BRIEF ADVANCE BOOKLET

THE AMERICAN

UNDERSLUNG

1912

"The Safest Car on Earth"

FOREWORD

The "American" appeals to the **Classes.** It is thus intended. Its virtues are measured by the yard stick of intrinsic value rather than by the table of "weights and measures." It is not expected to attract the man who seeks quantity rather than quality, but is designed and built expressly for those whose refined taste demands something more than is required to satisfy the less exclusive. It, therefore, should be **and is** something different, distinctive in the broadest sense; in fact, in a class all its own.

The cardinal principles of "American" construction lend themselves most freely to the introduction of **Rakish, Classy** lines.

Expert precision in the selection and preparation of materials, infinite care in assembly and finish are most conspicuous in the "American" shops, and these, together with the distinctly correct principles of "American" design, have won for us a staunch and enviable position in Motordom amply justifying our slogan

"A car for discriminating buyers."

To these we offer the advantages of our seven years successful experience in the building of ultra high grade motor cars.

AMERICAN MOTORS COMPANY

"Builders for the Man Who Cares"

INDIANAPOLIS

The Most Widely Copied Car Built

"Imitation is the Sincerest Flattery"

The American Company has devoted itself during its existence to the principle of underslung construction, believing that the world would finally recognize its many advantages. This belief has been justified by the fact that at present there are eleven copies of this principle being marketed in this country and abroad. The following item appearing in an English trade paper of last year is to the point. It is seldom that European critics find anything of merit on this side. That one of the prominent foreign engineers has done so in this instance is extraordinary

"It is interesting to watch motor car development in America, where many of the best makes find so ready a market that they are never heard of here. Thus an Indianapolis firm, the American Motors Company, is building cars of the underslung design, which I tried two years ago in Paris and commented on very favorably The illustration shows how beautifully low the car can be built without reducing the clearance. The frame is simply inverted and hangs from the axles instead of being super-imposed. The side members are, therefore, in line with the bottom of the undershield, and if a wheel should, for any reason, break or be thrown, the car would slide harmlessly along like a sledge on its runners.

"Another advantage is that the rebound of the springs on the road acts upward instead of downward, so that the effect of a bad bump is merely to cause a slight sinking instead of a violent upward jerk. Of course, this arrangement makes a car more stable, in fact, it is almost impossible to overturn it. Larger wheels can be used, thus giving easier running and less

tire wear I have long since proved that low seats are a great advantage, and a low built four-seated body on this chassis looks very well and will provide ideal comfort. I hope one of our leading makers will take up this idea, as it does not involve much alteration of existing designs."

The Advantages of the Underslung Construction

The advantages of the underslung construction originating with the American Motors Company and used throughout the construction of its cars, can be summed up into the following

First—An Absolutely Straight Line Drive

By carrying the frame underneath the axles, it is possible to avoid that angularity in the propeller shaft always present in cars of the conventional design, which means the loss of from five to fifteen per cent of the power delivered by motor to the rear wheels.

Second—Low Center of Gravity

prevents side lash and skidding, giving the car that hug-of-the-road sensation so satisfactory to all drivers. The difference between the riding qualities of a low center of gravity car and one built up in the air can be illustrated by the difference one experiences in the motion in occupying an upper or lower berth of a Pullman, and in turning corners at speed. That uncomfortable feeling experienced wherein one wants to do something to keep the car from upsetting, is entirely eliminated.

Third—Large Wheels

It is only with this type of construction that large wheels can be used with safety This means large diameter tires and consequent additional tire life. Tire manufacturers recommend this principle by reason of

