

THE
AMERICAN
MERCEDES



The American Mercedes

THE AMERICAN MERCEDES

Being a reproduction of the celebrated
Mercedes Automobile, as constructed
by the parent company, the
Daimler Motoren-Gesellschaft of Unterturk-
heim, Germany



Operating under exclusive control of Patents, Shop-rights,
Improvements, etc., in the United States and Canada.

Daimler Manufacturing Company

939 Steiway Avenue

LONG ISLAND CITY, N. Y.

ALL works of taste must bear a price according to the skill, taste, time, expense and risk attending their invention and manufacture.

Those things called dear are, when justly estimated, the cheapest; they are attended with much less profit to the artist than those which everybody calls cheap.

Beautiful forms and compositions are not made by chance, nor can they ever, in any material, be made at small expense.

A composition for cheapness, and not for excellence of workmanship, is the most frequent and certain cause of the rapid decay and entire destruction of arts and manufactures.—*Ruskin.*



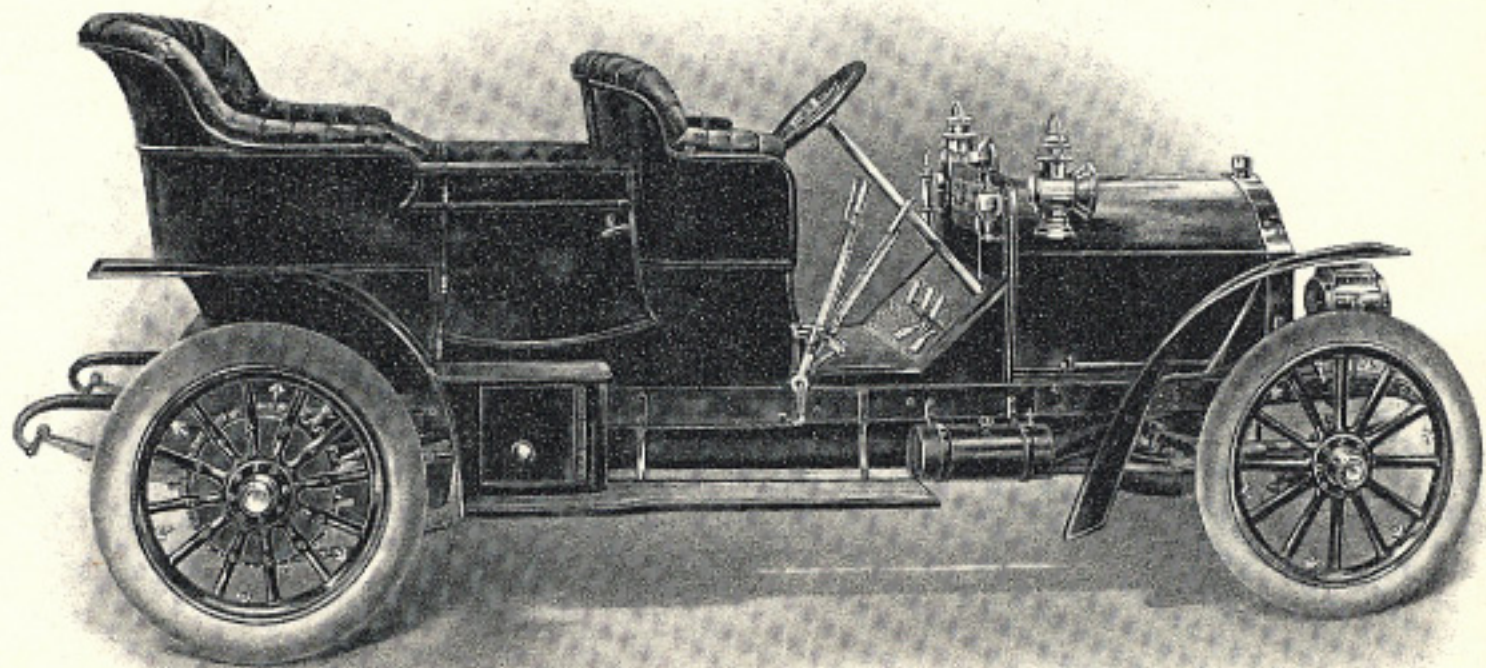
THE
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MERCEDES AUTOMOBILES

