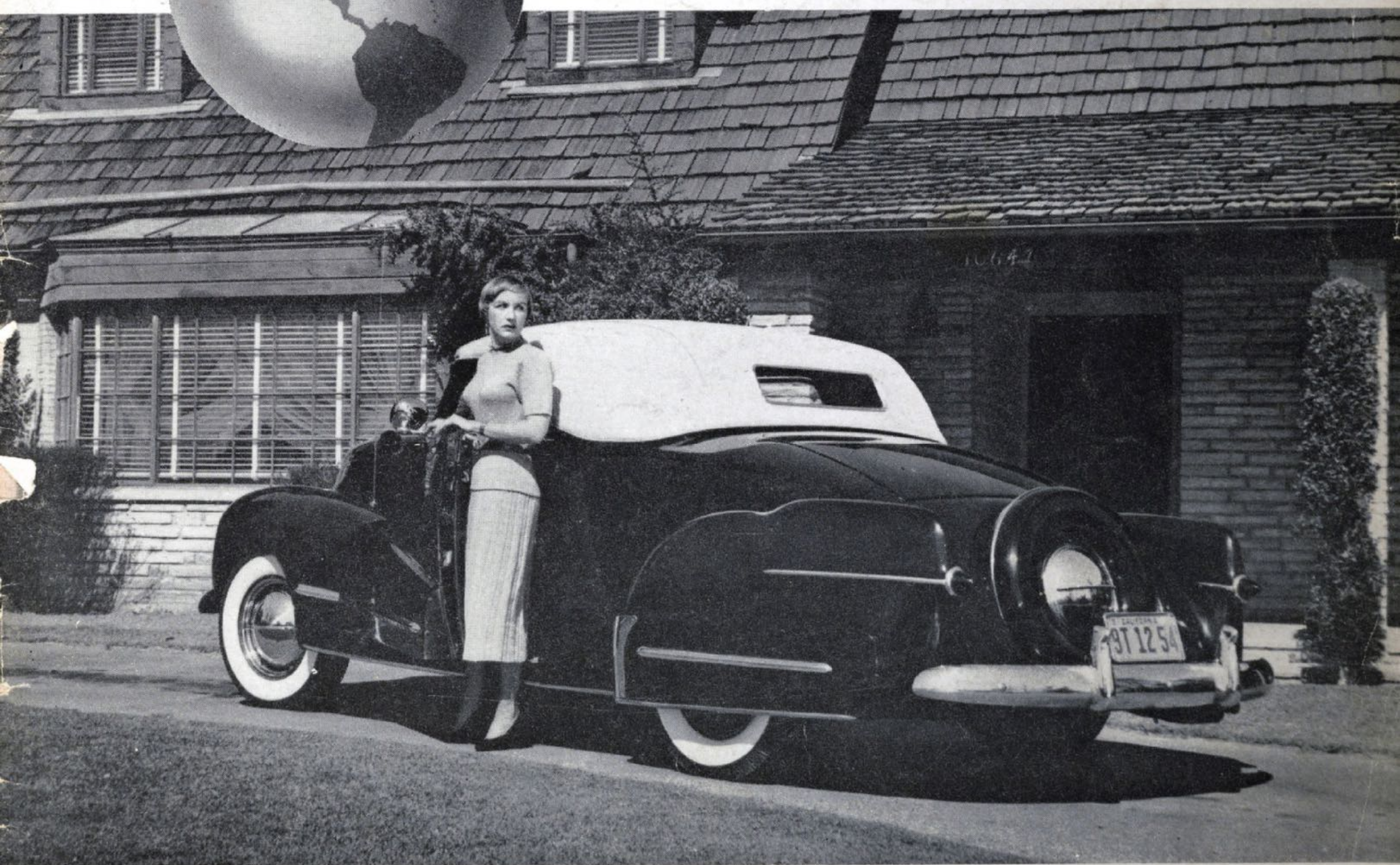


DECEMBER 1949

# MOTOR trend

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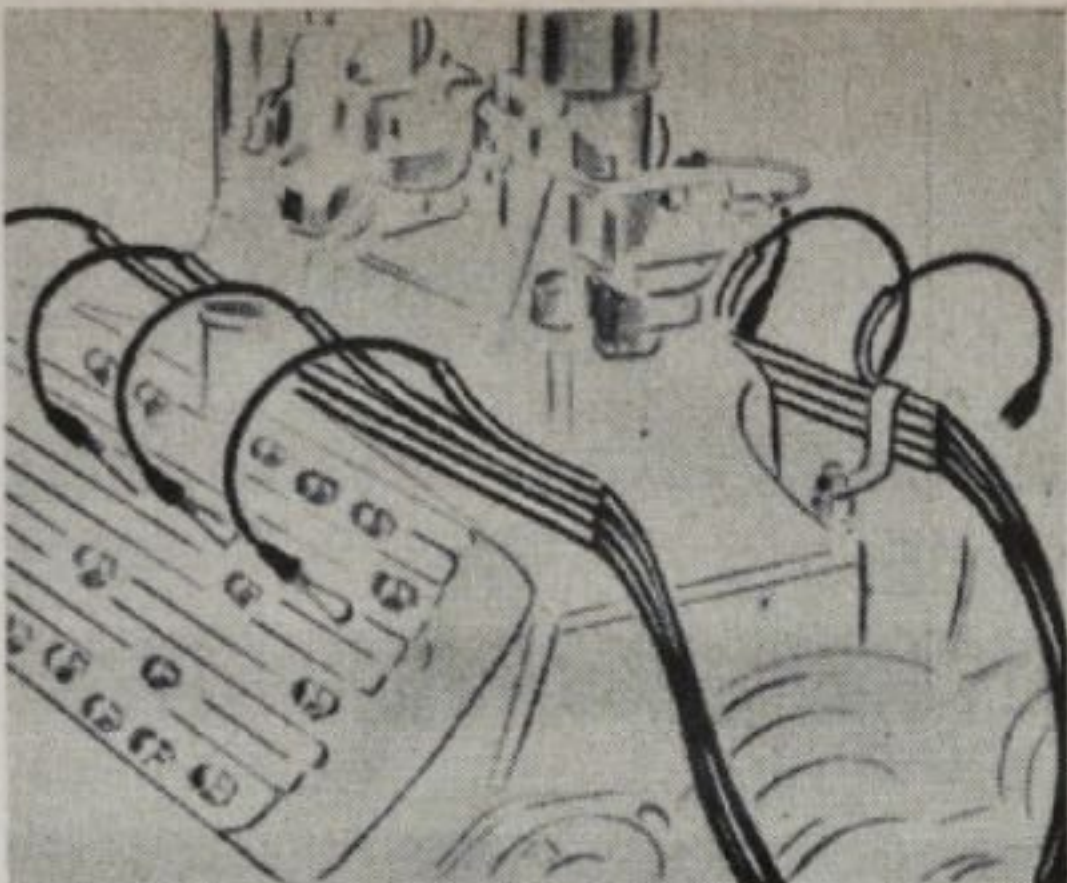
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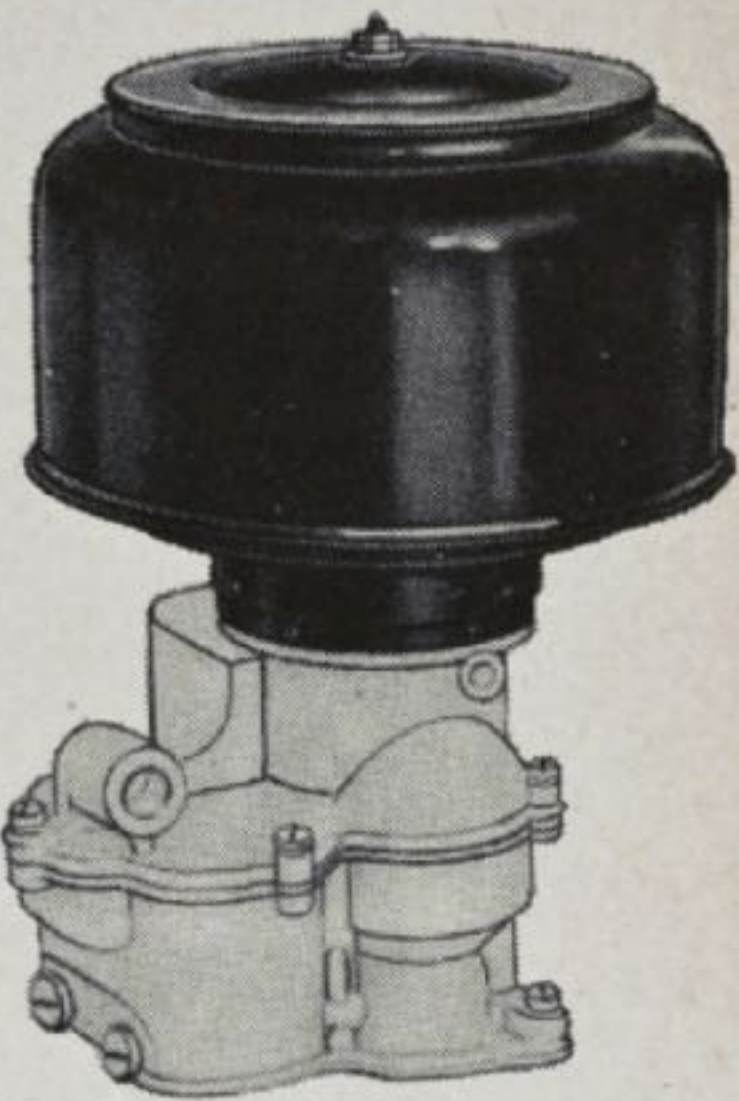


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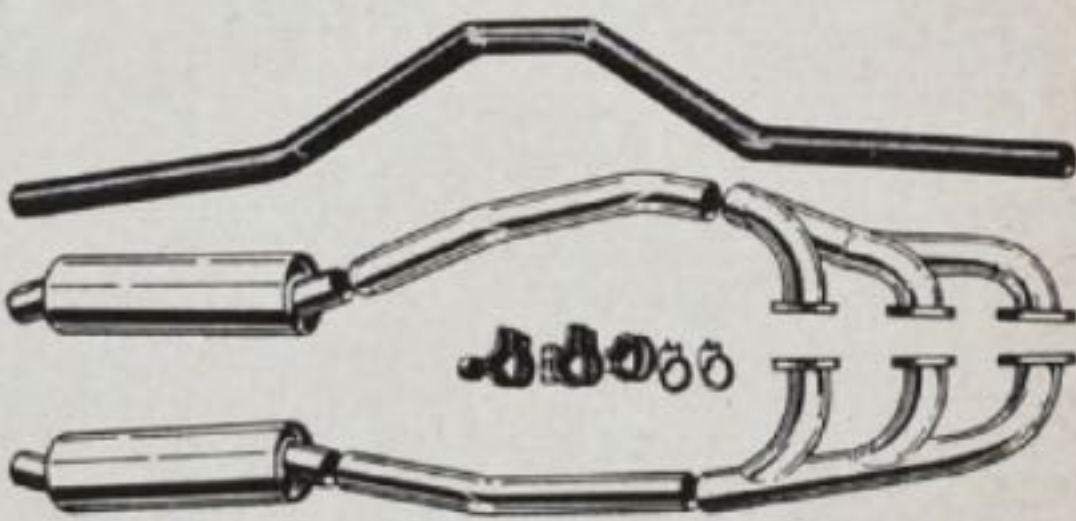
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COVER: Phyllis Avedon lends additional charm to the custom car designed and built by C. E. Johnson of No. Hollywood. (See p. 12) Photo by ROBERT E. PETERSEN

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how about a road race?

IN THE OCTOBER issue of MOTOR TREND you will recall that we editorialized on the lack of a large-scale road race in the western states—the fact that the eastern seaboard has had three this year while there hasn't been one in the west for 30 years.

We are sincerely hoping that we can help to end this starvation, but it will take the co-operation of all interested sports car clubs, all followers of the sport, and, in fact, everyone interested in seeing a true, European-style road race.

We need letters from you, our readers, telling us how you feel about such an event and where you think a likely course might be laid out. Don't be backward about suggesting any place—to you it may not seem entirely suitable, but that spot may turn out to be

the best suggested and only usable course.

As stated in the October editorial, such a road course does not have to be anything elaborate—a paved course (preferably) including at least one straight run, a grade, and several sharp corners would be very suitable. Of course, such things as spectator control and safety factors have to be taken into consideration, but let us have your ideas on the subject, regardless.

We truthfully think that enough interest could be aroused in such an event—in truth, that there is enough interest—to stage a road race on the west coast that could easily equal or surpass the events held at Bridgehampton and Watkins Glen. What do you think?





# MOTOR TRIALS

## Factory Testing the Buick Special

TO FIND OUT what kind of a shakedown test new General Motors products are put through, we recently conducted a tour through the Buick-Oldsmobile-Pontiac Assembly Division of General Motors Corporation in South Gate, California. We were particularly interested in the new Buick Special, since it is the newest in the GM line.

At the end of the assembly line, where the units have become completed cars, we saw a Buick Special being driven under its own power into the Inspection Building. At this point, a special jig was used to adjust the headlights, while at the same time, the front wheels were checked for proper toe-in, caster and camber.

From the light and front end adjustment, the Special was driven onto one of the chassis dynamometers, which is a unit that simulates all important road conditions. Basically, it consists of two rolls on which the rear wheels of the car rest, one of the rolls being a drive roll and the other an idle roll. As power is applied to the rear wheels, the drive roll turns the rotor of a power absorption unit, which can be regulated to absorb power from almost zero to maximum. In this manner, it is possible to check the engine power output and drive train operation.

Any minor adjustments that are necessary to the cars are made after they leave the dynamometer rolls, but in the case of the Special, this was not necessary.

The Special then went through its water test, which consists of slowly passing through a water spray tunnel, where water impinges on the car from all directions. The purpose of this test is to ensure that the car is properly waterproofed. From here, the car passes under a hot air blower and off the line, where several workers then chamois off the car.

When the Buick Special that we had been waiting for finally came off the end of the line, we climbed into the car and Test Foreman L. Hickman drove us over to the testing ground.

The test ground consists of an acceleration strip and a short track in the form of a figure 8, which allows sharp cornering of the car at the two ends. Mr. Hickman then showed us the routine test given to the cars, which consists of acceleration runs (for testing transmission operation), then a tour through the test track. Here the car is driven over raised mounds, spaced alternately to rock the car from side to side, then over two ladders lying on the track that succeed in shaking the car (and your teeth). One ladder is placed so that you drive over it with the left wheels and the other is placed so that you drive over it with the right wheels. When the front wheel is between two ladder steps, the rear wheel is on top of a step.

After Mr. Hickman had shown us the routine, he turned the car over to us and we gave it a shakedown test. We found that the acceleration, while not spectacular, was quite good for such a comparatively heavy car. In the short run available, we were unable to compile any figures.

but did find out that by starting out in "low" range and quickly shifting to "drive" range (without removing your foot from the throttle) after reaching about 40 mph, that the car accelerates somewhat faster.

Over the foot-high mounds on the test track the Special rocked back and forth, which is a test for finding body squeaks and shows to advantage the rigid construction of the girder 'X' type frame. The double-acting shocks, integral with the independent front suspension, provide for stability of the car.

Over the ladders, which at slow speeds shake the car from side to side and at high speeds provide a rough driving surface, the car performed very well. The fact that coil springs are used at all four wheels greatly adds to the Special's soft ride.

At the ends of the track, it is necessary to make fast, sharp turns, which were easily made. Steering of the Special through its 24:1 steering gear is easy, but slow, being a car that could be comfortably driven by any woman.

A fundamental difference between driving a Buick Special without Dynaflow and one with Dynaflow is in the absence of a clutch pedal. However, the emergency brake pedal is placed in approximately the same location as that previously occupied by the clutch pedal. If you accidentally hit this pedal while driving the car, you apply the emergency brake. It is then necessary to pull out on the emergency knob control, placed below the left side of the instrument panel. The advantage in this type of control, however, is its use for hill-holding.

After the shakedown test, the car is returned to the storage lot, where it awaits any minor repairs that may be necessary. All cars are also given a 100 per cent visual inspection and are then readied for shipment to the dealers.

THOMAS J. MEDLEY



## DETAIL SPECIFICATIONS

### ENGINE

Number of Cylinders.....	8
Bore.....	3 $\frac{3}{32}$ inches
Stroke.....	4 $\frac{1}{8}$ inches
Displacement.....	248.1 cubic inches
Maximum bhp (without Dynaflow).....	110
(with Dynaflow).....	120
Compression ratio (without Dynaflow).....	6.3:1
(with Dynaflow).....	6.8:1

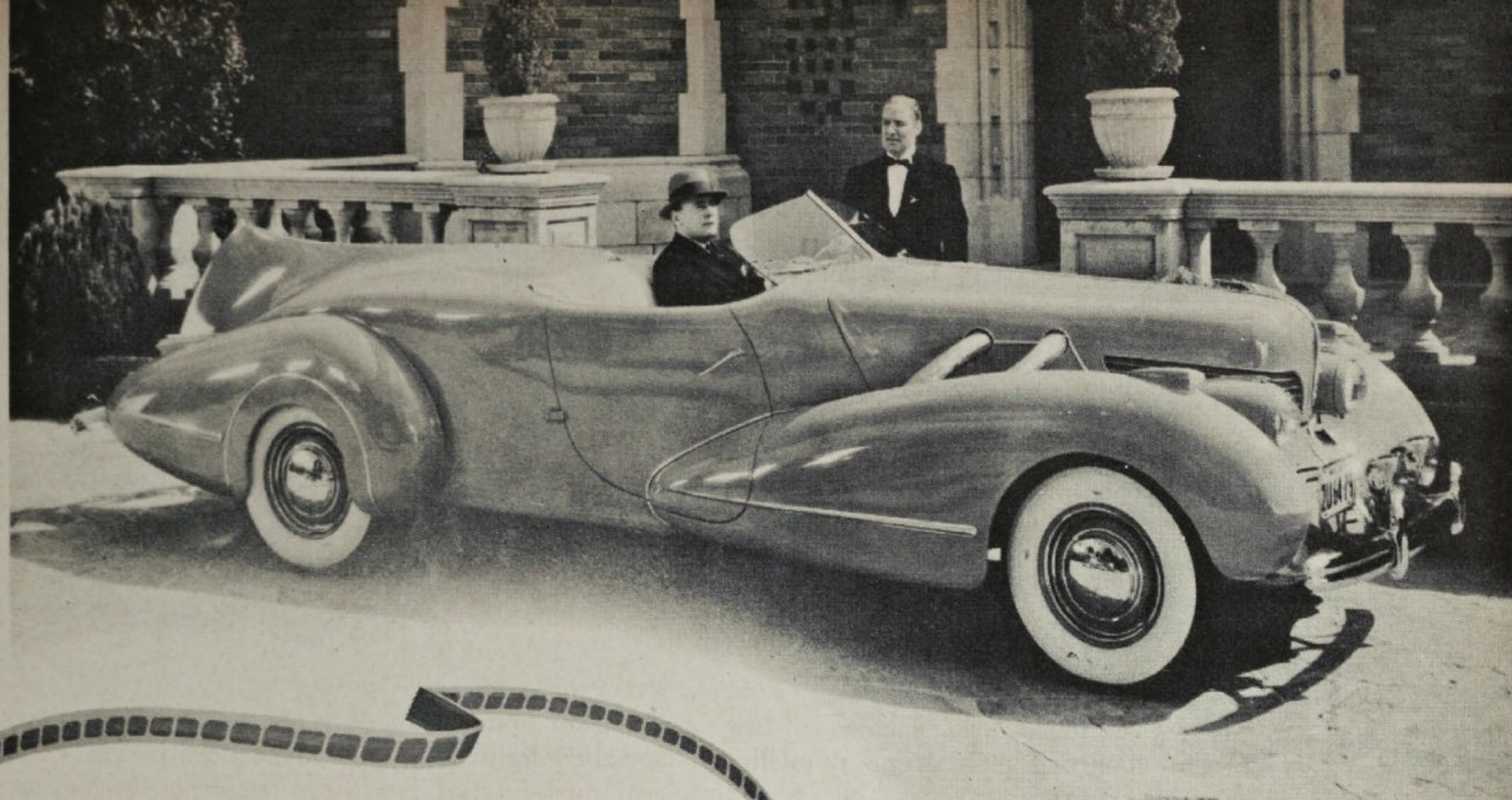
### REAR AXLE

Torque tube drive, semi-floating with hypoid gears.	
Rear axle ratio (with conventional transmission).....	4.1:1
(with Dynaflow).....	3.9:1

### DIMENSIONS

Tread front.....	59.1 inches
rear.....	62.2 inches
Wheelbase.....	121 $\frac{1}{2}$ inches
Overall width.....	79.4 inches
Overall height.....	63.4 inches
Overall length.....	204 inches

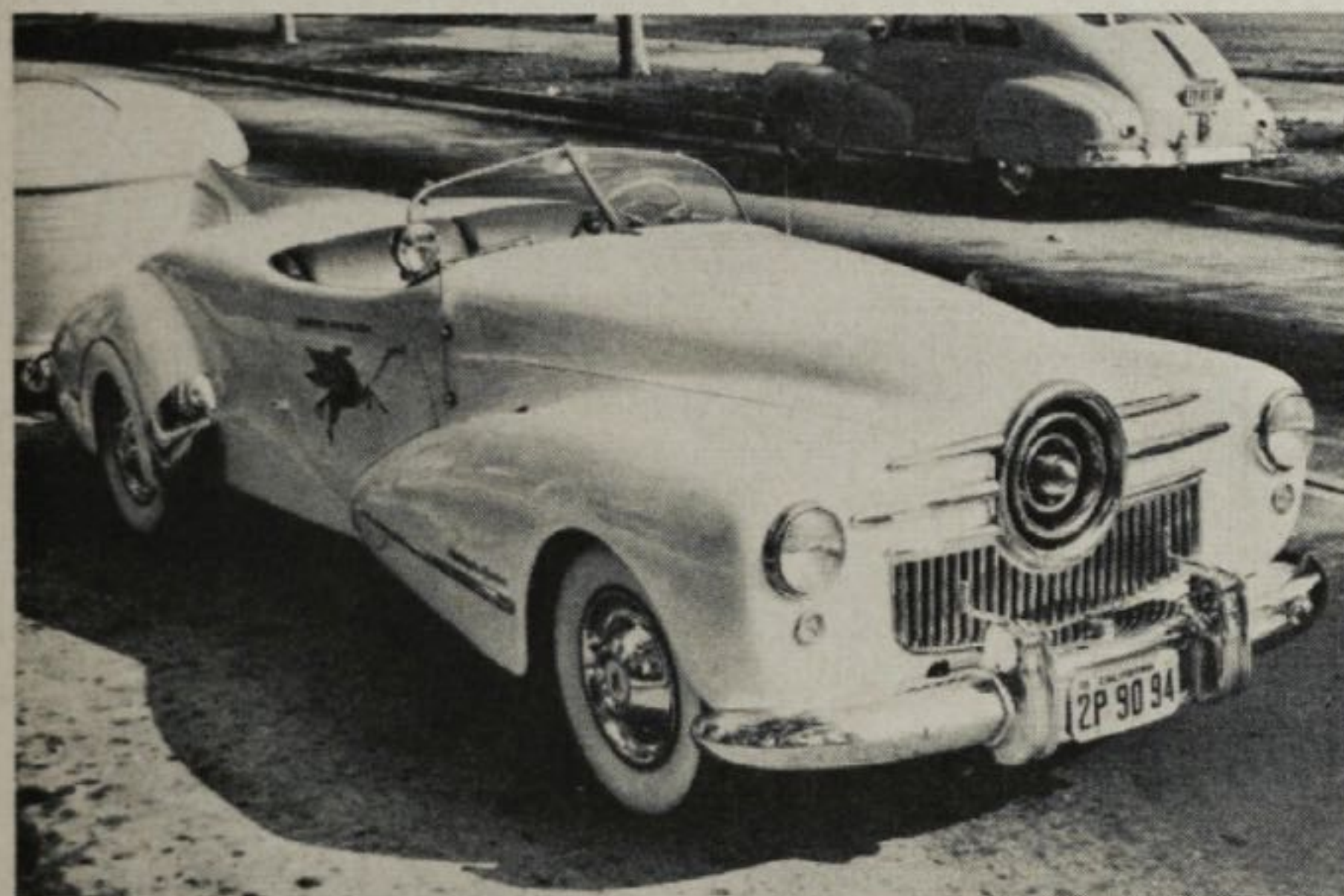
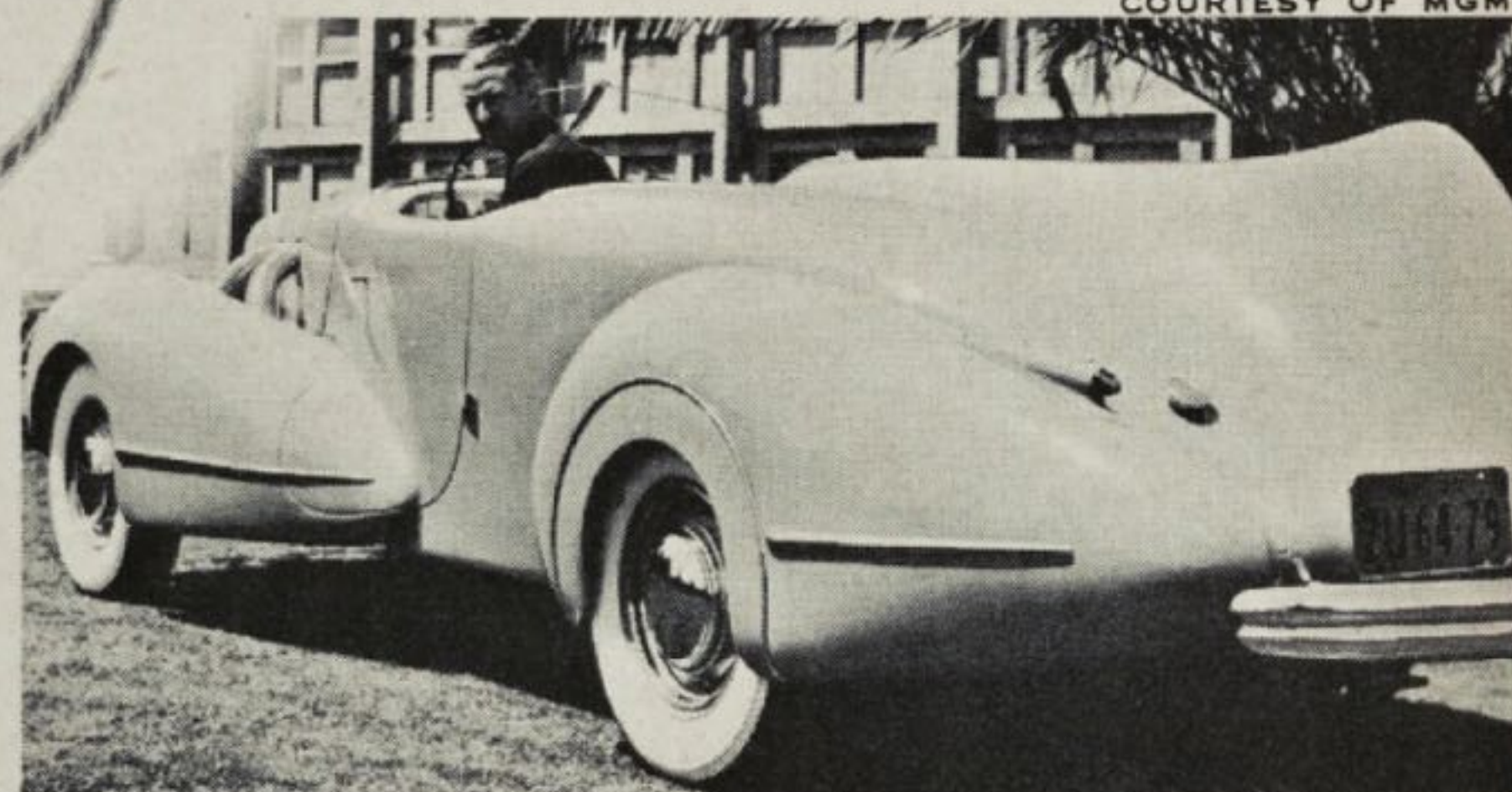




## THE TOPPER CAR

ABOVE—Scene from "Topper" shows Roland Young at the wheel of the famous Topper car.  
BELOW—Cliff Bergere, famous AAA race driver, examines the custom-built Topper speedster.

COURTESY OF MGM



ART STREIB

THE TOPPER CAR as it appears now, has been redesigned.

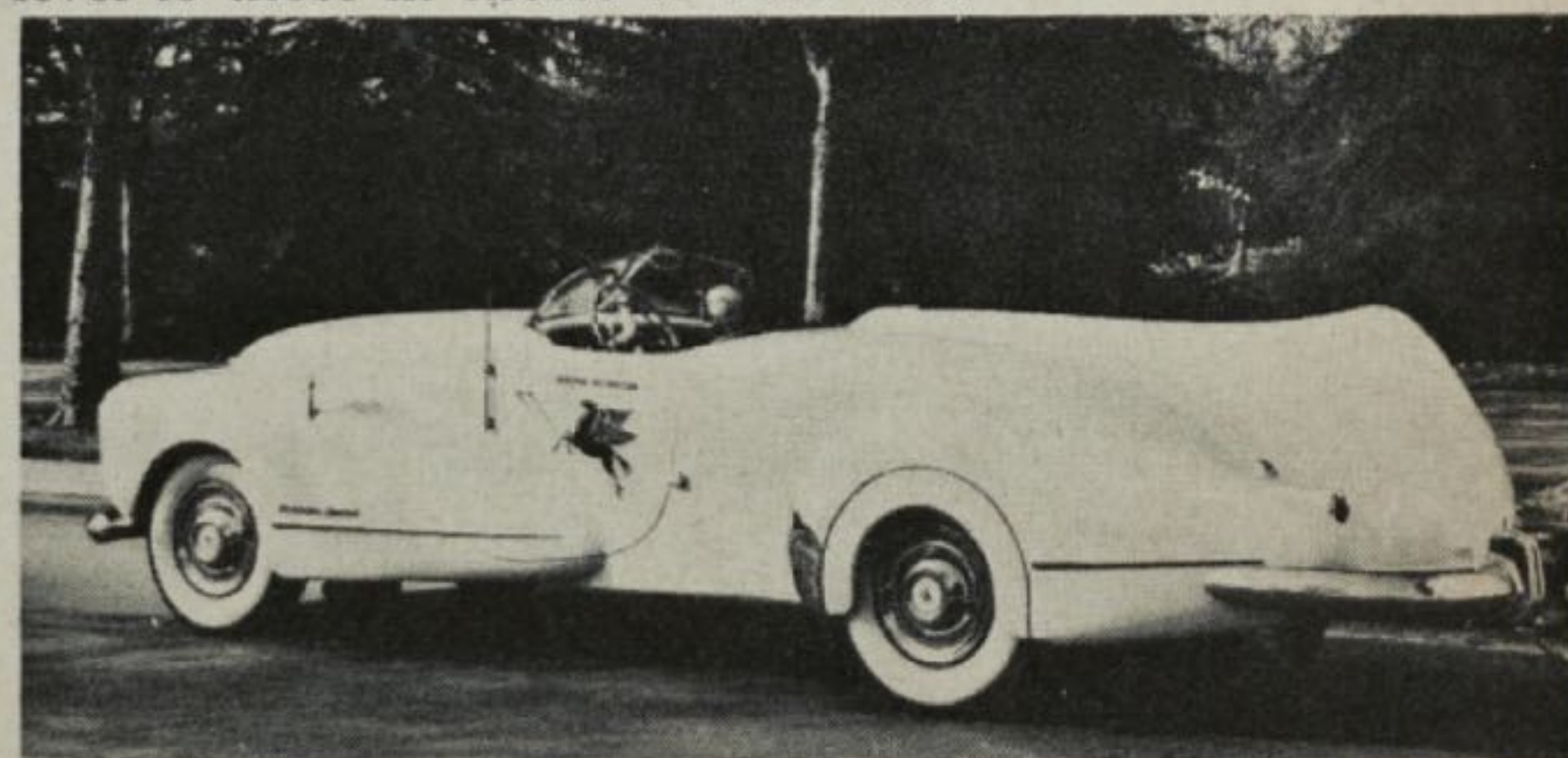
by George Finneran

PROBABLY THE BEST known custom body car ever built in the United States was the Topper car, designed in 1936 by Tony Garrity of Los Angeles, and built in the shops of Bohman and Schwartz of Pasadena for Hal Roach Studios. The body was constructed on the Series 80 (now the Roadmaster) Buick chassis. For those famous invisible man sequences, a second steering wheel mounted down near the floor was used, the driver lying prone and watching the road through a hole in the firewall and through the specially designed grille.

Bohman and Sons of Pasadena just recently completed the remodeling job (designed by W. Everett Miller) shown here, including the new grille, front fenders, bumpers, upholstery, and an all-steel, fabric-covered top. The car is equipped with a special 110-volt generator for the power-

ful public address system carried in the covered trailer.

The car is owned by the General Petroleum Corporation and will be used by officials in the 1950 Mobilgas Grand Canyon Run, the big economy competition to be held February 15 and 16, 1950. The run will be made by 1950 US stock cars from Los Angeles through Death Valley, Las Vegas, Nevada, to the south rim of the Grand Canyon, a total distance of 751.3 miles. A maximum driving time of 18½ hours will be allowed the participants. The run will be supervised by the American Automobile Association under the direction of A. C. Pillsbury, regional director of the AAA Contest Board. The course laid out will subject the cars to altitudes from below sea level to those in excess of 7000 feet.

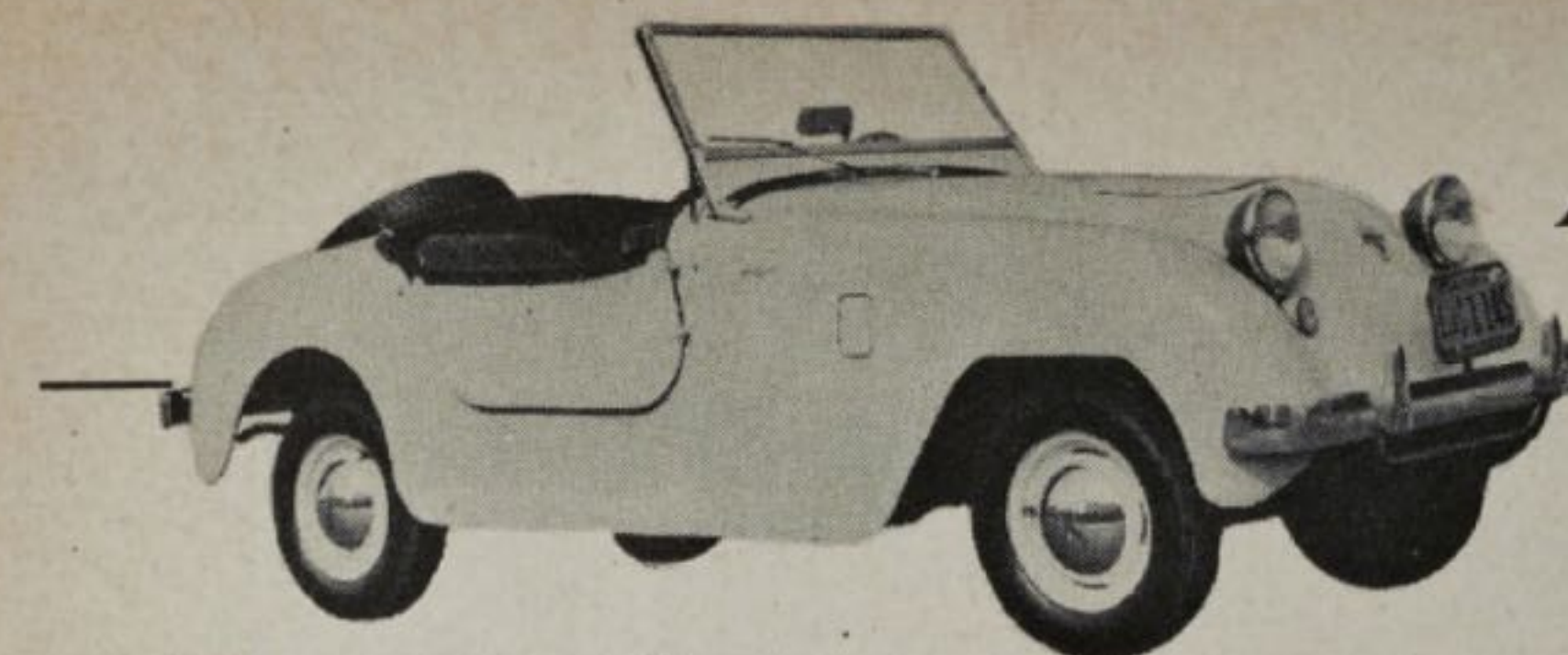


ART STREIB

REDESIGNED Topper car is now known as the Mobilgas Special. Top for this custom car is all-steel and fabric-covered.