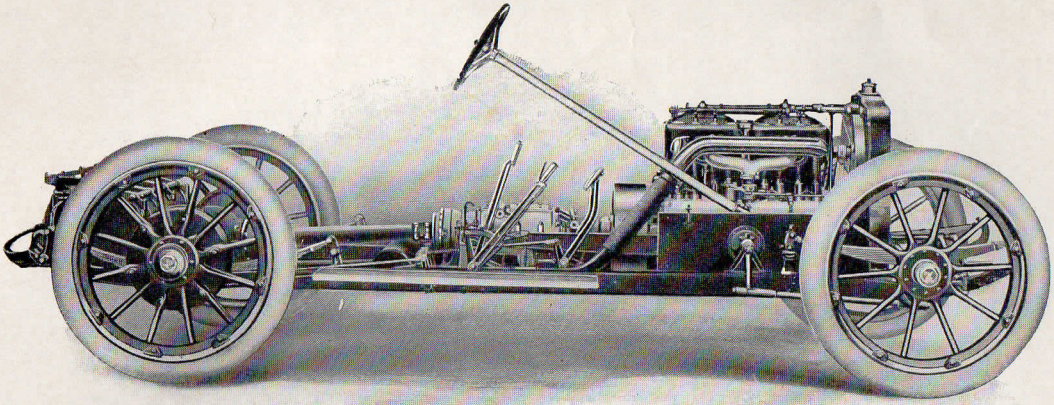
the fact that as between a 40 inch tire and a 36 inch tire the former when properly inflated, lays 7½ inches on the ground, the latter 5¾ inches. As all braking, load carrying and motor strains are delivered to that section of the tire, the greater the ground contact, the greater the tire life. The ideal would be to distribute the load around the entire circumference of the tire. This being out of the question, we go as far in that direction as possible.

Fourth—Spring Suspension

Spring makers stamp the principle used by us as ideal. The springs absorb the shock of the road and except in the case of abrupt drops, no jerks due to spring recoil are felt by the occupants of the car Recoils are upward instead of downward, as in conventional spring suspension, and this has a lightening effect on tires, in addition to which it offers absolute immunity in the event of a broken spring. With the spring bolt removed from the front of one of the front springs, that side of the car sags 1⅝ inches, the weight being sustained by the remaining front spring and the two rear springs, but as springs are broken under recoil only, and the recoil action is limited by the front axle, a broken spring is a very unusual occurrence.

Fifth—Clearance

Quite contrary to the general idea, clearance is not sacrificed in the underslung principle. The clearance is determined by the low point of the car Nothing projects below the frame of the American, under which in connection with 40 inch wheels there is provided 12¼ inch clearance, 37 inch wheels, 11¼ inches clearance, and 36 inch wheels, 9 ¾ inches clearance. These figures are easily proven, and our claim is that we have as much clearance, taking as a base the low point of the car, as any car built.



THE "AMERICAN TRAVELER" CHASSIS

Accessibility has been carried to a supreme degree in the designing of this Chassis. Absolutely nothing interferes with getting directly at transmission case, universal joint or rear axle. All points requiring lubrication are provided with grease cups, ingeniously placed to bring them within easy reach.

"American Traveler" (Type 54)

Specifications

MOTOR— Four Cylinders cast in pairs, L type and offset; bore 5⅜ inches; stroke 5½ inches. Water cooled by centrifugal pump. 50 H. P. at 1,000 revolutions per minute.

IGNITION— Bosch dual system, high tension magneto and storage battery with single unit coil operating through one set of spark plugs directly over intake valves. Kick switch on dash.

CARBURETOR—Float feed auxiliary air supply type, water jacketed. Adjustable from dash.

GASOLINE SUPPLY— 24 gallons including five gallon reserve supply, contained in tank on rear of chassis. Gasoline is pressure feed, pressure maintained by positive air pump driven from end of cam shaft.

OIL SUPPLY— Six quarts in sump of motor and 2 gallon auxiliary tank.

LUBRICATION— Gear driven oil pump contained in engine case with sight feed on toe board, oiling all bearings and cylinders. There are only two exposed, flexible steel oil pipes. Transmission and differential run in oil.

CONTROL— Irreversible worm and sector steering wheel, spark and throttle levers inside wheel on a stationary sector. A foot throttle is also provided. Foot, service brake, and hand, emergency brake.

CLUTCH—Special woven asbestos facing, fan-bladed cone type. Rubber inserts under facing to permit easy engagement.

BODY—Sheet steel on an ash frame. Upholstery, hand buffed leather and curled hair.

