

Paragrams.

More than 80,000 gas and oil engines are now said to be at work in the United Kingdom.

An improved chain-grate stoker is now being manufactured by Messrs. E. Bennis & Co., Ltd., of Bolton, England.

The General Electric Co., of Schenectady, U.S.A., had last year a turnover of £8,000,000. Eleven thousand men were employed on a floor space of 2,000,000 sq. feet.

The Premier says it is the intention of the Government to have competitive displays at the New Zealand Exhibition. He hopes each provincial district will exert itself to do justice to the scheme. A similar procedure was followed at the St. Louis Exhibition, and proved one of the most attractive features there.

So pleased is the Auckland City Council at the work being accomplished by the Straker steam waggon that an order for two more vehicles has been sanctioned. The steam-waggon in use at Auckland is similar to the one that is being imported by Mr. J. J. K. Powell, of Wellington, for the cartage of road metal, etc.

The continuous run of over 3962 hours of the 600-h.p. Westinghouse-Parsons steam turbine at the St. Louis Exposition Palace of Machinery is without a parallel in turbine history. Not the least remarkable part of the performance was the maintenance, under load, of a speed of 3600 revolutions per minute throughout the whole period.

Our railway authorities will doubtless watch with interest the innovation being made by one of the United States railway companies in substituting oil for coal in 780 locomotive engines on a system comprising upwards of 9000 miles of road. Using oil the cost is said to be only one-third the cost of coal. When oil is workable in New Zealand, as it may soon be, there will be found innumerable uses for it.

The most important seat of electrical industries in South America is Buenos Aires, in the Argentine Republic. This progressive capital has six large traction, lighting, and power companies, with stations located in the suburbs. Current is generated and distributed at voltages ranging from 1,000 to 6,000, and is stepped-down as desired by transformers. The cost of the power varies from 2 to 14 cents per kilowatt-hour.

The General Electric Company of the United States has united with the Tokio Electric Company, of Tokio, Japan, and will hereafter manufacture Edison incandescent lamps and similar articles in Japan, instead of importing them from the United States. Considerable American capital will be invested in the enterprise, but the local management of the plant will remain in the hands of the Japanese interests.

On the subject of wireless telegraphy, the Postmaster-general said at the conclusion of the Session that the Government already had an offer but they would require Australia to co-operate and pay half the cost. They would also require to instal the system on intercolonial boats. He intended to enter into communication with the Federal Government on the subject. The offer already made was for less than £25,000, for a complete service.

The revenue of the Cook and Northern Islands for the year ending the 31st March, 1905, was

£8186, and the expenditure £5093. The revenue and expenditure of Niue for the same period were respectively £1587 and £605. The value of the exports from the Cook and Northern Islands for the year 1904 was £38,248, and of the imports £33,399, the values for Niue being £7016 and £6707 respectively. The Minister states that everything is moving along steadily and satisfactorily.

An apparatus has been devised in Germany for electrically indicating the presence and extent of shoals of fish. It comprises a water-tight microphone, connected with a battery and telephone receiver. The microphone is submerged in the water, and so long as it hangs untouched no sound is heard in the receiver. When fish strike against the instrument, however, their presence is revealed by tappings. The length of the rope supporting the microphone gives the exact depth of the shoal.

Nobody except themselves, probably, are surprised that the Commissioners appointed by the New South Wales Government Railways to ascertain if their locomotive engines could not be made cheaper on the spot than the imported price should have been compelled in all honesty to admit that any such proposal would be absolutely chimerical. One New South Wales firm offered to construct 120 locomotives, of certain specified types, for the sum of £643,200, or, deducting various charges returned by the Federal Customs, £632,120, or £5,260 each. This is £1,236 per engine higher than the tender received from an American company for the building of only twenty locomotives. If 120 locomotives were required, the cost per engine would be considerably lower. If the offer of the

