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The
HUDSON
"Twenty"

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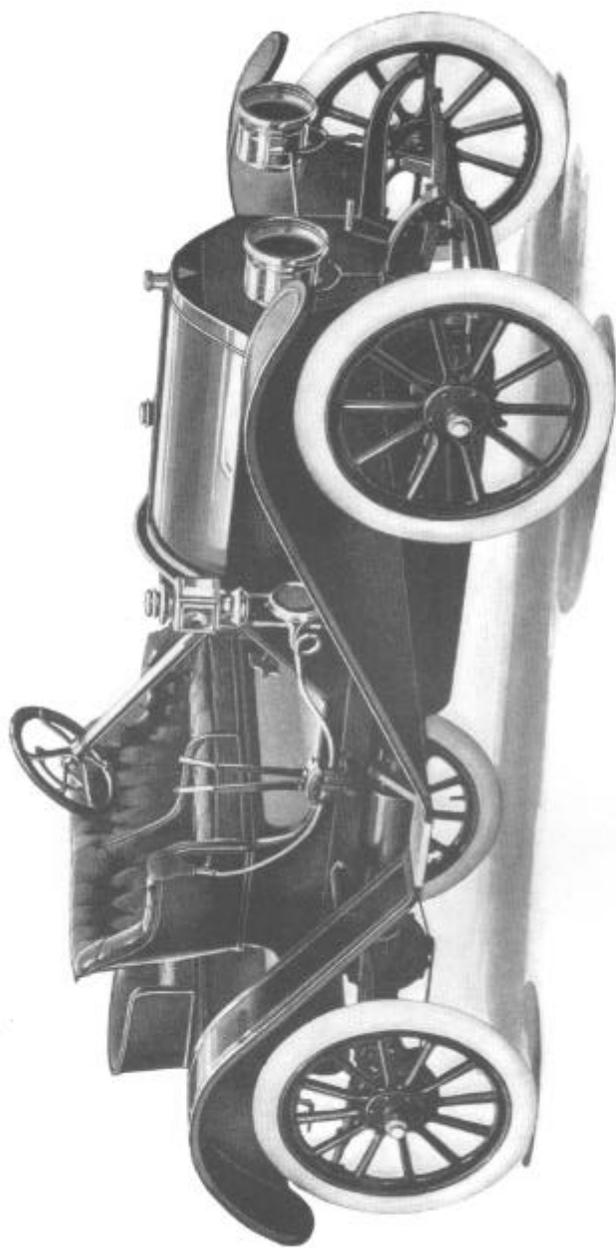
The
HUDSON
"Twenty"

1 9 1 0

First Announcement



Manufactured by
THE HUDSON MOTOR CAR CO.
Detroit, Michigan
M E M B E R S + A. L. A. M.



In this three-quarter view from in front the sweeping, graceful lines of the Hudson "20" are well brought out. In the "20" you recognize the existence of that indefinable something called "class"—that something so far lacking in other cars selling at or near the same price.



How We Can Give So Much Value for \$900

WELVE years of motor car building and big production make possible the Hudson "20" at \$900. Here is a car of such marvelous value that people who see it invariably exclaim: "How can you build such a car to sell at that price?" The answer to this question is in three parts :

FIRST—We, and you, profit by the experience of all the manufacturers, owners, and users of cars of the past twelve years. There is nothing experimental about the Hudson "20" nothing untried.

There is not a mechanical feature of the "20" that has not been proved out thoroughly in scores of successful cars.

For instance—the Renault type of motor has been found satisfactory wherever used. Renault motors are the pride of France; the selective, sliding gear type of transmission has been adopted by all high-grade cars; nearly all high-grade cars use a pressed steel frame, drop forged I-beam front axle, water cooling system, leather-faced clutch, and so on. The semi-floating type of rear axle you find in the Hudson "20" has been tried out on many of the best cars made both in America and Europe. The tendency on all cars has been towards larger wheels: 32-inch wheels are large for a car of the type of the Hudson "20." The two bearing crank shaft has been used on the Chalmers-Detroit and on many of the leading high grade foreign cars with entire success. Four cylinders cast *en bloc* also have given satisfaction on many of the best cars made. The pump circulated splash lubricating system has been a feature of many of the most successful cars, such as the Chalmers-Detroit and the Oldsmobile. And so it is all through this unusual car—nothing experimental—nothing untried.

