

magistrate well skilled in the law, may be the most useful man in his neighbourhood, in giving countenance to the peaceable and industrious, and discountenancing the idle and dissolute, as well as by healing party feuds and preventing vexatious litigations. An exact and extensive knowledge of the laws and their history is still more needful for such persons as are desirous of sitting as legislators in the Commons House of Parliament. Those representatives of the people who are ignorant of the old laws, can scarcely be well-qualified to vote for new laws. They are invested with the highest trust, to resist questionable or dangerous innovations, and to promote the adoption of improvements in the laws, and to transmit them to the next generation amended, and, if possible, better adapted to secure the well-being of all classes of the community. The House of Commons ought especially to be the people's guardian of the Constitution.

It is needless to state how much more important is a full and exact knowledge of the laws to the Lords Spiritual and Temporal, whose legislative functions continue during the whole period of their lives from the time when they take their seat in the House of Peers. The science of legislation is perhaps the more difficult of all sciences, and notwithstanding its importance, is so despised as to be unworthy of the attention of almost every one who does not follow it as a profession. The neglect of the laws by the class from which our hereditary legislators are supplied, appears to support the presumption that the knowledge of the laws of their country descends to them in the same way as the property of their ancestors. Cicero, himself no mean jurist, has left on record (Legg. 3: 18) that, "it is necessary for a legislator to be thoroughly acquainted with the constitution of his country;" and this he declares "is a knowledge of the most extensive nature—a matter of science, of diligence, of reflection, without which no senator can possibly be fit for his office."—(*The Schoolmaster.*)

Protection from Lightning.

However much we may be disposed to exult in the alleged fact that Franklin's invention has robbed the skies of their terrors, it is nevertheless true that the amount of damage to life and property, occasioned every year by lightning, is something appalling. To those who think of the subject for the first time it may perhaps appear that the danger to which we are exposed from lightning is very slight; but those who have carefully noted the number of persons injured by lightning during the course of the year are aware that the risk of accident from this source is greater than that incurred by travellers on our railroads; in other words, that the number of persons killed by lightning is greater than that killed on our railroads. Thus, during the ten days succeeding July 3, 1872, no less than fifteen persons were killed by lightning in the Northern States. A succession of three railroad accidents, in each of which five persons had been killed, would have horrified the community; but these fifteen deaths by lightning seem to have attracted very little attention. When we come to extend our investigations over a longer period, we find substantially the same results. Poey, in 1855, found that, during the preceding twelve years, there were recorded 262 cases of persons that had been killed, and 430 injured; while, of course, as every one knows, the cases that escape the notice of the statistician are generally quite as numerous as those that are recorded. In France, during twenty nine years, an average of 77 persons lost their lives, and 232 were injured, per annum, as may be seen by referring to the

report of Boudin, presented to the Academy of Sciences, in 1874. The most perfect records were kept in Mecklenburg, where it was found that one person was killed out of every 247,200 inhabitants. Now, on English railroads, the death-rate is one for every 1,256,290 passengers; and, in France, the death-rate is one for every 1,955,555 passengers. In short, statistics fully bear us out in saying, that, on our worst-managed roads, the percentage of passengers killed is not as great as the percentage of the whole population that is killed by lightning. These melancholy facts should lead to an earnest consideration of the best means of avoiding lightning-strokes; and, fortunately, it is the opinion of our most judicious and most thoroughly informed men that all danger from this source may be avoided, at least in ships and houses. In the British navy, where the very perfect system of protection devised by Sir William Snow Harris, is in use, injury by lightning has become a thing almost unknown; while, previous to its adoption, the material loss was valued at \$250,000. The Cathedral of St. Peter, in Geneva, although so elevated as to be above all other buildings in the neighborhood, has for three centuries enjoyed perfect immunity from damage by lightning; while the tower of St. Gervaise, although much lower, has been frequently struck. This doubtless arises from the fact that all the towers of St. Peter are accidentally furnished with very perfect conductors. The great column of London, known as the Monument, erected in 1677, in commemoration of the great fire, although over two hundred feet in height, has never been struck; while much lower buildings in the vicinity have not escaped. The Monument, however, is protected by a most perfect conductor; the upper end terminating in a vase, from which proceed numerous metal plates, designed to imitate the appearance of tongues of flame. The vase communicates by means of stout bars of iron, with the metal staircase which descends through the middle of the column and terminates in the ground. A still more striking instance of the value of lightning-rods is a church on the estate of Count Orsini, in Carinthia. This building was placed upon an eminence, and had been so often struck by lightning that it was deemed no longer safe to celebrate divine service within its walls.

In 1730, a single stroke of lightning destroyed the entire steeple; after it had been rebuilt, it was struck, on an average, four or five times a year, without counting extraordinary storms, during which it was struck from five to ten times in a single day. In 1778, the building was reconstructed, and furnished with a conductor; and, according to Lichtenberg, up to 1783—that is to say, during the space of five years—the steeple had been struck only once, and this stroke had fallen upon the metallic point without producing any damage. In short, no doubt exists in the minds of intelligent and well-informed men in regard to the efficiency of well-constructed lightning-rods. Of course, in this, as in every other department of applied science, we find men who exclaim against them, and men who think that such appliances are worthless, unless some particular notions of their own are embodied in their construction; but, on the other hand, we find that the great bulk of our scientific men are unanimous in regard to their efficiency, as well as in respect to the best methods of constructing them; and it is a curious fact that the rod which now receives the greatest favor from those who are more competent to form an opinion in the matter is substantially the old rod described by Franklin. The country is at the present moment overrun by so-called lightning rod men, who palm off worthless and expensive articles upon their customers, and in many cases are, in addition to this, guilty of downright swindling. It may be well, therefore, to say that, by attending to a few essential points, any ordinary carpenter or house-