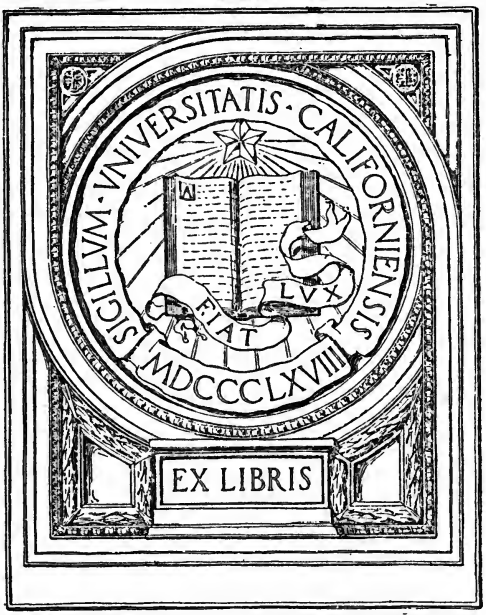
THE LOCOMOBILE BOOK



THE CAR OF 1912
THE
LOCOMOBILE

Near Calcutta

Bartlett-Orr Press
New York

UNIVERSITY OF CALIFORNIA

Six-Cylinder, Seven-Passenger Touring Car

THE CAR OF 1912

WHICH IS THE LATEST EDITION OF THE LOCOMOBILE BOOK, THE FOURTEENTH ANNUAL CATALOGUE OF LOCOMOBILE MOTOR CARS WITH WHICH IS COMBINED INFORMATION OF GENERAL INTEREST TO MOTORISTS

PUBLISHED BY THE ADVERTISING DEPARTMENT OF

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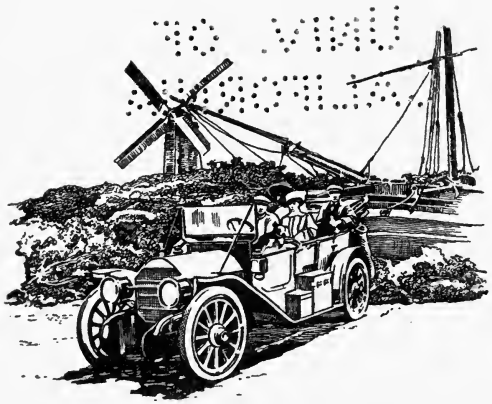


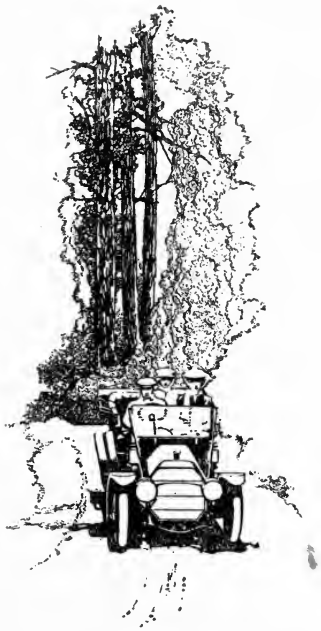
Holland

PREFACE

The idea back of the Locomobile Book is to tell the story of the Locomobile —its record and development—its design and construction—its advantages as a comfortable and luxurious *vehicle*—its superiority as a safe and reliable *machine*.

It contains information not ordinarily part of a catalogue and which is useful for reference; consequently the book is produced in permanent library form with board covers. Our intention is to give complete information and not to create an impression of elaborateness in catalogue work. There are no expensive color plates. The ink is plain black on plain white book paper.

Locomobile models for 1912 are the result of our thirteen years' experience in making motor cars. Photographic illustrations and specifications of the various models are placed at the end of the book for convenient reference. The subject matter is arranged by chapters and indexed on pages 11, 12 and 13.



Redwoods

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CHAPTER ONE

THE LOCOMOBILE CAR

COMFORT AND LUXURY SAFETY AND RELIABILITY

The 1912 Locomobile is a notable advance in motor-car construction. It establishes a new standard of comfort and luxury in road travel.

The luxurious character of the body and the easy riding qualities of the car, produce a degree of comfort hitherto unknown in motoring; in fact, the utmost ease that can be provided in any vehicle of transportation.

All motorists will appreciate the value of such progress, and it is perhaps unnecessary to emphasize the importance of comfort. Still it is essential that those who have not owned cars should not underestimate it. Automobiling is one of the most delightful and healthful of out-door recreations but motorists and those of their families who are not physically strong, cannot enjoy it to the fullest extent unless the maximum of comfort is available.

The roads of America rarely equal those of England and Europe and many people who otherwise would tour extensively do not do so, on account of

the limited amount of relaxation to be secured in the average automobile.

Comfort has become more and more important from year to year. Realizing the desire on the part of all motorists for substantial improvement in this direction, we have made extended study and investigation in order to make the Locomobile the *most comfortable* as well as the *best built* car in America. In consequence of this the 1912 Locomobile is an extraordinary vehicle. It offers the greatest comfort and ease that can be devised.

As an example of the comfort to be obtained, it may be stated that the rear seat cushion and back in our six-cylinder models, are provided with upholstering *ten inches thick*. It is the most comfortable upholstering that can be produced in any way. This detail alone permits any one, regardless of age, figure or constitution, to enjoy the same restful ease when riding in the car as when seated in the most luxurious library chair. This soft wonderful upholstering combined with the long wheel base and elastic three-quarter elliptic springs used on our "Six", make motoring a delight under all conditions.

The comfort derived from the body is augmented by a number of very important features of the chassis. Unlike many cars, the power does not pass through the rear springs, thus they are free to act and give the

The Five-Passenger, Six-Cylinder Torpedo. At the Memorial Bridge
Old Milford, Connecticut

The Four-Passenger, Six-Cylinder Torpedo

maximum of ease. Skilful distribution of weight is another feature of much importance; the perfect *balance* of the Locomobile is one of the many reasons for its easy and steady riding at all speeds.

As a result of all the improvements made in the direction of comfort and luxury, the 1912 Locomobile "Six" was accorded an enthusiastic reception when it appeared on the market last June. All who examined and tested it, declared it to be the most luxurious and comfortable car that they had ever seen. Experienced motorists, not formerly owners of our car, selected the Locomobile because of its comfort and luxury, in combination with its mechanical excellence.

We offer and recommend the 1912 Locomobile as a luxurious and perfectly comfortable vehicle. You can very readily test its superiority by riding in it, a matter easily arranged without obligation or inconvenience to yourself.

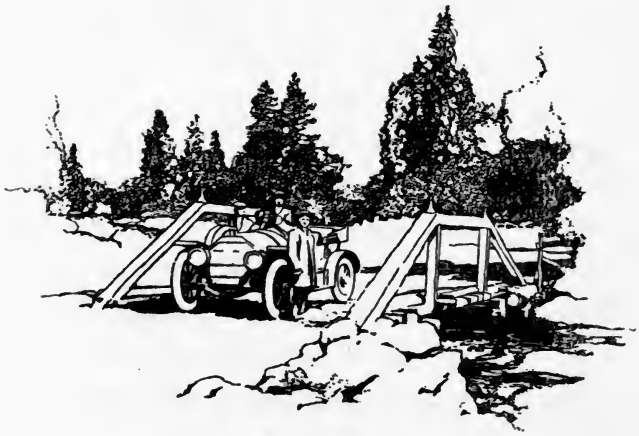
Although the pleasure derived from its use as a vehicle casts a charm over the motor car and makes it seem different from other machines, it nevertheless exists as a twentieth century utility, along with the electric locomotive and turbine steamboat. Like these, it is a super-machine—a combination of machines, constantly subjected to the shocks of travel. It must therefore be an exceptional machine in order

to prove safe and reliable from year to year. Every company engaged in manufacturing, milling, printing, or in any business requiring the use of machinery, realizes the necessity of purchasing the best because it is cheapest in the end. Railroads do not attempt to secure low-priced engines; on the contrary, purchase the finest product available, in order that trains may be hauled quickly, safely, and at a low maintenance cost. Machine tools, printing presses, and similar machines are invariably of the highest type, because the companies who operate them dare not purchase anything else. Consequently, if it pays the manufacturer to buy the best machinery it pays the purchaser of the automobile to select the safest and most reliable machine on the market.

The Locomobile for 1912 is the safest and most reliable machine that our long experience in building cars has enabled us to produce. The Locomobile is so strong and so safe that it is sure to prove the most reliable machine, the cheapest in the end. It represents the utmost possible combination of *strength* and *refinement*, resulting in a safe vehicle of unlimited comfort and endurance. The possession of such a car, together with the benefits to be derived from doing business with a long experienced and well established organization, insures lasting satisfaction.

CHAPTER TWO

MODEL "M" CAR



Forest and Stream

SPECIFICATIONS OF THE "48" LOCOMOBILE

TYPE "M" TOURING CAR

MOTOR

Six-cylinder. Horse-power by A. L. A. M. Formula, 48⅜. Horse-power on test, 70. Large valves, quiet lifters, bronze crank-case.

CARBURETER

Locomobile design and construction. Float feed, single jet type. Dashboard control of mixture.

FUEL SUPPLY

25 gallons, gravity feed.

IGNITION

High tension, dual system, imported. Magneto and Storage Battery.

COOLING

Honeycomb radiator with gear-driven centrifugal pump.

LUBRICATION

Motor has self-contained oiling system. Gear pump forces oil from reservoir to bearings in constant stream. Grease cups at all wearing points on the chassis.

OIL CAPACITY

2 gallons, motor. 1½ gallons, auxiliary tank.

TRANSMISSION

Four-speed selective transmission with bronze gear case. Sixth season of use.

CLUTCH

Multiple disc, very simple. Smooth in operation. Clutch brake.

DRIVE

Propeller shaft-drive through bevel gears and live axles. Two universal joints, enclosed in metal housings.

FRAME

Pressed alloy steel, heat-treated.

SPRINGS

Front, semi-elliptic, 38″ x 2″.
Rear, three-quarter elliptic, 48″ x 2″, shackled at both ends.
All alloy steel. *Power does not pass through rear springs, thus they have full play.*

FRONT AXLE

I-Beam type. Solid forging, heat-treated.

REAR AXLE

Full floating type with alloy steel tubes and live axles. Locomobile radius rods relieve the rear axle of all driving and braking stresses. The best features of chain-drive and shaft-drive combined.

WHEELS

Artillery type, 36″ in diameter.

MEASUREMENTS

Wheel base, 135″. Extreme width, top lowered, 5′ 7½″. Length over all, top lowered, 16′ 3″. Extreme height, top raised, 7′ 5½″.

TIRES

Demountable type. Front, 36″ x 4½″. Rear, 37″ x 5″. Interchange. Same tire sizes on all six-cylinder models.

BODY

Four-door Touring Car, seating seven passengers. Flush sides.

UPHOLSTERING

Hand-buffed leather, tufted. *The luxurious rear seat cushion and back are provided with upholstering ten inches thick.*

FINISH

Optional within reasonable limits.

EQUIPMENT

Close-coupled headlights with gas tank. Combination oil and electric side lamps and rear lamp. Storage battery, top, horn, jack, tool bag and kit of tools. Tire carrier, tire tools, tire pump, tire repair kit. Coat rail, foot rest, storm apron for front seat.

PRICE

$4800, including above equipment.

CHAPTER TWO

THE SIX-CYLINDER LOCOMOBILE

There are two very important reasons why the six-cylinder principle is favored by so many motorists:

Minimum Vibration
Flexibility of Operation

These advantages make the six-cylinder car the most *luxurious* type. Other motors can be made to give equal power and speed but no motor, however it may be designed and built, can produce the smoothness of running, the feeling of complete absence of machinery — in short, the *luxury of motion*; made possible by the use of six cylinders.

The six-cylinder Locomobile is the logical choice of the discriminating motorist who wishes to buy a "Six". It is the most beautiful, the most luxurious, the easiest riding "Six" on the market.

Beauty and distinctiveness of appearance are displayed in the lines of the body; in the compact motor bonnet that eliminates the ungainly effect of most "Sixes"; in the absence of all external hinges and door handles; in the unencumbered running boards; and in the extra tires, carried at the rear. The low

lines of the car are most attractive, and the passengers are seated low in the body, which provides a feeling of security with consequent relaxation and enjoyment. The ten-inch upholstery is a remarkable point of superiority. Luxury is illustrated by such features as the upholstering of the inside of the doors and the carpeting of the wood work near the sides and bottom of the tonneau which is ordinarily exposed, and as a result, marred and scratched. The extra seats are exceptionally comfortable, the body being supported the entire length of the back instead of across the shoulders only, as is usual. Running boards are wide, covered with a special linoleum very handsome in appearance, and the shield extending to the frame is so arranged that rain water drains off. The foot rest is a brass rod lightly knurled to prevent the feet from slipping. Cocoa mats are used in all open cars. A handsome cape top is provided, light and strong, and made from durable water-proof material. The coat rail may be adjusted to suit the wraps to be carried.

The Locomobile "Six" is the fastest car, the best hill climber we ever built, and slows down to a foot pace and then speeds up without shifting gears. Years of experience and study of alloy steel have enabled us to reduce the weight of the touring car to such a point that one horse-power is provided for every fifty-seven pounds of weight, and without sacrificing any of the

reliability for which our car is famous. Tire economy is another strong point of superiority. A customer in Kansas reports that the original tires are still on his "Six", unpunctured and in good condition, after 4500 miles of use. We have had excellent reports of tire economy. Conditions are favorable to moderate tire wear and for six reasons: moderate weight; proper balance; free action of the differential, thus preventing grinding action on the rubber; strong but light rear axle, reducing the dead load on the rear tires; large tire sizes; minimum of side sway and thus minimum of side stress on tires.

