

The Lozier was the sporting car for American fancy dans of those fat years before the twentieth-century wars. The Lozier was a car for the wealthy, since prices in 1909, for example, ranged between \$6,000 and \$7,850, depending on body style. This was a lot of money in a period when a good middle-class house could be built for \$3,000.

But cost meant little to John Perrin and Harry Lozier, the perfectionists behind the incomparable Lozier car. They had but one aim, a simple one really: to find out how to design the best motor car anywhere, and then to build it.

The genesis of the Lozier was not too dissimilar from that of other makes of car in the early years of the century. It too sprang from those two important nineteenth century mechanisms, the bicycle and the sewing machine. In the eighties and nineties, Henry Abram Lozier was engaged in building the Home Sewing Machine in Massachusetts and the Cleveland bicycle in Toledo, Ohio. Two men from the bicycle company, John G. Perrin and George C. Burwell, and Henry Lozier's son, Henry, Jr., were to be the midwives of the Lozier car. In 1899, Henry Lozier senior sold his bicycle works to the American Bicycle Company for a thumping \$4 million. Two years before the sale he had already involved Perrin and Burwell in a search for something to do after the bicycle business was sold. The obvious course was toward that glamorous new power source, the internal combustion engine. Still cycle-oriented, Perrin and Burwell were drawn toward gas-engined tricycles and quadricycles. Since France led in their construction, several types were ordered from Paris so that their mysteries might be unfolded. Naturally, a Lozier tricycle resulted and a hundred were to be built. Steam was also investigated, resulting in an experimental steamer with a Serpollet-type flash steam boiler. But before these projects came to fruition the sale to American Bicycle was concluded.

The designs for the self-propelled machines became the property of the new owners.

A new company, The Lozier Motor Company, was formed in 1900. At first, the chief interest was not cars but motor launches powered by Lozier-built two-stroke gasoline engines. In that first year of operation—now in the Lake Champlain town of Plattsburgh, New York—the Lozier Factory sold some two hundred of their marine engines. The factory also built magnetos for automobile engines.

John Perrin and some of the other bright young men in the company were, however, by 1902, eager to get back to automobiles. Again an emissary was sent abroad to see what the great European car builders were producing. For, rightly, the people at Lozier tended to look down their noses at the primitive productions of American makers. Perrin was too busy to go himself and another of Burwell's engineers, J. M. Whitbeck, made the trip. After Whitbeck's return later in 1902, Perrin was ordered to continue secret automotive investigations in this country. In fact, it was put out that Perrin was no longer with Lozier. Perrin haunted the New York showrooms and repair shops of dealers in foreign machines like Mercedes and Panhard. He tested foreign steels and bearings, he experimented in the machine shop of the Ball Manufacturing Company of Stamford, Connecticut, and he made innumerable drawings of the supercar he had in his head. By April, 1903, the Loziers decided what kind of car to build. It was to be a four-cylinder machine equal to the best from Europe.

The first experimental model was to be constructed in Ball's Stamford shop. But it wasn't easy to build a high-quality car in the United States of those days. As Perrin said fifty-six years later, in a 1959 article in the *Horseless Carriage Gazette*, "There were many difficulties in designing and producing a car in 1903 to compete with the large powerful Euro-

pean vehicles. There were few or no materials or accessories available in this country as there had been little or no demand for them. I had to import steel from Krupp of Germany and Derihon of Belgium, ignition apparatus and carburetors from France and Bosch magnetos from Germany."

It wasn't until October, 1904, that Perrin finished that prototype Lozier. It turned out to be a bigger, more luxurious car than almost any American machine. Perrin had taken a hard look at the Mercedes. So hard, indeed, that the Lozier's pistons and cylinder blocks were interchangeable with those of a Mercedes. The first Lozier had a long wheelbase for an American car of its day—115½ inches. Its chassis was a nickel-steel pressing, its front axle a one-piece nickel-steel forging. The four-cylinder (4½ in. x 5½ in.) 30-35-horsepower engine was water cooled, had easily accessible, mechanically operated valves, and a magneto in addition to its trembler coils. Its three-speed transmission ran on Hess-Bright ball bearings and drove the double chain drive. An unusual feature was its all-aluminum body. Harry Lozier was entranced by his new machine and immediately ordered a production run of twenty-five cars.

In January, 1905, the first Lozier—designated Model B—was shown at the automobile show in New York's Madison Square Garden and priced at \$4,500 for a touring car (the only body style offered). If you ordered a wooden body \$500 was knocked off the price.

