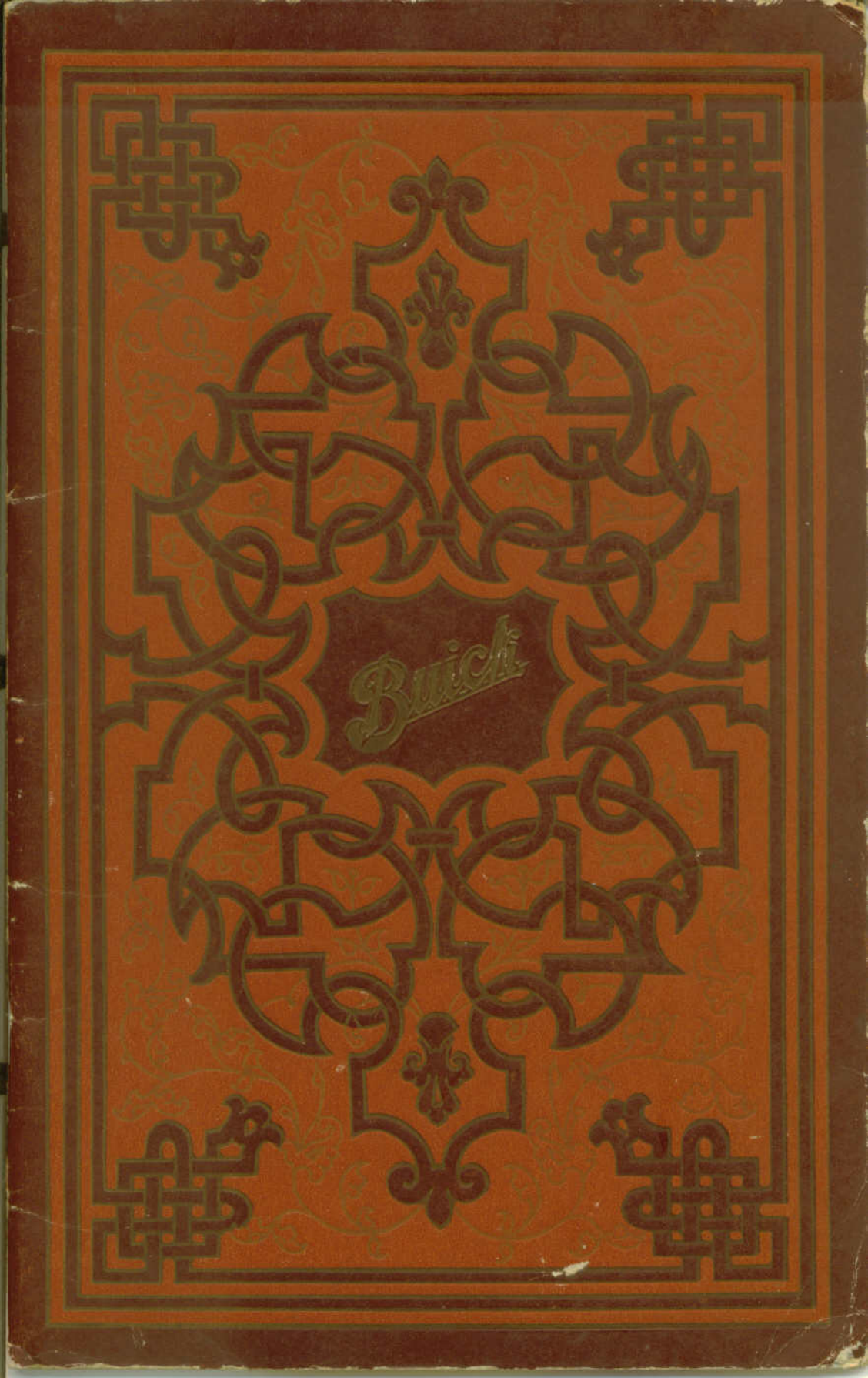
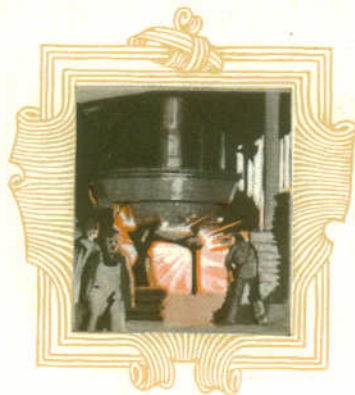


*Buick*



# BUICK

VALVE-IN-HEAD  
MOTOR CARS



SIX CYLINDER  
OPEN AND  
CLOSED  
MODELS

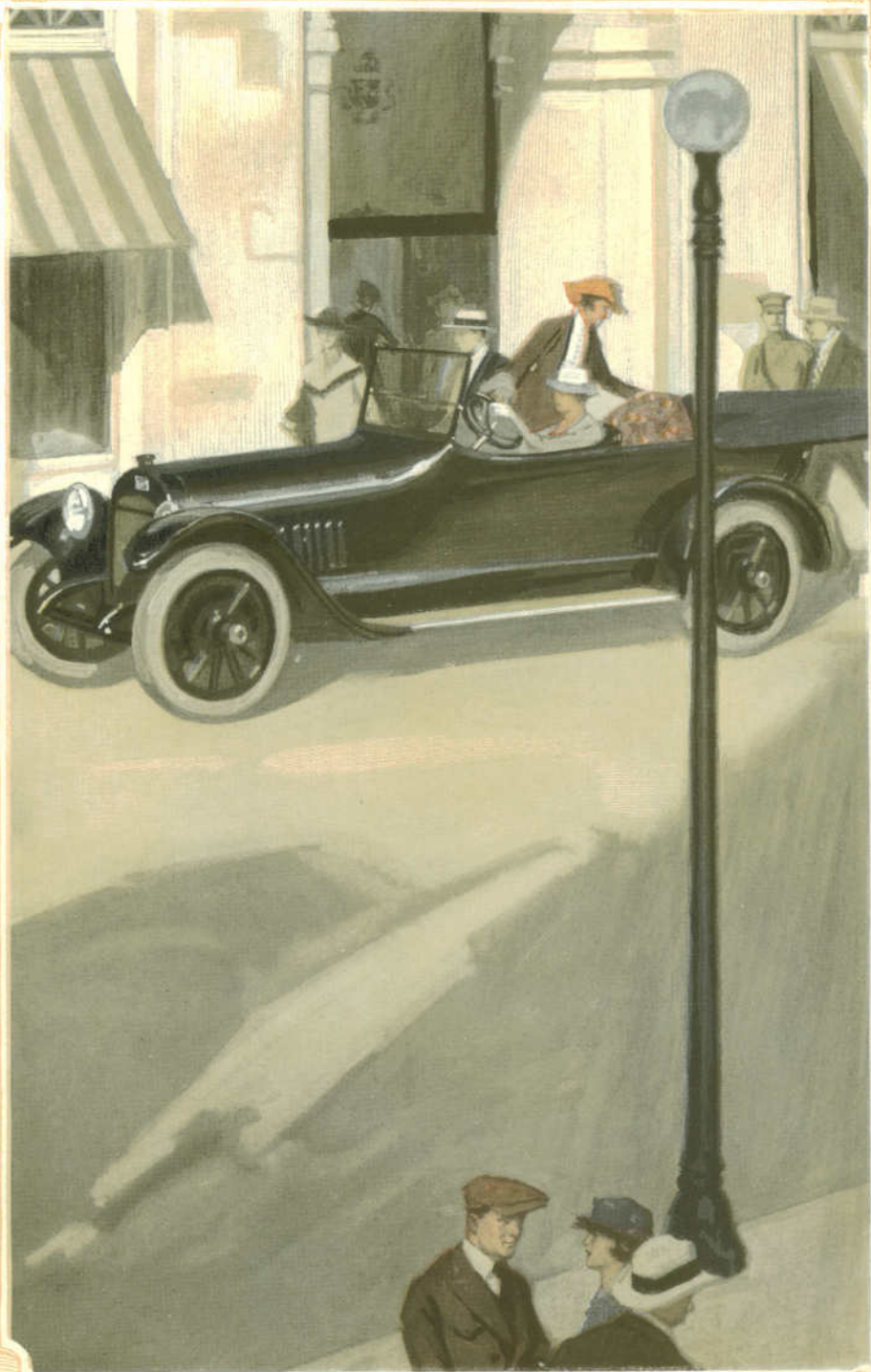
BUICK MOTOR COMPANY

*Pioneer Builders of Valve-in-Head Motor Cars*

MAIN OFFICE AND FACTORY, FLINT, MICHIGAN

BRANCHES IN ALL PRINCIPAL CITIES—DEALERS EVERYWHERE





*What labor-saving machinery has done for industry in general,  
the motor car has done for the individual.*



## *Buick Utility*

**U**TILITY, as expressed in the various Buick Valve-in-Head models for nineteen-nineteen, is a composite thing, made up of those elements which may be considered vital factors in the serviceability of a motor car.