TRANSMISSION— Selective type, four speeds forward and reverse, with direct drive on fourth speed. Shaft and gears of chrome nickel steel. All bearings imported annular type of unusually large diameter.

DRIVE— Direct shaft to differential and floating live rear axles that bear no weight.

FRONT AXLE— One-piece, nickel steel, "I" beam section.

WHEELS— Front, ten spokes, 2-inch selected second growth hickory; Rear, twelve spokes, 2-inch selected second growth hickory. Demountable rims.

BRAKES— Double internal expanding in 16-inch pressed steel, dustproof, brake drums bolted to rear wheels.

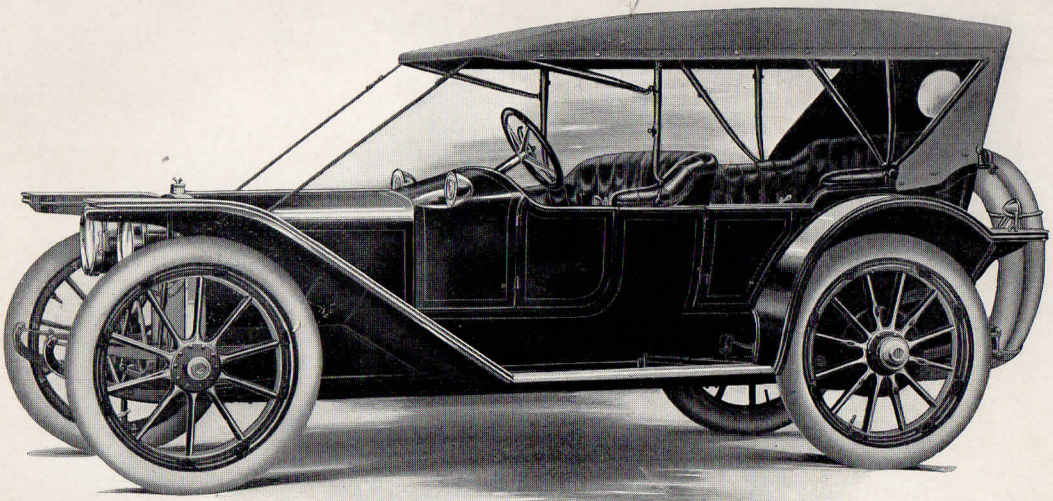
FRAME—Underslung, giving low center of gravity. Pressed steel of high tensile strength, oil treated.

SPRINGS— Semi-elliptic, 40 inches front, 48 inches rear.

CLEARANCE— 12¼ inches under entire length

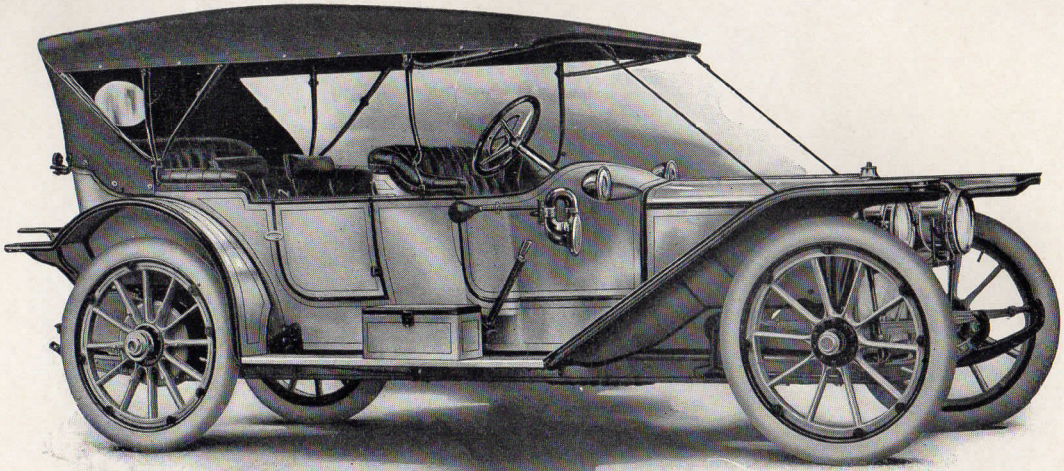
WHEELBASE— 124 inches.