WHETHER or not domestic automobiles will some day be built which will compare favorably with their foreign cousins, is a question which the future must decide. Certainly at the present time the superiority of European cars is unquestioned, and this would seem only natural when we consider that Europe has had some fifteen years the start of us in automobile construction, the first gasoline automobile having been invented by Daimler some thirty years ago, or fifteen years before the earliest American inventors took it up.

The Mercedes Automobile is



45 HORSE-POWER AMERICAN MERCEDES

so intimately associated with the development and the most progressive practices of automobile construction, that to recount the features either originally Mercedes, or first taken up and rendered practical in the Mercedes car, would be almost like reviewing the history of automobile construction in Europe.

The pressed steel frame, now in practically universal use, was first seen on a Mercedes car. Ball bearings were everywhere, and with much reason, distrusted until the builders of the Mercedes adopted the annular type of ball bearings which has since been identified with that machine. Today it is hard to find a car of high standing in which

these ball bearings are not used. The air-tight bonnet and fly-wheel fan were early Mercedes features, and the same is true of the honeycomb radiator, which, in one form or another, has since been universally adopted. The metal to metal clutch, which, when properly constructed, imposes but a mere fraction of the shock on the transmission gears when changing speed that the cone clutch does, was given its first impulse toward popularity by the Mercedes car. Mechanically opened inlet valves and low tension magneto ignition were known before they were adopted in the Mercedes car, but previous to that time no one had developed their possibilities in the

way of reliability and smoothness of running.

From the first Mercedes car to the model described in the following pages, the distinctive features of the Mercedes have been the flexibility and almost perfect silence of the engine, the simplicity of control, the liveliness due to the fact that friction in transmission is reduced to a minimum, and the high ratio of power to weight; combined with such genuine solidity of construction that a hundred thousand miles hardly measures the life of a well-kept Mercedes car. Such qualities as these are obtained only by unremitting patience, long experience and unswerving fidelity to the highest ideals in

construction. There is no royal road to perfection of this sort, but it is worth all it costs, and unprejudiced and competent judges will unquestionably admit that the Mercedes car has practically established the styles and standards of European automobile construction. There is scarcely an improvement in the automobile that has not been influenced by this car.

The Foreign Mercedes is made by the Daimler Motoren-Gesellschaft at Unterturkheim, Germany. The American Mercedes is made by the Daimler Manufacturing Company, of Long Island City, which is closely affiliated with the *parent* company, and is operating under

the American patents and shop rights, and licensed to reproduce in America, the Mercedes Automobile, and pays a royalty on every car built. This royalty, however, is very much less than the duty on an imported car, and therefore enables the American Company to offer the American Mercedes at considerably less than the same car is sold for if imported from the other side.

It will be understood that the American Mercedes is nothing more or less than the Foreign Mercedes constructed on this side of the water. Materials, methods, improvements—every feature of construction of the foreign car is incorporated in its American cousin, the only difference being

that one is *constructed* abroad and the other here. The materials are imported direct from Europe, as, for example, the celebrated chrome nickel-steel, from which axles, crank-shafts, gears and differential shafts and numerous other parts of the car are forged. It is one of the peculiarities of this steel that no American mill has been able to produce steel of the same tensile strength—that is to say, it is three times as strong as any American steel, consequently this makes it practicable to get greater strength with smaller parts than is possible where American steel is used.

Last year the first Mercedes was constructed on this side of

the water—a faithful reproduction in materials, workmanship and design of the foreign car. The fact that we were able to offer this car at \$7,500, \$3,000 less than the Foreign Mercedes, at once commanded the attention of buyers of high-grade automobiles, and resulted in a great demand for our car, which proved to be in every way equal to its famous foreign prototype.