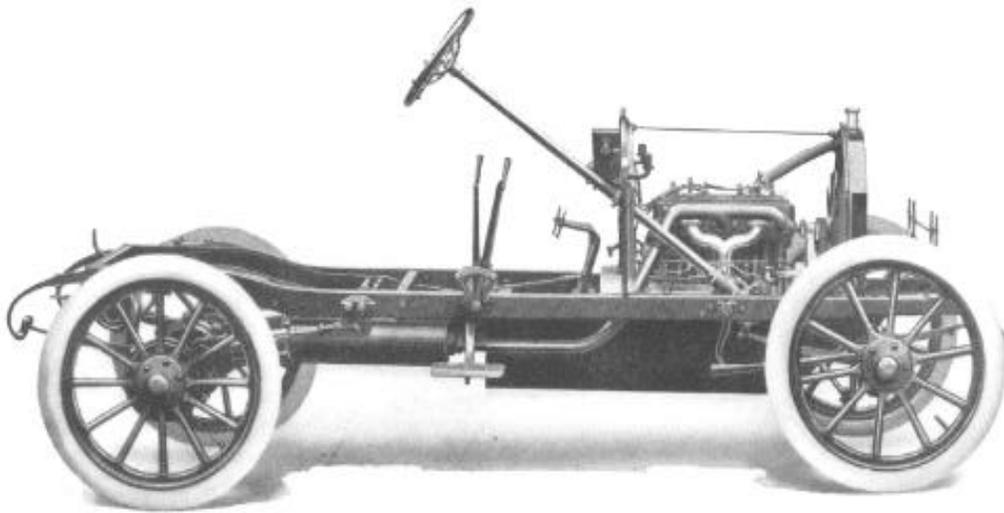
We do not have to spend money experimenting. The men who are responsible for the Hudson "20," and other men in the automobile business, have done the experimenting in the last twelve years. It is only necessary to profit by their experience and this we have done.

SECOND—We expect to build 4,000 of the Hudson "20" cars of the 1910 model. It is because we expect to build so many that we are able to put such value into each one. Buying materials for this great number of cars enables us to make savings in a great many ways. Quantity production in all lines of manufacturing has always meant greater value at lower prices. This is what it means in the automobile business as well as in others.

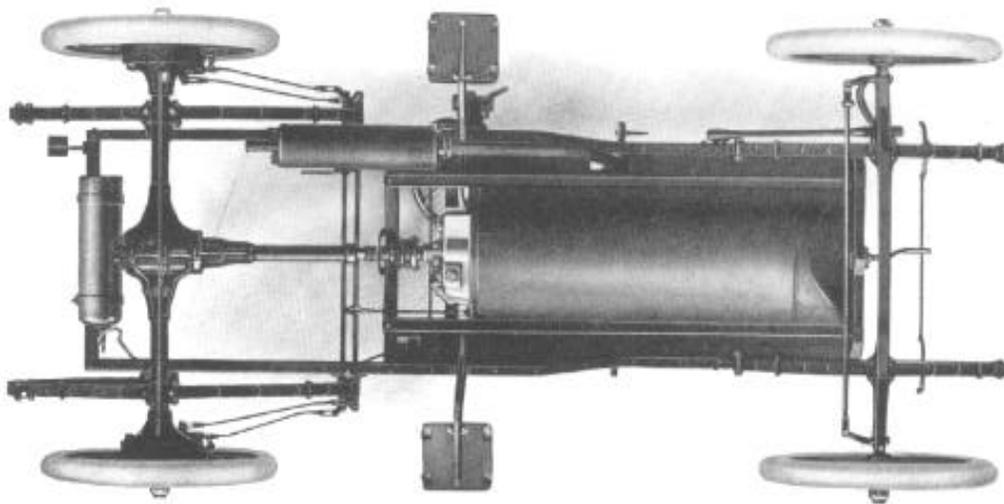
We give you the benefit of our ability to get low prices on large quantities of materials. In no other way could we put so much value into a car at this price.

