

# Walter Christie

**WALTER CHRISTIE—OR, TO USE THE FULL BIRTH NAME** that he rarely employed, John Walter Christie—laid claim to a litany of distinctions and accomplishments that rolled out like a long carpet at a Broadway premiere. Being a multi-disciplined transportation inventor from New Jersey, something rare enough, was only one of his claims to fame. However, most of his achievements took place so long ago that they're not always at the forefront of everyone's memory.

We cannot say flatly that Christie alone changed the way wars are fought on both land and sea. Or that he brought firefighting irreversibly into the mechanical age, or changed the basic blueprint of the automobile forever. After Christie had his way, though, people had some serious second thoughts about the way all of those things traditionally functioned. So, perhaps, Christie's most enduring legacy was his confident, unwavering self-expression.

Christie was born in what is now River Edge, New Jersey, just weeks after the Civil War ended. The national tragedy had transformed the mechanism of warfare. In nearby New York, turrets for Union ironclads were cast in Manhattan and the vessels' keels laid in Brooklyn, later boroughs of the united New York City. Christie began this sort of maritime foundry work in the early 1880s. During his various shipyard travels, Christie worked on the second *U.S.S. Maine*—the first was blasted into folklore, precipitating the Spanish-American War—whose 12-inch guns used bags of nitroglycerine-based cordite to launch their half-ton shells.

The propellant charges exploded at a calculated 32,000 PSI of instant pressure each time the guns fired, and Christie

was convinced their breech and anti-blow-back protection wasn't adequate. To replace it, he convinced both the U.S. and Royal Navy to adopt his hardened turret design. The royalties put him into a new Manhattan machine shop of his own, just as Christie, for reasons only he understood, figured that designing an advanced racing car would bring in new maritime customers.

Even today, more than 100 years after the first Christie motorcar appeared, it still looks radical. The cars had front-wheel drive for better tire wear, he explained. Early on, the engine was perched upright between the front drive wheels. Essentially, the crankshaft functioned as a drive axle, linked to each front wheel through slipping clutches. The engine had four cylinders, sheet-copper water jackets and probably made about 30hp. The driver sat astride the rear axle, as in an early sling-shot dragster—but this was in late 1903.

With a second car, Christie became a racer, running speed trials on the sand at Ormond Beach, Florida, and at Cape May, New Jersey. A couple of monster Mercedes, one driven by Barney Oldfield, beat him on pure speed, but Christie won accolades for the car's lightness, likely weighing in around 1,600 pounds.

Christie lined up investors, but had problems in subsequent races, including a crash with Vincenzo Lancia at the 1905 Vanderbilt Cup.

Undaunted, Christie built another front-driver, with a massive V-4 displacing nearly 20 liters, or 1,214 cubic inches, the biggest Grand Prix engine of all time. His nephew, Lewis Strang (killed just after becoming the first Indianapolis 500 polesitter) did most of the driving. But Christie and Strang were injured in a wreck, and one investor won a judgment against the company.

As his original car company folded, Christie established a new one and, for the most part, left racing behind, despite the urgings of Harry A. Miller, who admired his pluck and creativity. Christie thought that an advanced, efficient taxicab would sell well in increasingly congested cities. Just one of these cars was ever built, the final Christie automobile. The two-stroke V-4 was scaled down drastically, fitted with mechanical valves operated by an overhead camshaft, leaned way back to fit beneath an amazingly short hood. Viewed in total, it has noticeable basic similarities to front-drive cars with two-stroke power such as the Saab 92. Christie thus deserves mention alongside not just Saab, but also Alec Issigonis and Sochiro Honda as a front-drive genius.

Rather than passenger cars, Christie's enduring fame involves much larger vehicles. Using his knowledge of front drive, he created a two-wheeled gasoline tractor that allowed horse-drawn fire apparatus to be motorized on a budget. Entire city fire departments bought them in bulk to power steam pumpers and wooden hook-and-ladder trucks. Some Christie tractors were still answering alarms in the 1940s. The firm that built them, Front-Drive Motor Company, was based in Hoboken, New Jersey.

Christie was convinced that fast, armored vehicles could break the gruesome stalemate of trench warfare in Europe. While others also built early tanks, Christie created a light, terrain-friendly suspension that combined bell cranks, tracks and bogie wheels.

How successful was it? Flat broke again, Christie sold his suspension design to the Soviet Union, which adapted it and created the landmark T-34. He refused, though, a rich offer from the German general Heinz Guderian, another acolyte of light, fast armor. Guderian became father of the Panzers and invented the *blitzkrieg*. Christie died, all but penniless, in 1944. ☞