The American Mercedes for 1906 will be, if possible, even better; not only by reason of the improvements in the parent car, but also because of our increased facilities and the perfection of our organization and working arrangements with the parent company.

DESCRIPTION OF THE 1906 CAR

THE American Mercedes for 1906 will be an exact reproduction of the 45 horsepower Foreign Mercedes. The standard body will have a side entrance tonneau and will seat seven passengers. The back is formed in the graceful "tulip" design and is made of hammered aluminum. The two extra passengers in the tonneau are accommodated on folding seats which, when out of use, fold compactly and rest partly under the front seats. When in use, however, the occupants face forward. To provide for these seats the tonneau is flared consid-

erably, making it unusually roomy and comfortable.

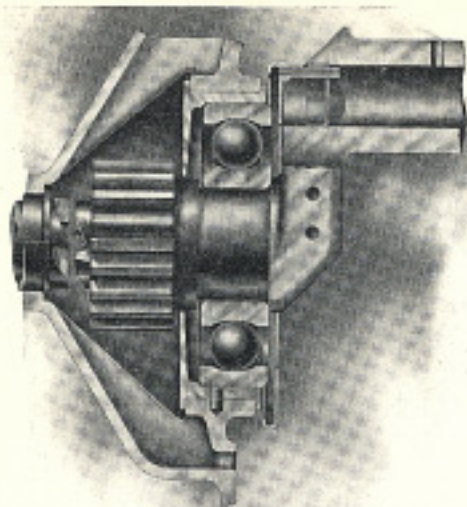
The community of build between the Foreign and the American Mercedes will be obvious when we consider that not only the important drop forgings are imported, but all of them, thus insuring absolute identity in material and form. Besides the forgings, the cylinder castings are also imported. The advantage of this to the user will be at once recognized when it is remembered that owing to the greater purity of their iron ores our European cousins are able to produce castings of conspicuously better wearing qualities than can be produced from American ores. It is, we believe,

altogether unheard of for any foreign automobile motor cylinder to require reboring unless it be owing to cutting from lack of oil. The ovalization of the cylinder, even with years of use, is so small that, at the most, a new set of rings is required when the old ones have begun to leak.

THE MOTOR

MORE than a year ago the Daimler Motoren-Gesellschaft was experimenting with ball bearings in the crank-shaft of their motor, and last year their new 70 H.-P. model contained them as a regular feature, and this year our parent company has such complete confidence in them as to make them the regular construction in all Mercedes cars.

The crank-shaft of the 1906 motor runs in three Hess-Bright ball bearings of the same "silent" type that are found in the transmission and the wheels, except that they are of extraordinary size. The centre ball bearing is large enough to be slipped right over the cranks from the front end of the shaft, the cranks being beveled off at their



CRANK-SHAFT, SHOWING BALL BEARINGS

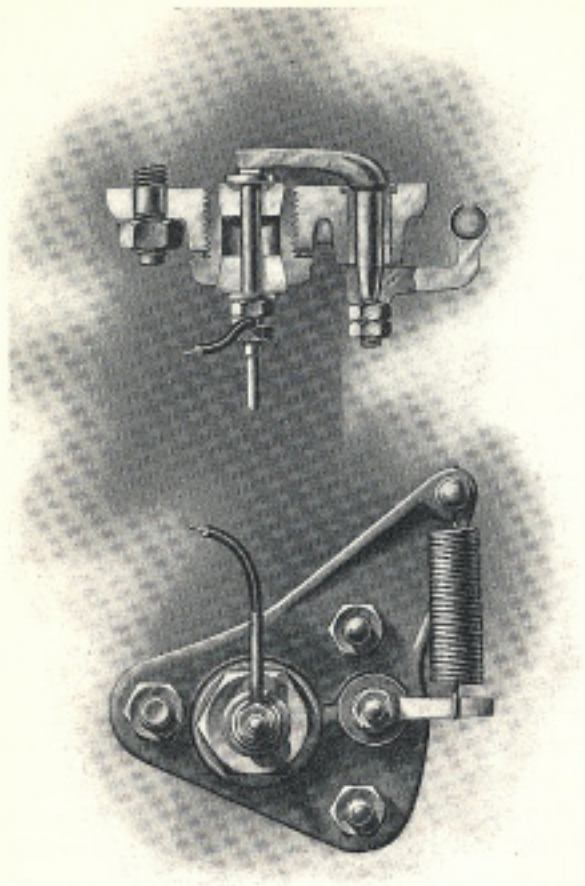
ends to facilitate this. Each bearing has eight large balls, which are separated by springs and felt oil pads so that they never touch each other.

