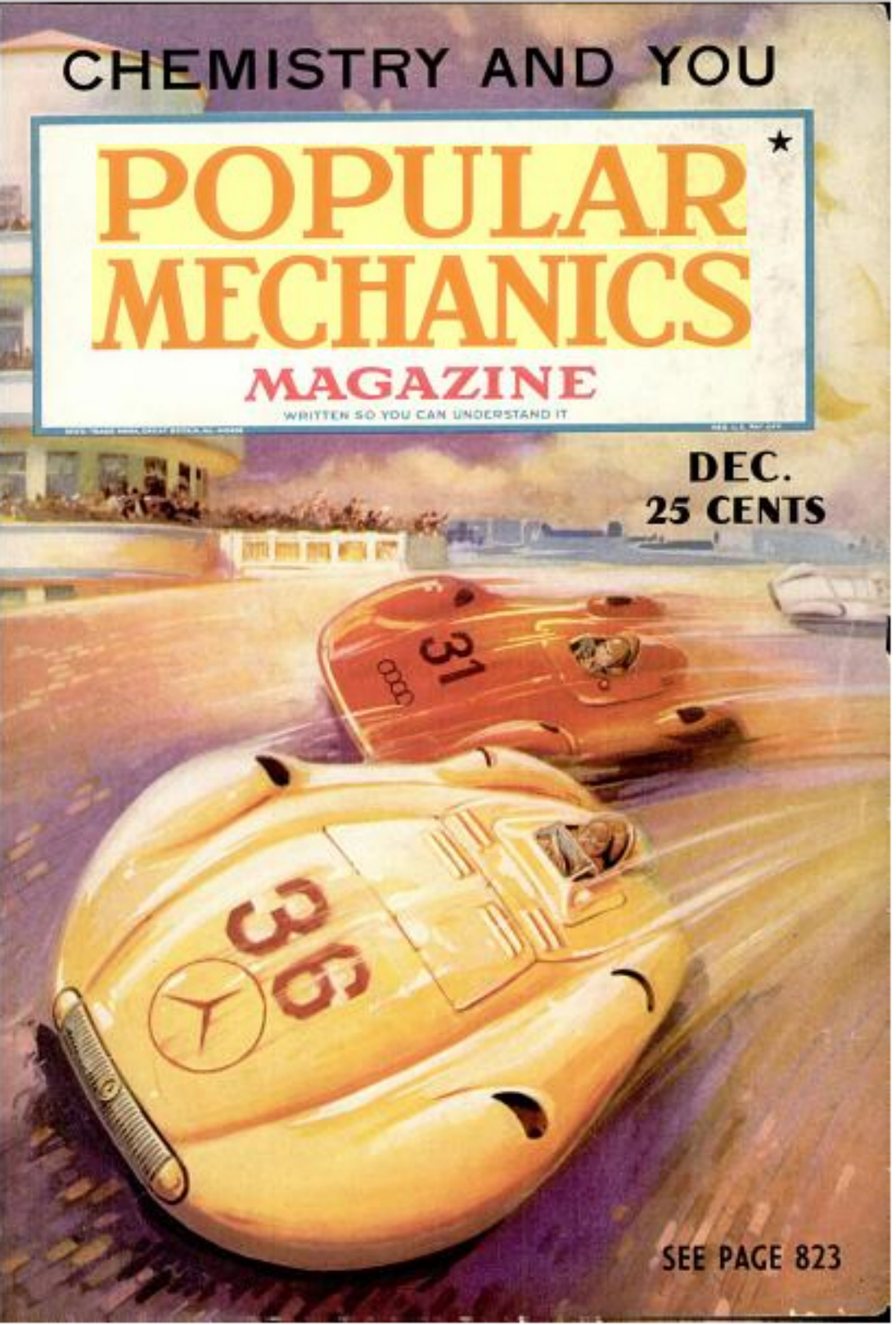
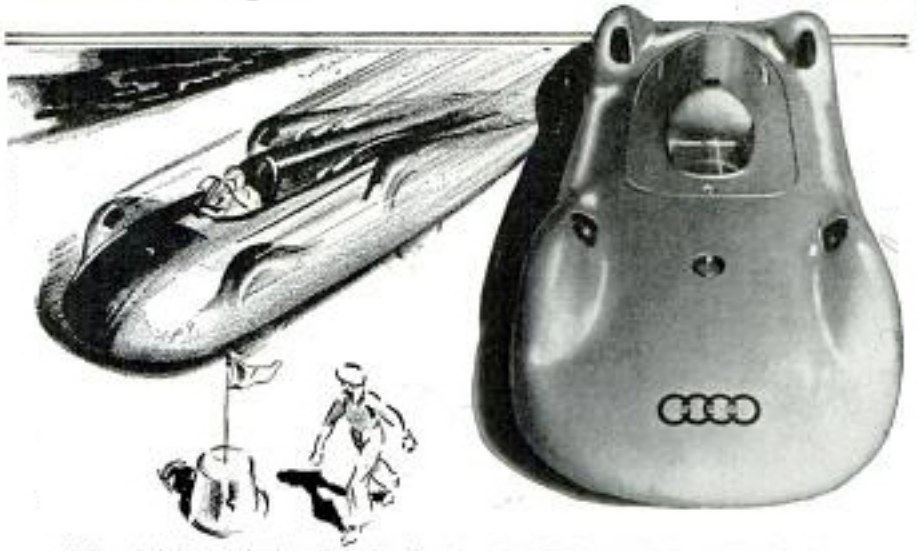