THIRD We are making only one model—concentrating all our efforts on that. Specializing in this way enables us to get along without an unusually large and expensive organization. This saving again goes into the quality of the car. Specializing always means superior excellence.

The HUDSON "Twenty"



The frame of the Hudson chassis is of pressed steel, $1\frac{1}{2} \times 3\frac{1}{2}$ inches.
Note the $2\frac{1}{2}$ -inch drop in frame at rear, allowing car
to carry low but with ample clearance.



Perfect fitting, dust proof, easily removable sod pan is shown here.
Note that side members are set in at forward ends
to allow of greater steering angle.

The Hudson "20" Motor

THE motor develops a full horse-power, with four vertical water cooled cylinders of 3-3/4-inch bore and 4-1/2-inch stroke, cast *en bloc*.

The motor is of the Renault Type, i.e., valves all on one side. It is simple and compact. As with the entire car, the motor embodies nothing but the most advanced and best accepted engineering practice.

The cylinders of the best grade of iron for the purpose, are arranged with space between the walls and generous water jacket. The designers have recognized the advantage of casting all four cylinders integral, but have avoided complicating the casting by endeavoring to make the intake and exhaust passages part of it. The exhaust header and inlet manifold are made separate, allowing of large, uniform passages free from sharp angles, capable of handling the gases with the least amount of resistance.

The crank case, supported by four sturdy arms, is of aluminum, and parted on the center line of the crank shaft bearings. This case, strongly reinforced by intelligently located ribs and by the *en bloc* cylinder casting, obviates all possible chance of misalignment of the two large, plain bearings which support the crank shaft.

The crank shaft is of the same high grade material used in the majority of the best cars, is perfectly heat treated to a tensile strength of 100,000 pounds per square inch and perfectly balanced. This shaft is provided with exceptionally large, accurately ground bearings, such as will not be found in many cars costing two or three times as much, and in no car of equal price. This extra bearing area practically eliminates the necessity of adjustment.

Grinding plays a conspicuous part in the motor as well as throughout the remainder of the car. The cylinders are accurately ground to size, as is also the case with each piston and its four rings. Other ground parts are the crank shaft, cam shaft, piston pin, valve operating mechanism, valve stems, etc.

The cam shaft is of ample size, with the cams hardened and accurately ground to shape, size and relative position with each other. With ends of the adjustable valve lifters hardened, as well as the ends of the valve stems, and owing to the generous bearing area throughout, the motor will run indefinitely without any perceptible change in the valve timing.

Motor gears are made of steel and cast iron, and run in an oil bath, in an oil tight case, cast integral with the front end of the crank case.

[Continued on page 8]


The HUDSON "Twenty"


**Complete Specifications of the
Hudson "20"**

- BODY**—Latest design, roadster type; best grade ash frame; No. 1 poplar sills and seat backs. Seats: large, roomy; well upholstered.
- COLORS**—Deep rich maroon, with old ivory striping, black moldings and upholstery; or battleship gray with apple green striping and upholstery.
- SEATING CAPACITY**—Three. (May be increased to four with addition of second rumble seat at extra cost of \$25.00.)
- HORSE-POWER-20.** (22.5 A. L. A. M.)
- WHEEL BASE**-100 inches.
- TIRES**-32 x 3 inches front; 32 x 3% inches rear.
- MOTOR**—Vertical, four-cylinder, four-cycle, water-cooled, Renault type. Cylinders, cast *en bloc*. Bore, 33.4 inches. Stroke, 4% inches. Valves, all located on one side; bevel seated, poppet design. Crank shaft, exceptionally large, having tensile strength of over 100,000 pounds.
- TRANSMISSION**—Sliding gear; selective type; three speeds forward and one reverse; located directly beneath removable floor board and easily accessible; enclosed in aluminum case.
- RADIATOR**—Extra large; vertical tubes, horizontal fins; very efficient.
- COOLING SYSTEM**—Centrifugal pump, large capacity for circulating water. Front end of motor carries a fan, driven by flat leather belt, provided with a take-up.
- LUBRICATION (Motor)**—Circulated, splash system. Oil forced into crank case by means of plunger pump.
- CLUTCH**—Leather-faced cone; slip springs under leather.