In 1906 the Model B was improved and called the Model C. It had a slightly longer wheelbase—117 inches—and a new gearbox with four speeds. A bigger-engined version was also offered. This engine, too, had four cylinders now bored out to 4⅝ inches and rated at 40 horsepower. The price climbed, too. A tourer cost \$5,500, a limousine \$6,500. Fifty-six of these 1906 Loziers were built.

Toward the end of 1905, Perrin, not con-

vinced that Lozier was serious about the automobile business, left the company and carried on a short flirtation with Colonel Albert Pope (of the automobile trust) and worked for a time on the Colonel's Pope-Waverley electrics and the gas-engined Pope-Toledos. We don't know what happened there. Perhaps the pompous and devious Colonel was more than John Perrin could stand. In any case, Perrin came back to Lozier before 1906 was out, now as the big boss of production. George Burwell retired and Perrin took over as factory manager and chief engineer. Now, too, the image of the Lozier started to change away from that of the big luxury car to the big luxury sporting machine for the well-heeled, even if ungainly limousine coachwork was oftentimes ordered. In 1907 the 120-inch wheelbase Model E with a thumping big 60 horsepower (5½ in. x 6 in.), four-cylinder engine was brought out. A new Model F was largely based on the 1906 Model D. But now Lozier had a sports car, a Model F, a racy two-seater with an extra perch aft. This miserable added seat, today known as a "mother-in-law" seat, was really a place for the chauffeur to sit while his master plus a companion occupied the front seats on their way to the yacht club. The chauffeur moved into the driver's seat to drive the car home while his boss was otherwise occupied.

The Lozier, fine as it was, kept getting better. As early as 1907, Loziers already used a great number of ball bearings—nineteen sets of them. Brakes, which in those days had the dangerous habit of charring to uselessness on long downgrades, were water cooled from a pressurized tank. (Hispano-Suiza used a similar system.) Further, for an extra \$100, oil-proof casings were available to cover the flailing, greasy chains of the chain drive. They were, however, not quite so elegant as those on the Chadwick. By the end of 1907 the Lozier Company was moderately successful in spite of that year's deep

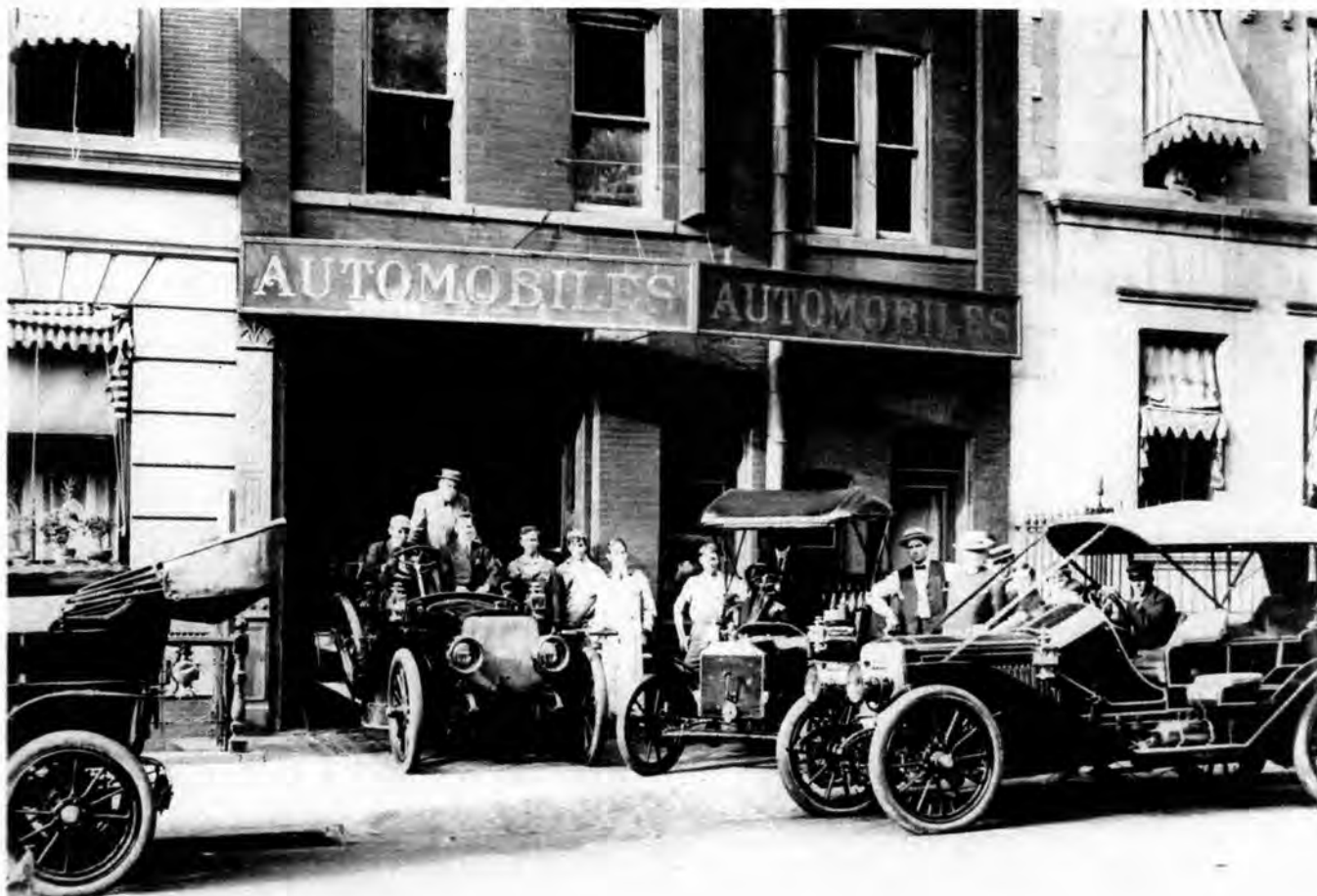
economic depression. Nearly four hundred people were employed at the Plattsburgh and Stamford shops. Production was about sixty cars a year. But big changes were afoot. John Perrin and his staff had designed entirely new Loziers which were no longer American derivations of the Mercedes. Within a few years the Lozier would become *the* sporting car of the rich, horsey, yachting crowd. No other machine would have quite the snob appeal.

