

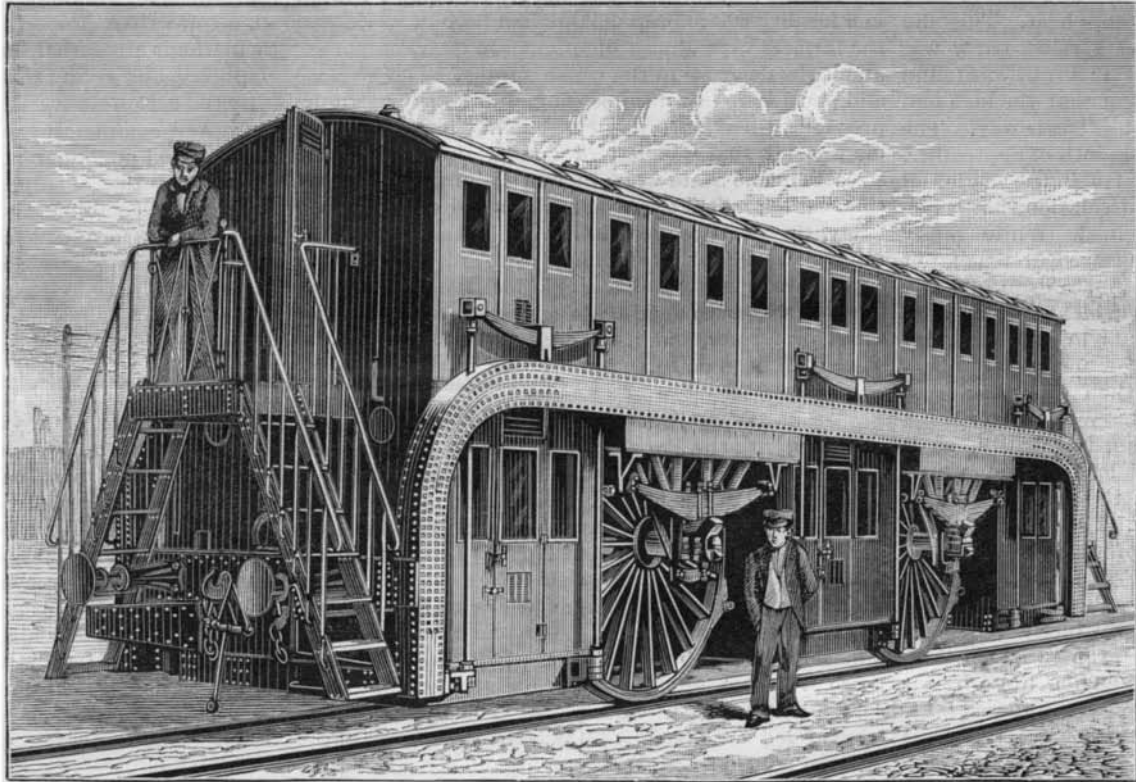
In case of an epidemic, in fact, there would be no establishment of the kind at the disposal of the capital's inhabitants, and, as for the hospital stoves, they are far from offering the proper guarantees that they will operate well, judging from the numerous negative experiments that have been made with them. Now, it is of importance that the disinfecting of soiled and contaminated articles shall not be left at the disposal of the public, for the operation is a nice one and requires apparatus that has been constructed with both a technical and scientific understanding of the question. In 1884, Mr. Siegfried, then Mayor of Havre, prompted by the example of England, decided that every time a case of cholera should be reported to the authorities, two cast iron closed vessels should be carried to the dwelling of the patient, and that in the smaller of these the evacuations should be deposited, and in the larger the soiled linen should be placed. Twice a day these vessels were carried by a wagon to a disinfecting station, and two empty vessels were left in their stead. This was a very wise measure, and one that should be adopted at all times and for all contagious diseases.

Messrs. Geneste and Herscher's disinfecting stoves are now in use in the Hyera Islands, at Port Cros and Bagau, as well as at Sidi Ferruch, in Algeria, where they are permitting the baggage and clothing of the troops coming from Tonkin to be very quickly purged; moreover, the state transports are soon to be provided with them, in order that disinfection may be effected on board during the trip. Profs. Brouardel and Proust have rightly got the government to adopt arrangements by the terms of which every large ship on which, under the guarantee of a duly commissioned physician on board, precautions of this nature have been taken, shall be admitted to practice after a simple inspection, and when no case of suspicious sickness has been found. Besides, such disinfecting arrangements would allow of passengers being detained in lazarettes but a few hours only, without danger.