Economy of fuel consumption is still another very important advantage of our "Six". The touring car has frequently been driven 12 miles on a gallon of fuel. One of our customers drove his "Six" over the mountain roads from Los Angeles to Santa Barbara with seven up, covering eleven miles to the gallon. Another customer reports 14½ miles to the gallon from a "Six" Torpedo. Good reports in this direction are invariable. *The reasons why* the Locomobile "Six" uses less fuel than others of the same size and power are as follows: Moderate weight; special carbureter; minimum loss of power in transmission mechanism.

From a mechanical standpoint the Locomobile "Six" strongly excels. Owing to the necessary length of a six-cylinder motor, the strength of the crank-case,

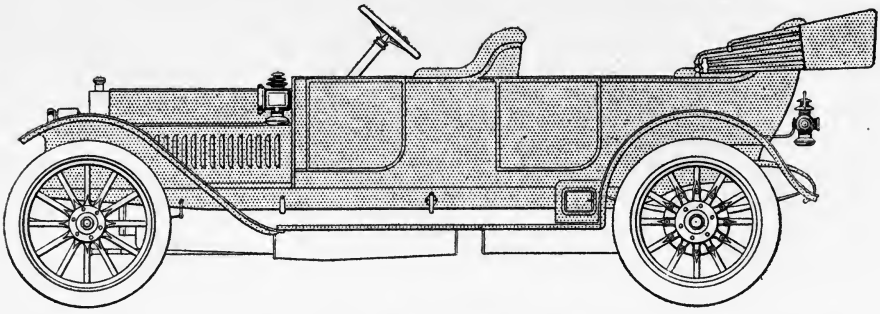
crank-shaft and cam-shafts becomes an important matter. The Locomobile crank-case is government bronze and never gives trouble; the crank-shaft and cam-shafts are vastly stronger than they need be. The crank-shaft has seven main bearings, one between each connecting rod (see page 110). The cam-shafts have all cams integral. While surface cracks only might develop in an aluminum motor base and keyed-on cams might not cause trouble, the possibilities are such that we believe all thoughtful purchasers will prefer the stronger construction of the Locomobile.

The bronze crank-case is in one piece and so bolted to the frame that it makes a rigid structure. This method of fastening has never given us one particle of trouble. The motor is so skilfully designed and carefully built that with a cylinder bore of 4½ inches, seventy brake horse-power is obtained on the test stand. This is the greatest power that can be obtained from this size of cylinder without affecting reliability. Cylinders are specially designed for the "Six" and have large valves and silent valve lifters.

The lubrication system is self-contained, the oil being pumped to the bearings in a constant stream. An oil by-pass at the rear of the motor combines the advantages of a circulating system with a gravity head, doing away with any oil tank under the bonnet. See diagram, page 111.

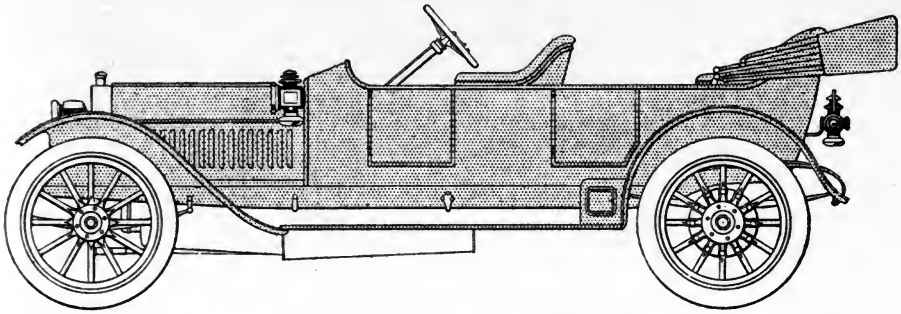
The multiple disc clutch is the most desirable type for such a large car as the Locomobile "Six". Our disc clutch is exceedingly simple and reliable, and can be removed as a unit without disturbing anything else. The use of a clutch brake facilitates the shifting of gears.

The power transmitting mechanism, so great in importance, bristles with points of superiority. The four-speed selective transmission, with its manganese bronze case and alloy steel shafts and gears, *never gives trouble*. The propeller shaft is very strong and provides straight line drive, increasing efficiency and furthering easy riding. The universal joints are encased in metal housings instead of the usual leather bags and absorb so little power that they run almost indefinitely without regreasing. Power does not pass through the rear springs. *The drive is through distance rods as in chain-drive construction.* This arrangement in conjunction with the shackles at each end of the rear springs, preserves the alignment of our rear axle when driving over rough roads at speed, enabling the car to be kept in the road and appreciably lessening tire wear. The rear axle is relieved of all driving and braking stresses by the relationship of the brakes and rear axle to the distance rods. An example of neat chassis design is the installation of the brake equalizers, without cutting unnecessary holes in the frame or putting a steel beam across it.



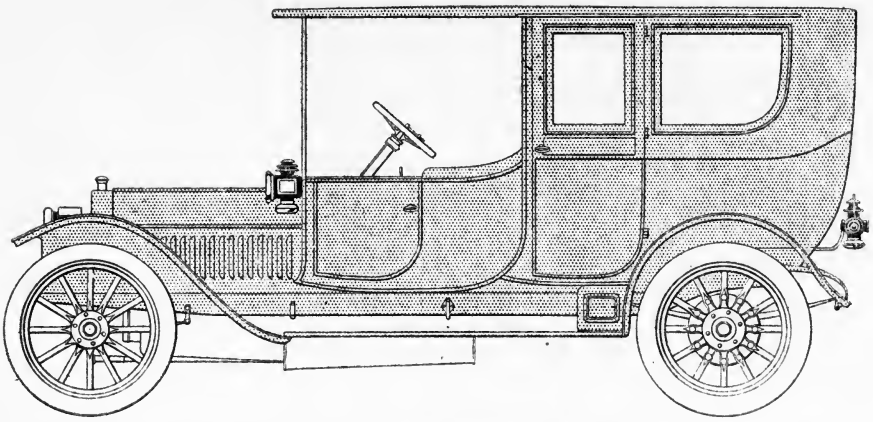
The "48" Locomobile, Type "M", *Touring Car*. Six-cylinder, shaft-drive
Tires, 36 x 4½ inches, front; 37 x 5 inches, rear. Tires and rims
interchange, front and rear. 135-inch wheel base. Price, $4800
including top, lamps, demountable rims and choice of color
Photograph, page 203. Complete specifications, page 24

Our "Six" is considered the finest Locomobile ever built. For 1912 a splendid new body provides comfort hitherto unknown in motoring. The rear seat cushion and back are provided with tufted upholstering *ten inches thick*, creating the restful ease of your most luxurious library chair. Passengers are seated low in the car, giving a sense of security. The extra seats are exceptionally comfortable as the body is supported the length of the back instead of only across the shoulders. The sides are flush, perfectly smooth, with a graceful curve from end to end. There are no external door hinges or handles; running boards are clear on both sides; extra tires are carried at the rear; the battery box is carried under the floor of the body.



The "48" Locomobile, Type "M", *Torpedo* (Four and Five-passenger models). Six-cylinder, shaft-drive. Tires, 36 x 4½ inches, front; 37 x 5 inches, rear. Price, $4800, with top, lamps and demountable rims. Photographs of the Four-passenger Torpedo on pages 20 and 204. Photographs of the Five-passenger Torpedo on pages 19 and 205

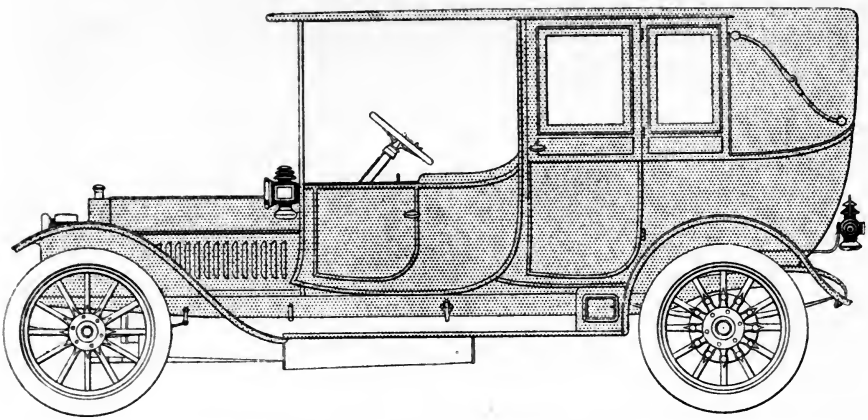
The Torpedo type, so attractive and popular, is represented in our "Six" by two different models, one seating four passengers, the other five passengers. The difference is entirely in the carrying capacity of the body. The chassis is the same as used in the touring car, only the angle of the steering column is increased, the levers are placed farther back on the frame, and a gracefully curved shield extends backward from the dashboard to meet the side doors. The car is very smart in appearance and will appeal to those who do not wish a seven-passenger car, but all the luxury and comfort afforded by our larger "Six". It is also an attractive car to the owner who likes to drive his car.



The "48" Locomobile, Type "M", *Limousine.* Six-cylinder, shaft-drive Tires, 36 x 4½ inches, front; 37 x 5 inches, rear. Tires and rims interchange front and rear. Price, $6050 with lamps and demountable rims. Photograph of exterior, page 206 Photographs of interior, page 207

Six-Cylinder Closed Car Models are three in number: The Limousine, the Landaulet and the Berline.

The Limousine is perhaps the most popular type for all-round service offered by a closed car. Our six-cylinder Limousine partakes of the general character of a torpedo body with smooth surfaces, very attractive in appearance and without any crevices in which dust collects, making the body difficult to clean. The Landaulet is popular because it combines the advantages of an open and a closed car. The Berline, or four-door Limousine, affords complete protection to the occupants

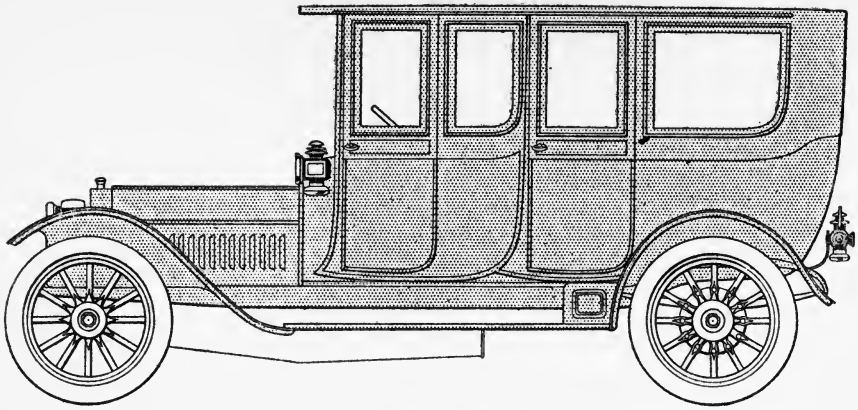


The "48" Locomobile, Type "M", *Landaulet*. Six-cylinder, shaft-drive Tires, 36 x 4½ inches, front; 37 x 5 inches, rear. Tires and rims interchange front and rear. Price, $6150 with lamps and demountable rims. Photographic view of car shown on page 208

of the front seats, and is a handsome model presented in 1912 for the first time.

Six-cylinder closed cars accommodate seven passengers, two in front and five in the rear. The doors are carefully swung, give plenty of room for entrance or exit, and are provided with locks so that they can be secured when the car is left standing.

The upholstering is very luxurious with ten-inch rear seat cushion and back, and very comfortable extra seats. Imported cloths of handsome patterns are employed, trimmed with the finest coach laces. Morocco may be had if sufficient notice is given.



The "48" Locomobile, Type "M", *Berline*. Six-cylinder, shaft-drive Tires, 36 x 4½ inches, front; 37 x 5 inches, rear. Tires and rims interchange front and rear. Price, $6250 with lamps and demountable rims. Photographic view of car shown on page 209

An electric dome light is placed in the roof and operated by a storage battery. It may be controlled from inside the body or from the driver's seat. Corner reading lamps are used in the Limousine and Berline. These are flush with the upholstering and when used are revolved into position, thus automatically switching on the current. A speaking tube with electric buzzer signals the driver. Arm rests are provided, also a very attractive toilet set. All windows are hung with silk curtains mounted on spring rollers.

CHAPTER THREE

MODEL "L" CAR

In Town

SPECIFICATIONS OF THE "30" LOCOMOBILE

TYPE "L" TOURING CAR

MOTOR

Four-cylinder. Horse-power by A. L. A. M. Formula, $32\frac{2}{5}$.

CARBURETER

Locomobile design and construction. Float feed, single jet type. Dashboard control of mixture.

FUEL SUPPLY

18 gallons, gravity feed.

IGNITION

High-tension, dual system. Magneto and Storage Battery.

COOLING

Honeycomb radiator with gear-driven centrifugal pump.

LUBRICATION

Force feed from oiler through hollow crankshaft. Grease cups at all wearing parts on the chassis.

OIL CAPACITY

Engine oiler, .9 gallon. Extra oil tank, 1.3 gallons.

TRANSMISSION

Four-speed selective transmission with bronze gear case. Sixth season of use.

CLUTCH

Leather faced cone. Springs under leather to permit gradual engagement.

DRIVE

Propeller shaft-drive through bevel gears and live axles. Two universal joints, enclosed in metal housings.

FRAME

Pressed alloy steel, heat-treated.

SPRINGS

Semi-elliptic, alloy steel. Front, 38″ x $1\frac{3}{4}$″. Rear, 48″ x $1\frac{3}{4}$″, shackled at both ends. *Power does not pass through rear springs, thus they have full play.*

FRONT AXLE

I-Beam type. Solid forging, heat-treated.

REAR AXLE

Full floating type with alloy steel tubes and live axles. Locomobile radius rods relieve the rear axle of all driving and braking stresses. The best features of chain-drive and shaft-drive combined.