The first of the magnificent new breed were the four-cylinder (5 $\frac{3}{8}$ in. x 5 $\frac{1}{4}$ in.) type H and the six-cylinder (4 $\frac{5}{8}$ in. x 5 $\frac{1}{2}$ in.) type I cars. Although the previous chain-drive type F was still listed (now as type G), the new models had given up chains for shaft drive. From them would evolve the

great Lozier automobiles of the next five years.

What was a late, pre-1914 Lozier like? Its frame was of nickel steel heat-treated in a bath of molten lead. The chassis was sprung on five springs, one—a platform type—at the rear. A twenty-six gallon, solid copper gasoline tank, pressurized to feed fuel to the engine, was shaped to fit closely around the differential housing. The entire underside of the car was enclosed by a tough aluminum alloy casting, strong enough to permit the use of a jack at any point. Moreover, in those days of rough dirt roads, it armored the car against flying stones and humps between the wheel ruts.

If a Lozier's underpinnings were remarkable for unbreakability, its T-head engine was, for its



day, a marvel of expensive engineering. Cylinders were cast in pairs, then ground and lapped to a glass-like finish like the bore of a fine shotgun. Their exteriors were coated with oven-baked pearl-gray enamel, making a suitable background for the meticulously fabricated brass and copper manifolds. Ball bearings were used throughout. The 1913 type 72 six-cylinder Lozier, for example, used no less than fifty-eight sets of ball bearings. Valves were forged from a nickel alloy. Pistons and con rods were weighed to ensure their being exactly alike to obviate vibration.

The crankshaft was a work of art. Machined from a great solid chunk of vanadium steel, it would sustain a bending load of 35,000 pounds. It rotated on massive ball bearings, three on the four-cylinder engine, four on the six. It was, perhaps, the costliest crankshaft ever put in a passenger car.

Lubrication of this spinning jewelry was ingenious. The accelerator pedal controlled a movable oil trough beneath the connecting rods. At higher speeds the linkage raised the trough to allow the rod ends to dip further into the oil, thus increasing lubrication. This was also claimed to give a near-smokeless exhaust and to reduce spark-plug fouling at low speeds.

The Lozier six-cylinder engine in the 1911 type 46, was a characteristically man-sized mechanism. Its 5 $\frac{3}{8}$ x 6-inch cylinders added up to a capacity of 544 cubic inches—about 9 litres! The six, however, lacked a refinement found in the four-cylinder engine. This was a gear-driven fan with a clutch which disengaged the fan at speeds of over 40 mph. The clutch, which had forty-nine saw-steel discs, was sunk into the flywheel and ran in a bath of oil. The gearbox was of similar character. A solid, seamless aluminum casting with a flat cover, it was practically leakproof. Its gears were cut and ground from chrome-nickel steel (the same armor-piercing projectile steel the Krupp-supplied Germans would soon

use to perforate the British Grand Fleet off Jutland; it had a tensile strength of 300,000 pounds psi). Everything ran on ball bearings. Although four forward speeds were provided, the Lozier catalogue said, "It is only when excessive speeds of sixty miles per hour and upward are required that the fourth gear will be brought into service." Third gear was therefore direct and the driver could proceed from a 4-mph crawl to a quickish 60 before shifting up to fourth speed.