Motor Trend

Eight



THOMAS J. MEDLEY

## American Small Cars

by James E. Potter

PARTIALLY BECAUSE of the increased competition that European cars are making here in this country and partially because of the rising demand for a low-priced and economical car, a number of American manufacturers are spending considerable money in design study in the "small" car field.

The automotive market analysts have discovered that the family in need of a second car always consider low price, economy, size and handling ease prime requisites in their selection.

Meeting the public's increased interest in "small" cars are only two well-established manufacturers in the United States, namely, Crosley and Willys-Overland. Investigation disclosed, however, that there are many "small" cars in the design or formative stage by newly formed companies throughout the United States.

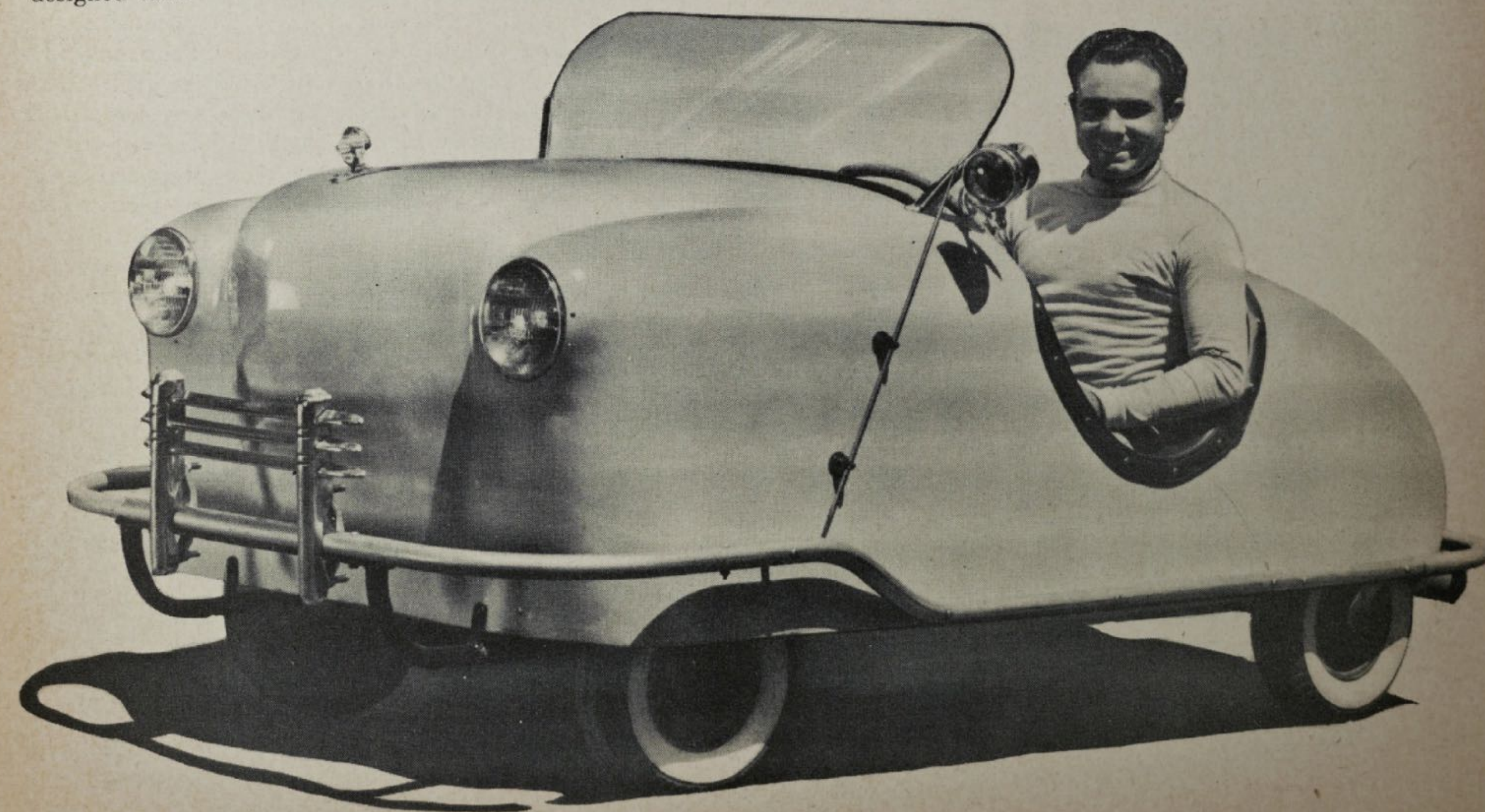
The Willys-Overland Company are currently producing a "Jeep" station wagon, several body types of Jeep trucks, the well-known Army Jeep modified for civilian use, and their latest model, the "Jeepster." With their Jeepster, the Willys-Overland Company sensed the demand for a small but dashing sports car. The car is a distinctly continental-flavored phaeton, which, incidentally, is the first phaeton produced in the United States in over fifteen years. The Willys-Overland Company's sales records seem to indicate the popularity of their line of strictly economically designed cars.

The Crosley, the other "small" American car making an impression in the motoring world, is considerably smaller than the Willys-Overland line of Jeeps. The Crosley boasts economy, from 35 to 50 miles per gallon of gas, and claims this economy is due to the car's design with "no needless weight to move around." The Crosley, like the Jeep, is stripped of bulging bumpers and fenders. It is 20 inches narrower and weighs only about a third as much as other so-called light cars. The latest addition to Crosley's several model types is a sport roadster, known as the Hot Shot, and which may prove popular because of its improved design and cleaner lines. The latest models of the Crosley indicate that the car is being constantly improved in small but important details such as better upholstery springs, better generator, brake changes, etc. From the number of Crosley cars threading their easy way through the congested traffic maze of our metropolitan areas, the public is definitely accepting this little car as an aid to their transportation problems.

In a still smaller class of cars is the "Imp," now in small quantity production by the Imp Motor Company of Glendale, California. According to R. Stanley Griffin,

(Continued on page thirty)

THE IMP, designed particularly for the teen-age motorist



December 1949

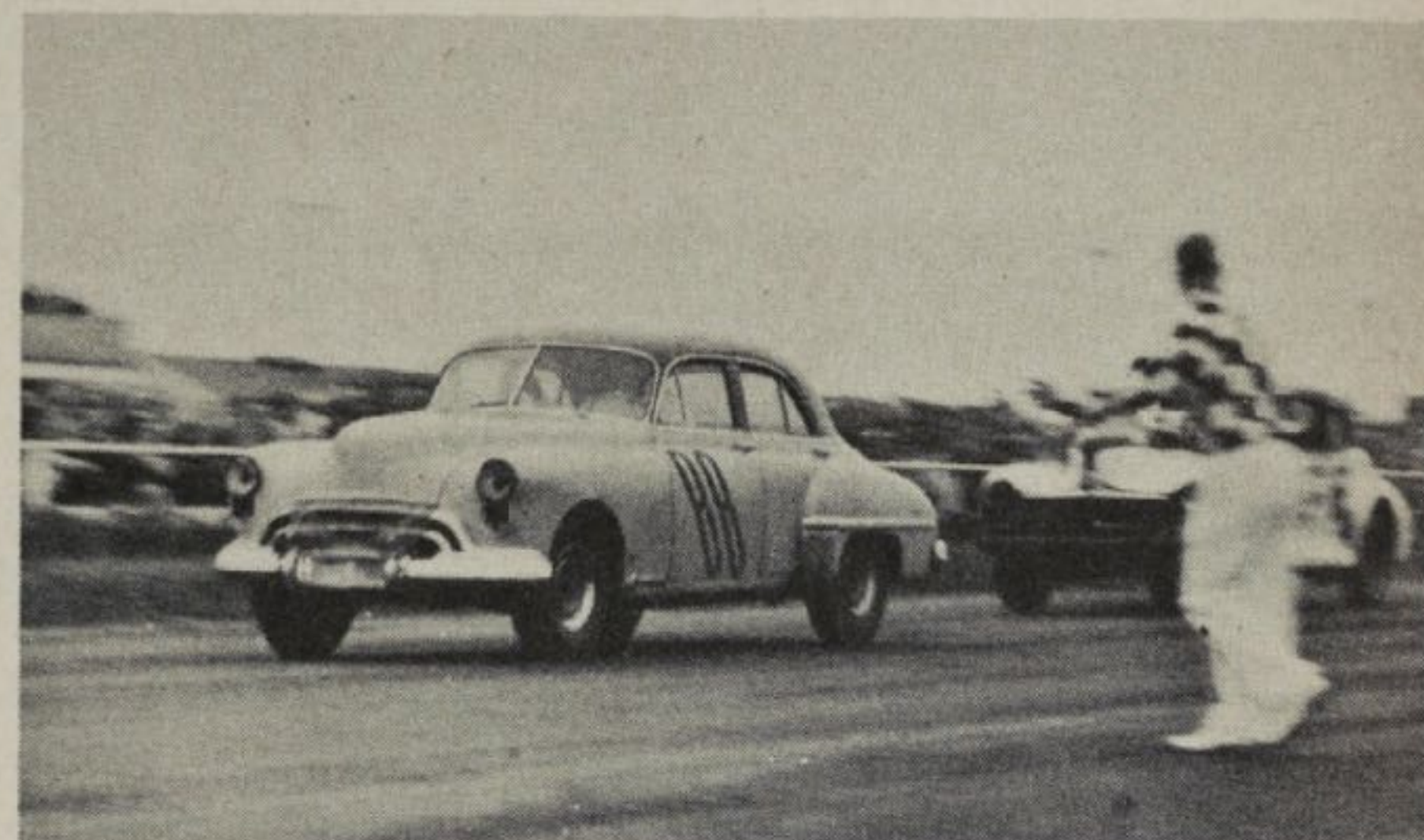
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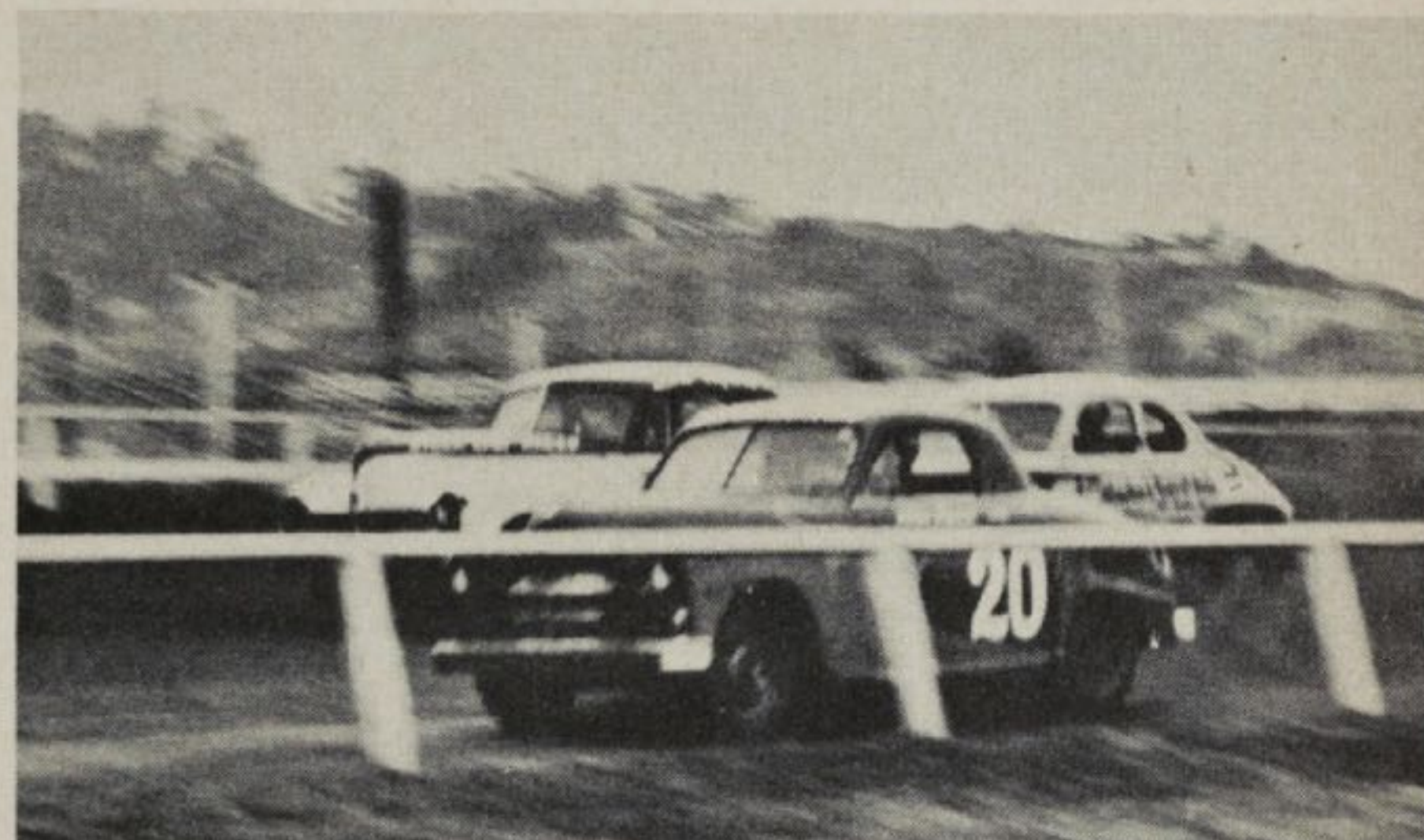
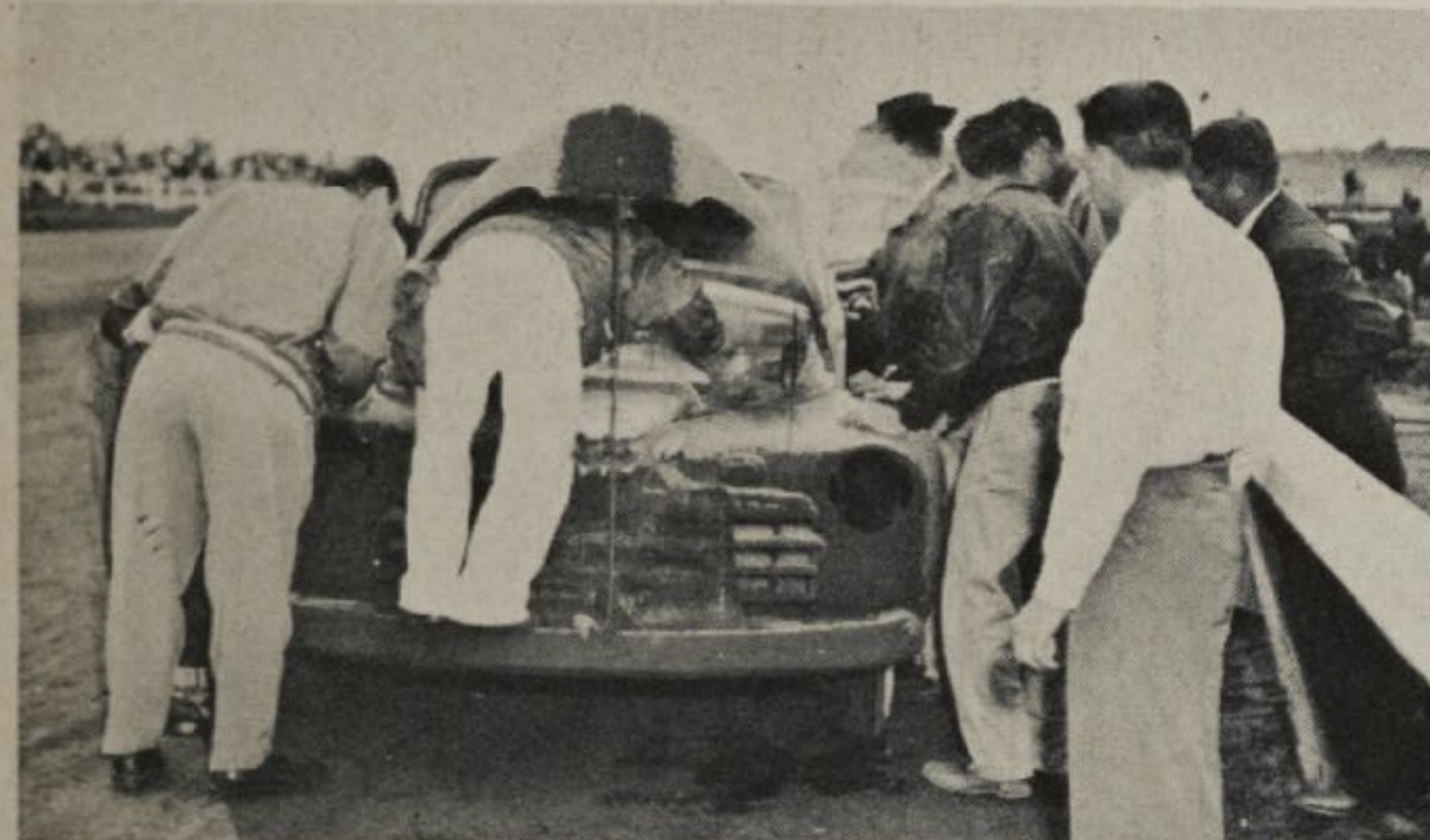
# Plymouth Tops the Stocks

STOCK CAR RACE AT DEL MAR

by Nick Alexander



PHOTOGRAPHS BY ROBERT E. PETERSEN



ATTEMPTING TO prove a point of contention—that of whether it is the equipment or the driver that makes for winning a race—a combination of the two were used to stage what could be considered an upset win at the Del Mar stock car races on October 16. This combination was in the form of Walt Faulkner and a '49 Plymouth two-door sedan.

Starting on the outside of the sixth row in the feature 100-lap race, Faulkner drove a heady race by remaining behind the pack until about the fiftieth lap. By that time, the mile dirt-and-clay track (which had had its surface for horse racing pushed to one side) had begun to take its toll.

Entered against Faulkner were cars of the West Coast Stock Car Racing Association, of many makes; included was another '49 Plymouth, a '49 Lincoln, a new Hudson, a '49 Ford 6 and several new V-8's, a '49 Oldsmobile 88, and '46-'48 Fords, Hudsons and Pontiacs.

Twenty-three cars lined up for the feature event, three abreast. After one warm-up lap, the cars stopped at the finish line, were introduced, and were then started from a standing start. Those drivers who gave their cars just enough throttle to maintain traction got the jump on the remaining cars. Some drivers gave their cars too much throttle and spun their rear wheels, going nowhere.

Coming out of the second turn, Jim Riggsby ('47 Hudson) was in first place, having moved all the way through

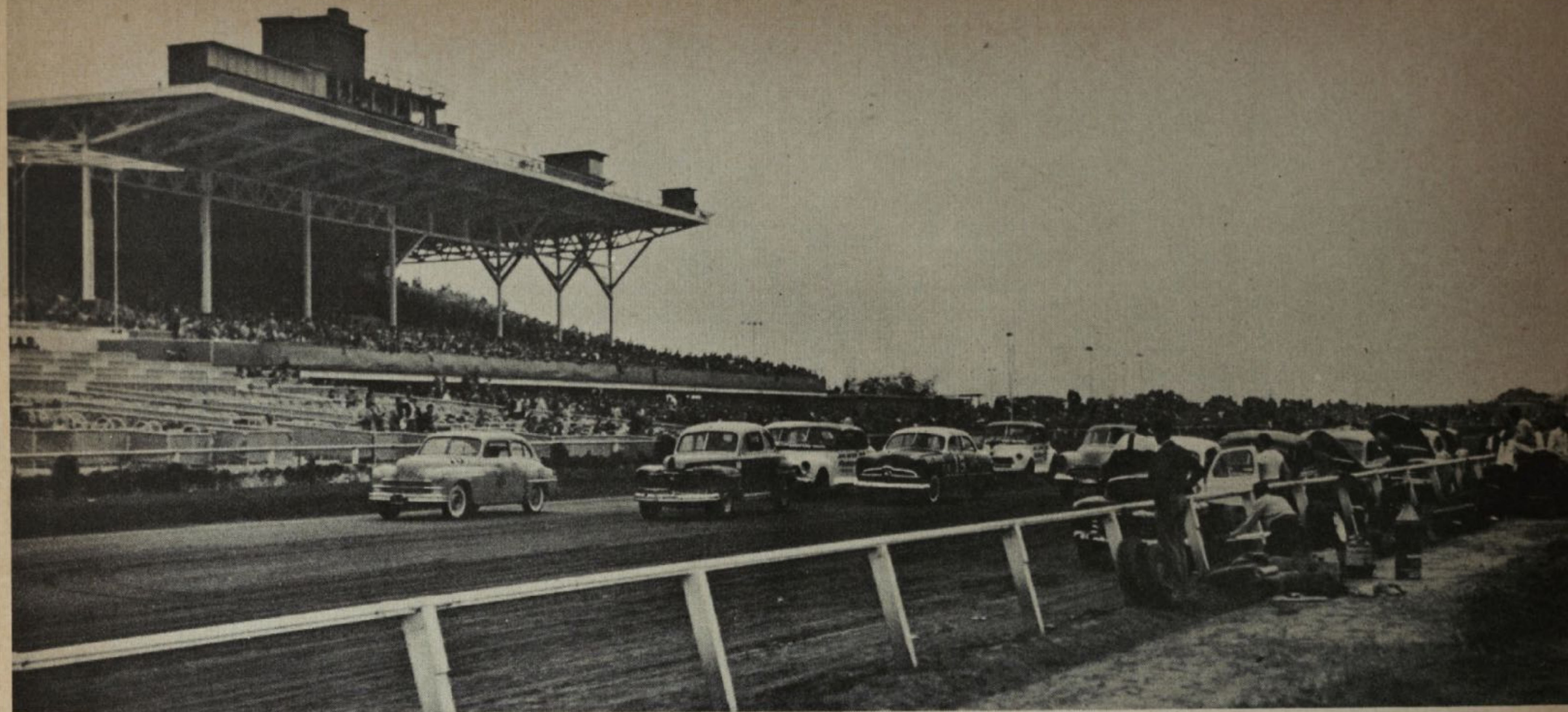
the pack from 22nd starting position. Closely following him was the '47 Pontiac, driven by Eric Erickson.

From out of the pack, however, there appeared a low-flying streak, in the form of a Lincoln, with Bert Livingston at the wheel. Close behind was the highly touted Olds 88. It soon became apparent that the Olds would have its job cut out for it in attempting to overtake the Lincoln, for although it stayed even in the stretches, the Lincoln was taking the turns better. It may have been that the snubbing-down job of the Lincoln was handled better. (The left front spring is usually tied down to prevent loss of control, while stiffer shocks or additional shocks are installed in the rear.)

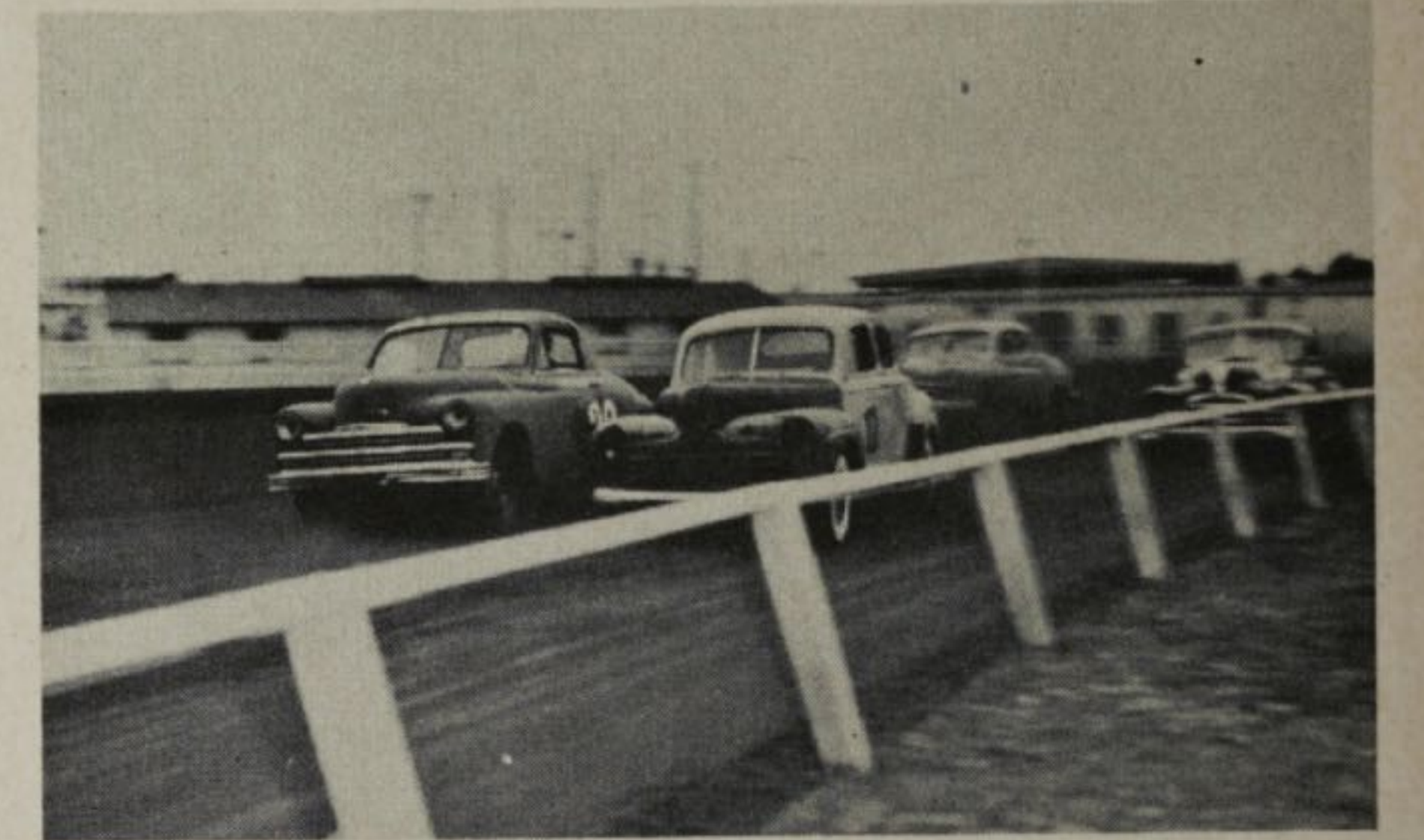
After moving into second place on the 35th lap, the heavy weight of the Lincoln began to tell and caused the right front tire to blow. At this time, the '47 Hudson was still leading, with the '47 Pontiac second, and Olds 88 third.

On the 51st lap, the new Plymouth had more than begun to make its bid, for it had moved around the Olds 88. Not to detract from Faulkner's superb driving, but it was apparent that the Olds was easing up. (Later it was verified that the Olds fuel supply was getting low. Rather than lose several laps for a pit stop, Corky Benson decided to drive at two-thirds throttle the remainder of the race.)

By the 60th lap, the '47 Hudson was still first, the new Plymouth was second, the Pontiac was third, a '49 Ford was fourth and the Olds was fifth. The Lincoln had made



PHOTOGRAPHS BY ROBERT E. PETERSEN



another pit stop with another flat front tire and a '49 Ford had dropped out with a broken right front spring.

From here until the 98th lap the positions remained the same, with all of the equipment being able to take the punishment handed to it. Two laps from the finish, the Plymouth was fast closing the gap on the Hudson, and as they entered the turn before receiving the blue flag, the Plymouth moved into the lead. And again, it appears that Faulkner was lucky in having the more economical car, for the Hudson coasted across the finish line to take second place, with no gasoline left in the tank.

Faulkner provided the crowd with many thrills, overtaking many of the higher-powered cars on the stretches, including the Lincoln. It seemed unbelievable that such a car could perform as it did, but there it was—the winner over all comers on an equal basis.

Third place went to Erickson ('47 Pontiac), fourth was Bill Taylor ('49 Ford V-8), while fifth went to Corky Benson in the Olds 88.

Along with the main event, there was a three-car three-lap trophy dash, won by Lou Figaro ('47 Hudson), and three six-lap heat races. Fastest one-lap time was turned by the '47 Hudson—50.67, or an average of 71 mph for the one mile. Second fastest car was a '47 Ford, third was a '47 Hudson, fourth was the Olds 88, and fifth fastest was the '49 Plymouth.



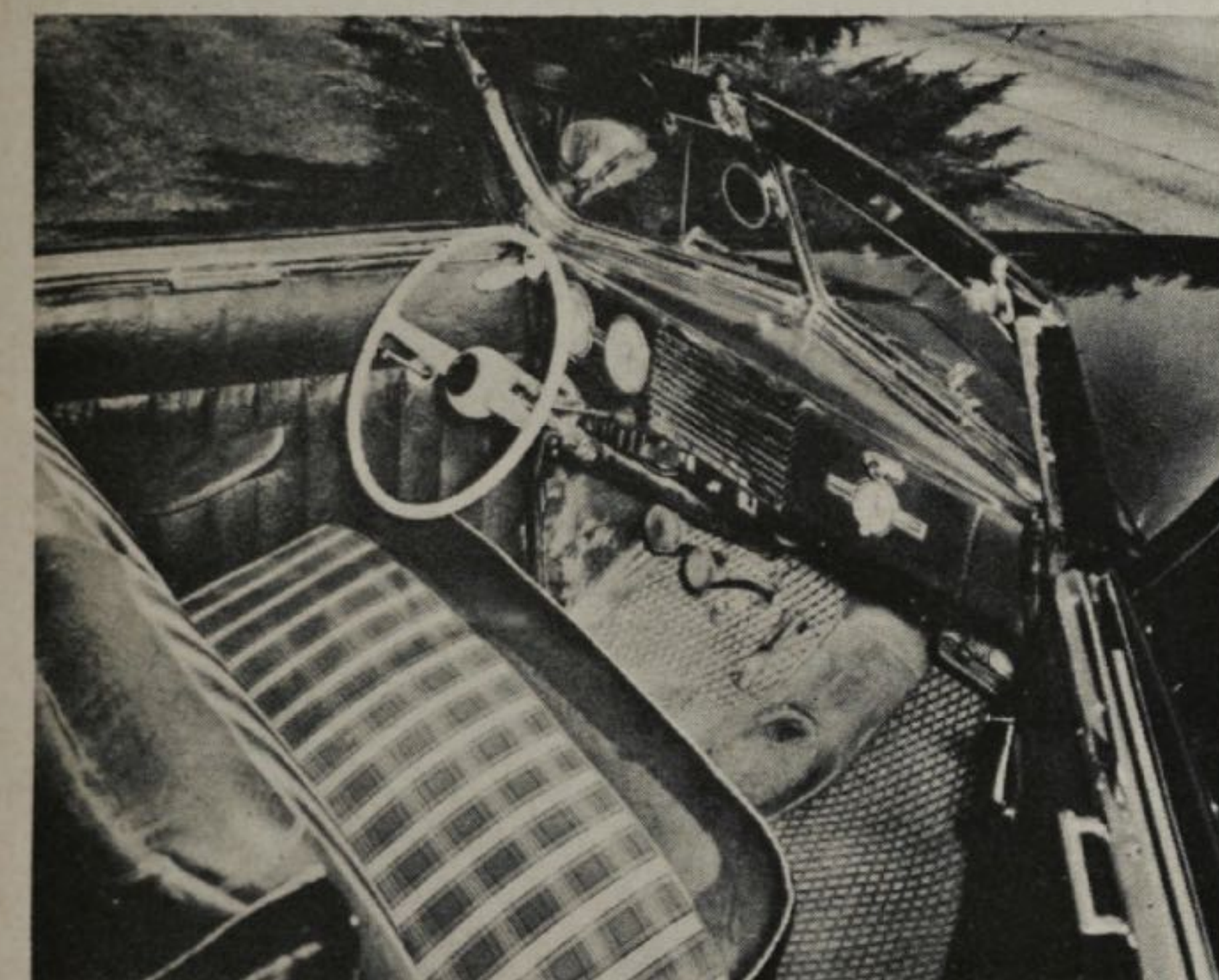
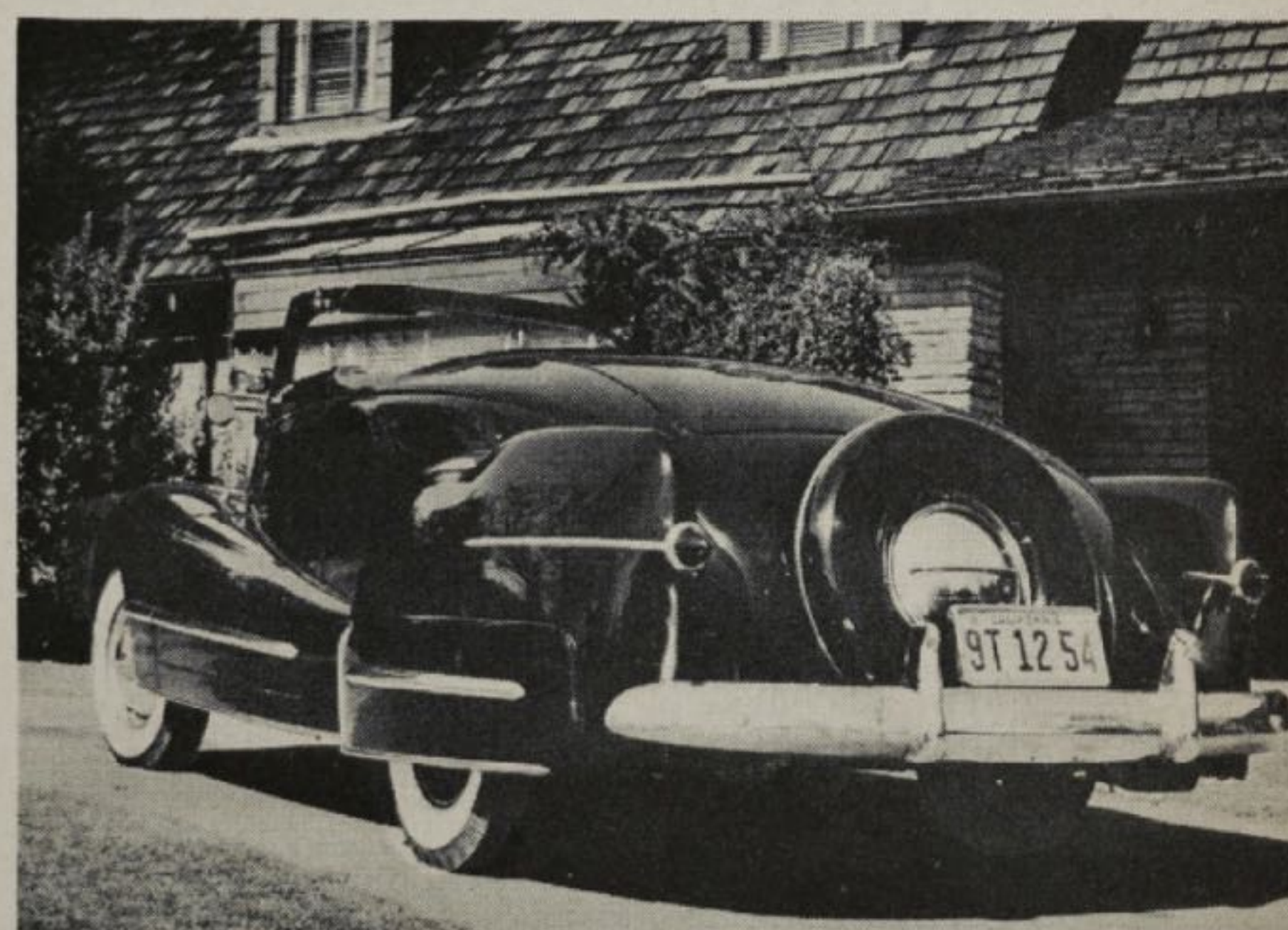
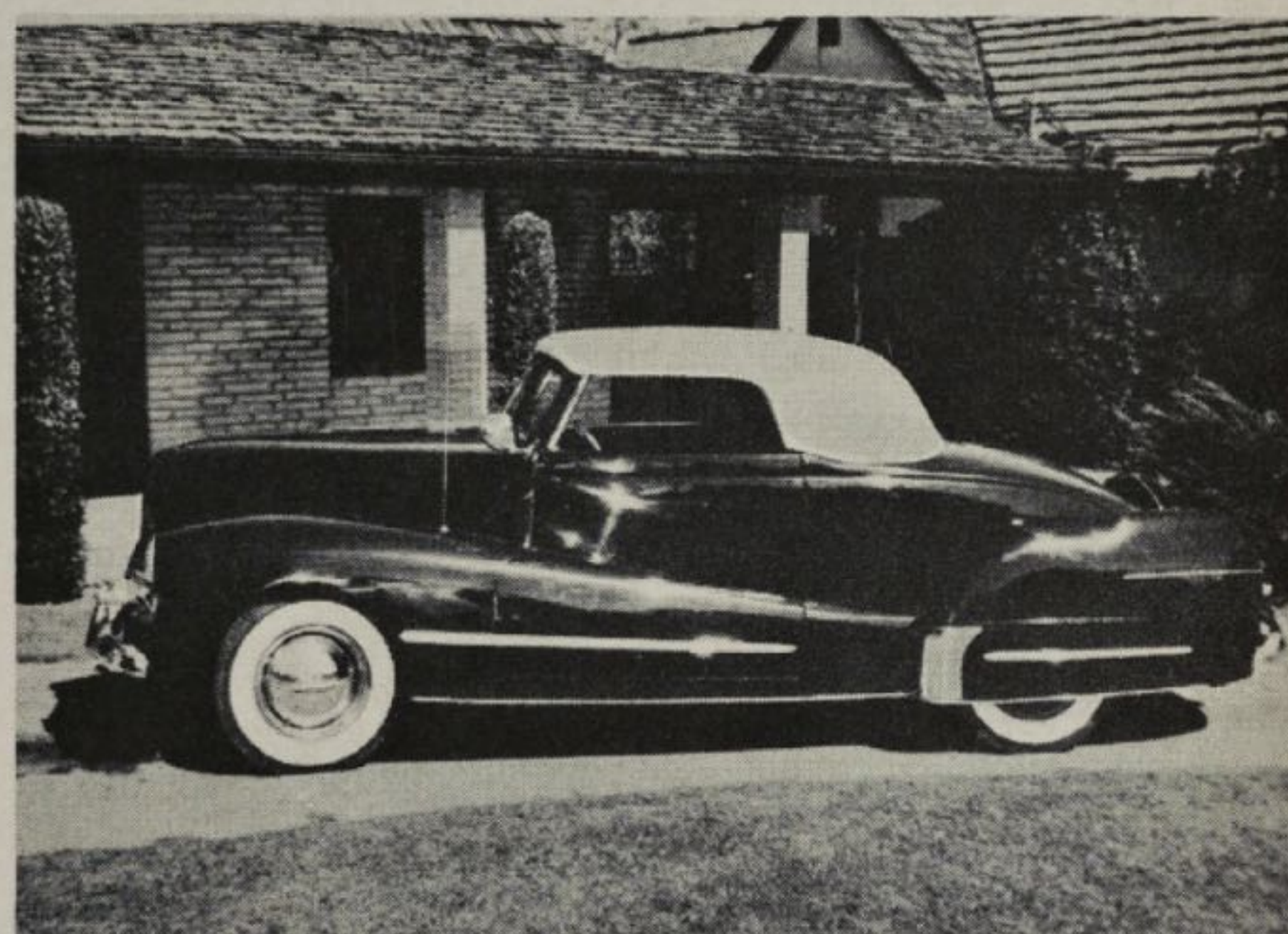
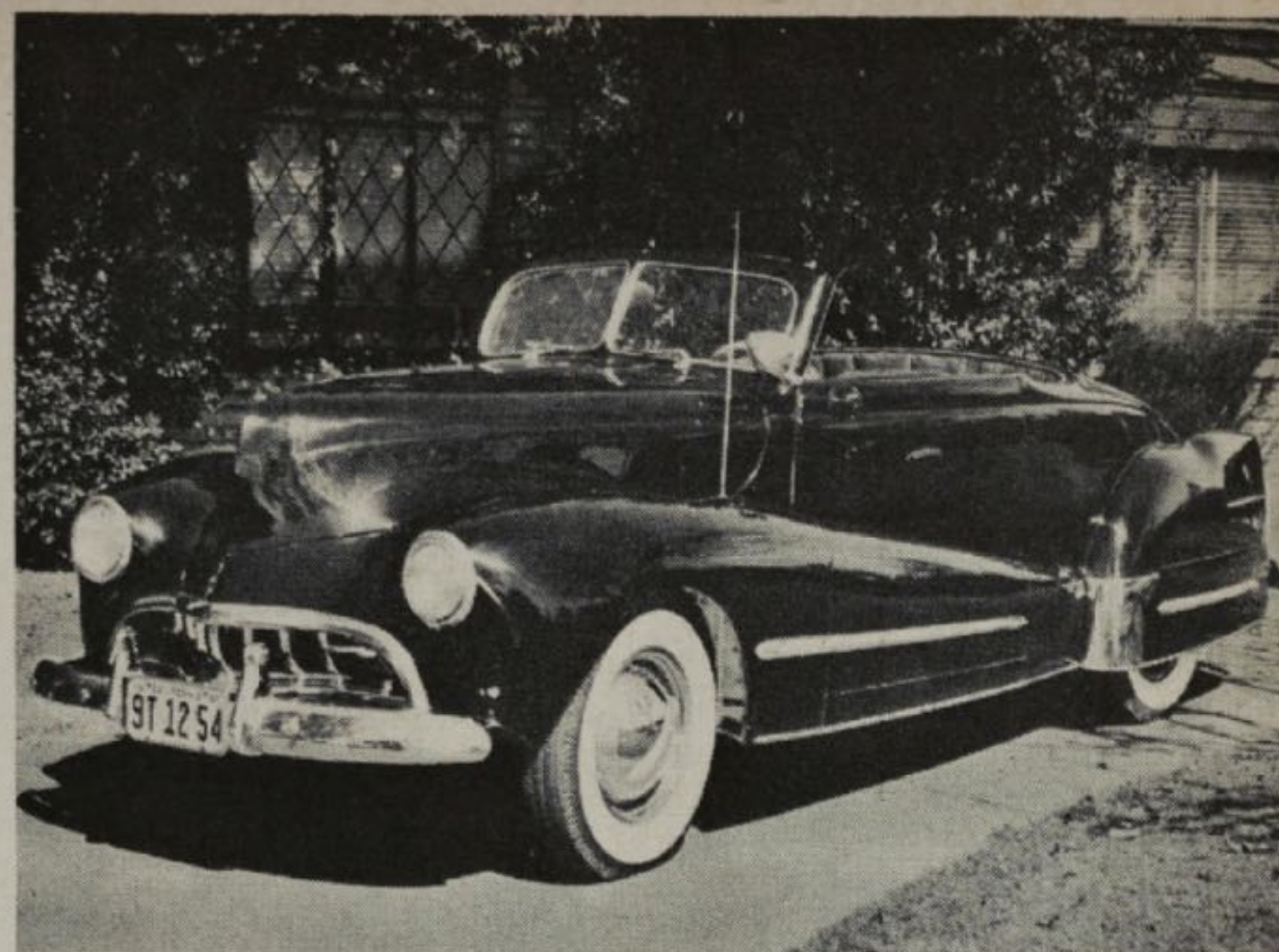
Gasoline for all the cars, which were absolutely stock, was furnished by the General Petroleum Corporation from their mobile truck unit.

