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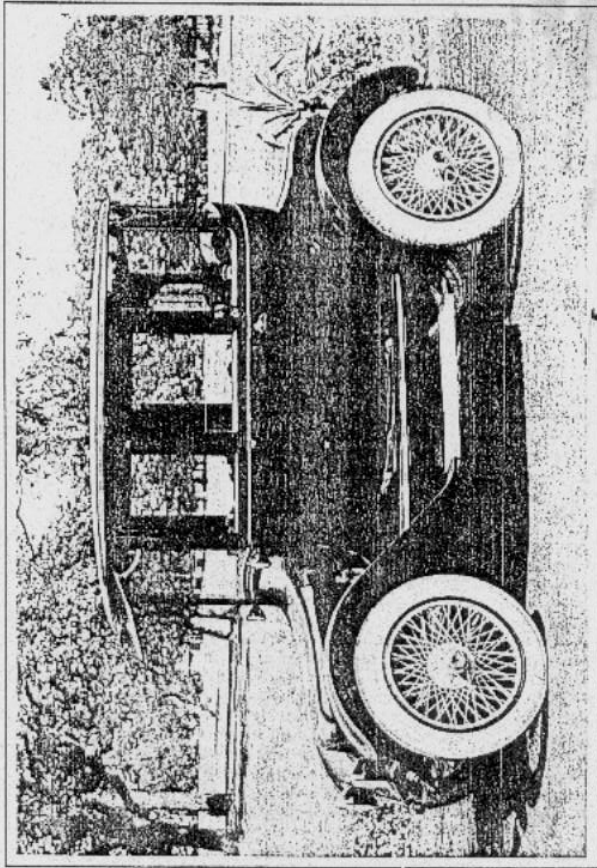
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THE  
IDEAL CAR  
*for City or Suburb*

*Nineteen  
Twenty One*

DETROIT ELECTRIC CAR COMPANY  
DETROIT MICHIGAN U S A



The Model "88" Detroit Electric

## *The Electric Car*

**I**N weighing the value of any article, the standard of judgment must be the service it renders. Just so must the motor car be judged. Its worth is measured by the satisfaction derived from it—its utility—its time-saving, and the pleasure and convenience it brings.

The Detroit Electric has achieved its enviable position as the ideal family car, because of the perfection of the service thousands of these cars are giving.

The series we are offering in this book represent the latest developments in the electrical, mechanical and body building arts. We have spared no time or expense in our endeavor to have the excellent reputation of the Detroit Electric maintained and carried on.

Therefore, we offer the Detroit Electric of to-day with entire confidence that it will maintain Detroit Electric pride of ownership and satisfaction in the car itself.

Detroit Electric dealers are to be found throughout the world.



## *The Essentials of Motor Car Satisfaction*

MOTOR CAR BUYERS of to-day are being more and more guided by the question: "What equipment will serve my needs to the best advantage?"

We are offering the Detroit Electric automobile as the ideal car for a family to use in and about town at all seasons of the year. There are six factors that go to make up desirability and the electric automobile is the only car that shows 100% of efficiency from all six view-points. These factors are serviceability, safety, comfort, style, cleanliness and economy.

### *Serviceability*

The serviceability of a motor-car may be defined as the ability to go where the owner desires and bring him back, in a moderate length of time and with the minimum of liability to delay through mechanical mishaps.

The Detroit Electric is the ideal example of this definition. Ninety-eight per cent of all motor trips are under sixty miles in length.

The average mileage per day of all motor-cars in service is under thirty—which would give a yearly total of well over 10,000 miles.

In other words, the average daily radius of action of a motor-car is well under the capacity of a Detroit Electric. The mileage capacity per charge varies from sixty miles in the most hilly cities to ninety miles in the more level sections.



Some Detroit Electric owners have averaged as high as 1,200 miles per month--which is an excessive mileage for any motor-car in general family service.

And it can readily be seen that the multiplicity of parts in the gas car provides many times the number of chances for mechanical mishap and imperfect operation that can possibly occur to the simple, efficient electric.