TREAD— 56 inches



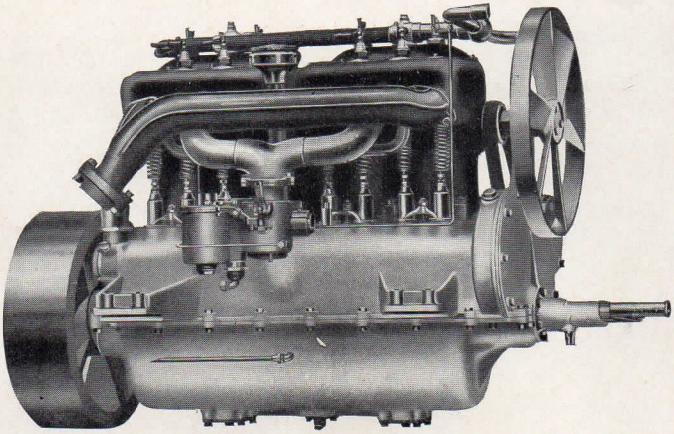
THE "AMERICAN TRAVELER" (Type 54) $4250

Four passengers. Wheelbase, 124 inches. Tires, 40x4 inches, front; 41x4½ inches, rear, on demountable rims. Regular equipment includes, top and top boot; 5 lamps, side and tail lights electric, supplied by battery separate from ignition battery; Prest-O-Lite tank; Bosch Magneto and storage battery; two extra rims; shock absorbers; foot rest; tire holders; horn; jack, tools and tire repair outfit.



"AMERICAN TRAVELER SPECIAL" (Type 56) (6-Passenger) $4500

Exactly the same Chassis (type 54) except that the wheelbase has been increased to 140 inches; tires 41x4½ inches front and rear on demountable rims. Springs front, 40 inches; rear, 54 inches. Two auxiliary seats in the tonneau. Regular equipment includes top and top boot; 5 lamps, side and tail lights electric, supplied by battery separate from ignition battery; two extra rims; shock absorbers; foot rest; tire holders; horn; jack, tools and tire repair outfit.



Left side of motor showing valves, manifolds, etc.

MOTOR

The motor is four cylinder, water cooled, cast in pairs and offset, bore, 5⅜ inches, stroke, 5½ inches. All valves are on one side, 2⅜ inches in diameter and water jacketed. Water is taken in directly under the exhaust valves, the hottest part of the motor. A six bladed fan in connection with the large honey-comb radiator, and a fan-bladed flywheel, insure an absolutely cool engine under all conditions.

Crank shaft bearings, three in number are plain, from die cast nickel babbitt, of ample size and are bolted to the upper half of the crank case.

Ignition is of the Bosch dual type; a high tension magneto and storage battery, with a single unit coil.

Special attention has been given to lubrication. A gear-driven oil pump is placed in the sump of the motor, this forces the oil through brass tubes into a flexible steel tube to the dash, thence back to the motor, lubricating all parts thoroughly.

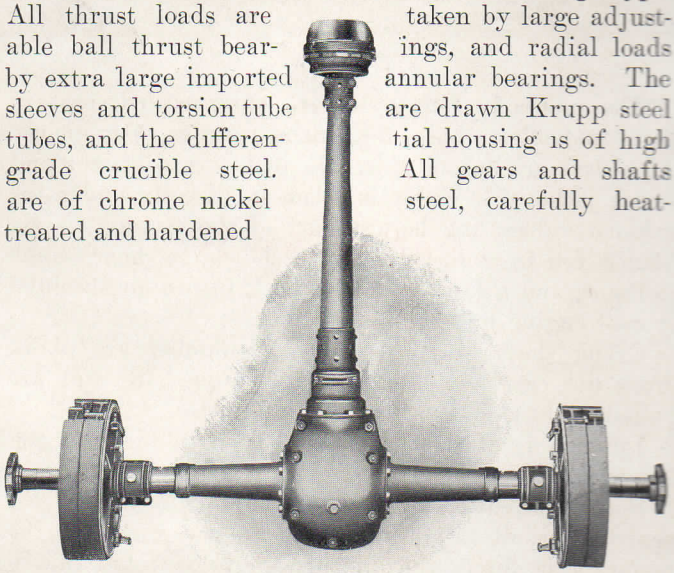
FRONT AXLE

The front axle is a special analysis steel forging of "I" beam section. In addition to two annular bearings to carry the lateral load, a double trust bearing takes the side load.