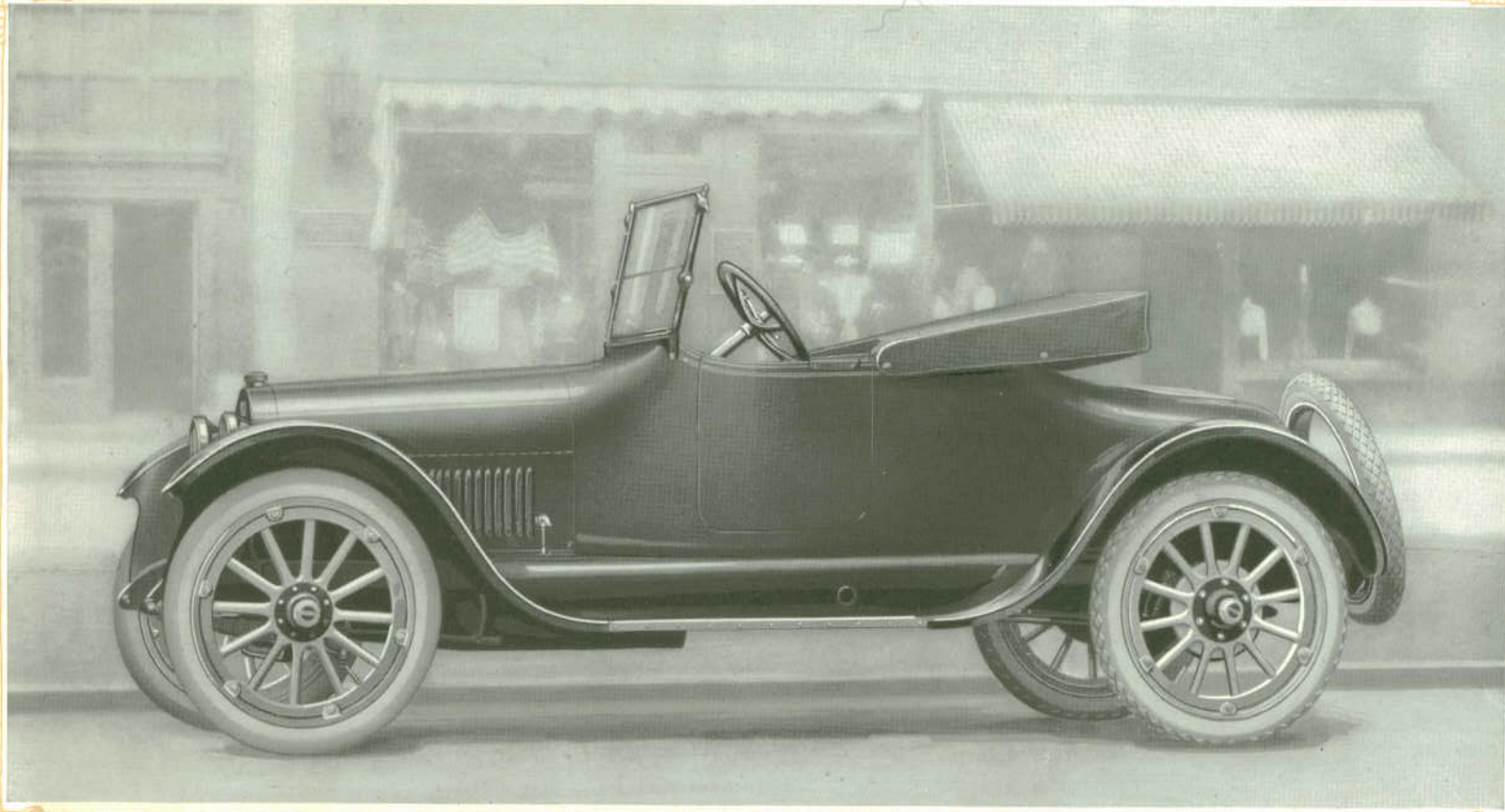
This utility has been arrived at through the experience of nearly twenty years, during which time the Buick course has been characterized by unwavering fidelity to accepted engineering ideals, and constructive advancement has been made by the processes of improvement and elimination.

The absence of radical departures in manufacture and design has made possible the up-building of the Buick car as a thoroughly consistent whole, the designing effort being evenly distributed over the entire car every season, in order that no detail of its complete utility should be slighted.

Convenience has been developed side by side with efficiency. Comfort has increased in the same ratio as strength and long wearing qualities. New and better body types have been devised while lighter and stronger materials were being brought into service.

Always, Buick cars have been developed, not re-designed. And for nineteen-nineteen they reach the highest pinnacle in this development. Each model has a certain scope, a particular range of usefulness. Enough models have been provided in the complete Buick line to enable any purchaser to select a Buick car that is exactly equipped to serve him to the utmost limit of his demands for utility.





*The Buick Model H-Six-44 Three-Passenger Car*

## *The Buick Three-Passenger Car*

**T**HE Buick Model H-Six-44 possesses marked advantages for the man or woman who wishes a car of limited passenger capacity, with an exceptionally roomy and comfortable driving compartment. This three-passenger model makes the most of these desirable features, without sacrificing one whit of the modish appearance that belongs to the type.

The body is distinctly a Buick creation, broadening out to accommodate a wide, deep seat for three, then curving in at the back to form a trim rear deck with a weather-proof carrying space for luggage.

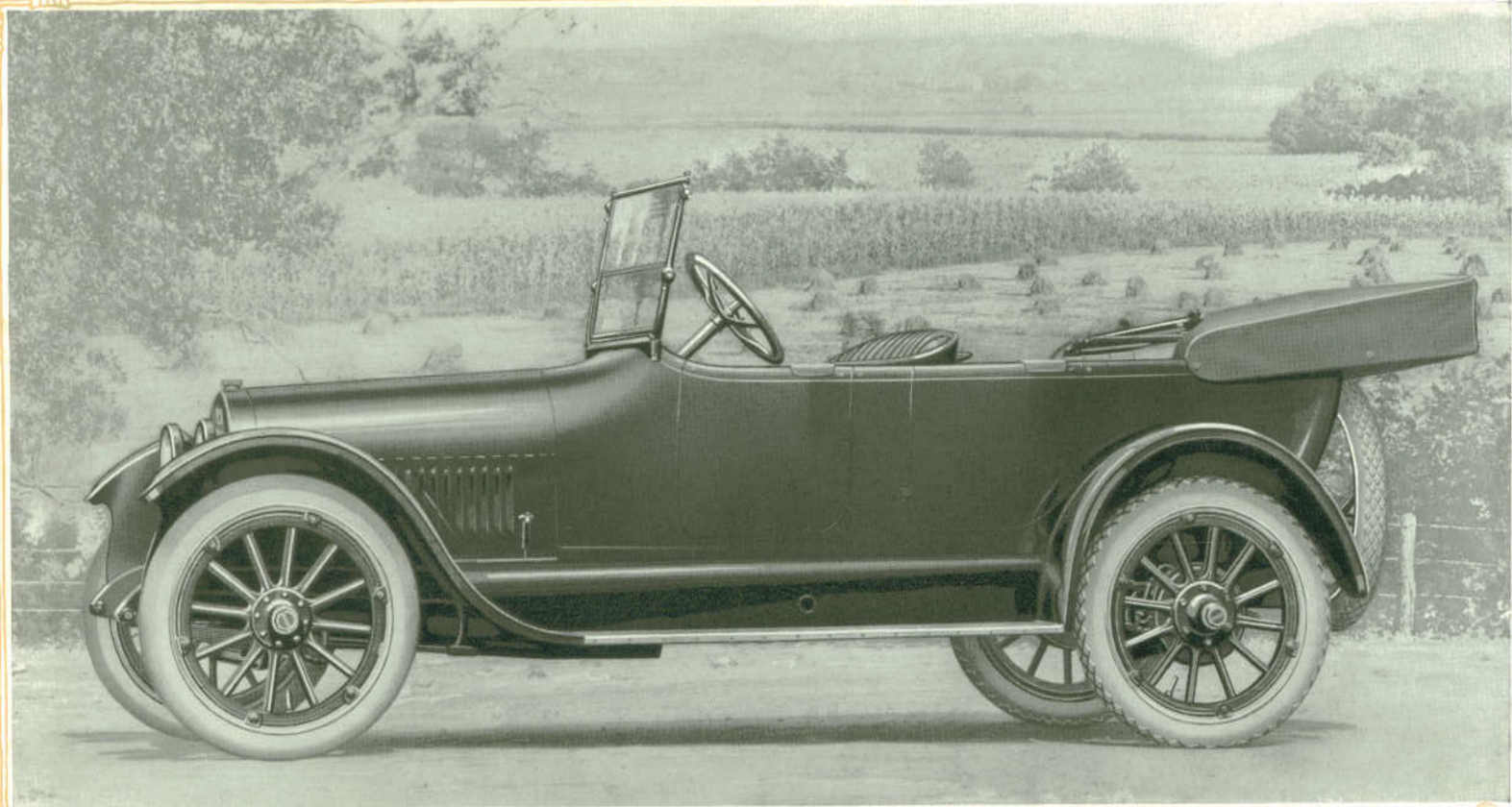
The dimensions of the driving compartment insure easy entrance or exit from either side, with the control and brake levers well forward but within easy reach. The French pleated upholstery is built for long wear and comfort. The illuminated Buick instrument board contains the lighting and ignition switches, ammeter, speedometer, oil pressure gauge and dash choker for cold weather starting, all conveniently placed in plain view.

Inclined windshield, mohair top with close-fitting side curtains, large gasoline tank and extra demountable rim complete the equipment of this smart, business-like car.

*Many hand-rubbed coats  
of paint and varnish make  
Buick finish lasting*







*The Buick Model H-Six-45 Five-Passenger Car*

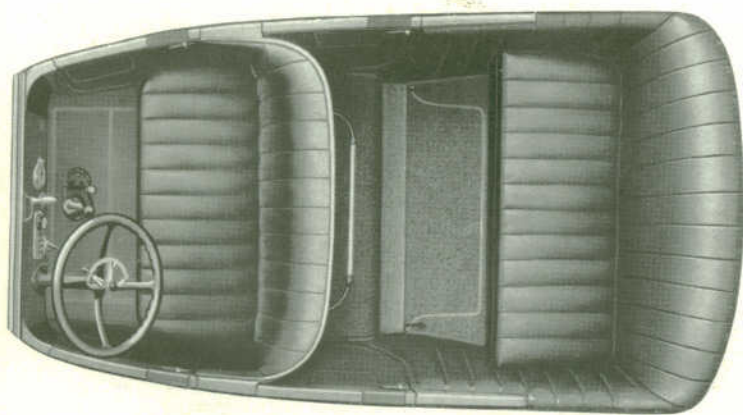
## *The Buick Five-Passenger Car*

**T**HE Buick Model H-Six-45 is a very capable open car for five persons, designed to cover the multitude of uses to which such a car is put. It differs from the big seven-passenger model only in tonneau and chassis length, possessing the same degree of ruggedness, easy-flowing power and mechanical excellence.