Co-ordinately with the introduction of ball bearings, the crank-shaft has been stiffened by increasing all the diameters, while at the same time it is bored wherever possible to restrict the total weight. By the use of ball bearings and a very rigid crank-shaft, all such wear on the crank and wristpins as is due to the main shaft bearings getting out of alignment is avoided. As the bearing is so large and so accurately made, and the materials in it so carefully selected that the wear of the balls and races is a negligible

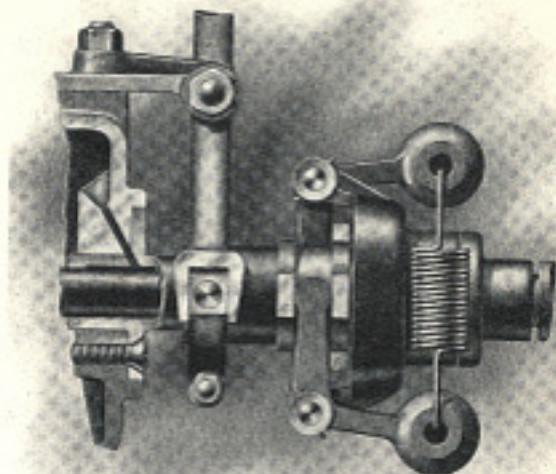
quantity, the saving effected in the annual charge for overhauling and refitting will be apparent. Though this was not the principal reason for making the change, it is one which the user will fully appreciate.

The cylinders are the same size as before, 120 x 150 mm., and are cast in pairs with integral cylinder heads, as has been the Mercedes practice from the beginning. The diameter of both valves, however, has been greatly increased, and this feature, together with the reduction of friction due to the use of ball bearings on the crank-shaft, has enhanced considerably the already notable efficiency of the Mercedes motor.

Besides these, a number of smaller changes have been made in the motor looking to greater convenience and protection and durability of the parts. The outer faces of the valve chambers, to which the sparker plates are bolted, are no longer at right angles to the length of the car, but are placed at an angle of 45 degrees, thereby greatly increasing the convenience of access. The 2 to 1 gears which drive the cam-shaft are at the front end of the motor, instead of the rear as last year, and are encased in aluminum housings. The form of the crank-case has been so changed that the cam-shafts can be taken out endwise from the front end of the motor, simply by loosening the front cam-shaft bearings next to the gears, and removing two screws which hold the centre bearings in place. These bearings then