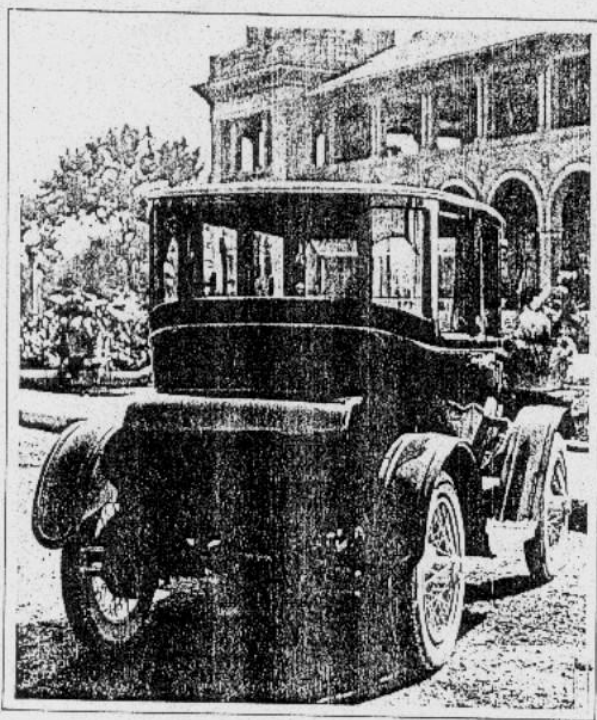
### *Safety*

This is one of the great factors in favor of the electric. The absolute ease and certainty of control; the practically instantaneous adjustment of power delivery to power needs; the exceptional ease of turning which the short wheelbase affords in congested traffic; all these make for absolute safety of operation even in the hands of the inexpert. The special safety control features, unique in the Detroit Electric, are discussed in detail under "Mechanical Data" in another part of this book.

### *Economy*

To give exact figures covering the operation cost of the Detroit Electric would be rather difficult as conditions in each and every family's service vary materially. However, from data we have gained during the past ten years and from data on cars operating in commercial and taxi service, the cost of operating an electric car is very much under the cost of obtaining a given service from any other method of locomotion.

The price tendency on electric current is not varying while gasoline is rising constantly. And the quality of current is the same, while gasoline is getting poorer all the time.



From every position—even the rear view, the most severe test of motor car symmetry—the Detroit Electric satisfies every demand of pleasing proportion and of beauty.

Tire mileage—another vital item of motoring expense—is also decidedly in favor of the electric. The power is applied so smoothly that there is an almost absolute lack of the jerks which so greatly increase the tire friction.

The modern storage battery seldom needs expert attention. The Detroit Electric batteries carry a guarantee of ten thousand miles or two years, thus insuring the owner against excessive battery costs. The charges for labor on electric automobiles fade into insignificance when compared with bills of a like nature on other cars.

### *Comfort*

Because of the absence from the electric of many complex parts, both in chassis and in the car itself, it is possible to devote much more space to the comfort of the passengers.

Wider, deeper cushions, more leg-room and body-room—it is possible to add these in the electric where the gas car would not have the space to spare.

The electric is the pioneer of the enclosed body, now universally admitted to be the best suited for general use. And no other type of car has been able to develop the enclosed body so fully, either from the standpoint of beauty or all-season comfort.

### *Cleanliness*

The relative cleanliness—the freedom from dirt, soot, grease and oil, as between the electric and other cars, is so definitely in favor of the electric as to require little argument. The odors inseparable from even the best gas cars are also absent from the electric.

The wearer of light clothes or delicate fabrics runs constant risk of ruining them in a gas car; while in an electric there is as little danger of damage as in a drawing-room.

### Style

For exactly the same reason that good clothes can be worn in the electric without damage, it is possible to use finer upholstery, more artistic interior accessories and better finish throughout. And in the gas car it is necessary to subordinate body design in large measure to the requirements of chassis, power-plant and operating mechanism; so that the same beauty of line is impossible of attainment.

Detroit Electric coach work is a superb example of combined art and craftsmanship. The design itself is attractive to the eye, with harmonious modern lines that blend perfectly. We have used materials of strength, durability, and lightness and at the same time provided the space, seating arrangement and general appearance that discriminating buyers demand. No time or pains has been spared to produce a car that is both a physical and mental delight; and a wide selection of the choicest upholstery materials enables you to individualize your car.