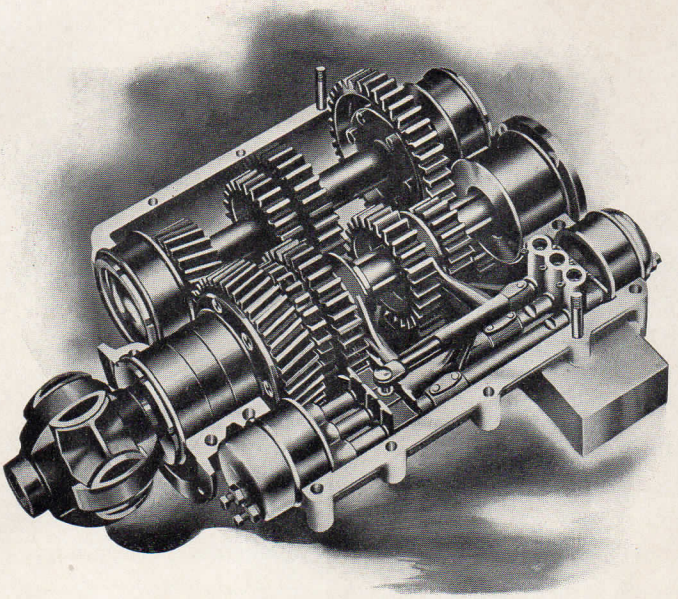
Steering arms are bored and attached the underside of the steering knuckle by two taper bolts, hardened and ground, preventing absolutely any chance of working loose.

REAR AXLE

The rear axle is of the full floating type. All thrust loads are taken by large adjustable ball thrust bearings, and radial loads by extra large imported annular bearings. The sleeves and torsion tube are drawn Krupp steel tubes, and the differential housing is of high grade crucible steel. All gears and shafts are of chrome nickel steel, carefully heat-treated and hardened



Rear axle assembly showing torsion tube, brake shoes, etc.



"American Traveler" selective four speed transmission.

TRANSMISSION

The transmission is the selective type, four speeds forward and reverse. A small compact and rigid case, short distances between bearing centers, large imported annular bearings, all gears have exceptionally large faces, the steel being imported chrome nickel, reverse gear does not revolve when the direct or intermediate speeds are used, the gears that drive the secondary shaft, the pair always engaged, are cut spirally, making the action absolutely noiseless, the coupling for joining the two halves of the primary shaft is composed of an internal and external gear, the advantage being that it is always possible to secure engagement.

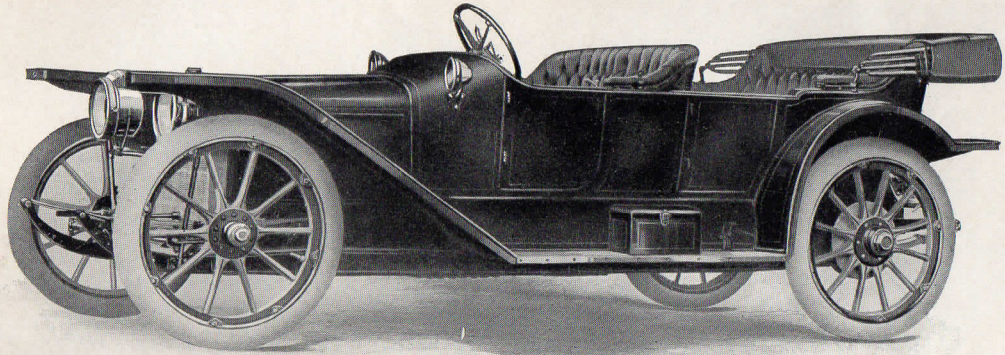
The "American Tourist"

Realizing a well defined demand for a lighter car of lower price and yet carrying all of the **Distinctive** and **Excellent** features of the famous "American Traveler" we present, with much pride and a feeling of genuine satisfaction, "The American Tourist" knowing that it will gain the prompt and permanent approval of the man who is looking for a truly good and genuinely stylish car in the $2500.00 class.