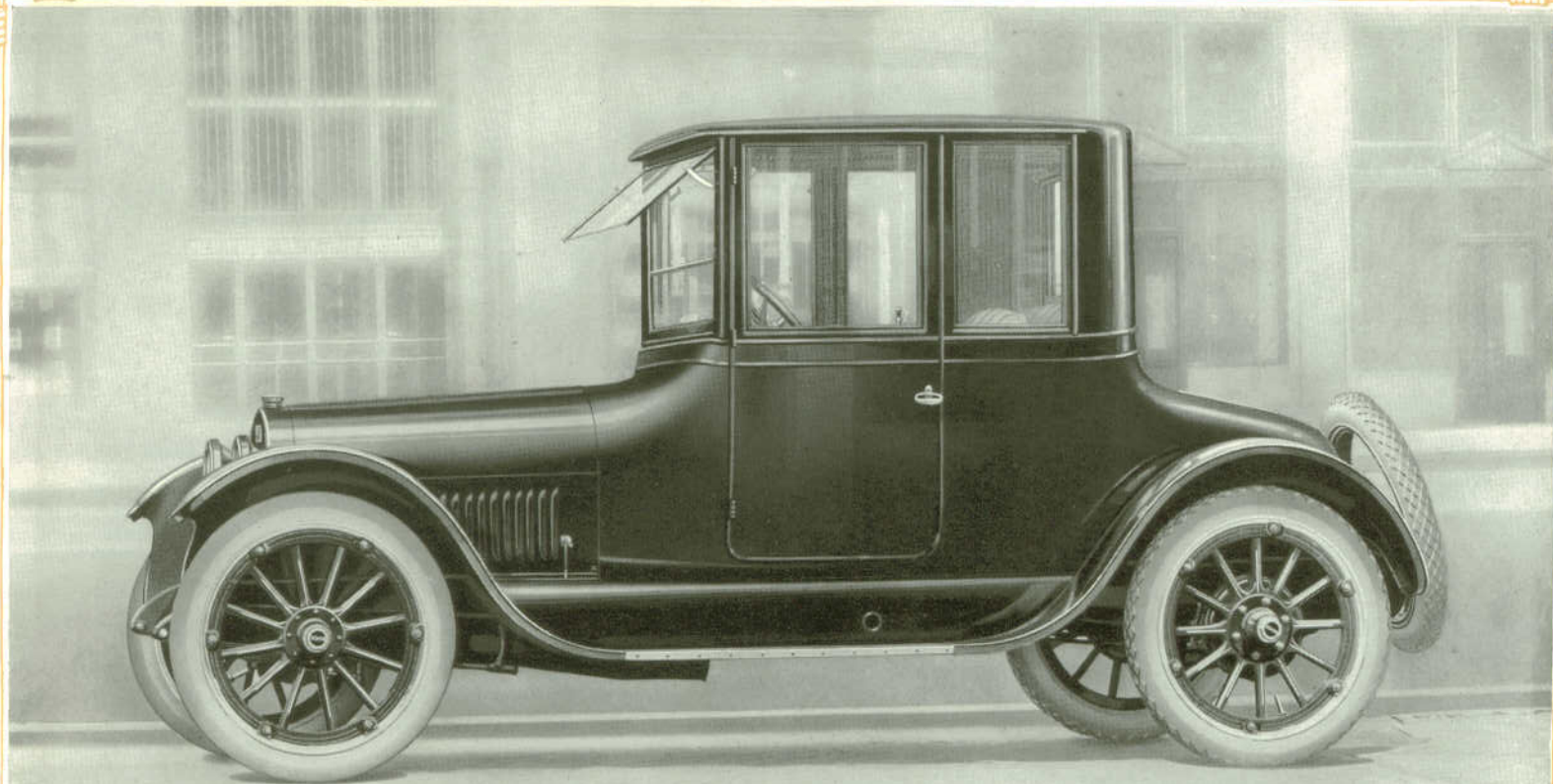
There is far more comfort in the driving compartment than is usually found in cars of this type. The floor space is uncluttered and the seat is of great depth.

The tonneau is even more liberally proportioned. The seat is full three-passenger capacity, set at a comfortable angle. The sides are upholstered clear to the doors with the same French pleated leather used on the cushions and seat backs. Each of the four doors is equipped with a side pocket for storing small parcels. The instrument board is illuminated by a dash lamp and the sloping windshield does away with the annoying reflections so frequently encountered in driving at night.

*The hair in Buick  
upholstery is pressed into  
pads and cannot spread*







*The Buick Model H-Six-46 Four-Passenger Coupe*

## *The Buick Coupe for Four*

**T**HE Buick Model H-Six-46 is a true Coupe model, with permanent sides and roof, and its disregard for road or weather conditions at any season of the year make it as widely useful as it is comfortable.

A Pullman type chair is provided for the driver, with a wide seat for two set slightly back of the driver's seat. This gives a wealth of room for three passengers and a fourth may be accommodated on the extra seat which swings out of the way under the cowl. A foot rest adds to the comfort of the passengers.

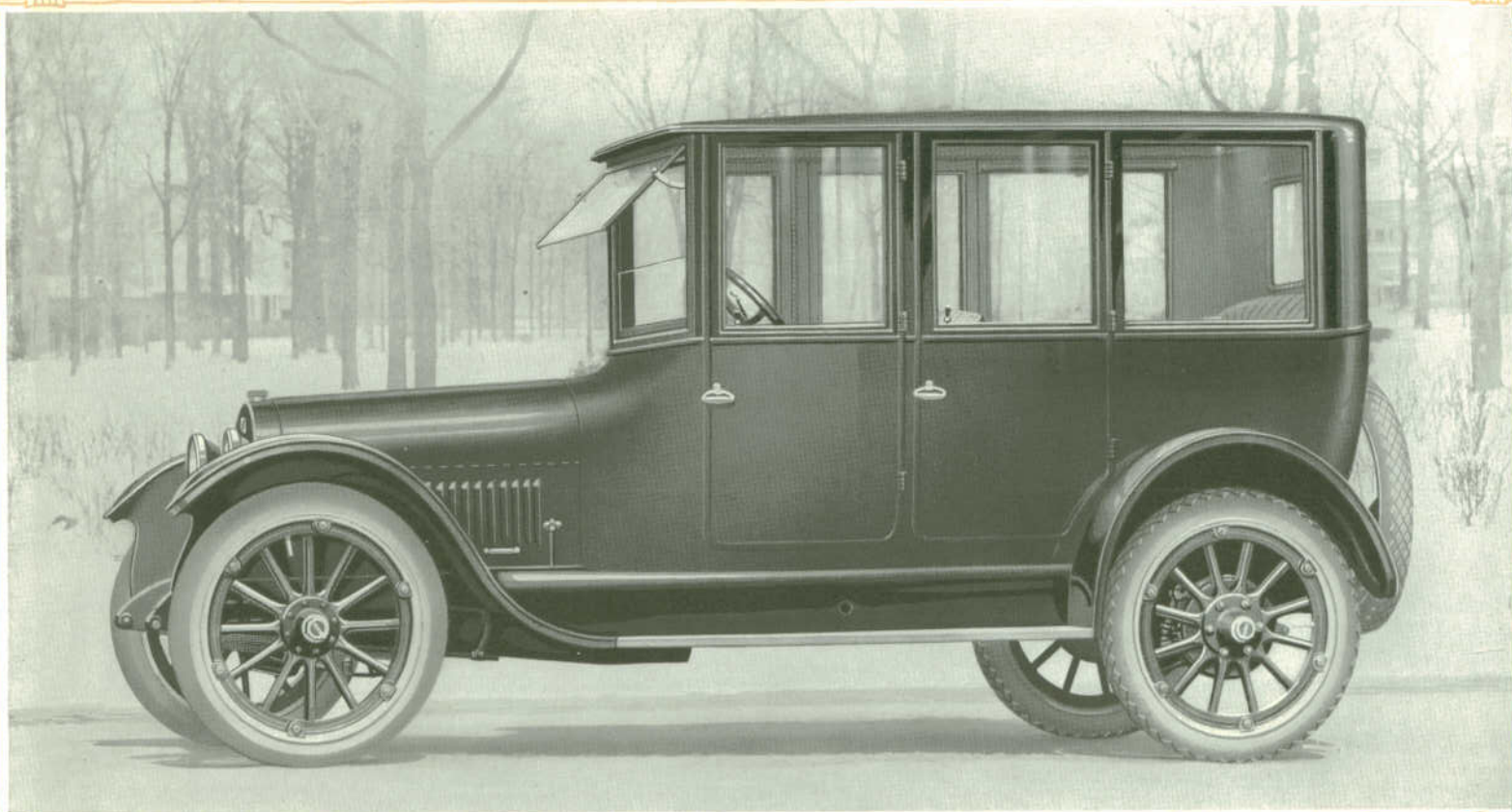
The back window is permanent, while the side windows may be lowered, the door windows being equipped with patented handles to adjust the ventilation in conjunction with the three-piece windshield, which is of the storm-vision type.

All of the deeply upholstered interiors are finished in soft gray automobile cloth. Back of the driver's seat is a carrying space, with another in the rear deck. A dome in the ceiling and a lamp on the instrument board light the interior, which may be securely locked from the outside, which gives protection against thieves or prowlers.

