



Reinventing the Wheel

From the earliest hot-rod cylinder heads to Bell helmets and Cragar wheels, a huge chunk of the speed-parts industry grew out of one modest storefront in L.A.

By Brock Yates, 1993 Car and Driver

The buildings stand blank faced, iron-barred, and ignored in the midst of a seedy Hispanic neighborhood. For nearly 60 years, they served as the epicenter of high-performance madness for the entire Los Angeles basin, if not the whole nation. Bell Auto Parts--once located at 3633 Gage Avenue in the L.A. suburb of Bell, and now dispersed and fragmented into several multimillion-dollar industries across the country--was for years the mother lode of speed for every hot rudder, sports-car nut, dry lakes competitor, street racer, round tracker, and crazed backyard wrench wizard in America.

Dreams were born here: hot Ascot sprinters, Top Fuel dragsters, Bonneville streamliners, land-speed-record machines, revolutionary sports cars. All manner of woolly iron was sourced from these vast stockrooms, where the inventory was exclusively devoted to speed and power. And it had been thus almost from the time men began to drive fast in the Golden West.



When a grizzled little Okie named George Wight drifted into Bell in late 1919, it was a sun-fried podunk on the western bank of the arid ditch known (somewhat gaudily) as the Los Angeles River, six miles south of what was to blossom into America's second-largest city. Even then, the great basin's citizens were loopy for automobiles. Most had used them to migrate west, and they still depended on Model Ts and the like for movement among the patchwork of tiny towns that were soon to meld into the L.A. megalopolis. A bizarre, high-banked 1.25-mile board speedway was being built in Beverly Hills, with another planned for Culver City. The first of these fantastic hardwood speedways had been erected at Playa Del Rey in 1910, only to be consumed by city (to be replaced by the infamous "Legion" Ascot on Mission Boulevard in 1923).

Upon his arrival in Bell, Wight began to eke out a living operating a small wrecking yard at the Gage Avenue location. Because most of the small-time competitors running on the area's dirt tracks relied on souped-up Ford Model T engines, Wight soon learned that salvaging blocks and cylinder heads and trading for rare high-performance manifolds and camshafts was an untapped profit center. Within a few years, his dealings in racing equipment superseded the junk business, and his "Bell Auto Parts" evolved into a viable enterprise. He began manufacturing a few small engine pieces, and also buying and

selling complete racing cars on the side, qualifying his tiny emporium as the first true "speed shop" in the world.

Wight, who claimed he had been born in a railroad caboose somewhere in the Arizona desert around 1878, was an avid reader of dime novels. The little man, perpetually unshaven and clothed in grease-smearred coveralls, loved to entertain the local kids with tall tales of his own Wild West adventures. Despite his seedy appearance, Wight was a solid backyard mechanic; as the years passed, his reputation as a tuner and modifier of racing engines grew.

American motorsports was booming in the late 1920s. The fabled firms of Duesenberg and Harry A. Miller were creating exotic machinery the equal of anything built in Europe--both in terms of mechanical sophistication and craftsmanship. Miller's Los Angeles factory on Long Beach Avenue was turning out the insanely powerful 91-cubic-inch supercharged machines that were lapping the board tracks at more than 140 mph.

The grandly schemed George Miller-Schofield Company was intended to revolutionize the motorsport industry but a combination of financial chicanery and the Great Depression crushed the organization by 1930. Among the few salvageable items were the patterns for three-cylinder heads created by Miller's brilliant designer, Leo Goossen. They were intended as conversions for the Ford Model A four-cylinder engine, which was quickly replacing the Model T as the powerplant of choice on American dirt tracks.



Goossen's cylinder heads included a low-priced high-compression flathead, an over head-valve pushrod type, and an exotic double-overhead-camshaft four valve-per-cylinder version (only three of the latter were built, and they proved to be as powerful-and expensive-as their Miller and Offenhauser rivals). At the same time, Crane Gartz, an heir to the Los Angeles-based Crane Publishing fortune and an automobile enthusiast, had teamed up with former racing star Harlan

Fengler (the "boy wonder of the speedways" who would later become chief steward of the Indianapolis 500) to form Cragar Corporation, Ltd., located at 940 North Orange Drive in Hollywood. Fengler, using Gartz's funds, purchased at auction the tooling, machinery, and patterns for the Miller-Goossen heads for \$40,000 and began manufacturing the OHV version under the Cragar name. It was an instant hit. For the aspiring racer starting with a stock Model A producing 41 hp at 2400 rpm, the \$100 expended for a Cragar head and a Winfield racing carburetor gave a quick boost to 86 hp at 3200 rpm.

Despite the success of the Cragar head, Gartz and Fengler could not stave off the numbing impact of the Depression, and the business collapsed in 1932. But George Wight, whose Bell Auto Parts was making a modest profit, recognized the potential of the Cragar unit and borrowed heavily to buy the patterns and fixtures from Gartz's concern.

Bell Auto Parts had by now begun to manufacture a small inventory of racing pieces: Model A intake and exhaust manifolds, valve covers, side plates, and magneto drives. The Cragar head was to become the capstone of the line.

