STUDEBAKER AUTOMOBILES

GASOLINE AND ELECTRIC AUTOMOBILES

Made by STUDEBAKER AUTOMOBILE COMPANY

MEMBER ASSOCIATION LICENSED AUTOMOBILE MANUFACTURERS

SOUTH BEND, INDIANA, U. S. A.

BRANCH HOUSES

Studebaker Bros. Co. of New York, Broadway and Forty-eighth St., New York, N. Y.

Studebaker Bros. Mfg. Co., 378 to 388 Wabash Ave., Chicago, Ill.

Studebaker Bros. Co. of California, Cor. Market and Tenth Sts., San Francisco, Cal.

Studebaker Bros. Mfg. Co., 810 to 814 Walnut St., Kansas City, Mo.

Studebaker Bros. Co. Northwest, 328 to 334 E. Morrison St., Portland, Ore.

Studebaker Bros. Co. of Utah, 157 to 159 State St., Salt Lake City, Utah.

Studebaker Bros. Mfg. Co., Cor. Fifteenth and Blake Sts., Denver, Colo.

Studebaker Bros. Mfg. Co., 317 to 319 Elm St., Dallas, Texas

AGENCIES IN ALL PRINCIPAL CITIES

CATALOGUE No. 238

National Association of Automobile Manufacturers

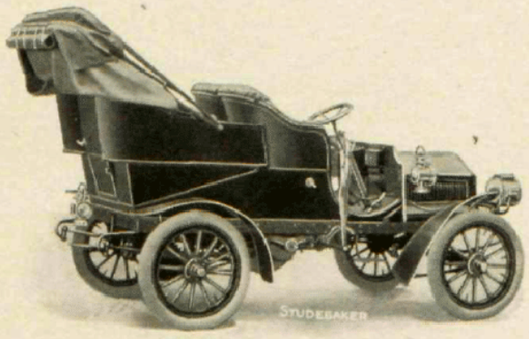
STANDARD WARRANTY, ADOPTED AUGUST 12th, 1902

We Warrant all goods furnished by us for sixty days following the date of their shipment, based upon the date of invoice covering the goods, this warranty being limited to the replacement in our factory of all parts giving out under normal service in consequence of defect of material or workmanship.

If the circumstances do not permit that the work shall be executed in our factory this warranty is limited to the shipment, without charge, of the parts intended to replace those acknowledged to be defective. It is, however, understood that we make no warranty whatever regarding pneumatic tires or the batteries.

We cannot accept any responsibility in connection with any of our motor cars when they have been altered or repaired outside of our factory.

We are not responsible to the purchaser of our goods for any undertakings and warranties made by our agents beyond those expressed above. We wish it distinctly understood that we make no warranty of our goods except as stated above, but desire and expect that customers shall make a thorough examination of our goods before purchasing.



No. 9502. WITH CAPE CART TOP.

THE automobile represents an evolution. Viewed broadly, it stands for one more step ahead in the solution of the problems of transportation of passengers and merchandise. Earlier steps in the same direction were taken when the railroad began to replace the stage coach, the steamboat began to replace the sailing vessel. For two generations past, long distance transportation on land has depended chiefly upon the use of rails, which provide a uniformly smooth roadway and avoid all serious grades. The automobile has brought independence from rails and from many other formerly restrictive conditions of travel by land. It need not avoid hills; all roads are open to it. It adds to the liberty of movement and the freedom from confinement which are craved by all civilized human beings.

Barely a decade has elapsed since "motor carriages" as automobiles were first called, attracted public attention. By many they were then regarded as the mere temporary diversion of a few inventive minds. Today their utility, convenience and economy are universally recognized. Their permanence in our modern life is conceded.

Over fifty years ago the Studebaker Brothers founded at South Bend a vehicle industry which has steadily grown to be the greatest of its kind in the world. From the beginning only the highest grade of work was undertaken. The best of material was used; the most painstaking craftsmanship held sway. Certainly no detail could be overlooked in founding a reputation which has grown steadily through half a century. It is natural that the same principles should guide us in designing and building our automobiles, which are, for convenience' sake, sold by a separate corporation, the Studebaker Automobile Company.

We have, therefore, taken full advantage of the years of broad experience gained in our general vehicle business. No detail of construction or fitting has been overlooked in any Studebaker automobile. Our knowledge of the various metals, of the comparative worth and strength of different varieties of steel, has enabled us to provide strength, combined with lightness.

Exact familiarity with the requirements of comfort, style and ample seating and leg room capacity in the bodies of all kinds of vehicles, has enabled us to provide our automobiles with a luxury in these respects heretofore unknown in vehicles driven by motors. Nor has adequate spring suspension ever been neglected in Studebaker automobiles, the easy riding qualities of which are appreciated by our customers. But, most important of all, no sacrifices have been made in respect to those features which are absolutely esssential in any vehicle, especially in one which is self-propelled. Reliability, simplicity, durability have always been our first considerations. Every important part of each Studebaker automobile has been tested separately; every complete automobile has been "tried out" over country roads and hills before shipment. To our persistent policy, as outlined above, we attribute the splendid record made by each Studebaker automobile delivered to a customer.

Our several factories, devoted to the manufacture of automobiles, are among the largest in the world; hence we are enabled to offer a wide choice, providing for the needs of all classes of users of self-propelled vehicles. The limits of a catalogue do not permit furnishing all details of information sometimes desired, and we are at all times glad to supply particulars not herein covered, in response to inquiries. The following pages can only briefly describe our line of automobiles, which includes not only passenger vehicles of both the gasoline and electric types, but also electric delivery wagons and trucks.

Studebaker Gasoline Automobiles

We offer two distinct styles of gasoline automobiles. Model No. 9502 is equipped with a two-cylinder, horizontal motor, and is otherwise as described in the following pages. Model No. 9503 is equipped with a four-cylinder vertical motor, and is the subject of a supplementary catalogue.

Model No. 9502. Studebaker Gasoline Car

THE MOTOR of this car has two opposed horizontal cylinders. Its dimensions are ample, and provide a margin of power seldom found in gasoline cars of similar weight and touring abilities. It provides, among other refined qualities, remarkable freedom from vibration, and almost noiseless operation.

VALVES All valves are forged from a high grade of special steel, and all are mechanically actuated.

THE FRAME of the running gear is of armored wood, combining lightness and flexibility with great strength. This type of frame has proved its resisting qualities and other merits by many years of actual use, and is remarkably well adapted for the requirements of touring over all kinds of roads, rough as well as smooth.

MOTOR AND TRANSMISSION are rigidly suspended at a point near the center of the running gear, where the best distribution of weights is secured. The driving sprocket is located on the main shaft, between the reverse gear and the high speed gear cases. This is one of the numerous contributing details in our construction, which makes actual and certain the reliable performance of this car. It insures that the driving strain comes at the proper point. The power is transmitted to the rear axle by a roller chain of extra large dimensions. We have never had a chain break in service, and its dimensions are such as to insure extreme longevity.

THE TRANSMISSION is of the planetary type, giving ease in starting the car from a stand-still, without any jerky motion, and in shifting readily to the high speed. It provides two speeds forward and one speed backward. On the high speed the drive from the motor is direct, thereby saving a large percentage in power.

THE CONTROL of this Studebaker Model, No. 9502, is in fact entirely free from complications and is appreciated not only by the novice, but by the experienced operator. The two side levers are located in exactly the proper place for convenient manipulation by the right hand of the operator. One actuates the main brake; the other controls the speed change system, and has a device which prevents too sudden shifting

from the high to the low gear. This is another of the numerous refinements on Model No. 9502 which have contributed so largely to its success in the hands of our customers.

SPEED With its maximum load, on suitable roads, this car will run easily at rates varying from four to thirty-five miles per hour, depending on the wish of the operator. Levers, controlling the ignition device and the supply of gasoline, are coveniently located on the steering post beneath the wheel.

STEERING is done by a wheel, and is of the irreversible type, with ample provision for taking up wear. The steering connections are of extra large dimensions, securing the full rigidity required, and affording absolute safety. Our steering system shows radical improvements, and its superior points are especially appreciated by those who operate their own cars.

