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Fred Marriott at the wheel of the Stanley race car. The car's body was manufactured by The Robertson Canoe Company of Newton, Massachusetts. The photograph was originally published in Scientific American.

The World's Fastest Canoe

by Erik Sobel

Fred Marriott squeezed the throttle and held on for dear life as he hurtled across the Florida sand. When the dust settled he had set a new world land speed record of 127.66 mph. The year was 1906. He had become the fastest man on earth, and he did it in a canoe!

Fred shot across the sand in a modified inverted canoe from the canoe factory of John R. Robertson of Newton, Mass.¹ The building is still in use today. If you've ever driven to Boston, you probably passed right by it without a second look. It bears the name "Newtron," and sits forgotten on the right-hand side of the Massachusetts Turnpike as one approaches Boston, just after passing over Route 128.

The J. R. Robertson factory is a tribute to the astonishing strength, durability, and aerodynamic design of the classic wood and canvas canoe. It is not without irony that the records set by this particular canoe helped to ignite America's passion for speed and for the automobile, factors which hastened the canoe's decline as the nation's most

popular recreational vehicle.

The tale of the fastest canoe on earth is a story of two ingenious turn-of-the-century engineers and their intrepid driver. The two brothers were F. E. and F. O. Stanley of the Stanley Steamer fame. The Stanley twins were quirky and brilliant mechanical engineers. By the time of Fred Marriott's record-setting run, they had several inventions under their belts ranging from violins to photographic plate technology. They sold the latter to George Eastman and with the proceeds established the Stanley Motor Carriage Company of Newton, Massachusetts. Despite their reserved—almost puritanical—conservatism, the brothers were eager to demonstrate to the world the superiority of their steam-powered horseless carriage.

Prior to Fred Marriott's world record, many experts predicted human travel at this rate of speed was impossible:

Some of them believed the engineers who said friction would "freeze" the wheels on the hubs; others [believed] the physicists' predictions that the tires would disinte-

grate due to centrifugal force; still others ...[believed that there would be] an impenetrable barrier of wind resistance or [the warning] that solving these problems would be immaterial since no human could travel at such “unnatural” velocities and live.²

The Stanleys recognized a fundamental engineering principle called the power-to-weight ratio. Heavy vehicles require big, heavy engines, which make the vehicles heavier still, requiring still more power. The Stanley Brothers reasoned that a lightweight vehicle with a lightweight engine should be able to accelerate faster and achieve greater speed despite having less total horsepower. Consequently, while Henry Ford and the European champions of the gasoline-powered engine built ever-



The Stanley Brothers

COURTESY THE STANLEY MUSEUM, KINGFIELD, MAINE, U.S.A.

larger monsters of steel, the Stanleys quietly looked for a good canoe to form the body of their race car.

In the Newton of 1905, the canoe was a very prominent part of the landscape. The town was, and is, surrounded by the serpentine course of the Charles River. At the turn of the twentieth century—the wood and canvas canoe’s heyday—the Charles was literally clogged with canoes. The canoe was the primary source of wholesome and not-so-wholesome recreation, allow-

ing families to escape the heat of the dusty city and courting couples to escape prying eyes. Resorts and boathouses sprouted up like weeds along the shores, fed continuously by a direct streetcar line from Boston, as well as the main

Romance on the Water—The Charles River in its Heyday

While sifting through some family papers, WCHA member Jack McGreivey came upon this poem, one of a dozen or so, in a privately published pamphlet. Although it isn’t dated, Jack suggests that other evidence indicates that it was written about 1898.

Canoeing on the Charles

So quiet and warm the night,
 Dame Nature seemed a-dreaming;
 Twinkling shone the little stars,
 O’er the water gleaming.

Behind the shadowing trees
 The kind moon tried to hide,
 But the saucy, waving leaves
 On purpose blew aside.

Our canoe was anchored near
 A stone bridge old and grey
 Sweet Songs we could sometimes hear,
 Now near—now far away.

June bugs glimmered here and there,
 The frogs a-wooning went;
 Chinese joss sticks through the air
 Their fragrant incense sent.

I’ll ne’er forget the River Charles
 Where Tom took me canoeing
 I learned it isn’t only FROGS
 On summers’ nights go wooing.

Eliza Creelman Vidler
 “Candle Flickers”



Post card of J. R. Robertson’s boathouse

COURTESY BENSON GRAY

line of the Boston & Albany Railroad.³

Far from a romantic emblem of yesteryear, the wood and canvas canoe in 1905 was a modern technological wonder of the pre-plastic era—the aluminum or fiberglass of its time. The combination of wooden ribs covered with filler-stiffened canvas produced an exceptionally rigid, strong, and, most importantly, lightweight structure. Before settling on the Robertson canoe—the Stanleys carefully considered several makes and models.

