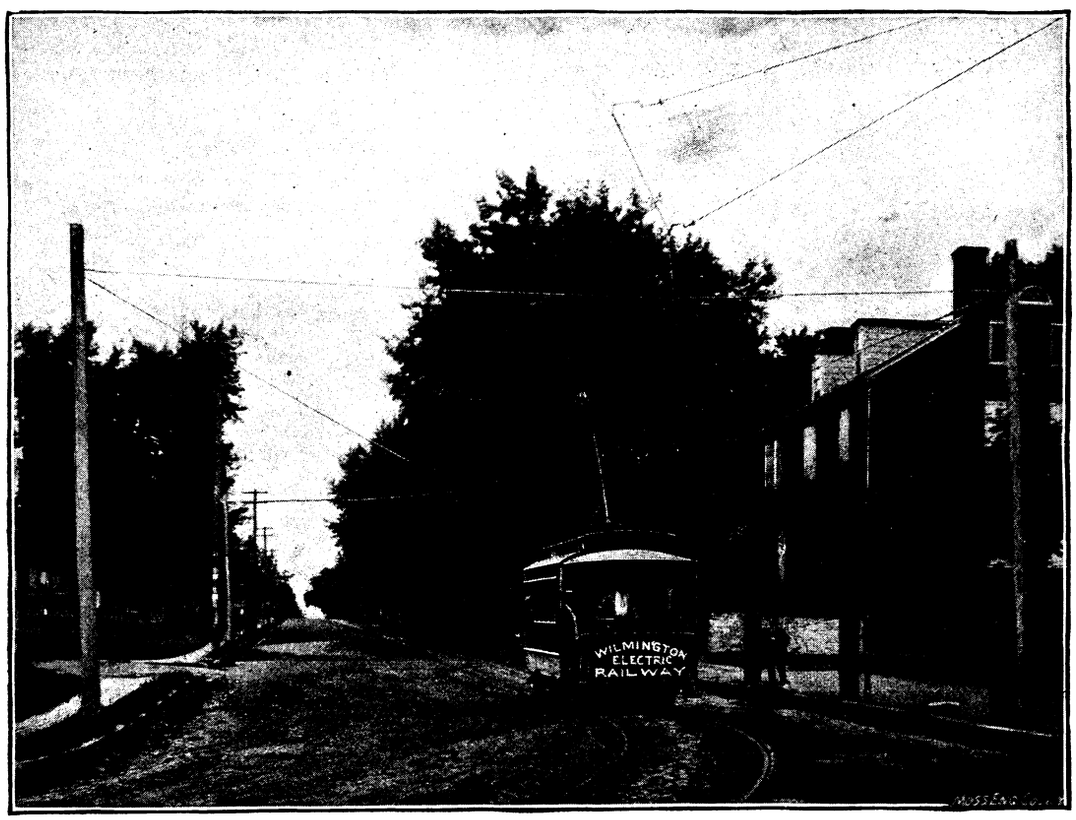
the drier by means of a fan, so that a partial vacuum is constantly maintained in the drier; and this steam is carried into the lower part of a chamber, where, as it rises, it meets with a series of sprays or sheets of water which fall from overlapping shelves. In this way the steam which comes from the drier is condensed, and flows away as an inoffensive rill, having no more odor than the condensed water of an ordinary steam-radiator. In this process of drying, sixty per cent of the weight of the garbage is removed.

"The second stage of the operation consists in putting the dried garbage into an apparatus called an extractor, where the grease and oil which it contains is thoroughly removed by benzine used in an automatic way, so that it is used over and over again without loss. The present plant in Buffalo disposes of about 30,000 pounds of garbage daily. From this, about 1,800 pounds of grease is recovered; and the remainder of the dried and pulverized garbage, amounting to a daily average of about 12,000 pounds, is quite rich in ammonia, phosphates, and the other constituents which are valuable in fertilizers, and it is readily sold to the manufacturers of fertilizers. This dried product is screened, and what is removed is sorted out, and nearly all of it finds a market. The old rubber brings a good price; the rags are sold; the bones are valuable as a source of bone-meal; the waste tin, brass, and other fragments of metal, all readily sell; and only a small residuum, such as corncobs, pieces of crockery ware, etc., are used as filling. According to the showing of those who are pecuniarily interested, and of the health authorities at Buffalo, a business of this kind pays a good percentage on investment, and an examination of the works must convince any person that a sanitary triumph has been achieved. Upon the first introduction of the garbage to this treatment, it is subjected to a temperature which of course immediately disinfects it, if any of it should be infectious; and from none of the processes through which the garbage is put is there the least odor which is suggestive of danger; and, though much benzine is used in the second stage of the treatment, no smell of it whatever is detected anywhere in the establishment during its use."

SPRAGUE ELECTRIC ROADS AT READING AND WILMINGTON.