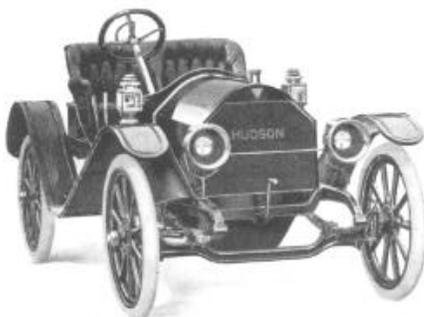
Price \$900.00 F. O. B. Detroit

SPECIAL EQUIPMENT

High-grade magneto.....	\$80 . 00
Top, of serviceable material to match finish of car.....	40 . 00
Prest-o- lite Tank	25 . 00
Extra Rumble Seat.....	25.00

—————
Total..... \$ 170.00

Taken with all this special equipment
the Hudson "20" sells at. **\$ 1050**



Good looking I-beam front axle; starting crank held vertical; lamps rigidly supported.


The HUDSON "Twenty"


**Complete Specifications of the
Hudson "20"**

Continued

FRAME—Pressed steel; best open hearth stock; 3-1/2-inch x 1-1/2-inch section; drop sub-frame, to which transmission and motor are secured.

FRONT AXLE—One-piece "I"-beam drop forging of most approved design.

REAR AXLE—Semi-floating type and shaft driven; equipped with bevel compensating gear. Torque taken on a tube, concentric with the driving shaft.

BRAKES—External and internal, operating on drums secured to hubs of rear wheels.

BEARINGS—Front Wheels: large size, ball type.
Rear Wheels : roller, with ball thrusts.

SPRINGS—Front, semi-elliptic, 36-inch.
Rear, three-quarter-elliptic, 44-inch.

STEERING GEAR—Worm and gear type, with exceptionally large bearings.

WHEELS-32-inch; built of best selected second growth hickory, to our own special order.

DASH—Rich mahogany, with coil box to match. Protected on edges with brass moulding, channeled out to fit over edges of the wood work, providing protection from the weather.

CONTROL—Control is of accepted standard type; i.e., steering by wheel; selective gear, shifting by lever at right hand; emergency brake lever with ratchet at right hand; clutch by pedal at left foot; service brake on pedal at right foot; throttle and spark advance by levers on top of steering wheel; accelerator button between foot levers ; steering post, sharp rake and most convenient position for driving; large size steering wheel.

ELECTRIC SOURCE—Spark coil; dry cells. (Provision made for magneto.)

UPHOLSTERING—Best pebble grain, blue-black leather, with good grade hair filling

GASOLINE CAPACITY—Ten gallons.

WATER CAPACITY—Four gallons.

Price \$900.00 F. O. B. Detroit

OPTION—Large circular 25-gallon gasoline tank, neatly mounted on rear deck instead of box and rumble seat.

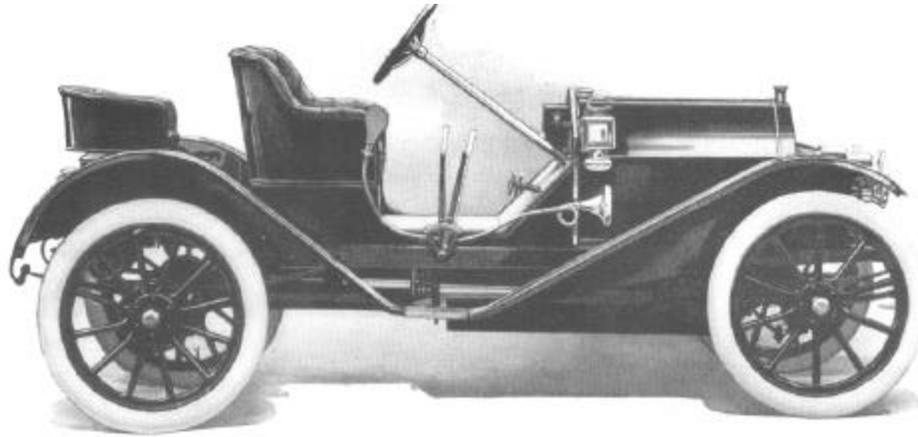
EXTRA

32 x 31A inch Clincher Tires on front wheels. . . \$25.00
 32 x 3-1/2 inch Q. D. (Marsh) all round. 50.00
 Special set Tire Irons in rear with Gasoline Tank. 15.00
 32 x 3j inch Fisk Demountable, Detachable
 Rims. 60.00
 60-inch Tread. 25.00



Perfect rear suspension is shown here—three quarter-elliptic springs used.