*The completeness of  
detail in Buick cars adds  
materially to comfort*







*The Buick Model H-Six-47 Five-Passenger Sedan*

## *The Buick Sedan for Five*

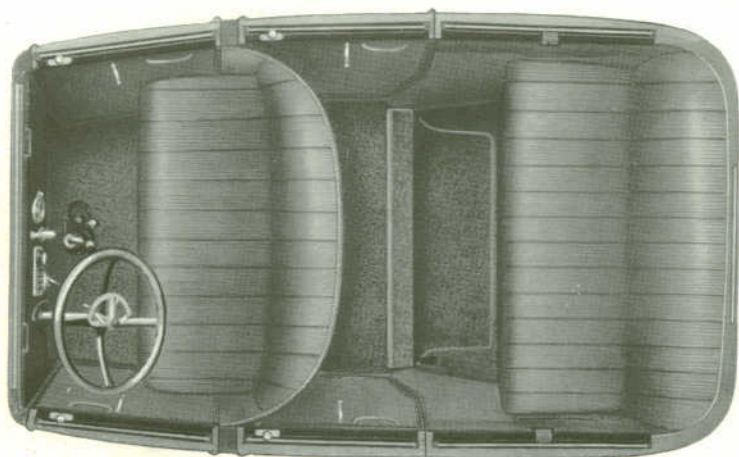
**T**HE Buick Model H-Six-47 follows the design of the big seven-passenger Buick Sedan very closely, the principal difference being in wheelbase and seating capacity. The quality of workmanship is the same throughout both body and chassis.

The driving compartment is equally roomy, with the front seat extending clear across the body.

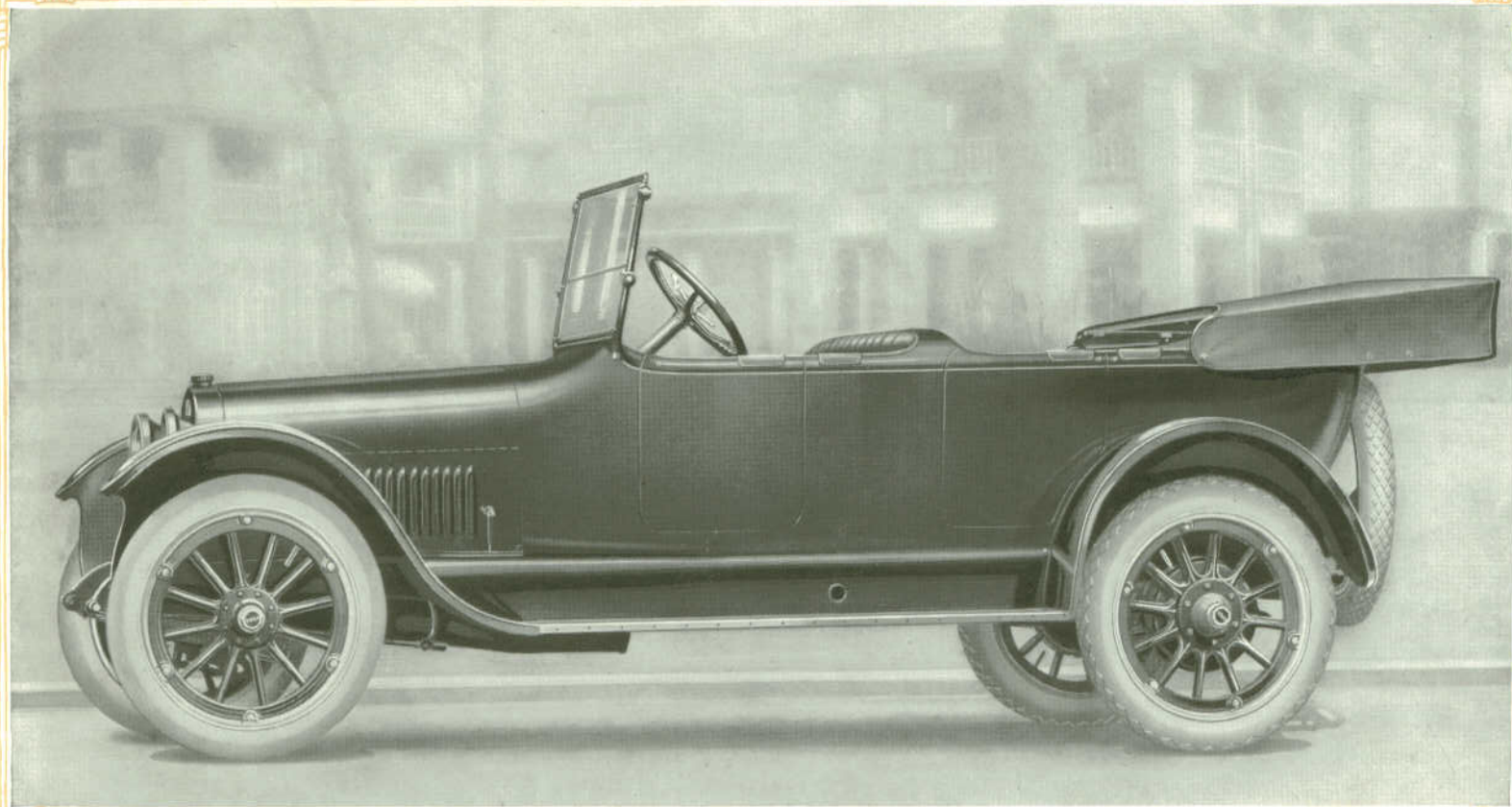
The interior is finished in durable automobile cloth of beautiful soft gray, with specially designed deep upholstery on the cushions and seat backs. Cold weather snugness or summer driving comfort are equally available by adjusting the three-piece windshield and moving the windows up and down by means of patented handles.

The rear seat accommodates three with perfect comfort. The tonneau carpet matches the upholstery. The standard Buick instrument board, always in plain view of the driver, furnishes every driving convenience and a dome light in the ceiling illuminates the interior when required.

*Buick riding qualities  
are chiefly due to specially  
designed spring construction*







*The Buick Model H-Six-49 Seven-Passenger Car*

## *The Buick Seven-Passenger Car*

**T**HE Buick Model H-Six-49 is a big, roomy, open car for seven persons, with a range of service in keeping with its powerful Valve-in-Head motor. The long wheel-base, the extra size tonneau, the completeness of all details making for comfort and convenience give it an air of unlimited capacity that is amply borne out by its continued and consistent performance.

This car is divided amidships by a double cowl, into which the folding chairs disappear when not in service. These extra chairs are so arranged as to give liberal space both for the occupants of the chairs and of the rear seat, to avoid possible crowding or cramped positions.

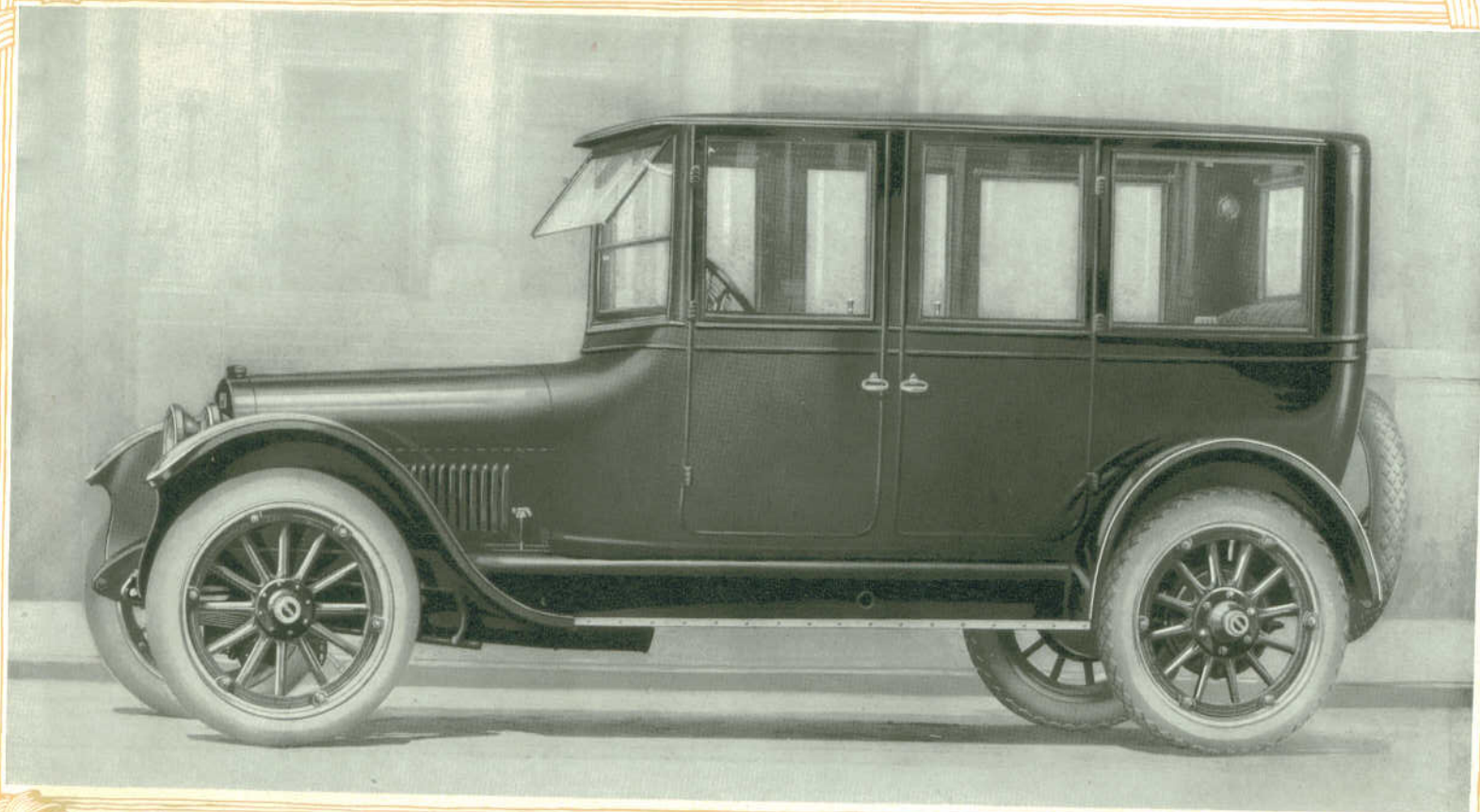
The slanting windshield braces form the front support for the one-man top, which is also equipped with close fitting side curtains that swing open with the doors.