December,1937

Streamlining Makes German Race Car Faster



Left, artist's idea of the Auto Union Speedster in action. Right, view of the car from the front. Note air inlets at various points to facilitate cooling of certain parts

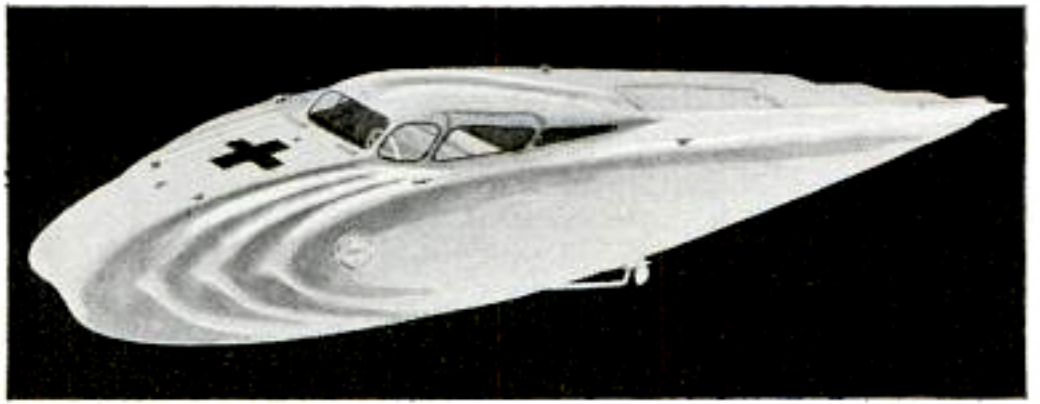
Covered with a new streamline body to increase the speed, a German Auto Union racing car driven by Bernd Rosemeyer, winner of the Vanderbilt race in 1937, has established world's records over varied distances. The car, powered by a sixteen-cylinder motor, is similar to that in which Rosemeyer won the Vanderbilt event in the United States. The records, all set in Germany, include: over the flying kilometer, an average of approximately 243.5 miles per hour; over the flying mile, 243.65 miles per hour; over the five-kilometer course, with flying start, 235.15 miles per hour; over the five-mile course, with flying start, 241.56 miles per hour; over the ten-kilometer course, with flying start, 223.25 miles per hour, and over the ten-mile course, with flying start, 225.17 miles per hour. The kilometer is 3,280.8 feet, or about five-eighths of one mile. Under European racing rules, the car is permitted to weigh only 750 kilograms, just slightly over 1,650 pounds, without fuel, oil, water and tires. The streamline body covers all parts of the car's chassis and even the tires, resulting in reduction of air resistance to a low point. The driver sits in the center of the machine, with his face protected by a comparatively small windshield.