It is often of importance to destroy the micro-organisms which may have settled upon the walls of a house or the sides of a car, ship, stable, and so forth, and which would render a long stay in such structures dangerous. The vapors of certain chemical compounds are here again usually inefficacious, and cause unsightly defacements that are costly to remove. It would be necessary to have a means of placing the walls of rooms and the furniture that the latter contain under the same conditions as the objects purged in a steam stove. But steam, by condensing, soon loses its temperature at the extremity of a conduit unless it can be superheated on its passage from the boiler to the nozzle, and this has led Dr. Redard to devise a method by which this can be done on cars; and Messrs. Geneste and Herscher, taking up the subject, have invented an apparatus for the more general application of the Doctor's process. Let us suppose a movable engine or a boiler placed in the yard of the house, or near the car or other object to be disinfected. A pipe leads the steam from the boiler into a peculiar superheater (Fig. 2) consisting of several transportable parts, from whence it enters a series of conduits analogous to those used by street sprinklers. A perforated tube placed at right angles with the extremity of the conduit allows the operator to project steam of 110° C., with the greatest ease, all along the surface to be disinfected.

Finally, Messrs. Geneste and Herscher's disinfecting apparatus are completed by a stove for sterilizing the spittle of consumptives. This (Fig. 3) consists of two

rectangular copper boxes placed upon a brazier or a gas or charcoal stove, according to circumstances. One of these contains a saline solution whose boiling point may be higher than the temperature necessary to destroy the tuberculous bacillus, while the other contains an appropriate lixivium designed for disintegrating the glutinous envelope of the spittle and for washing spit-



ESTRADE'S PASSENGER CAR.

toons. These latter are placed in a metallic cage which is passed into the boxes alternately. After an ebullition of a few minutes, the disinfection and cleansing are complete.—*La Nature*.

Diseased Eggs.

Dr. D. F. Wright, in the *Bulletin of the Tennessee State Board of Health*, says that soon after it became the practice to transport eggs in large quantities and to long distances by railway trains, it was found on their arrival that adhesion had taken place between the membranes of the yolk and those of the shell, so that the yolk could not be turned out of the shell unbroken. On examination by experienced pathologists, this was found to be the result of true inflammation; the material of the adhesion was found to be precisely the same as that of the plastic exudation in inflammation of the lungs or bowels. It will at first seem absurd to speak of inflammation in such an unformed mass as an

arrangement recalls that of the Vidard type, with central passageway, which is met with on a few lines in the suburbs.

Mr. Estrade's cars (see accompanying engraving from *La Nature*) are mounted in the same way.

The adoption of wheels of so large a diameter has led to the necessity of giving these cars quite a peculiar form, and one very different from that of the ordinary type.

As it was necessary to raise the flooring above the axles, an endeavor has been made to utilize the space left free between the latter by the adoption of a two-story car. The upper of these stories is on a level with the top of the wheels, which are inside of the frame. In the lower portion we thus have three distinct compartments, isolated by the wheels and prolonged toward the axles by narrow passages that may be used for water closets or for the storage of luggage, and, in the upper portion, a single saloon with central passage, to which access is had by stairways at the ends of the car. In certain respects, this general ar-

All the vehicles of the same train will be connected at the level of the central passage by coupled platforms provided with hand rails, so that access may be had to all parts of the train, as in American railway practice. The car thus arranged, with its two stories, contains 54 first-class seats in a total length of 43½ feet between buffers.

The double mode of suspension of the body forms one of the most interesting peculiarities of the car. The two axles, which are 16 feet apart, support, through the intermedium of elliptic springs resting upon the grease boxes, a large iron girder, which runs the entire length of the car, and is curved toward the ground at the extremities.