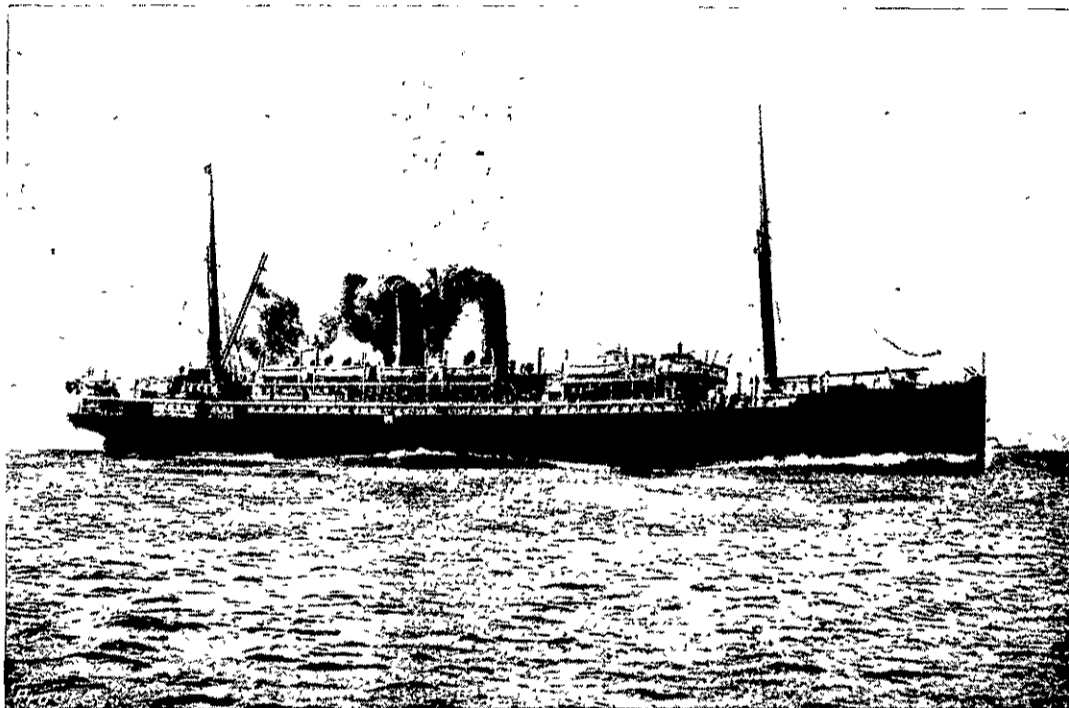
the power and running gear that represent so large an amount in the tramway undertakings. The building of the cars has been successfully accomplished, giving work and finish equal to the imported article. The splendid assets that we have in the lakes and rivers, if "harnessed," would result in incalculable benefits to the community, and many industries that are menaced by low prices would, if cheap power obtained, be profitably carried on.

During the financial year there are to be built in the New Zealand railway workshops 60 carriages, 299 waggons, and 9 brake vans, the whole equivalent to 508 ordinary four-wheeled waggons. The construction of these equipments will afford employment to a considerable amount of skilled labour, and when completed, materially assist the transport of passengers and goods which is so urgently required in connection with the colony's railways. The continued prosperity of the building trade in this district is a matter for congratulation, and there is no reason to fear any marked decrease in respect of that important branch of industry.

At Trentham rifle range a test was recently made, by a party of defence officers, of Major Beal's patent sight and range finder. The Commandant of the forces, General Babington, and Colonel Webb, officer commanding the district, were amongst those present. The trial was made in an extremely heavy right wind, as a result of which the shots fired did not all hit the target, but they found earth at points sufficiently close to the point aimed at to demonstrate that sighting and range-finding fittings both fill their purposes. A 6ft x 12ft target was used, and the distances fired over ranged from 1700 yards to 600 yards.

An interesting hydro-electric power plant has recently been installed at the De Sabla power station, Butte Creek, California. The water-wheel develops 8,000 h.p. from a single 6-in. jet of water issuing from a nozzle at a velocity of 20,000ft. per minute, the electric power generated being conveyed 50 miles to the Colgate power house, and from thence to other centres, in some cases over a distance of 345 miles.

PEAT is to be freely used on Swedish railways, the Board of State Railways having given instructions that it is to be employed whenever possible without incurring loss.



THE NEW TURBINE STEAMER "MAHENO."
(For description see page 29.)

New South Wales firm were accepted, the Commissioners state that the 120 locomotives would cost £148,550 more than those of the American company, at current rates.

Alongside the fact that electric lifts are being introduced in New Zealand must be placed another fact, viz., that they are being abandoned elsewhere. The latest advices from New York announce that twenty-seven electric elevators installed at the Waldorf Astoria Hotel, New York, are being removed, and being replaced by hydraulic elevators. This is due to the large annual cost of renewals, and maintenance of the electrical machinery. It is also an ominous indication that Messrs. John Wanamaker & Company, the huge American Universal Providers, are now having no less than 110 hydraulic elevators installed at their various stores. The total cost of these amounted to over £250,000. In Australia, too, the same tendency is evident, for Anthony Hordern & Sons have recently equipped their Sydney warehouse with twenty-one hydraulic elevators.

To keep the important electric tramways that we have installed in our chief cities in a state of efficiency will entail a considerable amount of work, and it is desirable that the manufacturers should adjust the capabilities of their workshops to carry out the many repairs that will be necessary and to further enlarge their operations so that in the near future they will be enabled to manufacture

Electric Tram Dangers.

Every one in communities where electric trams are running should carefully read the following.—

A tram trolley wire breaking at a pressure of 500 volts should not be grasped or pulled aside with the naked hand. The hand should be insulated with dry cloth or coat, or preferably with india-rubber gloves, which are usually provided in cars for this purpose. The best thing to do is to keep the trolley wire in contact with the earth by pressing with the foot or with a walking stick, so as to allow the current to pass back to the generating station, where an automatic switch will fall and break off the current. On no account should the wire be lifted.

If a trolley wire fall on the hand-rails of a car, an automatic switch should fall at the station and cut off the current. Whether it does so or not, no passenger should take hold of any metal part of the car on which this accident has happened.

It has often happened that a man has taken hold of a "live" wire and has been unable to release his grasp. What should be done is to earth the wire, when the pressure is much reduced, and the injured person can be detached from the wire.

To some of the accidents above-mentioned the patient will appear to have succumbed from electric shock. But the first-aid student should be able to recognise this condition and apply the proper treatment.