Designed by Dr. Ferdinand Porsche

Auto Union of Germany =
Automobil-Union Deutschland =
AUDI

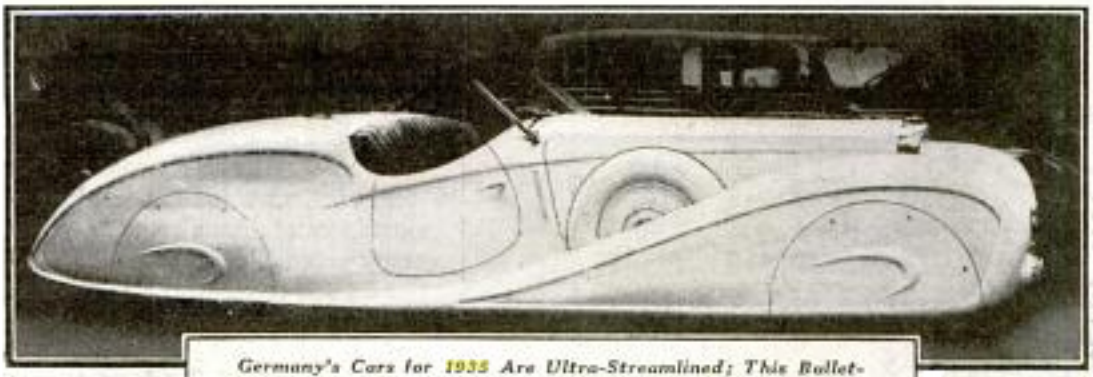
Ambulance Boat Like a Plane Is Fast and Non-Sinkable

Said to be non-sinkable, a new ambulance boat has been constructed for the Portland, Ore. police patrolling the harbor. Embracing principles of the airplane, the craft's cruising speed is rated at forty miles per hour and its top speed above fifty-five. The boat is designed to skim the water at full speed. When motionless, its draft is less than twelve inches. A syphon system that is effective when the boat is in operation keeps the craft dry in any weather. A marine adaptation of the Ford V-8 motor provides the power through an intermediate and high-gear transmission, one of the first installations of an intermediate gear in boats. This gear, in addition to providing quick acceleration, is for use at slower speed to facilitate maneuvering. High gear is for use only at higher speeds. The hull consists of a series of air-foil sections or "wing-stub ends," so designed as to afford the greatest amount of lift above and below the sections, an arrangement by which the craft is partially supported in air while traveling at top speed. The boat is twenty-four feet long and six feet in height with a beam of eight feet. It has accommodations for driver, doctor and two persons on stretchers. A special rack holds the stretchers when not in use. Respiratory and first-aid equipment and oxygen tanks are carried for emergency work.



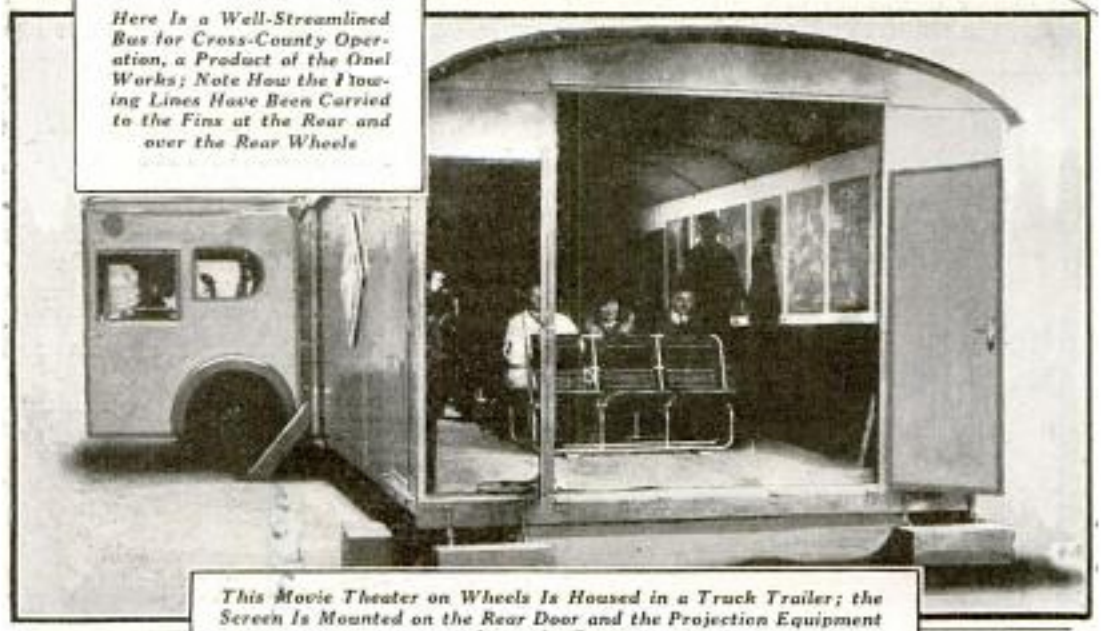
Design of Speedy Craft That Will Be Used in Harbor Ambulance Work; Note Air-Foil Sections of Hull