The upholstery and finish of this big Buick model are exceptionally fine and durable. The illuminated instrument board is exceptionally complete, and a light located by the right rear door illumines both the tonneau and step.

*Buick power not only  
meets all ordinary requirements,  
but emergencies as well*







*The Buick Model H-Six-50 Seven-Passenger Sedan*

## *The Buick Sedan for Seven*

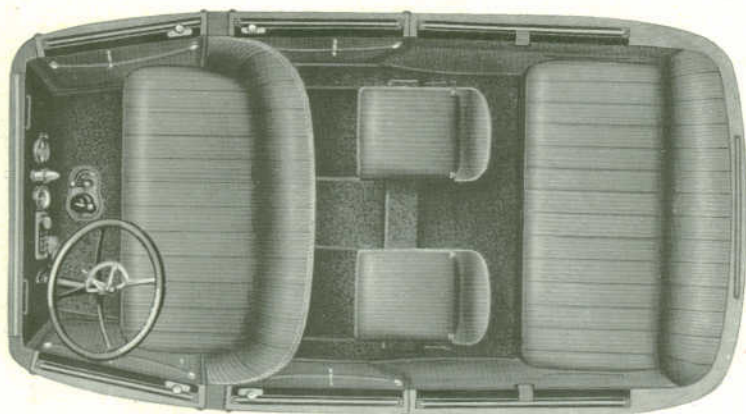
**T**HE Buick Model H-Six-50 four-door Sedan is the latest development in closed car design. The front seat, instead of being divided, is full width, giving additional roominess to passengers and providing an extra brace to the body which adds considerably to its stability.

This arrangement makes the Buick Sedan eligible for any service an open car is used for, with the added utility and comfort that belong exclusively to the closed car.

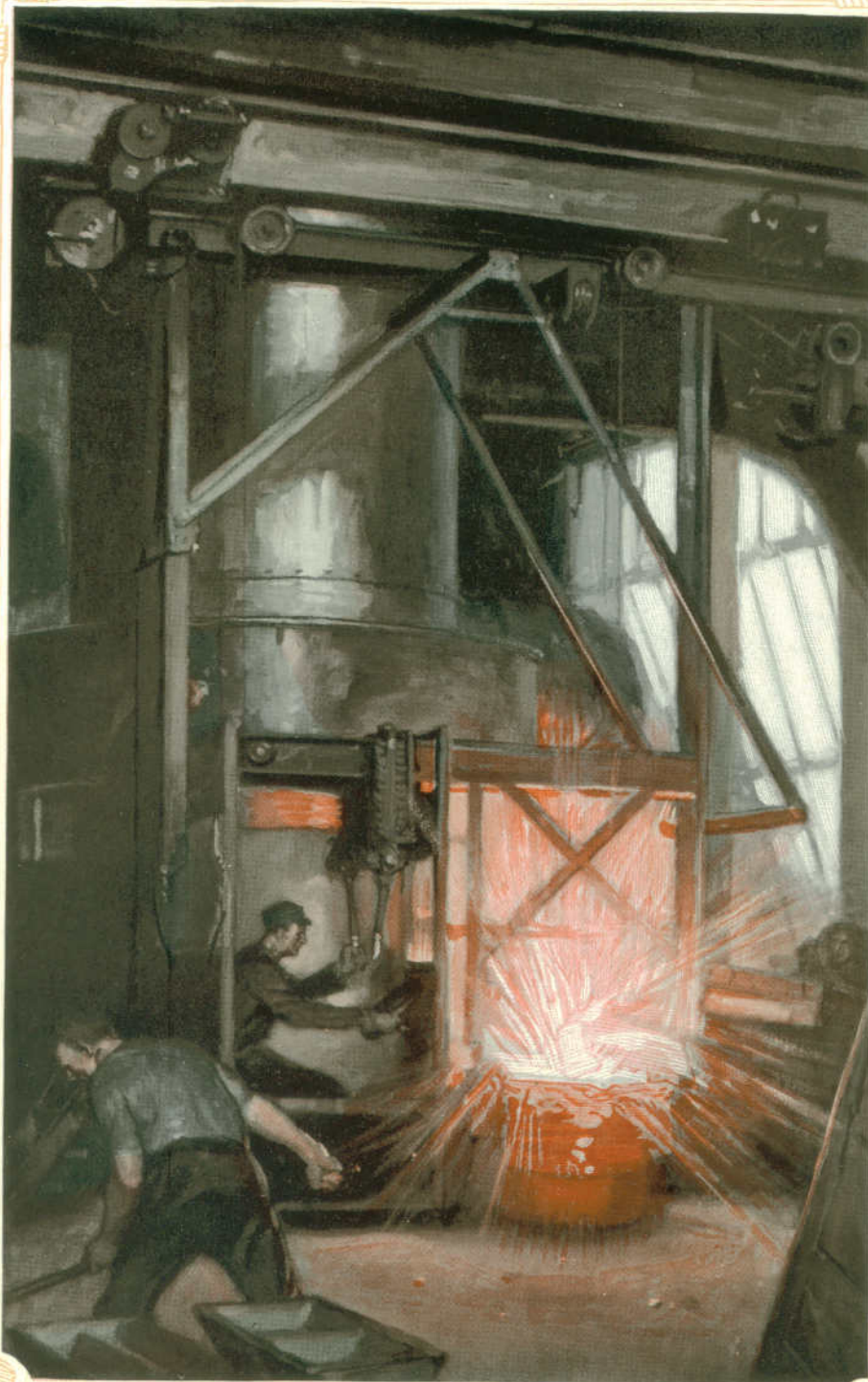
The doors are of generous width. The main compartment accommodates two disappearing chairs, which are built for genuine comfort.

Silk shades on rollers afford privacy or shut out a too ardent sun. Ventilation is controlled by the adjustable windows and windshield, the door windows being fitted with patent handles. Two corner dome lights give the illumination required by the interior. Both rear doors and the left front door lock inside, and the right front door from the outside, to insure safety when leaving the car.

*Buick economy applies  
to repair bills as well as  
to gasoline and oil*







*Applied chemistry, metallurgy and mechanics combine with scientific design and manufacture to make Buick Valve-in-Head motor cars possible.*



## *Correct Engineering*

**T**HE chief thing to bear in mind about a motor car is that it is a piece of machinery. Therefore, it must be bought as a machine. Body lines, finish, one-man tops and a hundred other details are quite necessary in reaching the height of the buyer's ideal, but fundamentally they have little to do with long and consistent functioning.

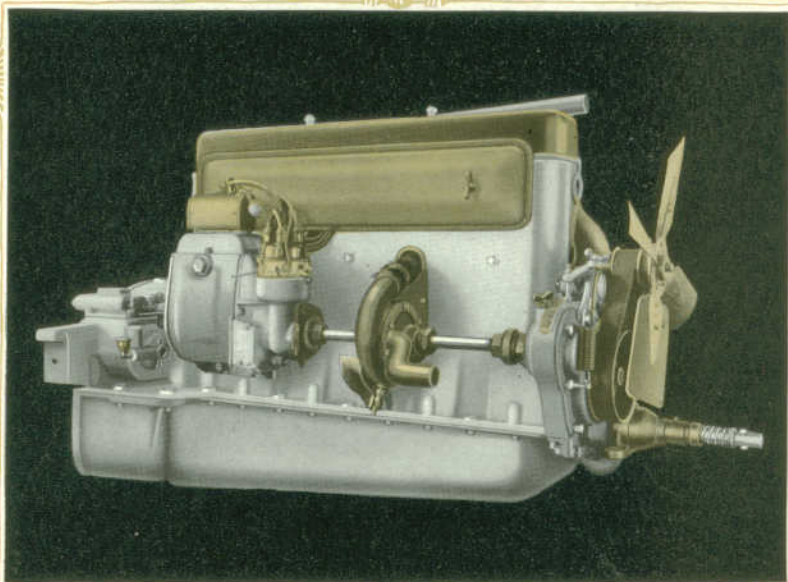
For in addition to being a wonderful machine, a motor car is a collection of intricate mechanical units, each with a distinct relation to the others and working in harmony with them. The finished car must of necessity be judged by the manner in which these mechanical units are co-ordinated and balanced to make up a well engineered car.

One would hardly be justified in purchasing a car solely on the strength of one or even several of these features. It is only when the correct relation between power and load, comfort and safety, performance and durability, is preserved that we can find true motor car efficiency. And this result can only be obtained after years of scientific study backed by broad experience of the most practical nature.

The Buick chassis has been developed as a perfectly consistent whole. While great emphasis is laid upon the correct design and manufacture of every part, it should also be added that only in conjunction with the rest of the parts as presented in the Buick car do they reach their highest state of efficiency.

The thorough consistency of the Buick car is reflected in its performance, primarily, and is brought home with ever-increasing emphasis the longer the car is run. It is this balance and proportion, resulting from nearly twenty years spent in co-ordinating the parts of the Buick car, that make the Buick so serviceable and economical in everyday service.