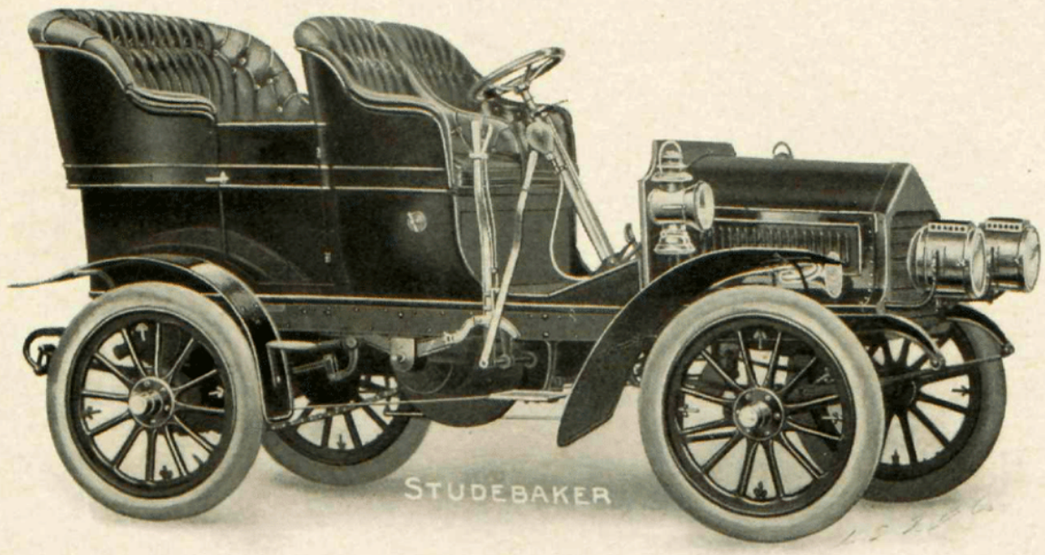
OPERATION The accessibility of all operating levers, as above shown, is best demonstrated by examination. With slight practice, the operator of a Model No. 9502 Studebaker car finds that he can run it without having to grope around for controlling levers or undergo any difficulty in changing quietly from the lowest to the highest speed. The running of the car becomes practically an automatic process. After the car has been started and is running on the high speed, its rate may be almost exclusively controlled by a foot pedal lever, which regulates the opening of the throttle through which the carburetted gasoline passes to the motor. It is especially useful in crowded streets, and permits reducing speed to any point desired in rounding corners or in passing through congested traffic.

BRAKES In an automobile, ample brake power is absolutely required. In this respect the equipment of our Model No. 9502 Studebaker car leaves nothing to be desired. There are two brakes, one working on the rear wheel hubs, and one working on the drum containing the differential. Both are absolutely trustworthy. The progress of this car can be checked in an emergency without damage to its mechanism or serious jar to its occupants.

IGNITION is of the jump spark variety, and primary batteries of long life are used. When exhausted, these can be cheaply replaced. The vibrating coil is carried on the dash, and we claim it to be the most durable and efficient vibrating coil which has yet been used on American cars. The commutator is designed for a maximum of wear and can be conveniently adjusted at any time. All wiring is protected with insulation of extraordinary thickness and securely fastened in place.

The motor and all exposed parts are neatly protected by a tarpaulin, or mud apron, strapped to the frame. This apron prevents, while touring, the annoyances which would otherwise result from dust and mud.

LUBRICATION is accomplished by pressure through a sight feed oiler placed on the dash. All important engine and shaft bearings are reached through this oiler. Other bearings have simple methods of lubrication which require reasonable attention.



No. 9502. STUDEBAKER GASOLINE CAR. SIDE ENTRANCE BODY

Specifications

MOTOR Two-cylinder opposed, horizontal.

DIMENSIONS Each cylinder 5x5½ inches.

HORSE POWER RATING Approximately 16.

SPEED CHANGING DEVICE Is of the planetary type, simple and non-breakable.

TRANSMISSION By roller chain, extra large dimensions.

FRAME Armored wood, combining lightness and toughness.

SPEED Four to thirty-five miles per hour on suitable roads.

VALVES All valves are from steel forgings of special metal, and all mechanically actuated.

WHEEL BASE 82 inches.

GAUGE 56½ inches.

BEARINGS Roller bearings on transmission and axles, elsewhere plain bearings of extra large dimensions.

WHEELS Wood, artillery type, 30 inches diameter.

TIRES Standard American make, 30x3½ inches, detachable, clincher type.

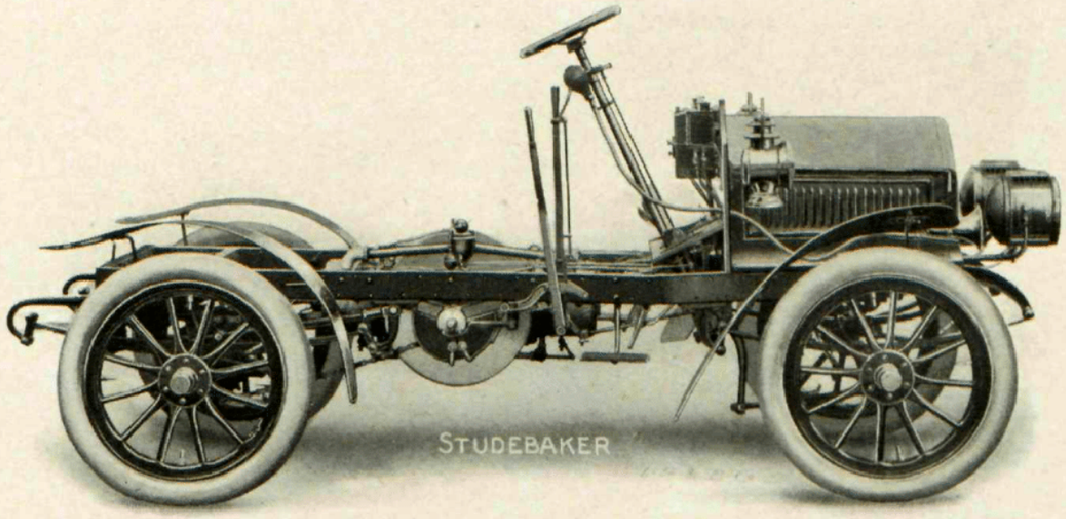
BRAKES Two separate and independent sets of brakes, both equally efficient.

STEERING By wheel and irreversible. Foot controlled throttle regulating speed of car within wide limits.

LUBRICATION By force feed oiler, with sights located on dash.

COMMUTATOR Of special design, providing maximum wearing qualities.

COIL Most efficient and durable on the market, located on dash.



No. 9502. STUDEBAKER GASOLINE CAR. CHASSIS ONLY.

Specifications

CARBURETOR Improved float feed.

COOLING By pump and radiating coil of ample surface.

AXLES All reinforced steel tubing with extra heavy forgings.

SPRINGS All semi-elliptical, flexible and strong.

GASOLINE TANK Capacity, ten gallons.

WATER TANK Capacity, six gallons.

BODIES Either side entrance, or tonneau with rear entrance, each variety equipped with full locker space for tools and luggage.

LENGTH OF CAR OVER ALL 130 inches.

WIDTH OF CAR OVER ALL 69 inches.

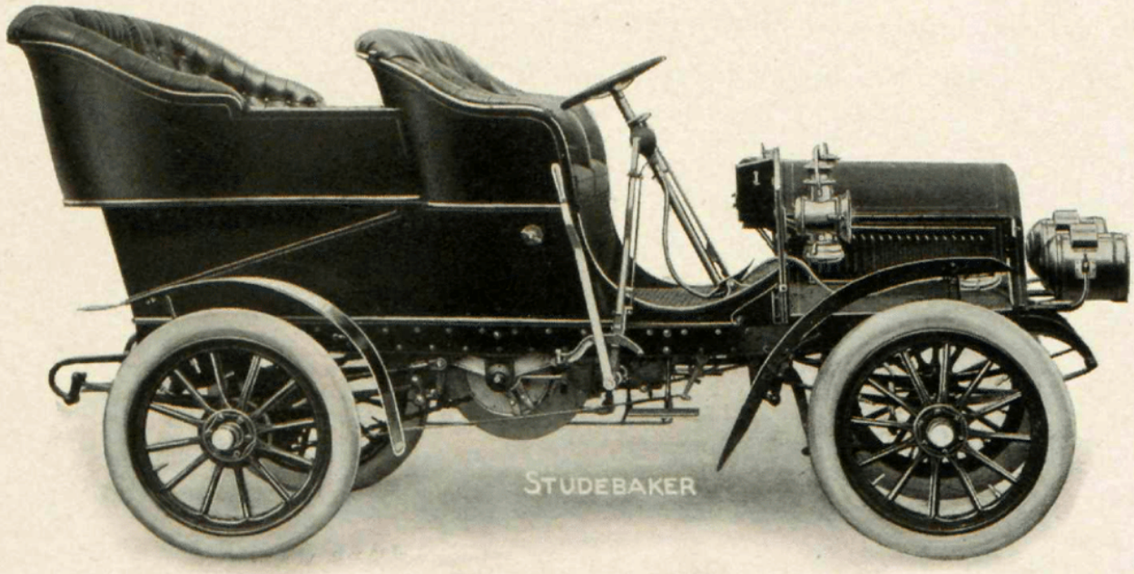
HIGHT OF FLOOR 30 inches.