German Cars Streamlined from Stem to Stern



Germany's Cars for 1935 Are Ultra-Streamlined; This Bullet-Shaped Creation Is a Mercedes Roadster Exhibited at the International Auto Show in Berlin

Here Is a Well-Streamlined Bus for Cross-County Operation, a Product of the Onel Works; Note How the Flowing Lines Have Been Carried to the Fins at the Rear and over the Rear Wheels



This Movie Theater on Wheels Is Housed in a Truck Trailer; the Screen Is Mounted on the Rear Door and the Projection Equipment Is at the Front

POPULAR MECHANICS

Five-Deck Streamline Boat on the Mississippi

Mississippi skippers of the Mark Twain era would be amazed at this new streamline style river boat of 1938

Far removed from traditional river boats of the early days is the streamline ferry just completed. The five-deck vessel carries passengers across the Mississippi.

Explorer Rides Stainless Steel "Jungle Yacht"

One of two air-conditioned, stainless steel truck-trailers built for Congo expedition. It includes lounge, library, observation-dining room, bedrooms, tile bath with full-length tub and electric kitchen

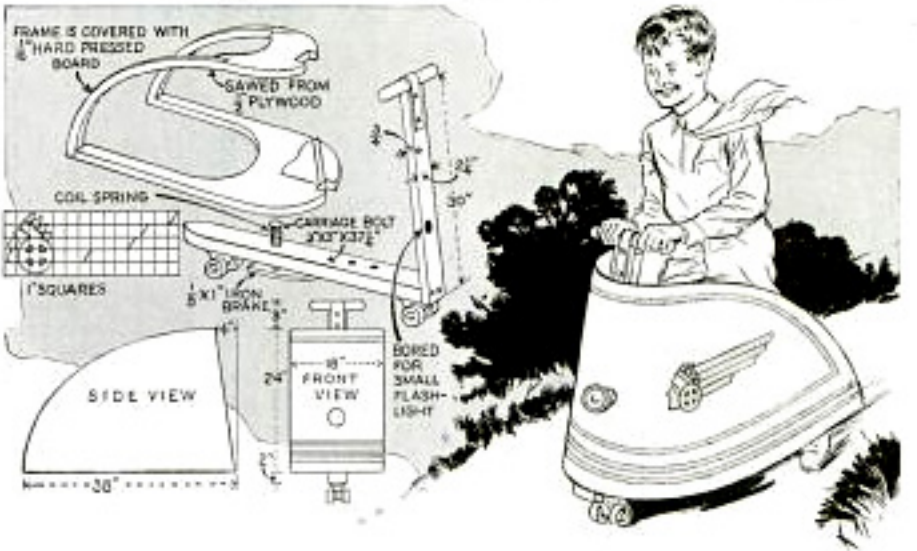
Comforts, even luxuries, of home are offered the explorer in two stainless steel "jungle yachts" which Commander Attilio Gatti will use in a trip through Africa. The vehicles are powered by truck engines. Each is a roomy, streamline trailer, carefully insulated, fitted with a variety of custom-built refinements and air-conditioned. Appointments include two bedrooms, bathroom with full length tub in black tile, living room and observation dining room, with library and bar, and electric kitchen. Two-way radio with sixty-mile range provides for intercommunication. Protection is provided against wild-animal assault, while screening and insulation guard against heat, cold, humidity, insects and the pollen of certain tropical flowers which cause deadly fevers. Overall length is forty feet. Commander Gatti also will use a station wagon and two supply trucks on his expedition. One of the trucks is a one-ton unit with special platform top for motion-picture work. It also will pull a photographic laboratory trailer. The expedition will make surveys, gather material and study itineraries for further colonial development of the Congo country; gather rare animals, and take still, motion and color pictures.

Flier Designs Streamline "Push Button" Car

Borrowing ideas from the transport planes he has piloted, a California airman designed and built a streamline automobile with a rudderlike tail. With its supercharged V-eight motor he asserts that the car will travel 120 miles an hour, yet it is economical in fuel use, delivering eighteen miles to the gallon at sixty miles an hour. Wind resistance is reduced to a minimum, even on the front wheels which have independent "pants" that turn with the wheel. Electric controls are built in wherever possible. A push button on the dash opens the doors. The disappearing top swings into place at the touch of another button, embodying the same mechanism applied to raising and lowering landing gear in an airplane. When the top is raised it forms a strong steel turret roof. The car has a 112-inch wheelbase. Built low, the car has no running boards. The headlights retract into the fenders.