*The Automatically Lubricated Buick Motor*

## *The Buick Valve-in-Head Motor*

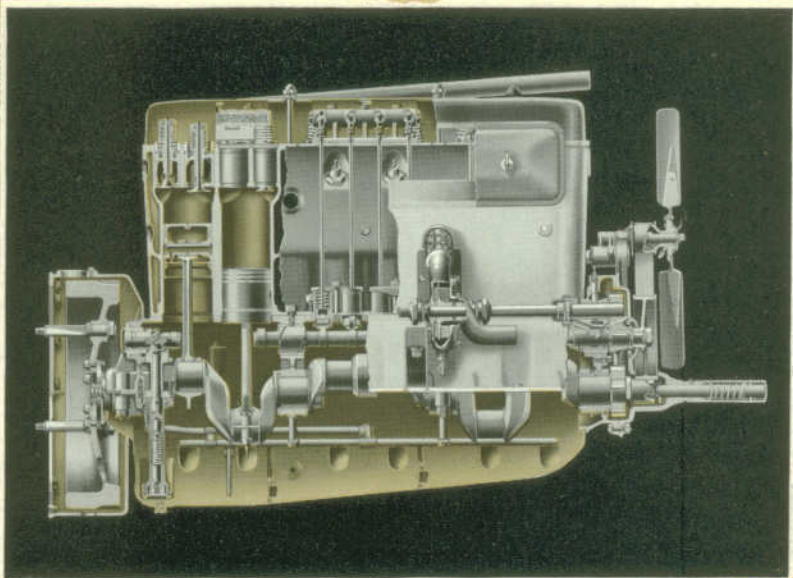
**T**HE Buick Valve-in-Head motor is automatically lubricated throughout. The lubrication of the main bearings, wrist pin bearings, connecting rod bearings and pistons is a combination splash and pump system, with an oil pressure gauge on the dash and a gauge on the crankcase.

The rocker arm shafts on top of the motor are fitted with oil cups, from which the oil passes into the center of the hollow shafts. These hollow shafts contain felt fibres, which are constantly saturated with oil, the outer edge of each hollow shaft being fitted with oil wicks.

Through these wicks the oil passes by capillary attraction from the fibre in the hollow shaft to the cups into which the push rods fit, lubricating them. One filling of the oil cups is sufficient for an ordinary season's driving.

The oil pump is self-thawing and so constructed that should there be any water in the oil in cold weather, causing the pump to freeze up, the self-thawing apparatus of the Buick oil pump will automatically thaw it out quickly, eliminating the possibility of injury to the pump.

A removable dust proof cover over the top of the motor keeps the entire valve mechanism always clean and free from moisture, dust and foreign matter of every description.



*Design of Buick Valve-in-Head Motor*

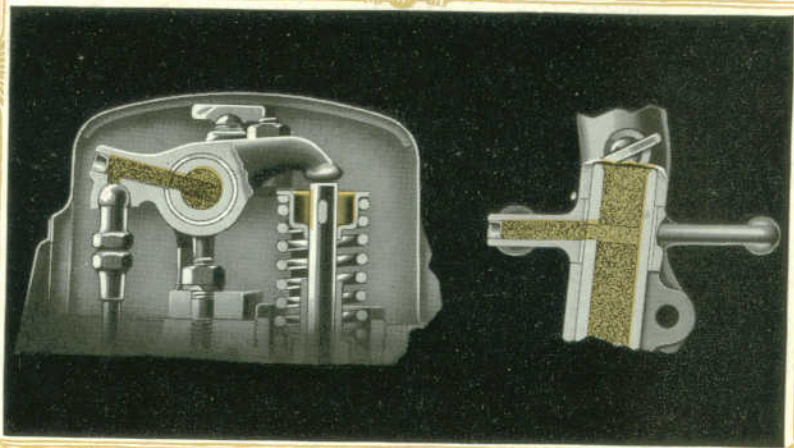
Surplus power and economy is the logical result of the superiority of the Valve-in-Head design, which is very easily explained. There are two principal points to be considered.

The first is that all gasoline engines are heat engines, i. e., they are operated from the heat generated as a result of the explosions, rather than by the explosions themselves. In other words, it is the expansion of the heated gases trying to escape that furnishes the power to push the pistons downward and turn the crankshaft of the motor by means of the connecting rods, which connect the pistons with the shaft.

The second point is that the more perfectly the cylinders are cleaned out, or scavenged, of the gases generated by the previous explosions, the purer the incoming charges of gasoline will be and the more perfectly they will burn. And the more perfectly they burn, the greater the amount of heat they will develop from a given amount of gasoline and air.

In the Valve-in-Head motor the valves are located in the tops of the cylinders, right above the pistons, with the spark plugs opening right into the cylinders also. This means a small, simple, compact combustion chamber with the smallest possible water jacketed space. In the L-head and T-head motors the valves are located in pockets at the side, necessitating a complicated explosion chamber with a materially increased water jacketed space to absorb heat and power.



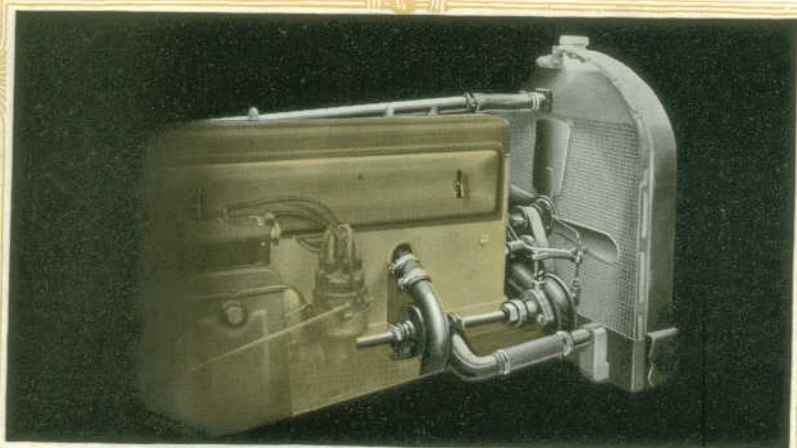


*Self-Lubricating Rocker Arm*

The heat generated can escape in two ways from a motor. It can be used as power by being directed downward against the piston, or it can escape through the thin cylinder walls by absorption through the water jackets. It is impossible to use all of this heat because the motor must be kept at a certain temperature by the water in order to prevent damage to the cylinders and pistons. But it is quite obvious that the Valve-in-Head motor, because of its greatly reduced water jacketed space, will radiate a much smaller amount of the heat through the water jackets and will use the heat saved for power against the pistons which operate the crankshaft.

Then, because the valves are located in a straight line above the pistons, the dead exhaust gases are quickly and easily expelled through the large valves at the conclusion of the working stroke, instead of being forced around corners and downward through a much larger chamber, as in the L-head and T-head types. And the combustion during each working stroke is much more perfect in the Buick motor because the incoming charges are purer and the electric spark has a shorter distance to travel in the brief instant of time that it must do its work in igniting the mixture. In the L-head and T-head types, the spark must not only travel across the cylinders, but across the side pockets as well.

The net result of these characteristics of design is to give the Buick Valve-in-Head motor more perfect combustion than other types of motors, a quicker ignition of the charge and a smaller loss of heat through the water jackets. The sum of these advantages is more power and less gasoline consumption.



*Scientific Buick Cooling System*

## *The Buick Cooling System*

**T**HE Buick cooling system is one of the most essential points in connection with the economical operation of the Buick Valve-in-Head motor, which boasts less water jacketed space than either the L-head or T-head types.

The cooling system on Buick cars consists of the motor water jackets, a cellular radiator of Buick design and manufacture, a fan to draw air through the radiator cells and a centrifugal pump to force the water through the system.

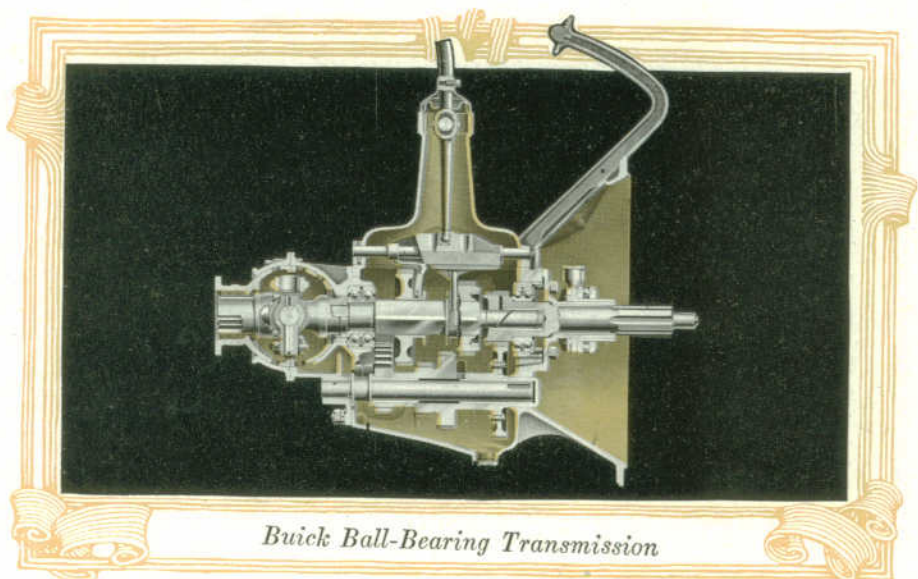
When the cylinder castings are made in the Buick foundry, the greatest care is exercised to see that the cylinder walls are of uniform thickness, to insure even cooling throughout.

The radiators are made from pure copper, on account of its facility for radiating heat. Automatic machines crimp the copper strips into square cells, with a bead molded in every cell along the thinnest surface exposed to the air, which increases the effective cooling surface immensely. The core is formed by soldering these cells together.

The fans are heavily reinforced and are mounted on an adjustable fan bracket, so that the fan belt can be adjusted instantly by turning a thumbscrew.

The efficiency of the cooling system is carefully worked out in the engineering department, to exactly fit it to the motor's needs. Not only are fans, pumps and radiators tested and checked by means of scientific instruments, but they receive many other tests in actual service under varying conditions.