Although the outcome might have been different had all cars lasted, most fans were pleased with the final result.

December 1949



# STYLED FOR PLEASURE



**M**ETALWORKER C. E. Johnson of North Hollywood, California, does not claim to be a designer, nor does he profess to be a stylist. Yet it is almost unanimously agreed that his '39 Ford V-8 coupe is a professionally styled piece of work. To Johnson, the styling and building of his car was a hobby—even though metalworking is his means of employment.

The car was originally a '39 Ford V-8 convertible coupe, but now retains little of the original design. Major changes include a redesigned grille, fadeaway front fenders, fin-type rear fenders, a spare tire sunk into the turtle-deck, and a removable top. The car has been lowered slightly: 1½ inches in front (by reversing the spring eyes) and two inches in the rear (by removing one leaf and reversing the spring eyes).

Johnson completed the car last May, having spent about 18 months of spare time on its construction. He makes a point of stating that the rear fenders were designed and built well in advance of the initial appearance of the 1949 Pontiac (to which fenders they bear a slight resemblance).

The new grille was designed from parts of a '46 Chevrolet and a '48 Buick: the top and bottom bars are from the Chevy, while the center pieces are from a '48 Buick grille and are turned upside down. The grille and air scoop actually has more area than the original grille. The hood has been restyled to fit the grille, and has a prominent peak at the front end.

The front fenders, rear fenders and rear skirts were all

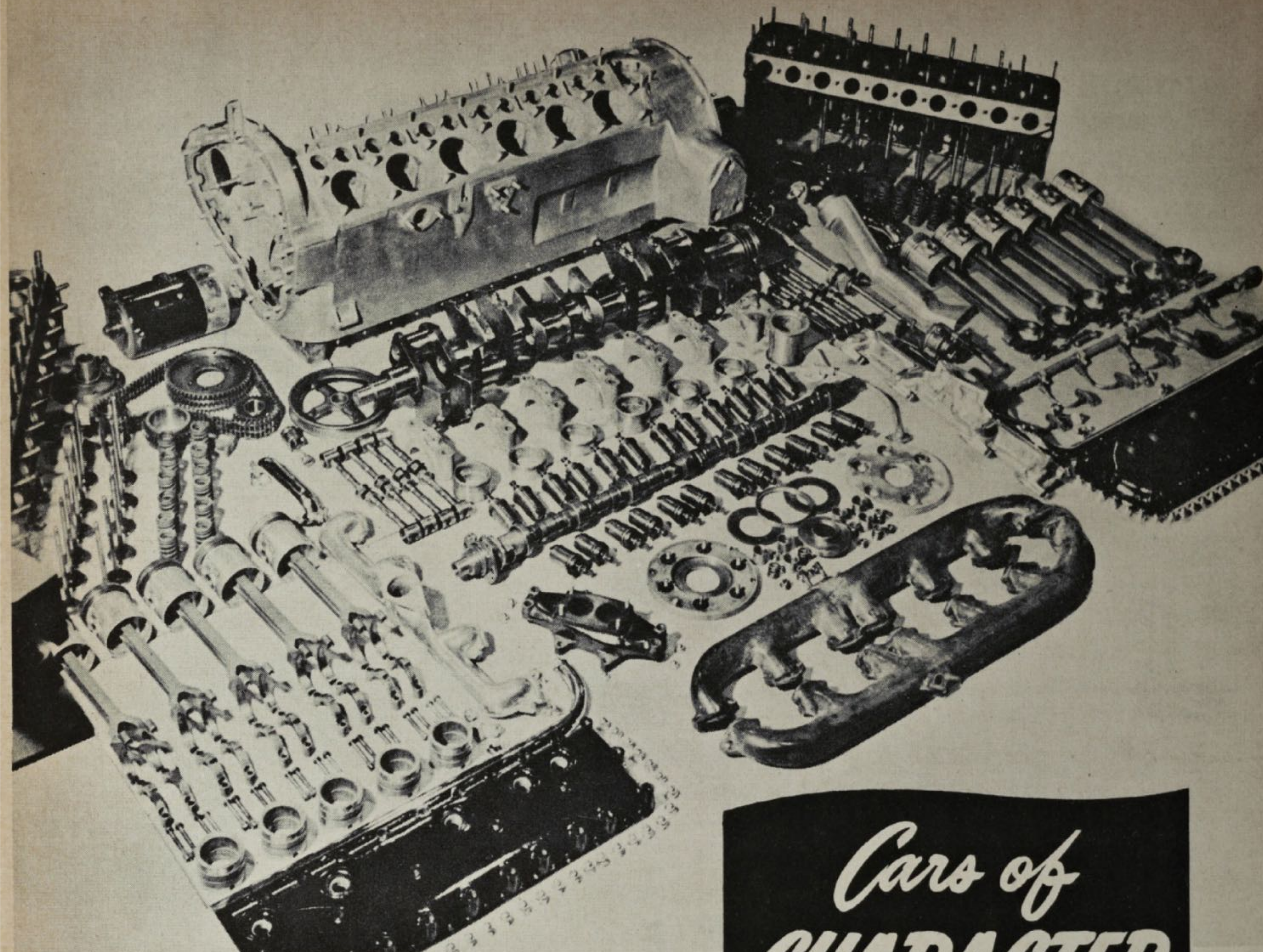
formed from flat, sheet stock, and are all easily detachable. The tail light lenses are from a 1937 Lincoln Zephyr.

The hinges on the rumble seat were relocated so that the deck lid lifts forward (being pushbutton-operated, as are the doors). The spare tire has also been recessed in the trunk, giving the car that Continental look.

The windshield has been chopped two inches and a special top was fitted. The top is all metal, consisting of crosswise bows and longitudinal bands, and covered by padding. By loosening three latches in front, the top can then be lifted off. No snaps are used in the rear, so that a smooth appearance is presented with the top removed.

*Motor Trend*

*Twelve*



GRIFFITH BORGESON

## THE LINCOLN

**T**HE BIG BLACK touring car shrieking around a tight corner at 75 per, with machine-gun fire splattering from behind its flapping side-curtains . . . remember the getaway sequences in the gangster films of the '30's? Though it never performed on the tracks, the old Lincoln was the prototype of the fast, fine car. Screen idols purred down Hollywood Boulevard in their sleek Lincoln phaetons . . . the car was sporty. Statesmen and diplomats rolled up to the White House in their Judkins-bodied limousines . . . the car had elegance. Twenty-five-year-old tow rigs are still doing a perfect job today . . . the car was rugged and dependable. It had a versatility that could be matched by few other makes.

Every automobile is designed to conform to a well-defined prime function. It can be speed, dependability, power, economy, or a compromise of several

factors. The Mercedes-Benz SSK, for example, was built to provide the ultimate in a really fast personal car. The Rolls-Royce, on the other hand, went to fanatical extremes to achieve perfection of craftsmanship and engineering. SSK's purpose was *speed*, Rolls-Royce's, *perfection*, but for sheer dependability and versatility, no other car is ever likely to surpass Henry M. Leland's 1920 to 1933 Lincoln automobiles.

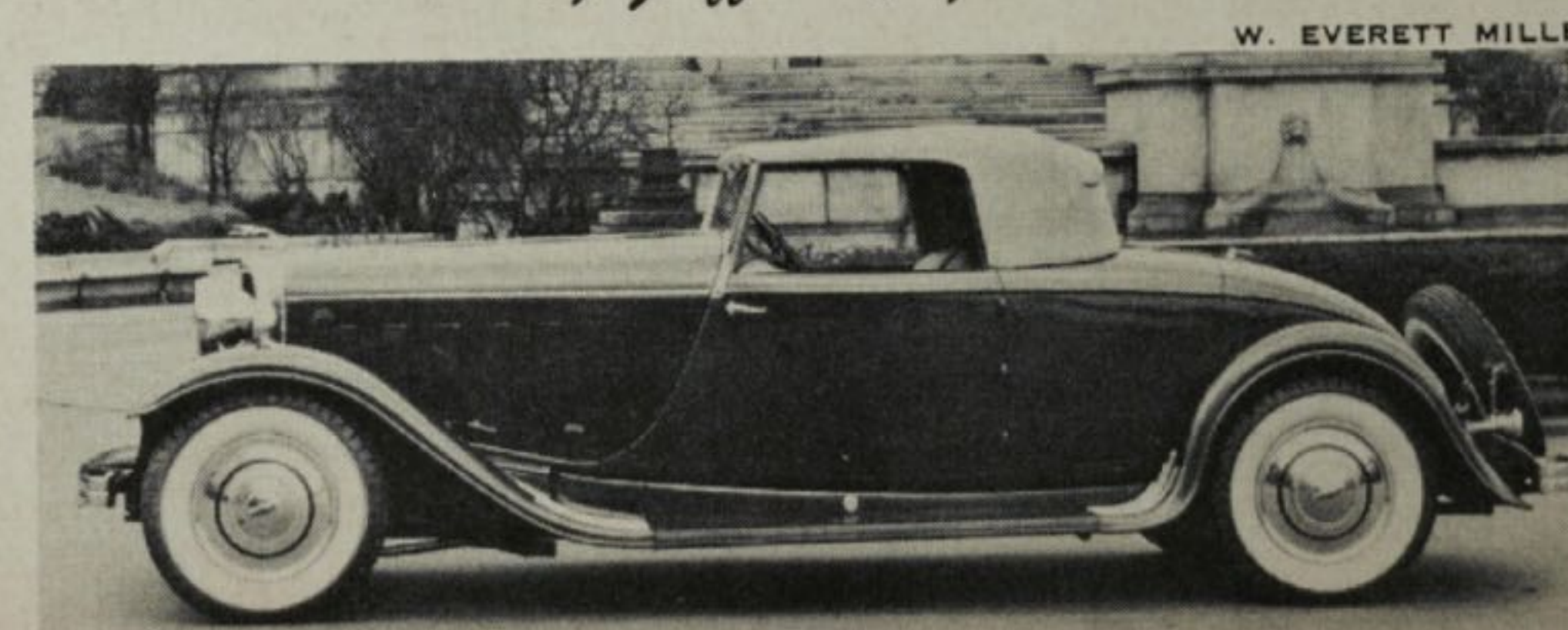
This car, produced in Leland's eightieth year, was the culmination of a lifetime devoted to the mechanical arts. He learned precision machine work as a craftsman at the

Springfield Arsenal during the Civil War, later spent several years at Samuel Colt's arms works, then learned advanced production methods in the employ of big New England tool-making plants. By 1890 Leland had established his own

(See page twenty-eight)

*Thirteen*

*by Griffith Borgeson*



W. EVERETT MILLER

*December 1949*



# Custom Bodies

THE 1935-1941 ERA

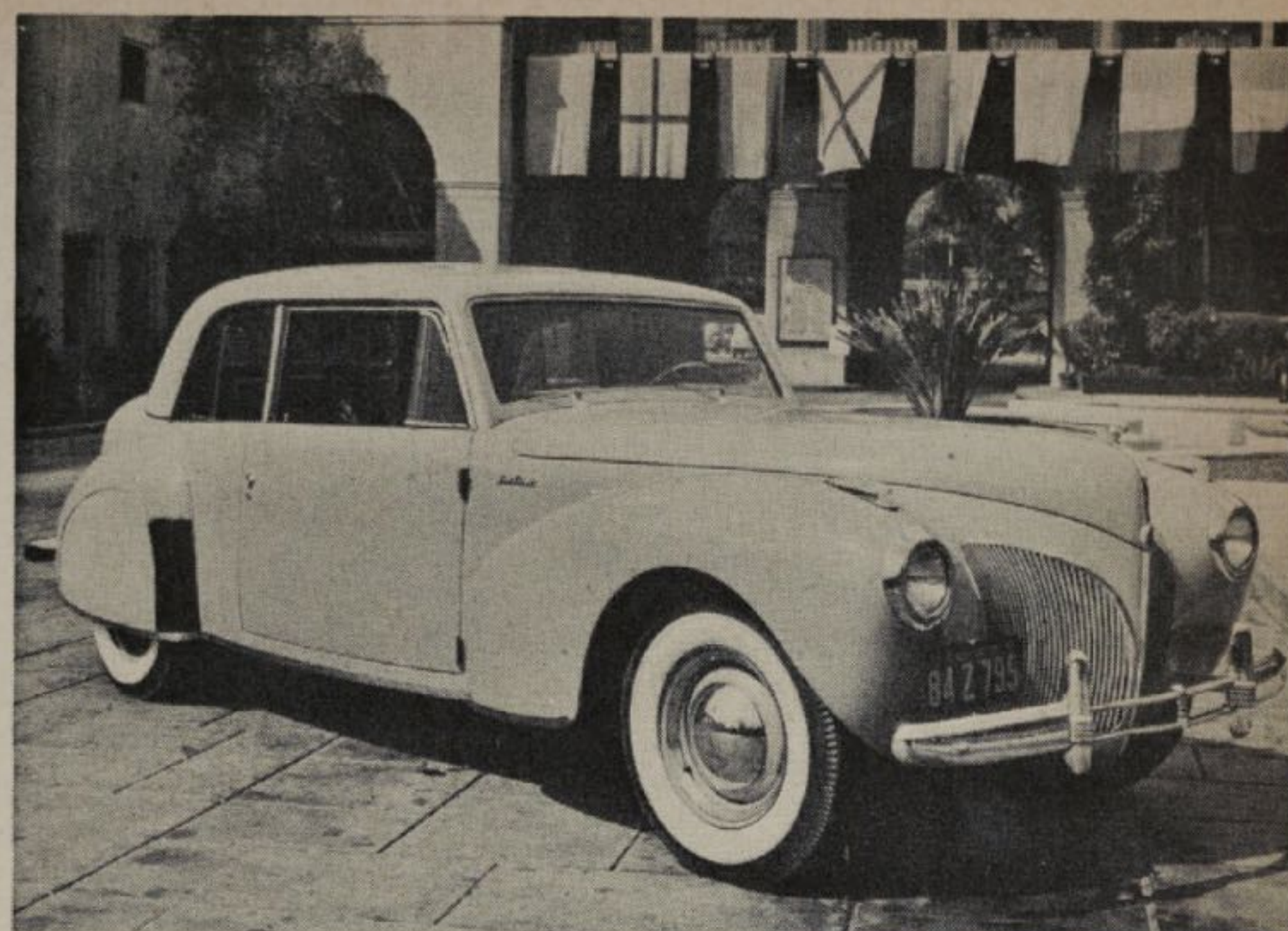
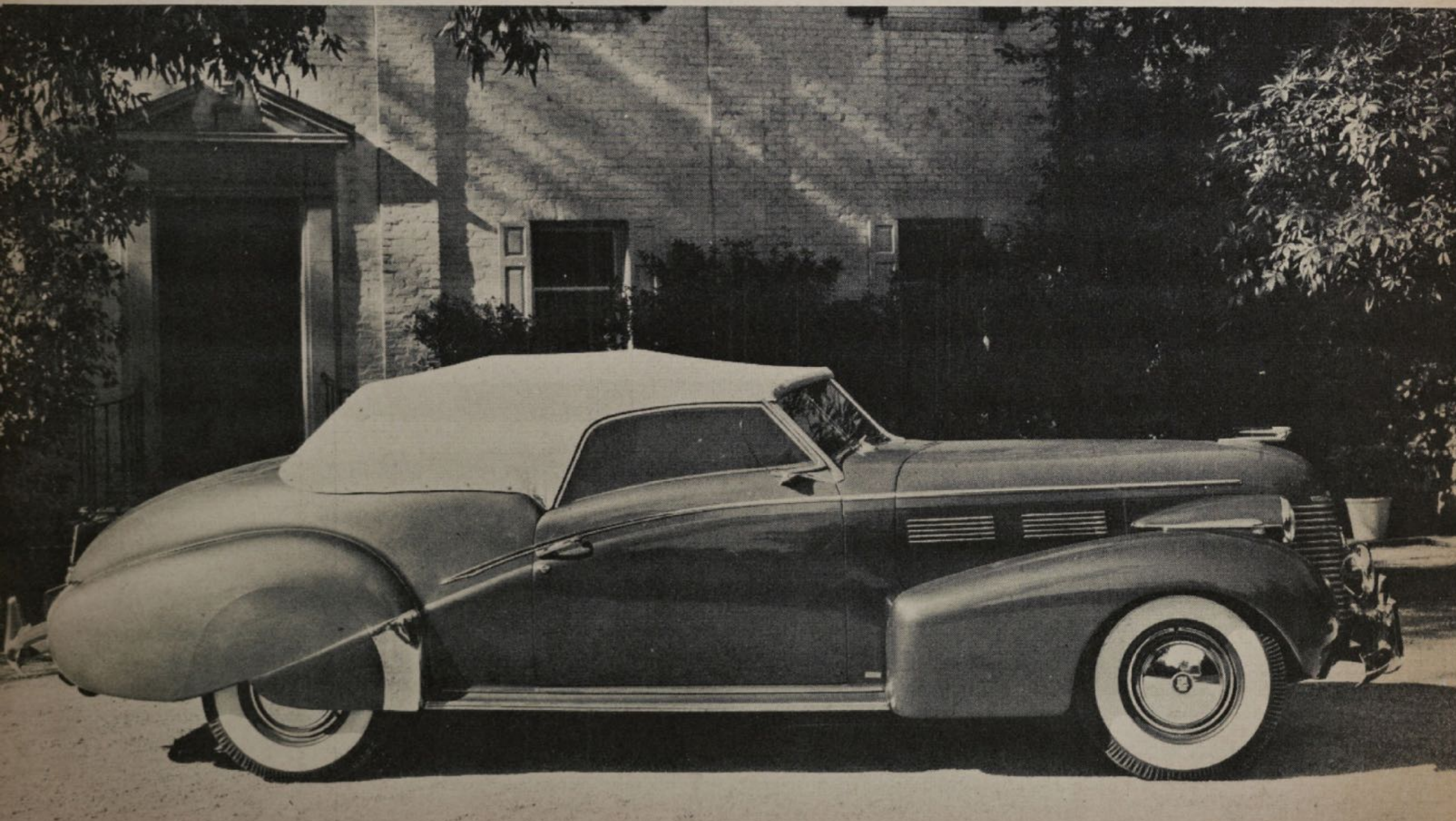
by George Finneran

NOTE: In the last issue of *MOTOR TREND*, our feature writer, George Finneran, wrote an article on the custom body era from 1930-1935. In this issue he continues his diatribe from where the previous one left off, covering the era from 1935 on.—Editor.

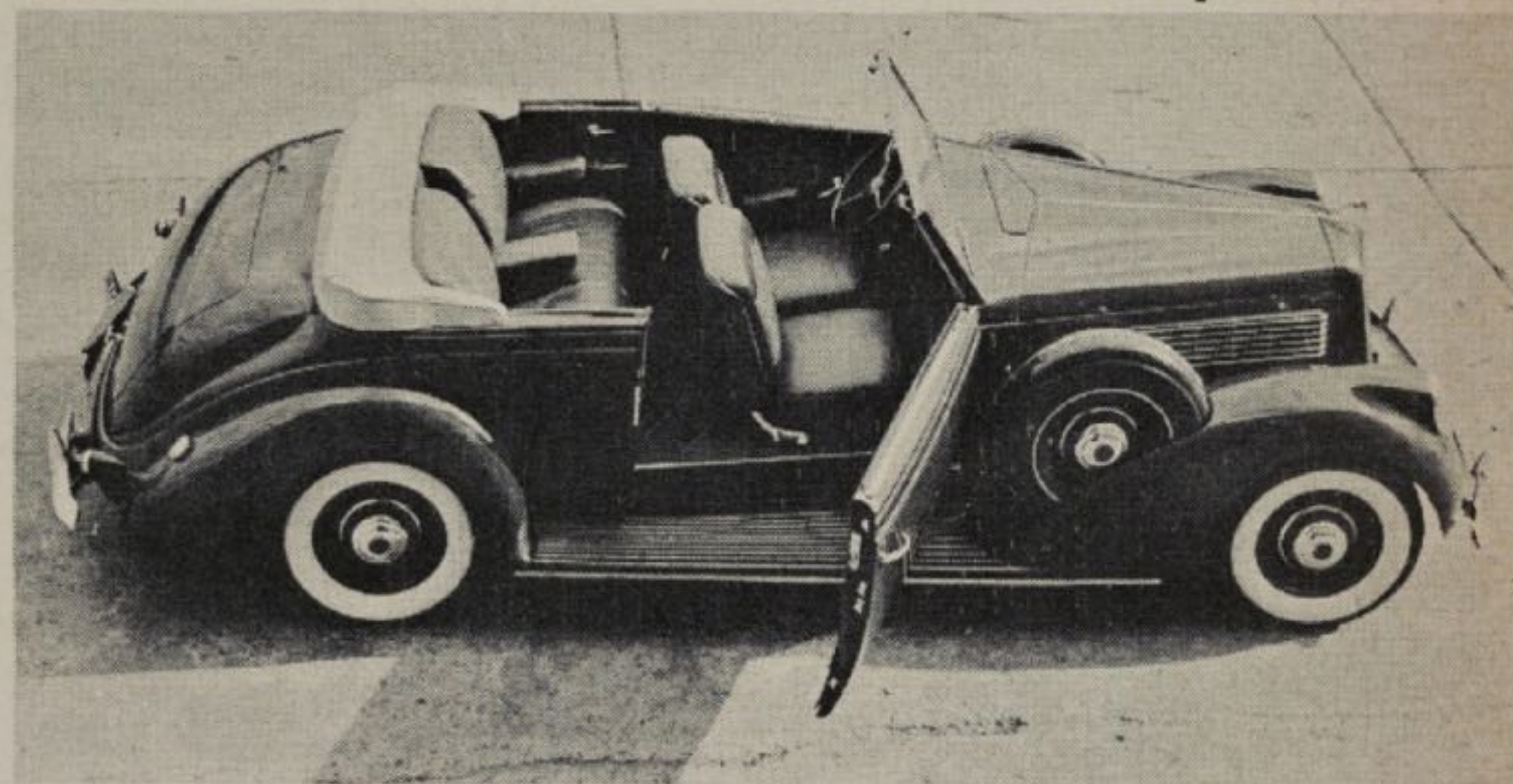
CAME 1935, and the auto industry in general, and the luxury trade in particular, discovered the existence of a world depression. This gave pause to think, as the French so aptly put it. Throughout the actual depression of 1929-35, we have seen how the boys in Detroit tried to defeat the unhealthy attitude of a nation by producing longer, more cylindered, more expensive, custom-bodied cars. The ostrich act couldn't go on forever; consequently in 1935-36, we have the three big carriage-trade manufacturers making a first stab at the general market—Lincoln's Zephyr, Cadillac's Model 60, the Packard Six and the 120. Nuf said.

Of course, Stutz had gone by the boards, as had Marmon. Besides the Big Three, however, there were two independent firms who were producing stuff suitable for Gross Pointe, Newport, Miami, Fifth Avenue, and Hollywood. The Auburn Supercharged Speedster for 1935 and 1936, and its immediate successor, the 1936-1937 Cord (1937 supercharged), were a valiant attempt to maintain the standards of the long-hood crowd. Unfortunately, the front wheel drive of the Cord and the pure conspicuous

BELOW—1940 Cadillac Model 62 V-8 with club coupe body by Bohman & Schwartz, on a 129-inch wheelbase

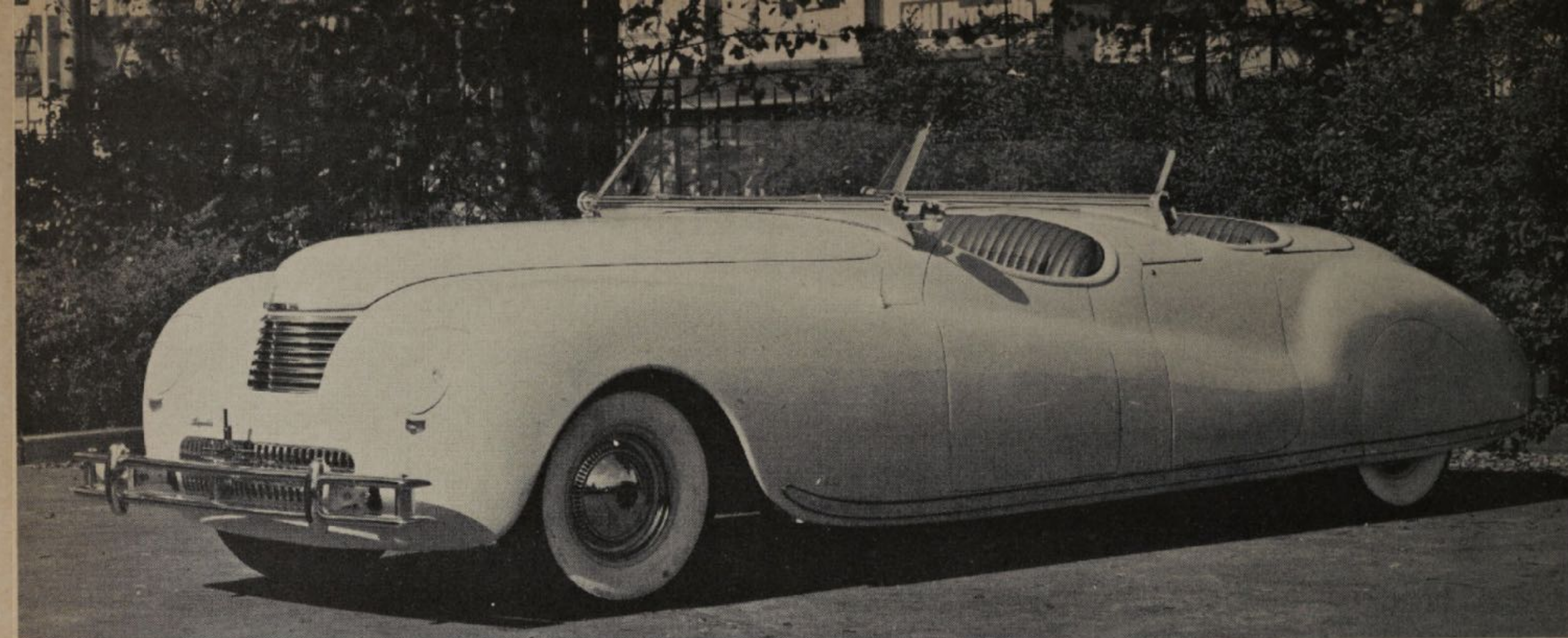


AUTO CLUB OF SOUTHERN CALIFORNIA  
ABOVE—Lincoln Continental V-12 Custom Club Coupe  
BELOW—1938 Lincoln V-12 Convertible Victoria by Brunn

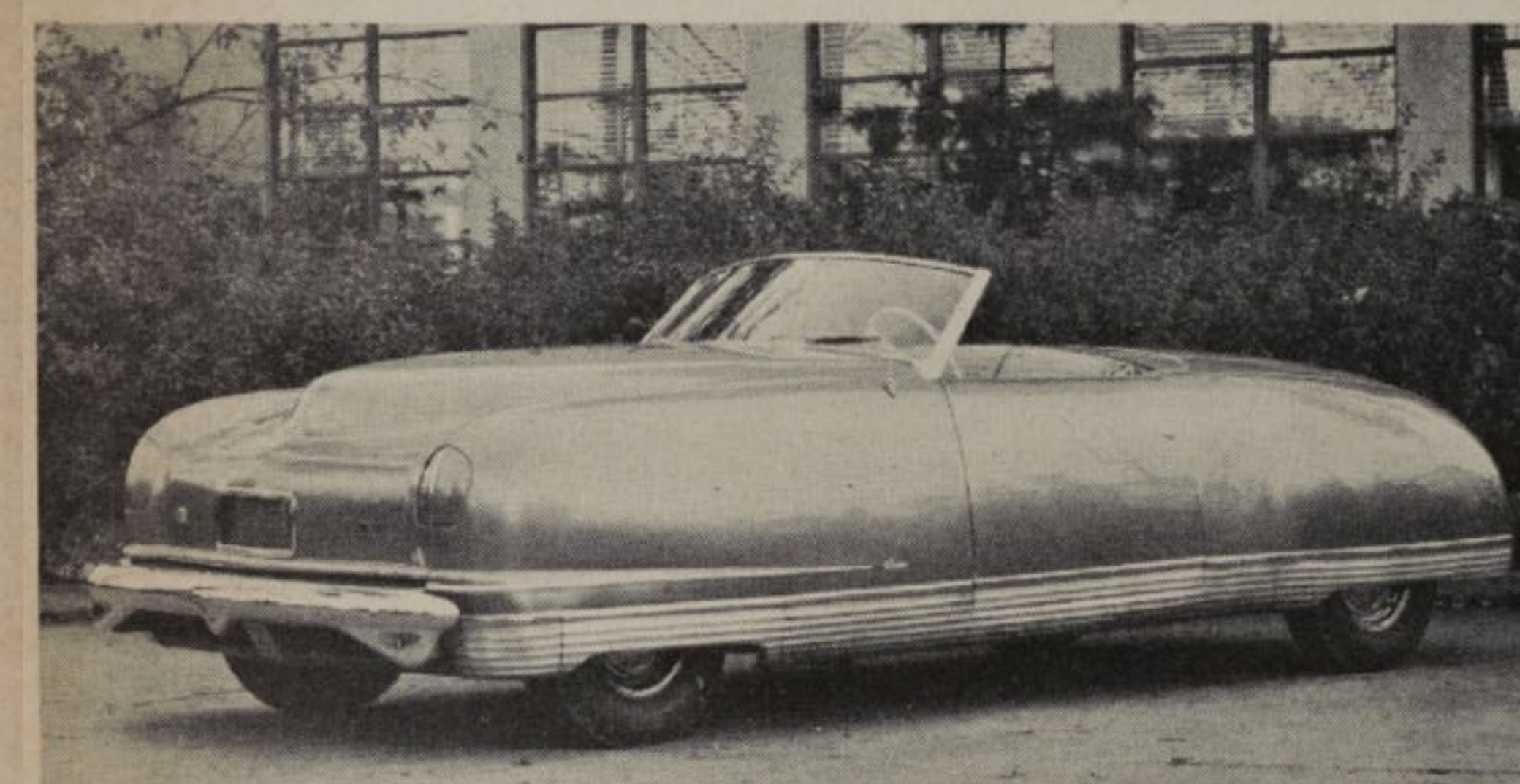


W. E. MILLER

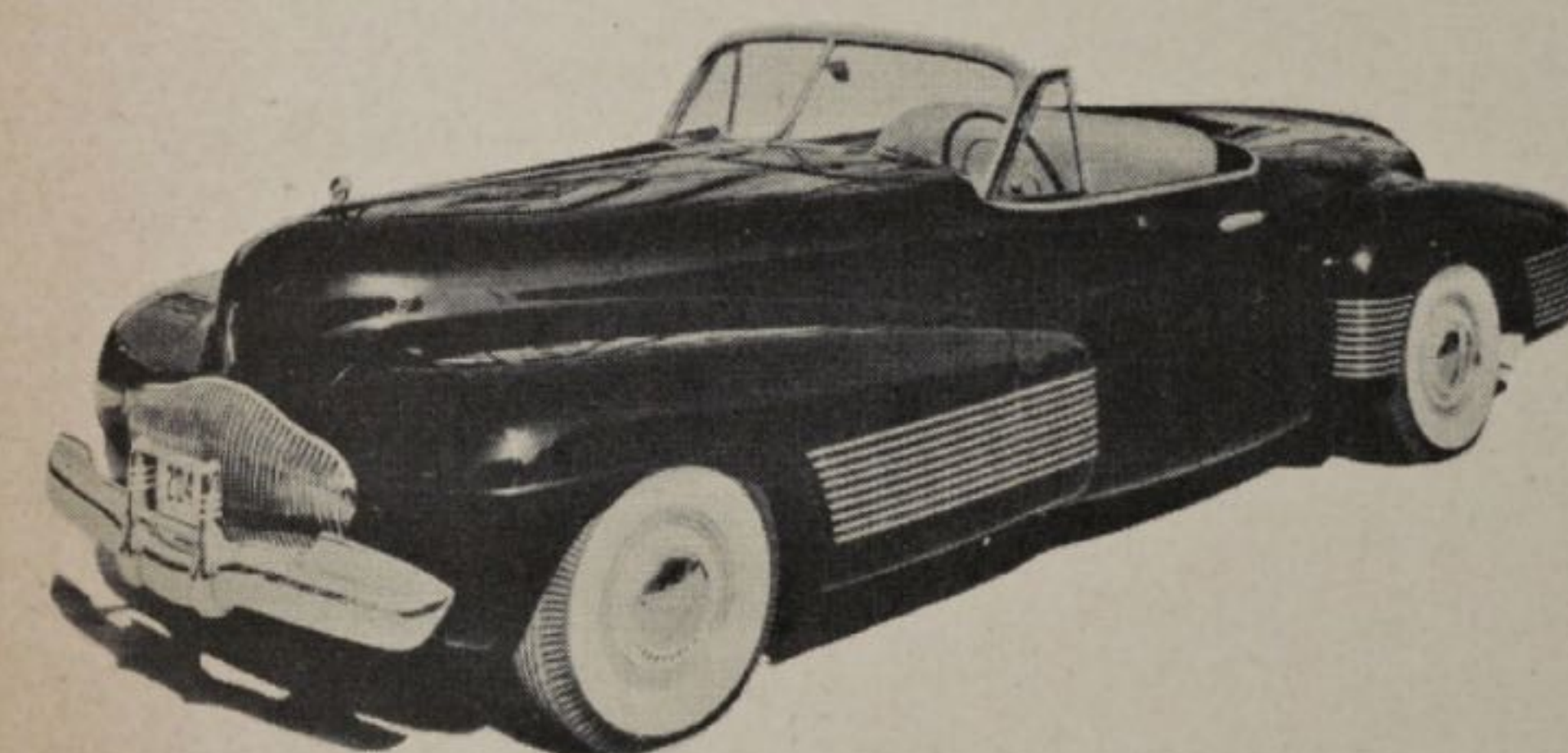
M. R. BOHMAN



CHRYSLER CORPORATION  
ABOVE—Chrysler Newport Phaeton, designed by Roberts and built by LeBaron, believed to be on a New Yorker chassis