The HUDSON "Twenty"



Roominess of Hudson "20" is well brought out in this full side view. No roadster, regardless of price, affords more comfortable seating to the passengers.

The gear case is well stiffened by means of heavy webs, and the gears cut by the latest improved methods. Owing to these two features and to the continuous stream of oil running onto the gear faces, gear noises are practically eliminated.

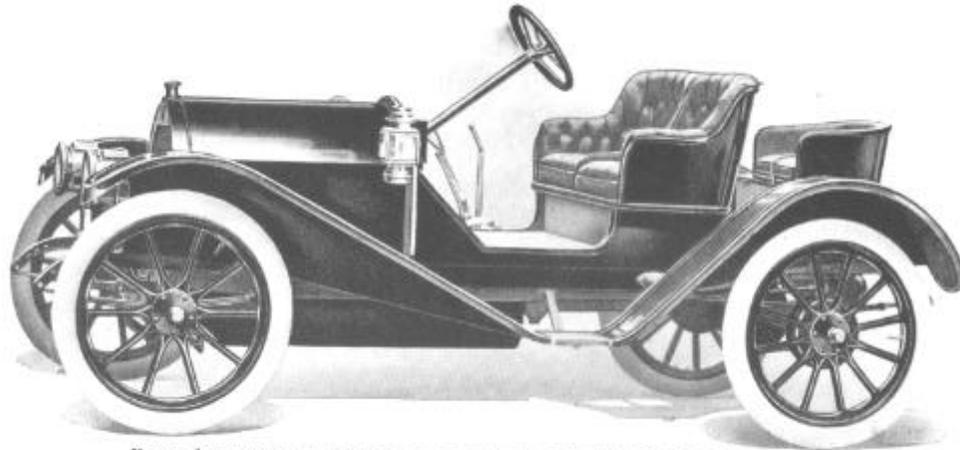
Lubrication is of the forced circulation splash system. There is an oil well of about three quarts capacity on the underside of the crank case, with a simple plunger pump operated by an eccentric on the cam shaft, raising oil from the well and forcing it directly onto the motor gears. From here it overflows back into the crank case proper, filling the four compartments and finally overflowing through a hole provided for that purpose in the rear end of the case, back into the oil well, where it is again taken through the pump and kept in constant circulation. The walls between the four compartments and the side of the overflow are of such height as to hold the oil at the proper level, allowing the connecting rods to dip to the proper depth, thus providing a uniform and continuous lubrication.

A generous sized centrifugal water pump is located centrally on the right hand side of the motor and is driven by the usual shaft, passing back from the motor gear case.

A large and efficient fan running on ball bearings driven by a flat leather belt, is adjustably supported on arms cast integral with the motor gear case cover.

The carburetor, in keeping with the balance of the car, is thoroughly up to date in every respect, being of the Venturi Tube type with ball auxiliary valves. It is especially designed for this motor and is very

The HUDSON "Twenty"



Room for entering and leaving car emphasized in full left side view. One can ride all day in the "20" without feeling cramped from lack of room.

efficient, controlling the motor perfectly, from the lowest to the highest required speed.

The Lacoste type of commutator is independently supported, is located at the rear end of the cam shaft, and is readily removed for inspection or cleaning.

On the rim of the fly wheel, are provided markings showing the timing of the valves, while a steel pointer is located in such a position that the valve setting can be checked up at any time with the least possible trouble. The motor is equipped with the usual detail, such as hard rubber wire supports, priming cup, crank case drain plugs, etc. It is high grade in material, workmanship and finish, and it runs smoothly and silently.