HIGHT OF CAR OVER ALL 61 inches.

EQUIPMENT Includes collapsible water bucket and jack in addition to full outfit of all tools which can ordinarily be required for road repairs. Our standard equipment also includes two oil side lights, oil tail light and horn.

TOPS Cape cart tops or canopy tops are furnished at an extra charge.

STANDARD COLORS OF FINISH AND UPHOLSTERY We supply both the tonneau and side entrance bodies furnished on our No. 9502 car in two shades, dark blue and dark green, with appropriate striping for each shade. Seats are of extra large dimensions, and cushions are extra thick. Upholstery is in shades of leather to match colors of body finish.



No. 9502. STUDEBAKER GASOLINE CAR. REAR ENTRANCE TONNEAU BODY.

THE ACCESSIBILITY of all working parts has not been overlooked. Suitable openings are arranged in the floor boards, so that immediate examination can be made of any parts requiring occasional attention. We have avoided all complications in designing this Model No. 9502 car. There is no reason why any one should forego the pleasure of driving this car, no matter whether familiar or otherwise with mechanical principles. It starts easily, one turn of the crank usually sufficing.

BEARINGS are of ample dimensions, with a view to providing adequate lubrication and reducing wear. They are dust proof, and in each case are made of the highest grade of metal obtainable for the particular class of service needed. The degree of refinement in our bearings can be shown by pushing the car forward on a garage floor. Almost no effort is required to move it by hand. The economy in the use of motor power and the easy development of high speed, are materially assisted by such bearings as we employ.

MODEL No. 9502 is furnished with either a rear entrance tonneau body, or with side entrance body, the former as shown above and the latter on page 6. We also illustrate on page 7 the chassis alone, showing the car complete except for the body. Not only is extreme comfort provided in either the tonneau or the side entrance car, as regards dimensions of the seats and luxurious cushioning, but there is also sufficient leg room. In

touring long distances, the ease and pleasure of the occupants must be considered. Our customers recognize that our experience in laying out body dimensions which insure these qualities, is based on long study of these requirements.

UPHOLSTERY AND FINISH are in keeping with our own Studebaker standards. The beauty of the external lines of the bodies will be noted from the engravings.

LOCKER SPACE Provision has been made for a very large amount of locker space for carrying tools, tire tubes, provisions or other touring impedimenta. The tools are carried in compartments designed for the purpose, and there is a specific place and ample room for every fitting of the equipment, including tire pump and jack. Each Studebaker car is furnished with an unusually large and complete set of tools and accessories, comprising everything likely to be needed while touring, and including many articles which are not usually furnished.

BRIEFLY we offer in this car, at a remarkably low price, an automobile of ample power for touring over all ordinary roads. It has utmost simplicity of control and many other features of equipment which show advanced practice and represent our best knowledge and experience. The style and luxury of the bodies, their upholstery and finish, are not surpassed in automobiles for which prices are asked many times higher than the price of our Model No. 9502.

Detail specifications will be found on pages 6 and 7.

Studebaker Electric Automobiles

The electric variety of automobile offers extreme refinement, comfort, simplicity and many resulting practical advantages. It may be said that it does not permit extreme long distance touring, but its radius of action, ranging from thirty to fifty miles on one charge of the battery, is in practice more than sufficient for much of the riding done for business or pleasure, as well as for the transportation of freight in cities and towns.

The electric automobile and the gasoline automobile has each its field, and both of these fields are very large. It is impossible to directly compare them. Each has its own peculiar domain of usefulness.

It is of course essential to the use of electric automobiles that suitable arrangements be made for recharging their batteries. This is usually arranged without difficulty. In the larger cities, numerous garages are equipped with charging appliances, and in the smaller centers of population, one or more stations are usually found where electric automobiles can be charged and cared for. It is easy, however, for the user of an electric automobile to install charging apparatus on his own premises, and in this manner remarkable economy and efficiency can also be assured.

The steady growth in the use of electric automobiles bears witness to their remarkable utility and to their great convenience for all classes of service where conditions favor their use. Our Studebaker electric runabouts

and stanhopes have enjoyed an enviable reputation in the American market for some years past. We have also shipped a considerable number of our electric cars abroad, and they are in operation to-day in Paris, London, Berlin and St. Petersburg.

While possessing extreme refinement and luxury, qualities which can be brought to their highest degree by the use of this variety of power, our Studebaker electric automobiles have the same structural strength and the same reliability in every feature which are found in all the products of our house. They are built for every-day steady work and will do it. They are as serviceable over rough city pavements and car tracks as they are over smooth park roads.

All our electric passenger automobiles, as illustrated in the following pages, have in common many distinctive Studebaker features. We call especial attention to our method of locating battery and motor, which brings these parts of the equipment over the springs. The main weight of the automobile is thus carried by the springs, which naturally relieve the battery and motor of all jarring and jolting, and in this manner insure an extreme durability. This scheme of weight suspension also protects the tires from undue wear and adds to the comfort of the car's occupants. It is distinctive in all Studebaker electric automobiles.

BATTERY In our passenger electric automobiles, the batteries we supply as standard will give mileages on each charge of from thirty to fifty over average streets and grades. The dimensions of our bodies are such as to take all batteries of reasonable size, but those we recommend have been proven by years of service, in the hands of our customers and ourselves, to possess the combined qualities of capacity and resistance to wear which we consider essential.

MOTOR Our electric motors have been especially designed for automobile work. The design is such that small increases in current produce very much greater power effect than has ever been previously obtained in electric motors used on automobiles, hence the battery discharges are materially reduced, even in severe service. In hill climbing our electric cars have made an unequalled record, due to the efficiency of our motors and all running parts. We have customers in such cities as Pittsburg and Cincinnati, where many of the streets comprise grades numerous and steep, who obtain entirely satisfactory service from their Studebaker electric cars.

In all our electric automobiles the motors are suspended above the springs and are rigidly hung from the frame. They are, however, arranged to be swung backward or forward and fastened rigidly in position, thus securing perfect chain adjustment.

TRANSMISSION is by roller chain from countershaft, built into the motor head, to a balance gear in the rear axle. This method of transmitting the power affords simplicity and extreme reliability.

CONTROLLER The controller on each of our electric cars has four speeds and its handle is conveniently located at the left hand side of the seat. A reverse motion of the motor is obtained by pressing a lever with the heel. The speeds backward are the same as forward, and are equally divided.

CUT-OUT SWITCH Each Studebaker electric automobile is provided with a cut-out switch having a removable handle. The operator can, by taking this handle out of the switch, safely leave his automobile standing unattended.

CHARGING This must be done from some direct current electric circuit; not alternating. Full directions for charging are furnished with each electric automobile we ship. Further, each Studebaker electric automobile is equipped with a charging receptacle which will fit the standard charging plug. A charging plug, with fifteen feet of cable attached, is also furnished with each automobile.

INDICATING METER Each Studebaker electric automobile is provided with a meter, which permits the operator to ascertain the amount of energy left in the battery at any time.

LAMPS Two electric side lamps are furnished on each of our electric cars, operated by switches conveniently reached by the hand of the person running the automobile.