WHEELS

Artillery type, 34″ in diameter.

MEASUREMENTS

Wheel base, 120″. Extreme width, 5′ 5″. Length over all, top lowered, 14′ 6″. Extreme height, top raised, 7′ 4″.

TIRES

Demountable type. Front, 34″ x $4\frac{1}{2}$″. Rear, 34″ x $4\frac{1}{2}$″. Interchange. Tire sizes same on all "30" models except the Baby Tonneau, which has 34″ x 4″ tires, front and rear.

BODY

Four-door Touring Car, seating five passengers.

UPHOLSTERING

Hand-buffed leather, tufted.

FINISH

Optional within reasonable limits.

EQUIPMENT

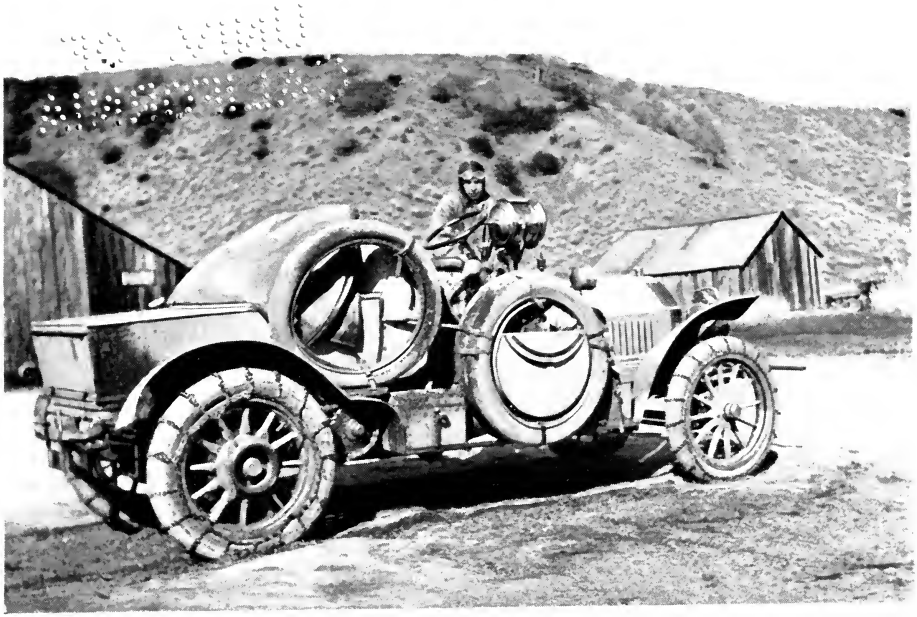
Close-coupled headlights with gas tank. Combination oil and electric side lamps and rear lamp. Storage battery, top, horn, jack, tool bag and kit of tools. Tire carrier, tire tools, tire pump, tire repair kit. Coat rail, foot rest, storm apron for front seat.

PRICE

$3500, including above equipment.

'Round the World in a Locomobile. Crossing the Fuji Rapids, Japan

The trip 'round the world made by Mrs. Clark Fisher of Trenton, New Jersey, is regarded as the most extraordinary trip ever made in a motor car. An account of the trip was printed in the 1911 Locomobile Book. Since then Mrs. Fisher has written a most entertaining book fully describing her wonderful tour and which will appear during the Fall of 1911. This volume will make a most interesting and valuable addition to the books already issued on motor cars. The book is published by the J. B. Lippincott Co., Washington Square, Philadelphia, Pa., and may be secured from them or from your book dealer.



Just Entering the Mohave Desert

A Locomobile used in transacting business between 'Frisco and Los Angeles in preference to train service. Also to reach remote places. Car has been run steadily for three years, covering over 75,000 miles and without appreciable wear of the original transmission gears. Mr. Nares, the owner, has recently purchased a Locomobile "Six".

Touring Abroad. The Line between France and Italy

CHAPTER THREE

THE "30" LOCOMOBILE, TYPE "L", FOUR-CYLINDERS, SHAFT-DRIVE

A great many automobilists believe that the ideal car of the future will be moderate in size and power, but of the highest quality of material and workmanship. They consider the small car inadequate for hard daily service, too light to ride comfortably. They regard the large car as the most luxurious type, though not the most suitable for ordinary service.

To such motorists the "30" Locomobile is recommended. It is an ideal vehicle for the purchaser who desires neither a small car nor a large one, but who demands safety and freedom from trouble above all other considerations.

The best features of both types are combined in the "30" Locomobile. It has every advantage of the small car: economy, facility of operation, and handiness for city use, as it can be turned without backing in a 35-foot street. It is more comfortable than many large cars, and has ample power for touring.

The demountable tires are large, and the weight properly distributed, so that tire trouble

and tire wear are reduced to a minimum. Tires and rims interchange front and rear.

The "30" is a fine utility car and is widely available. It is used with invariable success on protracted tours, both here and abroad. Each motor is required to develop 38 horse-power; the four-speed transmission enables the operator to select instantly the proper gear for any road condition. A wheel base of 120 inches, combined with excellent spring suspension, large tires, and proper balancing of weight, produce a most comfortable car—one that rides easily and steadily at all speeds. It has sufficient weight to make it a luxurious automobile, yet it is not so heavy as to be hard on tires or fatiguing to drive. The "30" Locomobile runs quietly and smoothly, picks up rapidly, climbs all hills satisfactorily, and is equipped with powerful brakes.

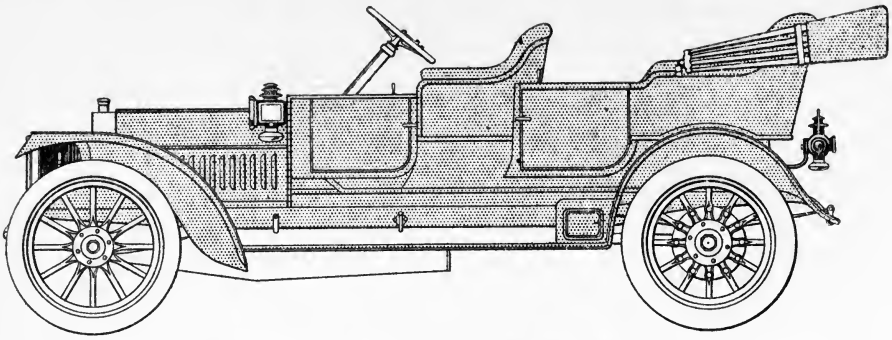
Open bodies for the 1912 "30" Locomobile are of the latest four-door type, giving greater protection from dust and wind to the occupants of the two front seats. Open bodies are upholstered in the best water-grained, hand-buffed leather.

A foot rest is provided, also a sliding coat rail, made adjustable to suit the quantity of wraps to be carried. The equipment includes folding cape top of specially selected, durable water-proof cloth, with side curtains, front curtain and cover, also storm apron for

front seat. The customer is given his choice of colors, enabling him to have a car that is an expression of his own personal taste. The lamp equipment includes acetylene headlights with gas tank, and combination oil and electric lamps at the sides and rear.

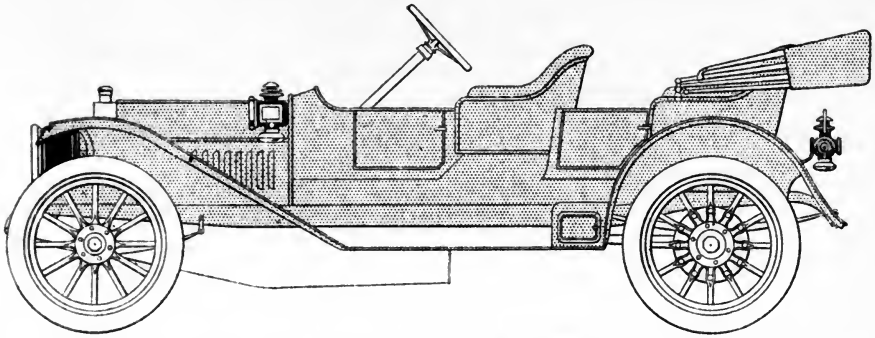
Closed bodies are upholstered inside with the finest imported cloths of handsome pattern and delicate shading, finished off with rich laces, made to order specially to match the material. Morocco leather upholstering may be had if preferred, provided sufficient notice is given when the order is placed. The front seats are upholstered in durable hand-buffed leather. The windows are of plate glass with silk curtains on spring rollers. The front division is composed of three glass frames and the wide center frame can be lowered. The side windows can be dropped when desired. An electric dome light with frosted glass is placed in the roof and operated by current from a storage battery. A speaking tube enables the owner of the car to give instructions to the driver. All inside fixtures are gun metal. A toilet set and other accessories are included in the equipment.

Doors are wide, carefully swung, and open wide, affording ease of exit or entrance and are provided with locks so they can be fastened when car is left standing. The "30" touring chassis with heavier springs, carries the standard "30" limousine and landaulet bodies.



The "30" Locomobile, Type "L", *Touring Car.* Four-cylinder, shaft-drive. Seats five. Equipped with 34 x 4½-inch tires, front and rear. Price, $3500, with top, lamps and demountable rims. Photograph, page 196. Specifications, page 36

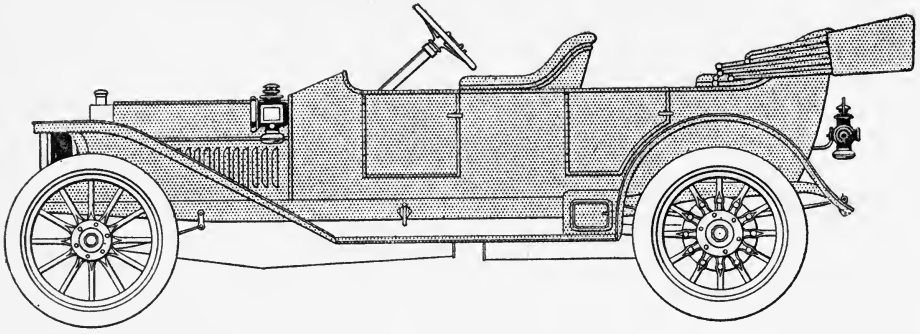
There is no more popular type than the open touring car with five-passenger body. The "30" Four-cylinder Locomobile perfectly meets the demand for such a car. It is a splendid utility car, convenient for every-day service; it is excellent for touring, as it is very comfortable and easy riding. Our "30" Touring Car for 1912 is equipped with a very handsome body of the four-door type, seating five adult passengers very comfortably. It is handsome and commodious in every respect, with fifty-one-inch rear seat, and plenty of foot room in the tonneau. The front seat is divided, the partition having a compartment for gloves, goggles, and other small articles. The front doors are so designed and made that they can be removed if desired.



The "30" Locomobile, Type "L", *Baby Tonneau.* Four-cylinder, shaft-drive. Seats four. Equipped with 34 x 4-inch tires, front and rear. Price, $3500, with top, lamps and demountable rims.
Photographic illustration on page 197

The "30" Baby Tonneau is a smart roadster model particularly designed for motorists who like to drive their own cars. Passengers are seated lower than in the Touring Car, the steering column is inclined at a sharper angle, and the hand levers are placed farther back on the frame.

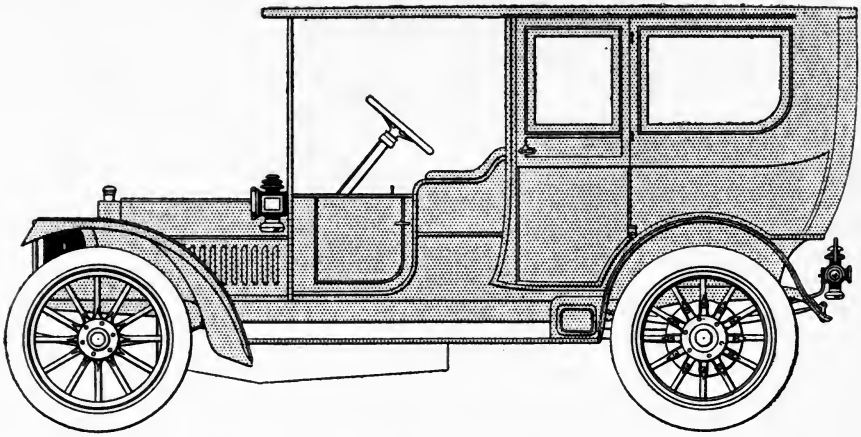
The enclosed front consists of a curved shield extended back from the dashboard with side doors. The rear portion is in the form of a neat two-passenger tonneau mounted on an artillery box. Both tonneau and artillery box may be readily removed, making a two-passenger runabout of attractive appearance, with flat deck at the rear on which may be carried luggage and extra tires. Smooth leather upholstering is used.



The "30" Locomobile, Type "L", *Torpedo.* Four-cylinder, shaft-drive. Seats four. 34 x 4-inch tires, front and rear. Price, $3600, with top, lamps and demountable rims. Photographic illustration on page 198

This model consists of the "30" Roadster type of chassis, equipped with a very graceful flush-sided body of the stylish and very popular Torpedo Type. The name "Torpedo" is most often applied to this type of body because of the similarity of its construction to that of a speed boat. The sides are smooth like the freeboard of a racing yacht, and the side lines have a gentle curve from front to rear, with the widest part in the center of the body.