The Hudson "20" has a selective sliding gear transmission, three speeds forward and reverse, such as you find in all high-priced, high-grade cars.

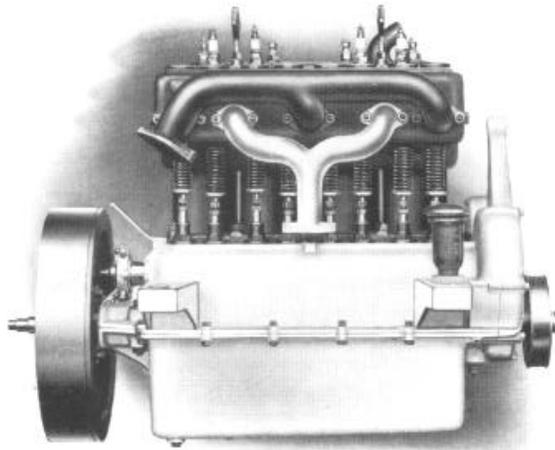
Due to the simplicity of construction, and to provisions made in the design of the case, spacing of gears and proportioning of the parts, the Hudson transmission is a most satisfactory and quiet running unit.

The aluminum case is parted horizontally and supported on four arms, while the upper half is closed in solid on top and stiffened with ribs, making misalignment of bearings impossible.

The shafts of a high grade, open hearth steel are carefully heat treated and ground all over; supported in large, plain die cast bearings of the best quality of babbitt and provided with oil retainer chambers on the outer ends of the main shaft, while the counter-shaft bearings are closed in solid.

Leather-Faced Clutch

While there are many styles of clutches, it is generally conceded that for reliability, smooth and positive engagement, perfectly free and instantaneous release, quiet gear shifting and simplicity, there is nothing so satisfactory as the leather-faced cone type. The Hudson "20" is provided with an extremely simple equipment of this nature, requiring no adjustment.



Valve side of Renault type of motor is shown here. Compactness, simplicity and accessibility have been the watchwords.

The cone is exceptionally light, reducing the inertia effect to the minimum, allowing of practically silent gear shifting.

The leather facing is of the highest grade of material, backed up by adjustable flat steel springs, providing a perfectly smooth pick-up under all conditions; while instantaneous engagement may be effected, if so desired, when the car is being driven in crowded traffic where a quick spurt is so necessary at times.

The clutch is supported on an extension of the crank shaft, by means of an ample bearing, and is forced into engagement by a heavy helical spring, the back

thrust of which is taken on a large ball thrust bearing. The rear end of the clutch hub terminates in a block and trunnion type of universal joint with a short propeller shaft to a similar joint on the front end of the main transmission shaft. The wearing surfaces of these two joints are carefully hardened, and a strong tubular leather boot is clamped over the adjacent ends and filled with grease, effectively lubricating both joints and the clutch bearings.

Double universal joints compensate for any possible amount of misalignment, due to twisting of the frame on uneven roads, and allows the clutch to be very readily removed.

The HUDSON "Twenty"

Axles

Rear axle is of semi-floating type, shaft driven. All power transmitting parts are carefully selected, high-grade stock, carefully heat treated, and accurately machined. Bearings are large, hardened and ground rollers, running on hardened and ground surface with all end thrusts resisted with ball thrust bearings of ample size.

The I-beam section front axle, especially designed for this car, has an exceptionally pleasing appearance and is strongly reinforced at the points where the greatest shocks and strains occur. The axle is located well forward of the radiator, allowing an even distribution of weight, at the same time presenting a racy appearance as well as affording a long wheel base which is a feature much desired.

Brakes

Two large double acting brakes are provided at each end of the rear axle securely bolted to each wheel and acting on the wheel drums. The external brakes are firmly supported and in brackets, which prevents rattle working in either direction. They are easily removed. The internal brakes are equally efficient in either direction, thoroughly protected from dirt, and can be removed with a minimum amount of effort. All brakes are lined with a heat proof friction surface of asbestos interwoven with wire gauze.