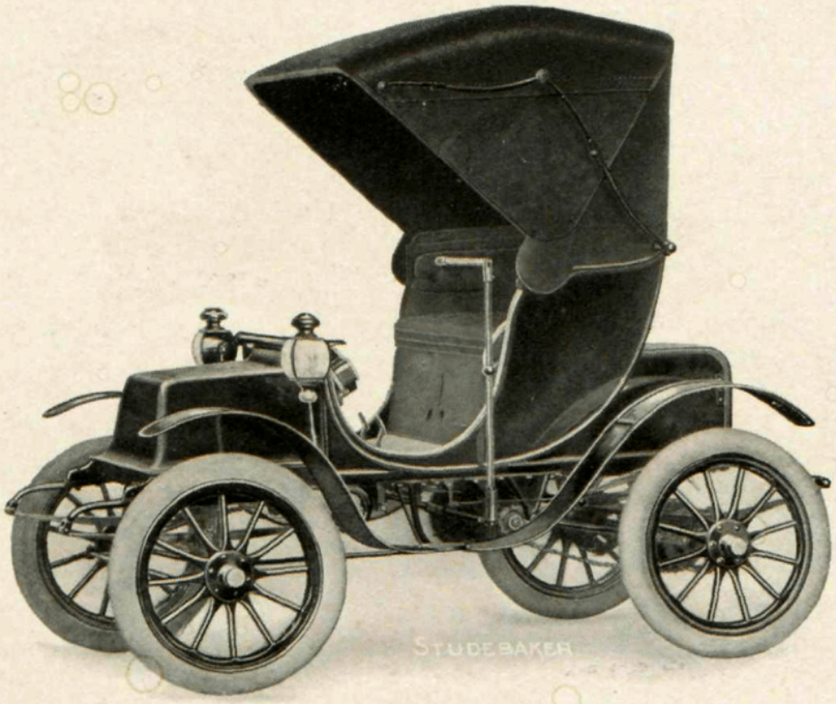
SPRING SUSPENSION The front springs are semi-elliptic, the rear springs are full elliptic. One of the Studebaker qualities in all our automobiles is their easy riding, and this is naturally due to long and broad experience acquired in designing springs for vehicles of all varieties and weights.

STEERING On all our electric passenger automobiles, steering is done by a side lever which furnishes at all times accurate, easy and perfect control of the vehicle by the operator. It also permits the convenient use of a lap robe. The lever can be tilted upwards on its post so as to provide easy egress from or entrance to the vehicle.

RUNNING GEARS The most advanced engineering methods are embodied in our running gears. The frames are designed for lightness and perfect strength, supporting, as they do, the weight of the motor and battery. By the special design of each frame, the body of the vehicle is largely relieved of any strain. Our axles are made of the highest grade of steel. Each bearing is of the nature best adapted to its particular location, ball bearings being employed wherever efficiency and long life can be insured by their use. We have never had a Studebaker gear or any part of one break down in service. Our gears have been bent by collisions due to carelessness, but none of our gears have ever been injured beyond repair, nor to a serious extent.

WHEELS AND TIRES Wheels are of the artillery type, of special Studebaker design, and are absolutely strong and rigid. Tires on all our electric passenger cars are of the double tube clincher type.

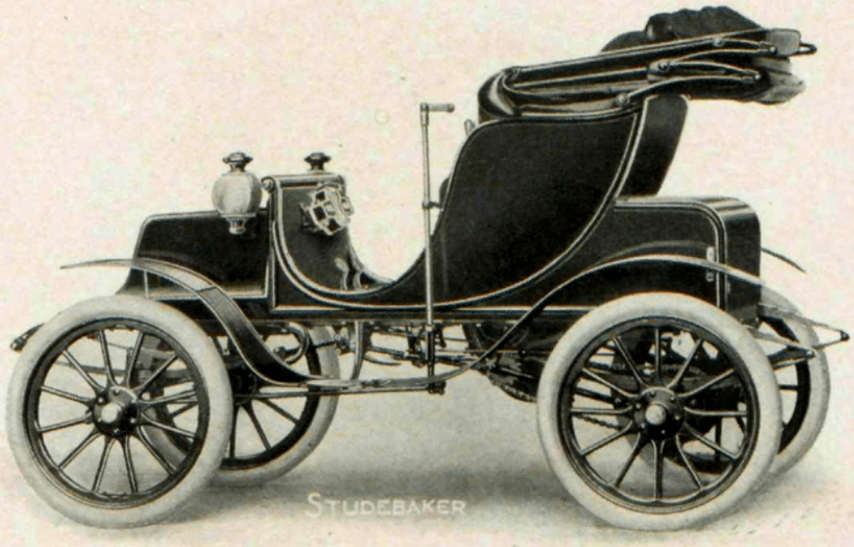
BRAKES Each one of our electric automobiles is equipped with two very powerful brakes, both controlled by foot levers. One of these brakes operates on two drums placed on the rear axle; the other operates on a drum mounted on the end of the motor shaft. Either one of these brakes will promptly arrest the action of the vehicle, either going backward or going forward.



No. 9022. STUDEBAKER ELECTRIC VICTORIA-PHAETON, TOP UP.

NOTE—The above illustration shows our Victoria-Phaeton equipped with a special quartered top, with removable side curtains, which we recommend as being especially adapted for service in all kinds of weather. When specified, however, a Victoria hood will be furnished on Model No. 9022 without extra charge.

All Studebaker automobiles have bodies which are finished and upholstered in a manner which involves the use of the best material and the best workmanship to be had. The illustrations in this catalogue will show the beauty of the external lines of our automobiles. The ample seat and leg room provided in each case will be noted, as well as the ease of entering and leaving. All of these points contribute materially to the comfort of the users of any vehicle, and should never be overlooked by a purchaser. We claim for each one of our passenger automobiles a combination of elegance in appearance and luxury in appointments which, with Studebaker electrical and mechanical features, has not been surpassed.



No. 9022. STUDEBAKER ELECTRIC VICTORIA-PHAETON, TOP DOWN.

Specifications

MOTOR Special, 50 volts, 30 amperes.

BATTERY 28 cells, arranged in three trays. Battery is divided, part carried in front and part in rear of vehicle.

MILEAGE Average, per charge, with two passengers, on level streets, 40 miles.

SPEED On level with two passengers, from 3 to 14 miles per hour.

METHOD OF STEERING By side lever.

METHOD OF MOTOR SUSPENSION On arches above springs.

GAUGE 54 inches.

WHEEL BASE 68 inches.

WHEEL DIAMETERS All four, 30 inches.

TIRES 30x3½ inches, detachable, clincher type.

LENGTH OF BODY 85 inches.

LENGTH OF VEHICLE OVER ALL 106 inches.

WIDTH OF VEHICLE OVER ALL 64 inches.

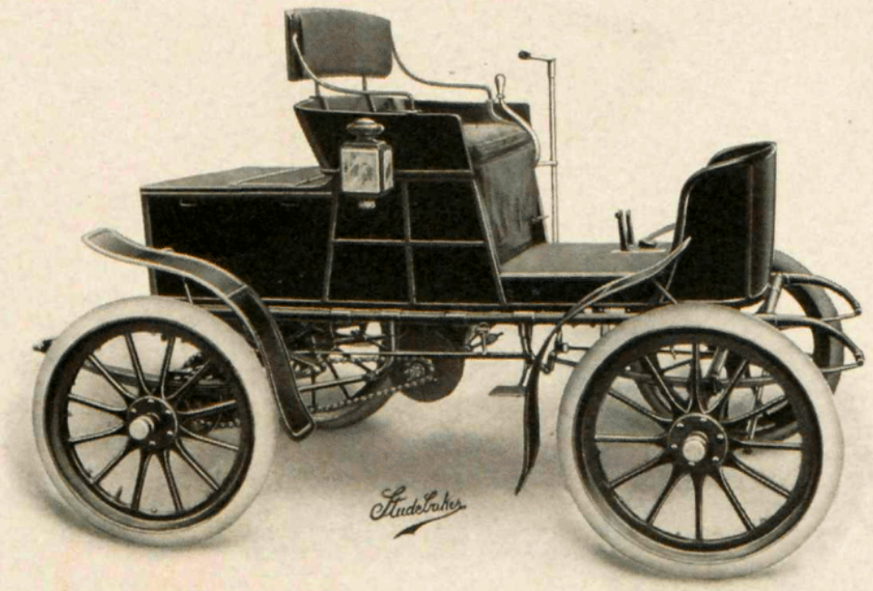
WIDTH OF SEAT 39 inches.

HIGHT OF FLOOR FROM GROUND 27 inches.