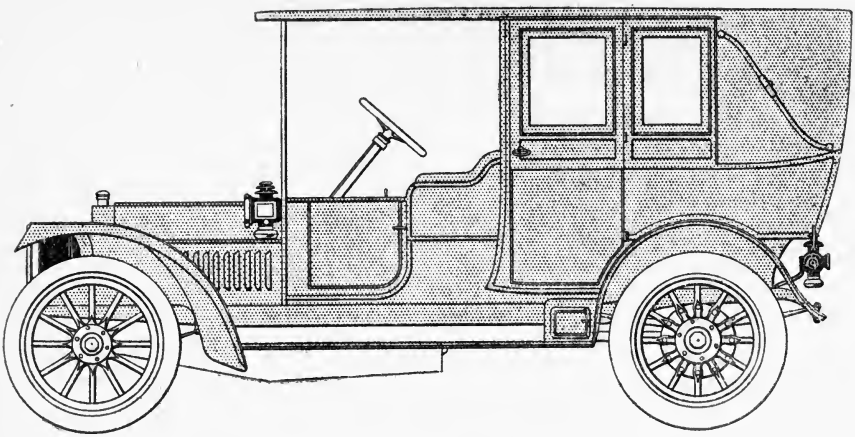
The seats are upholstered in smooth leather, the best quality hand-buffed stock. Seating capacity is provided for four passengers. The customer is offered his option as to color.



The "30" Locomobile, Type "L", *Limousine.* Four-cylinder, shaft-drive. Seats six. 34 x 4½-inch tires, front and rear. Price, $4600, with lamps, demountable rims, and choice of color.
Photographs of exterior on pages 200 and 210.
Photographs of interior on page 201

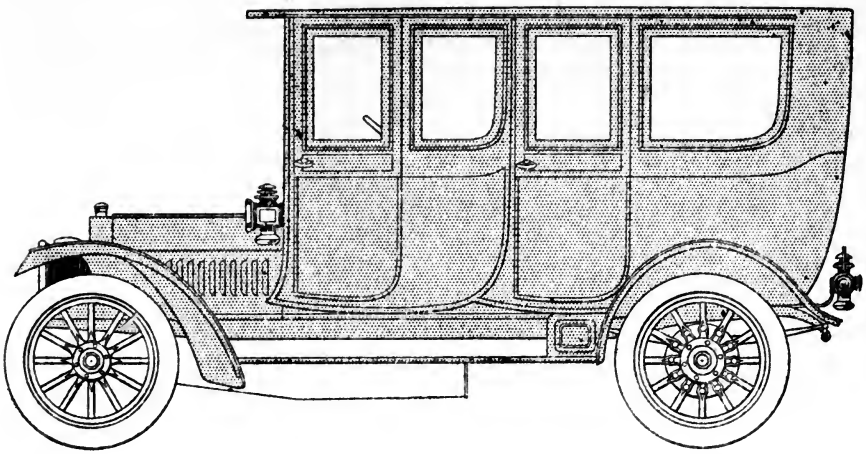
An ideal closed car for all-round service. It is convenient for city use, as it can be turned without backing in a 35-foot street. It is amply powerful for touring and is perfect for suburban driving near a large city. It is reliable and durable, always ready for use.

All seats in this model face forward. Two passengers are carried on the extra seats which fold against the sides of the body when not in use. Two passengers, sometimes three, with a little crowding, are accommodated on the rear seat.



The "30" Locomobile, Type "L", *Landaulet*. Four-cylinder, shaft-drive. Seats six. Equipped with 34 x 4½-inch tires, front and rear. Price, $4700. Photograph of exterior on page 199

The Landaulet has always been a fashionable carriage type, much used for boulevard and park driving. It is a type of body admirably suited to the automobile chassis, because it partakes of the advantages of the open car and the Limousine. When the rear portion is raised the body affords all the comfort of the closed car; when the top is lowered and the windows dropped, the advantages of the open car are obtained. Every precaution is taken with the building of the folding top to make it water-tight under all conditions. Selected top leather of the finest quality is used.

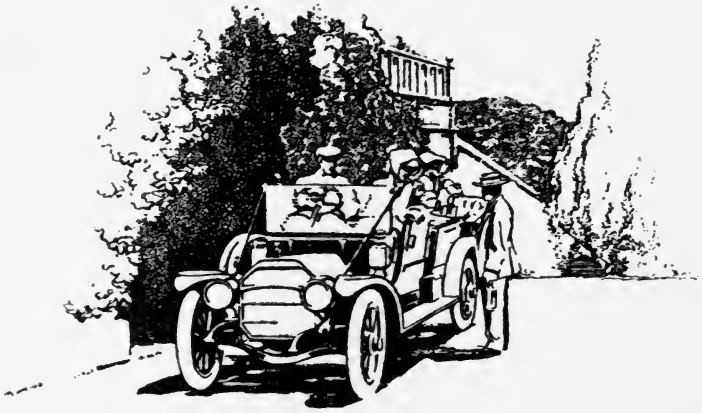


The "30" Locomobile, Type "L", *Berline*. Four-cylinder, shaft-drive. Seats six. Equipped with 34 x 4½-inch tires, front and rear. Price, $4800. Photograph of exterior on page 202

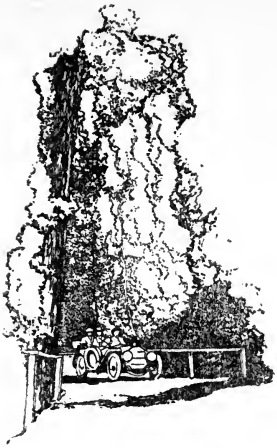
This is an entirely new Locomobile model for 1912. It consists of the "30" closed car chassis equipped with a new body of the four-door type, affording complete protection to the driver and the occupant of the front seat beside the driver. The name "Berline" is a French term, like Limousine and Landaulet, and is used to describe this type of body. As in the "30" Limousine and "30" Landaulet, six passengers are carried, two in the front and four in the rear.

In Connecticut

CHAPTER FOUR



Starting the Tour



CHAPTER FOUR

GENERAL REASONS FOR SELECTING THE LOCOMOBILE

Safety. The greatest charm of automobiling lies in the visits to remote places where roads are rough and conditions severe; the Locomobile owner drives his car everywhere, with a feeling of absolute safety and complete confidence.

Any car will stand the tests of mild motoring for a time, but it takes experience and skill to make a car so safe that it never fails in the unexpected emergency. Locomobile owners trust the Locomobile because of its high factor of safety—the surplus *strength* that prevents breakage and consequent accident. The wheels are made of the toughest second growth hickory so firmly fastened to the axles that they cannot come off. The spokes are very heavy and there are twelve in the front wheels, two more than in ordinary cars. Locomobile brakes are substantial and operated by strong, safe mechanism; axles are designed and built in our works and are the strongest possible to build; the Locomobile is the only shaft-driven car that uses alloy steel in the rear axle tubes; the steel in the front axle is so tough that it can be

bent double *cold* without seam or check. All parts of the Locomobile steering gear are exceedingly large and strong, are made of the best material, and are secured in the most substantial manner. The result of these precautions, year after year, has given the Locomobile the highest reputation for safety. *It is a permanently safe car.*

Design. Our first gasolene machine was the first American car with a four-cylinder vertical water-cooled motor, steel frame, and sliding-gear transmission. Locomobile design today is in the hands of the same men who produced the first gasolene Locomobile; consequently our car has enjoyed rational development from a sound basic design. The 1912 Locomobile is designed in accordance with the latest approved ideas, yet contains no feature that has not been demonstrated to be permanently valuable.

Built in the Locomobile Factory. Motor cars are two classes — built cars and assembled cars. Most automobiles are of the second class, assembled from ready-made parts from the parts-maker's stock. The first class comprises cars largely built in the company's factory and which contain thousands of separate pieces, which the maker has designed and made on his various machines. This is the only way in which the ideal automobile can be produced. Design and construction must be carried on under the same roof. Between

the assembling firm and the parts maker there can only be an approximately close connection. A car built from start to finish by one organization is bound to cost more than one composed of parts produced by the thousand for the trade, but is better unified and will far outlast any car of the assembled variety.

High Character of Materials. Since 1902, when the first gasolene Locomobile touring car appeared, it has been distinguished by the uniform superiority of its metals. Special formula *bronze* is employed in three parts of the car: the crank case of the motor, the transmission case, and the housing containing the steering gears. These units cost more than if made of aluminum, but as no casting material has the strength of bronze or can be cast in such intricate shape and light section, this material has been deliberately chosen to insure the safety and maximum life of the machine. Aluminum is only used where it can be employed safely.

Steels used in construction are the most expensive obtainable and are the most suitable in every case for the purpose intended. Spring steel for automobile springs may be purchased as low as eight cents a pound; Locomobile spring steel costs twenty-eight cents a pound and is the best and toughest that can be obtained.

The matter does not end, however, with the *selection* of stock, as rigid care and exceptional facilities

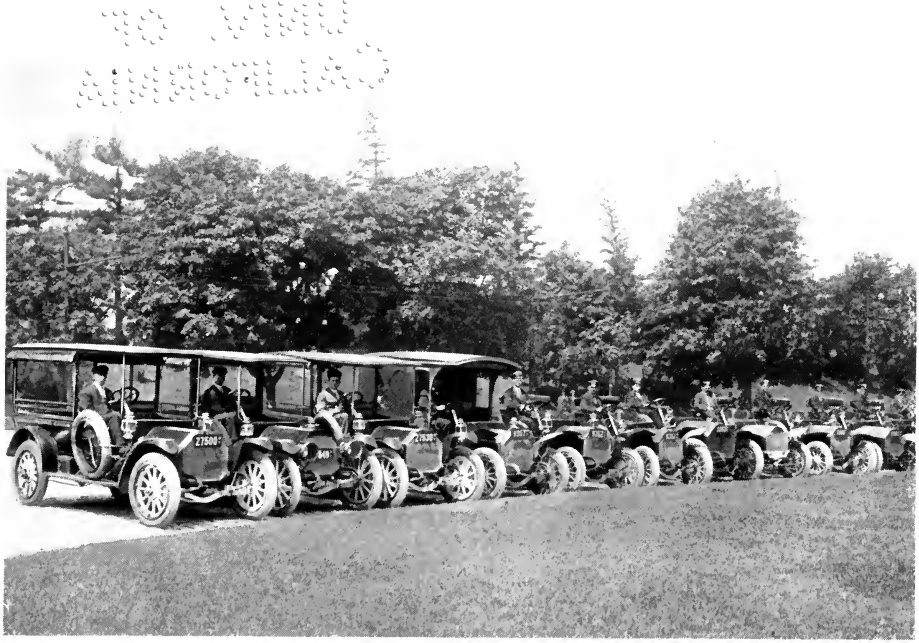
must be applied to the handling of alloy steels which are complicated in structure and which may be spoiled in the working if treated unskilfully or with insufficient apparatus. For six or seven years we have maintained one of the most up-to-date heat-treating and annealing establishments in New England, and every piece of steel used in the Locomobile is subjected to heat treatment in the Locomobile shops.

High Order of Workmanship. An automobilist told us of his visit to one of the largest (if not the largest) French automobile factories. While there he saw several American cars representing the best makes of this country. On inquiry it was found that the maker was designing part of his product especially for American travel and was examining the best American cars to get "pointers". When discussing the various makes, this French builder stated that the Locomobile was the best built machine in the lot. Such incidents have led us to believe that the phrase "The Best Built Car in America" is amply justified. The gentleman who told us the story is now one of our satisfied owners and has induced several of his friends to buy Locomobiles.

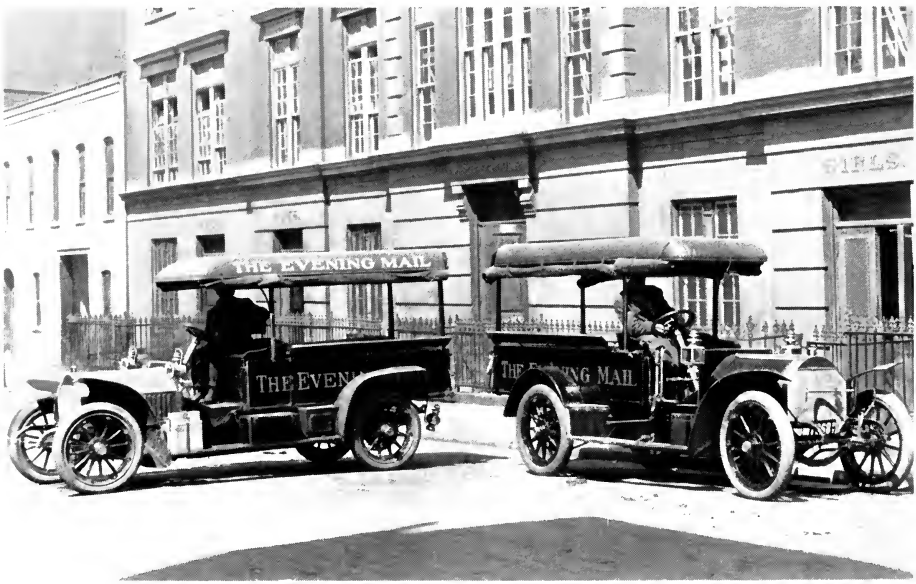
Every automobile, small or large, is composed of thousands of separate pieces, and the number of nuts and bolts holding these pieces together is necessarily enormous. Every nut and the end of every bolt is

A group of Locomobile Delivery Cars. Standard Locomobile Chassis with special body

Locomobile Delivery Car used by a large firm in Chicago, Illinois



Squadron of Locomobiles operated by the *Brooklyn Daily Eagle* for the rapid distribution of newspapers



Locomobiles owned and operated by the *Mail*, New York, for newspaper delivery

hardened. Double lock nuts and cotter pins are used throughout so as to secure each part permanently.

The Locomobile is composed largely of forgings. These are produced complete in the Locomobile works; even the dies from which the forgings are made, are sunk by experts in our employ. All gears are produced in the Locomobile works from start to finish. In every department the highest character of machine practice is followed.

Thorough Testing. Locomobile parts are made in the Locomobile factory and subjected to a critical inspection. The principal components of the car—carbureter, magneto, motor, transmission, steering column, rear axle, etc.,—are tested separately; consequently, when the car is completed it is composed of tested units. Each car is given a severe road test until it fulfills a long list of strict requirements. When ready for delivery, it is given a final inspection and road test to make sure that everything is in perfect order.