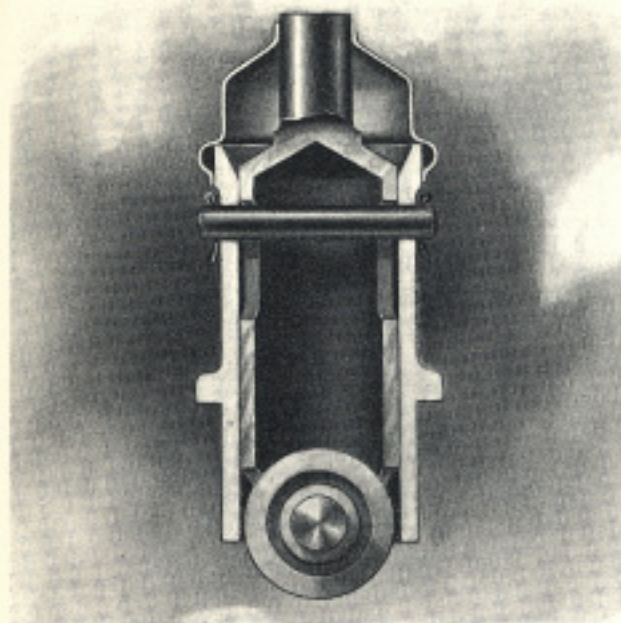
SPARKING MECHANISM



GOVERNOR

come out with the shaft, as their outer diameter is large enough to permit the shaft and cams to pass right through the holes in which they (the bearings) are held. The pump and magneto are separately driven, and the governor is on the magneto shaft, which runs at the same speed as the engine. This has doubled the speed of the governor, making it possible to reduce its weight without sacrificing its sensitiveness.

To make the "cranking" process easy a compression relief has been added for starting. This consists of a set of auxiliary cams on the ex-



SECTIONAL VIEW OF VALVE LIFTER

haust cam-shaft, which are timed to hold the valves open during the first portion of the compression stroke, thereby permitting a portion of the charge to escape before compression begins. A small lever under the front of the radiator shifts the cam-shaft to put these cams into or out of action.

As a striking instance of the pains taken to remove unnecessary metal, we show a section of the valve lifter. One of these acts under each

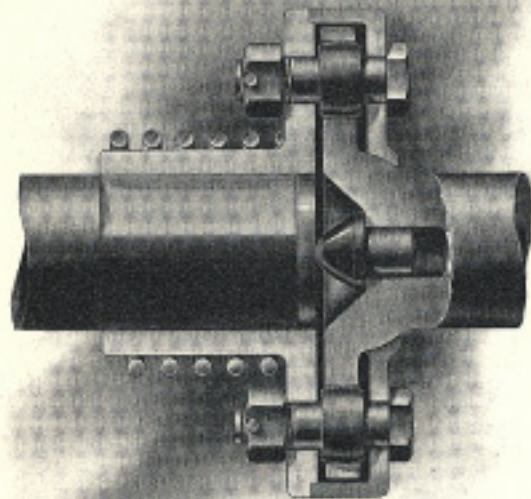
inlet or exhaust valve. As these valve lifters are steel forgings, it is necessary to remove all the metal from the interior by means of a small special boring tool shaped to enter the slot at the bottom in which the roller works.

Another handy little device is a threaded bushing in the sparker plate surrounding the insulated electrode. By unscrewing this bushing that electrode can be taken out for cleaning of the insulating plugs without breaking the joint of the sparker plate itself. A little slot is provided in the outer end of this electrode, which shows when the electrode is in the correct angular position for sparking.

The lubrication of the crank-pins is accomplished not only by oil scoops on the bottom caps of the connecting rods, as heretofore, but by centrifugal oil catching rings on the cranks themselves, to which oil is supplied by special pipes, and from which the oil passes through holes drilled in the crank-pins to the bearings. With these two independent sources of oil it is practically impossible for the crank-pins to go dry.