A lanky redheaded kid from nearby Maywood named Roy Richter was showing a true genius for pattern making and fabrication at the tiny Cragar operation. He was also a talented race driver, running a modified Model T in the increasingly popular speed events being organized at Muroc, Rosamond, and El Mirage dry lakes in the California high desert and in various dirt-track contests around Los Angeles. Working out of a small corner of Bell Auto Parts, Richter built a Saxon powered (sleeved-down Model A) midget and began serious competition at tracks like Atlantic and Gilmore stadiums. In 1936 he moved east, basing his operation in Detroit, where he built a number of flawlessly crafted and very fast dirt-track cars. After a racing tour to New Zealand in the winter of 1938, he moved back to California for good.

It was Richter's masterful touch with aluminum that separated him from the crowd that now hung out at Bell Auto Parts, both as workers and as curious fans on hand to witness the comings and goings of the famous drivers and mechanics who used the place as a kind of forum for purchases and deal-making. They could also watch Richter hand-forming aluminum into graceful, sweeping compound curves. His sprint cars and midgets were as beautiful as they were fast. Sam Hanks—who was to retire after winning the 1957 Indianapolis 500, purchased a Richter-built, Offenhauser-powered midget in 1939 and drove it to literally hundreds of feature victories from coast to coast, making it the single-winningest racing car in the history of the sport.



Richter's reputation as a fabricator brought him to Northrup Aircraft in Hawthorne in 1942, where he worked as a senior welder for the duration of the war. George Wight, the former junk dealer who had started Bell Auto Parts, died in 1943 at his modest bungalow behind the shop, leaving the meager inventory, a few machine tools, and the store on Gage Avenue to his widow. Two years later, Richter sold his customized 1939 Ford roadster and all available assets to lease Bell Auto Parts and its inventory, which according to Richter's biographer, Art Bagnall, consisted of little more than a "few used race car parts, a few cases of Sta-Lube racing oil, and numerous boxes of old junk parts that had been piling up for years."

The end of World War II unleashed a flood of pent-up enthusiasm for racing and high-performance cars. Veterans returned with newfound enthusiasm for machinery discovered while working on sophisticated military equipment. They plunged into competition on speedways, the dry lakes, and road courses—and in illegal street contests with hot rods (a term believed to have originated as a contraction of "hot roadster"), known from the beginning as drag races. One example of this enthusiasm: on August 17, 1946, a crowd of 65,128 fans crunched into the Los Angeles Coliseum to witness Hanks win the 250 lap "Gold Cup" in his Richter-built Offy.

Interest in "speed" or "hop up" equipment soared, and cottage industries grew up across Southern California to meet the demand. Men like Vic Edelbrock Sr. and rival Phil Weiand began manufacturing intake manifolds for the then engine of choice, the Ford flathead V-8, while Ed Iskenderian triggered a boom in high-performance camshafts. Talents like fuel injection genius Stu Hillborn and master technician Phil Remington (who was later to become a mainstay of Shelby-American) also rose out of these ranks. Bell Auto Parts became a major outlet for all manner of speed equipment, and in 1946 Bell began to publish the first-ever mail-order catalog in the speed industry. By 1948, the catalog contained more than 10,000 items, ranging from \$300 quick-change rear ends to \$1.50 war-surplus plexiglass goggles (replacement lens, 35 cents each).

The West Coast racing scene was booming by 1950. The Southern California Timing Association had a major event at the Bonneville Salt Flats, while the California Sports Car Club was running a full calendar of road races from San Francisco to San Diego. The National Hot Rod Association was established by Wally Parks, the former editor of Hot Rod magazine (which had been started as a glorified newsletter two years earlier). Weekly drag races, the first in the nation, were promoted at Santa Ana. Richter and Bell Auto Parts were in the forefront.

Kenny Parks, Wally's brother, had started work as a delivery man at Bell a year earlier, and he recalls those days: "It was a zoo. Every day the store was jammed with drag racers, Indy chief mechanics, sporty-car guys, you name it. Roy was such an honest guy, he never boosted a price, no matter how scarce a part was. A lot of guys were short of money, and Roy would carry 'em on the cuff for a while. He was so well liked that very few never paid up."



Richter's interest in cars was eclectic in the extreme. His background was in midgets and dry-lake streamliners, but he was fascinated by the sports-car revolution and obtained the California distributorship for Sidney Allard's J2 sports cars. He mounted a souped-up Ford flathead in one and easily won his first race, on the runways of the Navy's Santa Ana blimp base. The second-place finisher, aboard an XK120 Jaguar, was a young man named Phil Hill.

Helmets were required in all forms of organized racing in the Fifties, but the headwear offered little in the way of protection—they protected one's hair from getting mussed, mostly. The state-of-the-art headgear was the pre-war English Cromwell, a leather topper that had been developed for motorcycle racing in the 1930s. In 1953, Bell was selling about 500 Cromwells a year. Then an employee, Frank Heacox, convinced Richter that an improved model could capture the market from both Cromwell and the newer fiberglass models being sold. Working with a slow, expensive, but high-quality hand laminated process, the pair developed the Bell 500, which was then introduced by the Bill Stroppe-entered, factory-backed Lincoln team in the 1954 Mexican Road Race. With Indy stars like Bill Vukovich wearing the new headgear, Richter's product got an immediate launch in the mainstream helmet business.