CHRYSLER CORPORATION  
ABOVE—Chrysler Thunderbolt convertible built by LeBaron



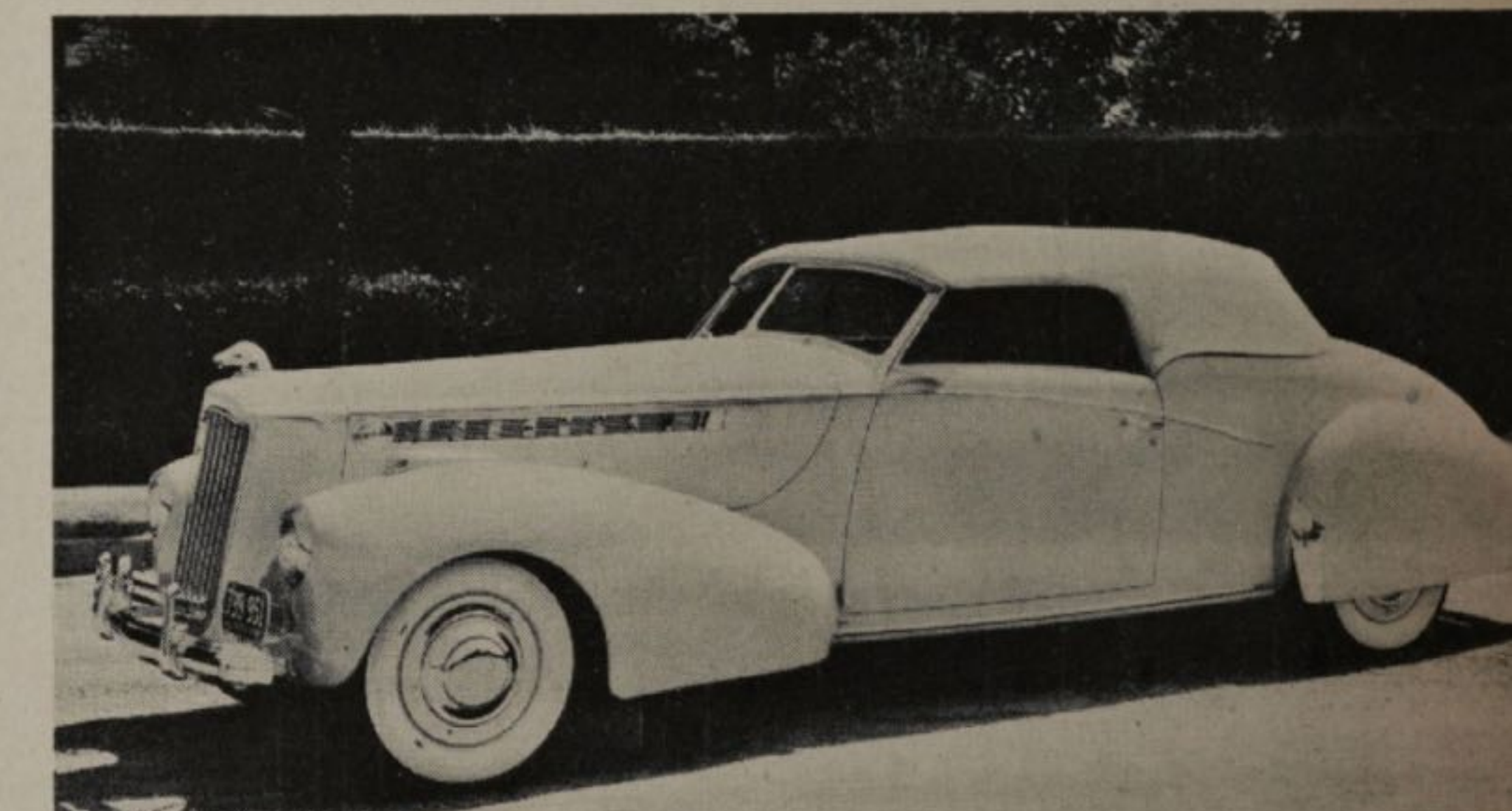
BUICK MOTOR DIVISION  
ABOVE—The 1940 Buick "Fireball" experimental coupe, designed and built by Harley J. Earl on the Buick Super chassis

waste of the Speedster were too much for the purchasing public—"Thorstein Veblen wouldn't like it, Leisure Class Stuff, ya know," they said sadly.

The Auburn Speedster was actually the last of the long-hood line for the next four years, the Cord being in a class by itself. The front-wheel drive gave Cord an unfair advantage in the "how close to the ground can you get" school of design, and collectors of the classic car are inclined to discount the Cord for this reason more than any other. It had the finest dashboard of any car ever made in the US; the almost confusing array of round, pleasantly numerical dials were a triumph of the functional-classic school. However—and your author speaks from sad experience—this dashboard was the cause of a

tremendous, nation-wide surplus in the treasuries of traffic courts from 1936 on. It seems that the combination of a fourth speed forward and a tachometer placed nearer the steering wheel than the speedometer caused numerous Cord drivers to read revolutions per minute for miles per hour. In fourth speed forward, therefore, thousands of Cord drivers were the source of revenue for towns with a sufficient number of cops on motorcycles behind signboards, and in one case—my own—the town of Westport, Connecticut, received \$20 because I happened to be reading the *altimeter* for the speedometer at the time of the arrest.

As for design, the Auburn and the Cord were factory-designed, according to *Motor Annual*. The Auburn Speed-



EARLE C. ANTHONY  
ABOVE—1941 Packard Custom Super 8-160, with body by Bohman & Schwartz. Paint is 16 coats of light cream lacquer.

ster was actually a speedster, boat-tail and all, and the Cord came in four body styles; a convertible coupe and convertible club coupe, a four-door sedan, and the 1937 Beverly four-door sedan, a chauffeur-drivable sedan.

These two cars—Auburn and Cord—and Pierce Arrow, Packard (Super 8 and V-12), Cadillac V-12 (to 1937), V-16 (to 1940), and the K Series Lincoln were the only products the Stinkinrichvolk could purchase and still retain any individuality on the road and in the parking lot. In the Packard and Lincoln lines, one could still obtain, for a suitable sum, a convertible sedan by Dietrich, Rollson, or possibly LeBaron, and also convertible club coupes and coupes; no more roadsters and phaetons after

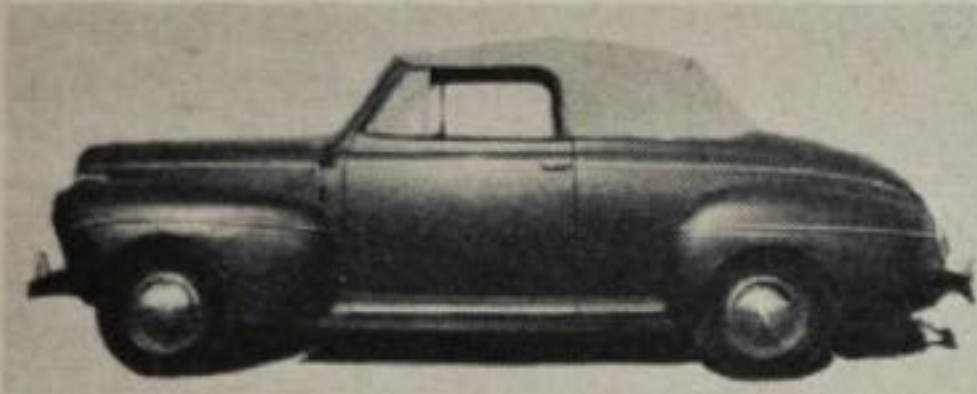
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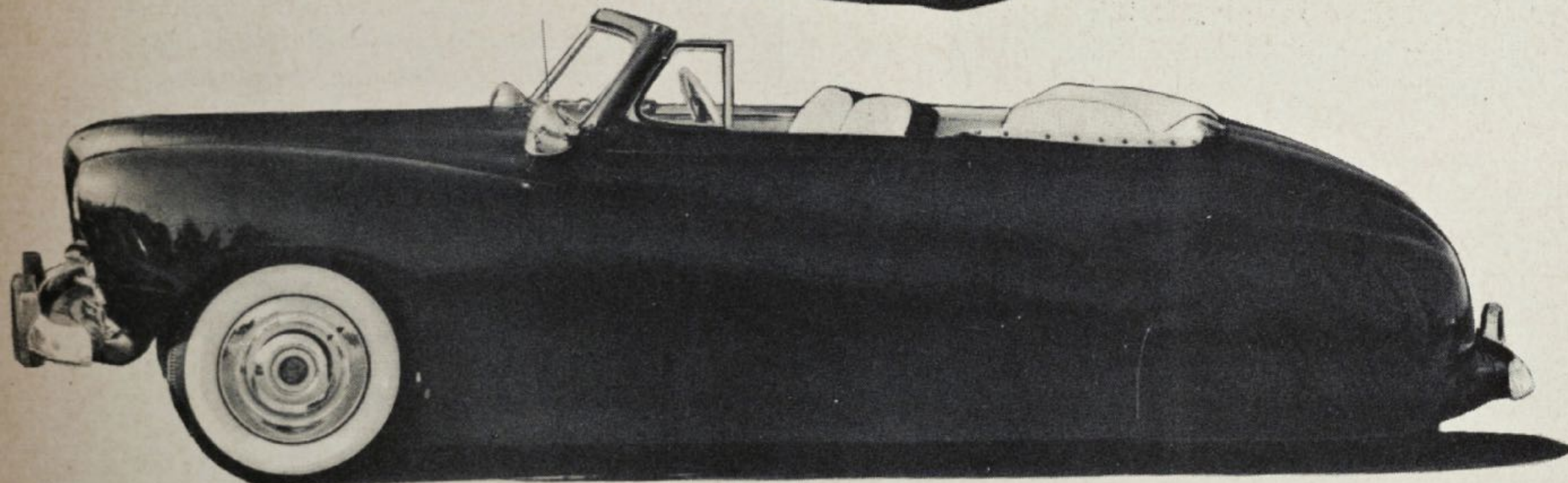
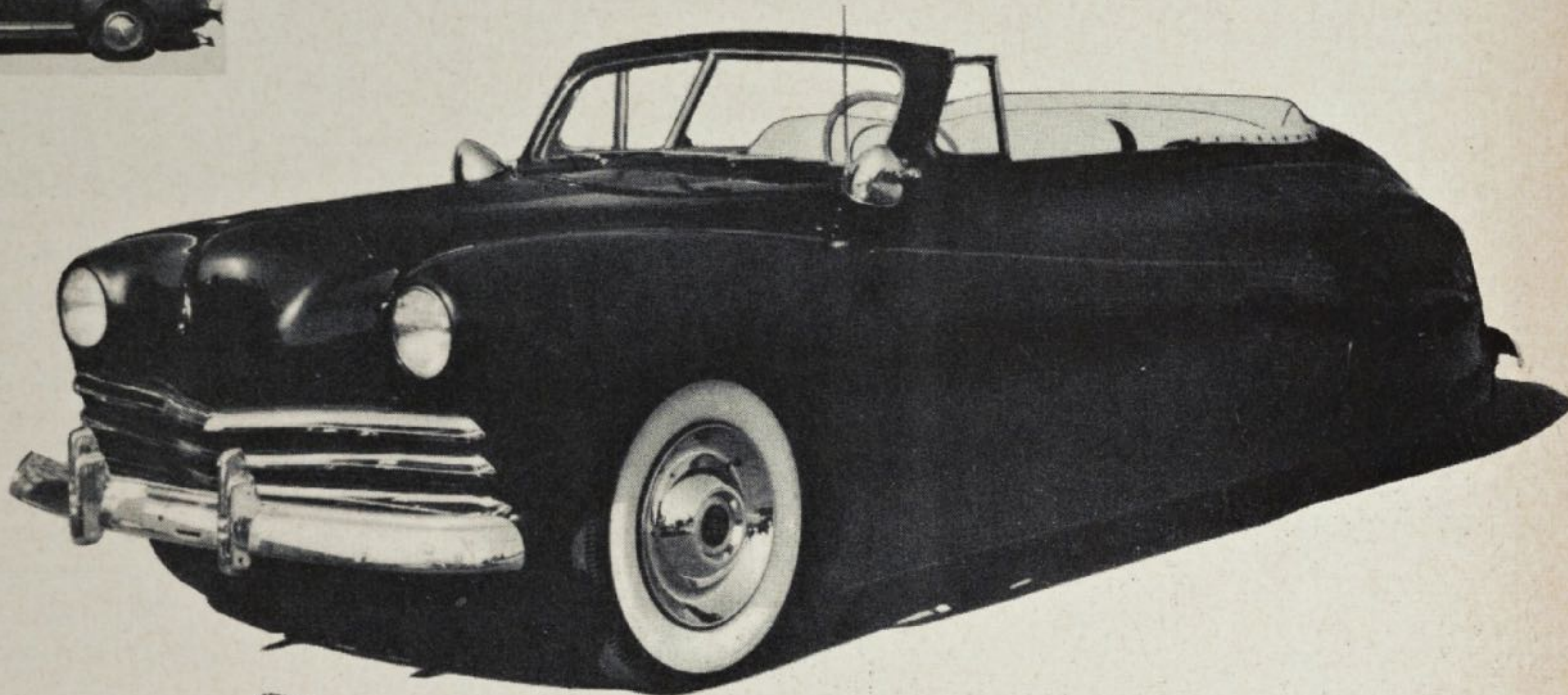
# RESTYLING

## A 1941 FORD CONVERTIBLE

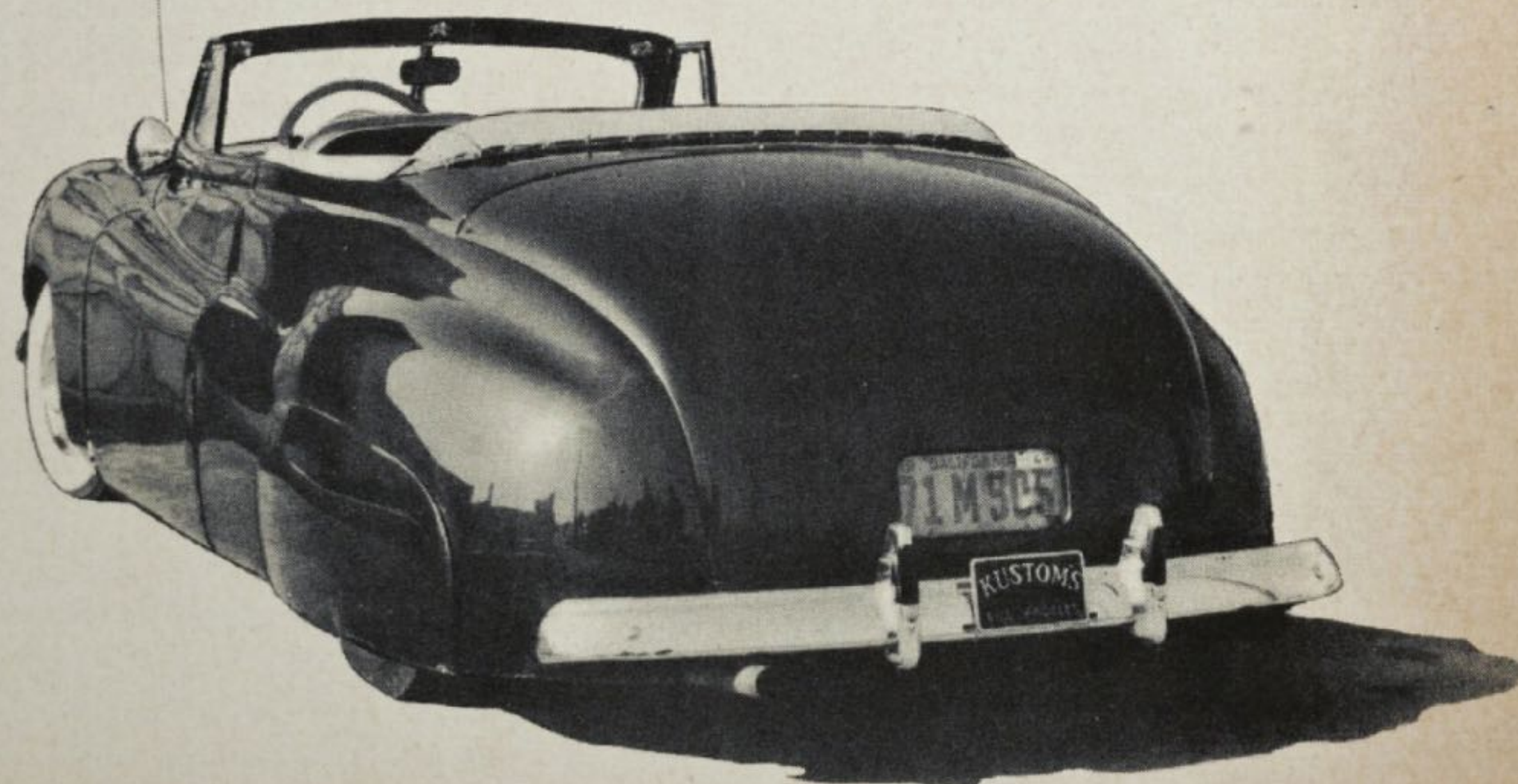
FOR A CAR that's different from the original design, it is hard to beat the '48 Custom 8 owned by John Zaro of Maywood, California. Originally, the car was a '41 Ford V-8 Club Coupe convertible, but was completely done over by Barris Kustom Shop of Bell, California. The chopped top is by Chavez, while the interior is by Hilborn.



THOMAS J. MEDLEY

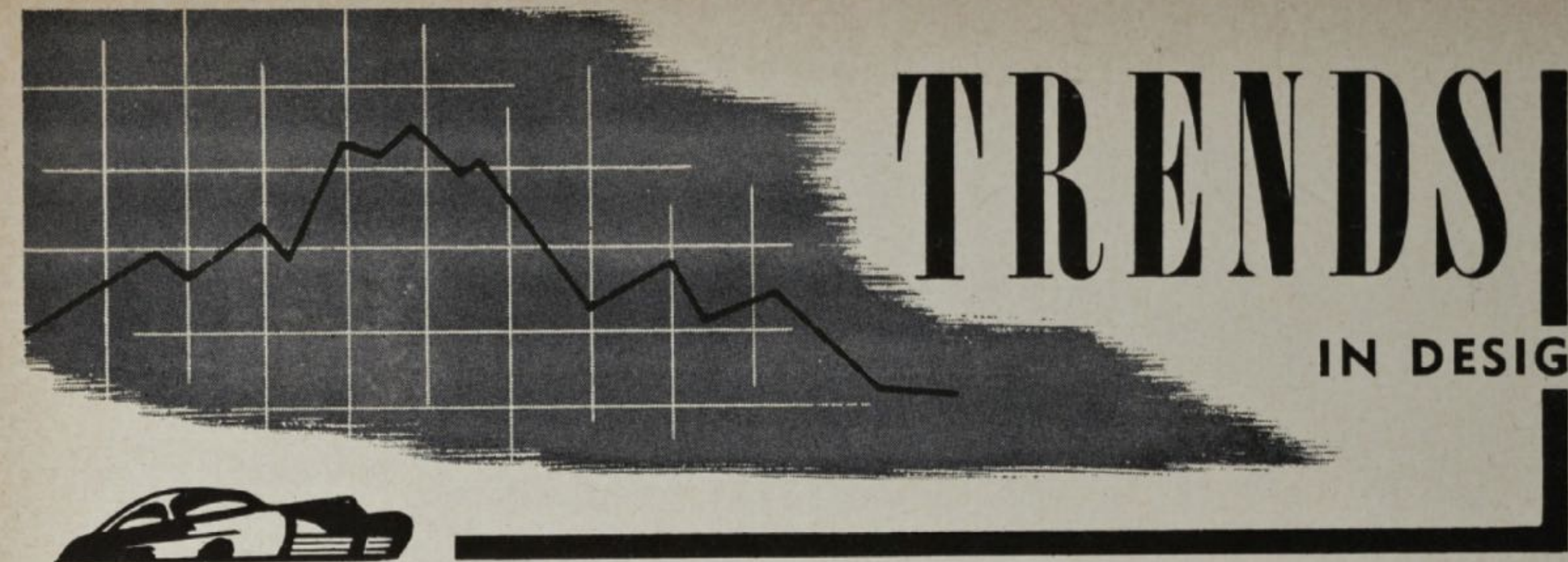


The frame of this Ford has been chopped, while the body has been channeled, achieving a drop of eight inches. The sides of the body were also sectioned out so that the body height would not be too great. (Overall height is only 4 feet 8 inches.) To clear the tires the front fenders were shifted up, making bloated blisters. All creases have been rolled out and the body has been sealed from bumper to bumper. The front grille was made out of '48 Pontiac grille bars, split and then curved. The hood was special made, while the nose and fenders are all one piece. The headlights are sealed into the fenders. All doors are operated by electric push-button. The license plate is set in the rear deck, giving it a smooth appearance. The tail lights are plastic. The seats are special made and are upholstered in maroon and white leather. The rear seat is rolled (lounge type). The dash is done in chrome and plastic (red and white). The exterior paint is maroon to match the interior.



PAT LA NARZ

Motor Trend



## POSTWAR AUTOMOBILES

by Austin M. Wolf, Automotive Consultant

NOTE: This is the third and concluding part of an article that is a digest of "Technical Highlights of Postwar Automobiles," Parts I and II, which appeared in the May and June 1949 issues of the SAE Journal.—Editor.

**THE USE OF** undercoating is extremely popular in the automotive field, since it achieves silence and gives a sense of solidity. Several bus body manufacturers are employing it, and its use will no doubt creep into volume production. Nash has been using sand Mortex over the years to silence panels and it is now brushed on the inner surface of the floor pan and trunk floor with the idea of obviating later undercoating.

### Trunk

Increased storage space, counter-balanced and leak-proof trunk lids mark the new trunks. In the GM "A" bodies, helical compression springs counter-balance the weight of the lid, the entire mechanism being enclosed within a luggage protecting cover. The storage space has been increased 20 per cent. It is no longer necessary to rotate the lid handle. A simple turn of the key accomplishes the dual function of unlocking and unlatching and it is only necessary to slam the lid shut. The wider trunk lids permit removing the tire with the disturbance of a minimum amount of baggage.

In the Chrysler-built cars the bumper jack is kept from rattling by exerting tension on the holding helical spring by adjusting the jack lift to which it is attached. Except for the trunk lid, all surfaces inside the Cadillac trunks are carpeted for increased insulation and as a precaution against scuffing luggage.

### Instrument Board

Instrument panels are of varied design: they range from unified groupings of all instruments, as in the Oldsmobile, Pontiac, Cadillac, and Chry-

ler; the circular grouping of Chevrolet and Ford; to separate speedometers, as in the case of Buick, Studebaker, and the other Chrysler-built cars. Most of the instruments utilize black or ultraviolet lighting, operating on the same principle as that of the fluorescent instrument lighting on Air Force airplanes. The background is entirely black and only the markings glow. Other methods include edge lighting and translucent lighting having various levels of brightness at the control of the driver. In the Chrysler-built cars the headlight and panel light switches are of the rotary type.

The Chrysler instrument board has a decided curvature in plan view, a slightly larger radius thereof being practically tangent to the "V" windshield panes. The instrument group is ahead of the steering wheel and a convex crash pad extends from the instrument group to the right side, affording protection to the passenger. The instrument board is then recessed forward under the pad with the radio, clock, and glove compartment therein. Rotary-type switches are now used on all Chrysler-built cars. Clear, plastic control knobs, set off with jet-black inserts and white lettering, comple-

ment the chrome of the instrument panel fittings in Studebaker cars. In the Nash Uniscope the instruments are concentrated in a group, mounted above the steering column and close to the normal line of vision. The dials have been made proportionately smaller. All GM cars have an access hole at the left-hand panel. The hole is closed by a sheet-metal door covered with noise and heat insulation.

### Seats and Upholstery

Practically all seats have been increased in width, front and rear, due to the wider bodies and due to moving the rear seats forward. Free-running rollers are used in the front seat adjustment in the GM "A" bodies, with a range of 4½ inches. The "C" bodies have a ball and roller adjustment. Dodge has a five-inch horizontal and one-inch vertical adjustment. The Nash adjustment has been increased to the same dimension and the rise, while moving forward, has been increased from 7/16 to 1¼ inches. Pontiac has a safety roll along the top of the front seat back, similar to the 1940 Dodge. Fully enclosed, mattress-type coil springs are used in the Oldsmo-

(Continued on page twenty)

## TREND OF THE FUTURE

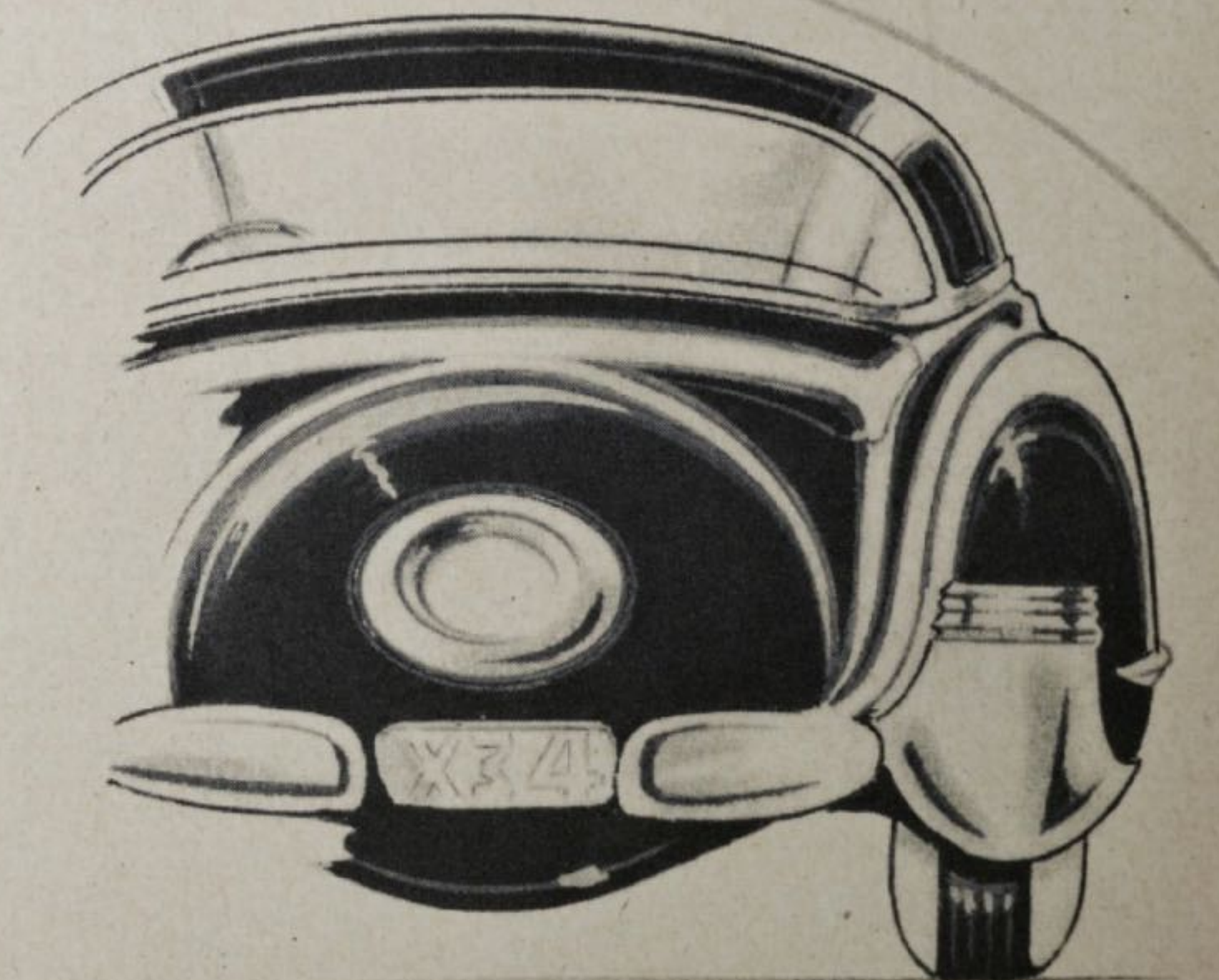
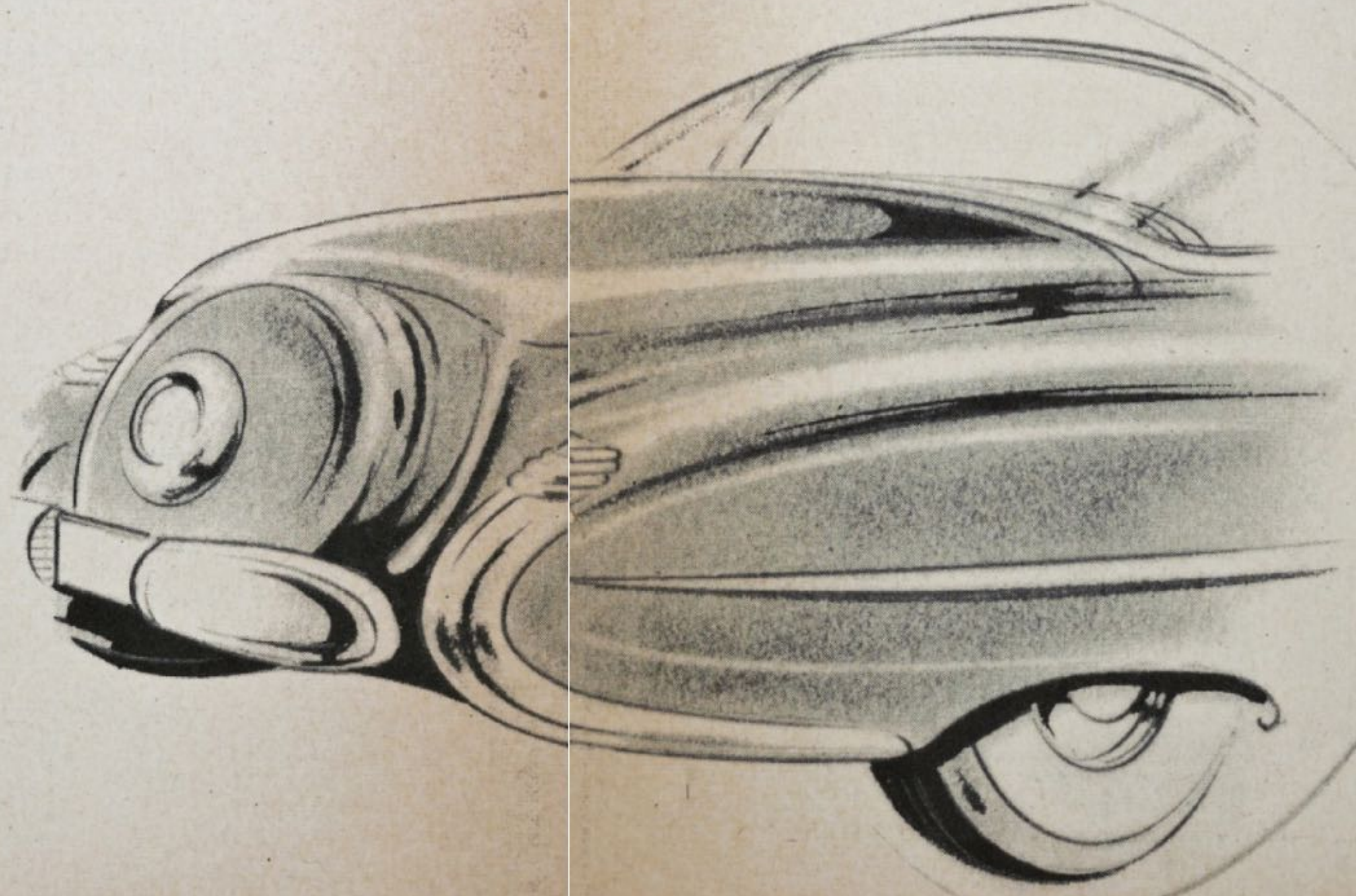
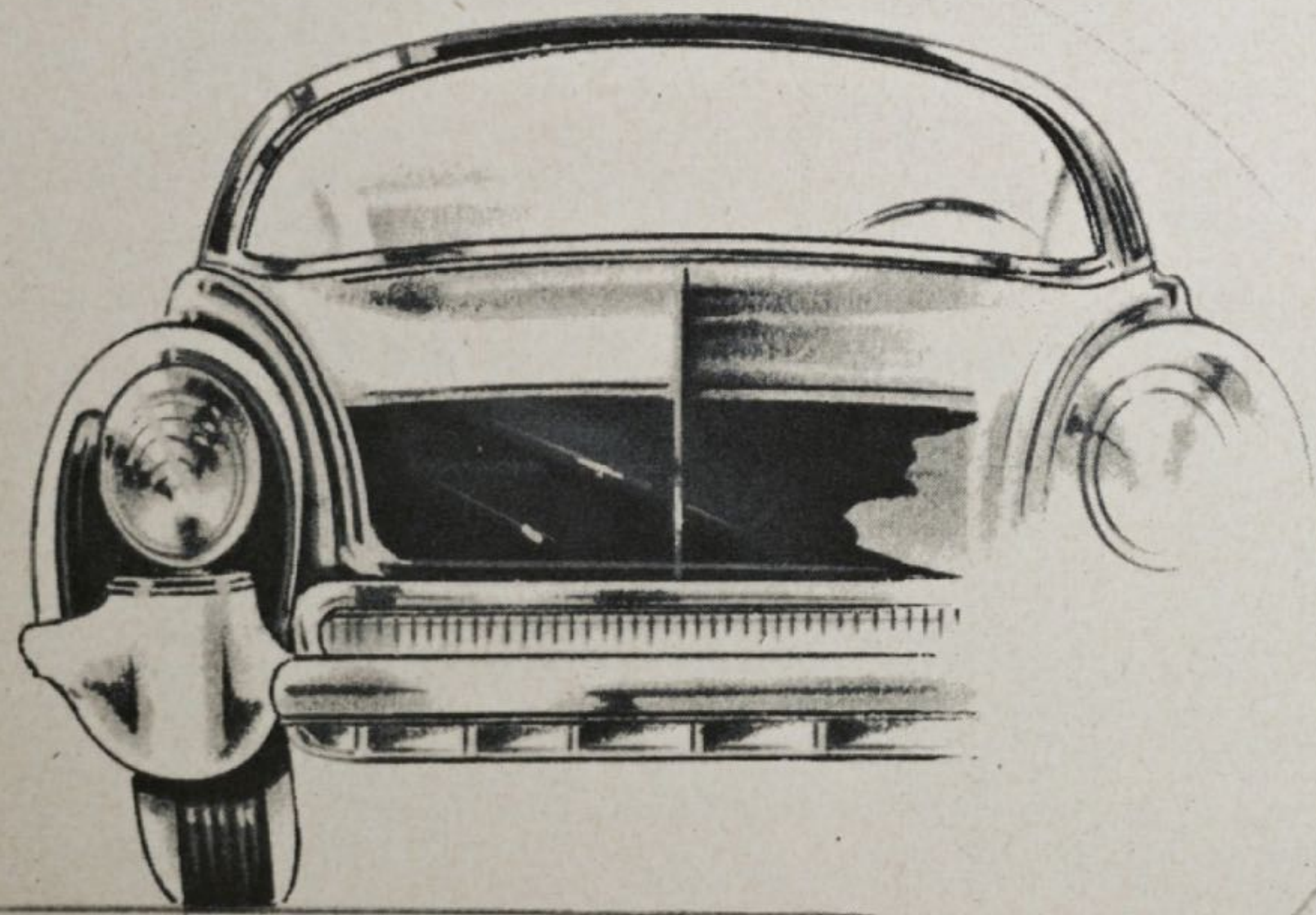
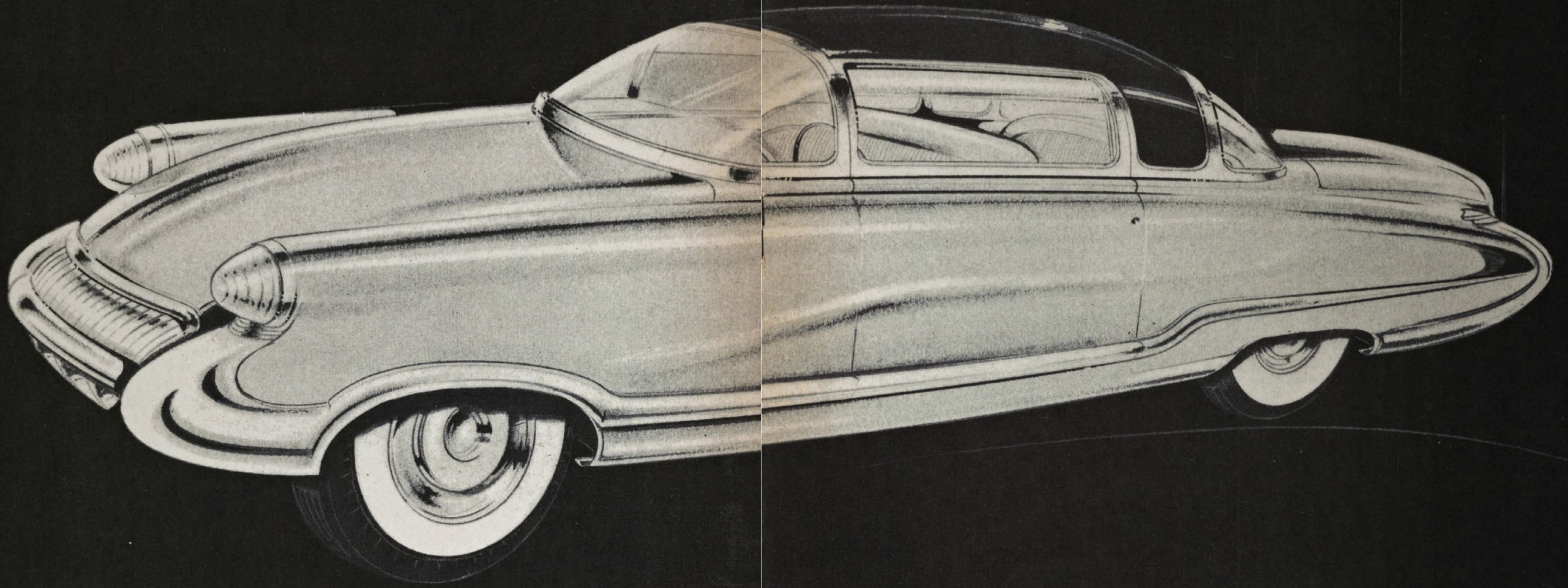
This composite design by Colonel Alexis de Sakhnoffsky represents many combined features of the most popular American cars of 1949, projected into the future. Although identifying details have been omitted, the general development of the sheet metal is characteristically General Motors. The trunk treatment is reminiscent of the Lincoln Continental, etc. These features have been emphasized to obtain a newer appearance. The windshield is more curved, providing fine vision. Generous use of curved glass reduces most blind spots in the rear.