It is **Brim Full** of that "indescribable something" so clearly reflecting the tone, character and aristocratic individuality of "American" design.

It is the kind of Automobile, that you are proud to have the doorman of your club point out as **your car** and makes you experience a kind of "Special satisfaction" when other motorists turn and look.

In fact, it is a car entirely consistent with and worthy of the name it bears, and this—in our opinion —is the strongest language we could use.



THE "AMERICAN TOURIST" (Type 34) $2250

Four passengers; Wheelbase, 118 inches; Tires, 37x4 inches front and rear on Q. D. demountable rims. Regular equipment includes top and top-boot; 5 lamps, dash lights electric; Prest-O-Lite tank; Bosch magneto and storage battery; one extra rim; shock absorbers; foot rest; tire holders; horn; jack; tools and tire repair outfit.

"American Tourist" (Type 34)

Specifications

MOTOR—Four cylinders, "T" head type, cast "en Bloc"; bore, 4½ inches; stroke, 5 inches. Water cooled by centrifugal pump. A. L. A. M. rating, 32.4 H. P. Actual brake-test, 40 H. P. at 1200 revolutions.)

IGNITION—Bosch dual system, high tension magneto and storage battery with single unit coil operating through one set of spark plugs directly over intake valves. Kick switch on dash.

CARBURETOR—Float feed, single jet type with auxiliary air valve; water jacketed. Adjustable from dash.

GASOLINE SUPPLY—16 gallons contained in tank under front seat. Gasoline is pressure feed, pressure maintained by positive air pump driven from end of cam shaft.

OIL SUPPLY—Two and a half gallons.

LUBRICATION—Special self-contained splash system on motor. Transmission runs in oil and differential in grease.

CONTROL—Irreversible worm and gear steering gear, with 18-inch steering wheel, spark and throttle control levers inside steering wheel on a stationary sector. A foot throttle is also provided. Foot, service brake, and hand, emergency brake.

CLUTCH—Thermoid facing, inverted cone type. Spring plungers under facing to permit easy engagement.

BODY—Sheet steel on an ash frame; upholstery, machine buffed leather and genuine curled hair.

TRANSMISSION—Selective type, three speeds forward and reverse, with direct drive on third speed. Shaft and gears of chrome vanadium steel. All bearings imported annular type of unusually large diameter.

DRIVE—Direct shaft to differential and floating rear axles that bear no weight.

FRONT AXLE—One-piece drop forging of special analysis steel, "I" beam section.

WHEELS—Front, ten spokes, 1¾-inch selected second growth hickory; rear, twelve spokes, 1¾-inch selected second growth hickory. Q. D. demountable rims.

BRAKES—Double internal expanding in 10 and 14-inch pressed steel, dust-proof, brake drums on rear wheels.

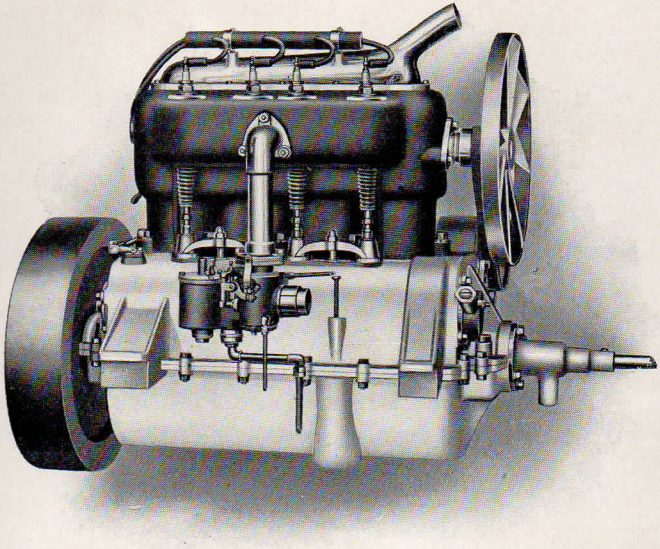
FRAME—Underslung, giving low center of gravity. Pressed 30-point carbon steel very carefully designed and proportioned.

