

THE FREDONIA AUTOMOBILE.

The Fredonia Gasoline Carriage.

The Fredonia Automobile Company, of Youngstown, Ohio, have brought out a very neat looking gasoline runabout of substantial construction, which is herewith illustrated. Unlike most vehicles of this type, the Fredonia has wooden wheels of the Sarven pattern (Phineas Jones), 32 inches in diameter, with 3 inch pneumatic tires. Timken roller bearings are used in front and standard roller bearings in the rear. The axles are of solid steel, $1\frac{1}{4}$ inches in front and $1\frac{1}{2}$ inches in the rear. The body is supported on four oil tempered elliptic springs, $30 \times 1\frac{3}{8}$ inches, and the frame is constructed of 3 inch channel steel.

The engine is a single cylinder horizontal one, $5\frac{1}{2} \times 6\frac{1}{2}$ inches, with cylinder and head cast integral to avoid the packed joint. The engine has an aluminum crank case, bronze bearings throughout and a 22 inch flywheel weighing 160 pounds. Jump spark ignition is used. A special Upton transmission gear is used, which is inclosed in an oil tight aluminum case and is operated by a single lever. A $1\frac{1}{4} \times \frac{1}{2}$ Diamond chain transmits the power to a Brown-Lipe differential gear on the rear axle.

One oil and three grease cups are provided for the lubrication. The bearings using grease are provided with pockets carrying about $\frac{1}{2}$ ounce of grease. It is claimed that on account of this the cups need to be screwed down only once in every 100 miles or more, and that no other parts need attention as regards their lubrication, except the roller bearings, which have to be looked to every three months.

The sprockets have 9 and 23 teeth respectively, which, in combination with the

engine control, give speeds from 4 to 30 miles an hour.

The tanks are of coppered steel; the steering is of the side lever variety, and for circulating and cooling the cooling water a Lobee pump and a radiator comprising sixteen 28 inch tubes with aluminum disks are provided. Dow combination batteries are used for ignition, and a double acting brake on the rear axle constitutes the required stopping appliance, in

addition to the reverse of the transmission. The carriage is upholstered with red or green hand buffed morocco leather and the body is painted black with gold leaf stripe, and the gear carmine with black and gold stripe.

The total weight is 1,100 pounds.

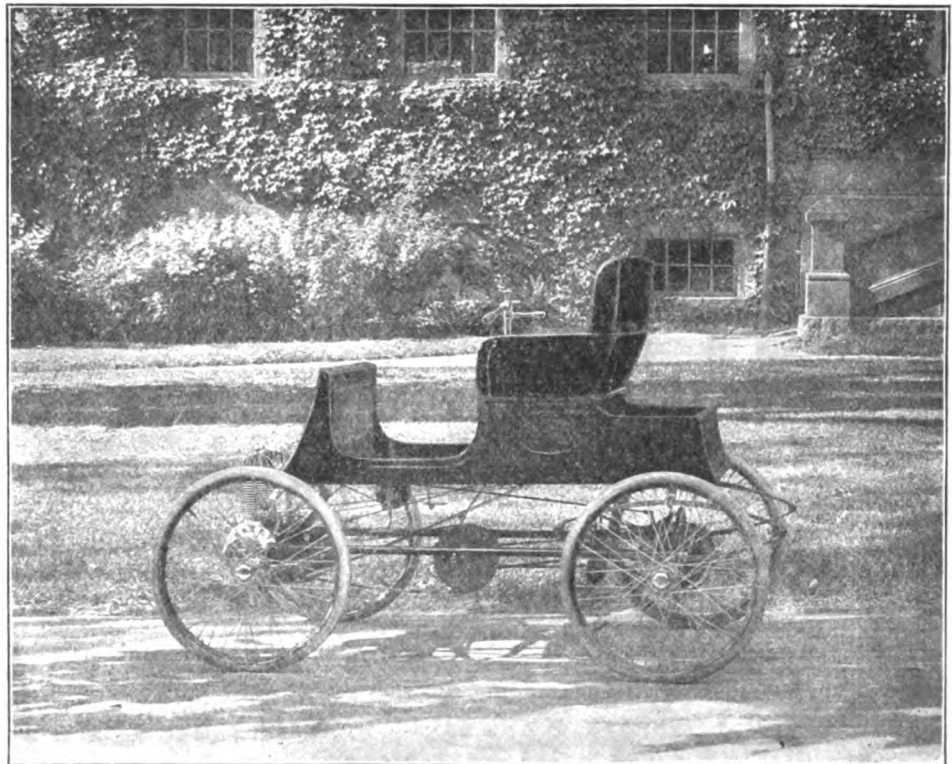
It is said that the company is making arrangements for agencies in several of the large cities. The machine is claimed to have been thoroughly tested out, and to have among other feats accomplished the ascent of the Phelps street hill in Youngstown—17 per cent.—with two passengers and a trip of 148 miles, from Youngstown to Redbrook, Geneva, and back.

The New Crestmobile.

The Crest Manufacturing Company, of Cambridgeport, Mass., are now introducing a new design of gasoline runabout, which is to meet a demand from some of their customers who prefer an automobile body design to a box body type.

The motor and carburetor are arranged on the front axle, which has the advantage of rendering access to these parts easy as well as to expose the motor to the cooling breezes stirred up by the vehicle's motion. Further, the weight on the wheels is more evenly divided, which minimizes the wear of the tires.

The transmission gear is located below the body on the reaches, and the transmission gear shafts are supported in spherical bearings to allow for a displacement of the bearings in going over obstructions. The power of the motor is transmitted by chain



THE NEW CRESTMOBILE.