The low, tapered hood follows the trend of Italian sport cars. The grille is conventional, but in addition there are air-scoops below the center bumper. Extra heavy cast bumpers

protect the vulnerable front and rear ends of fenders. The bumper extends along the side body panels.

In line with the current trend of seating passengers between the axles, this design provides extra large luggage accommodation, which is reduced on some of the present designs with extremely tapered rears. The spare wheel is mounted on the rear side of the trunk and the whole panel, including the center bumper, is hinged at the bottom. Thus, the tire is easily accessible without interfering with the luggage. To allow extra headroom when entering the car, the doors are carried into the side of the roof. The top portion of the door carries a curved, stationary glass panel.







## Trends in Design

(Continued from page seventeen)

bile "98" seats; the seat backs are made of upholstery-type helical coil springs. Foam rubber seat cushions are regular equipment on the "98" and the DeLuxe series "76" and "88." The Chevrolet front seat back is 1 5/8 inches thinner, due to the use of flat, zig-zag wire springs.

In the Chrysler-built cars, the seat cushions can be made firmer, if desired, by installing extra springs. In the Studebaker Champion Regal DeLuxe the front seat base is bound with a four-beaded chrome ring. Alligator leatherette trim, plus nylon upholstery, are used in the Land Cruiser. The Chrysler Windsor New Yorker sedans use all-nylon fabric with nylon-faced materials available for interior trim on Chrysler and Plymouth convertibles.

The Nash tail, stop, and directional signal lights are mounted in the lower edge of the trunk lid. A trunk compartment light at the left side provides interior illumination at night, as it is connected to the tail light circuit. The trunk light serves a double purpose, as the ruby glass back of the bulb shines a red warning light to the rear when the trunk lid is opened, since in this position and during tire changes at night, the regular tail lights are ineffective. A mercury switch is being used on the Packard "160" and Cadillac "75" to turn on the trunk light automatically when the lid is raised. The Chrysler-built cars have adopted a bimetal blade circuit breaker to replace lighting system fuses. Chevrolet did likewise in 1948 and now all body wiring terminates at a junction block mounted on the lower flange of the instrument panel. Moving the defroster to the engine side of the dash has provided room in the Pontiac for a 12-terminal accessory wiring fuse block on the passenger side of the dash. Buick also uses a master fuse block, which takes care of the heater blower, directional signal and spot light, clock and dome light.

The dual duct system is being used almost universally, taking air in through a screened opening at each end of the radiator grille, or through a special aperture in the fender below the headlight in the Oldsmobile, along the fender skirts and through the firewall into the passenger compartment.

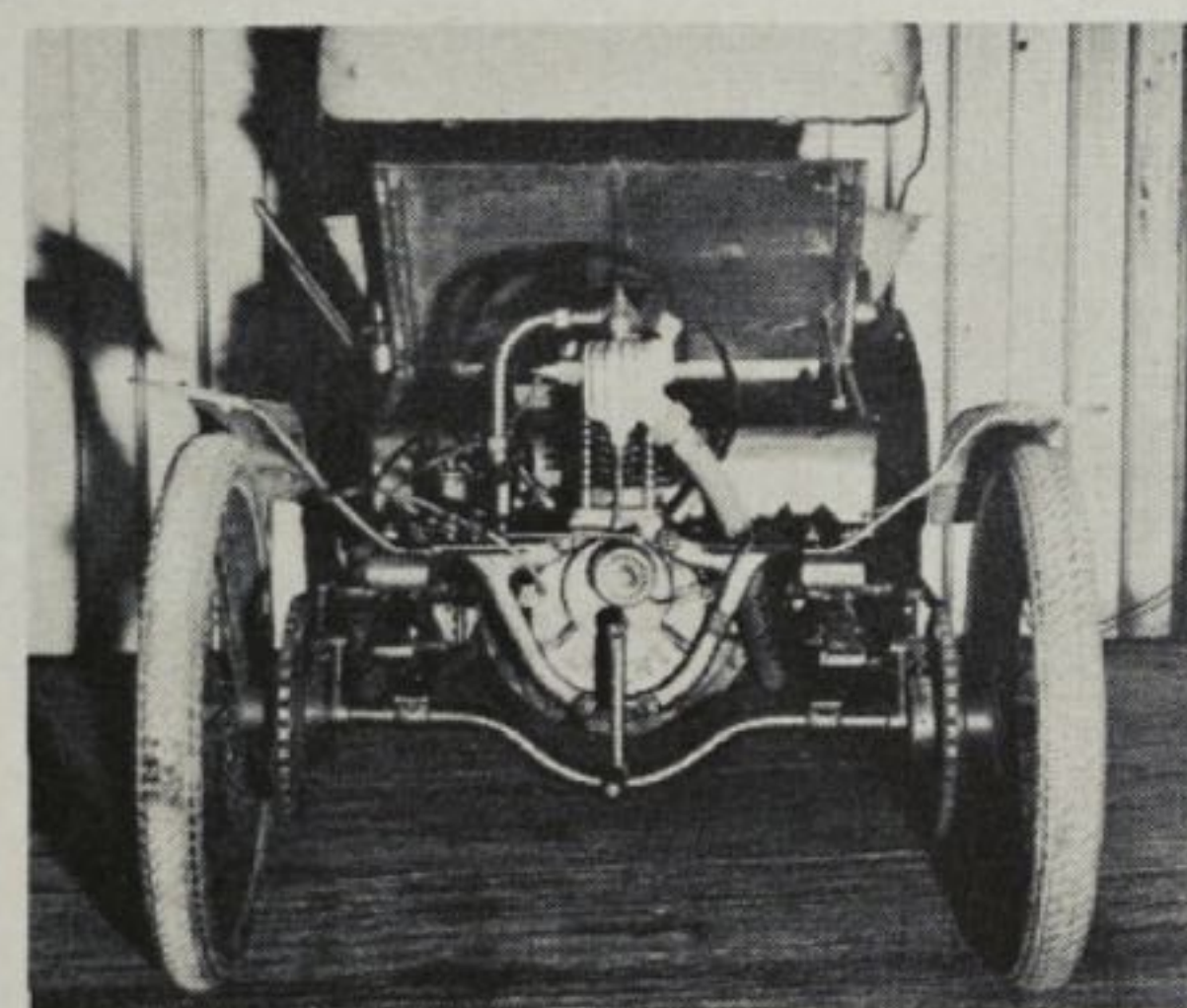
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# DUSTER DATA

Text and Photos by Tracy Gilpin

IN 1900 THERE were approximately 800 American built automobiles in operation and they had cost their owners an average of \$1,000 each. By 1903, 28,000 American cars had been made but the average retail price was still close to the thousand mark. That was why, at New York's Madison Square Garden Auto Show in 1903, one of the most popular exhibits was the new Orient Buckboard, manufactured by the Waltham Mfg. Co., Waltham, Massachusetts.

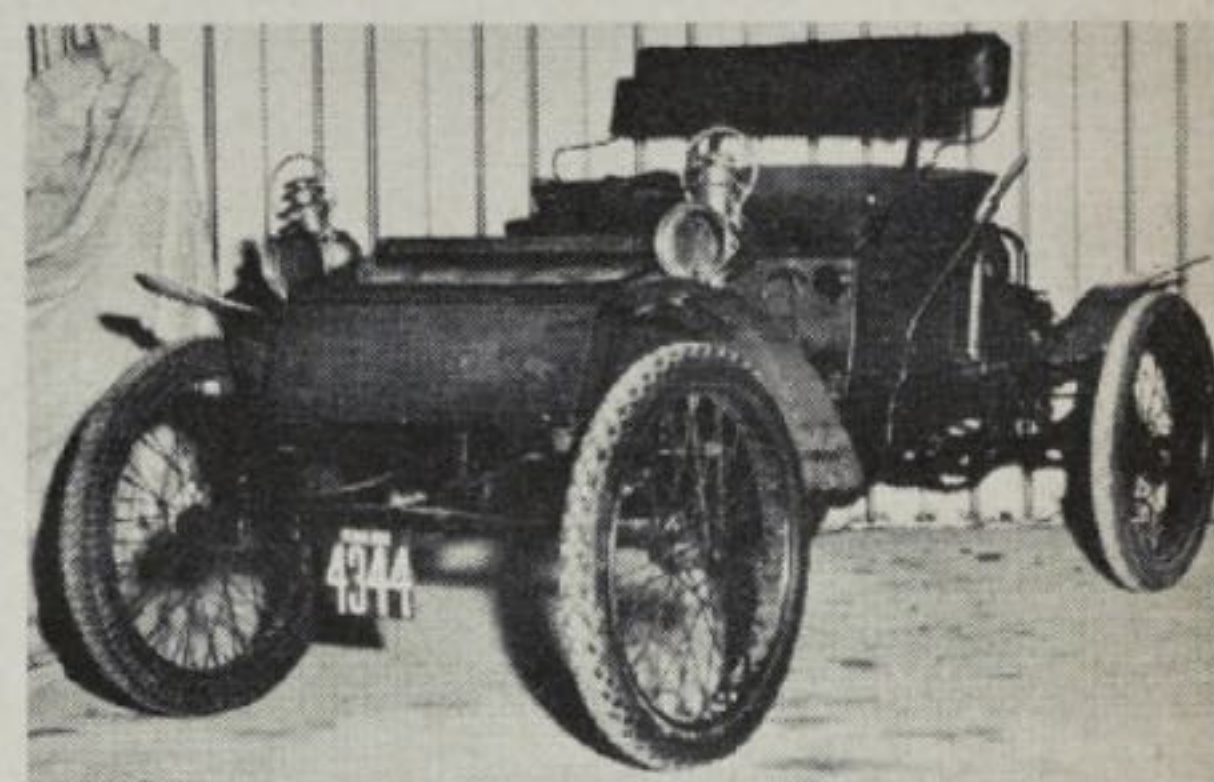
The Orient was the answer to the limited purse: four wheels, a motor and economy in operation for only \$425. What the Ingersoll was to the pocket watch buyer, the Orient was to the motorist. The original 1903 model Orient had a one cylinder, air-cooled,



REAR VIEW of the Orient Buckboard shows the rear one-cylinder engine.

four horsepower engine with drive by pinion and a large spur gear on the differential. One of the attractive features of the Orient was its light weight, which made it the ideal country doctor's conveyance. No road was too muddy nor any rut too deep with the 500-pound Orient.

The Orient Buckboards were of two models, a four seater and the more popular, lighter (and fifty-dollar cheaper) two-seat model pictured here. This 1906 Orient is little changed from the original 1903 that was the hit of the lesser-priced cars at the Madison Square Garden show. Its steering is by a centrally located tiller bar. A heel-operated warning bell was added as standard equipment in 1905. Con-



THREE-QUARTER VIEW of the Orient. Note choke lever under seat of the car.

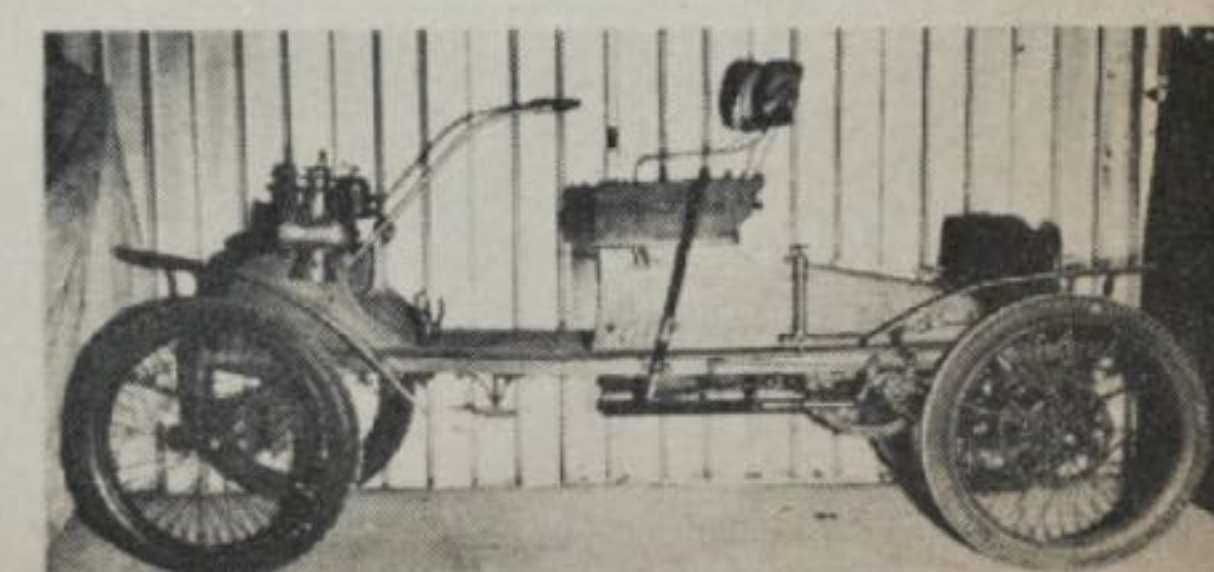
trols are on the floor and at the left hand side of the front seat. On the floor are clutch and brake pedals. The brakes operate from drums on the rear wheels.

The original 26-inch wheels gave way to 28-inchers that offered more road clearance. The engine remained basically the same. In this 1906 model the engine is located in the rear of the car. It is a one-cylinder air-cooled Daimler-type upright engine mounted on a tubular truss with the flywheel enclosed in an aluminum crankcase. A crank was substituted for the 1903 strap and ratchet.

The frame of the Orient is of original 2 x 4 hickory with an all-wood body, flared wood fenders and four full elliptical springs. The car is 106 inches overall length, and is 48 inches wide. Oil supply for the Orient is located under the front seat. A hand-pressure pump forces it to the crankcase, where it is used at the rate of approximately a pint in 50 miles.

Transmission is of the positive-friction type with six power ratios possible. Power take-off is by chain drive on both rear wheels. Hand gas and separate hand spark control are at the left of the driver's seat, with gear shift also on the left outside of the body.

SIDE VIEW of Orient Buckboard. Shift lever is located to left of driver's seat.



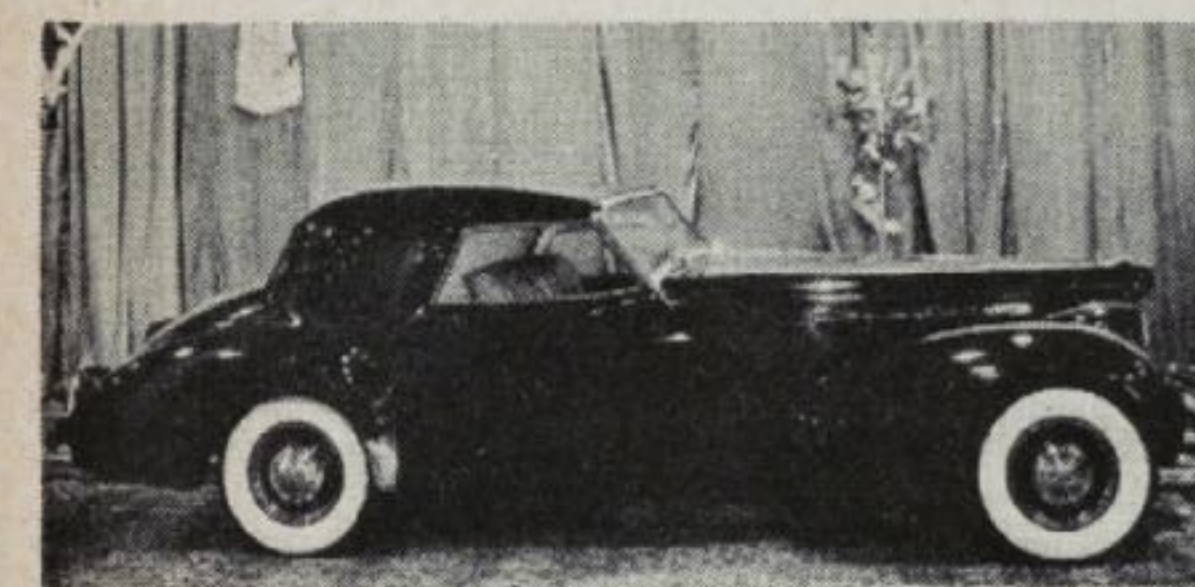
## Custom Bodies

(Continued from page fifteen)

1937 except on very, very special order—like for the White House, for instance. Or for plain, ordinary, everyday thousand-dollar bills.

On all these cars, the basic Continental design had been immeasurably altered, and for good. The flaring, nonskirted, front fender was gone as was the narrow, "V" shaped radiator. Gone, too, was the narrow body, the auxiliary (usually leather or canvas-covered) trunk, the chromium-trimmed running board, the large-diameter, massively constructed steering wheel, the forward-opening door, the round instrument dials on the dash, and in most custom cars for some obscure reason, gone was the low, swept-back, "V" windshield.

What you got in place of all this, was (in the 1938 Packard V-12 for instance) an almost vertical "V" windshield, balloon front and rear fenders, practically no running board (for local gendarmes to hop upon and shout "foller dat cah!"), a dainty, white, spring-spoked steering wheel, high



COURTESY EARLE C. ANTHONY

DARRIN TOWN coupe, a semi-convertible road clearance, a bulky body, a bustle trunk aft, comparatively inferior upholstery and top material, no gadgets for the driver to play with as in former Packards (for instance, no shock absorber control, vacuum brake selector switch, crankcase level push-button indicator, etc.), and in general, the uncomfortable feeling of conducting an overstuffed mattress down the highway. The same may be said of the 1936-1939 K Series V-12 Lincolns and the very rare V-12 and V-16 Cads. Cadillac, of all the Big Three, maintained the long narrow line of post-'35 days; however, their design was beyond comprehension in the V-16 series. The 1938 V-16 convertible sedan—a comparatively common model—was soooooo long that it was almost a burlesque of the design.

Came 1938, and a recurrence of the "custom cars for Depression-ridden people" campaign by the Big Three. With the Business Recession of that



COURTESY OF PACKARD

1941 ROLLSON Packard convertible sedan

year squatting on the shoulders of rich and poor alike, Darrin came over from Paris and fathered the famous Packard Darrin convertible coupe, and a year later, Lincoln was to unveil the much-admired Continental. But this economic cycle was to prove too much for the "Wot Depression?" attitude, for Pierce Arrow bit the dust, the Packard V-12 followed suit in '39, and the Cad V-16 in '40. Of course, you could always have a custom car made for you by Rollson (still in New York), LeBaron, Brunn, Fleetwood, Derham, or Bohman and Schwartz (Pasadena, California—the successors to Murphy there). But the design of your custom car would not be too distinguishable from any of the stock Packards, Cads, or Lincolns—the fenders would be about the same, the general body lines also. The Continental Look (1938-42) was modified by these custom body builders to include about three distinctive effects; the long narrow hood (again), the cut-down door (encore), and the swept-back look (ditto, ditto).

Chrysler, quiescent in the custom field since the 1933 LeBarons, came out with three interesting cars during this last period. For the New York World's Fair in 1939, somebody—I am inclined to suspect Derham—designed and built a raft of low-slung, swept-back-looking phaetons (possibly convertible sedans) on the Chrysler Crown Imperial chassis, and very slinky, Terry-and-Pirates-type cars they were too, as they purred from bar to bar carrying dignitaries to the wondrous Fair.

In 1940, Ralph Roberts—one of the original founders of the LeBaron Company—designed the Chrysler Thunderbolt and Newport. According to the Chrysler Corporation, the six Thunderbolts and the five Newport phaetons were their "forecast of future style trends. . . ." and by studying the photographs included here, you can see that Chrysler did some mighty accurate forecasting. The Thunderbolt, some of you may remember, was a push-button paradise; push a button, the headlights were uncovered, push a button, the rear deck slid down and the

all-metal top swung around and down under, the deck zipping shut like a mouse trap, push a button, the windows whipped up and down, push a button—well, you get the idea. In the same year, Harley J. Earl designed and built on the Buick Super chassis the "Fireball Experimental" convertible coupe illustrated, with the same features as the Chrysler Thunderbolt.

At the beginning of these articles, I promised you students of classic design an opportunity to become an expert at recognizing custom bodies. The following is a partial list of identification data on the jobs we have discussed:

LeBaron bodies may be identified by looking on the bottom of the cowl-piece—usually behind the left spare wheel if the car has its spares mounted in fenderwells—for the name signa-tured in brass.

Dietrich uses a rectangular bronze plate about one inch by two inches tacked in the same place as above—just in front of the driver's door and usually directly above the spot where front fender and running board meet.

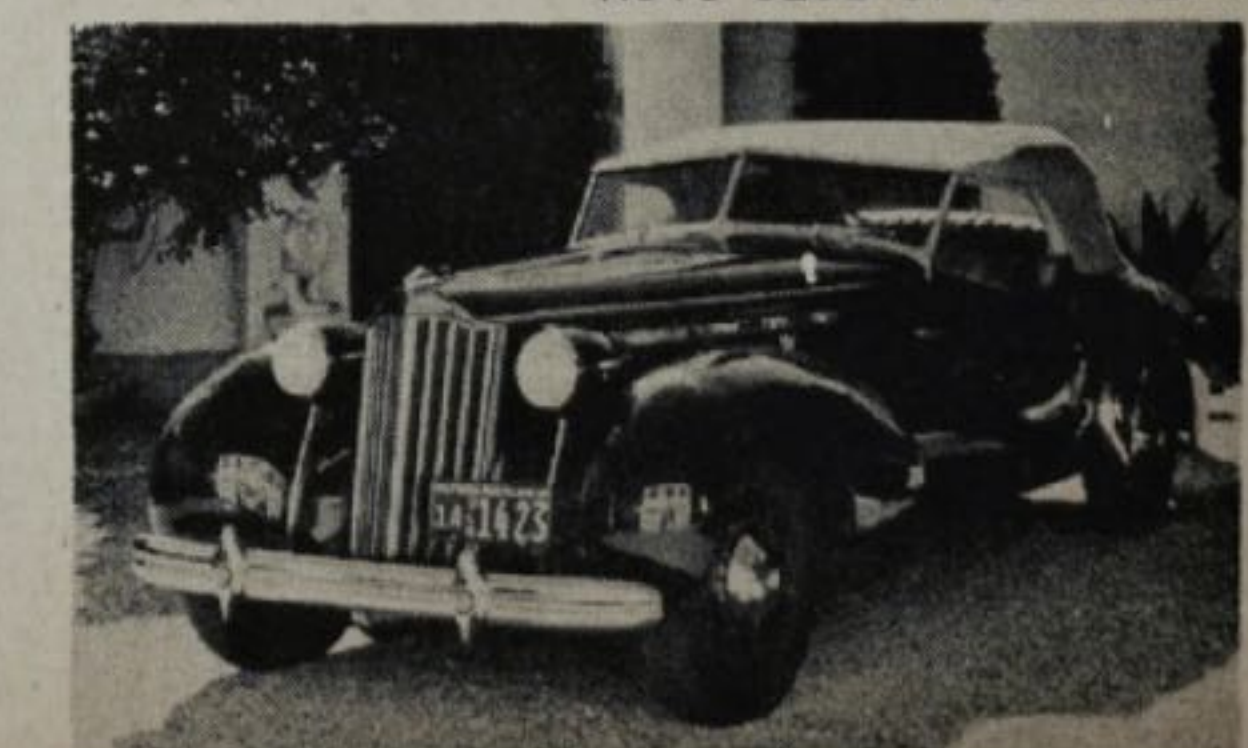
Murphy, Derham, Brunn are usually found on the right-hand side, in about the same location—Murphy uses a rectangular plaque, Derham a bronze shield, and Brunn a scroll.

Fleetwood, Rollson, Judkins, are on the left-hand side, close to that point where the hood and cowl meet.

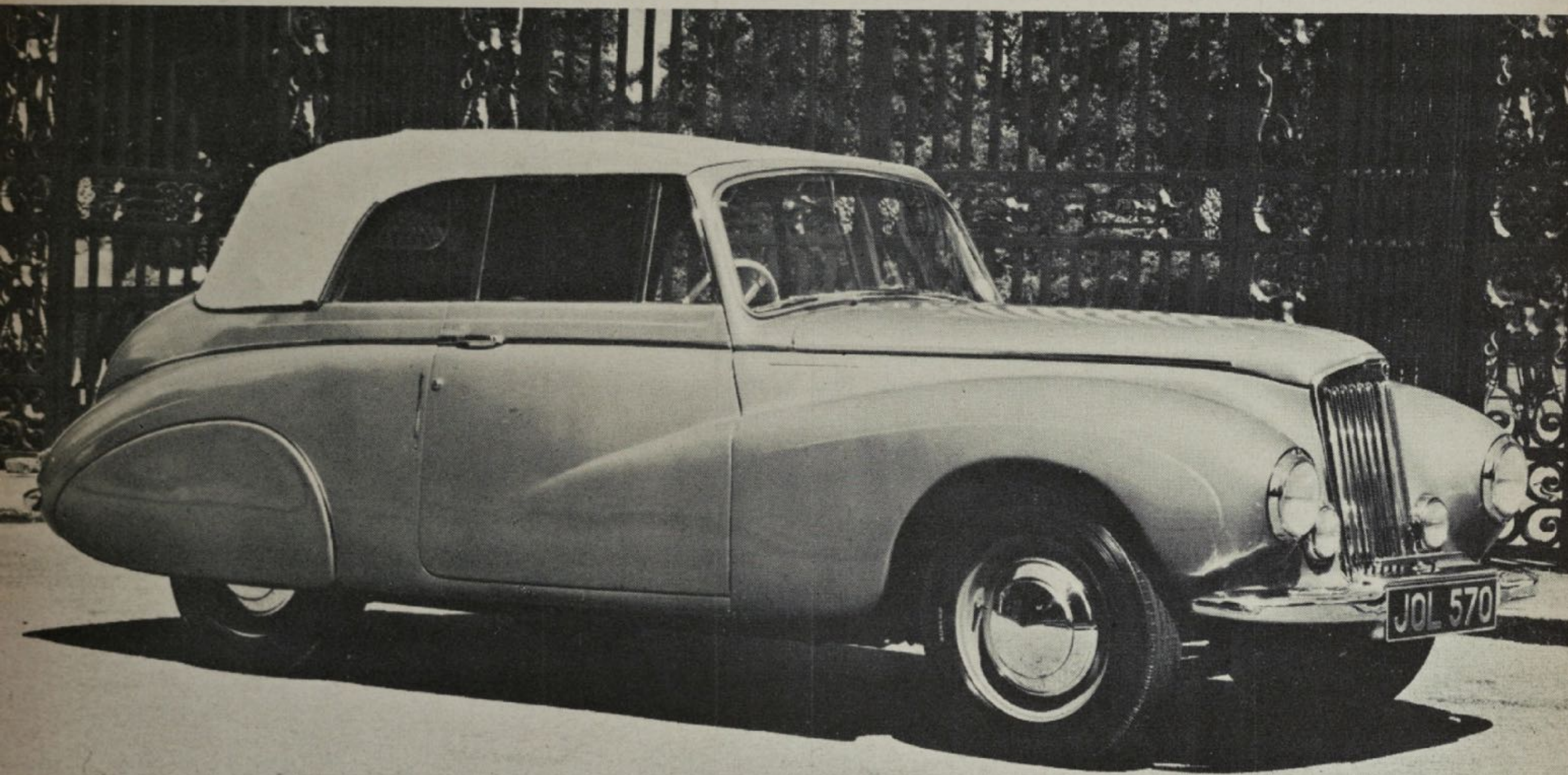
In conclusion, let me repeat what I said in the beginning. If you see something coming down the street that's low to the ground, with spares mounted on the fenders, with a "V" windshield slanted back until it's resting on the driver's forehead, the doors are cut down low, it looks like it has 15-inch tires in back and 19-inch in front, it's got Vogue whitewalls, and lots of chrome—don't be in too much of a hurry to say "huh, one of them furrin jobs"—Detroit had its moments, brother, when the boys got together in the back room and said, "Let's give 'em a lotta car for their money!"

1939 PACKARD Darrin convertible club

AUTO CLUB OF SO. CALIF.

