, which, being a poor conductor, was much torn: this part of the charge, which had performed a circuit of more than fifty feet in the house around and among us, then passed through the lower floor, and dislodging the cellar door in its progress, entered the ground in the cellar nearly under the centre of the house."

The above furnishes facts of considerable importance for elucidating the laws of electricity, and teaching mankind how to defend their habitations against this mysterious and terrible agent. It proves that wood interposed between a lightning rod, and the building, which it is wished to protect, is not a sure defence. "A part of the charge," as stated above, "displaced the maple block to which the conductor was fastened, and entered the roof" &c. We, likewise, find that the electric fluid followed perpendicular and horizontal timbers, which is proof that wood has some power as a conductor of lightning. Now if these premises are correct, it follows that the mode of connecting lightning rods to buildings by wooden cramps instead of iron staples (though wood is doubtless, of the two to be preferred) is not unexceptionable. The method, which it appears to us ought to supersede all others, is that invented (and we believe patented) by Messrs R. Brown and G. W. Robinson, of Providence, R. I. This consists simply in placing blocks of glass firmly between the conducting rods and the roofs and sides of buildings. Two metallic staples with bolt heads are inserted about half way into the glass, while in a state of

fusion, so that when the glass cools the bolt heads of the staples are held fast and solid, leaving a thickness of two or three inches of solid glass between the building and rods. Small metallic bars are placed over the rods and secured by nuts, which hold them fast in grooves made in the middle of the glass blocks. The block of glass may be easily fitted to any building, old or new, and presents a barrier, which the electric fluid will never pass. Blocks of glass, of this description may be had at the Agricultural Establishment of J. R. Newell, No. 52, North Market street, Boston.

The following directions respecting the construction and application of conductors, are by a writer whose remarks were first published in the Boston Recorder, and afterwards republished in the New England Farmer, vol. 2, p. 77.

"The rod should be made of round smooth iron at least three quarters of an inch in diameter, and when it can be conveniently done, instead of linking should be smoothly welded together; but when by reason of length or otherwise, it is inconvenient to weld the whole rod, let it be smoothly connected by screwing the end of one part into the end of another. There should be five or more points, one in the centre, perpendicular, and the others oblique. They should be filed to a sharp slender point, and tipped with silver. The points should be elevated at least five or six feet above the highest part of the building. The bottom of the rod should go into the earth six or seven feet, and terminate in a bed of two or three bushels of wet charcoal. The wet coal, covered with earth, will probably retain dampness longer than any other substance.

"A conductor constructed and put up agreeably to the above directions, will perfectly secure a building for twenty feet on every side. When a building is more than forty feet long, for perfect security, there should be two or more rods, calculating one rod for every forty feet."

MEDICAL BOTANY, HORTICULTURAL EXPERIMENTS, &c.

□ We are much gratified to find, by the following extract from the proceedings of a highly respectable Institution, that a gentleman, every way competent to the task, has been requested to make our paper the vehicle of important information in the healing art, and a channel for the communication of the useful knowledge, which is the object of the resolution given below.

At a meeting of the Board of Visitors of the Massachusetts Professorship of Natural History, held August 8, 1829.

Voted, That the Curator of the Botanic Garden be requested to publish in the NEW ENGLAND FARMER, the results of any experiments he may have made in the raising of valuable medicinal and other plants, not generally cultivated in New England, and especially such as are now imported by druggists, and are costly, but which may be easily and extensively raised in this part of the United States; and that he state particularly any circumstances in regard to the choice of soil and situation which may be important. And also that he be requested to communicate from time to time to the public, through the same paper, any horticultural experiments of his own, or any information he may possess, the communication of which in his opinion would be useful, and that this be done under his own name as Curator of the Botanic Garden.

(From the records.) **BENJ. GUILD, Sec'y.**