These testing processes are exceedingly expensive and are not applied to the cheaper makes of cars, but it is not possible to produce a safe, substantial machine like the Locomobile, unless every precaution is taken.

The Locomobile is Permanently Powerful. Purchasers frequently infer that because a car may make a satisfactory demonstration, that it will do so every day.

They are also led to believe that the mere dimensions of a motor must necessarily mean satisfactory power for hill climbing and general service, whereas it is only in the high-class car that the power of the motor is high for its dimensions, and without any sacrifice of reliability. The Locomobile motor will accomplish the work every day that it is required to do; it will perform with the same satisfaction at the end of a year's hard service as at the outset.

Satisfactory performance results from proper co-ordination of the parts. A large motor may not develop the power it should; it may suffer loss in road performance through a poor transmission which absorbs power and cuts down speed; the chassis may lack balance, in which case faulty distribution of weight makes the car skid before the full power of the motor can be utilized. The riding qualities of the car may be such that the full power of the motor cannot be utilized for speed and hill climbing with either safety or comfort. The "30" Locomobile, for example, will operate more *consistently* and will give better road performance than many cars with larger engines, and do it with greater economy and greater comfort.

Economy. True automobile economy means more than a saving in oil and gasolene over some other car. Our claims for economy are based on the fundamental merits of the Locomobile; it is an economical

car to *maintain* because the parts do not break or wear out. Economy in tire replacement is effected by equipping our cars with tires large enough to do the work without being overloaded, larger than recommended by the tire makers. Tires frequently wear out before their time because the rubber is subjected to too much pressure; also because of defective steering gear design the front wheels do not run true and the tires are ground down; also because of faulty differential design there is too much skidding and consequent wear of the rear tires. The Locomobile is economical in oil and gasolene on account of its correct construction, which reduces friction and saves power.

We claim economy of *time in maintenance* because of the small need for tinkering. The Locomobile can be driven for thousands of miles without other attention than to fill the tanks and keep wearing parts properly lubricated. It will be found to be the cheapest in the end.

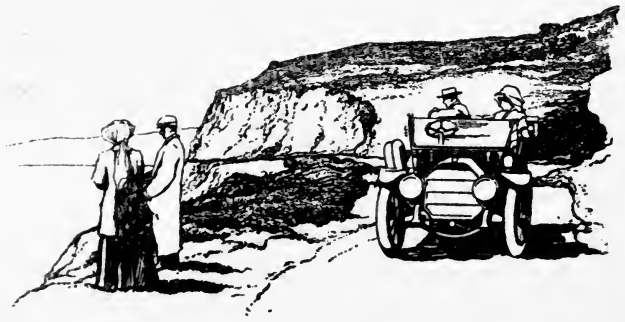
Record of the Locomobile. In the early days our car was conspicuous in contests, but we soon found that the expense and time involved was out of all proportion to the benefits received. In recent years we have directed our entire energy to the betterment of our product and to giving the best possible service to customers. The performances of the Locomobile in public competitions have been sufficient to convince

the public as to the excellence of our product. The Locomobile was the first American car to win the International Race for the Vanderbilt Cup. Our pride, however, lies in the record of the Locomobile in the hands of our owners. One of our cars made a trip around the world at a cost for repairs and replacements less than that of an inner tube; and without disturbing the motor, transmission, frame, brakes, cooling system or other parts of the car. *Such a performance made without any factory assistance whatsoever, and by a party unaffiliated in any way with our organization, is a complete proof of the excellence of the Locomobile.* The record of a car in the hands of the owner is the *final* test.

The Locomobile Organization. It is important to select a good car; it is equally important to consider the organization producing it—its experience, and reputation for taking care of its customers.

The Locomobile organization is composed of men who have grown up with it. Most department heads of the Locomobile Company have been with the organization practically since its foundation. It is inevitable that a car produced under such favorable conditions will be a good car and that the service accorded to the customer will be good service. In buying any article of importance the purchaser always favors the company with a reputation for fair dealing;

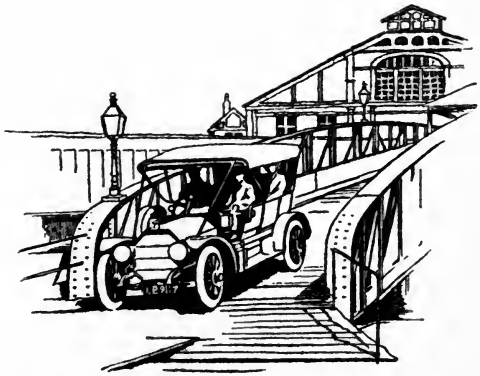
if this is ordinarily desirable it is doubly so in connection with the purchase of an automobile, as from the very nature of its use, the customer and manufacturer are bound to be closely associated. Locomobile service is as important as the Locomobile.



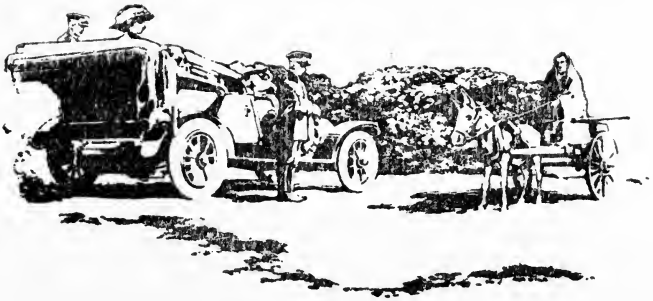
On the Pacific

In Ireland

CHAPTER FIVE



Leaving Liverpool Dock



Donkey Cart, Ireland

CHAPTER FIVE

HOW THE LOCOMOBILE IS MADE

The intention of this chapter is to explain to those who are unable to visit Bridgeport what our factory is like and how we make our cars. The Locomobile plant enjoys what is undoubtedly the most beautiful location of any factory in the country, being situated on the shore of Long Island Sound at Bridgeport, Conn., adjoining Seaside Park. The buildings are arranged so that workmen in all departments have plenty of light and air, and it is well known that healthful surroundings have a marked beneficial influence on the quality of work produced in any factory. Bridgeport is the most active industrial center in Connecticut, provides us with skilled New England mechanics and facilities for making shipments by water or rail.

Our buildings are modern, having been erected by our company expressly for the manufacture of motor cars. Practically the entire car is built under one roof. It is interesting to note that seventy different classes of expert labor are employed to produce the Locomobile. Sixty-eight varieties of highest grade material are used in its construction. In all forty-three different metals are employed — nineteen different varieties of steel alone.

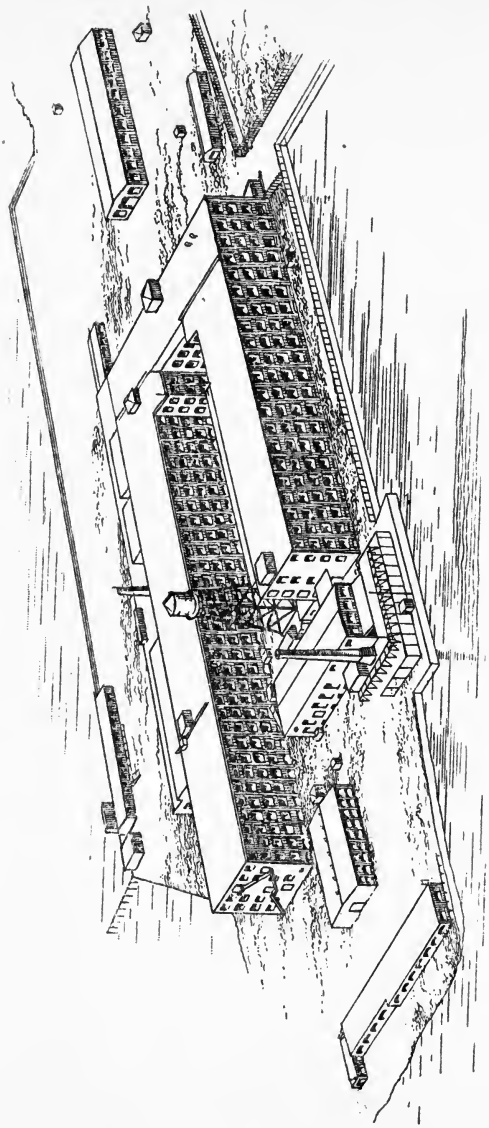
Some particular material is always better for some specific purpose than anything else. Locomobile material is always *specially selected.*

The raw material entering into the construction of the Locomobile is stored in the basement in bins and racks, each class of material having a special place. Before shipments of steel are unloaded from the freight car they are striped with paint, so that every workman can tell at a glance what the steel is intended for. Every steel has its particular color, and a color board hangs in each department that handles raw material—thus there is no confusion. Every piece of steel is also stamped with a number. Some years ago a famous French firm lost an automobile race because, through a factory error, the wrong kind of steel was used in making up the engine valves. In the Locomobile factory the practice of painting the steel and stamping it with a number prevents error and makes it certain that each part will be made from the proper steel.

All Locomobile metal stock is subjected to a complete chemical analysis and physical test. This has been our custom for ten years. It insures uniformity.

Wherever it is possible to make parts from drop forgings, this superior method is employed. We design the parts, and sink the necessary dies. The drop forgings are produced in a complete shop, equipped with large and small drop hammers, trip hammers,

cutters, trimmers and power shears, the raw material being cut in pieces and placed in oil-fed preheating furnaces. All forgings are immersed in an acid bath, which smooths off surface roughness, and are also subjected to the action of the sand blast, which cleans off the scale and reveals flaws if there be any. This operation is more than a mere cleaning process, it is an inspection of great importance. In this section of the factory is located an elaborate heat-treating and annealing department where special facilities are provided for the heat-treatment of alloy steel. This is probably the most complete and up-to-date establishment of its kind in New England, and none in the country excels it in the ability to accomplish the best results. This department has been a feature of the Locomobile plant for seven years, and long experience in heat-treating alloy steels enables us to produce parts of uniform and enormous strength. Owing to the sensitive character of alloy steel, it is necessary to regulate the heating to the utmost accuracy, therefore this is accomplished in oil-fed furnaces, the temperature of which is indicated by pyrometers (electric thermometers) and the oil burners enable the exact temperature to be controlled for any length of time. Two types of pyrometer are employed: one for regular working purposes; the other is a very delicate laboratory instrument held in reserve for calibration purposes to



Perspective View of Factory Buildings

insure correctness of the working pyrometer at all times. An idea of the magnitude of our heat-treating establishment may be had when it is stated that the consumption of oil for the furnaces amounts to a thousand gallons a day. *All drop forgings, all nuts and bolts are heat-treated, as well as all gears, shafts and axles.* The importance of the foregoing statement cannot be overestimated. It insures uniformity and increased strength. It "restores" the steel, if by any chance the piece has been overheated by a careless forger.

The machine rooms constitute a large part of the floor space of the factory as the Locomobile is a car composed of Locomobile parts. The various manufacturing departments are equipped with the latest and best machine tools, which perform the various operations in the most correct manner. These machines are constantly being renewed as fast as newer and better designs are produced. Each machine room has its own inspection room under the supervision of the main inspection department. Accuracy is the rule in the Locomobile plant. All machine operations are inspected and every finished part is inspected. It is *our* practice to make and test, every single nut, screw and bolt. Some pieces are tested by a blow from a hammer, a clear ringing note indicating the absence of any flaw. These inspections are exceedingly

expensive but guarantee high quality and long life of the car.

An automobile contains a very large number of bearing surfaces entirely separate from any ball bearings used in the construction of the car, and these must be absolutely true, smooth and of the proper density to resist wear. The proper way to finish wearing surfaces is by grinding and the Locomobile grinding department is noted for the amount and accuracy of the work performed.

In any automobile there are a large number of gears, both spur and bevel — such parts are made in the Locomobile shops from start to finish. Elaborate gear-cutting machinery is employed that generates the teeth of the gears, that is, shapes the gear teeth so as to produce the curve called for by theory instead of approximating it in the ordinary manner. Another important matter is that Locomobile gears have been produced in the Locomobile factory for eight years with a corresponding precision to be gained only by such long experience.

We have always built our own engines. Many automobile manufacturers do not build their engines or have only recently begun to do so. (No Locomobile gasolene car has ever been equipped with an engine that was not a Locomobile engine.) Each engine is assembled from parts that have all been carefully

inspected and are entirely interchangeable in character. When the engine is finished it is flooded with oil and driven by a belt until it is limbered up, after which it is placed on the testing stand where it is coupled with a dynamo which it drives, and the electrical power developed by the dynamo in consequence is readily transformed into horse-power. Each engine is tested until it fulfills the standard requirements for its type and the record of each engine test is preserved.

The transmission gears, an important part of any car, have always been a very strong part of the Locomobile. The transmission is built complete in the Locomobile plant. An exceedingly interesting testing device is used for all transmissions and rear axles. This consists of a stand on which is placed, for example, a rear axle, which is then driven and the conditions of actual road service are imitated to the extent of testing the rear axle for driving and braking stresses and for the silent and satisfactory operation of the gears. Each transmission is placed on this stand and tested before it is permitted to enter into the construction of the chassis.

This is but one of many similar Locomobile testing machines which are expensive both to own and operate. The use of such machines is another illustration of Locomobile factory carefulness.

Another interesting department is that in which the chassis is assembled. Here the motor, transmission, axles, steering gear, frame, springs and other components are combined to produce the complete chassis. Even with the close and accurate fits determined and established in our works there is no *fitting* in the assembling room. All Locomobile parts are interchangeable, and the assembly of all parts of the chassis frame are also interchangeable as the assembly holes are jig drilled. Consequently, any Locomobile motor will fit any chassis, and so on for the transmission and other units.