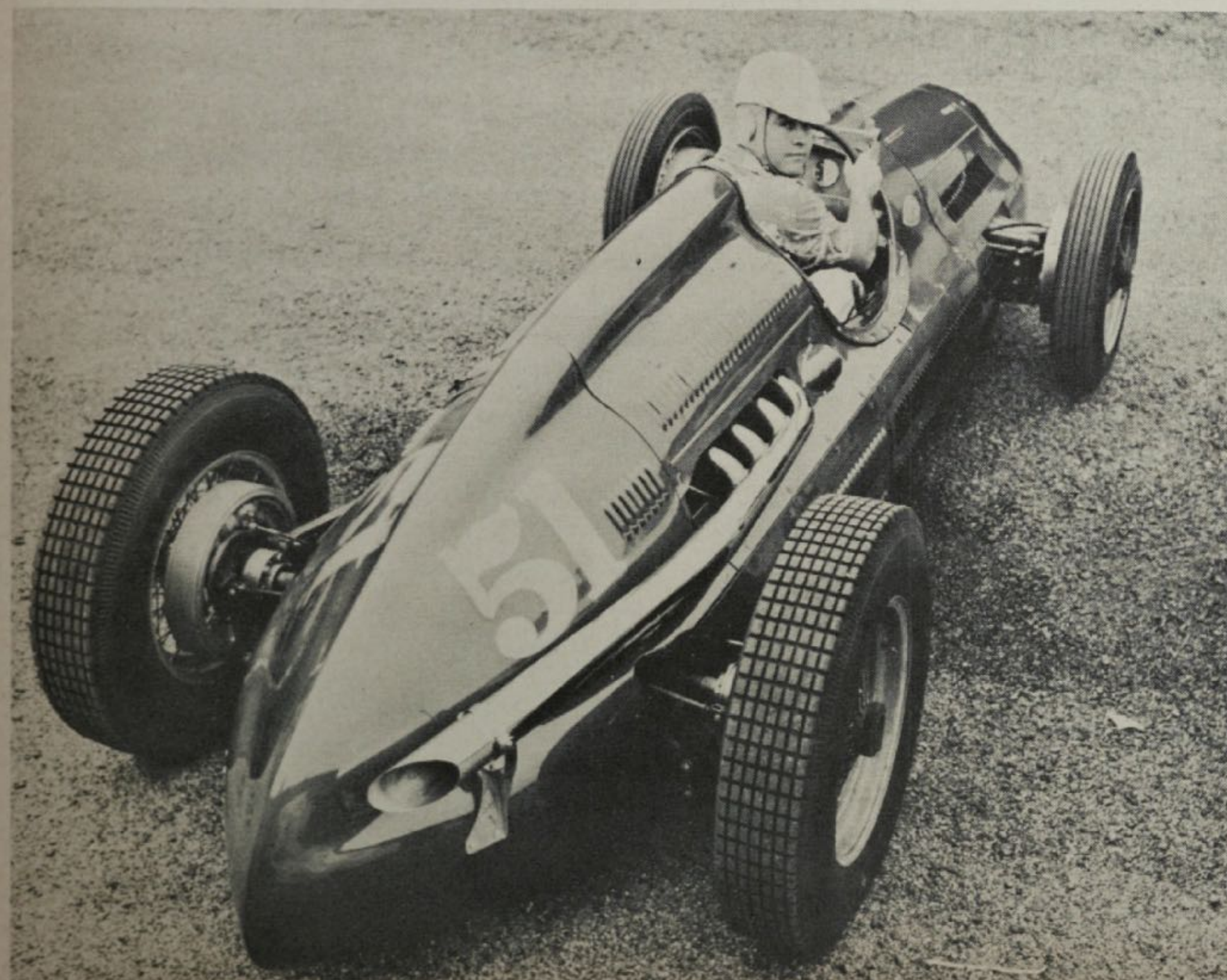






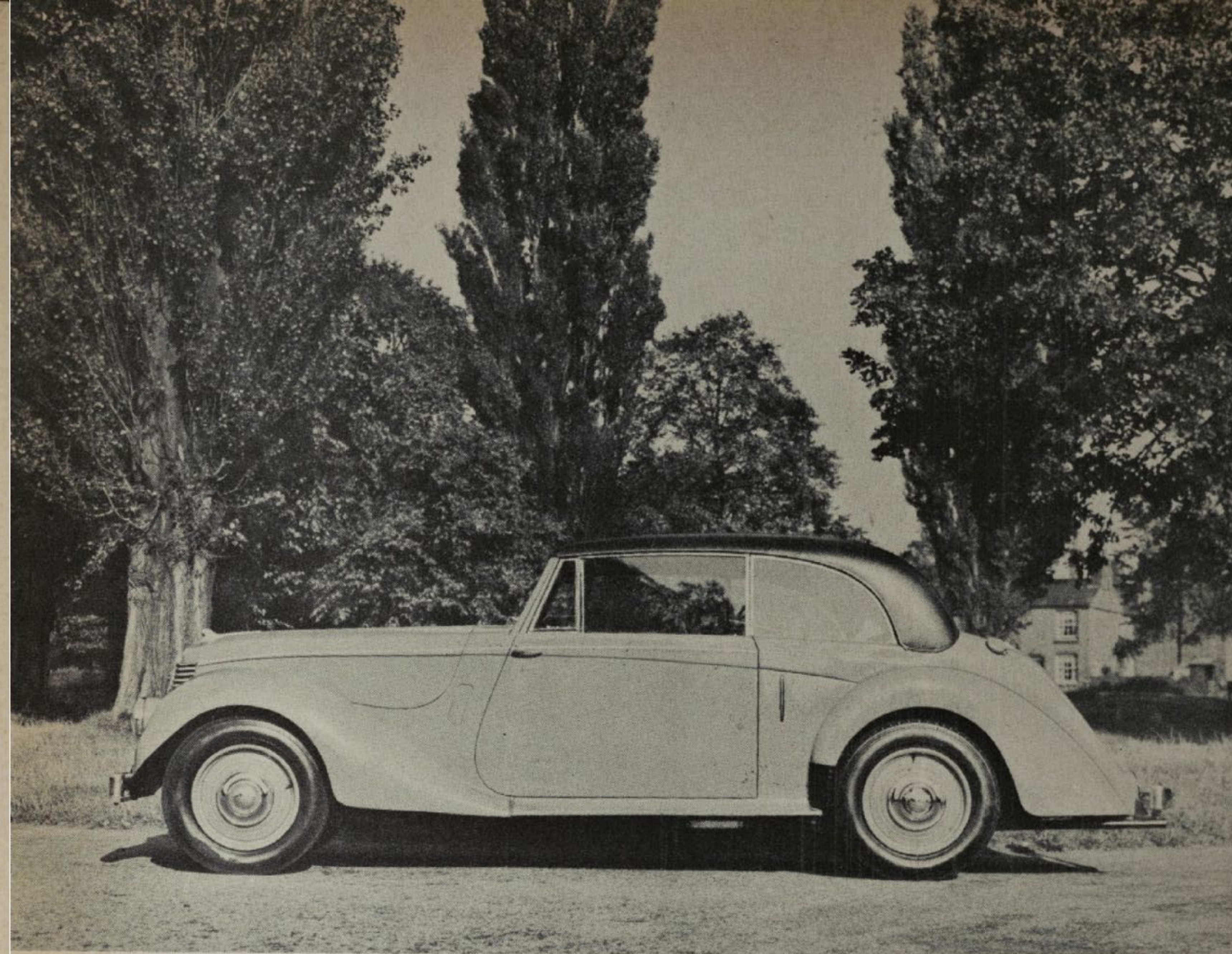
TOWER PHOTOGRAPHERS

COURTESY OF SUNBEAM-TALBOT



**SUNBEAM-TALBOT**—The latest Sunbeam-Talbots are made in two models—the "80" and the "90," both of which are available as saloons or coupes. In appearance, this car is the latest example of British streamlining, although there is improved passenger accommodation. The previous "L" head engine has been discarded in favor of an overhead valve engine on the "80" of 1185 cc (72.3 cu. in.), and of 1944 cc (118.6 cu. in.) on the "90." The "80" develops 47 bhp at 4800 rpm, while the "90" develops 64 bhp at 4100 rpm. Each engine is four-cylinder, the model "80" having a compression ratio of 6.88:1 and the "90" having a ratio of 6.59:1. The body is of all-steel construction. An attractive new feature is the curved one-piece windshield and rear window, while the door pillars have been moved further back.

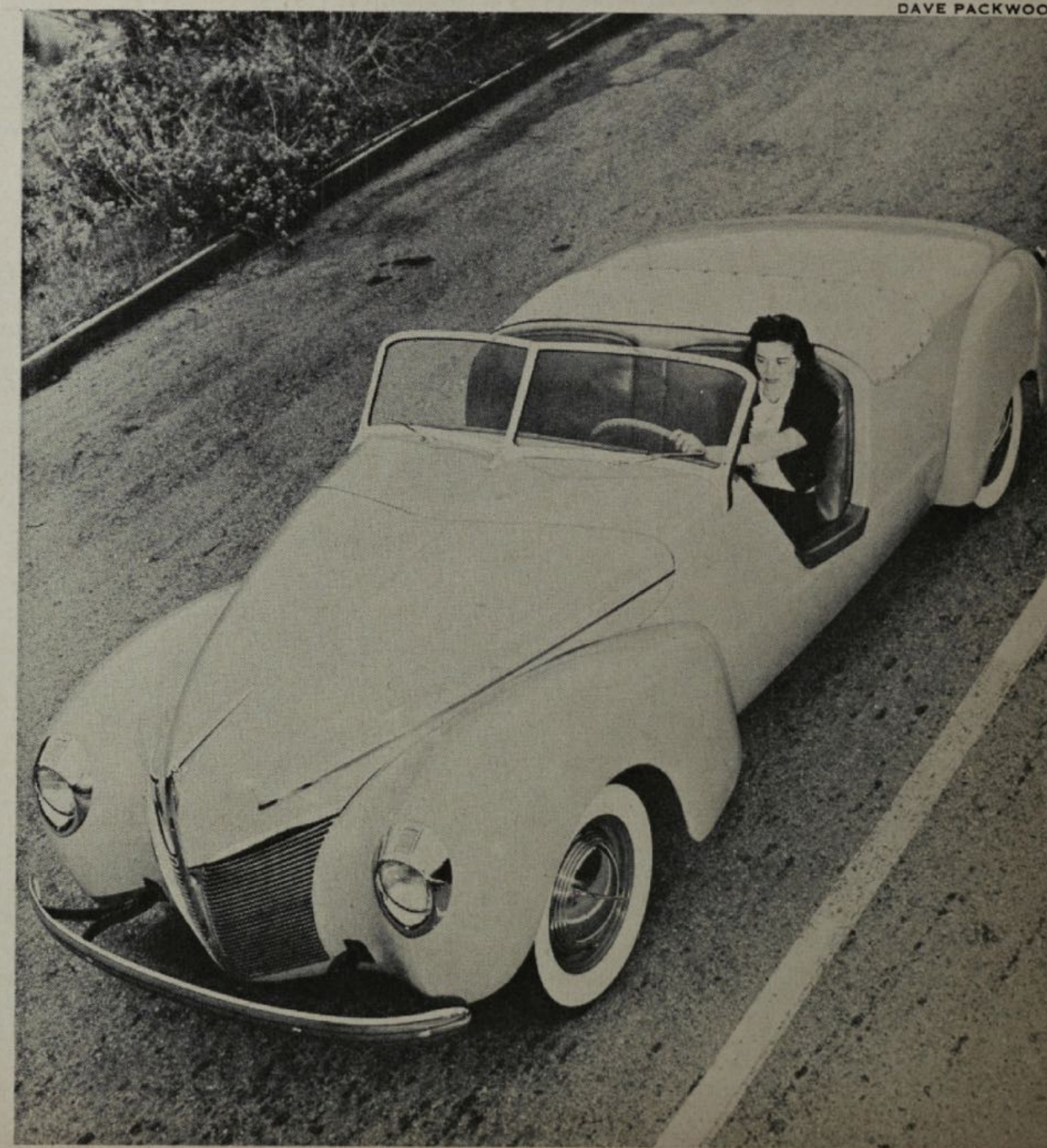
**ROCKET SPECIAL**—This Indianapolis car, which could not beat the rear-engine jinx at the last 500-mile classic (by failing to qualify), is owned by Nat J. Rounds of Beverly Hills, California. It is powered by a four-cylinder, 270 cubic inch Offenhauser (Meyer-Drake) engine, placed just aft of center. The driver sits at approximately the center. The highest point of this car is only 40 inches from the ground, while the driver's seat is 8 inches high. The car features a tubular frame and independent suspension at all four wheels. This car was built by Emil Dietl and Luigi Lesovsky of Los Angeles, Calif.



COURTESY OF ARMSTRONG-SIDDELEY

**TYPHOON**—The Typhoon Sports Saloon is one of the current offerings of the long-famous Armstrong-Siddeley firm of England. The Typhoon, and its hardtop and convertible companions, are powered by a six-cylinder, 2.3 litre (140.3 cu. in.), overhead valve (pushrod operated) engine. Compression ratio is 7:1, with 75 bhp being developed at 4200 rpm. The epicyclic four-speed transmission has a pre-selector control on the steering column. Steering is Burman recirculatory ball "F" type. Front wheels are independently suspended by wishbones and torsion bars. Brakes are Girling hydro-mechanical. These 115-inch wheelbase cars sell for \$2730, plus tax, in England. Overall gear ratios are as follows: top, 5.10:1; third, 7.22:1; second, 10.66:1; first, 18.36:1. Track is 52 inches in front and 52½ in the rear. Ground clearance is 7½ inches. Overall length is 15 feet 6 inches, while overall height is 5 feet one inch. Turning radius is 37 feet. Other cars made by the Armstrong-Siddeley firm include the Whitley, Lancaster and Hurricane.

**BIG CROSLEY HOT-SHOT?**—The car pictured here is not the result of seeing the Crosley Hot-Shot and then building a big car of the same design. This car is a custom '40 Mercury roadster that was built several years ago, when cutaway doors had become quite popular. Outside of the doors, the car is practically conventional, having a stock engine. The running boards have been removed, the seats and upholstery are special made, as is the tarpaulin which covers the folding top.



DAVE PACKWOOD



## TRANSATLANTIC

**BRIEFS:** The big news from the Continent is the new Daimler-Benz diesel passenger car. We'll have a full report on it soon. . . . Following the current British trend toward roadster-racer emphasis, stately English Daimler has come out with a super sport convertible. . . . Britain's answer to government-subsidized racing, the new BRM racing car, backed by 70 English manufacturers, is progressing nicely under the direction of famous driver Raymond Mays, who organized the project.

**ENGLAND'S ALLARD:** As any decently informed child knows by now, the V-8 hot rod is as much a part of Southern California civilization as orange groves, Grand Prix bus drivers, and self-service cyclotrons. But who thinks of distant, misty England in anything like the same terms?

Well, very fast cars have been familiar terrors of the English countryside for several decades. But just lately a barrel-chested, genteel hill-climb expert named Sidney Allard has made clear to his countrymen the virtues and potentialities of the Ford V-8, with impressive results. The Allard automobile, using a ported, stroked Mercury engine, is already widely known throughout the world. Although never manufactured on a production basis until after the war, it is one of

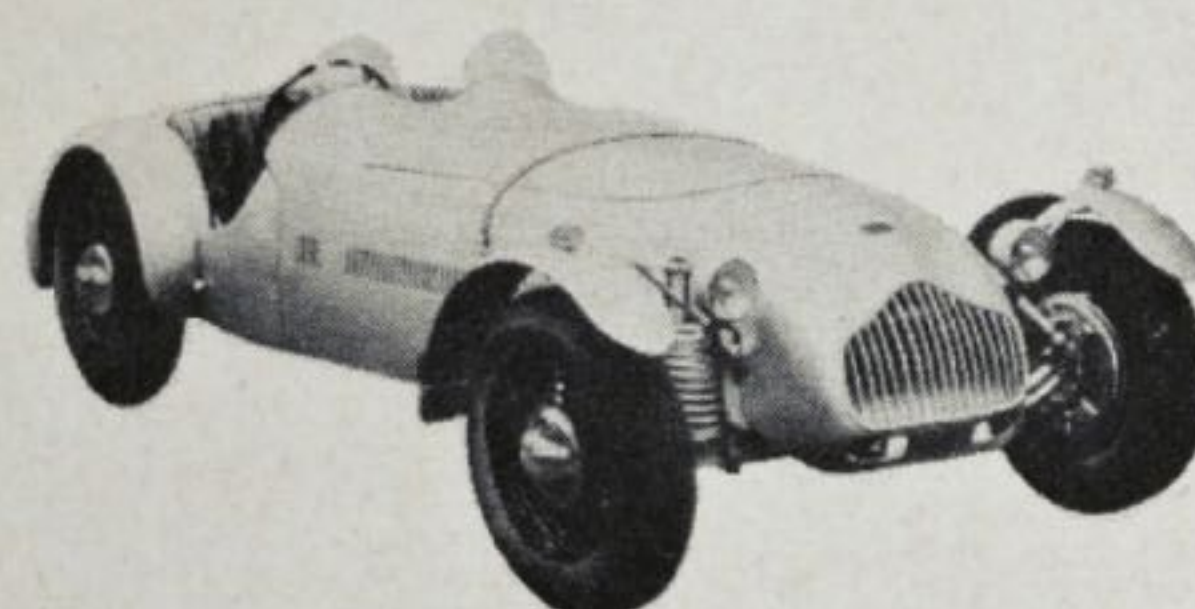


tendance continentale

by Griffith Borgeson

a scant handful of English jobs that can legitimately claim postwar design of both chassis and coachwork. Like Ettore Bugatti, Allard not only markets a straight racing job, but also offers the public the same outstanding chassis equipped with practical and handsome touring bodies.

Allard's selection of the V-8 chassis was based on its performance, econ-



The ALLARD Type 'J' is already being imported into this country from England.



THE COACHBUILT Saloon is a nice compromise between tradition and innovation.

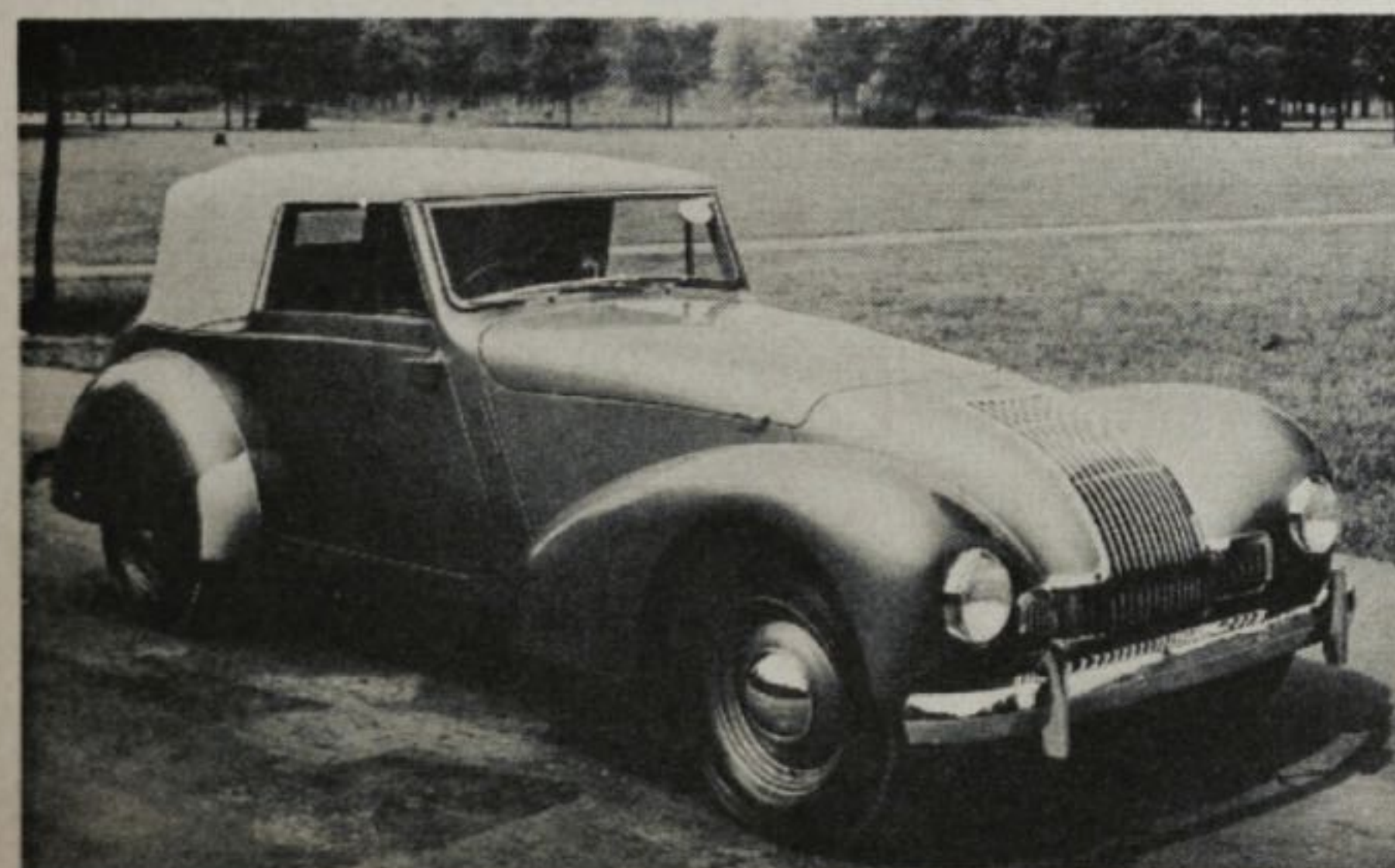
## NEW LETTER

omy, and the world-wide availability of parts. Of course, many Allard parts are of the company's own manufacture: heads, manifolds, suspension, transmission gears, among other items. Nevertheless, the parts most likely to require replacement are as easily obtained in Calcutta as in Coventry, a feature that makes the car an exporter's dream come true. Another asset is the combination of well-executed limited production line techniques with fine traditional craftsmanship.

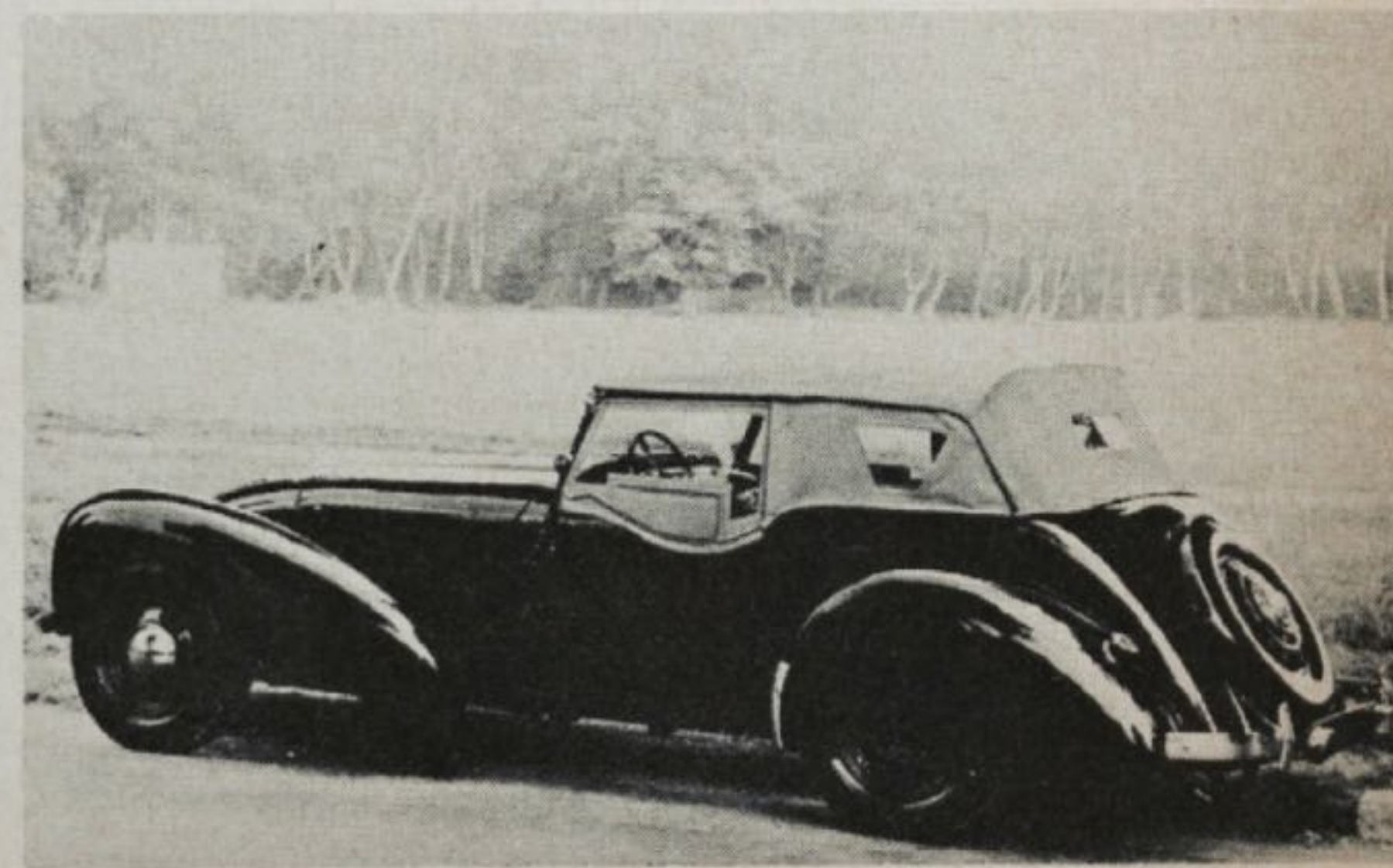
The convertible coupe, the touring car, the sedan, and the sports roadster—all models but the "J", in other words—have the familiar 30 ihp V-8 mill with minor variations, like special heads, depending upon the model. The transmission gears are silent and helically cut for all three speeds, high gear having a ratio of 3.78:1. Shift lever is on the steering column.

The rear axle is three-quarter floating and the rear end ratio is identical to that of high gear. The front axle is independently sprung on coils, has self-adjusting steering knuckle joints. High ratio Marles cam gear steering is a big contributor to the superior performance of the car, and, as is almost the rule in England, the position of the steering wheel can be altered at will upon a telescopic column.

(Continued on page thirty-three)



THE FIVE-PASSENGER convertible coupe made by Allard



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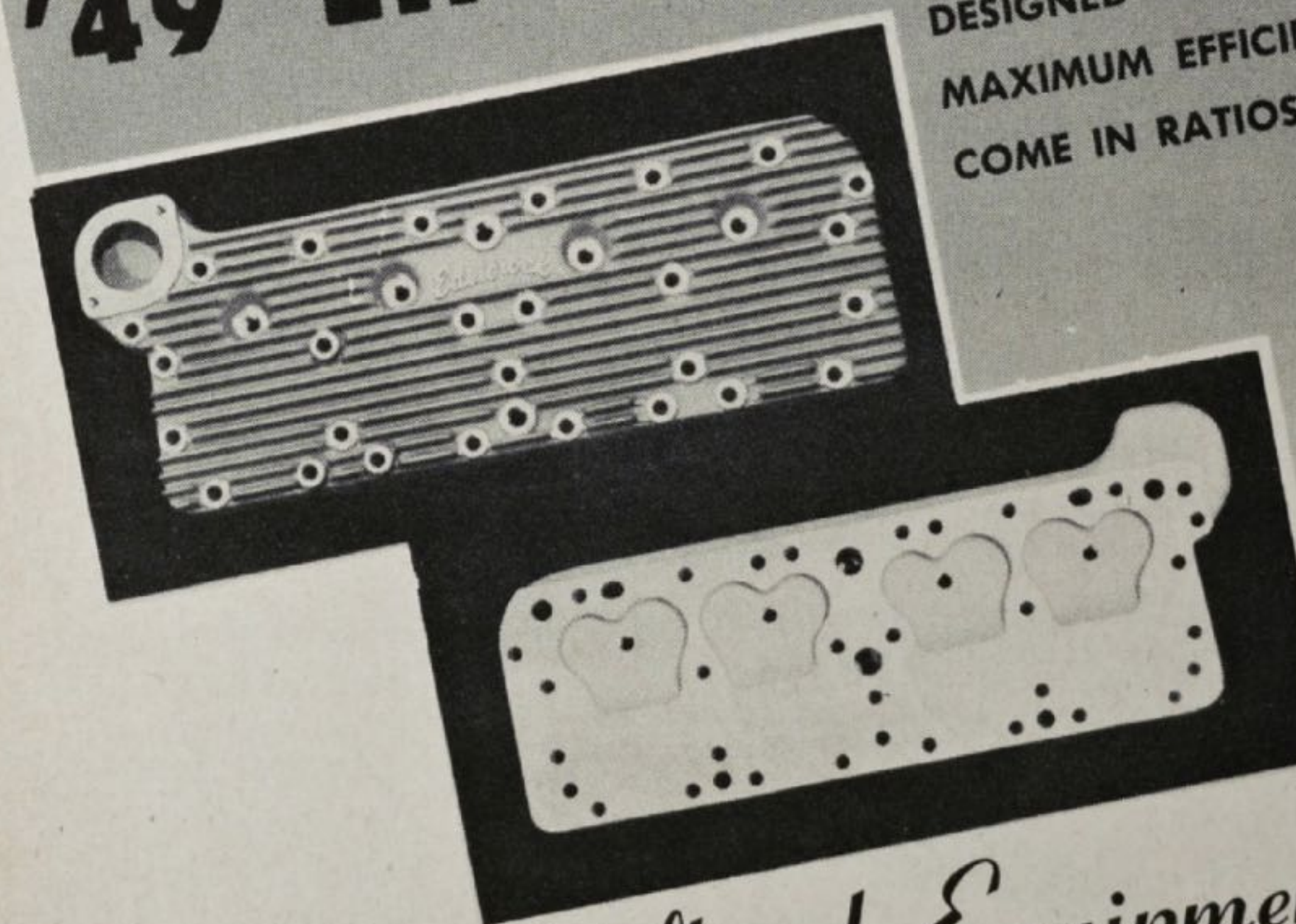
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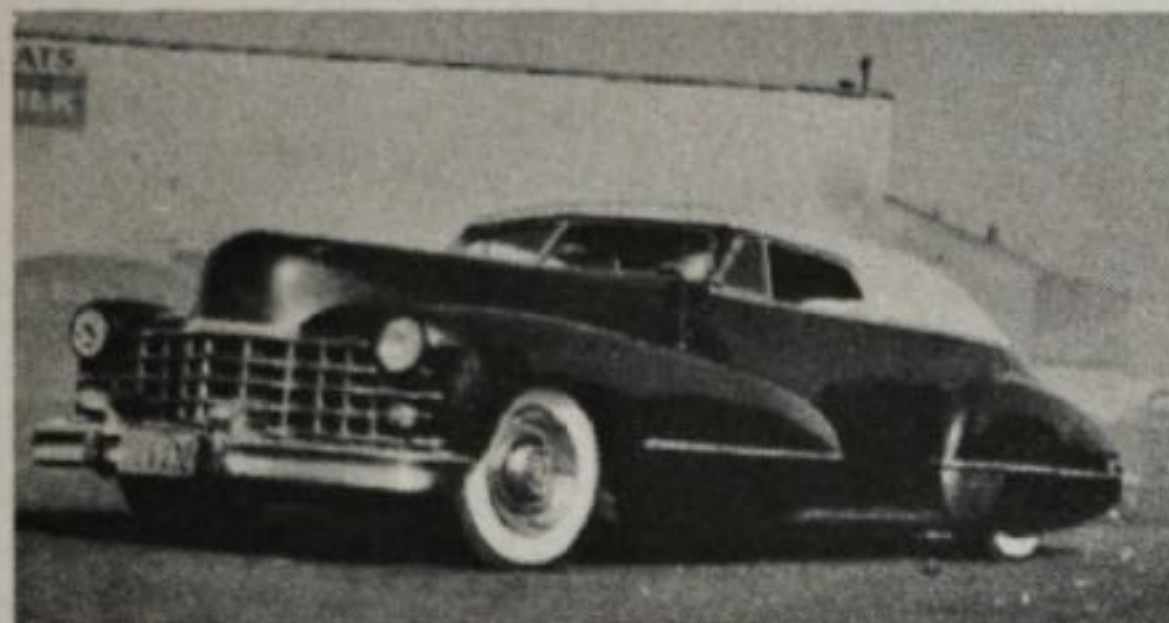
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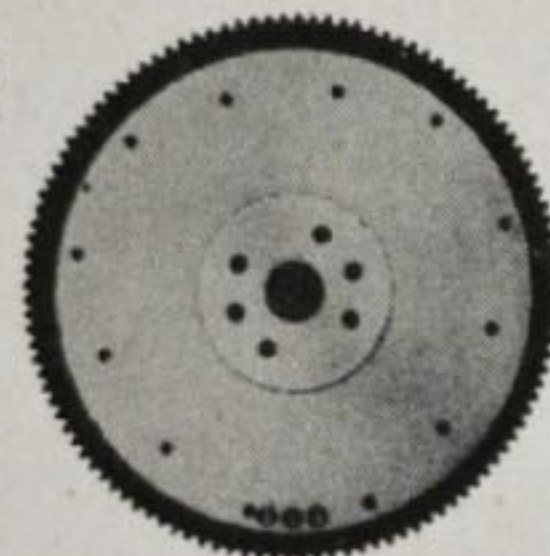
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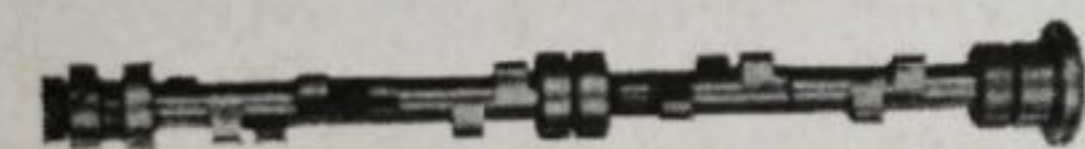
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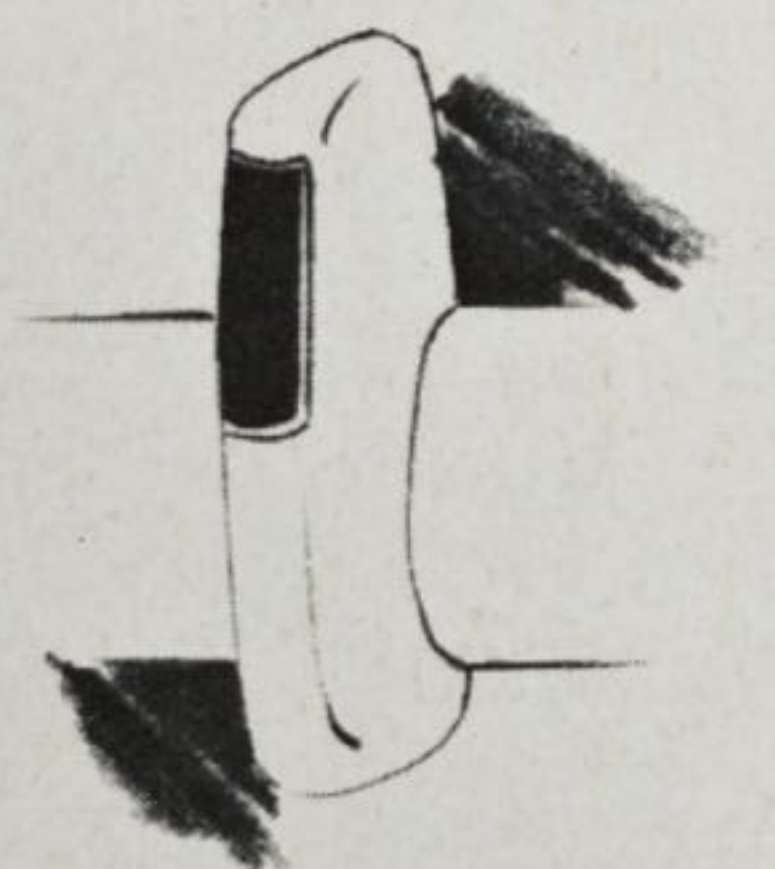
# Styling Hints

**NOTE:** Restyling and customizing are two things that, like other arts, are better left to the masters. However, there are many small items that an individual, with the proper tools, talent and patience, can perform. That is why this page, each month, will be devoted to styling hints—hints that an individual can take advantage of, either by doing the work himself or by contracting a stylist to do the work for him.—Editor.

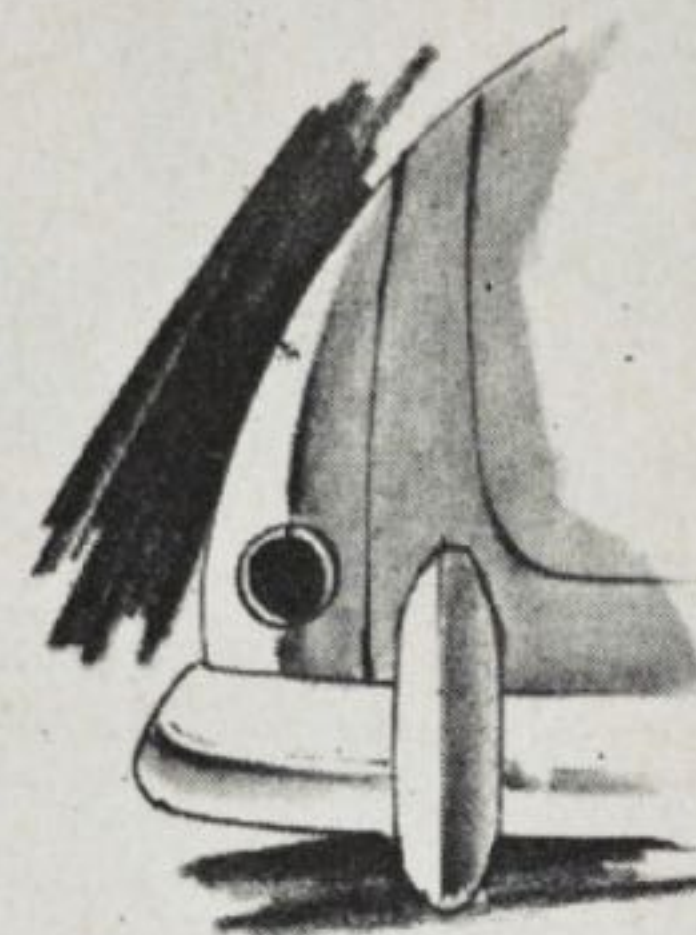
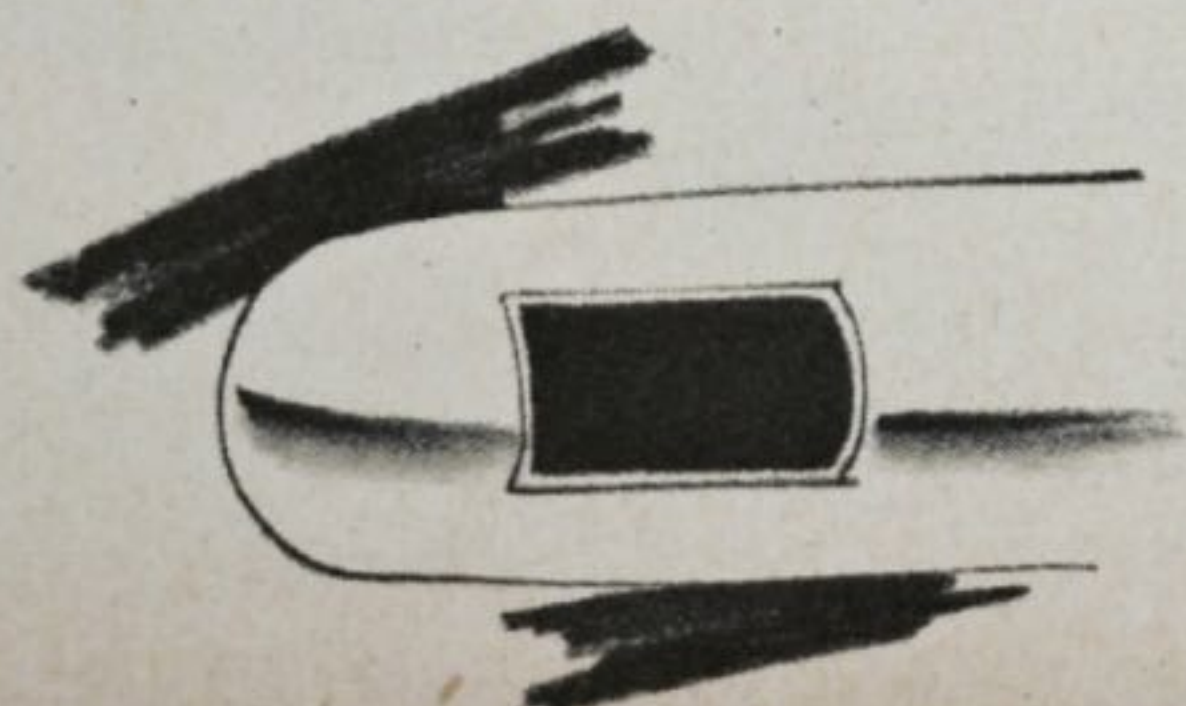
**A CLEVER METHOD** of setting tail lights in so that they are not visible in the daytime is shown below. This consists of making several saw cuts in the bumper guard, and placing the curved glass and tail light inside the guard.