WEIGHT of complete vehicle, with top, as shown, approximately 2000 pounds.

EQUIPMENT Includes special quartered top with removable side curtains, as illustrated above, or Victoria hood. Equipment also includes set of necessary tools, tire pump, tire repair outfit and charging plug, with fifteen feet of cable.

STANDARD COLORS OF FINISH AND UPHOLSTERY Our Victoria-Phaetons are regularly finished as standard either with body and running gear in dark blue, striped with light blue, or with both body and running gear in dark Studebaker green, striped with carmine. Upholstery is in cloth to match color of body finish. Upholstery in Morocco furnished when specified, at an extra charge.



No. 9017. STUDEBAKER ELECTRIC TRAP.

Specifications

MOTOR Special, 40 volts, 24 amperes.

BATTERY 24 cells, arranged in two trays.

MILEAGE Average, per charge, with two passengers, on level streets, 40 miles.

SPEED On level, with two passengers, 3 to 13 miles per hour.

METHOD OF STEERING By side lever.

METHOD OF MOTOR SUSPENSION On arches above springs.

GAUGE 54 inches.

WHEEL BASE 61 inches.

WHEEL DIAMETERS All four, 30 inches.

TIRES 30x3 inches, detachable, clincher type.

LENGTH OF BODY 73 inches.

LENGTH OF VEHICLE OVER ALL 98 inches.

WIDTH OF VEHICLE OVER ALL 62 inches.

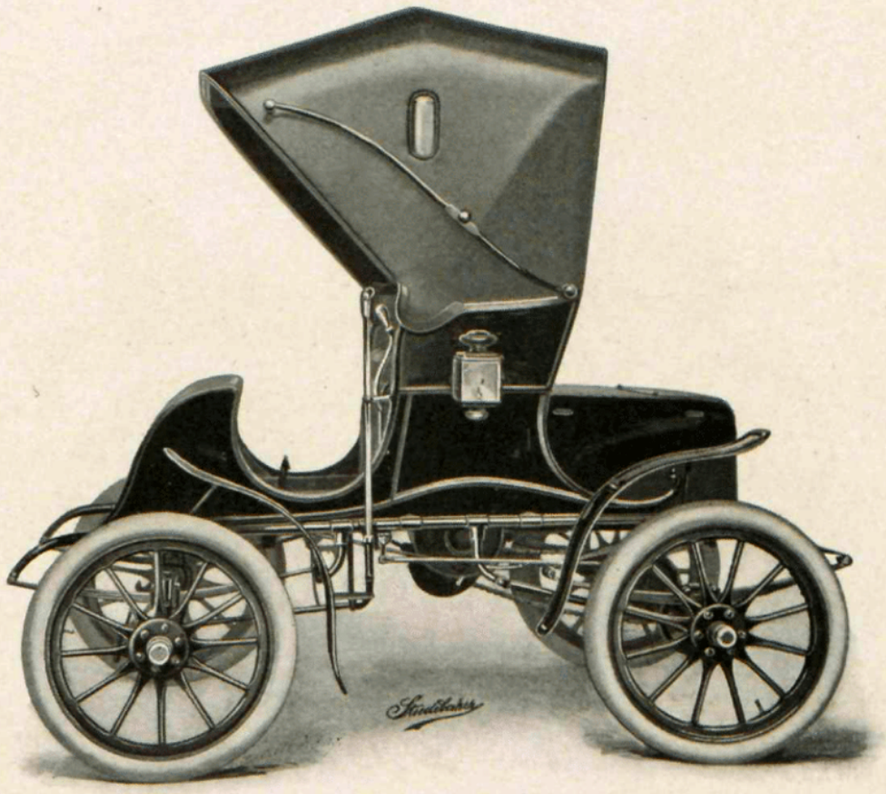
WIDTH OF SEAT 36 inches.

HIGHT OF FLOOR FROM GROUND 28½ inches.

WEIGHT of complete vehicle, as illustrated, without top, approximately 1400 pounds.

EQUIPMENT Includes set of necessary tools, tire pump, tire repair outfit, charging plug and fifteen feet of cable.

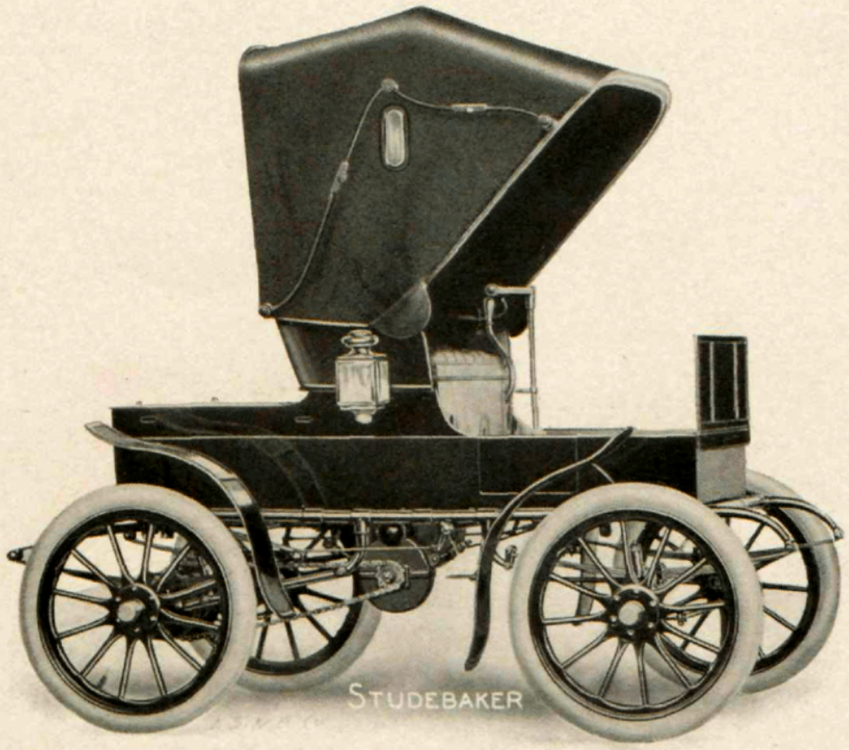
STANDARD COLORS OF FINISH AND UPHOLSTERY This very stylish little electric trap is finished as standard in either one of two ways. First, both body and gear in olive green, striped with black. Second, both body and gear in automobile red, striped with black. Upholstery is in rich shades of leather, to match the finish of the bodies.



No. 9019. STUDEBAKER ELECTRIC STANHOPE.

Specifications

MOTOR Special, 40 volts, 24 amperes.
BATTERY 24 cells, arranged in two trays.
MILEAGE Average, per charge, with two passengers, on level streets, 40 miles.
SPEED On level, with two passengers, 3 to 12 miles per hour.
METHOD OF STEERING By side lever.
METHOD OF MOTOR SUSPENSION On arches above springs.
GAUGE 54 inches.
WHEEL BASE 61 inches.
WHEEL DIAMETERS All four, 30 inches.
TIRES 30x3 inches, detachable, clincher type.
LENGTH OF BODY 73 inches.
LENGTH OF VEHICLE OVER ALL 98 inches.
WIDTH OF VEHICLE OVER ALL 62 inches.
WIDTH OF SEAT 36 inches.
HIGHT OF FLOOR FROM GROUND 28½ inches.
WEIGHT OF COMPLETE VEHICLE As illustrated, with top, approximately 1450 pounds.
EQUIPMENT Includes close top as shown in cut, set of necessary tools, tire pump, tire repair outfit, charging plug and fifteen feet of cable.
STANDARD COLORS OF FINISH AND UPHOLSTERY Our stanhopes are finished with the bodies in dark green and black and with the gears in either carmine or dark green. Seats are richly upholstered in dark green leather. A buggy top or Victoria hood will be furnished when specified, in place of the close top shown above.



No. 9016. STUDEBAKER ELECTRIC RUNABOUT, WITH TOP.

The above cut illustrates No. 9016 runabout equipped with close top, which is furnished at an extra charge. This same runabout will also be equipped when specified with a buggy top or a Goddard top at an extra charge.

Specifications

MOTOR Special, 40 volts, 24 amperes.

BATTERY 24 cells, arranged in two trays.

MILEAGE Average, per charge, with two passengers, on level streets, 40 miles.