### Mechanical Data

While we realize that the average buyer of a motor-car is perhaps not vitally concerned with mechanical details, yet we believe you will be interested in the statements on the following pages.

They are from our Engineering Department; and they explain the various features which combine to make the Detroit Electric the ideal city and suburban car—a vehicle spacious in body—of easy riding qualities—having ample speed and mileage capacity—moderate in weight and yet so rugged as to render dependable service economically.

**FRAME**—The chassis frame is entirely of pressed steel channel sections of liberal depth, thus giving support and rigidity to the body, motor and the various parts which the frame supports. The Detroit Electric policy of weight reduction for a given strength or function has been worked out in the frame design. By using special dies, gusset plates are made integral with the frame members, thereby saving weight.

**FRONT AXLE**—The front axle is of the standard I-Beam construction, and gives maximum carrying capacity with least weight. The steering knuckle pins operate in hardened and ground steel bushings and are

pivoted on ball bearings. The knuckles are alloy steel, heat treated and ground to take Timken bearings of liberal dimensions.

**REAR AXLE**—Three-quarter floating type, with spiral bevel gears having five to one reduction, driving to the rear wheels through alloy steel shafts. Provisions are made for pinion and gear adjustments without dismantling of the axle units. Power is delivered from the motor to the rear axle through a propeller shaft having two dust proof universal joints. Rear axle torque is carried through a pressed steel member, pivotally supported to the chassis frame.

**BRAKES**—Two separate sets of brakes are provided, operating independently. The brakes on the rear hubs are of the internal expanding type  $15\frac{3}{4} \times 2$  inches, operated by a foot pedal. To the left of the brake foot pedal is a smaller pedal, pressure on which locks the hub brakes and automatically cuts off the power. The second brake is the external contracting type,  $10 \times 1\frac{1}{2}$  inches, mounted on the front end of motor, and is operated by a slight backward movement of the controller lever. No automobile offered has a greater number of safety first control characteristics than has the Detroit Electric.



**SPRINGS**—Front, semi-elliptic  $2\frac{1}{4}$  inches wide and 40 inches long. Rear, three-quarter elliptic, lower portion  $2\frac{1}{4}$  inches wide, 48 inches long, upper portion  $2\frac{1}{4}$  inches wide, 26 inches long. In this new series of Detroit Electric a great improvement has been made in riding qualities by the adoption of wider and thinner spring leaves. Over rough country roads or on choppy worn pavements a Detroit Electric will not pitch or roll excessively.

**TREAD**—Fifty-six inches.

**WHEEL BASE**—One hundred inches. Keeping the over-all length of a vehicle to a minimum figure adds greatly to its ease of operation in congested city traffic. The Detroit Electric turns in a very small radius.

**WHEELS**— $32 \times 4\frac{1}{2}$  inch quick detachable wood or wire wheels are furnished at the buyer's option. Timken bearings of liberal sizes are used in all wheels.

**TIRES**—Standard equipment consists of Firestone cord pneumatics, size  $32 \times 4\frac{1}{2}$  inches. Tire efficiency and life have much to do with the successful performance of a vehicle and we have given careful thought and devoted long experiment to assuring greatest riding ease, as well as mileage.

**BATTERY**—42 cells of 15 plates, having 180 to 190 ampere hours capacity. The Detroit Electric battery equipment is of the "non-

wash" type as used for many seasons past and affords maximum capacity in proportion to weight. This battery is guaranteed for a minimum of 10,000 miles or two years' time, in accordance with our written battery guaranty. In performance they universally exceed this guaranty. Each cell is readily accessible for care. Accessibility is featured throughout in Detroit Electric construction—for it means much in the proper care of a car.

**MOTOR**—The motor is the series wound four pole type, made up of such liberal proportions of iron and copper as to insure efficiency and ability to withstand any overloads encountered under all running conditions. The bearings of the armature are Hess Bright, quiet-running series packed in grease. Rarely do Detroit Electric owners have any expense on the motor's account.

**WIRING**—Particular attention is paid to the use of wires ample in cross section area and of such type as to carry the current from the battery to the motor with as little loss of current as possible. Every wire end is sweated into a taper terminal and that terminal is anchored in its seat with a screw, which means electrical efficiency and mechanical permanency.