A variation on the method of saw-cutting the bumper guard is to cut out the center section of the bumper and insert a reflector.



For the person who wants a smoothly finished tail light and bumper, this installation can be made. A cutout is made in the bumper on each side, of a size comparable to the size of reflector preferred. The tail light assembly is then welded to the back side of the bumper or to the bumper braces.



Flush tail lights can also be mounted in the fenders or in the back of the turtle deck. Shown above is one reflector style—a '48 Pontiac.

Owners of new General Motors products have several possible tail light variations. The simplest is that of installing an accessory tail light (chrome, with reflector only) on the aft bead of the fender, in the same relative location that the Cadillac tail light occupies. The disadvantage of this method is that the use of the present tail lights must be continued.



DRAWINGS BY  
 THOMAS J. MEDLEY

Another method is that of cutting a section out of the present fender and then molding in a new section with a Cadillac tail light. With the proper type of torch work and a minimum amount of lead, this type of fender can be made to look very attractive. A further variation is that of replacing the present fender with a Cadillac fender.

## Trends in Design

(Continued from page twenty)

The Chrysler-built cars and Buick place the blower at the extreme front. Since the level at which the air enters the ducts is lower than the outlet into the body, an automatic water shedder is established. Cadillac is an exception in placing the heater core on the front side of the firewall and receiving air from the left duct. All Chrysler-built cars retain the cowl ventilator, which prevents the pleasing lines of the hood continuing to the base of the windshield but which obviates the drawing in of air from above-the-road level. The duct system is vulnerable to the inhaling of the exhaust gases from the car ahead, whether in dense traffic or whether parked behind a vehicle whose engine remains idling. Nash continues with its "weather eye" with greater heating effectiveness at low car speeds, better distribution of warm air within the car and a more effective water shedder.

### Conclusion

It has naturally been necessary to touch on only a few high spots covering the many and various components of the present cars, and no complete study could be made on any one particular feature. It will, however, be seen that considerable progress has been made, the most gratifying being the many provisions that will ensure greater safety, such as the use of greater glass area and the elimination of blind spots. The step-by-step increase of compression ratios will be watched with considerable interest and especially the ability of the oil companies to produce the new fuels in quantity and at a reasonable price. The postwar cars are more comfortable to ride in, with less fatigue resulting from long journeys aided by superior suspensions and also by easier controls. Regarding the latter phase, new transmission developments relieve the driver of manual burdens in dense traffic and mental anguish, provided no hunting characteristics are present. Each individual has his or her own conception of beauty, hence the different schools of thought in body and sheet-metal design. New servicing problems call for new service techniques, which no doubt shall be forthcoming. It is too precarious to attempt to predict the nature of general conditions in the years just ahead but, as in every phase of activity, the law of economics will dictate just how our cars will have to be built.

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We also made the fastest lap at 75.3 m.p.h. Due to transmission deficiencies I was forced to remain in high gear the greater part of the race, which as you will understand, was a severe handicap. That we were able to outperform a 9.6 Alfa and a Mille Miglia Ferrari speaks loudly for the lugging qualities combined with high revving ability, of your "track-grind" camshaft. We owe the race in large part to being able to obtain wallop all the way from 1,500 to 5,500 rpm.

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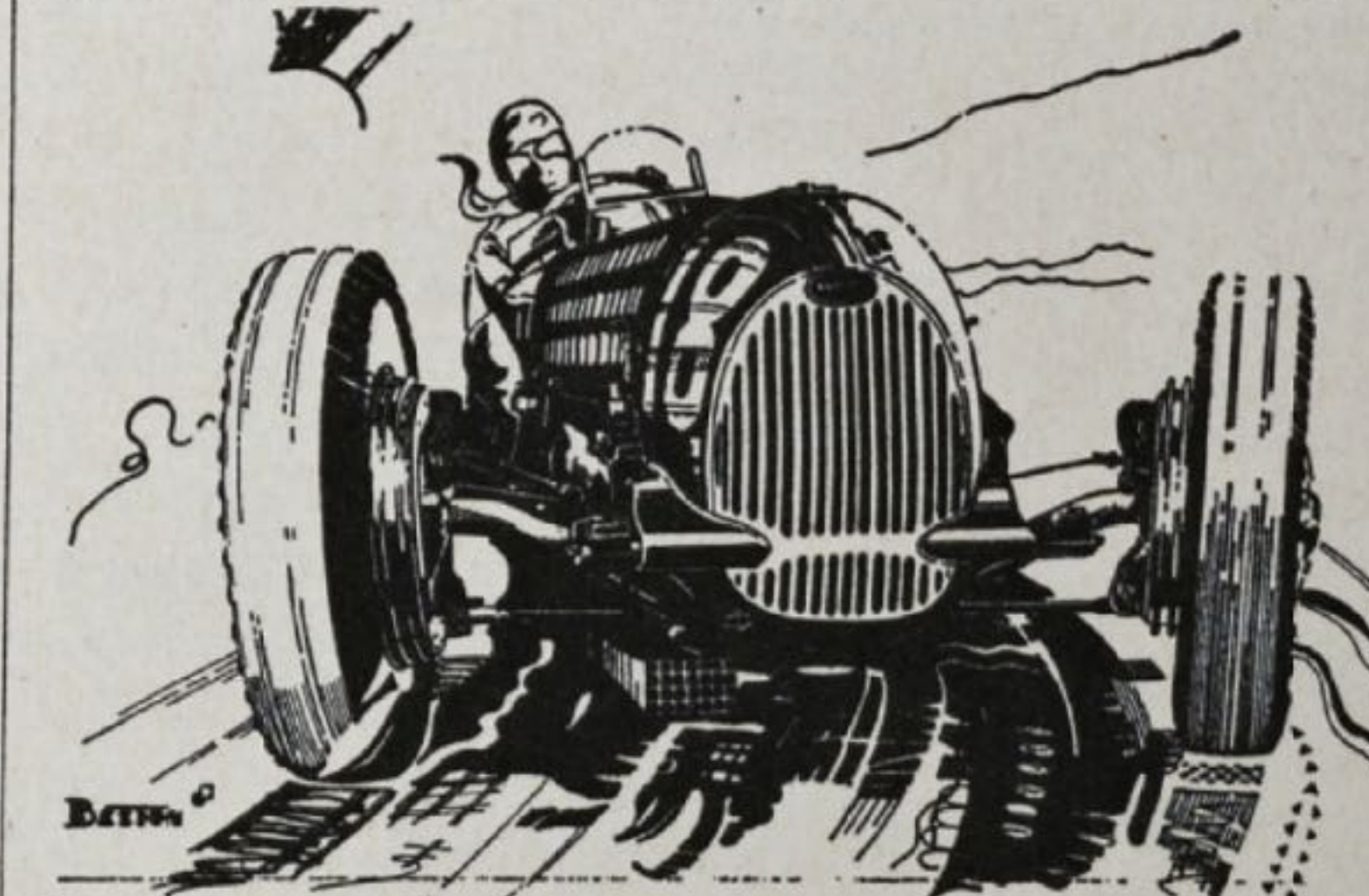
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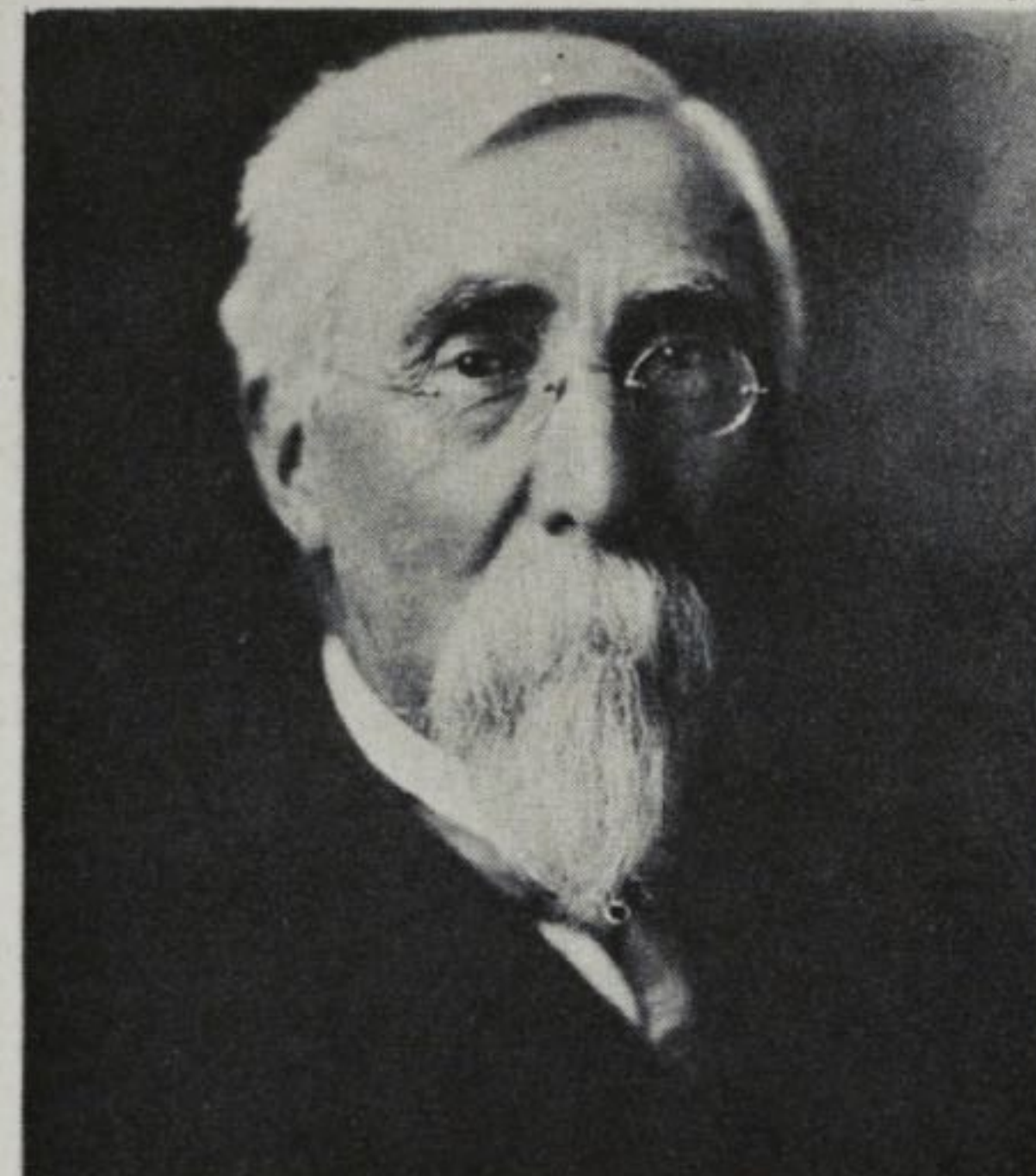
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## Cars of Character

(Continued from page thirteen)

marine engine and bicycle parts fac-  
tory in Detroit. In 1899 R. E. Olds  
called upon this old master to design  
and manufacture a transmission for  
the first Oldsmobile. A year later,  
Leland designed the Cadillac, organ-  
ized the Cadillac Motor Car Company,



Poet? Theologian? Philosopher? These too,  
perhaps, in quiet moments. But to the  
world this is the portrait of a great  
mechanical engineer—Henry M. Leland.

and took over the position of produc-  
tion manager.

In 1906 Leland demonstrated, for the  
first time, the successful interchange-  
ability of automotive parts. He took  
three Cadillacs to London, where the  
cars were completely dismantled in the  
presence of critical specialists, the parts  
scrambled, and three new cars assem-  
bled and put through a 500-mile speed  
and endurance test. This mastery of  
precision techniques, combined with  
knowledge of the most efficient pro-  
duction methods yet known, estab-  
lished Leland as one of the great fig-  
ures in the history of technics, and  
laid the groundwork for the entire  
future American automotive industry.

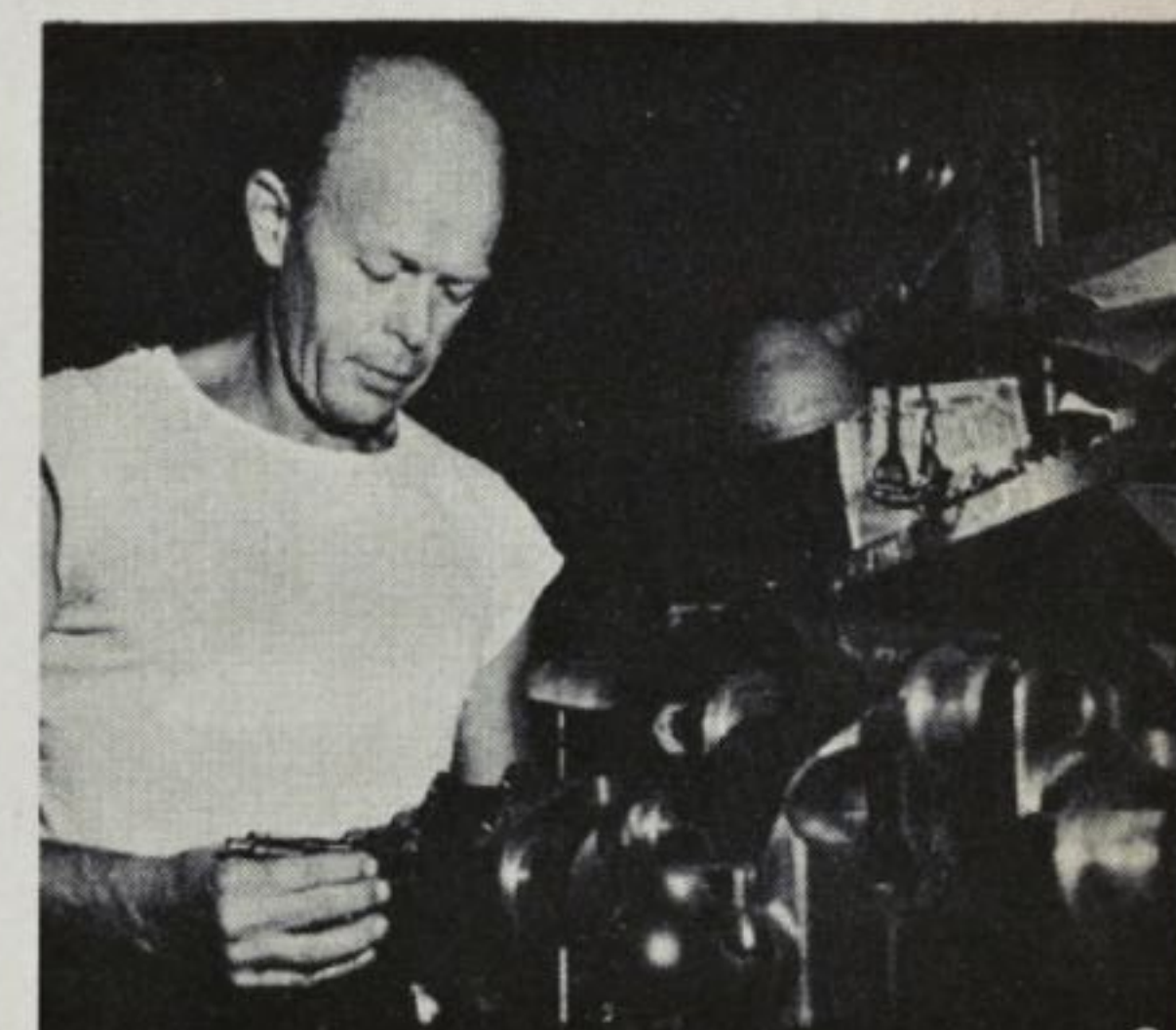
Since the days of the old marine  
engine plant, Henry's son, Wilfred,

had worked closely with his father in  
matters of design and production.  
Wilfred, too, had a hand in the crea-  
tion of the Cadillac. In 1909, the Le-  
lands sold their Cadillac interests, re-  
maining on as managers of GM's  
Cadillac division. Entry of the U.S.  
into the first World War drew the  
Lelands back into independent manu-  
facturing as producers of Liberty  
motors.

The Armistice found Henry a mere  
eighty years old, and rarin' to be  
building fine cars again. He and Wil-  
fred designed the Lincoln car and put  
their stock on the market. Their repu-  
tation in the industry was superlative:  
the entire multi-million issue of stock  
was bought up in three hours!

But a regional reputation, however  
fine, wasn't enough to carry the new  
line of luxury cars through the de-  
pression of 1921. At this point Henry  
Ford stepped in, acquiring full title to  
the Lincoln Motor Company.

The accompanying table shows the



Carl Shilling of San Francisco is one of  
America's outstanding authorities on the  
Lincoln. His personal cars reflect a  
thorough appreciation of fine machinery.

evolution of the final Leland product  
from its inception to its relative down-  
fall in 1934, when not the design, but  
the workmanship and the quality of  
materials used, deteriorated. The ta-  
ble indicates nothing particularly spec-  
tacular in the way of specifications or

Year and Model	Cyls.	Bore	Stroke	Piston Disp.	SAE HP	Brake HP	Curve Peak RPM	No. Main Bearings	Comp. Ratio	Angle of Blocks	Crank-shaft	Rear End Ratio	Clutch Type	Brakes	Steering	Wheel-base
Model L 1920-27	8	3 3/8	5	357.8	36.45	85	2800	5	4.81	60°	Not bal- anced	4.2 and 4.58	Dry Plate Mult. Disc	External Contract.	Warm and Sector	130 & 136
Model L 1928-30	8	3 1/2	5	384.0	39.2	90	2800	5	4.81	60°	Bal'd in '29	same	Smaller same	3 shoe int. expanding	same	136
Model K 1931	8	3 1/2	5	same	same	125	2900	5	5.25	60°	Balanced	same	same	2 shoe same	Warm and Roller	145
Model KB 1932-33	12	3 1/4	4 1/2	448.0	50.7	150	3400	7	5.25	65°	same	same	Two disc dry plate	same, vac. booster	same	145
Model KA 1933	12	3	4 1/2	381.7	43.2	125	3400	4	5.50	67°	same	same	same	same	same	136
Mod. KA, KB 34-40	12	3 1/8	4 1/2	414.0	46.8	150	3400	4	6.40	67°	same	same	Single dry plate	same	same	136 & 145

Additional Data: 150-inch wheelbases were at all times available on special order. The first KA was the 1932 eight; the '33 small twelve KA took its place, bodies and frames being identical. Design of the engine of this twelve was inferior to that of the big twelve and the eights. In 1928 a vibration damper was added and intake valves enlarged 1/8 inch. Shorter, heavier rear end with straddle-mounted pinion adopted in '29. Separate starter and generator introduced in '31. Also adopted in '31: fuel pump, down-draft carburetor, drop center frame. 1932: synchro-mesh transmission with free-wheeling.

statistics for the very good reason that  
the designers were interested in  
achieving other things than the spec-  
tacular. Mechanically, the Lincoln em-  
bodied the maximum degree of simplic-  
ity consistent with maximum depend-  
ability and freedom from maintenance  
crises. Never really outstanding for its  
speed, it was still one of the faster  
stock cars of its day, and provided  
standard transportation for fire and  
police chiefs, and others—like gang-  
sters—whose professions involved get-  
ting there fast. The Lincoln was most  
outstanding for its immense power and  
serviceability, characteristics which are  
testified to today in a humble way by  
the hordes of early Lincoln tow cars  
still doing a good day's work. The  
engine was always a clean job, acces-  
sibility being a feature. Like any well-  
engineered machine, it was designed  
with consideration for the man who  
would eventually have to work on it.  
Consequently, working on it was a  
pleasure.

The fastidiously adequate Lincoln  
chassis survived almost unchanged un-  
til the last eights were made in '32.  
'32 and '33 marked the culmination of  
Lincoln achievement—the 448 cu. in.  
twelves were made in those years, com-  
plete with massive, bronze-backed main  
and rod bearings, and equally massive  
but extremely delicate H-section con-  
necting rods from which the last flake  
of excess reciprocating weight had  
been carefully machined. These were  
still Leland engines in terms of design  
and workmanship, the structural dif-  
ference consisting chiefly in multipli-  
cation of parts. But that was the end of  
the line. It's a matter of record that  
between '29 and '37 Ford lost some  
\$16,000,000 on his Lincoln hobby.  
From 1934 on the rods became rough  
forgings, the bearings flimsy shells, the  
chassis as a whole that of a "big Ford,"  
although the best coachmakers contin-  
ued to supply Lincoln bodies.

The march of progress and the evo-  
lution of our economy both pretty well  
guarantee that automobiles like the  
Leland Lincoln will never be built  
again. Lovers of machinery that is  
both elegant and sturdy are aware of  
this fact. Appreciative owners of old  
Lincolns scour the wrecking yards for  
hard-to-get parts and maintain their  
treasures in flawless condition.

And they confidently predict the  
time when their antique autos will roll  
proudly past the junkyards filled with  
1950's finest.

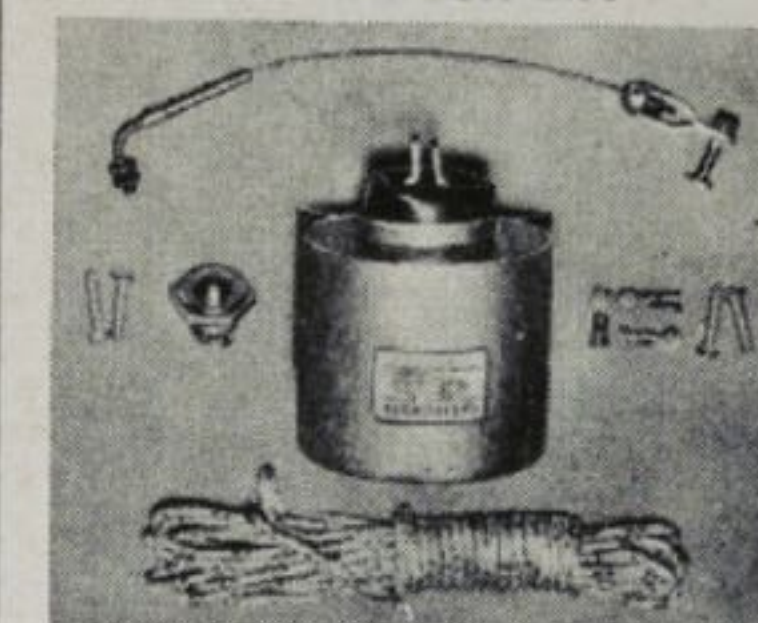
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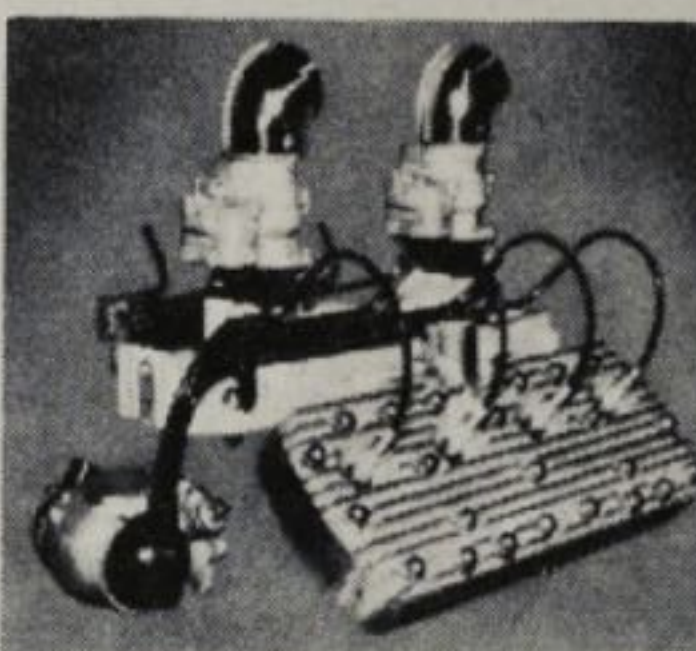
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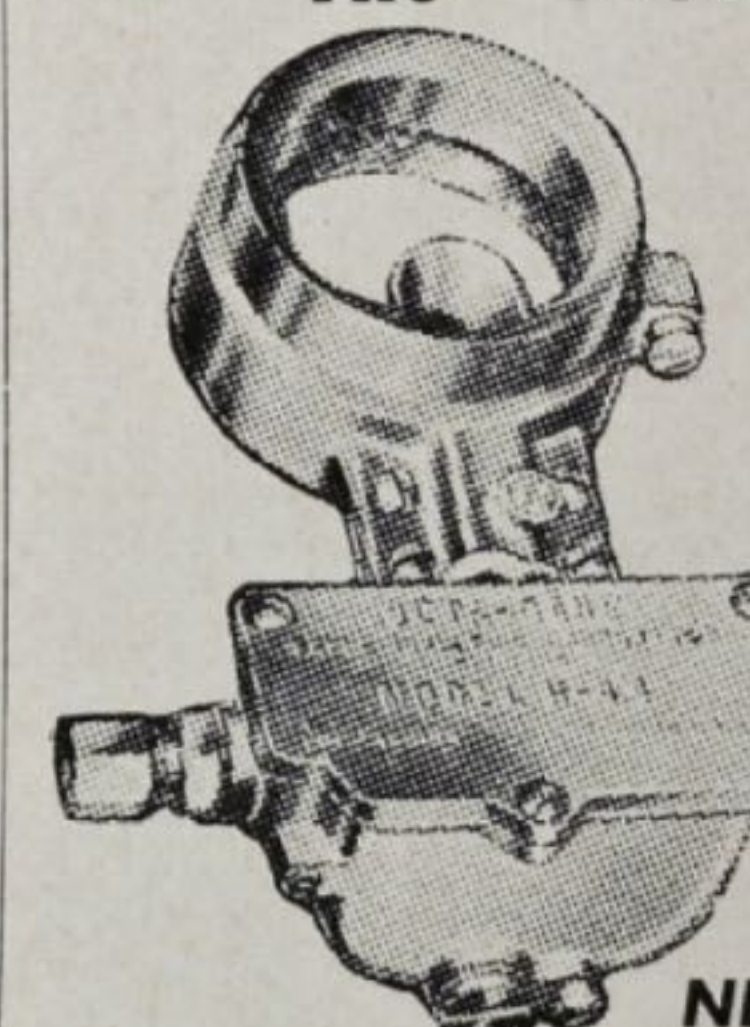
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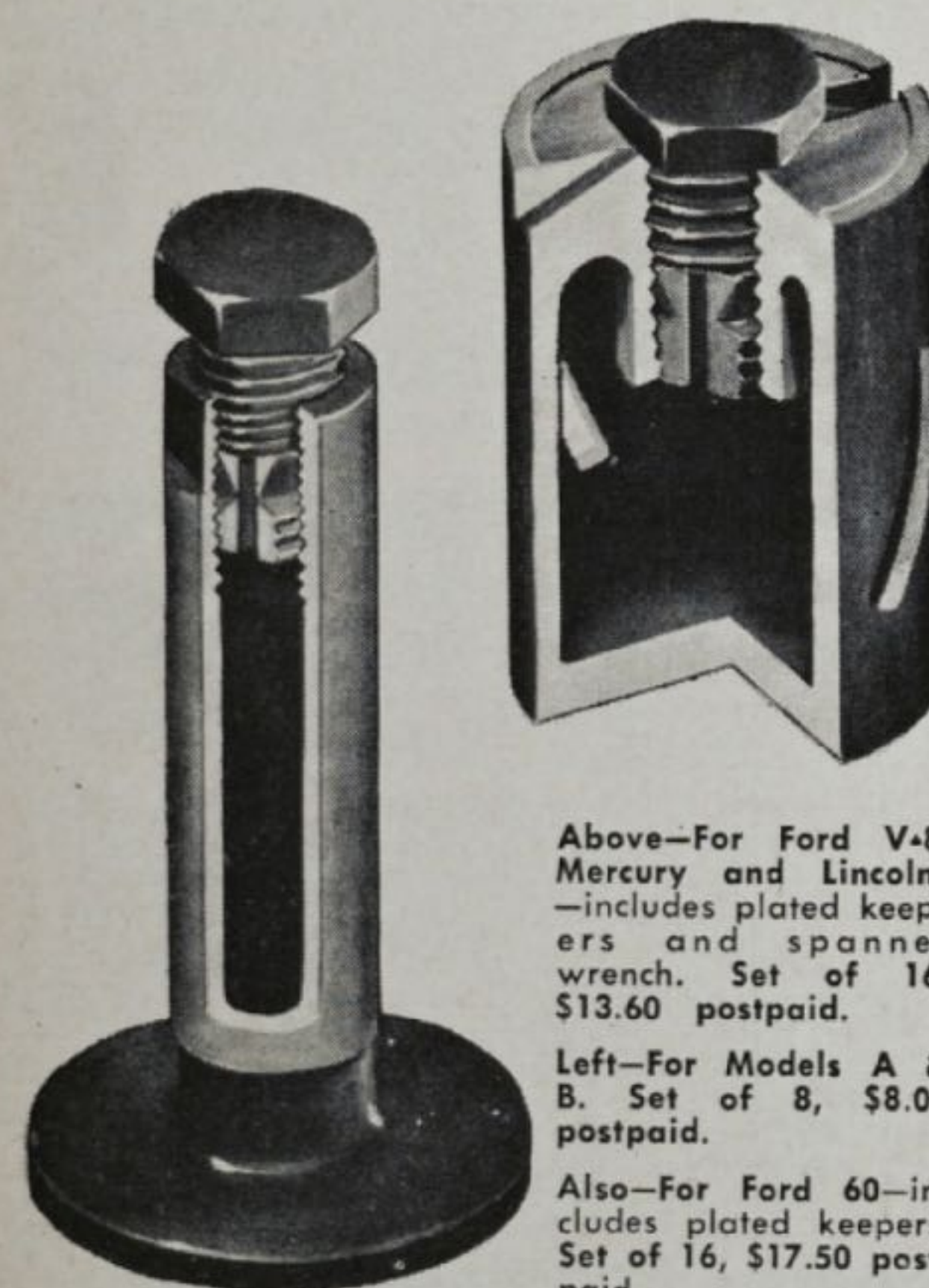
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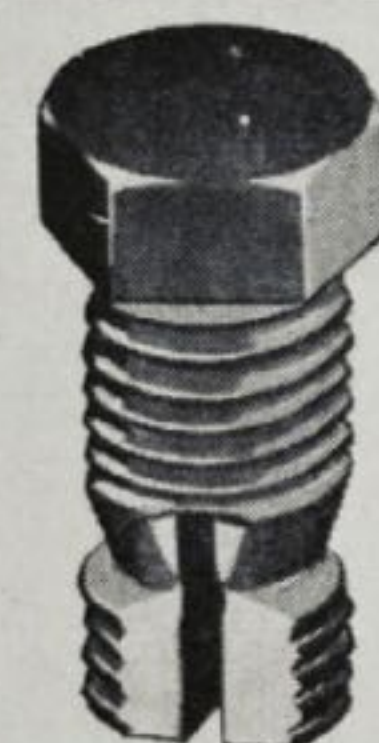
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## Small Cars

(Continued from page nine)

president of the company, the Imp is designed particularly for the teen-age motorist and as a companion to the family standard car. The two-passenger 72-inch wheelbase roadster, powered by a Gladden 7½ horsepower motor mounted in the rear, is capable of reaching a speed of 35 mph and is claimed to travel as far as 60 miles on a single gallon of gas. Some of the other features of the Imp are its laminated fiberglass body, which is claimed to have greater impact resistance, and its tubular bumper, which completely encircles the body and affords collision protection on all sides as well as front and rear.

Another company attempting to break into the "small" car field is the producer of the "Playboy" of Buffalo, New York. It is reported they have spent 1¾ millions of dollars in an effort to produce their car. The latest available information, however, indicates that they have produced just 97 cars, all of which are of one model, a three-window coupe with full fenders. Outstanding features of the Playboy are its integral body and frame with independent front suspension and coil springs in the rear. It is powered by a four-cylinder L-head Continental engine, rated at 40 horsepower with a top speed of 70 mph. It is reported to get from 30 to 35 miles to the gallon of gas. Its dimensions definitely place it in the "small" car class. The car has a wheelbase of 90 inches, tread of 47 inches, width of 58 inches and height of 54 inches.

Other "small" cars supposedly in the formative stage are such names as the "Pup," of Spencer, Wisconsin (who report that production of their car will not begin until next year), the "Keller" of Huntsville, Alabama, the "Gregory," "Rocket," and "Towne Shopper."

The "Keller" car was described in the April, 1949 issue of Hot Rod Magazine. Produced by George D. Keller with a staff of aero-auto engineers, the car combines compactness with streamlined good looks. Several models including a metal-and-wood station wagon and convertible coupes with either front or rear engine installations are being produced. All models have the same dimensions: overall length, 171 inches; overall width, 65 inches; inside width, 55 inches; overall

height, 57 inches, and a wheelbase of 92 inches. Cost of the car is in keeping with its size—under one thousand dollars.

Outstanding feature of the "Gregory" car is its front wheel drive with an air-cooled rear engine. Its engine is a flat, horizontally-opposed, four-cylinder power plant which develops 40 horsepower.

The "Rocket" is a car that is patterned after John Cobb's racer. It has a narrower track in rear than in front and has a smooth aluminum body, using either a four or six cylinder engine. The car's reported top speed is exceptional for a "small" car—over 95 mph.

The "Towne Shopper" is on the order of the "Imp," a very small car with a two-cylinder engine. Its mileage is good—from 40 to 50 mpg.

From the efforts expended by these many interests throughout the country, the trend indicates that "small" cars will play an important part in the motoring public of the future. Even the big car manufacturers, noting with some alarm the popularity of the small cars of European make, Ford and Chevrolet being the notable examples, have blue-printed radically different cars and have spent considerable research on smaller and lighter cars. As far as can be determined, however, the established big-car manufacturers have shelved their "small" car plans, possibly only temporarily, because they are still doing a profitable business with their present models.

The difficulty experienced by the American manufacturers in producing a good "small" car is further enhanced by the stiff competition of the foreign makes. Such cars as the Hillman Minx, the Renault, the Austin, the Simca, the Fiat, the Morris Minor, and the Standard, to name a few, are beginning to be seen in increasing numbers throughout the United States. Since the end of the war, several dealers have built up a profitable business by handling only foreign makes.

Future trends indicate that cars which are as small as possible without sacrificing comfort will definitely be produced in the United States, both by established automobile manufacturers and newcomers to the field. If for no other reason than to stay in the market, all automobile companies will be giving considerable thought to the "small" car in their planning conferences.

