

rescued by a search party seeking a lost ranchman, whose body was later found within a mile of the Reoites' camp.

The brief summary given above of cars which have crossed the continent would not be complete without mention of the trip made in 1904 by Mr. Charles T. Glidden in his English Napier. This machine ran to St. Louis in the tour to the Exposition, and thence to Minneapolis, Minn., where flanged wheels were placed upon it, and it completed the trip to the coast on the railroad track. For pleasure purposes this method of making the trip would seem to be ideal. But from a sporting and machine-racking point of view, the journey as accomplished by the six American cars was immeasurably superior. The record-holder, the air-cooled Franklin, is the only car fitted with a four-cylinder vertical motor, as well as the only air-cooled automobile that has ever made the trip. The other machines, also, are all of typical American construction, having horizontal single- and double-opposed-cylinder engines. Of the six successful cars, four are light runabouts, and three of these are of the same make. The American light car has thus proved itself the stanchest and most speedy of machines in a test such as has never been undertaken by European makers. Not only this, but the trip has also been made twice by motorcyclists—first in 1903 by George A. Wyman on a Yale-California machine, and second, last fall by W. C. Chadeayne on a Thomas Auto-Bi. The time of the former was 48½ days, and that of the latter 47 days, 11 hours, and 35 minutes.

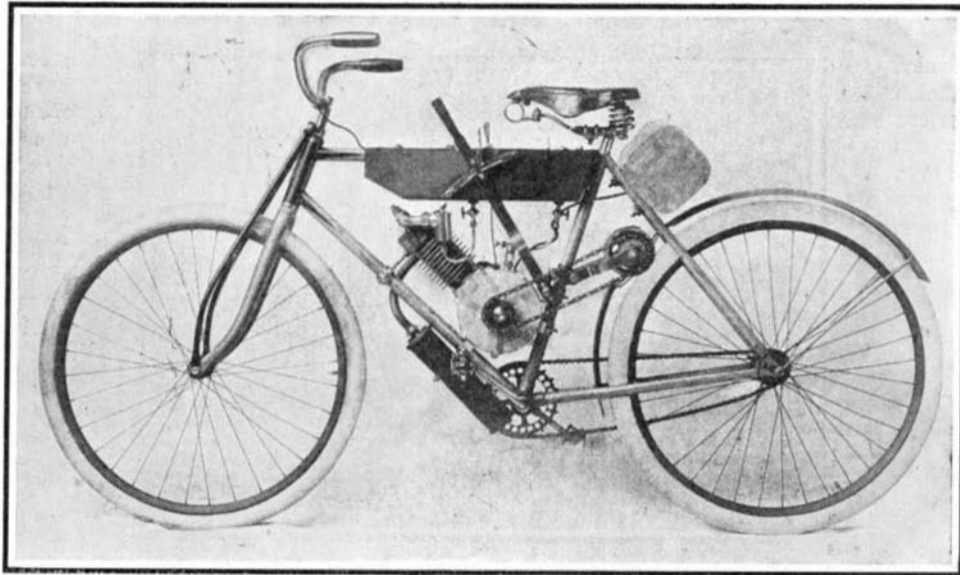
A MOTOR EQUIPMENT FOR BICYCLES.

Our illustration shows a compact power outfit for converting an ordinary bicycle into a motor-driven machine. This outfit can be readily attached by anyone with the aid of a few ordinary tools, as all the parts are clamped to the frame with bolts and nuts, and there is no brazing or soldering required. As can be seen from the cut, the motor drives, by means of a chain, a rubber-covered friction wheel placed in the rear triangle of the diamond frame, directly over the bicycle wheel. This friction wheel is carried in a fork pivoted upon the vertical post, and adapted to be pressed against the tire by means of the long lever shown in front of the seat. The machine is started with the friction wheel raised, and when the rider has it fully under way, he can throw in the friction, start the motor, and proceed under its power. In coasting or when riding in a crowded street, the motor can be stopped and the friction wheel raised. This is a very advantageous arrangement, as it is not necessary to run the motor except when it is in use. The whole outfit weighs but 45 pounds, and, with a 2-horse-power motor, the machine will carry its rider about 30 miles an hour.

A LIGHT FOUR-PASSENGER RUNABOUT.