SPRINGS—Semi-elliptic; 38 inches front, 51 inches rear.

CLEARANCE—11¼ inches under entire car.

WHEELBASE—118 inches.

TREAD—56 inches.



Intake side of motor with valve cover removed.

MOTOR

The motor is four cylinder, T head type, cast "en Bloc", bore 4½ inches, stroke 5 inches. Valves are 2⅛ inches in diameter Owing to the large valves and light but sturdy reciprocating parts this motor possesses remarkable speed, rapid acceleration and great pulling properties.

All bearings are of a high grade die cast metal. The crankshaft bearings, contrary to the usual practice in "en Bloc" motors are three in number, unusually large, insuring noiseless running and long life.

The splash system of lubrication is very efficient and remarkably simple.

Ignition is supplied by Bosch magneto (dual system) with storage battery and single unit coil.

Rear Axle

The rear axle is of the full floating type, the differential housing and axle tube being integral. This construction makes a very light axle possessing great strength.

The driving and differential gears, of generous diameters, cut from drop forgings of special steel, are heat-treated and hardened.

All thrust loads are taken by large adjustable ball thrust bearings, and radial loads by extra large **imported annular** bearing.

The driving shafts, of special analysis steel, have flanged end, castellated, that fit in the hubs of the wheel. This is the most advanced type of drive.

The wheels are mounted on large imported annular ball bearings.

The brakes are of internal expanding type, two on each wheel, faced with linebestos. An adjustment is provided at the rear of the axle, on the dust shield, for taking up the brakes. This consists of a cam that gives an initial expansion to the shoes.

Front Axle

The front axle is drop forged of a special analysis steel, "I" beam section 2¼ inches deep, carefully heat-treated to increase its toughness.

Steering knuckles are drop forged and heat-treated, held in place by a king pin of ample proportions, and are equipped with large ball thrust bearings which bear the weight of the car The front wheels run on large annular ball bearings and are equipped with hubs so constructed that they exclude all dust and dirt that might have a tendency to work into the bearings.

Transmission

The transmission is of the sliding selective type, three speeds forward and reverse. All gears and shafts are of chrome vanadium steel carefully heat-treated and hardened. The gears are of large diameters, five pitch and 7/8-inch faces. The shafts are mounted on imported annular bearings of generous size and efficient oil caps cover all bearings. The whole transmission is enclosed in an aluminum case with a removable cover Suitable oil plugs, for draining are placed in the bottom of this case.

Clutch

The clutch is of the inverted cone, non-adjustable type. The cone, an aluminum casting of great strength, is lined with thermoid under which six spring plungers work to give easy engagement.

The thrust bearing against which the engagement spring operates, is a floating ball type of large dimensions.

Back of the clutch proper is a universal coupling consisting of a shaft, enlarged at the end, through which pass two large alloy steel pins, with large steel blocks. The whole is carefully hardened and ground. The blocks work in drop forged sockets which are also hardened and ground, guaranteeing long life and minimum wear.

The release mechanism has been very carefully designed with large thrust bearings and adjustments to take up any wear that may occur The entire coupling and clutch mechanism is most accessible. The pedal pads are of rubber, interchangeable.