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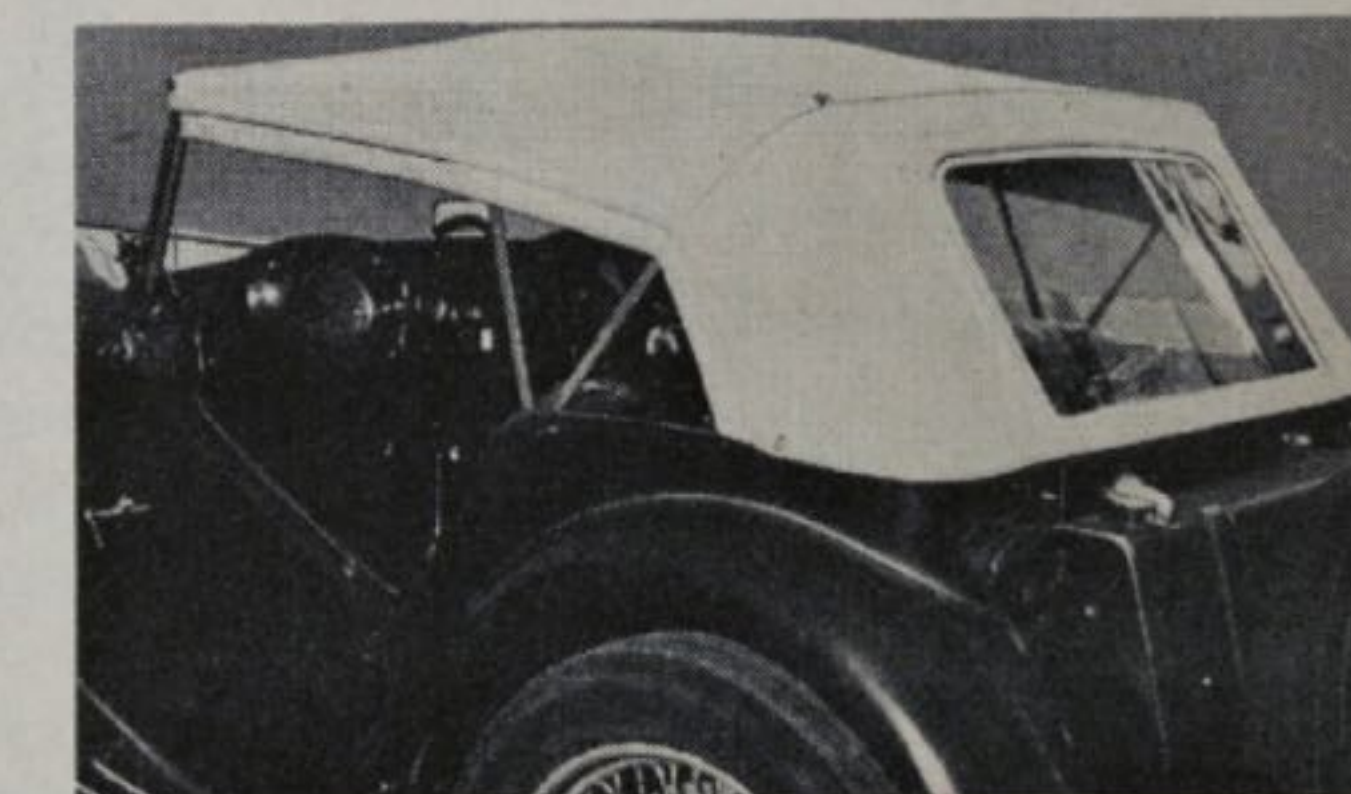
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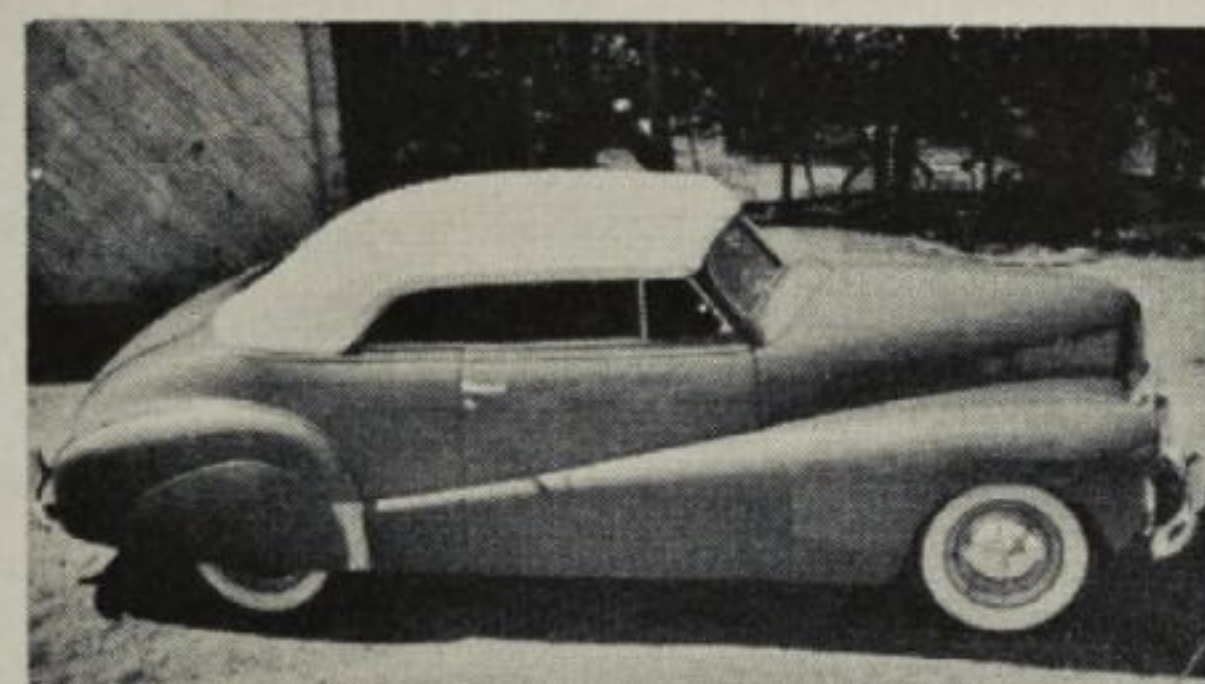
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## CUSTOM CREATIONS

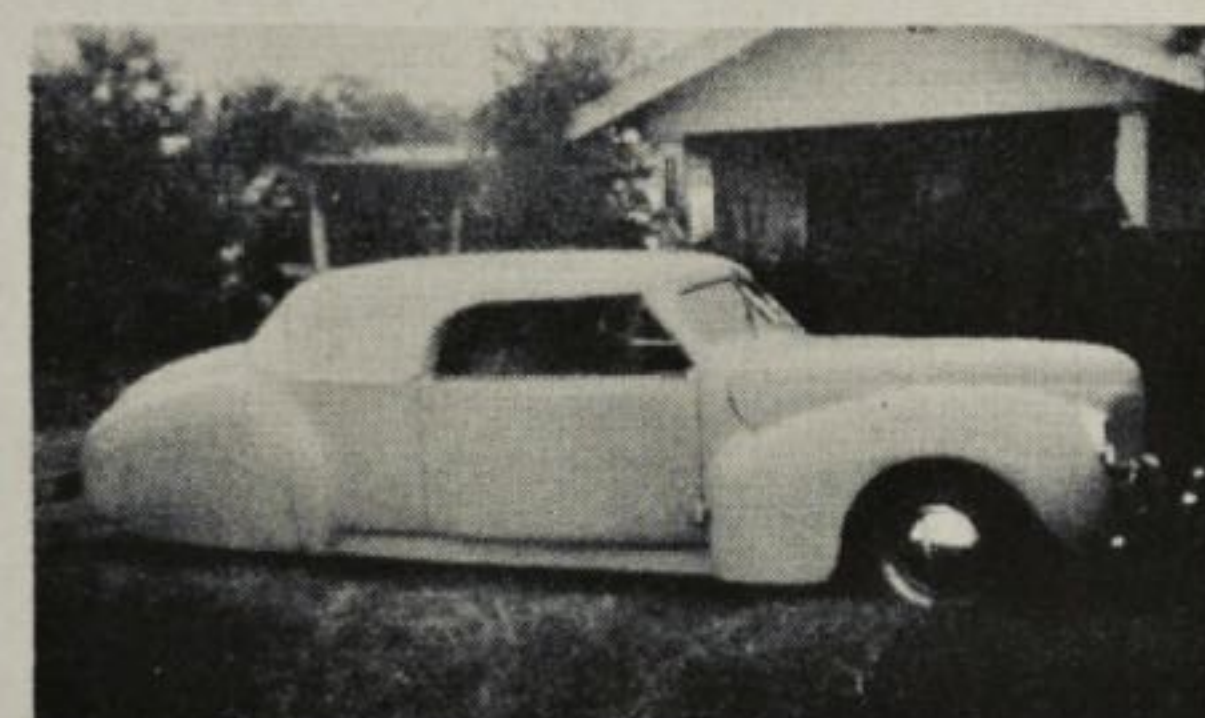
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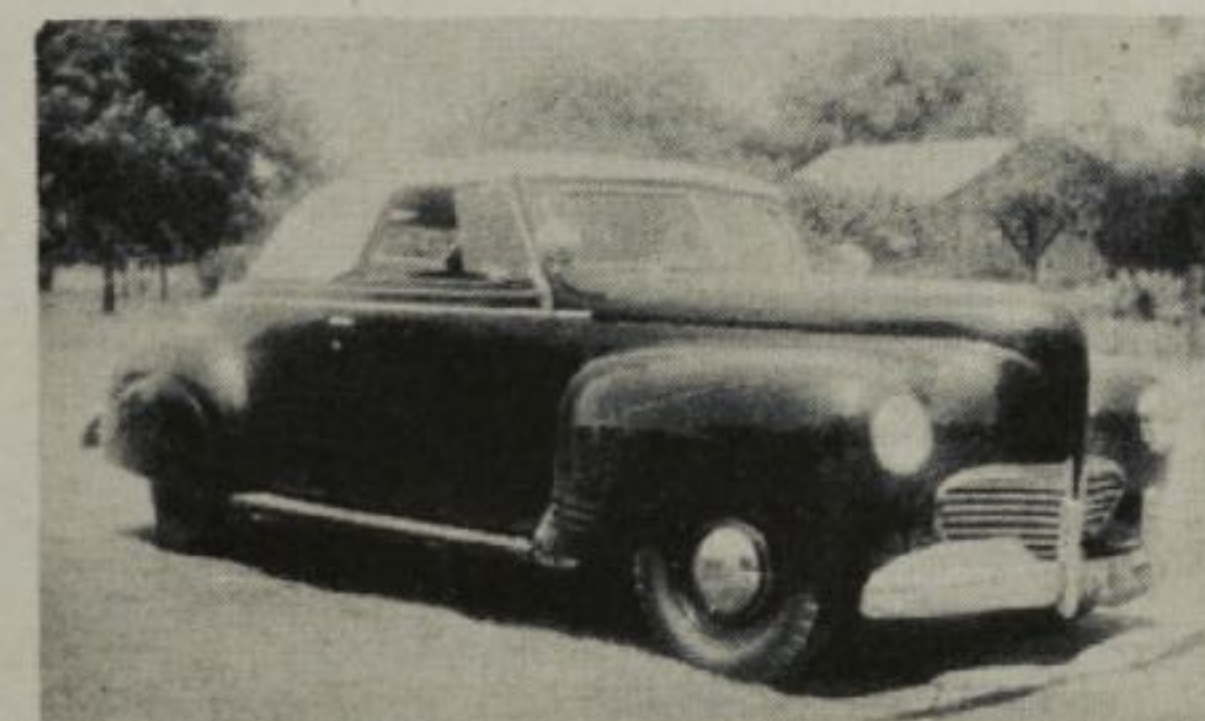
THIS '41 CHEVY has been completely  
dechromed, lowered, has a chopped top  
and sports a special-made grille. Note  
Oldsmobile bumpers and Cadillac wheels.  
Owner resides in Sacramento, California.



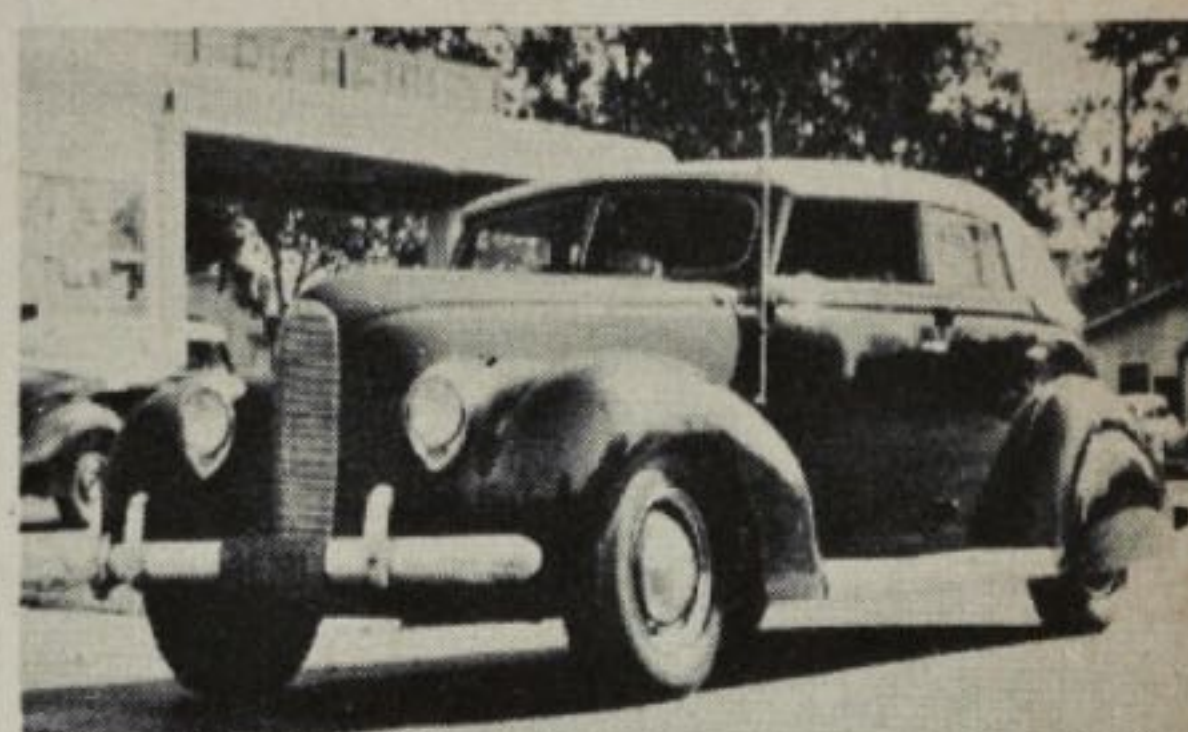
GERALD FASSETT of Sacramento owns  
this smooth '47 Chevy convertible, which  
has a Carson-type top. Body was done  
by Westergard. Note car uses fadeways.



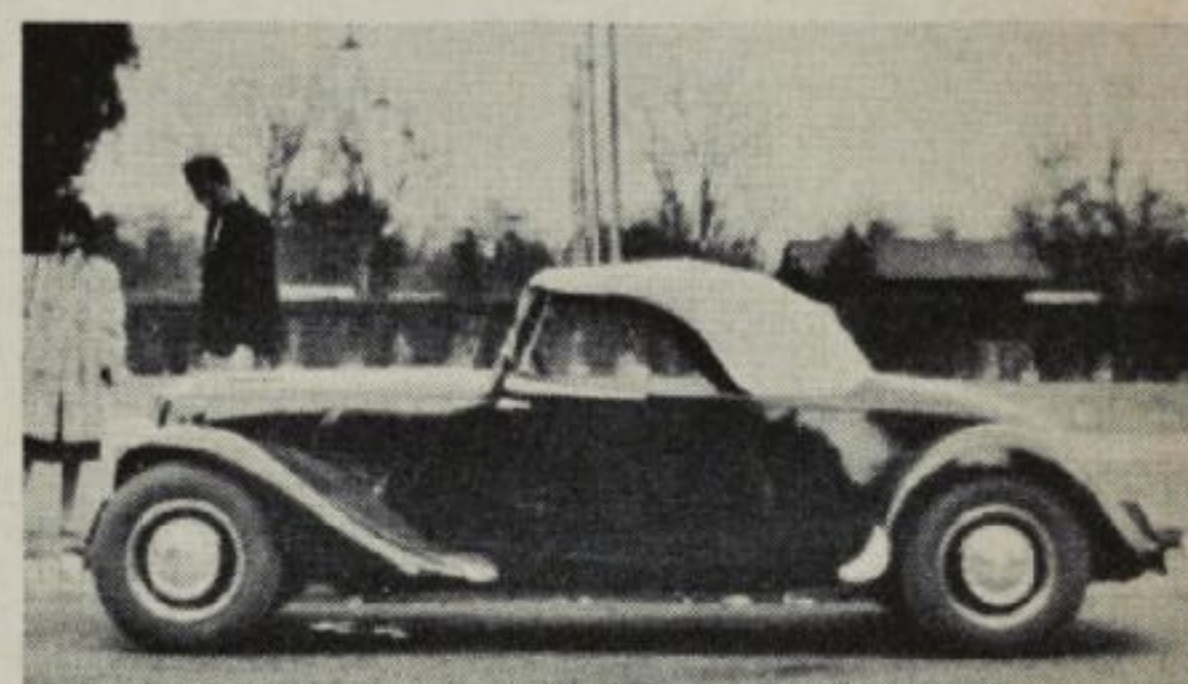
CUSTOM CAR created by Lee Talbot Jr.  
(owner) and Jim Nelson, both of Los  
Alamos, New Mexico. Car was a wrecked  
two-door but is now a club coupe, with  
a padded top. The car has not been  
channeled nor was the body sectioned.



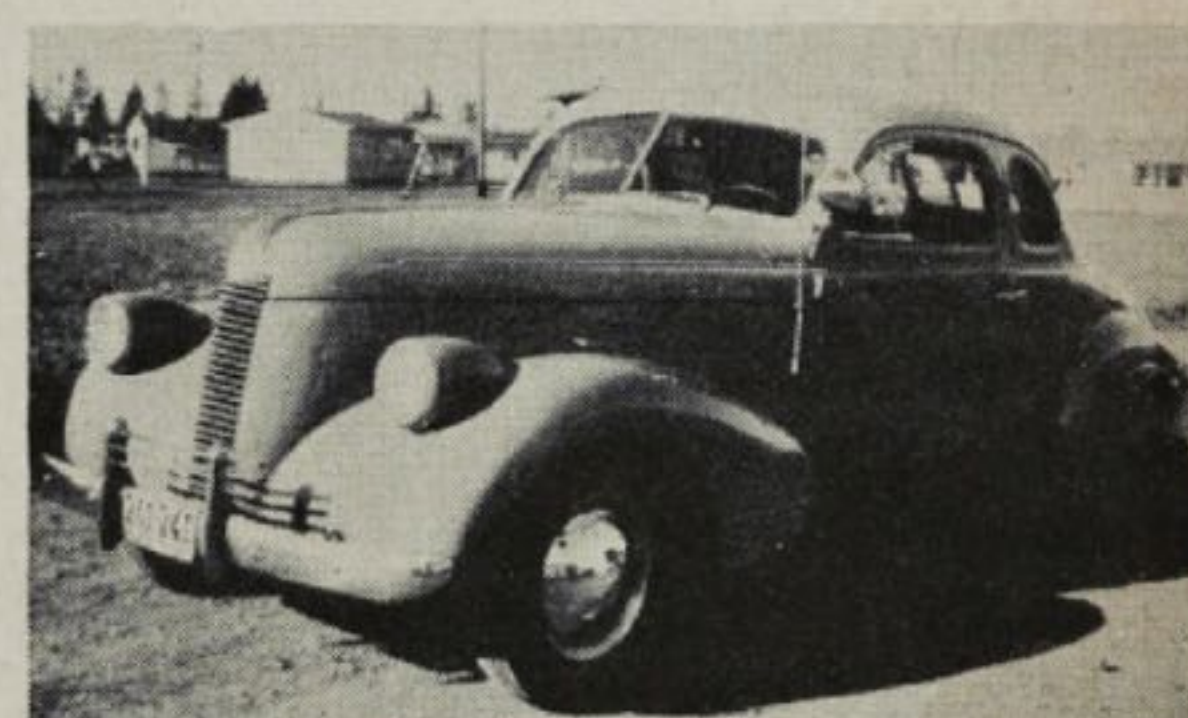
THIS '41 PLYMOUTH, owned by Bonnon  
Boyd of Bell Gardens, California, features  
an unusual grille in that the upper por-  
tion has been removed, with that space  
filled in solid. All chrome, except the side  
strip, has been removed. A padded top  
is installed to give the car better lines.



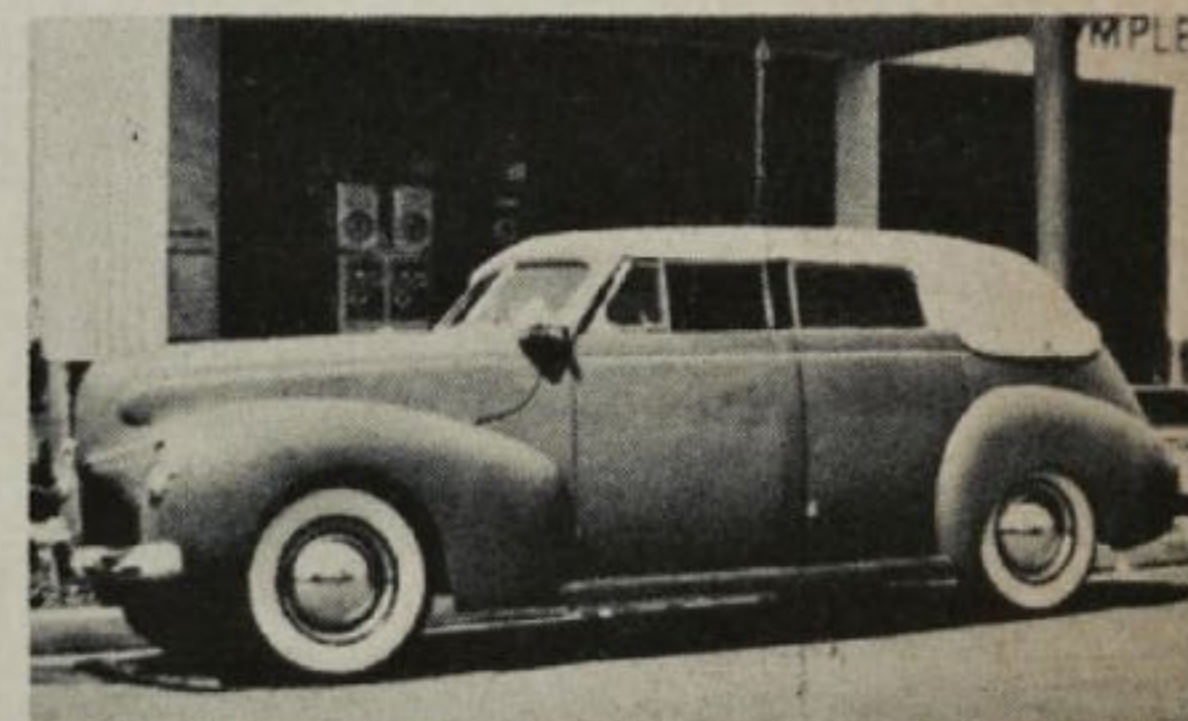
BODY WORK on this '38 Ford was done  
by Westergard of Sacramento. It has a  
Carson top and La Salle grille. The en-  
gine uses Arco heads and a Cannon cam.  
In 1946, this Ford V-8 clocked 95.23 mph.



A CITROEN ROADSTER that belongs to  
Bob Hamel of Los Angeles. The original  
engine has been replaced by a Willys,  
using a Du Val overhead valve set-up.



'37 PONTIAC almost completely rebuilt  
by Frank Parsons of Vancouver, Wash-  
ington. Front end includes a '40 Nash  
grille and a '46 Plymouth fender skirt.  
All fenders are sealed in. '41 Chevy tail  
lights are installed in the deck panels.



'40 MERCURY convertible sedan, owned  
by Stan Vaughan, of Berkeley, features  
a molded body, '47 Ford bumpers, '41  
Ford tail lights, and electrically oper-  
ated, pushbutton doors. Windshield has  
been chopped 2 1/2 inches and a padded  
Hail top has been installed on the car.

## Tendence Continente

(Continued from page twenty-four)

Allard's real challenger for 1950 is  
the Type "J" competition roadster.  
Produced primarily for racing, this  
brilliant number is also available as  
a personal car, with conventional  
windshield and convertible top.

The inside story is this: As against  
the 225 cubic inches of the touring  
engines, the 'J's' barrels are bored  
out to produce a piston displacement  
of 273.43 cu. in. and 120 bhp at 3800  
rpm. Its compression ratio is 8:1, it  
has dual carbs, and a magneto which  
cuts in automatically for high revs.

Although this is a production car,  
every inch of chassis and body adver-  
tise its home environment, the tough-  
est racing courses in England. The rear  
end is of particularly interesting de-  
sign, consisting of a De Dion rear  
axle built around the standard Ford  
differential housing. Each rear wheel  
is joined to the differential by means  
of two universal joints that permit the  
independent motion of the rear wheels  
so prized by many racing car builders.  
In the case of the 'J,' rear brake  
drums are mounted against the sides of  
the differential housing and all four  
wheels act against coil springs and tu-  
bular hydraulic shocks, front wheels  
being on independent swing arms.  
With its chassis weight of 1800 pounds,  
the 'J' comes off with a power-weight  
ratio of 1:15, a fact which plays a  
certain role in winning races, dominat-  
ing traffic, and dragging the rest of  
the sport cars.

Touring or racing, the Allard has  
grown into the sort of production car  
that the world could stand a lot more  
of. Its performance and maneuvera-  
bility are impressive even to the dyed-  
in-the-wool English "light car" con-  
verts. Prices are relatively low: from  
\$1876 for the chassis to a top of \$2780  
for the coupe; or, for buyers who want  
to install their own mills in a racing  
job like the 'J,' the car without an  
engine costs \$1385. The aluminum  
bodies are by fine coachbuilders, luxu-  
riously fitted in a style that was aban-  
doned in America in the early thirties.  
The Allard offers a degree of road-  
ability neither desired nor obtainable  
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styles which combine in one smooth  
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and character.



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# LETTERS...

FROM OUR READERS...

Letters published in this department are the opinions of the writers and are not to be construed as those of the editors. Address correspondence to: Letters From Our Readers, Motor Trend, 548 South San Vicente Boulevard, Los Angeles 48, California.

### ON NEW CARS

I have just read the first issue of MOTOR TREND and ... liked all of the articles very much.

I believe that your magazine could be improved by having a monthly article on the new 1949 cars, telling their good and bad points. These articles would be read by all who are interested in any kind of cars from old to new. Let's have a new-car column.

A. L. Beachell

Portland, Oregon

—We'll try our best to keep you up-to-date on the new cars.—Editor.

### JAGUAR XK-120

... Please keep up the good work on reporting statistics on popular foreign cars. How about an article on the already-fabulous Jaguar XK-120? And more of your fine photographs on beautiful American jobs, like some of the more recent Chrysler, Newports, other Duesenbergs, Cords, etc. ...

Charles E. Plummer  
Chicago, Illinois

—See the second part of Custom Bodies for more pictures. In an early issue there will be a complete article on Duesenberg.—Editor.

### CONSTRUCTIVE CRITICISM

... In your editorial (September) you asked for some criticism, well, frankly, there isn't much that one could find wrong—although it would be nice to see more ads such as the Kurtis Buick for sale, etc. Also, maybe just one full color photo of a foreign or American sport car. Other than that, I can't find anything else to add, except possibly some longer articles.

Robert H. Shernick  
Denver 15, Colo.

Please, let's have some more information on special-built cars, namely, the wood-bodied Merc built by Gene Dupertius (shown in the October issue). The advantages and disadvantages should prove very interesting. More pictures would help, too.

P.S. You should drop those simple, planed-off nose and deck lid jobs that are of no interest to anyone. ...

George W. Sinclair  
Los Angeles, California

### PREFERS RESTYLING

... I liked best (in the October issue) the article on restyling a 1941 Buick convertible.

Ralph Sander, Jr.  
Seattle, Washington

### COLLIER'S CAR STOCK?

NOTE: Since publication of the article, "Watkins Glen Grand Prix," we have been informed that Miles Collier, winner of the event, was not using a stock engine, as stated, but a bored and stroked Mercury, with Edelbrock heads and dual manifold, and an Iskenderian cam.—Editor.

### IN DEFENSE OF "BLISTER BOXES"

I don't agree with D. K. and R. S. about

what they said about these so-called "blister boxes." (October—Letters From Our Readers.) I think your magazine ought to have more about custom cars, than ... foreign ... cars. Charles Grech  
San Francisco, Calif.

Regarding the letter from R. Selan of Seattle, decrying the creative efforts of car owners who wish a car with a touch of individuality and a standout from the ordinary, I can only believe it from a ... jealous owner of an ... ordinary-looking, low performance car ... who probably could not tell an air cleaner from a hub cap. Pleasing everyone is, of course, impossible, but I think you will find the majority of your readers enjoy seeing what the other fellows are doing with their cars. ...

... Please, in regards to cars, races, etc., always give all technical details and performance figures as well as make of engine, etc. These could be boxed from the main article so as not to bore your non-technical readers. On testing new cars, please don't forget the 0-60 time through gears and clocked top speed. Tom McWilliams  
South Gate, California

Three lusty "boos" ... to readers Dave Kelsey and R. Selan in their letter printed in October issue.

I do not wince when I say I think I am among the 98 per cent of your readers that wholeheartedly disagree with these two readers. I'd say these two gents are sadly "behind the times" and from their expressed likes and dislikes aired in their letters, are interested in big, bleak blobs of brute force such as locomotives and bulldozers.

Refer these two gents to the "Railroad Magazine" and on with more custom jobs—yes, some more of those (I quote Mr. Selan) "channeled, leaded, ugly" slick jobs like Gilbert Ayala's custom '40 Merc with Cad fenders that was so awkward and lead-filled that it only clocked 127 mph.

Harold Graves  
Tulsa, Oklahoma

I have just received my second copy of MOTOR TREND and it is grand ... There is one sour note, however. I guess there always have to be a few wise guys who have their heads buried so far in the sand (ostrich style) that they cannot see another person's viewpoint or custom car, as the case may be.

For my money, a custom '40 Merc with a hopped-up motor for \$3000 makes a rather nice showing for itself when compared with those (since we are calling each other names) gas-eating iron crates of yesterday for \$10,000 and up that all have the streamline styling of a Model T. If that is what readers like Mr. Kelsey and Mr. Selan want and can afford, okay. But, for the rest of us, sneak in a little data on custom jobs. I hope Kelsey and Selan won't begrudge the space.

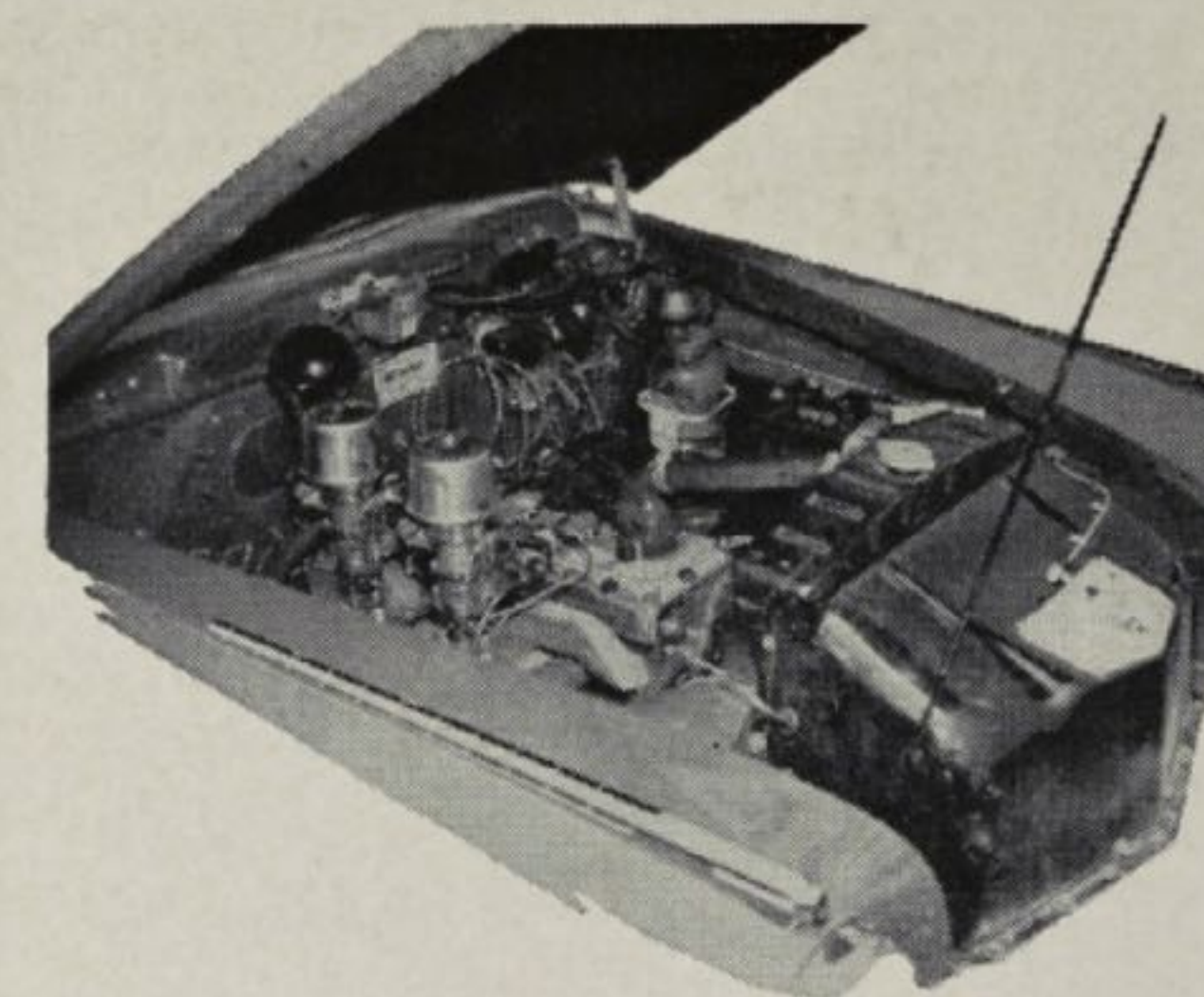
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June 14, 1949

Dear Phil:

This is just a letter of appreciation for the prompt service you gave me on that Studebaker Commander head.

It arrived in good time and is really giving some top performance. During the past four weeks, I have driven over 6000 miles with an average of 20 to 25 miles to a gallon of gasoline at speeds that have been from 50 to 65 miles per hour and over all kinds of roads.

The additional power your head gives the engine, and the dual carburetor set-up certainly makes an economical as well as a high-performing car.

With best regards, I am

Sincerely yours,

Bob McMann

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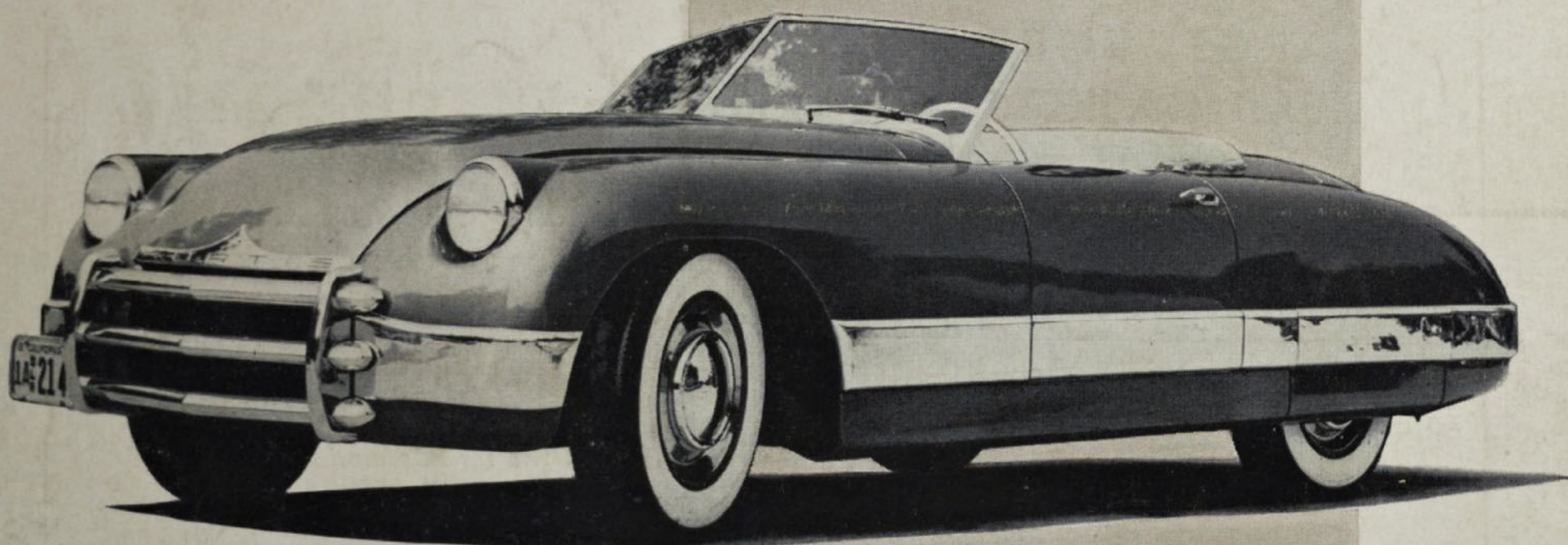
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