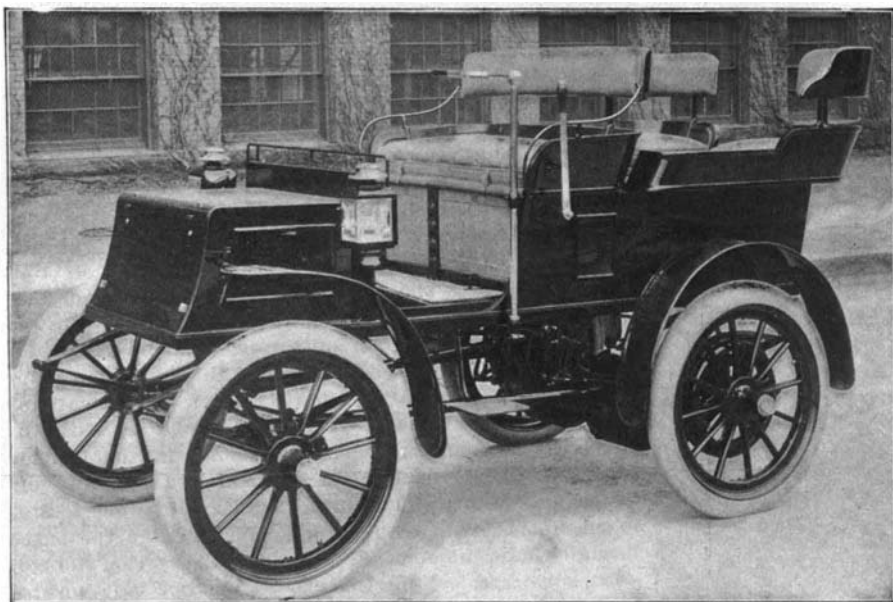


Automobile Department

NOVEL ELECTRIC VEHICLES.

THE COLUMBIA ELECTRIC TONNEAU.

The electric tonneau here illustrated is one of the Electric Vehicle Company's latest machines. Its four wheels are all of the same size. The body of the vehicle is hung low, making it more accessible to the passengers. At the same time the center of gravity is thus brought nearer to the ground, with the result of increased safety in rapid travel, especially when rounding curves. The operator's seat is broad enough to accommodate two persons. The standard machine is provided with a tonneau body. This is detachable, and in its place may be substituted either a broad surrey seat holding two passengers, a rumble seat for an attendant, or a hamper for luggage. The vehicle is driven by a double motor yielding $3\frac{1}{2}$ horse power. The controller gives three speeds ahead and two backward. In order to give a clear space in front of the operator's seat the steering rod and controller handle are placed on the left-hand side of the machine. The battery is divided into two equal parts, one of which is situated over the front axle and the other over the rear axle. The weight is thus equalized and the hill-climbing capacity of the vehicle increased. The weight of the machine is 2,490 pounds. It has a radius of 40 miles per charge, and develops a maximum speed of 14 miles per hour.



THE COLUMBIA ELECTRIC TONNEAU.

THE ELECTRIC VEHICLE EQUIPMENT COMPANY'S AMBULANCE.

The above named company's specialty is the building of electric vehicles for particular purposes. The Hall Safe Company's truck, which is seen frequently on New York streets, rapidly hoisting safes to any story of a building desired by means of a special electric motor, is one of the products of this company. The company also built the ambulance herewith illustrated especially for the new Lying-in Hospital of the City of New York, according to specifications furnished it by the hospital authorities.

As will be seen from the illustration, the distinctive feature of the ambulance is the method of opening it for placing the patient within. This is done by letting down and raising one each of the two side panels, when the patient, who is placed on a stretcher, can easily be slid in. This novel and convenient arrangement was devised by Dr. James W. Markoe, surgeon in chief of the hospital. The body of the ambulance is sufficiently wide to allow a passage-way beside the patient for the physician, who enters through a narrow door at the front. The ambulance is lighted by small windows in the top in the daytime, and by a cluster of electric lights at night. It is propelled by the usual 40-cell storage battery, and is kept in a small room specially designed for the purpose and equipped with a suitable charging board. During the three months it has been in service it has given excellent satisfaction.