The twins were attracted to the canoe for another reason aside from its weight—its aerodynamic potential. Once again ahead of their time, the Stanleys anticipated the effect of wind resistance in opposing the motive force of the automobile engine. The streamlined hull of a canoe is remarkably efficient at reducing drag as it moves through the water. The Stanleys reasoned that it would have a similar advantage when cutting through the air at high speeds. This may seem an obvious point to us today, but it was a radical and brilliant insight at that time, prior to general comprehension of the principles of aerodynamics.

The wood and canvas canoe owed its lines to refinements made over the centuries by Native American builders of the birch bark canoe, and just as different canoes are best suited to different types of water travel, the Stanleys understood the need to test different hull designs to learn which provided the least wind resistance to air moving at a high speed. They hitched up a trailer behind a conventional steam car and drove through the streets hauling different canoes behind them as fast as they could go. The trailer was connected to the car by way of a spring scale allowing them to reliably measure the drag produced by the various hulls.⁴ In the end they settled on the Robertson canoe. The proximity of the two businesses allowed close cooperation since the canoe/car body was to be custom built.

John R. Robertson himself was an important figure in the history of the canvas canoe. Born in 1857 in Canton, New York, it has been suggested that he may have been trained by, or worked for, the well-known canoe builder J. Henry Rushton in Canton.⁵ Robertson later moved to Lawrence, Mass., where he established his own boat building company, Holmes & Robertson, whose catalog advertised “Adirondack Canoes and Boats (Known As Rushton’s Portables).” In addition to mentioning Rushton’s name on the cover of his new company’s catalog, he also strengthened the connection by stating, “These Boats and Canoes are designed by J. R. Robertson, formerly of Canton, St. Lawrence Co., New York.” Many of his early designs sported more than a passing similarity to Rushton’s designs. Next, he moved to Newton and incorporated as the Robertson Canoe Company. In Newton, his boathouse/livery (with storage capacity for nine hundred canoes) was a prominent landmark on the Charles and popular recreation destination in the golden age of the wooden canoe.⁶ One of his

advertisements described it as follows:

ROBERTSON’S RIVERSIDE BOAT HOUSE, with over 100 canoes to let by the hour.

A new Social Hall or Music Room 35 x 50 feet is nicely fitted and decorated for the comfort of Patrons, Members and their friends. Also a Covered Porch 20 x 20 feet extends over the awning facing the water. There is a Hallway leading from the Social Hall to the Ladies’ Parlor.

All Toilets have been reconstructed throughout, they are up to date and kept in proper order.

The Floats are improved and with the awning over the whole length add comfort to all especially during a storm. Competent men are in charge to give you personal attention and look after your wants.

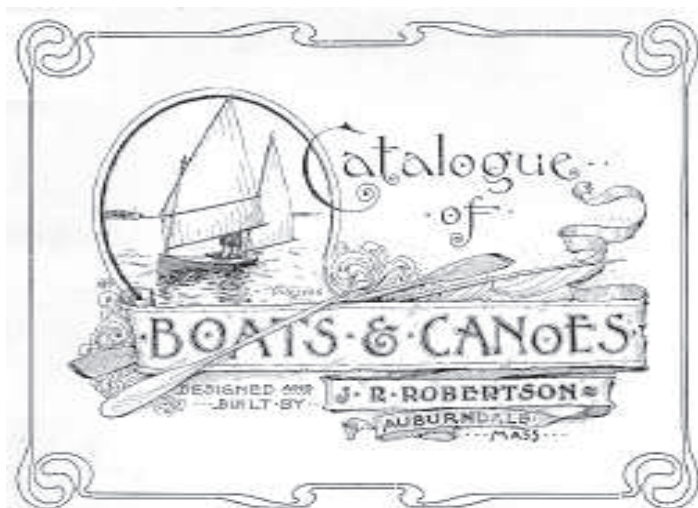
REFRESHMENT BOOTH. Here will be found Choice Confectionery, Cigars and Tobacco, also a great variety of Fancy Box Crackers, Ham and Chicken Sandwiches, Sardines, Preserves, Pickles, Olives, Ice Cold Soda and all Popular Soft Drinks, Ice Cream, etc. Box Lunches put up to take out. Japanese Sunshades and Joss Sticks.⁷

Robertson dominated the local canoe business. Then, in 1902, Robertson merged with Old Town and the new venture became the Robertson and Old Town Canoe Company. But it appears the partners did not get along, and the



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F. E. Stanley in the Rocket outside the Stanley factory.