IN this issue of our paper we present views of two recent electric roads, taken from photographs, — one in Pennsylvania, and the other in Delaware.

One of these represents one of the cars upon the Wilmington, Del., City Railway. This railway, which was installed by the Sprague Electric Railway and Motor Company of New York, has been in operation for about eight or nine months; and the president and the directors of this road have felt so very well pleased with its operation, that they have ordered an additional number of cars. The railroad is two miles long, using the regular Sprague overhead system of wiring, with small working conductor three-sixteenths of an inch in diameter, which, according to the Sprague system of electric railways, is the only wire suspended over the street.



SPRAGUE ELECTRIC ROAD AT WILMINGTON, DEL.

Our other view gives a representation of two electric cars on the East Reading and Black Bear Railway, passing each other upon a turnout. This road has recently been installed by the Sprague Electric Railway and Motor Company, and has been in operation only about two months. The road has been operating very successfully ever since its installation, and has been carrying a large number of passengers.

FOGS.

AT the anniversary meeting of the Royal Meteorological Society, held on the 16th of January, Dr. W. Marcet, president of the society, delivered an address on "Fogs," which he illustrated by a number of interesting lantern-slides. Fogs and clouds are one and the same thing. A cloud is a fog when entered into; and a fog seen from a distance, suspended in the air, becomes a cloud. After describing the various kinds of fog, — e.g., river, sea, Newfoundland, radiation, town, etc., fogs, — Dr. Marcet referred to London fogs. Dr. Tyndall has accounted for them by assuming each particle of

condensed vapor to be covered by coal-smoke. These fogs usually accompany a high barometer, and are frequently dry in their character.

It is a well-known fact that cold air on the tops of hills, being heavier than the air below, slides down the slopes; so that the lower parts of hillsides are actually colder than the plains at some distance from the hills. Now, London, in the Thames valley, is surrounded by hills, — to the north, Highgate, Hampstead, and Harrow; in a westerly direction, Putney and Wimbleton; and in a more southerly direction, Clapham and Sydenham. The air is colder on these hills than in London, with its millions of inhabitants, its coal-fires and factories: hence it is heavier, and will have a great tendency to slide down the hills towards the town and the river. Should the air in town be on the point of saturation, and the cold air from above saturated with vapor, it is obvious that the increased cold from above will produce a precipitation of moisture, and it will come to pass that a fog is produced. If the hill-tops be not only colder than the air below, but enveloped in a fog, it stands to reason that the fog below will be all the denser, and especially in the neighborhood of water, such as the river Thames, and the ornamental waters in the parks.

TURNOUT ON THE SPRAGUE ELECTRIC ROAD AT READING, PENN.

THE ROSE POLYTECHNIC INSTITUTE.

THE Rose Polytechnic Institute is one of three or four schools in the United States which are especially devoted to the education of civil, mechanical, and electrical engineers. It owes its existence to the generosity of the late Chauncey Rose of Terre Haute, Ind., who bequeathed something more than half a million of dollars for its establishment and support. It is one of the youngest of the technological schools of the country, having been opened in the year 1883. One of the peculiar features of the institute is the thorough and extensive "shop-practice" of the students in mechanical engineering. Not only are machines designed, and working drawings made, but actual construction is required, and is made possible in extensive workshops, the equipment of which has cost over forty thousand dollars. In electricity, in addition to the instruments and appliances usually found in electrical laboratories, it possesses the most complete and accurately adjusted series of Sir William Thomson's electrical balances in this country; and there is a completely equipped testing-room for the purpose of calibrating and standardizing commercial instruments. Another important feature is the restriction placed upon the number of students admitted. The plan of the institute is to limit the attendance to such an extent as to realize the great benefits arising from small classes. Ample facilities will therefore be afforded to all who undertake its courses of study. Those who are contemplating preparation for either mechanical, civil, or electrical engineering, will do well to consult the catalogue of the Rose Polytechnic Institute.

THE DERELICT AMERICAN SCHOONER "W. L. WHITE."

MR. EVERETT HAYDEN, meteorologist to the Hydrographic Office, has compiled the reports on the history of the derelict schooner "W. L. White," and the results of his investigation have been published on a supplement to the monthly "Pilot Chart," a portion of which is reproduced here. Besides showing the track of the "W. L. White," those of the derelict barks "Telemach" and "Vinocuzo Perrotta" have been plotted on the map.

Mr. Hayden reports that a telegram dated Stornoway, Hebrides Islands, Scotland, Jan. 23, 1889, marks the termination of the remarkable cruise of this derelict vessel. Abandoned off Delaware Bay during the great blizzard, March 13, 1888, she has now completed her long and erratic transatlantic voyage, and lies stranded upon Haskeir Island, one of the many little rocky islands of the Hebrides, in latitude 57° 42′ north, longitude 7° 42′ west. The track of this vessel, as plotted on the "Pilot Chart" from month to month during this long interval, has been of constantly increasing