CLUTCH

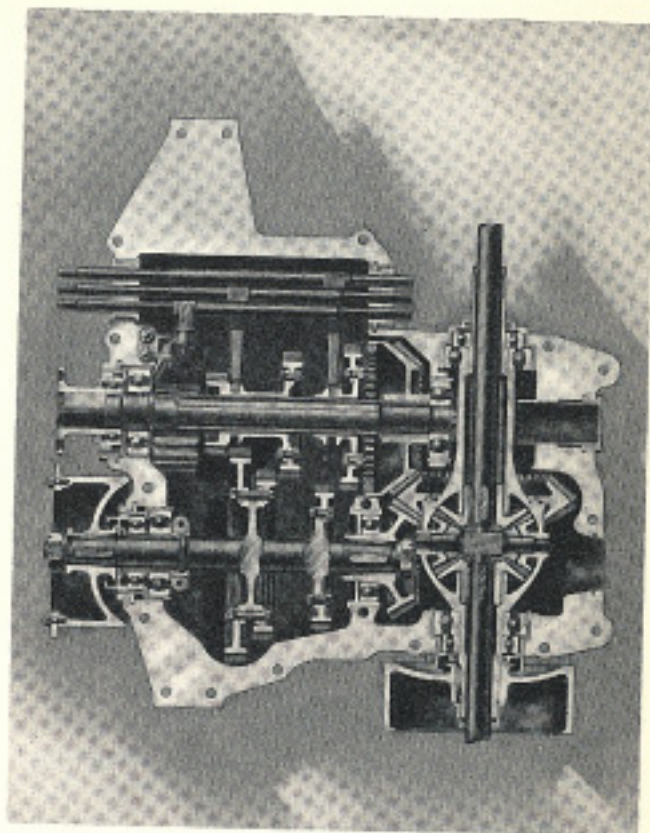
THE wind-up spring clutch already familiar in connection with the Mercedes car is retained this year. It is slightly modified to make it more convenient of access, and is encased so as to run constantly in a bath of oil, which needs to be replenished only occasionally.



MAIN DRIVING SHAFT, SHOWING FLEXIBLE JOINTS

MAIN DRIVING SHAFT

THE main driving shaft, or shaft connecting the clutch with the first or driving shaft of the speed-changing gears, has been improved by the introduction of two encased and dust-proof flexible joints, one at each end. These joints, which are of the character shown in section in the illustration, render it unnecessary to have perfect alignment between the crank-shaft and the driving shaft of the gear-case.



SPEED CHANGING MECHANISM

SPEED CHANGING GEARS

AN improvement in the new car is the use of direct drive from the clutch to the bevel gears on the fourth or highest speed. This is accomplished without making it necessary to drive through two pairs of gears in the other speeds, as is commonly the case, by the use of two pairs of bevel gears, of which only one is operative at a time. As shown in the sectional plan, the differential is driven by a double bevel gear formed in one piece and bolted to the differential case. This gear meshes with two bevel pinions, one on each of the spur gear shafts, and the diameters of these pinions differ in the ratio of the difference between the third and the fourth speeds. The larger pinion, which gives the fourth speed, is loosely journaled on the end of the first or change gear shaft, recognizable by the flange at its end, which is part of the flexible joint, connecting it to the main driving shaft.

When the first, second or third speed is in action this gear revolves loosely on the shaft, and the transmission is through the appropriate spur gears to the other or smaller bevel pinion on the jack-shaft, which carries at its front end the brake drum. For the fourth or highest speed the third speed gear is shifted right through into an internal gear cut in the flange of the larger bevel pinion, thereby at once releasing the jack-shaft

and locking the first shaft to the bevel pinion, giving a direct drive to the differential.

The width of the gear teeth has not changed from last year, but the diameters of gears have been slightly increased. The hand hole in the top half of the gear-case is provided with a cover held on by spring clips, so as to be instantly removable.

As for several years past, the gears operate on the selective system, so that one can go from neutral to any one of the four gear positions or the reverse without passing through any other.

As showing the unusual care paid to details, attention is called to the centrifugal flanges on the brake drums. By this provision no oil working out from the gear-case can possibly come in contact with the brake drums.

FRAME

THE character of the frame this year is substantially unchanged, and the motor and gear-case are supported on the frame as before, the single exception that the motor rests on four steel hangers bolted to the frame instead of directly on the frame. The rear ends of the side members of the frame extend back beyond the rear cross member so that they serve most effectively to support the rear spring hangers. The rear corners of the frame have also been stiffened.



REAR AXLE

RUNNING GEAR

THE axles are forged of chrome nickel-steel, having an elastic limit of about 130,000 pounds per square inch. Those for the American cars are forged in special dies, giving a greater clearance by 42 mm. than the foreign model. The radius rods are I-beam drop forgings of tapering section, and they support the brakes and resist their rotational effort as well as guide the movements of the rear axle.