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The cover of a 1905 Robertson catalog.

arrangement only lasted a year. Old Town's version of the "Robertson Model" canoe lived on for many years after the separation, renamed as simply the Charles River Model. In 1908, Robertson became the Commodore of the American Canoe Association.⁸

The final product of the Stanley/Robertson collaboration was very much an upside-down canoe with a hole cut in the hull for a cockpit where the driver sat. Some reinforcement was necessary to accommodate the steam engine, boiler, and axles. Throughout the vehicle's construction every step was taken to avoid unnecessary additional weight. It was a Spartan craft, completely devoid of safety equipment, except a pair of inadequate brakes.⁹

However, the Stanleys' insight into the importance of the power-to-weight ratio and aerodynamics paid off well. The 30-horsepower steam car surpassed all expectations and repeatedly sped past its 100- and 200-horsepower gasoline powered competition—including a 250-horsepower contender with its eight cylinders arranged in a novel V-shaped pattern. In 1906, the car's incredible performance propelled Fred Marriott, a mustachioed motorcycle racer from Needham, Mass., to fame as the "King of Speed."

Fred Marriott had also overseen the construction of the car. In an interview many years after the race, Marriott recalled the canoe-car's chassis: "The wheelbase was 100



Fred Marriott at the wheel of the Stanley race car.

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inches and the thread 64 inches. Front tires were 34 by 3 inches, and the rear 34 x 3 1/2 inches. The body was of wood. Sills were ash and panels of white wood. The top of the body was built

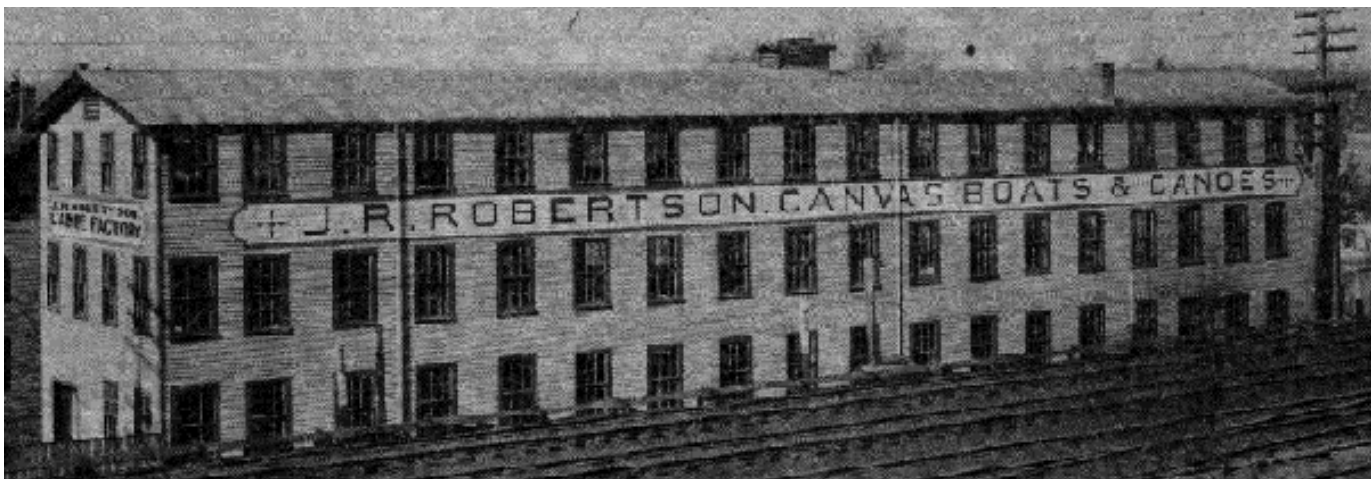
like a canoe, cedar ribs covered with canvas. The cockpit was just large enough for the driver and steering was done with a tiller."¹⁰

Marriott said that he didn't know that he was going to be driving "The Rocket," as the car became known, until he arrived in Daytona Beach. He noted later in an interview that he should have been suspicious when the brothers handed him the driver's measurements with which to customize the cockpit and controls. He realized later they were his own measurements.

