tionality of Execution by Electricity," and was discussed by several of the members, after which it was resolved that the association petition the General Assembly of the State of New York to repeal the electrical execution law at its next session. A paper by Mr. William Bracken, on "Electric Traction by Storage-Batteries," was then read by Mr. S. M. Young, after which J. F. Morrison, E. T. Lynch, jun., C. C. Martin, E. F. Peck, and A. J. De Camp were appointed a committee to nominate the executive committee, and to choose a place for the next convention.

At the Thursday morning session, after the report of the committee on legislation, Mr. C. C. Haskins read a paper on "Dynamo Room Accessories for Intensity, Potential, and Resistance Measurements." Dr. Moses then read the proposed new constitution, which was accepted, after which Mr. G. W. Mansfield read a paper on "Electric Railways," and Professor E. P. Roberts read one on "The Electrical Transmission of Power." The report of the committee on executive committee and place of next convention was then received and adopted, Kansas City being the place selected, and the executive committee being as follows: G. W. Hart, chairman; L. A. Beebe; J. A. Corby; B. E. Sunny; S. S. Leonard; C. R. Faben; P. H. Alexander; Frank Ridlon; and J. F. Morrison. The convention then adjourned.

HEALTH MATTERS.

Disinfection of Springs, and Number of Germs in Ground-Water.

DR. CARL FRANKEL, in the *Zeitschrift f. Hygiene*, reports a series of experiments made by him to determine some points of practical importance; namely, what are the relative values of tube-wells and pot-wells, and can they be disinfected by the measure usually recommended?

With regard to tube-wells, from their mode of construction they are not liable to contamination from surface impurities, as the pot-wells are, and it becomes of the greatest consequence to know whether they receive infective micro-organisms from more distant sources. The result of these experiments is, that as a rule the water entering tube-wells is absolutely free from micro-organisms. But it still appears that a growth of micro-organisms takes place in the tube-wells, and a consideration of all the circumstances points to the growth of a pellicle of micro-organisms clinging to the sides of the tube. Hence one way of disinfecting the tube-wells is to brush them clear, and then completely pump off the turbid liquid. In cases where this proceeding proves inadequate, a concentrated solution of carbolic acid and sulphuric acid dropped into the tube, and left for a day or two, will complete the disinfection. Disinfection of these wells by lime is quite unsuitable, as it forms a mortar, and seriously interferes with the entrance of water.

The ordinary pot-well, on the other hand, is incapable of disinfection, and Dr. Fränkel agrees with Plagge that it is a hygienic monstrosity. Considering how common pot-wells are in our country districts, these are results which require careful attention.

The tube-wells, which Dr. Fränkel found to furnish water freer from germs, were sunk in a part of Berlin which, at first sight, would seem to expose them to great risk of infection. In reality, however, after a time a thick pellicle forms in old soils, which effectually precludes the passage of germs beyond a certain depth. Two sources of error have here to be guarded against. In the first place, the pellicle or its equivalent, which prevents the passage of germs downward, may be broken through at some point, or the corresponding ground may be constituted in parts of pebbles or gravel, which allows of the transmission of micro-organisms; and, in the second place, the chemical constitution of the water passing away from these old soils will very likely be such as to lead to a free growth of micro-organisms, as was the case in these experiments. It is practically impossible to exclude all access of micro-organisms to the well.

The chief conclusions to be drawn from Dr. Fränkel's experiments are, that Abyssinian or tube-wells are infinitely preferable to the ordinary pot-well, and that a disinfection of the tube in the manner indicated above is, as a rule, all that is necessary to make the water quite free from micro-organisms.

PHTHISIS IN ARMIES. — According to Dr. R. Schmidt of Munich, who has collected a mass of material connected with the statistics of phthisis, the number of soldiers who suffer from phthisis in the German army (excluding Saxony and Bavaria) is, says the London *Lancet*, 3 per 1,000; and the number of deaths from this cause, 0.9 per 1,000. In the Austrian army the numbers per 1,000 are 6.4 and 2.2 respectively; in the Italian army, 4.3 and 2.9. In the Russian and French armies, only the number of fatal cases is given, which is 12.5 per 1,000 in the former, and 2.2 per 1,000 in the latter case. In the English army, which on account of long service and foreign service is not to be compared with continental armies, the number of cases per 1,000 is 11.8, and the number of deaths 6.2. At first sight, one would expect, that, as only men who are found on examination to be healthy are taken as recruits, the number of cases of phthisis ought to be very low. As a matter of fact, however, it is, in Bavaria at least, higher than among civilians of similar age and sex. The reason of this remarkable circumstance is discussed in an article in the *Koenigsberger Zeitung*. How important a factor direct contagion is, the experiments of Cornet show, as well as the fact that hospital attendants fall easy victims to the disease; but Dr. Schmidt believes that the most frequent explanation is that recruits come into the army with a latent tendency to phthisis, and that the conditions under which they are then suddenly placed cause a more or less rapid development of the disease. The knapsack, for instance, appears to have a decidedly prejudicial effect, as is shown by the fact that those regiments which do not wear it present a lower phthisis mortality than those in which it is worn. Again, the diet and the whole regimen of the soldier are, according to Dr. Schmidt, calculated to lessen the power of resistance to the development of phthisis: consequently it is not to be wondered at that a larger proportion of soldiers than of civilians develop it.

A GOOD WORD FOR THE GYPSIES. — There is so great a prejudice against this race, that it is with pleasure that we record testimony in favor of what is claimed to be one of their good points. Every one is familiar with the dusty and dishevelled condition of the modern tramp; but it is claimed by Mr. E. L. Wakeman, in an article in the *Annals of Hygiene* for May, 1889, that the gypsies cannot be accused of uncleanliness. He has made a close study of the race in many lands for more than a quarter of a century, and says that he has never known a physically unclean gypsy, the only exceptions being a few individuals in the towns of southern Hungary and in Havana. The gypsy-camps are always pitched near a brook or stream, and the morning bath is as certain as the morning itself. The cleansing is not of the skin alone; but the garments are constantly washed, and the straw bedding is likewise daily spread out for a sunning and airing.

THE UTILIZATION OF GARBAGE. — According to the *Bulletin of the Rhode Island State Board of Health* for May, the city of Milwaukee will soon abandon the cremation of garbage, which it was among the first of the Western cities to adopt and advocate. It is proposed to substitute a dry process in the place of combustion. A company is at work with a new method which converts cities' refuse into articles more or less salable. The garbage is made to pass through a series of mechanical driers, and in the course of ten hours becomes a brown powder. The oil is pressed out or drawn off, and the residue can be sold as a fertilizer.

CREMATION IN FRANCE. — The Municipal Council of Paris has appropriated 383,299 francs for the erection of a crematory in that city, and has levied a "cremation tax" to defray the expenses of the incineration of the bodies of those whose friends cannot afford to pay for it.

PASTEUR INSTITUTES. — According to the Rome correspondent of the London *Daily News*, the Municipal Council of Rome has decided to devote a sum of money to the formation of a Pasteur institute. Confidence in M. Pasteur's treatment of hydrophobia is increasing in Italy, as is shown by the fact that little by little all the principal towns are providing buildings for the treatment of the disease by inoculation.