

to be furnished with a line of water pipes communicating with the mains in the street. 4. The different warehouses to be divided by strong partition walls, and no more openings to be made than are absolutely necessary. 5. That the iron columns, beams, and brick arches be of a strength sufficient not only to support a continuous dead pressure, but also to resist the force of impact to which they are subject. Lastly. That in order to prevent the columns from being melted, a current of cold air be introduced into the hollow of the columns from an arched tunnel under the floors. Mr. Braidwood argued that there could be no doubt, if the second principle could not be defeated by carelessness in leaving a door or a window open just at the time when a fire occurred. The fifth principle showed that Mr. Fairbairn had not laid sufficient stress on the loss of strength to the iron consequent on an increase of temperature; and the last principle, it was thought, would not be likely to answer the purpose, as a specimen of $1\frac{1}{2}$ inch cast-iron pipe, on being heated in the centre, with both ends open, and a current of air passing through it, gave way, on one end being held in a vice, and the other pulled with slight force by the hand, after an exposure of only four minutes in the fire. For these reasons and others, the author submitted that large buildings containing considerable quantities of combustible goods, and constructed on the usual system, were not practically fire-proof; and that the only construction which would render such building safe, would be groined brick arches, supported by pillars of the same material laid in cement. The author was also of opinion that the loss by fire would be much reduced if warehouses were built of a more moderate size, and separated from each other by strong partition walls, instead of being constructed in immense ranges, into which, when fire had once penetrated, it set at defiance all the efforts to extinguish it."—[Athenæum Report.

SCIENTIFIC NOTICES.

No. II.

The second form of precipitate that we will mention is the so called corn-rain, which is no more of atmospheric origin than the sulphur, or golden-rain, described in our last paper. It is frequently observed, in some parts of Europe, that after heavy rains the fields are found sprinkled with bodies which in shape faintly resemble a grain of corn, but are much larger. These substances, when examined, were found to consist principally of the same body that enters largely into the composition of all kinds of grain, namely, starch; and hence, as they are supposed to have fallen with the rain, the phenomenon became known under the name of corn-rain. These grains are sometimes round, more generally oval or conical, and are usually under an inch in length, and from one-twelfth to one-sixth of an inch in diameter. They taste mealy and sweet, but have a sharp, burning sensation in the mouth.

On being examined, by botanists, they were immediately recognised as the roots of a plant called *Ranunculus Ficaria*, or *Ficaria Ranunculoides*, which grows in great abundance in several parts of Germany, where this phenomenon has been most frequently observ-

ed. The plant blossoms early in the spring, and the leaves soon die off, leaving the root-stock with a number (6 to 20) of small tubers, very slightly attached to it, just under the surface of the soil. They are so lightly attached to the stock, that a heavy rain will readily separate them; and if a violent wind occur at the same time, they may easily be blown about over the field; or, if the water should collect, and form an inundation, these tubers may, of course, be carried by the floods to localities where the plant itself is not known to exist. In fact, it has been stated that their bodies are never found except in places to which they may have been carried by floods, although other observers have found them in the streets of a village, and on the top of linen spread out in bleaching grounds, a circumstance which can scarcely be accounted for, unless we suppose them to have been carried up by the wind.

A number of other bodies, however, similar in appearance to grains of corn, have occasionally been found; such, for instance, as the seeds of *melampyrum nemorosum*, *peronica hederæfolia*, &c. &c. The seeds of the latter plant seem to have been beaten out of the capsules by the heavy rain, while the plant itself, having become dry and withered, at the time the phenomenon was observed, had been carried off; or we may suppose the seeds to have been transported from the spots where the plants grew, by the winds; as we have a number of instances on record (*vide* Kamtz' Meteorology) of fruits and seeds being so carried from one place to another.

Lichens are sometimes carried up into the air by gusts of wind, and deposited at a distance, in immense quantities, as has been several times observed in Persia.

RAINS OF ANIMALS.

It has often been stated that small fish, frogs, caterpillars, &c., have fallen from the clouds; and this must be explained on the supposition that they have either been carried up into the air by violent gusts of wind, or else that the rain has brought them forth from their retreats. Every one who has lived in the country, in England, must have noticed the swarms of young frogs which are often found on the roadsides, after a warm rain, in the spring. We need not suppose that these animals have fallen from the atmosphere, but merely that the warm rain has assisted their development, and brought them out.

We have also authentic accounts of fish having fallen from the clouds, more especially in places near the sea-coast; but these must have been carried up with the water by whirlwinds, and may be transported some considerable dis-