*Buick Ball-Bearing Transmission*

## *The Buick Transmission*

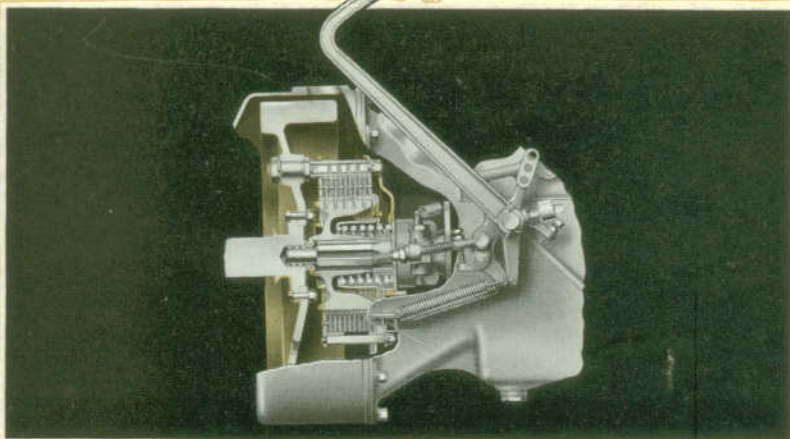
**T**HE sliding gear type of transmission is used on Buick cars because of its strength, convenience and quietness of operation. Three forward speeds are provided, so that the motor speed with relation to the speed of the rear wheels may be instantly adjusted to meet any conditions that may be encountered, such as putting the car in motion, driving in deep sand, heavy mud, on steep grades or ordinary roads.

The change from one speed to another may be effected quickly and noiselessly by simply throwing out the clutch with the foot and slightly moving the lever.

This transmission has one reverse speed, with a greater reduction than any of the forward speeds, which gives the car tremendous power in reverse if the occasion should ever arise to use it. All gears run in a bath of oil, the universal joint at the rear of the case being automatically lubricated from the same source, the oil from the transmission case entering the universal joint through the rear bearing.

Next to design, the two principal factors governing the quality and durability of a transmission are the accuracy of the machining operations and the heat treatment of the gears.

Buick gears are cut from drop forged blanks on wonderful automatic machines, the countershafts and main shafts are ground to exact sizes to fit the gears and bearings, and the gears heat treated so that the wearing surfaces of the teeth are hard to resist wear while the inner portions are made tough to withstand sudden strains and hard pulls without breaking.



*Buick Patented Dry Plate Disc Clutch*

## *The Dry Plate Disc Clutch*

**T**HE exclusive patented features of the Buick disc clutch minimize the effort and skill necessary in gear shifting, and at the same time provide a clutch that is absolutely smooth and positive in operation. Under this patented construction, the heavy rotating parts of the clutch are carried by the flywheel and only the very light parts are carried by the transmission, which accounts for the transmission gears not spinning after the clutch is disengaged, thus preventing the clashing of gears in shifting from one speed to another.

This clutch would have been efficient if the friction area had been reduced by half; but with its ten friction surfaces it is extremely gentle and positive in engagement and will wear for an indefinite length of time.

The clutch is formed by alternate discs, connected with the flywheel and the transmission respectively, the faces of the discs being covered with the finest quality of asbestos material.

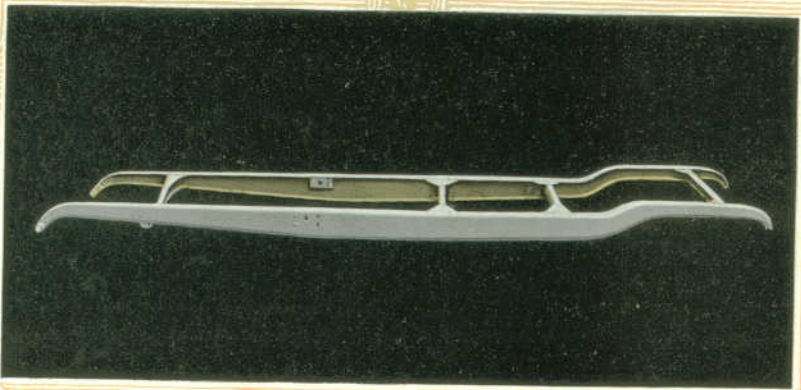
The adjustment of this clutch is simplicity itself, being controlled by an adjusting nut on the clutch release rod.

Being a dry plate clutch, it is not necessary to put any oil in the clutch case at any time.

The only lubrication required by the Buick clutch is provided by two grease cups, which are located in a convenient place so they may be turned down occasionally as required.

The slightest pressure of the foot will disengage this smooth acting Buick clutch, which makes it especially popular with women drivers and those who drive much in congested traffic.





*Buick Hydraulic Pressed Steel Frame*

## *The Buick Frame*

**T**HE frame is regarded by Buick engineers as an exceedingly important unit. As its name implies, it is the framework around which the entire car is constructed and a great deal of study has been expended upon it to secure rigidity and strength without excessive weight.

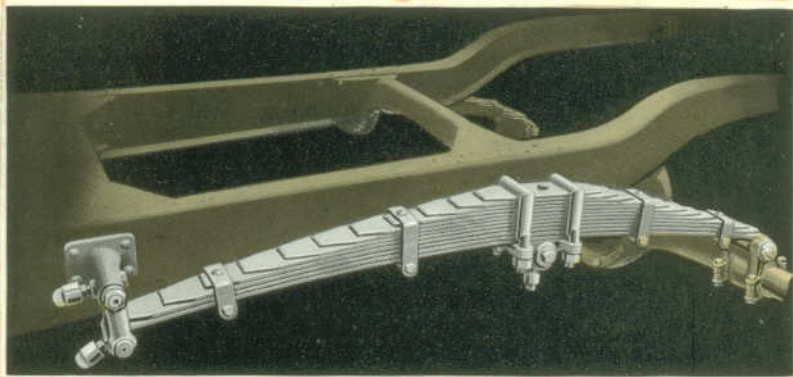
The two main side members are of heavy hydraulic pressed steel, channel section, the channels gradually widening from the front to a point slightly forward of the center, where the strain is greatest, and then tapering off gently to the rear, where there is an offset to accommodate the rear axle and give the maximum road clearance and a low-hung body.

The flanges at the top and bottom of these channels make it almost impossible to bend the frame sideways, and the extreme depth of the channels at the vital points guarantee against sagging even under extraordinary abuse.

Each side member is made of a single piece of metal, and the two are held rigidly together by four stout cross members, also of channel section pressed steel. The cross members are riveted to the side members with steel rivets, which are heated and driven firmly home with pneumatic hammers. In addition to being fastened to the tops and bottoms of the side members, they are still further reinforced by triangular steel plates, which are flanged to rest tightly against the frame.

Additional strength is given to the forward end by the motor support, which is bolted to the frame at the rear of the motor.

The entire Buick mechanism is therefore supported and held in alignment in this cradle of steel, which effectually guards against danger of weaving or distortion at any point.



*Buick Specially Designed Cantilever Spring*

## *The Spring Suspension*

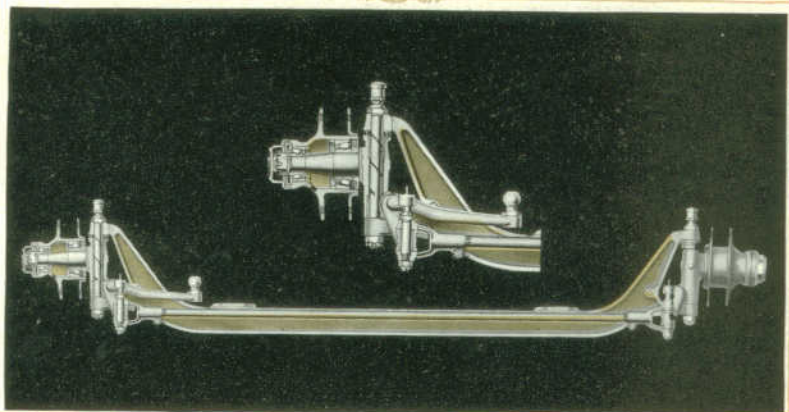
**T**HE function of the spring suspension is two-fold. Properly designed springs give comfort to the occupants of the car, which is their first duty, but they also add greatly to the life of the car by protecting the various mechanical parts against shocks and jars, which is no less important.

Two types of springs have been developed for Buick cars—the semi-elliptic for the front end and the cantilever type, purely Buick in design, for the rear.

Briefly, the semi-elliptic type is used on the front of the car because it has been found to be ideally suited to absorb the shocks peculiar to front-end work. The number, length, width and thickness of the spring leaves has been determined upon after exhaustive laboratory and road tests. This is a delicate job, because if the front springs are too flexible they will strike the bumpers on rough roads and the car will be difficult to steer. If too stiff and improperly suspended they will transmit the constantly recurring road shocks to the frame and thence to the motor itself.

The cantilever rear springs have been developed in the same scientific manner and derive their really wonderful ease of action chiefly from their design. The biggest features of Buick rear springs is the fact that they gauge their resistance according to the load or the shock, lightly oscillating over cobblestones or similar surfaces and offering a gradually increasing resistance the farther the spring is deflected from normal. A glance at the illustration will show how this power multiplies, which is directly opposite to the action of other types, whose resistance decreases as the load increases.