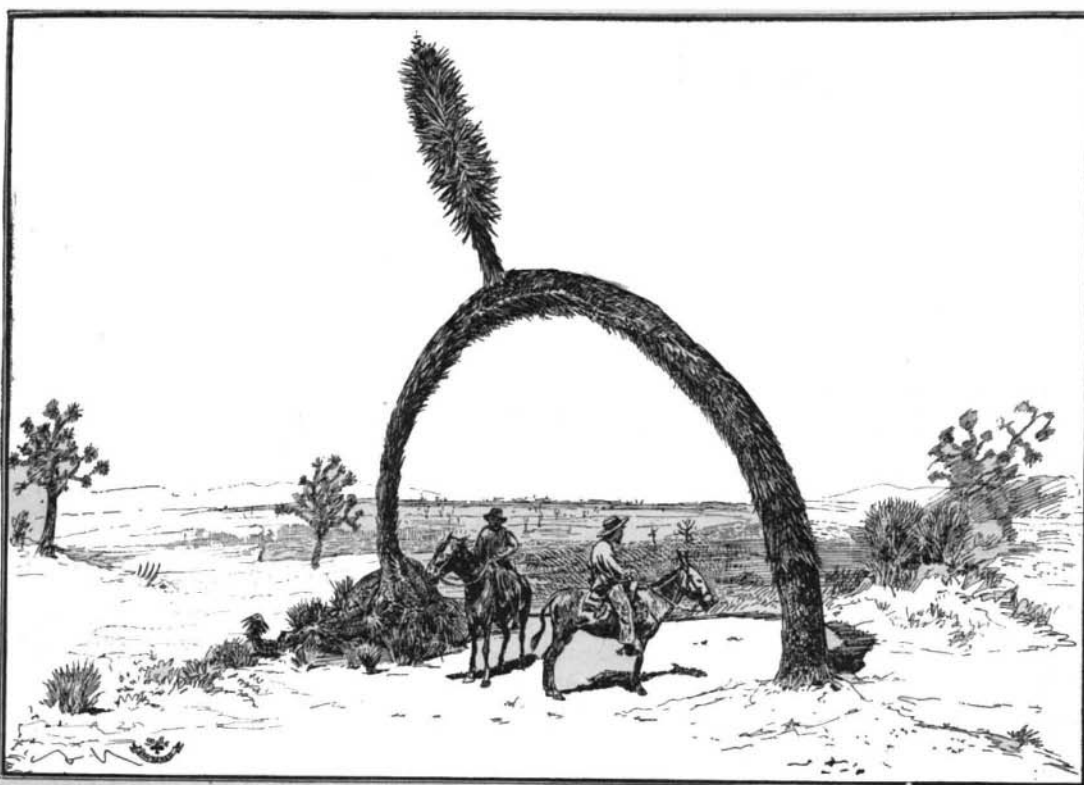
Each of these girders carries three elliptic springs, which support the body of the car through suspension rods connected with a lower frame.

The increase in the size of the wheels, which are 8¼ feet in diameter, will undoubtedly have the effect of reducing the tractive stress; but, with Mr. Roy, who made a judicious observation on this subject in a discussion of the Society of Civil Engineers, we may ask whether such reduction will be very perceptible. It will likely not exceed 1½ kilogramme per ton hauled, that is to say, it will reach nearly a tenth of the mean stress that the locomotive ought to develop during a normal run over an ordinary line, taking into consideration the resistance of the air, of curves, of gradients, and, in a word, of all resistances that are independent of the diameter of the wheels. However this may be, the experiment is, in every respect, of the most remarkable character, and we shall watch it with the greatest interest.

THE VALUE OF A DESERT TREE.

In approaching the to be State of Southern California from the east, a region is passed that seems arranged by contrast to intensify the beauties beyond. This tract is best known as the Mojave desert, and an equally sterile region lies to the southeast in Arizona.

Before the days of the railroad, these places had to be crossed by horses and wagons; and as in some localities a temperature of 130° has been recorded, that to pass it is a test of human endurance may well be



REMARKABLE YUCCA TREE.

egg; but this arises from our forgetting that, structureless and unorganized as it seems, the egg, even when fresh laid, is a living being, and capable of disease from external causes. The cause of this inflammation is undoubtedly the shaking and friction from the motion of the cars, and it cannot but render the egg more or less unhealthy, as the products of inflammation can never be as salutary in food as those of healthy growth.