Before a Lozier was assembled each tiny bit was subjected to the most rigid of inspections. Every part had to be flawless. After painstaking assembly every Lozier was given a rugged five-hundred-mile road test over the terrible roads of its day—and not slowly, either. Those cars were really wrung out. When it came back, the car was taken to pieces and each part was closely reinspected and remeasured by micrometer. Only then was it reassembled and road-tested before delivery to the eagerly waiting buyer. The customer got an ironclad six-month guarantee against any mechanical failure.

By 1909 Loziers had been selling so well, even at the stiff price of \$6,000, that the Plattsburgh and Stamford factories couldn't produce enough. Six hundred cars a year was a strain.

The solution was a big new factory in Detroit. Completed in 1911, its capacity was twelve hundred cars a year. To build it, outside capital had been needed and had been forthcoming. But "outside capital" meant at least some outside control by Detroit finance men less interested in fine motorcars than in fine balance sheets. In not too many years the money men would press for a mass-sale type of car and doom the Lozier.

This debacle was still in the dark future. For five years, from 1908 to 1913, the Lozier bloomed. The sporting image of the car was bolstered by unparalleled racing success. The names of the body

styles were those of the haunts of the *haut monde*. The seven-passenger tourer was called "The Riverside." Others were yclept "The Briarcliff Toy Tonneau," "The Meadowbrook Runabout," and "The Lakewood Torpedo." The Lozier was involved in racing for only five years, but in that short time it achieved one of the best racing records ever—not with racing machines such as Mercedes and Fiat and Isotta-Fraschini and others built especially for competition (and not for sale), but with stock cars stripped of fenders, lights, and heavy bodywork.

Ralph Mulford was not only Lozier's top racing driver, he was one of the very great drivers of any era. He had started with Lozier as a choirboy of sixteen. In 1907, he was taken out of the shop with several other young fellows and told to go racing. In those days, as now, twenty-four-hour races were the prestigious events. So a couple of stock Loziers, sans bodywork, but including a pair of plowshare-shaped front fenders, entered the twenty-four-hour race on the Point Breeze horsetrack near Philadelphia on June 28, 1907. Mulford and a codriver, Harry Michener, had a terrible time. Rain and deep mud forced them to put chains on all four wheels and the flying mud thrown up by other cars prevented their use of goggles. The other Lozier slid off the track. Mulford and his partner won. But that was only the beginning. Of twenty-two races entered from 1907 to 1911, Loziers took fourteen firsts. Mulford was in the driver's seat seven times. Famed driver Teddy Tetzlaff was first three times. On September 11 and 12, 1908, on a horse track at Brighton Beach, New York, Mulford and a codriver named Cobe broke the world's twenty-four-hour record by clocking 1,107 miles. In October Lozier again broke the world's twenty-four-hour record at the same Brighton Beach track. Mulford, Cobe, and Michener drove. The following year, 1909, at Brighton once more, *two* Loziers broke the world's record with 1,196 miles

and 1,169 miles. Mulford and Patschke drove the lead car. In 1910 Mulford broke the world's stock chassis record at 62.5 mph for 300 miles over the twisting country road course at Elgin, Illinois. In March, 1911, in a one-hundred-mile match race at the Los Angeles Motordrome, fiery Teddy Tetzlaff seemed to be up against impossible odds. He sat in a stripped but stock four-cylinder Lozier. The other car was the famous, monstrous 90-hp racing Fiat driven by no less a personage than the great Ralph De Palma. The result? The Lozier won by more than six laps at 80.71 mph and shattered every track record for distances from twenty-five to one hundred miles. In 1911 at Indianapolis in the first "500," the Marmon driven by Ray Harroun is credited with first place. The Lozier driven by Mulford stands second in the record books. But for almost sixty years there have been those who claim that Mulford should have been given the victory, and would have been if the timers—two hundred volunteer Indianapolis "society men"—had known what they were about. Lozier's last race was the 1911 Vanderbilt Cup Run in Savannah, Georgia, on November 27. Mulford on the Lozier was first. Ralph De Palma drove a Mercedes into second place. Another Mercedes driven by Spencer Wishart was third.

By 1913 the Lozier Company was very sick. The financial wizards desperately tried building cheaper models. In that fateful month of August, 1914, the *real* Lozier Company shut up shop. John Perrin quit, went on to work for other car builders—Willys-Overland and Stevens-Duryea were two of them. Later he became important at Pratt & Whitney. He died at eighty-eight in 1966. Speculators closed in and took over what was left of the company. But it was no go. By 1918 the Lozier nameplate graced nothing but old stock certificates.

Today some two dozen Loziers still exist, treasured above rubies by their owners.