

stead Heath, for the purpose of testing the capacity of small electric hand-lamps in searching for the wounded men left after a battle, and thus more rapidly than hitherto bringing the sufferers within the reach of surgical aid. The experiments were made by the officers and men of the London Division of the Volunteer Medical Staff Corps, — an organization which already consists of four efficient companies, largely composed of medical students, and for which a fifth company is now in process of formation. The corps, under Surgeon-Commander Norton, accompanied by ambulance-wagons, and provided with stretchers, halted upon one of the Heath roads at a time when the thick mists still hung heavily upon the lower grounds, and having established a field-hospital in a rather dreary-looking spot, poorly sheltered by bare trees, sent out its searching stretcher parties to pick up the bandsmen who had been distributed over the open ground at some distance off, to simulate the wounded left from a fight during the daylight. By the aid of the lamps thus brought into use for the first time, the men sought were found with comparative rapidity, the lights being sufficient also to enable the trained ambulance-men to apply preliminary bandaging upon the spot, and before loading the stretchers, which by other lights at the wagons were guided back to the road. There the men were carefully placed in the vehicles, and conveyed to the field-hospital, where the examining surgeons found very little to correct in the treatment adopted under such disadvantageous circumstances. The results achieved indicate sufficiently well, says the *Daily News*, that the electric light thus used would be of immense value, and tend greatly to reduce the suffering of men left upon the field at the close of a fight.

AN ELECTRIC ROAD FOR CHATTANOOGA. — There has been a very rapid extension of electric street-railroads during the year in all but the Southern States. Here only one very important road has been completed, although several are under contract. The street-car system of Richmond has been equipped with electric motors, and recently the Thomsom-Houston Company has opened a short road in Danville. The most important contract in the Southern States since the Richmond road was finished is that recently given by the Chattanooga Street Railway Company to the Sprague Motor Company. The line will be five miles long, and there are on it a number of sharp curves and heavy grades, the maximum being about eight per cent. The road will be newly constructed throughout. Eventually the entire railroad system of Chattanooga will be equipped with electric cars. The present road will have overhead conductors, a small wire fed from a larger wire, — the former over the track, the latter anywhere that is most convenient. The motor-cars will be of the new Sprague type, lately described in this journal.

THE EDISON LAMP PATENTS IN ENGLAND. — There will soon be given a very important decision on Edison's patents for incandescent electric lamps. In this country there has been no direct decision as to the validity of Edison's patents, all of the suits heretofore having been of a preliminary character; but in England and Germany several suits for infringement have been brought by the companies controlling Edison's patents in those countries, and the decisions, with one exception, have been in their favor. It is an appeal from this adverse decision that has just been argued. In the case, Edison's patent was declared invalid mainly because of incomplete specification, Justice Kay holding that a lamp as made by Edison's description was not commercially successful, nor could it be made so. Witnesses on the two sides attempted to make lamps according to the specifications; and those called by the Edison Company succeeded in doing so, while those on the other side uniformly failed. Finally Professor Stokes was appointed as referee, and a number of lamps were made and were tested. Some of these gave out in a few hours, others burned longer. The results obtained would not be in any way satisfactory as compared with our present lamps, nor could a station using these first lamps be run at a cost to make such an enterprise practicable. Professor Stokes reported impartially the result of the experiments, which at the time were generally considered as favoring the Edison patents. Justice Kay decided, however, that the lamps described in the specification never became, nor could ever become, a commercial success. The case on appeal is now before the same court that formerly affirmed

the validity of the patents, and there seem to be strong hopes among those interested that the present decision will be like the former one. The decision of Justice Kay had a beneficial effect on the lamp-trade in England: prices have been reduced, and several firms have put new and improved lamps on the market. At the same time, if Edison is the original inventor of incandescent-lamp filaments, he should be entitled to the benefits of his invention. While the sustaining of a fundamental patent in any industry has a tendency to create a monopoly for a number of years, and restrict competition and decrease the rapidity of progress, yet the ill effect of a failure to sustain a just patent would have the still worse effect of discouraging invention. In the case of Justice Kay's decision on the Edison patents, the fact that the lamps made would not pay to manufacture commercially should have no weight, provided they first embodied the principle on which the present lamps are made; the only changes being in the improved methods and materials taught by experience, these improvements being merely in matters of detail.

THE DAFT MOTOR ON THE ELEVATED ROADS. — The Daft Electric Company continue their experiments with the large motor and trains of cars on the Ninth Avenue Elevated Railway in this city. Some weeks ago a train of eight cars was taken up a grade of nearly two per cent at a speed of seven miles and a half an hour. On several occasions a speed of thirty miles an hour, with three cars, has been reached. The regular train speed on the Ninth Avenue road is thirteen miles an hour, but with the electric motor no difficulty is found in maintaining a speed of fifteen miles an hour. A *Science* representative was one of a party, a few evenings ago, who were carried over the road from Fourteenth to Fiftieth Street at a speed approaching twenty miles an hour. The motion was smooth and easy, and there was nothing but the entire absence of smoke, smell, and cinders to indicate that the train was not drawn by an ordinary locomotive.

NOTES AND NEWS.

WE wish again to call attention to the monument for Audubon which it is proposed to erect over the place where he is buried. The authorities of Trinity Cemetery have changed the plot, and placed the remains in a well-constructed vault in one of the most conspicuous parts of the cemetery, and the committee in charge of the matter are anxious to have the monument erected as soon as the funds will justify it. Subscriptions are coming in very slowly. The committee have decided to distribute to each subscriber to the funds a copy of a portrait of Audubon which was painted by Cruikshank and engraved by Turnure. As this engraving is a copy of a very valuable and rare one, the committee hope that this will be an inducement to persons to subscribe.



— The American Society of Naturalists held in Baltimore, Dec. 27 and 28, one of its largest and most successful meetings. Methods of instructing large classes in botany were presented by Professors Goodale and Wilson, and in geology by Professors Niles and Williams. The society fully approved the excellent work of its committee on education, in paving the way for better instruction in the natural sciences in all grades of schools, especially the lower ones. Mr. J. E. Wolff showed a photographic method of class illustration, and Professor W. M. Davis explained a most interesting series of paper models, illustrating the development of certain topographic forms and their relation to base-levels of erosion. The society is composed largely of teachers, and desires to so arrange its meeting next year that the members may be able to attend the meetings of specialists held about the same time.