The single-cylinder runabout with a box behind which opens and forms an extra seat, is one of the new light cars for 1906. In our illustration, Mr. R. E. Olds, the inventor, is shown at the wheel. This car is fitted with a 4¼ x 6 engine, two speed, planetary transmission, and inclosed expanding ring brakes on the rear wheels. It is an extremely powerful little machine, capable of carrying four people 25 miles in

an hour with a consumption of but one gallon of gasoline. The chassis resembles closely that of the Reo touring car, which has two 4¼ x 6 cylinders. The layout and construction of both cars is the same. The positive drive of the water pump directly from the engine crankshaft is a commendable feature, as is also the covering of the valve stems and springs with sheet-metal protectors to keep out dirt. The engine and transmission are mounted on a separate frame which is fastened in place on the main frame. The valves and spark plugs are in chambers placed above the cylinders and thus out of the way of oil. Individual carbureters and spark coils are used on the touring car, which is also fitted with a mechanical oiler. The Reo "Mountaineer"—the car which has crossed the continent and is expected back in time for the automobile show—is one of the regular double-opposed-cylinder touring cars. The Reo Company also makes a coupé on this same chassis, besides a new light four-cylinder touring car having three-speed transmission, shaft drive, a new type of universal joint, illus-



A 2-HORSE-POWER MOTOR WITH FRICTION DRIVE FOR CONVERTING AN ORDINARY BICYCLE INTO A POWER-DRIVEN MACHINE.

trated on page 38, and other interesting features.

A LIGHT AND SPEEDY RUNABOUT.

The light-weight runabout shown below is the new 10-horse-power Maxwell car intended for light and high-speed work. This machine is fitted with the usual double-opposed-cylinder Maxwell motor, placed crosswise beneath the bonnet and having a two-speed planetary transmission in the same case with the cranks of the motor, which makes it impossible for any of the movable parts to get out of line. The motor, which is a 4½ x 5, has been considerably improved over that used last year. The heads and valves are water-cooled, which enables a higher compression to be used. The transmission is fitted with a multiple disk clutch and runs in oil. The same automatic compression oiler is used as was employed last year on the Maxwell cars, and the rear axle and bevel gear drive are also identical. The propeller shaft has two universal joints, packed in grease. The rear axle is mounted on roller bearings. The side thrust of the bevel driving pinion is taken up by a blank roller of the same size as the driving pinion, and which is fitted against the smooth bevel face of the drive gear so as to hold the latter in position. The car is provided

with a steel body and pressed steel frame. Its official record of a mile in 1:18 is an indication of what may be expected of it in the way of speed on the level.

The Maxwell-Briscoe Company is another firm to this year bring out a new 4-cylinder 32-40 horse-power touring car. Besides this car, the company also makes a truck and a Limousine body car. The double-opposed-cylinder touring car and runabout, which were so successful last year, will also still be manufactured. The company now has three factories, and is turning out eight different models.

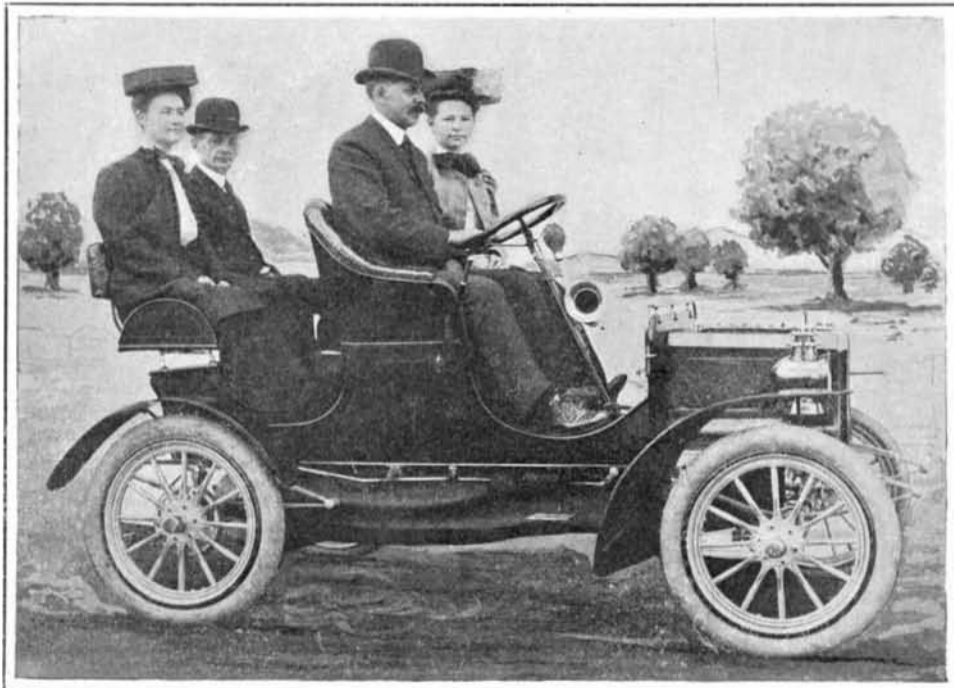
A Motor House Boat.