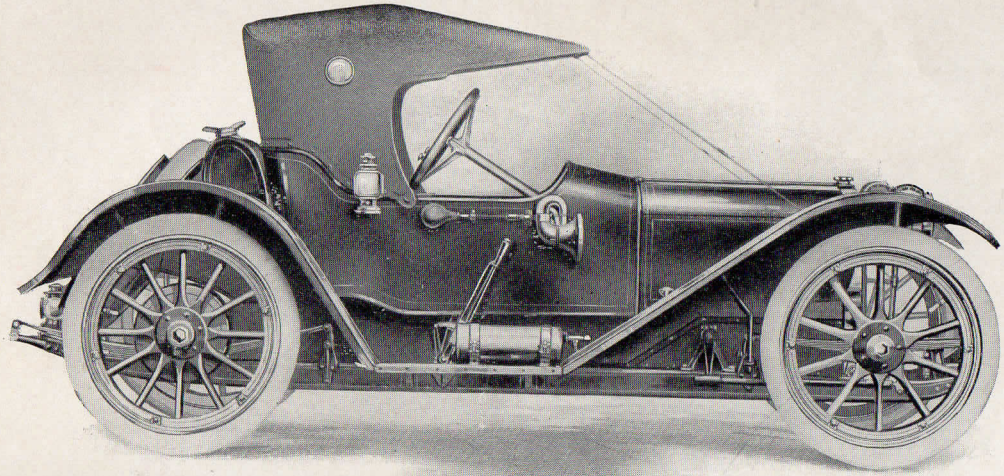
The "American Scout"

There are certain men and women in the world, to whom the cost of a chauffeur's hire is of no concern, but who want to drive their own car, just for the "fun of the thing" and the exercise, to and from their business, out to the Country Club, shopping—or perhaps, a cross-country tour at vacation time.

They do not want the task of handling a big heavy car—to say nothing about the unnecessary expense of upkeep—yet their dignity and pride forbid their driving the conventional type of "Runabout" merely because "it's cheaper to own than a horse and buggy"

What they really want, and proper it is that they should—is a small yet well built **Roadster** bearing all the ear-marks of **Class** and **Style** and in which the true mechanic's art is stamped throughout.

For such people as these, the "American Scout" is expressly designed and built.



THE "AMERICAN SCOUT" (Type 22) $1250

Strictly a two-passenger car. Wheelbase 102 inches; Tires, 36x3½ inches front and rear on Q. D. demountable rims. Regular equipment includes top and top boot; 5 lamps; Prest-O-Lite tank; Bosch High Tension Magneto; tire holders; horn; jack; tools and tire repair outfit.

"American Scout" (Type 22)

Specifications

MOTOR— Four cylinders, "T" head type, cast in pairs; bore, 3⅜ inches; stroke 4½ inches. Water cooled by centrifugal pump. 20 H. P.

IGNITION— Bosch high tension magneto operating through one set of spark plugs directly over intake valves. Kick switch on dash.

CARBURETOR— Float feed, single jet type, with auxiliary air valve. Adjustable from dash.

GASOLINE SUPPLY— 20 gallons contained in oval tank behind seat.

OIL SUPPLY– 2 gallons contained in bottom half of crank case and 6 gallons in auxiliary tank, integral with gasoline tank.

LUBRICATION— Pump and splash, constant level, self-contained system on motor. Transmission runs in oil, and differential in grease.

CONTROL— Irreversible worm and gear, steering gear, with 16-inch steering wheel, spark and throttle control levers inside wheel on stationary sector. Service brake, foot pedal; emergency brake, hand lever.

CLUTCH— Linebestos facing, cone type, spring plungers under lining make easy engagement.

BODY— Sheet steel on an ash frame upholstery, machine-buffed leather and genuine curled hair.

TRANSMISSION— Sliding selective type, three speeds forward and reverse with direct drive on third speed. Shafts and gears of chrome vanadium steel. All bearings annular type of unusually large diameter.

DRIVE— Shaft to bevel gears and floating live rear axles that bear no weight.

FRONT AXLE— One-piece, special analysis steel, "I" beam section.

WHEELS—Front, ten spokes, 1⅝-inch selected second growth hickory; rear, 12 spokes, 1⅝-inch selected second growth hickory. Demountable rims.

BRAKES—Double internal expanding in 10 and 14-inch pressed steel, dust-proof, brake drums on rear wheels.

FRAME— Underslung, giving low center of gravity. Pressed steel of high tensile strength.

SPRINGS— Semi-elliptic, 38 inches front; 47 inches rear.

CLEARANCE— 9¾ inches under entire car.

WHEELBASE— 102 inches.

TREAD— 56 inches.