After its "rough test" the car is sent to the finishing department to be painted and to have the body and lamps and equipment added. The metal parts of the chassis are enameled instead of painted. The difficulty of making paint stay on the bonnet, which is hot, and on the fenders and other parts which are always subjected to more or less vibration, is overcome by baking on the enamel which makes a perfect foundation for the finishing coats of paint and varnish.

When the car leaves the final department which prepares it for delivery, it is given a road test of sufficient duration to make sure that the car is in proper running condition before shipment. After this the report of the "tester" is checked by other inspectors. The final test is performed by a special inspector whose

Works of the Locomobile Company of America at Seaside Park, Bridgeport, Connecticut

The main structure was erected in 1901 by our Company specially for the manufacture of automobiles and has since been greatly extended

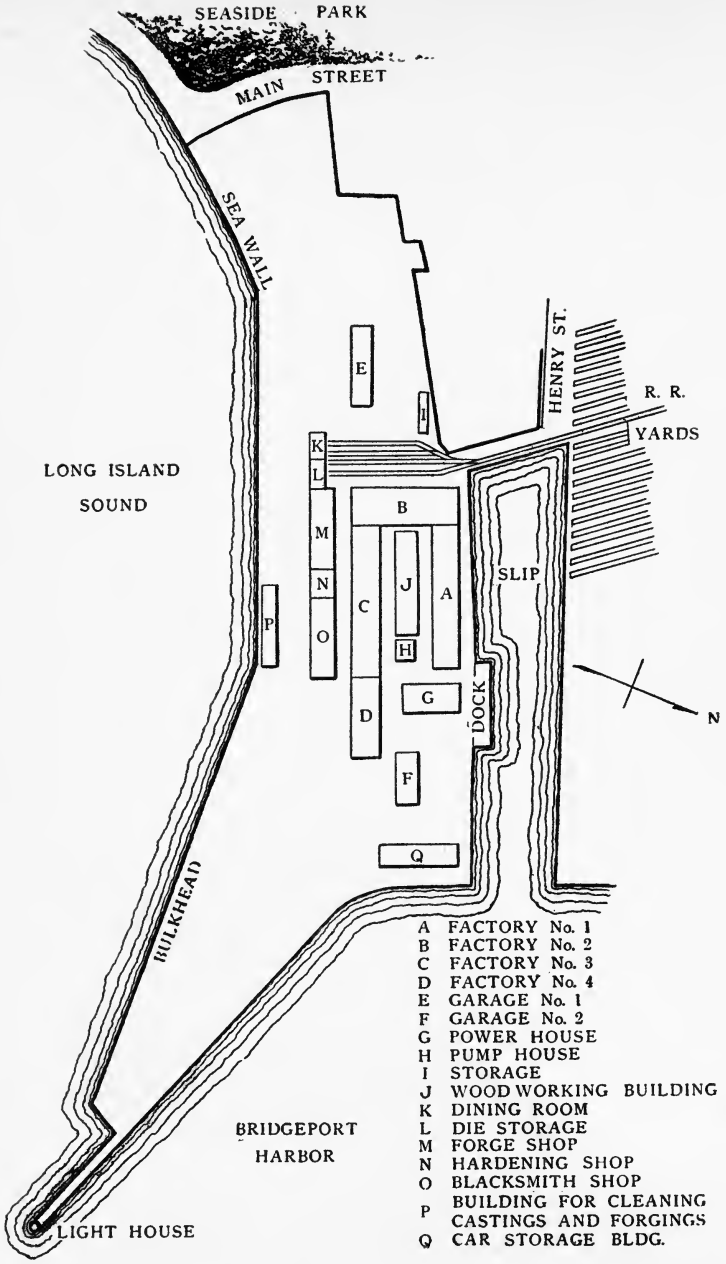
Tuning up the Finished Product. The Locomobile Testing Crew ready for the road. See page 72

regular duty is to examine the car with a view to eliminating any minute imperfections in upholstery, finish, or equipment.

The Locomobile is tested with the utmost thoroughness. No pains or expense are spared to make each car fulfill the highest standard of excellence. Locomobile tests may be arranged in ten parts, as follows:

1. Inspection and tests of raw material.
2. Inspection and tests of separate parts in process and not finished.
3. Inspection and tests of separate parts as finished.
4. Testing of components, such as engine test, magneto test, transmission test, rear axle test, etc.
5. Rough road test of chassis by special crew of men.
6. Inspection of the road test by different crew.
7. Final road test of completed car by special crew of men.
8. Inspection of final test by different crew of men.
9. Final examination by special inspector.
10. The car is checked against the customer's specifications.

Every year we receive many visitors at our factory, and all interested in the production of high-class automobiles are invited to go over our plant. Anyone who has ever made a careful inspection of the Locomobile plant has carried away something of the spirit of Locomobile ideals of manufacture.


SEASIDE PARK
MAIN STREET
SEA WALL
HENRY ST.
R. R. YARDS
LONG ISLAND SOUND
SLIP
DOCK
N
BULKHEAD
BRIDGEPORT HARBOR
LIGHT HOUSE
A FACTORY No. 1
B FACTORY No. 2
C FACTORY No. 3
D FACTORY No. 4
E GARAGE No. 1
F GARAGE No. 2
G POWER HOUSE
H PUMP HOUSE
I STORAGE
J WOOD WORKING BUILDING
K DINING ROOM
L DIE STORAGE
M FORGE SHOP
N HARDENING SHOP
O BLACKSMITH SHOP
P BUILDING FOR CLEANING CASTINGS AND FORGINGS
Q CAR STORAGE BLDG.

CHAPTER SIX

Hop Pole Tavern, England

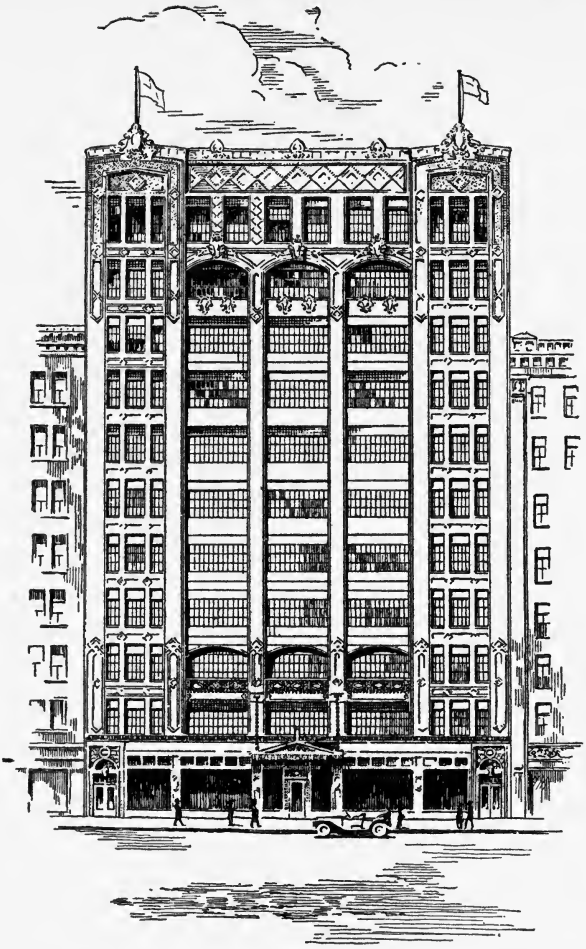
The Riviera

CHAPTER SIX

THE LOCOMOBILE ORGANIZATION

The Locomobile Company of America was founded in 1899, at a time when automobiles were called "*Horseless Carriages*", and there were few, if any, practical machines in use. Our company was the first in America to deliver automobiles in any quantity. The performance of early Locomobiles was the first convincing demonstration of the value of automobiles, and was the most potent factor in awakening the automobile movement in this country and in stimulating the industry.

Our experience in the manufacture of automobiles covers many years and is very comprehensive. The Locomobile for 1912 is the result of this knowledge. It is the mature product of long experience. We believe that it is very important for the purchaser to consider something more than the actual car. We believe that he should be influenced by the way in which the car has been developed, so that he will get a machine that is the result of experience; we believe that he should be influenced by the character of the company, buying his car from a concern whose policy it is to take the best possible care of its customers.



The New Branch Building of the Locomobile Company in New York City

Location at 16–24 West 61st Street, near Broadway

To be occupied on or about May 1st, 1912. The idea back of this building, as in the other Branch Buildings, is to give the Locomobile owner the best possible kind of service

Present
New York
Branch

The policy of the Locomobile Company is to build the best cars possible and to see to it that they give complete satisfaction in the hands of owners. In order to carry out this policy we have our complete manufacturing plant, in which are located our executive offices, in close touch with the production.

In order best to serve our customers throughout the country we have established branch houses at important centers. It is important to know that this is not a recent departure, but was an original part of our company's policy; for example, our New York branch was established in New York City in 1899 and we have occupied our present building at Broadway and

Philadelphia Branch

76th Street for twelve years. We have had branch houses in Philadelphia and Chicago since 1900, and one in Boston since 1901. We have since opened new branches in San Francisco, Washington and Oakland, Cal. Throughout the country are a large number of dealers who handle the Locomobile product and who keep in close touch with the nearest branch house. This system forms a complete chain, enabling the Locomobile owner to tour from one part of the country to the other and always be in touch with the Locomobile Company or a Locomobile dealer.

The men composing the Locomobile organization are almost without exception pioneers in the industry,

Chicago Branch

and as a result are thoroughly experienced in the manifold details of the business. Twenty-four department heads of the Locomobile organization have been associated with it practically since the beginning. As a result there is that wholesome unity of effort and complete understanding which can only result from working side by side, for years.

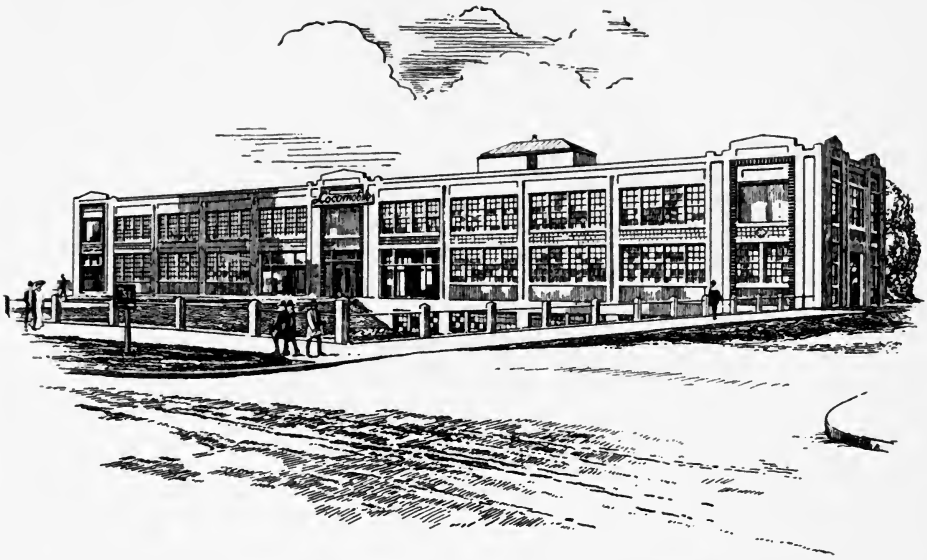
It is an important part of our policy to co-operate with owners to the fullest extent; to do everything we can to make their experiences with the Locomobile thoroughly satisfactory in every way. We endeavor to keep in close touch with our customers and to handle their correspondence with care and promptness; we

San Francisco Branch

keep on hand at our factory and branch houses a complete supply of spare parts and supplies; and from time to time we send mechanical experts to call on Locomobile owners to see that their cars are operating as they should.

Our constant effort is to produce the best car we can and to see to it that the owner obtains from its use the perfect satisfaction it was built to give.

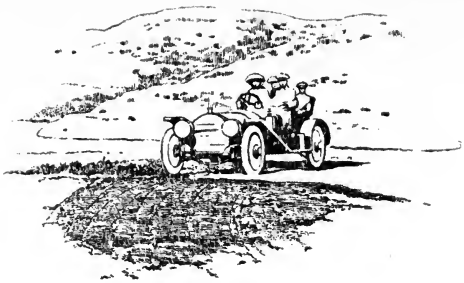
It is important to buy a good car, but it is equally important to buy it from an experienced organization with a reputation for taking care of its customers and with full facilities for doing so.



The new Locomobile Branch in Boston, 700 Commonwealth Avenue

List of Branches

Bridgeport, Conn.	Seaside Park
New York City	Broadway and 76th Street
Philadelphia, Pa.	Twenty-third and Market Streets
Chicago, Ill.	2000 Michigan Avenue
San Francisco, Cal.	Van Ness Avenue and Hayes Street
Boston	700 Commonwealth Avenue
Washington	1124 Connecticut Avenue
Oakland, Cal.	Twelfth and Harrison Streets

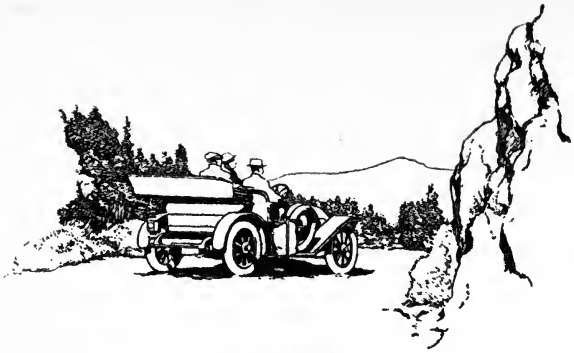


On the Desert

CHAPTER SEVEN

BUSINESS CARS, FIRE WAGONS AND SIMILAR VEHICLES

In California



In the Rockies

CHAPTER SEVEN

BUSINESS CARS, FIRE WAGONS, AND SIMILAR VEHICLES

Fire Wagons. In 1907 we delivered a chemical engine to the Bridgeport Fire Department, consisting of a standard 40 horse-power Locomobile chassis, equipped with special tires and a body carrying chemical apparatus and having room for ten or more firemen. This car was placed in commission on December 17th, 1907, and proceeded to answer all alarms. The Fire Commissioners estimated that the apparatus paid for itself inside of three months. It has been in service forty-three months, at this writing, and has answered 1149 alarms of fire. The cost of maintenance and operation has been at the rate of about $1.32 per alarm of fire.