Although the car itself no longer exists, F.E. Stanley provided a wealth of technical details that were published in the February 3 and 10, 1906, issues of *Scientific American*:

The body is 16 feet long and 3 feet wide at the widest part. It is pointed in front, and terminates at the rear in a circle with 8 in. radius, tapering to 3 foot width and to the point in front with cycloidal curves, or curves with constantly diminishing radius. The bottom of the car is perfectly straight and smooth. It has a clearance of 10 1/2 in. The sides are vertical to a height of 18 inches, and from that line the removable top is oval, curving both transversely and longitudinally. The largest cross section, including the wheels, amounts to 9 square feet... The total weight of the machine was 1,675 pounds. The boiler weighed 525 pounds, engine 185, burner and firebox 75, pumps, tanks, etc., 50 pounds, making the total power plant 835 pounds, or less than half the total weight of the machine.¹¹

Comparing these dimensions and photographs of the 1906 Stanley race car with a copy of the *Robertson Canoe Company Catalog*, the car most closely resembles the "Riverside Model" (available in 16-, 17-, and 18-foot lengths, with a 35-inch beam, 11 3/4 inch depth and weighing 60 to 70 pounds weight) and the canvas covered rowboat (available in 14- and 18-foot lengths, with a 40-inch beam, 13-inch depth, and weighing 85 to 95 pounds).¹² Whether the car body was formed on one of Robertson's stock molds or was completely custom built remains a topic for speculation.



The Robertson factory in Newton, Mass.

PHOTO COURTESY BENSON GRAY

In 1907 Marriott returned to Daytona with a new and improved version of the Stanley "Rocket" steam-powered race car. Unfortunately, the first run of that day ended in disaster. Here is Marriott's recollection of the event in an

interview conducted fifty years later.

Once I had made up my mind to run, I looked the course over carefully and found two depressions about one inch deep and six or seven feet wide, caused by the ebbing tide, but figured they wouldn't bother me. I took a seven-mile accelerating run and hit the line wide open and loaded for bear. I ran through the first depression without trouble and was going faster than I'd ever gone before. Two professors from the Massachusetts Institute of Technology that I knew had set up some kind of a timing rig at the half-mile mark and told me later I was travelling just a hair under 190 m.p.h. I was carrying 1,300 pounds pressure on the boiler and the power was terrific. When I reached the second depression it was just like running into a curbstone. The car went up like a kite, sailed through the air for about 100 feet and broke in half when it landed. The boiler rolled about 1,000 feet along the beach; the engine and rear end buried themselves in the sand, and I was still in the front half of the body.

COURTESY BENSON GRAY

I had been travelling north, but when the body came down it was headed east towards the ocean, and stopped with me under it and my head in the water. And that was the end of the Rocket, the fastest car of its day. I was pretty well smashed up. Several broken ribs; a hole through my upper jaw; a cracked breast bone; the whole top of my scalp sliced open and my right eye had been forced out of its socket and was lying on my cheek. And I was black and blue all over. One of the first persons to reach me was a doctor. He put my eye back in place and it is the best one today.¹³

Remarkably, Marriott, who was thirty-three at the time of the crash, recovered sufficiently to officiate at another race only a month later. In that 1907 run, Marriott was not only travelling faster than he had ever gone before, but faster than *any* man before him or after him for

THE RIVERSIDE MODEL.



Something New.

While the length and depth are the same as the Robertson Model, they are **35 inches wide** with **2½ inches tumble home** on the sides, they have a **very flat floor** and will **satisfy** the most **timid person** on the water; they have a different shaped stem, but the arrangement of seats, etc., is the same as in the other canoes.

DIMENSIONS AND PRICES.

Length.	Width.	Depth Amidships.	Weight Lbs.	Capacity Persons.	Grade A.	Grade B.
16 feet	35 inches	11 ¾ in.	55 to 65	3 to 4	\$38.00	\$34.00
17 "	35 "	11 ¾ "	58 to 68	4	41.00	37.00
18 "	35 "	11 ¾ "	68 to 70	4 to 5	44.00	40.00

Including 2 Paddles.

EXTRAS.

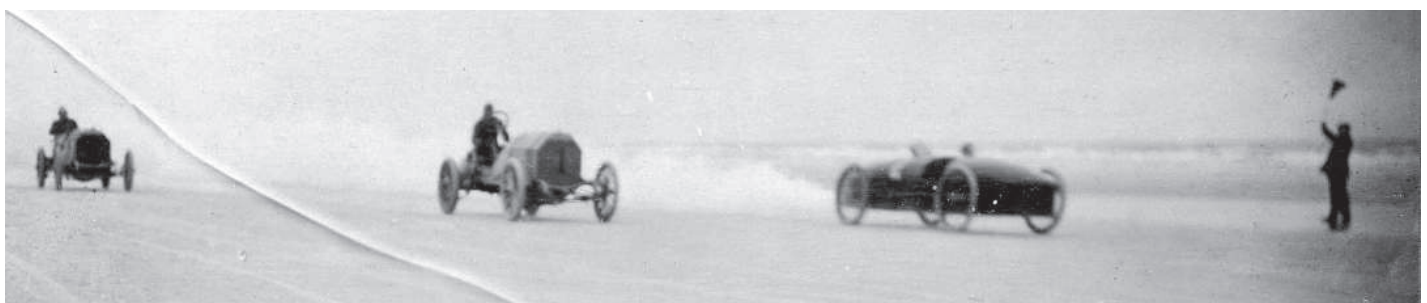
Medium or Long Decks,	add \$8.00	Mahogany Wales,	add \$2.00
Extra Long Decks,	18.00	Outside Stems,	2.00