As noted elsewhere, axles, steering knuckles, radius rods, spring hangers—all the drop forgings in the car—are from the steel works supplying our parent company, and are of steels identical with those used in the Foreign Mercedes.

BRAKES

THE two brakes shown on the transmission gear are operated by separate push pedals, and are interlocked with the clutch. The emergency brakes are hand operated and do not release the clutch, thus permitting the use of the engine in connection with them for holding the car in long descents.

An innovation sure to be appreciated by users is the arrangement of all the brakes so that they can be adjusted by hand without the use of tools, and without taking down or disconnecting any parts. It is even possible, as in a race, to adjust the foot brakes while the car is running.

LUBRICATION

THE cylinders and crank-pins are oiled by sight feeds located on the dash, to which oil is supplied by exhaust pressure from a tank conveniently located at one side of the frame. An auxiliary hand pump is provided for forcing oil to the crank-case and clutch.

BODY, TIRES, ETC.

THE car has a seating capacity for seven persons, and is built in two lengths, one with 3225 mm. wheel base, for a body 2400 mm. long, and the other with 3279 mm. wheel base, for 2600 mm. body.

It is furnished in the standard Mercedes red, but special color schemes to suit the purchaser will be carried out if desired. The tires are Continental, 910 x 100 mm. and 920 x 120 mm. on front and rear wheels respectively. The rims are imported, and the chains are Bramptons, made of self-hardening steel.

EQUIPMENT

CARS are furnished with all necessary equipment, such as tools, tire repair kit, horn, two oil side lights, two gas head lights and one tail light, etc. There is also included an assortment of the spare parts more frequently needed, such as chain links, valve and igniter springs, igniter electrodes and piston rings. Price with Standard Equipment, \$7,500. F. O. B. New York City.

Any information about our cars that we may not have covered in this book, we shall be pleased to furnish upon request, and we cordially invite correspondence upon the subject.

Daimler Manufacturing Company

939 Steinway Avenue

LONG ISLAND CITY, N. Y.

NOTE. For convenience it may be remembered that 25 millimetres equal one inch.

Many changes have taken place in the automobile, and, indeed, in American life since this brochure on the AMERICAN MERCEDES was first published in 1906. You might be interested in knowing that from 1906 to 1952, only a handful of Mercedes-Benz automobiles were imported into the United States. However, in 1952 some 36 Mercedes automobiles were registered in this country and this figure increased in subsequent years to 3,446 in 1957, in the latter half of which year, Mercedes-Benz Sales, Inc. became the exclusive U.S. distributor of Mercedes-Benz automobiles. From 1957 until the present, sales have been materially increased, and in 1961 Mercedes-Benz registrations numbered 12,907, only two small, inexpensive imported automobiles achieving a higher registration figure. Today the sale of Mercedes-Benz automobiles in this country is conducted through some 350 franchised dealers and Mercedes-Benz Sales, Inc. has developed a large distributing organization made up of trained and experienced personnel in the field of sales, service, and spare parts. Mercedes-Benz Sales, Inc. has established a reservoir of spare parts valued at several millions of dollars and housed in 16 warehouses strategically located across the country.

There are now 60,000 Mercedes-Benz owners in the United States, a number nearly double that of all automobiles produced in America in 1906, the year of our AMERICAN MERCEDES brochure. As we said in the beginning, many changes have occurred, and one that we find rather amusing is that in 1906 the standard color in which an American Mercedes was available was red, whereas the present-day Mercedes-Benz purchaser has a selection of 34 standard and optional colors available to him. In 1906 a Mercedes cost \$7500 in New York and someone has estimated that \$7500 in 1906 money would be worth approximately \$35,000 today. Considering that the 1906 Mercedes was equipped with only a 45 HP engine and had neither windshield, side curtains, top, nor many other conveniences such as a heater, one can say that today's Mercedes-Benz automobile, which can be purchased for less than \$4000 in today's money, represents very good value indeed.

MERCEDES-BENZ SALES, INC.
SOUTH BEND, INDIANA

Exclusive United States distributor of
Mercedes-Benz automobiles