The great practical value of this chemical led the commissioners to purchase a car for the fire chief together with two other pieces of motor-driven apparatus, all of which are in successful operation. Another result was the purchase of Locomobile fire-fighting apparatus by neighboring cities and towns, such as Waterbury, Stamford, Greenwich, Fairfield and Stratford; and more distant points such as New

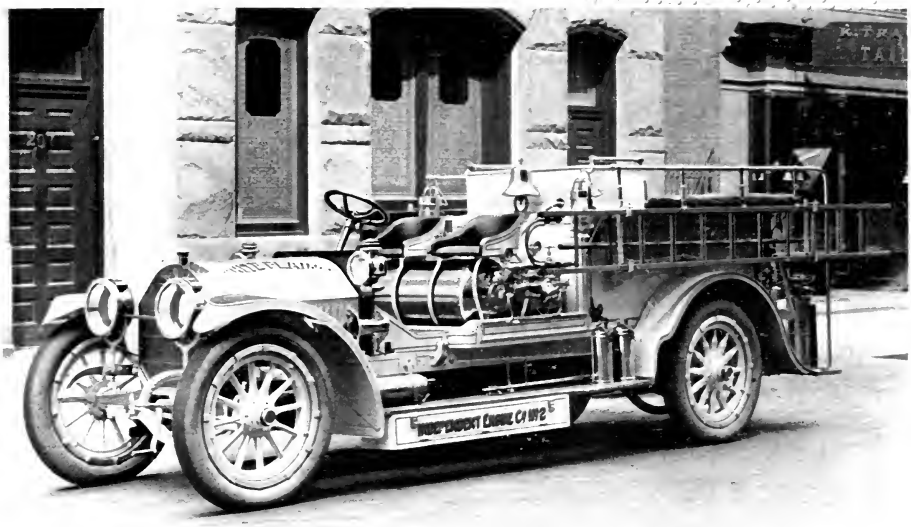
Bedford, Mass., Newark, N. J., White Plains, N. Y., Tarrytown, N. Y., and San Antonio, Texas.

Owing to the obvious demand for Locomobile cars for this important service, we have developed a special chain-driven, 40 horse-power chassis, having a very long frame and a wheel base of 148 inches. An example of fire apparatus built upon this chassis, is the chemical engine of the Independent Engine Company of White Plains, shown on page 91.

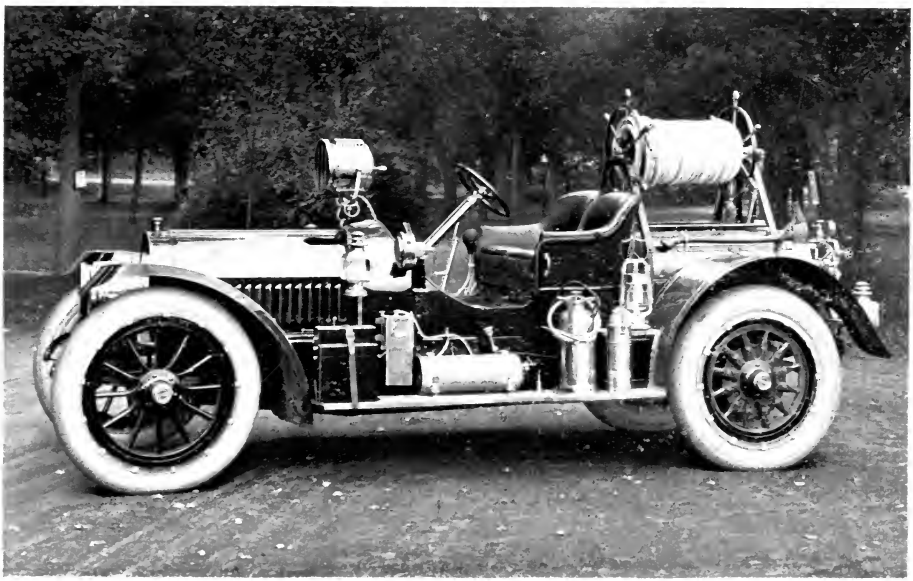
Salvage Corps Cars. Owing to the successful use of a Locomobile by Chief Swingley of the St. Louis Fire Department, the Underwriters Salvage Corps of that city bought a Locomobile. The body was built after the designs of Chief Glanville. The good service performed by this car may be illustrated by the following comparative statement quoted from a yearly report of the Salvage Corps:

Three Horse Drawn Apparatus Companies	*One Locomobile*
Extinguished unaided, fifteen fires.	Extinguished, unaided forty-two fires.
Insurance involved, $71,800.	Insurance involved, $250,800.
Losses paid, 348.	Losses paid, 1572.

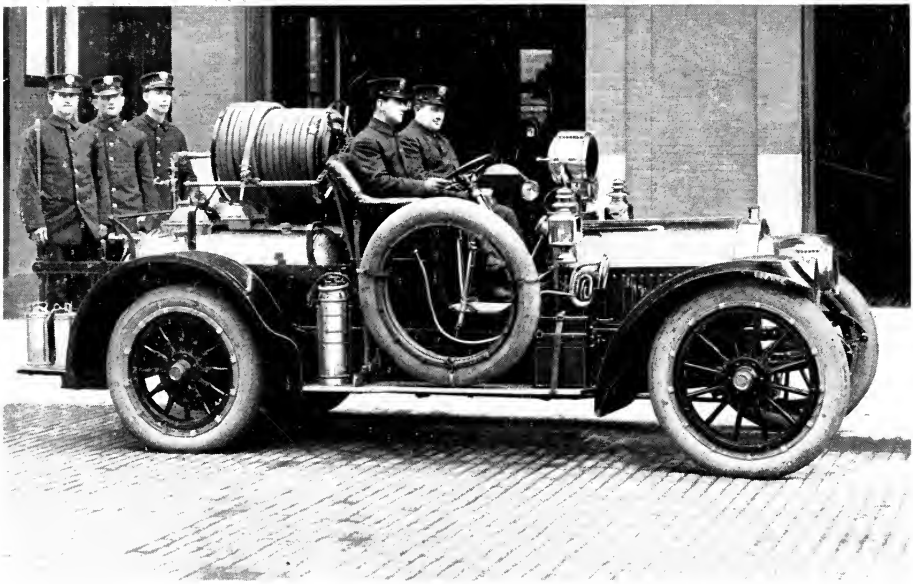
The Salvage Corps in Newark, N. J., bought a similar car. It gave such good service that after several years of use a second Locomobile was put in commission. See illustration of this car on page 127.



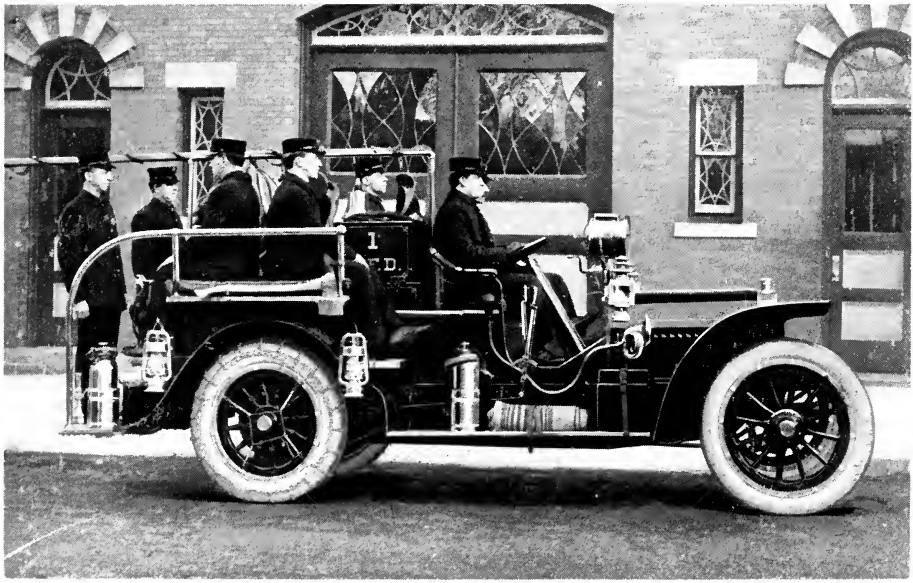
Locomobile Chassis, 148-inch wheel base. Combined Double-tank Chemical and Hose Cart, carrying 500 feet of hose. White Plains, New York, Fire Department



Fire Chief's Car, San Antonio, Texas. Locomobile Chassis



Locomobile Double Tank Chemical Car. Two 35-gallon tanks. Owned and operated by the Bridgeport, Conn., Fire Department



Locomobile Hose Cart. Waterbury, Conn., Fire Department

Police Patrol Wagons. A Locomobile Police Patrol Wagon built for the City of Baltimore proved so successful that it enabled the Police Department to dispose of three wagons and eight horses. During the first year it covered 9000 miles in city and suburbs, and was not out of commission one day. Baltimore now has four of these Locomobile Patrol Cars, each having a wheel base of 148 inches and a 40 horse-power motor. Sixteen men can be carried, twenty-one in an emergency. See photograph, page 127.

The City of Bridgeport also has operated a Locomobile Police Patrol successfully for some years. Marshal Farnan of the Baltimore Police Department uses a "30" Locomobile, and said in an address before the International Association of Police Chiefs: "It has proved such a valuable addition to our equipment that I wonder how we ever got along without it."

Newspaper Cars. The Locomobile is particularly well adapted to the rapid delivery of newspapers on account of its reliability. It will stand up to hard and fast work. About five years ago we delivered to the *Brooklyn Daily Eagle* a 1907 chassis on which was placed a light delivery body. This car proved so satisfactory that more Locomobiles were purchased from year to year. There are now eleven of our cars at work, the largest number in use by any newspaper in this country. See illustration on page 56. The *New*

York Mail has also purchased Locomobiles, two of their delivery cars being illustrated on page 56.

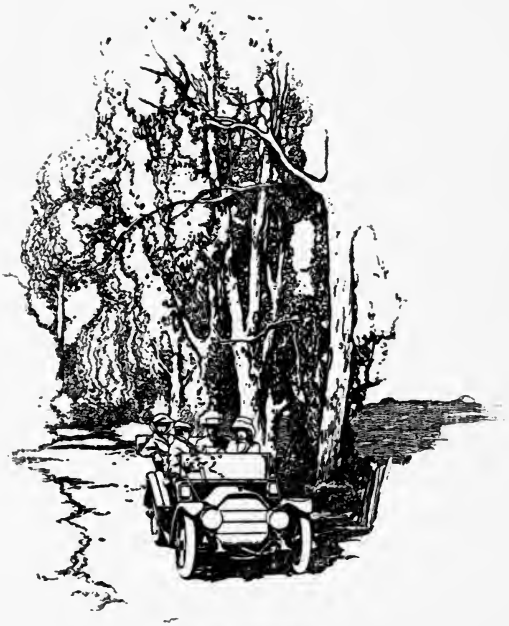
Delivery Wagons. We strongly recommend the use of a rebuilt Locomobile chassis equipped with a suitable body, for delivery purposes. The cost of the chassis is moderate and satisfactory bodies may be obtained at reasonable prices. There are many such cars in regular daily service, giving excellent satisfaction in every way. We would refer to the chapter on Rebuilt Cars on page 173, also photographs of such cars on pages 55 and 128. More information will be furnished on request.

Ambulances. The speed, smooth running and easy riding qualities of the Locomobile fit it for the important service required of an ambulance. The City of Bridgeport, Conn., has used a Locomobile Ambulance successfully for a number of years. A Locomobile Ambulance sold to a private hospital in New York City gave such good satisfaction that it resulted in an order for another car.

Municipal Cars. For the past seven or eight years Locomobile cars have been used with continued success for municipal service in the large cities. For example, the various city departments in New York employ thirteen Locomobiles. Some of these cars have been in service since 1904. Wherever steady service is demanded the Locomobile is always appreciated.