The Riverside model of the canoe from the 1905 catalog



PHOTOS AT LEFT AND BELOW COURTESY THE STANLEY MUSEUM, KINGFIELD, MAINE, U.S.A.

Marriott with the Rocket (above).



The Rocket (far right) during the five-mile race (above). Note the difference in shape between the Rocket and the other cars.



PHOTO COURTESY THE STANLEY MUSEUM, KINGFIELD, MAINE, U.S.A.

The wreckage of the Rocket was gathered after the crash. Note the ribs visible in the interior of the car body.

the next twenty years. His speed record for steam-powered cars lasted eighty years. The Rocket still holds the record for any vehicle of thirty horsepower or less. Marriott would have raced the Stanley car again, but the Stanley twins were so shaken by the crash that they gave up on racing to concentrate instead on their touring cars.¹⁴

Although the canoe industry declined with the coming of the automobile, Robertson survived until 1935. In accordance with his wishes, his ashes were scattered over the Charles. His third and last boathouse was destroyed by a flood in 1936.¹⁵ After his death the factory was used for the manufacture of machine tools, precision instruments and, most recently, transformers (Newtron Co.). The top floor is now an antique store (“Edna’s Attic”) open to the curious, which is how I came to learn of this whole endeavor. Since the 1960s the building has sported a modern brick front, but if you cross the old Boston & Albany tracks and view the building from the track side, it retains its hundred-year-old clapboards. Inside, the thick pine plank floor and huge beams reveal its true identity as a turn-of-the-century factory. Next to the building is the two-family house that Robertson built for his own use so he would not have to commute.¹⁶

Today, most people drive right by the building, oblivious to its history. Canoes still ply the river below the factory—although the landscape is now dominated by automobile traffic and sprawling highways—an inadvertent by-product of the world’s fastest canoe.✂

Notes

1. Kenneth W. Newcomb, “The Makers of the Mold: A History of Newton Upper Falls, Massachusetts,” (found at www.channel1.com/users/hemlock/MakersTitlePage.htm).
2. Paul Hayes, “The World’s First Rocket—The Stanley Steamer World Speed Record Racer,” (*Modern Man Quarterly*, 1957, excerpted from “A British Attempt to Beat the World Land Speed Record for Steam Powered Vehicles” at www.exford.co.uk/Steam/home.htm).

3. Mr. Robert Pollock, who generously provided a wealth of information on J. R. Robertson and turn-of-the-century Riverside history including a copy of Robertson’s Canoe catalogs and numerous photographs.
4. Dick Punnett, *Racing on the Rim: A History of the Annual Automobile Racing Tournaments Held on the Sands of the Ormond/Daytona Beach, Florida 1903-1910* (Ormond Beach, Florida: Tomoka Press, 1997).
5. Susan T. Audette with David E. Baker, *The Old Town Canoe Company: Our First Hundred Years* (Gardiner, Maine: Tillbury House Publishers, 1998).
6. Robert Pollock.
7. Robert Pollock Archives.
8. *The Old Town Canoe Company*, pp. 34-38.
9. “The World’s First Rocket.”
10. “The World’s First Rocket.”
11. “New Automobile Speed Records in Florida,” *Scientific American*, Feb. 3, 1906, p. 115 and “Final Races at the Ormond Automobile Meet,” Feb. 10, 1906, pp. 133-134.
12. Robert Pollock
13. “The World’s First Rocket.”
14. “The World’s First Rocket.”
15. *The Old Town Canoe Company*.
16. Robert Pollock.

Erik Sobel last wrote for Wooden Canoe in August 2001, Issue 106 on building and launching a cedar strip canoe. A biologist and computer scientist, Erik lives and paddles in Newton, Mass.

Erik would like to thank Newton, Mass., historians Kenneth Newcomb and Hank Lysaght, and Susan D. Abele, Curator of Manuscripts, The Jackson Homestead/Newton Historical Society, Newton, Benson Gray for generously providing Robertson Catalog images and other photographs, and Jim Merrick, archivist, Stanley Museum (www.stanleymuseum.org), Kingfield, Maine, for his assistance and for providing photographs for this article.