Wheels

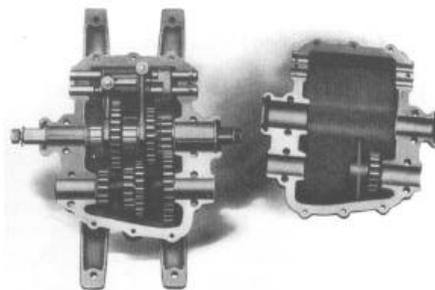
The wheels, especially designed, are of second growth hickory. They have ten spokes in front and twelve spokes in the rear, with clincher rims for 32 x 3 inch front tires and 32 x 3-1/2 inch rear tires. The equipment is ideal for the style and weight of the car.

Control

The absolutely standard control of the Hudson "20" is another of its pleasing features. Any one accustomed to operating any of the standard high-grade cars can handle the Hudson without the trouble of learning to operate a new set of levers, pedals, etc. The steering column is laid over at an exceptional angle affording a racy appearance placing a sixteen-inch disc oval steering wheel in an unusually comfortable position for the driver.

Springs

Many years of experience with all sorts of springs taught the designers of the Hudson "20" that semi-elliptic front and three-quarter-elliptic rear are the easiest riding under all conditions, and due to their peculiar action are less liable to break. The springs on the Hudson are securely fastened at the centers. The front springs are 13% inches wide by 36 inches long; the rear springs are 46 inches long. These springs are unusually long and are mounted with heavier and stronger fittings than many cars of twice the weight. The danger of breaking is thus reduced to a minimum, and the first remark of one who rides in the Hudson "20" is: "Why it rides like a big, heavy, high-priced car."



Selective, sliding gear transmission, three speeds forward and reverse, such as you find in the highest grade cars, is used in the Hudson "20"

The Men Behind the Hudson

J. L. HUDSON, President

Mr. Hudson is owner of the biggest retail dry goods store in Detroit. He also owns department stores in several other large cities. He is a large owner of Detroit real estate. He is vice-president of the Dime Savings Bank and a director of the American Exchange National Bank. He is also interested in several manufacturing enterprises. He is recognized as a leading, conservative business man and capitalist of Detroit.

HUGH CHALMERS, Vice-President

Mr. Chalmers is president of the Chalmers-Detroit Motor Company. Before buying a large interest in a Detroit Motor Company and making the name Chalmers- Detroit, he was for many years connected with the National Cash Register Company of Dayton. For seven years he was vice-president and general manager of that company.

R. B. JACKSON, Treasurer and General Manager

Mr. Jackson is a mechanical engineer, being a graduate of the engineering department of the University of Michigan. He was factory manager of the Olds Motor Works from 1903 to 1907, and has had other very valuable automobile experience.

R. D. CHAPIN, Secretary

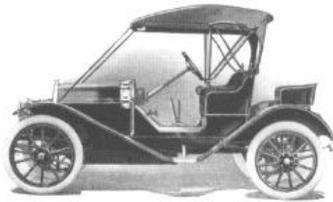
Mr. Chapin is treasurer and general manager of the Chalmers-Detroit Motor Company. His experience in the automobile business covers a period of many years. He was formerly sales manager for the Olds Motor Works.

GEO. W. DUNHAM, Chief Engineer and Designer

Mr. Dunham studied engineering at Swarthmore and Kenyon Colleges. He was chief engineer of the American Motor Carriage Company from 1901 to 1904. In the latter year he became associated with the Olds Motor Works in a designing capacity. He was chief engineer of the Olds Motor Works from early in 1907 until March 1st, 1909. Mr. Dunham's success in the past as a designer of high-grade motor cars that gave satisfaction to their owners is the best proof that the Hudson "20" will give satisfaction.

H. E. COFFIN, Member Board of Directors

Mr. Coffin is vice-president of the Chalmers-Detroit Motor Company. There is probably no automobile engineer who enjoys a more substantial reputation than Mr. Coffin. He has been designing successful cars for years. Among them the Oldsmobile and the Chalmers-Detroit "Forty" and "30."



Hudson "20" with top up

These men stand high in the automobile industry. They are experienced, conservative business men. They have invested money in the Hudson Motor Car Company. They are not the sort of men who would invest their money to back a car unless they believed thoroughly in the ability of that car to make good with the public.