Sales were brisk until 1957, when an article appeared in the July issue of Sports Cars Illustrated (the magazine that would later become Car and Driver) detailing the research of Sacramento physician George G. Snively regarding helmet safety. Snively had created a small foundation in the name of a friend, Pete Snell, who had died of head injuries suffered in a sports car race in Northern California. His findings, using cadavers, were shocking. They indicated that most contemporary helmets were useless, and some in fact amplified trauma by concentrating the force vectors at a single point on the skull. Richter immediately stopped production of the "500" and set to work improving his product. Snively's data indicated that the rival Toptex liner was the best in the field, so Richter licensed the material and utilized it for his new Bell 500 TX, which became the first helmet to receive Snell Foundation approval. It was to act as the prototype for Bell's state-of-the-art helmets for years to come.

With the helmet triggering business to unsurpassed levels, Bell Auto Parts was forced to expand well beyond the boundaries of its tiny Gage Avenue property. A larger manufacturing facility was created in Long Beach, while Richter took yet another bold step in the booming speed equipment industry. For years, the custom wheel business had been dominated by the "deep dish" chrome wheel, nothing more than a stock steel wheel reversed to provide greater offsets for appearance purposes. Ted Halibrand, another veteran Southern California racer and hot rodder, had in the late 1940s developed a lightweight sand-casted magnesium wheel for racing applications, and by 1960 a number of small companies were producing "mag" wheels for the street. They were nothing more than polished, cast-aluminum centers riveted to chromed steel rims.

In response to what he called a "strength and style deficiency" in the current custom-wheel offerings, Richter decided to manufacture an affordable high-quality wheel of his own. He would sell it under the old Cragar name, which he had acquired from the Wight estate. In addition to his native instinct for proper engineering, Richter possessed a sense of aesthetics. Seeking both rigidity and good looks, he spent two years designing and testing what was to become the Cragar S/S, the most popular, most imitated, and most successful custom wheel in history. Bagnall says the S/S "featured a major breakthrough in materials and manufacturing techniques." Richter patented a process whereby the steel rim was attached to the aluminum alloy center by pressure casting. Although no rivets or screws were employed, the design resisted a force of 42,000 pounds before the center separated from the rim—a figure more than 50 percent higher than that of the competition.

Ray Brock, who was publisher of Hot Rod and a close friend of Richter's, received the first production set of Cragars for his new 1964 Mustang. "They were beautiful, and I was crazy about them," he recalls. "But Roy wasn't happy. He spotted nearly invisible flaws in the fabrication and insisted on taking them back to make them right. He was like that, a perfectionist—and truly one of the finest guys I ever met. I know it sounds corny, but everyone who knew Roy liked and respected him."

The Cragar S/S, a classic five-spoke design, was an instant success. Although intended for street use, Richter's wheel was quickly employed on various racing cars—sometimes with the creator's objections. Steve Evans, the well-known Nashville Network television

commentator, recalls working as a counter man and fledgling promotion assistant for



Richter at Bell Auto Parts. "I was running a rocket car in exhibition drag races and stuck on a set of S/Ss. Roy was furious. He said the wheels weren't designed for such high-speed applications. One night the car crashed at well over 150 mph. It was a wreck, but the wheels were perfect. Roy still wasn't happy, but I could tell he was pleased that the wheels had such enormous reserve strength. Roy would not compromise on quality or his reputation. It was that simple."

Within months after the S/S's introduction, Richter had to open new plants in nearby Bell Gardens, then a larger facility in South Gate, and finally to an even more elaborate factory in Compton. He was soon selling thousands of Cragars to the likes of J.C. Penny, BFGoodrich, and Goodyear. By 1971, Richter's little speed shop on Gage Avenue had increased to a point where it was employing nearly 500 people at its three plants and generating \$31 million in annual sales. His Cragar wheels-and the copies they would engender-would be sold in the tens of millions.

But chronic heart trouble was slowing Richter's life to a crawl. In 1971, poor health prompted him to sell his holdings in Bell Helmets and Cragar Industries to the Wynn Oil Company. He did, however, remain an active adviser to the firm after successful open-heart surgery a year later.

He also remained active in SEMA (originally the Speed Equipment Manufacturer's Association, now known as the Specialty Equipment Marketing Association), which he had helped create in 1963. SEMA's goal was to govern quality and business ethics in the nascent speed-equipment business, which is now a \$10-billion-a-year industry. (1993 numbers are cited)

Richter's big heart finally gave out in July 1983. He was 69 when he died-and perhaps the most liked and respected man ever to rise from the world of California motorsports. His two companies have split and resplit and are now owned and operated by young executives, many of who know their founder only by reputation. But his legacy persists ... even as the little stores on Gage Avenue slowly fade in the California sun. Surely, as long as men drive fast, the names of Bell, Cragar, and Richter, will not be forgotten.

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