David Wolfe Bishop, one of the most prominent members of the Automobile Club of America, will enter the Paris-Vienna automobile race. Besides Mr. Bishop, America will send to the Paris-Vienna race William K. Vanderbilt, Jr., Foxhall P. Keene and A. C. Bostwick. Fournier has entered for both the Paris-Bordeaux and the Paris-Vienna races.

An electric automobile mail delivery was recently inaugurated in Minneapolis, and is said to have proven itself in every way efficient.

FLEXIBILITY OF THE FRAME.

For the purpose of skimming along over the asphalted streets of a large city, the ordinary type of frame answers all ordinary purposes, but when it comes to demanding service over the uncertain roads of the country it is a different proposition. Automobile frames for light vehicles as at present constructed are not always designed for the severe requirements of some of our rough country roads. The task of pulling in and out of deep ruts requires exacting conditions.

The Dayton running gear, which is shown in the accompanying cuts, has the faculty of suiting itself to all the inequalities of an uneven road. Our illustration shows the frame passing over a 21-inch obstruction without any serious difficulty.

The differential gear and double-acting band-brake are inclosed in a dustproof case at the center of the rear axle. Sockets at each side of the gear case contain ball-bearings, each consisting of 11 $\frac{3}{4}$ inch steel balls and hardened, ground bearings adjustable to wear. The tubes entering these sockets are two inches in diameter and cover the rear axle. All the hubs contain roller bearings of approved construction, but these may be substituted by American roller bearings. The tubes at the front of the frame terminate in lugs in which L-shaped pivot-axes find bearing. These axles are connected by cranks to the steering rod which can be operated either from the center or the side of the machine.

The front and rear parts are connected by reaches terminating in standards between the tubes. The reaches are fastened to the standards by ball and socket joints, and pass through sleeves in supporting braces which also have ball and socket connections with the frame. Clips are provided at the rear and on the front of the frames on which flat springs of the usual size may be supported.

Besides the strength and flexibility noted

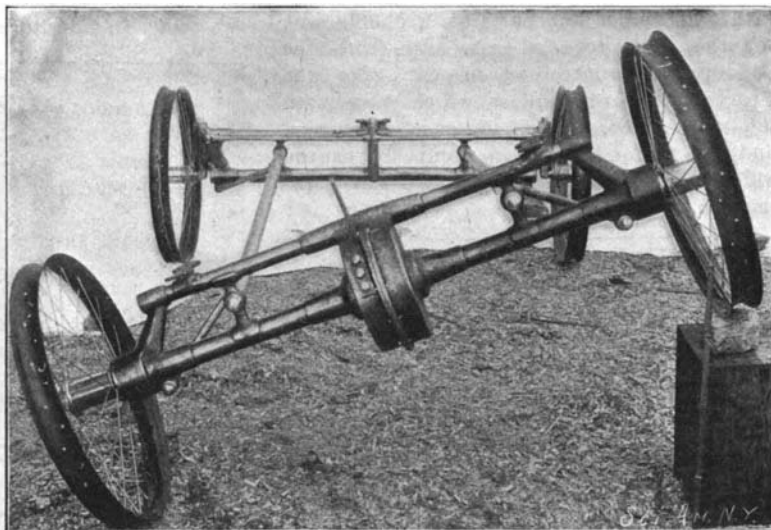
above, adapting this frame for hard every-day use on rough roads, this frame is said to be adaptable to the needs of the automobile trade in the following respects: The gear case can either be placed in the center, as shown in the cut, or to either side desired.

The reaches being separate and independent of the frame tubing can be placed near together or far apart to suit the requirements of the case, and can be made of any required length. The spring clips can be placed any distance apart, permitting the use of two springs front and rear, or lugs can be made projecting upward from the end of the tube frames, to which C-springs can be attached. All of these changes can be made without changing the frame in the least.

The cable street railways of Edinburgh, Scotland, are said to be a financial failure. The cable roads were opened in 1897, or at a time when it was well known that this system was obsolete. The original estimate was \$3,893,200; the cost, \$5,839,000; and work is not yet complete. The work is faulty and has already caused considerable changes.

The Automobile Savings Bank.