**LIGHTING**—All lights are carried on separate circuits. Each set of lamps is controlled with an indivi-



dual switch. All light wires are carried in copper conduits where possible.

**CONTROLLER**—The drum type, continuous torque, series controller having five speeds forward and reverse is used. The plates and contact fingers are of sufficient copper area to efficiently carry any amount of current required of the battery by the motor. The self lubricating, interlocking reverse, and automatic cut-out features of the Detroit Electric controller, taken into consideration with its accessibility, permit a service and control of the vehicle which can be absolutely depended upon.

**OPERATING LEVERS**—Operating levers are mounted at the side of the rear seat in parallel position, one above the other. The longer (steering) lever is operated by the right hand, and the shorter (controller) lever by the left. The lever steer is used for its direct action and ease of operation.

A Detroit Electric can be driven without using the feet if need be. The car is literally responsive to a touch.

**SAFETY CONTROL SYSTEM**—Safety of the driver and occupants in all models is absolutely assured through the efficient automatic safety devices provided. When the car is at full speed it may be instantly stopped by pressure on a small

foot pedal. This operation simultaneously cuts off the flow of current and applies both hub brakes regardless of the position of the controller lever. It is impossible to start the car again until the controller lever has been returned to its neutral position. A second brake may be applied by the driver if so desired without the use of foot pressure by simply pulling control lever back to neutral position. This action operates a powerful brake mounted on the head of the motor.

**SPEED**—Up to the maximum allowed by traffic regulations, approximating 25 miles per hour. Five forward and five reverse.

**MILEAGE**—The large battery equipment, excellent mechanical efficiency and well proportioned weight of the Detroit Electric insure extra long mileage per discharge of the battery. Their capacity—ranging from 60 to 90 miles, depending on topography, road conditions and speed at which car is operated—is considerably greater than your daily requirements demand in town and suburban service.

**HILL CLIMBING**—We can consistently make the statement that a Detroit Electric will negotiate any hills upon which the rear wheels may have traction and just as long as there is current left in the batteries to turn the motor, Detroit

Electric are used successfully and in quantities in the most hilly sections of this country.

**LUBRICATION**—The lubrication of the car is greatly simplified by the use of self-lubricating bushings wherever possible. The number of places requiring grease or oil is reduced to a minimum; and they are accessible from the outside of the car so that there is no necessity for getting underneath the car to oil the various parts. The springshackle bolt oil cups are of liberal size, forming a reservoir from which the oil is wick-fed to the center of the bolt. Detroit Electric simplicity of lubrication assures the most perfect action of all moving parts, and results in a minimum of upkeep cost.

**FENDERS**—Fenders are of the Oval Crown design, skirted to the body so as to completely protect it against splash or mud. The crimping process is used in the construction of Detroit Electric fenders, reducing materially the use of rivets and bolts with their consequent inevitable noise.

**BODY FEATURES**—Not only is the Detroit Electric body beautiful in design and sufficiently spacious to properly seat the passengers but the coach work represents the utmost in that art. Well seasoned timbers are fully machined, every joint being shouldered or mortised, glued and anchored with screws, giving the

frame work abundance of strength to withstand the most severe service, while the weight is reduced to a comparatively low figure.

All portions of body exposed to the weather, such as panels, battery hoods, mouldings, window frames (front and rear), and roof are of aluminum. The roof, pressed out of a single sheet, will not leak or crack. Sashless plate glass door windows are easily raised or lowered by turning a revolving lever. Rain drip protectors over the tops of the doors are provided.

**CHARGING**—110 volt direct current at a rate of at least thirty-five amperes is required for the charging of the Detroit Electric battery. If the local electric power company can supply direct current of 110 volts, then all that would be necessary to handle the current would be a rheostat. On the other hand, if only alternating current is available, it would be necessary to use the 220 volt single phase sixty cycle current and convert it into the proper direct current by the use of a rectifier or motor generator set. A totally depleted battery would require about thirty-three kilowatt hours of alternating current to fully recharge. Most battery charging is done at night time, thus giving the vehicle over to the family for use throughout the day.

*Monogram Suggestions*



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