SPEED On level with two passengers, 3 to 13 miles per hour.

METHOD OF STEERING By side lever.

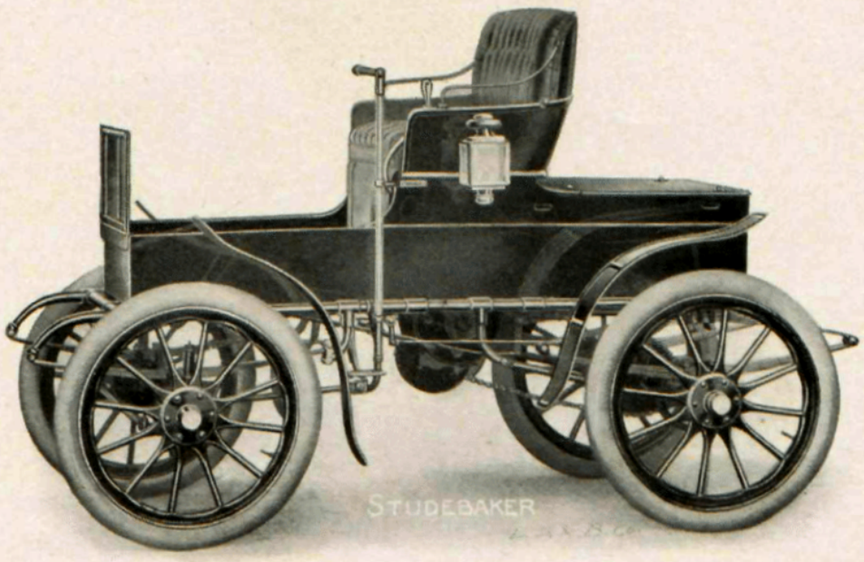
METHOD OF MOTOR SUSPENSION On arches above springs.

GAUGE 54 inches.

WHEEL BASE 61 inches.

WHEEL DIAMETERS All four, 30 inches.

TIRES 30x3 inches, detachable, clincher type.



No. 9016. STUDEBAKER ELECTRIC RUNABOUT.

Specifications

LENGTH OF BODY 73 inches.

LENGTH OF VEHICLE OVER ALL 98 inches.

WIDTH OF VEHICLE OVER ALL 62 inches.

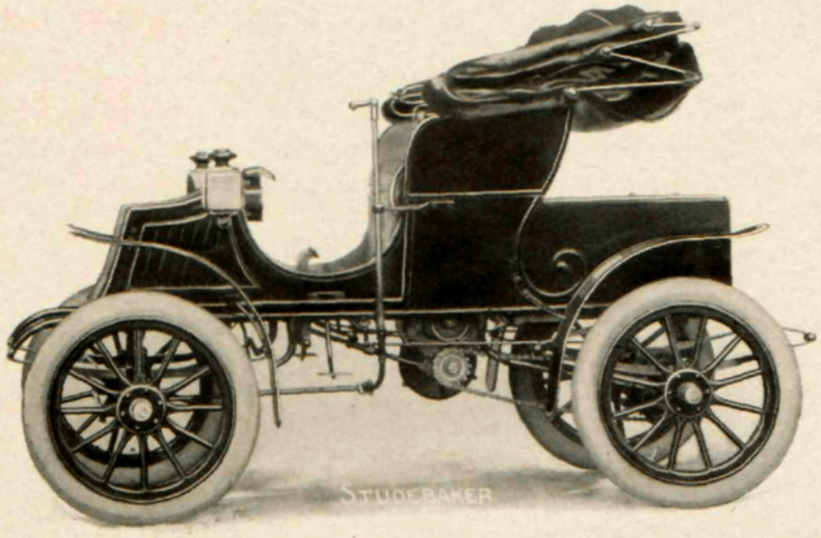
WIDTH OF SEAT 36 inches.

HIGHT OF FLOOR FROM GROUND 28½ inches.

WEIGHT of complete vehicle, as illustrated, without top, approximately 1350 pounds.

EQUIPMENT Includes set of necessary tools, tire pump, tire repair outfit, charging plug and fifteen feet of cable.

STANDARD COLORS OF FINISH AND UPHOLSTERY Our runabouts are regularly finished as standard either with bodies in black, running gears and wheels in dark green, striped with carmine, or with bodies in dark maroon and running gears and wheels in lighter maroon. Upholstery is in leather to match colors of body finish.



No. 9021. STUDEBAKER SPECIAL ELECTRIC STANHOPE.

Specifications

MOTOR Special, 50 volts, 30 amperes.

BATTERY 36 cells, arranged in three trays. Battery divided, part carried in front and part in rear of vehicle.

MILEAGE Average, per charge, with two passengers, on level streets, 50 miles.

SPEED On level, with two passengers, from 3 to 18 miles per hour.

METHOD OF STEERING By side lever.

METHOD OF MOTOR SUSPENSION On arches above springs.

GAUGE 54 inches.

WHEEL BASE 71 inches.

WHEEL DIAMETERS All four, 30 inches.

TIRES 30x3½ inches, detachable, clincher type.

LENGTH OF BODY 86 inches.

LENGTH OF VEHICLE OVER ALL 107 inches.

WIDTH OF VEHICLE OVER ALL 64 inches.

WIDTH OF SEAT 35 inches.

HIGHT OF FLOOR FROM GROUND 28 inches.

WEIGHT OF COMPLETE VEHICLE Without top, approximately 1900 pounds.

EQUIPMENT Includes set of necessary tools, tire pump, tire repair outfit, charging plug and fifteen feet of cable. A close top or buggy top (shown above) is furnished when specified, at an extra charge.

STANDARD COLORS OF FINISH AND UPHOLSTERY Our special No. 9021 electric Stanhopes are furnished as standard with bodies and gears finished in olive green, striped with black, or with bodies and gears finished in two shades of carmine. Upholstery is in leather to correspond to body colors.

We offer in our No. 9021 Stanhope a car with an unusually large amount of battery space, thereby providing the extra mileage and high speed sometimes demanded by our customers. In providing these features, no sacrifices have been made in provision for comfort or ease of control.

Studebaker Electric Delivery Wagons and Trucks

The prime requirements in the transportation of freight either on rails, or on country roads and city streets, are economy and regularity of service. Where distances are not excessive and where streets are not impassable by reason of deep mud or sand, the electric automobile wagon has thoroughly proved its ability to meet these requirements. And it offers many additional advantages, among which are speed, cleanliness, increased reliability, and freedom from accidents.

In the larger centers of population, and for service which requires regular periodical runs over specified distances, the advantages of electric wagons are especially apparent. There are, however, many other localities where they are being used with a gain in the respects above mentioned, and knowledge of their money saving ability, wherever conditions permit their use, is spreading rapidly.

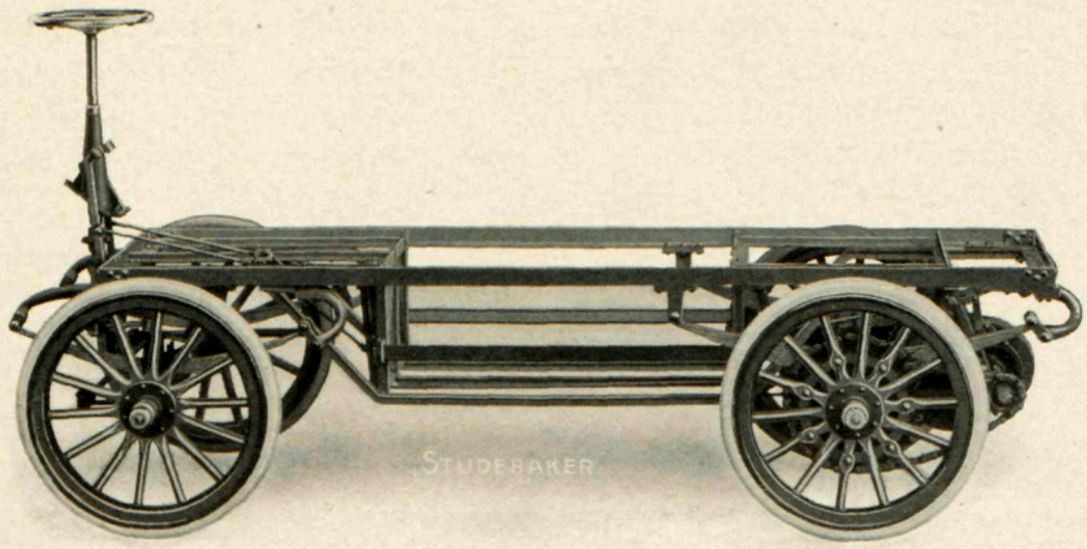
Many of the problems of street traffic congestion, in the past recognized by municipal authorities as serious handicaps to future business expansion, are today being solved in this manner. Manufacturers and express and cartage companies, wholesale and retail houses of all kinds, find that one electric wagon will perform the service of two or three animal drawn vehicles of the same weight and bulk capacity as the single automobile. It occupies much less space, not only in the street and at loading platforms, but in the stable. A regularity of service, providing prompt calls and deliveries, can be furnished with all the economy which such improvements bring. Regardless of the extreme heat of summer, an electric truck can be driven at its highest speed, and it will likewise pick its way through the winter snow drifts of our northern cities. The evolution in methods of transportation shows no more striking development than the rapidly increasing use of automobile freight vehicles.