American bankers learned a long time ago that savings deposits were to be had for the seeking, and several methods of seeking them, particularly by distributing small boxes which can only be opened at the

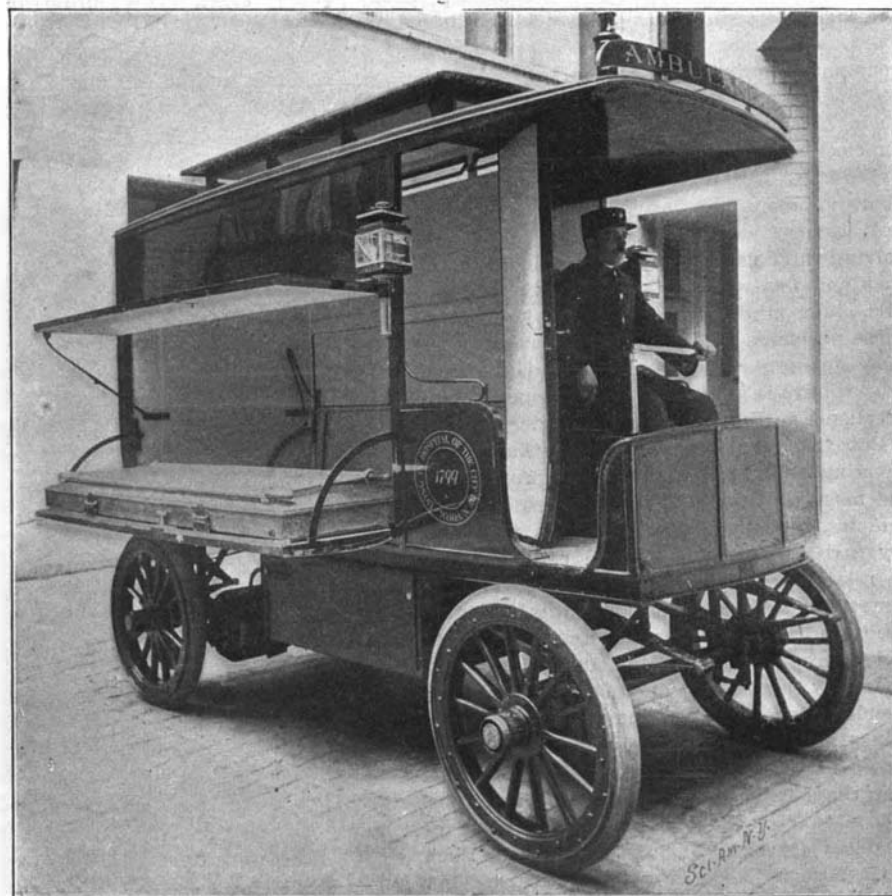


A NOVEL TYPE OF RUNNING GEAR WITH MAXIMUM OF FLEXIBILITY.

banking office, have been used successfully. French bankers have just taken several strides in advance by introducing the automobile savings bank, which tours the country districts at stated intervals and gathers in the savings of the thrifty peasants.

An electric motor car has been built for the purpose. It provides seats for a cashier and two clerks, arranged about a revolving table. There are shelves on the walls for the bank books, and a strong box is built into the body of the car. The officials are from the Mezieres treasury administration, and the cashier has power to receive deposits of any amount. As there is no desire on the part of the authorities to facilitate the withdrawal of funds, the peasant is forced to come to the central bank when he needs money. The automobile bank began its rounds some weeks ago and has met with a most favorable reception.

Under date Feb. 26, 1902, the State Department has received from the French embassy, Washington, notice of an international competition of motors and apparatus using alcohol for generating motive power, light and heat, to be held in Paris in May, 1902. This competition will include practical tests, after which medals and objects of art will be awarded, and it will be followed by a public exposition from May 24 to June 1, 1902. The competition includes: (1) Automobile boats. (2) Lighting and heating apparatus. (3) Stationary and portable motors and motor groups. Requests of exhibitors not taking part in the competition will be received until April 15, 1902. The exhibit will include, besides motors and apparatus using alcohol, apparatus producing industrial alcohol, receptacles for storing and transporting this product, apparatus worked by exposed motors, and compounds of alcohol. Sites for exhibition are free.



THE ELECTRIC AMBULANCE OF THE LYING-IN HOSPITAL.