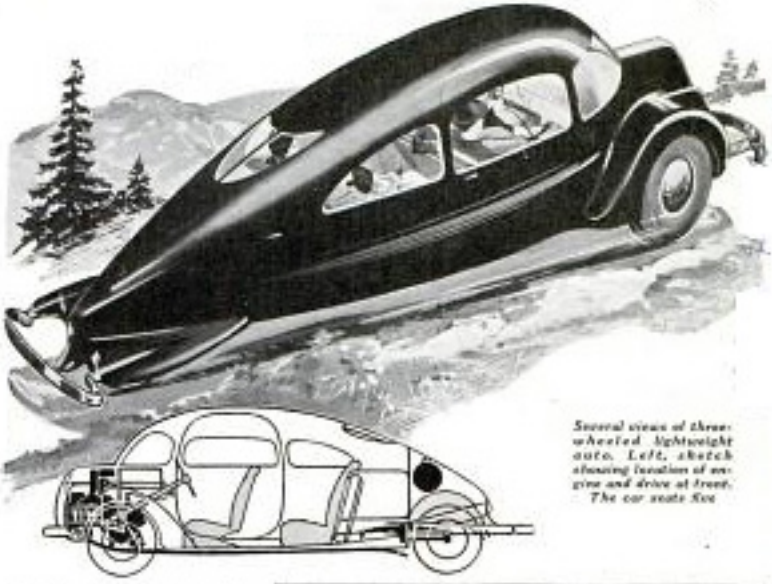
At touch of button on dashboard, the folding top disappears much as retractable landing gear of a plane vanishes into wing. At left may be seen the rudderlike tail, and below, the "pants" which turn with the front wheels

Streamlining Adds Snap to Sidewalk Scooter



Patterned after modern streamline locomotives, this sidewalk scooter is sturdy, yet comparatively light in weight and the construction is possible with hand tools. The chassis is made from any available stock, and skate wheels are attached in the usual manner. An effective brake consists of an 18 to 22-in. length of lightweight flat iron, bent as shown and bolted to the underside of the chassis. A hole drilled through the chassis directly over the free end of the brake shoe is fitted with a bushing in which the carriage bolt will slide easily. A coil spring is also provided to raise the bolt when foot pressure is released. The frame for the shield consists of two horizontal U-pieces notched to fit the steering post to which they are attached. Then a piece of 3/16-in. hard-pressed board is cut and attached to the frame. A small flashlight can be set in a hole bored in the steering post and the shield is then given a snappy paint job in orange, with a red-and-white emblem.

Three-Wheeled Auto Has Air-Cooled Engine



Several views of three-wheeled lightweight auto. Left, sketch showing location of engine and drive at front. The car seats five

Powered by an air-cooled engine, a three-wheeled five-passenger automobile weighing between 1,800 and 1,900 pounds has been constructed. It is capable of forty miles per gallon of fuel and has a cruising speed close to eighty miles per hour. A single rear wheel, independently sprung like the two at the front, allows ultra-streamlining and saves weight by eliminating conventional parts. Continuous tubular construction in all directions of stress is employed. Electrical welding was used in body construction, eliminating use of bolts, nuts and screws. A heavy worm-geared steering gear, finger-tip gear shift lever mounted on the steering column and front drive are other features. The engine is a compact four-cylinder job which develops sixty horsepower at 4,000 revolutions per minute. Engine, transmission, clutch and differential form a unit cradled in a transverse sub-frame on three rubber mountings.

Home and Office Combined in Land Yacht

Top, left, luxurious trailer with complete home and office designed by New York advertising man who travels constantly about the country, and, right, radio antennas for short-wave transmitter

Office in forward section, above, is complete with desk, typewriter, dictating machine and filing cases. Leather seat on balcony can be made up into double bed, and observation window above enables passengers to look ahead over cab. Right, 1,000-watt radio transmitter, used only for amateur purposes, obtains power from special generator producing 1,750 volts

Left, combination living room, dinette and bedroom, with galley and tile bath beyond, as seen from balcony. Roomy davenport opens into double bed. Entire unit including radio cost more than $20,000. It is air conditioned and has electric lights throughout. There are beds for six and ample lounging room for ten persons