Studebaker electric delivery wagons and trucks have been doing work for over three years. They have shown results proving not only economy in the amount of work accomplished but also in economy of maintenance. We were the first manufacturers to offer electric freight automobiles built on the lines described below, which have since been widely copied. Our methods of motor and spring suspension, and of chain drive, have largely done away with repair bills. Heavy trucks and other freight vehicles have been built by us for fifty years, and our automobile wagons have naturally received the benefit of this experience. There is nothing in their construction or mechanism which requires expert attendance for operation or for repairs.

Our automobile delivery wagons and trucks are offered in four sizes, rated as follows: 1000 pounds carrying capacity; 2500 pounds carrying capacity, 3½ tons carrying capacity; 5 tons carrying capacity. The running gears for each of the above are so designed as to accommodate bodies of different styles and bulk capacities, as may be specified by customers.

All the mechanism of Studebaker electric delivery wagons and trucks is attached to the main frame, which is built from angles and T section steel, so disposed as to give the maximum strength with the least possible weight. In this manner the use of various styles of upper bodies is permitted. The same general method of construction is followed in all sizes.

THE BATTERY is of the same durable type employed for our electric passenger automobiles. On all our electric freight wagons it is carried under the center of the frame and the battery compartment is built integral with the frame, the whole forming an inverted truss. This is a distinctive Studebaker feature, originated by ourselves, and provides the advantage of perfect rigidity in the general structure.



STANDARD STUDEBAKER RUNNING GEAR FOR ELECTRIC DELIVERY WAGONS AND TRUCKS.
SHOWN WITH BATTERY REMOVED AND ILLUSTRATING INVERTED
TRUSS METHOD OF BATTERY SUSPENSION.

THE MOTORS are placed adjacent to the rear axle, each wagon being equipped with two motors. They are suspended from the frame and transmit their power through a geared countershaft, which in turn drives the wheels, through the medium of sprockets and chains.

BRAKES Two independent sets of brakes are part of the equipment of each wagon. One of these operates on the motor countershafts and the other, an internal expanding brake, operates on the inside of drums attached to the spokes of the wheels.

WHEELS AND TIRES Wheels are of the Archibald pattern, with parallel hardened axle bearings running in removable bushings in the hubs. Unless otherwise specified, rubber tires are furnished, of widths corresponding to the loads to be carried. However, we call especial attention to the fact that our method of construction permits the use of iron tires without any risk of injury to mechanical or electrical equipments. They will be furnished when specified, at a corresponding reduction in price.

STEERING The steering gear is of the wheel type, operating through pinion and segmental spur gear. The steering pivots are hardened and ground, both on the wheel bearings and the steering pivot parts. The front axle is bushed in the pivot sockets, the lower pivot being tapered to allow adjustment for wear.

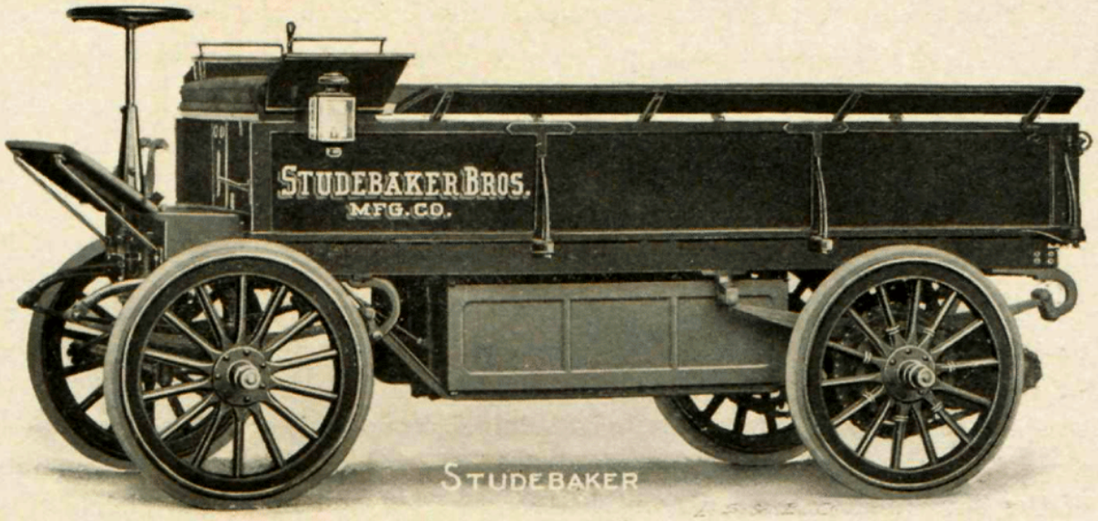
LUBRICATION of the motors is effected by absorbent pads, this being the standard practice followed in street railway motors. Lubrication of axles and other bearings is effected in the same simple manner as on horse drawn vehicles of similar nature.

CONTROLLER The controller handle is located at the left of the driver's seat and the controller gives four speeds, both forward and reverse.

BATTERY SUB-DIVISION The battery is divided into four trays, containing ten cells each. This arrangement is another distinctive Studebaker feature and obviates the expense of keeping an entire extra battery on hand. One extra tray should prove all that is necessary in the way of extra battery equipment for two or three wagons, as this single tray can be used to replace any one tray when removed from a wagon for cleaning or repairs.

The cut on the opposite page illustrates the standard Studebaker chassis or running gear, the general lines of which are followed for the running gears of all our commercial freight vehicles of the sizes enumerated above. This cut shows the location of the battery space, but without battery inserted and illustrates plainly the points of design and construction briefly referred to above. We also illustrate on the following pages a few complete vehicles, showing different body designs which can be applied to this standard running gear in its different sizes.

We solicit correspondence from all those contemplating the use of automobile freight vehicles, and shall be pleased to submit sketches showing body designs adapted to their particular needs and applied to our standard Studebaker running gears.



No. 9251. STUDEBAKER ELECTRIC EXPRESS WAGON. ALSO FURNISHED WITH TOP AND SIDE CURTAINS.

Specifications

MOTORS Two motors, special design, each 80 volts, 20 amperes.

BATTERY 40 cells, arranged in four separate units of 10 cells each. Battery is carried underslung, in trussed compartment, as shown in cut of running gear on page 20.

WEIGHT CAPACITY 2500 pounds, besides two occupants.

MILEAGE Average, per charge, with load, on level streets, 30 miles.

SPEED On level, with load, from 3 to 9 miles per hour.

STEERING By wheel, and irreversible.

MOTOR SUSPENSION Motors hung from running gear frame above springs.

BATTERY SUSPENSION Beneath body by trussed frame construction.

GAUGE 56½ inches.

WHEEL BASE 94 inches.

WHEEL DIAMETERS All four, 36 inches.

TIRES Solid rubber, 36x3½ inches.

LENGTH OF BODY 120 inches.

LENGTH OF VEHICLE OVER ALL 142 inches.

WIDTH OF BODY 60 inches.

WIDTH OF VEHICLE OVER ALL 73 inches.

WIDTH OF SEAT 50 inches.

HIGHT OF FLOOR FROM GROUND Inside side-boards 34 inches

WEIGHT OF COMPLETE VEHICLE Approximately 5000 pounds.