*Buick One-Piece Drop Forged Front Axle*

## *The Front Axle*

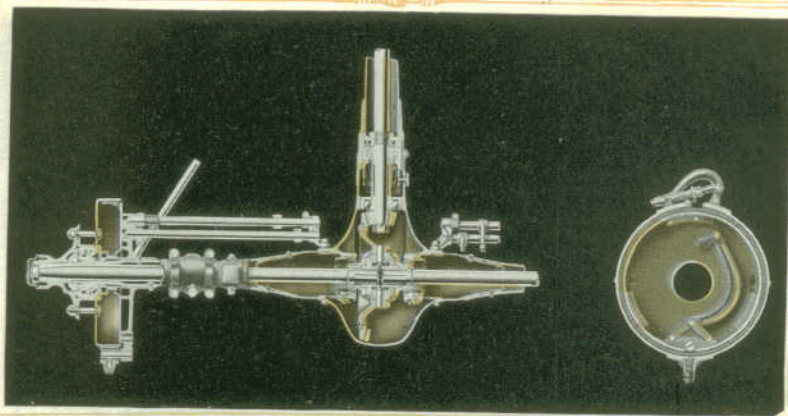
**T**HE Buick front axle is a single piece of fine steel, forged in the Buick drop forge plant. In form it is what is termed "I-beam," like the great girders that are used in constructing modern bridges and buildings. A cross section of this axle resembles the shape of the capital I, but much thicker in the body, the flanges on the top and bottom adding greatly to its strength without increasing the weight to any extent.

This is the strongest type of front axle that has yet been devised, and owing to the way it is shaped it represents the lowest point in the road clearance of the Buick car. In this way, any obstruction would strike the front axle first.

It is practically impossible to break a Buick front axle, even on the testing machines in the Buick engineering laboratory. Samples are taken from each lot of axles manufactured and placed on great machines that twist them into grotesque shapes and subject them to a downward pressure many times greater than could possibly be placed on them in service.

All raw material is carefully analyzed in the chemical laboratory before it is permitted to be put in the stock bins at the factory. The structure of the steel is made still finer and better by the heating and the ponderous blows of the drop forge hammers, which force the particles of steel closer together and make the structure uniform throughout. The steering spindles are drop forged and tested in a similar manner.

The substantial hub, with its two sets of tapered roller bearings, is firmly attached to the integral yokes by a stout kingbolt, fitted with a large grease cup conveniently located.



*Buick Full Floating Rear Axle*

## *The Rear Axle*

**B**UICK rear axles are of the full floating type, which means that the full weight of the car is supported on the sturdy axle housing, rather than on the "live" axle shafts which turn the rear wheels. This relieves the propelling mechanism from all save driving strains, which is important from the stand-points of safety to the car occupants and of undue wear on the mechanism. The torque is taken up by two stout reach rods.

Another big feature of the full floating axle is its ready accessibility should repairs be necessary, as the entire rear driving apparatus can be removed in whole or in part in a few minutes and the work be done conveniently and with speed.

The differentials in Buick rear axles are of advanced design, made with particular reference to strength and quiet operation. The driving pinion and the large master gear are fitted with teeth of the spiral bevel type, and the whole differential is mounted on a strong carrier firmly secured to the housing. All the gears, in addition to being made to an accuracy of half a thousandth of an inch, are given a special heat treatment.

The drive shafts are of special alloy steel, heat treated, and the housing is made of pressed steel with detachable covers, and reinforced with a truss rod.

The bearings throughout are of the best anti-friction types, both ball and tapered roller bearings being used where experience has proved most desirable.

Powerful but extremely easy acting brakes of both internal expanding and external contracting type operate on large steel brake drums very securely bolted to both rear wheels.





*Buick Semi-Irreversible Steering Gear*

## *The Buick Steering Gear*

**T**HE Buick steering gear has been designed to combine the attributes of safety and ease of operation. It is of the semi-irreversible type, the principal advantages of which are entire relief from road shocks being transmitted through the steering mechanism, and ability to follow the tracks in mud or sand without wearisome maneuvering and without the danger of jumping the ruts. So while the easy handling of the Buick steering mechanism will be appreciated by city users, it will be most enthusiastically endorsed by those who travel country roads to any extent.

The big, strong steering gear housing is bolted to the left side of the car frame, and contains the principal part of the mechanism. The steering wheel is of large diameter, the motion of the wheel being transmitted by means of a steel tube carrying a double threaded worm, or screw, engaging with two half nuts which slide up and down in guides in the housing, operating a steering yoke connected with an arm. The arm, in turn, operates a fore and aft rod connecting with the steering cross rod, directly behind the drop forged front axle. This connects the steering gear with both front wheels, through the medium of a series of carefully manufactured, drop forged steering connections.

As a result of this design, the factor of safety in Buick steering gears is very high. And because of the leverage provided by the large steering wheel, anti-friction bearings and the positive lubrication of every part, the car may be operated for many hours at a time without fatigue to the driver.

# Specifications

## Buick Models H-Six-44, -45, -46, -47, -49, -50

### BODIES—

H-Six-44, 3-pass. Open Model  
 H-Six-45, 5-pass. Open Model  
 H-Six-46, 4-pass. Coupe  
 H-Six-47, 5-pass. Sedan  
 H-Six-49, 7-pass. Open Model, with double cowl, folding and disappearing extra seats.  
 H-Six-50, 7-pass. Sedan, with folding and disappearing extra seats.

**UPHOLSTERY**—Open Models, dull finish black leather, deep, comfortable, buttonless cushions, molded over curled hair and soft cushion springs. Closed models are upholstered in automobile cloth.

**CONTROL**—Friction retained spark and throttle levers on top of steering wheel. New button type foot accelerator. Pedals for clutch, service brake and starter. Levers for gear shifting and emergency brake conveniently placed in center of driving compartment.

**WHEELBASE**—Models H-Six-44, -45, -46, -47, 118 inches. Models H-Six-49, -50, 124 inches.

**MOTOR**—Six-cylinder, four cycle. Valve-in-Head type, automatically lubricated. Unit power plant, suspended at three points from main frame. Cylinders 3 $\frac{1}{2}$ -inch bore by 4 $\frac{1}{2}$ -inch stroke, semi-steel bloc casting. Extra heavy crankshaft with four large bearings. Exceptionally light pistons and connecting rods. Large valves mounted in cages and readily accessible, operated by noiseless adjustable push rods. Sixty actual brake horsepower.

**COOLING**—Water cooled with centrifugal circulating pump, driven by spiral gears. Cellular type radiator, pressed steel radiator fan, driven by adjustable flat belt from camshaft.

**LUBRICATION**—Self-contained, constant level circulating splash system, operated by self-thawing gear pump driven by spiral gears from camshaft and completely enclosed in lower part of crankcase. New style oil level gauge and petcock on crankcase, oil pressure gauge on instrument board.

**CARBURETOR**—Automatic float feed type, supplied by vacuum system from gasoline tank, mounted on rear end of frame. Air regulator on instrument board.

**IGNITION**—High tension, jump spark system, current supplied by Delco generator and storage battery. Automatic spark advance with manual control by lever on top of steering wheel.

**STARTER**—Complete Delco, single unit system for electric starting, lighting and ignition, built as an integral part of the motor and operating in conjunction with large storage battery. Combination switch with ammeter and automatic circuit breaker on instrument board.

**CLUTCH**—Multiple disc, dry plate type, smooth in engagement and positive in action. Ball bearing release collar, fully adjustable for wear. Lubricated by two grease cups located outside the case.

**TRANSMISSION**—Selective sliding gear type, three speeds forward and reverse. Special heat-treated, positive interlocking hand control, integral with gearset.

**DRIVE**—Through single large, automatically lubricated universal joint and fully enclosed propeller shaft, through spiral bevel gears in rear axle. Propeller shaft housing connected directly to rear end of transmission by large ball joint enclosing universal. Both torque and drive taken through ball joint.

**REAR AXLE**—Full floating type, with entire weight of car carried on the housing. Wheels driven by detachable shafts mounted on large double row annular ball bearings. Differential mounted on tapered roller bearings. Propeller shaft on double and single row annular ball bearings. Spiral bevel type driving gears, fully adjustable and extremely quiet.

**BRAKES**—Service brake, external contracting type; emergency brakes, internal expanding type, both operating on rear wheel drums. Fully adjustable for wear.

**FRONT AXLE**—Drop forged I-beam section, double heat treated, with integral yokes, drop forged steering knuckles and tie rod yokes. Taper roller bearings for front wheels.

**WHEELS**—Wood, artillery type, with large hub flanges, 12 spokes, demountable rims.

**TIRES**—Models H-Six-44-45-46-47, 33x4 inch. Models H-Six 49-50, 34x4 $\frac{1}{2}$  inch.

**STEERING GEAR**—Semi-irreversible, split nut and worm type, with large adjustable ball thrust bearing to take up wear. Steering wheel, with horn button in center. Spark and throttle levers on top of wheel.

**FRAME**—Reinforced, pressed steel, channel section, with exceptionally deep and stiff side members. Four heavy cross members. Integral gasoline tank supports.

**SPRINGS**—Front, semi-elliptic type; rear, full floating cantilever type, exceptionally long and easy riding.

**TOP**—Open models, special type, clamping directly to windshield when extended. Made of special waterproof fabric. Inside operating curtains, full wing dust cover, clamp type top holders. Closed models, stationary type with door windows adjustable to any position.

**WINDSHIELD**—Open models, rain vision, ventilating type, slanting design giving exceptional range of vision in all directions. Adjustable friction stops to hold glass in any position. Closed models, three piece, storm proof, ventilating type.

**STANDARD EQUIPMENT**—Double bulb electric headlights, electric tail lamp, combination electric instrument board and trouble lamp, speedometer, motor driven electric horn, tire carrier with extra demountable rim, jack, pump, tire repair kit, complete set of tools. Orders for special jobs not accepted and no allowance will be made for any part of standard equipment omitted by customer's order.

## Prices of Buick Cars for Nineteen-nineteen

Model H-Six-44 . . . \$1495	Model H-Six-47 . . . \$2095
Model H-Six-45 . . . 1495	Model H-Six-49 . . . 1785
Model H-Six-46 . . . 1985	Model H-Six-50 . . . 2485

f. o. b. Flint, Michigan



## *Buick Branches and Distributors*

**E**VERY Buick Valve-in-Head owner is entitled to and will receive prompt and efficient service—the kind that will insure him the uninterrupted use of his investment. No matter where you go, there is a Buick branch or a Buick dealer close at hand prepared to give you intelligent attention.

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