A luxurious motor house boat is in course of construction for the Marquis de Dion, who is so closely identified with the internal combustion engine of that name. The craft is 124 feet in length, with a beam of 16 feet 6 inches and of shallow draft. The boat will be provided with a sitting and sleeping compartment combined, a dining saloon 20 feet long by 15 feet broad, bedrooms, bathrooms, kitchen, captain's apartment, and quarters for the crew. With this motor water villa the owner intends to tour the various waterways and canals of France, accompanied by automobiles, with which he can indulge in land excursions when he so desires. Later the boat will wend its way through France to Marseilles, and thence round the coast to Monaco, where the owner will winter. The vessel will have a speed varying from eight to nine miles per hour.

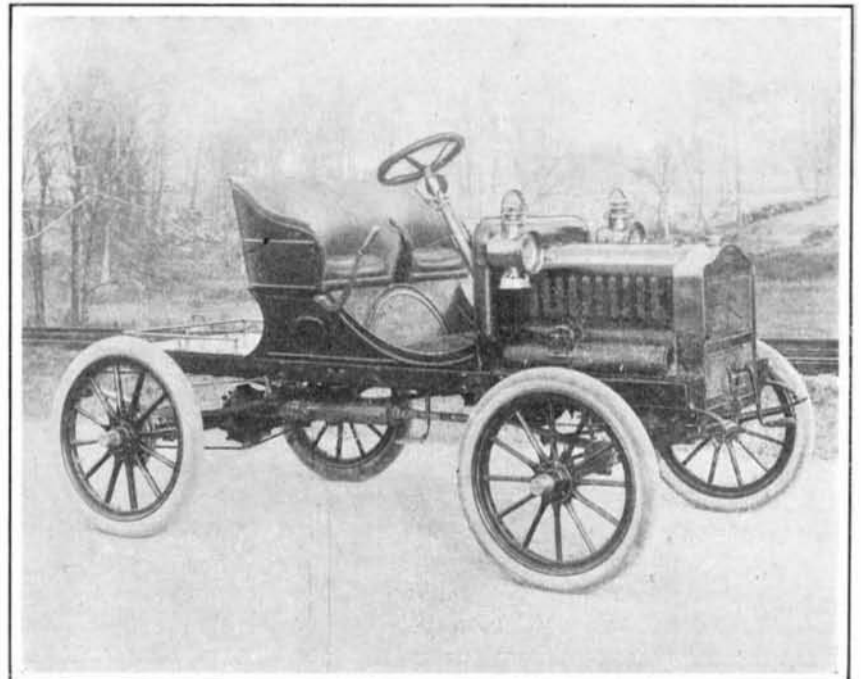
One of the most important moves in automobile building has been made by the American Locomotive Company. It involves the manufacture of the Berliet car in America, on the same plans and designs as are followed in the factory in France.

French workmen in Lyons and American workmen in the United States, working simultaneously, but three thousand miles apart, in the production of automobiles, the parts of which will interchange across the ocean, is a manufacturing accomplishment worthy of note. The French and American workmen might be standing side by side, so closely and exactly do they follow the same standards, templates, patterns, and gages. This is done in the construction of the Berliet car, so that an American-built car may be taken for a tour in Europe, or a Lyons-built car may be brought over for a tour in this country, and repair parts which are sure to fit are available nearby in either case. This will avoid months of such delays as are very familiar to the users of foreign-built cars. This is rendered possible by the use of the metric system and by maintaining the strictest conformity to standards, patterns, and gages and the closest adherence to specifications for material.

A new station for wireless telegraphy, according to the Neue Freie Presse, is being installed at Norddeich, in Germany, on the North Sea. The area covered by its operations will have a radius of over 900 miles, and will include Germany, Austria, Switzerland, France, Great Britain, and Denmark, as well as the greater part of Italy, Sweden, and Norway, and portions of Spain, the Balkan peninsula, and Russia. The station is being equipped with the Telefunken system.



THE NEW 8-HORSE-POWER, SINGLE-CYLINDER REO RUNABOUT FITTED WITH A FOLDING REAR SEAT FOR CARRYING TWO EXTRA PASSENGERS.



A 10-HORSE-POWER GENTLEMEN'S SPEEDSTER FITTED WITH DOUBLE-OPPOSED-CYLINDER ENGINE AND BEVEL-GEAR DRIVE.