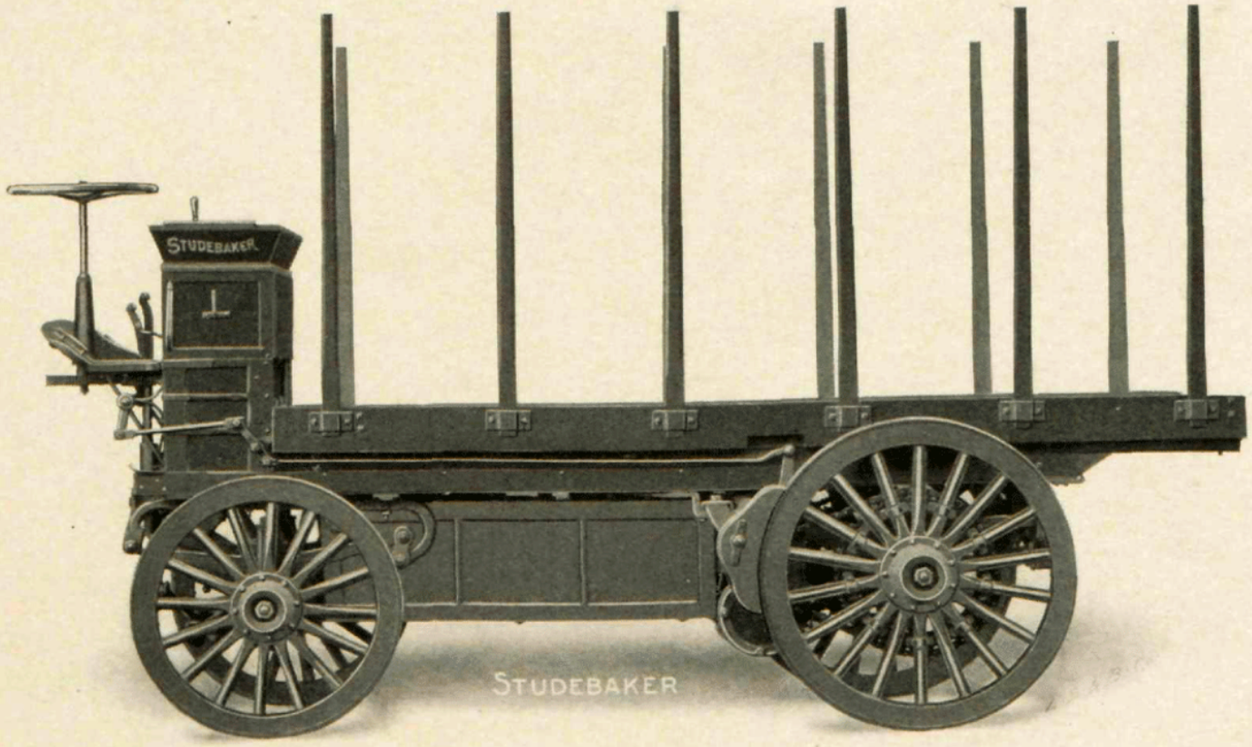
RUNNING GEAR Built of angles and T section steel, solid axles, Archibald wheels, hubs with extra large bearing surface.

EQUIPMENT Includes standard express wagon top, with side curtains, two electric side lamps, a complete set of necessary tools, and charging plug with fifteen feet of cable.

No. 9251. STUDEBAKER ELECTRIC PIANO OR FURNITURE WAGON.

Specifications

MOTORS Two motors, special design, each 80 volts, 20 amperes.
BATTERY 40 cells, arranged in four separate units of ten cells each. Battery is carried underslung, in trussed compartment, as shown in cut of running gear on page 20.
WEIGHT CAPACITY 2500 pounds, besides two occupants.
MILEAGE Average, per charge, with load, on level streets, 30 miles.
SPEED On level, with load, from 3 to 9 miles per hour.
STEERING By wheel, and irreversible.
MOTOR SUSPENSION Motors hung from running gear frame above springs.
BATTERY SUSPENSION Beneath body by trussed frame construction.
GAUGE 56½ inches.
WHEEL BASE 94 inches,
WHEEL DIAMETERS All four, 36 inches.
TIRES Solid rubber, 36x3½ inches.
LENGTH OF BODY 168 inches.
LENGTH OF VEHICLE OVER ALL 168 inches.
WIDTH OF BODY 56 inches.
WIDTH OF VEHICLE OVER ALL 73 inches.
WIDTH OF SEAT 52 inches.
HIGHT OF FLOOR FROM GROUND 42 inches.
WEIGHT OF COMPLETE VEHICLE Approximately 5400 pounds.
RUNNING GEAR Built of angles and T section steel, solid axles, Archibald wheels, hubs with extra large bearing surface.
EQUIPMENT Provides panel side body, lettered to specifications. Also includes two electric side lamps, complete set of necessary tools and charging plug with fifteen feet of cable.



No. 9252. STUDEBAKER ELECTRIC TRUCK WITH IRON TIRES.

Specifications

MOTORS Two motors, special design, each 80 volts, 35 amperes.
BATTERY 40 cells, arranged in four separate units of ten cells each. Battery is carried underslung, in trussed compartment, as shown in cut of running gear on page 20.
WEIGHT CAPACITY 7000 pounds, besides two occupants.
MILEAGE Average, per charge, with load, on level streets, 25 miles.
SPEED On level, with load, from 2 to 8 miles per hour.
STEERING By wheel, and irreversible.
MOTOR SUSPENSION Motors hung from running gear frame above springs.
BATTERY SUSPENSION Beneath body by trussed frame construction.
GAUGE 71 inches.
WHEEL BASE 130 inches.
WHEEL DIAMETERS 36 inches.
TIRES Solid rubber, 36x5 inches.
LENGTH OF BODY 192 inches.
LENGTH OF VEHICLE OVER ALL 210 inches.
WIDTH OF BODY 62 inches.
WIDTH OF VEHICLE OVER ALL 90 inches.
WIDTH OF SEAT 50 inches.
HIGHT OF FLOOR FROM GROUND 42 inches.
WEIGHT OF COMPLETE VEHICLE Approximately 9000 pounds.
RUNNING GEAR Built of angles and T section steel, solid axles, Archibald wheels, hubs with extra large bearing surface.
EQUIPMENT Includes stake side body of any reasonable dimensions adapted to this running gear. Also includes two electric side lamps, complete set of necessary tools and charging plug with fifteen feet of cable.

CORDAY & GROSS, PRINTERS, CLEVELAND

JUNE 1, 1905.

NET PRICE LIST OF

STUDEBAKER AUTOMOBILES

FOR CATALOGUE NO. 238.

Cat. No.		Net Price F. O. B. South Bend.
9502	Two-cylinder Gasoline Car, rear entrance body	$1250.00
9502	Two-cylinder Gasoline Car, side entrance body	1350.00
9503	Four-cylinder Gasoline Car, side entrance body	3000.00
9016	Electric Runabout	950.00
9017	Electric Trap	850.00
9019	Electric Stanhope, with Close Top	1050.00
9021	Electric Special Stanhope, Open	1650.00
9022	Electric Victoria-Phaeton, with Victoria or Special Quartered Top	1750.00
9250	1,000 lb. Capacity Electric Delivery Wagon, with Panel Sides.	2200.00
9251	2,500 lb. Capacity Electric Delivery Wagon, with Panel Sides.	2600.00
9252	3½ Ton Capacity Electric Truck, with Stake Side Body	3500.00
9253	5 Ton Capacity Electric Truck, with Stake Side Body	4250.00

The above figures cover automobiles complete and with standard finish and equipment. A full outfit of requisite accessories and tools is furnished with each automobile. Tops are included in the above prices where mentioned.

Tops will be furnished on the above automobiles at extra net charges as follows:

Full hand buffed leather top with leather side curtains on Nos. 9016, 9017, and 9021	$ 60.00
Stanhope or Doctor's close top on Nos. 9016, 9017 and 9021	75.00
Cape Cart top on Nos. 9502 and 9503	90.00
Victoria top, full hand buffed leather, on Gasoline Cars Nos. 9502 and 9503	170.00
Canopy top on Nos. 9502 and 9503, with glass front, baggage rails and side curtains	200.00

For foreign shipment boxing will be charged extra.

All prices subject to change without notice.

STUDEBAKER AUTOMOBILE COMPANY.
SOUTH BEND, INDIANA, U. S. A.