CHAPTER EIGHT

THE MOTOR



A stop for Luncheon

Bamboo Trees, Jamaica

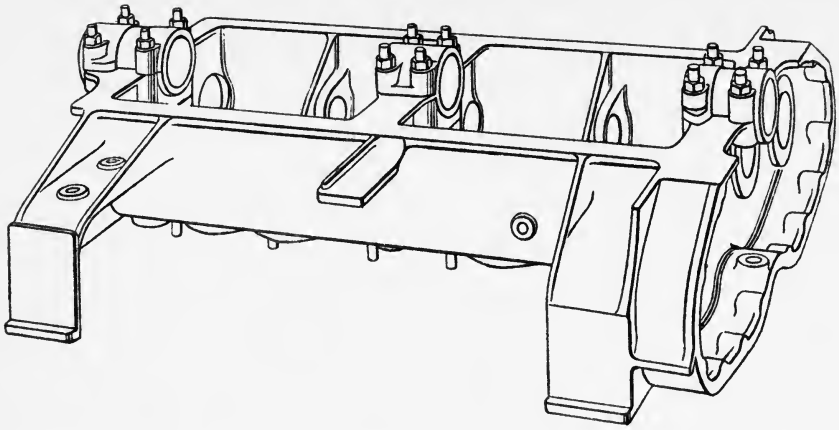
CHAPTER EIGHT

LOCOMOBILE MOTOR CONSTRUCTION

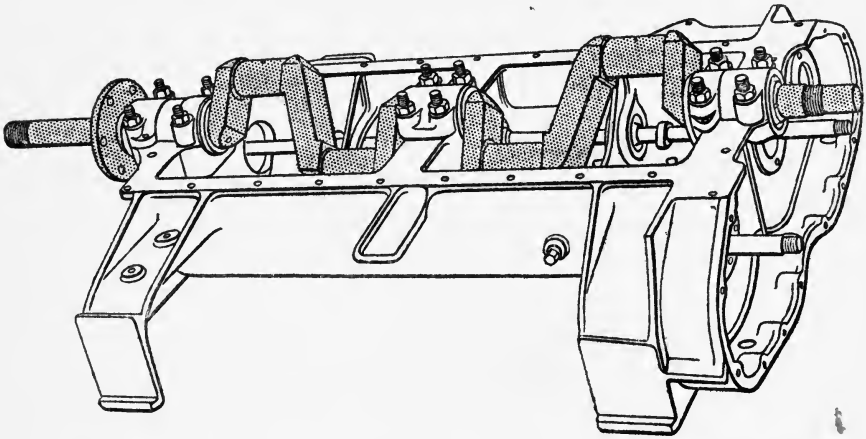
In a general sense, the most impressive feature of the Locomobile motor is its strength of construction. The design is substantial, the quality of material is the best, the workmanship is accurate, and the system of testing is elaborate and thorough. These precautions combine to make a motor that will keep running satisfactorily year after year.

Crank-Case. One of the most interesting details of the Locomobile motor is the substantial bronze base on which the cylinders rest. Bronze makes an absolutely rigid structure, which greatly prolongs the life of the motor. Aluminum, which is commonly used for the purpose, has but one-third the strength. In a bronze base, such as is used on the Locomobile, there is no danger of fracture or of the bearings getting out of line. The bottom portion of the engine consists of an aluminum casting bolted underneath the bronze engine base and used to contain the oil for the lubrication of the motor. Inasmuch as this part of the engine is not subjected to stress, aluminum is used to save weight.

Crank-Shaft. This very important part of the motor is notable for its strength and fine workmanship. The

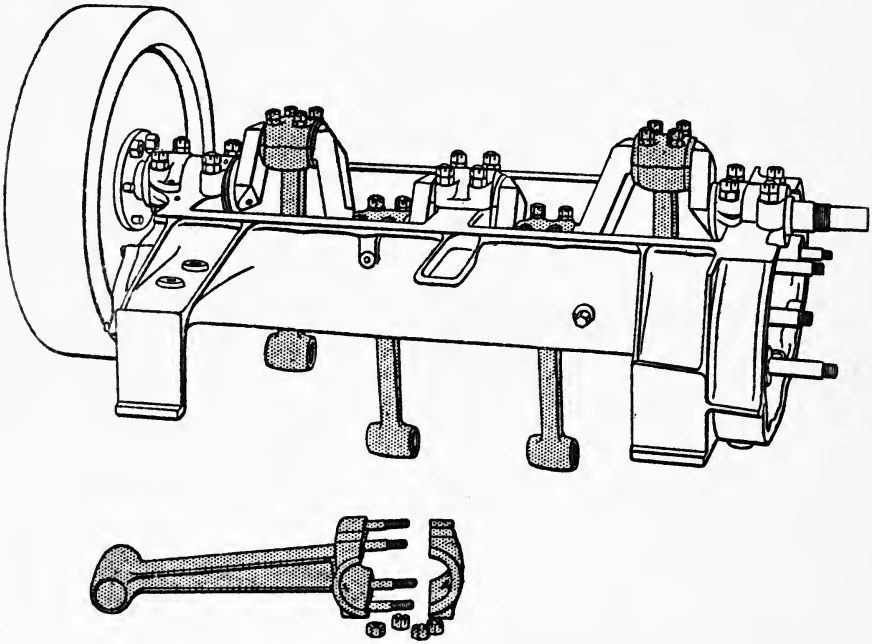


Building the "30" Locomobile Motor. A series of drawings from photographs showing the construction step by step. First View. The bronze crank-case, bottom side up

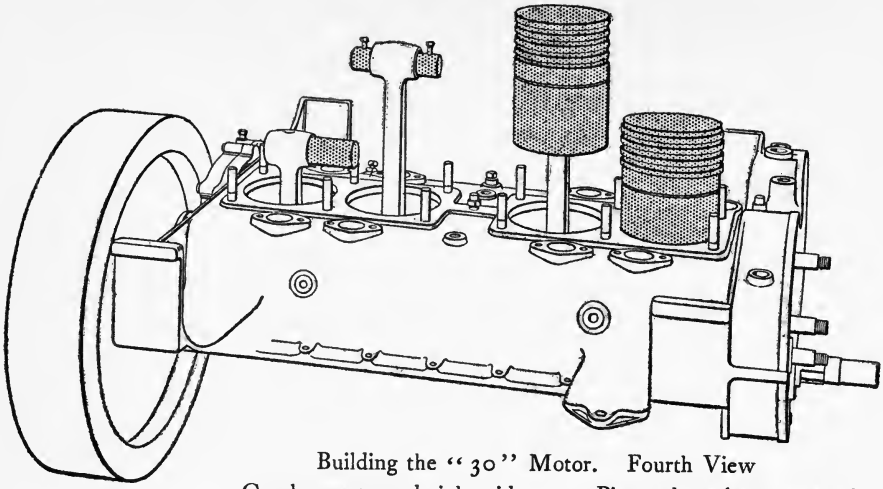


Building the "30" Motor. Second View. The crank-shaft, shown shaded, has been assembled in its bearings. Also the cam-shafts. Parts as added in these views are shown shaded

crank-shaft of the Locomobile is a solid bar of alloy steel, which is first pressed out in rough form on a hydraulic forge and then heat-treated. The crank-shaft is machine finished all over, from end to end, whereas in most crank-shafts the bearings only are machined. It is balanced on a testing device with knife blades prepared for the purpose. The crank-shaft is forged with a flange at the rear end to which

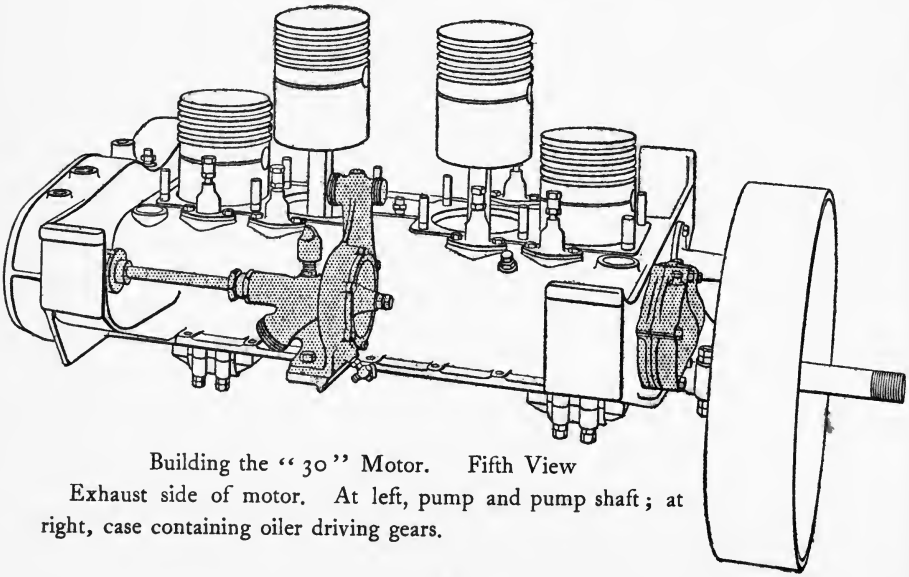


Third View. Connecting rods have been assembled. One shown separately with bearing cap removed. Fly-wheel also added, bolted to rear end of crank-shaft



Building the "30" Motor. Fourth View

Crank-case turned right side up. Pistons have been fastened to connecting rods. From left to right: wrist pin; wrist pin with studs; piston without rings; piston with rings.



Building the "30" Motor. Fifth View

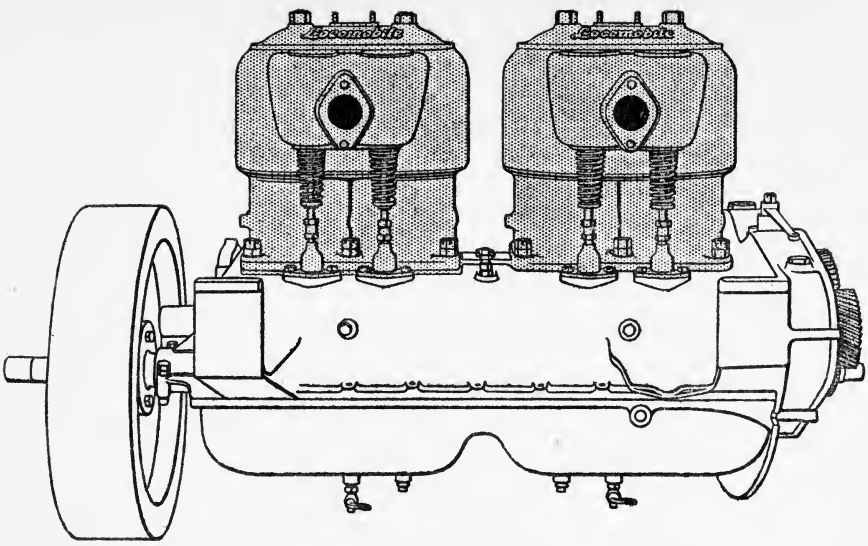
Exhaust side of motor. At left, pump and pump shaft; at right, case containing oiler driving gears.

the fly-wheel is substantially secured. The crank-shaft rests on main bearings of liberal dimensions, perfect alignment being established before the crank-shaft is assembled in its bearings. The bearings of the motor consist of the alloy steel surface of the crank-shaft rotating in bushings of white bronze, compressed to the proper density and highly polished by a special process of our own. The bearing caps are secured by four double lock nuts and cotter pins.

Cam-Shafts. Locomobile forgings with cams integral. Cam-shafts are heat-treated to secure proper hardness and are ground all over. Cams are ground on a special machine with special fixtures and are absolutely accurate.

Connecting Rods. Locomobile connecting rods are very strong, drop forged from special steel in our shops. The bearings of the connecting rod on the crank-shaft are similar in construction to the main bearings, and are made adjustable by thin copper shims. The connections are very strong, the bearing caps being secured to the connecting rods by four studs—a nut, lock nut, and cotter pin for each stud.

Pistons. Selected gray iron castings are used, each casting being subjected to a sand blast and a careful hand filing. This shows up defective material, also removes any partially loose metal and prevents it from



Building the "30" Motor. Sixth View
The cylinders, valves and timing gears have been added

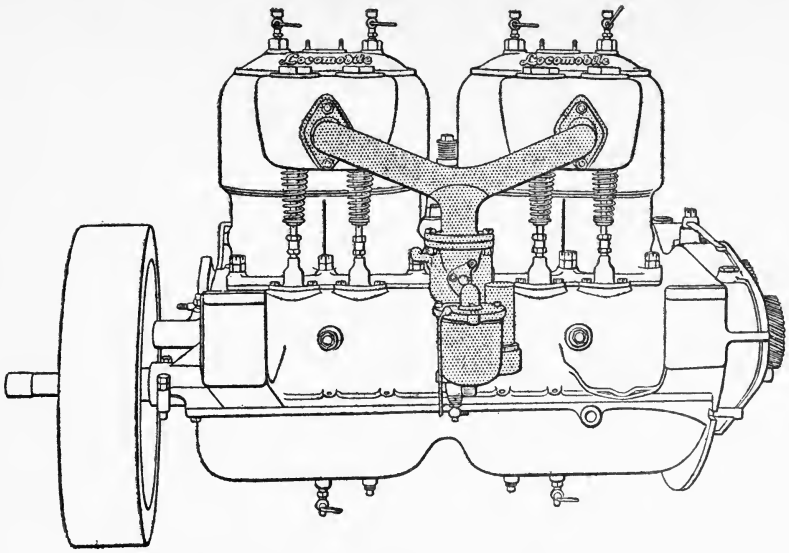
working into the motor and cutting the bearings. The pistons are carefully turned on a lathe, and then ground to exact size, the finished piston having a slight taper at the top to allow for expansion caused by the greater heat of the piston at its upper end. Piston rings are four in number, cut from specially selected, springy stock. The rings are turned eccentric, cut at an angle of 45 degrees, then compressed to circular form, held in a fixture, and ground all over their entire circumference. Pistons with rings in place are lapped with an abrasive compound until they fit perfectly.

Wrist Pins. Pistons are secured to the connecting rods by hardened steel wrist pins ground to size. The wrist pins are forced into the pistons with a very close fit preventing any up-and-down motion, and are secured to the pistons by steel studs, which keep them from turning or moving laterally. The studs are prevented from working loose by a steel wire, the ends of which pass through holes drilled in the ends of the studs, and are then bent around. The wrist pin bearing is a steel bushing, hardened and forced into the small end of the connecting rod. Special provision for thorough lubrication of all wrist pins is provided.

Valve System. The valve springs are of specially selected stock, the valves are carefully made and precisely set — the entire system may be operated for long periods of time without need of attention. Cam rollers are hardened steel and have a long bearing in the bronze lifter guides, a form of construction which prevents wear and rattle. In case it is desired to check the timing of the valves, marks on the fly-wheel enable this to be done with promptness and certainty.

Pump. The centrifugal water pump is located on the exhaust side of the motor. The pump shaft is driven by a gear meshing with the exhaust cam-shaft gear.

Cylinders. Locomobile cylinders are cast in pairs with valve boxes and water jackets integral. The

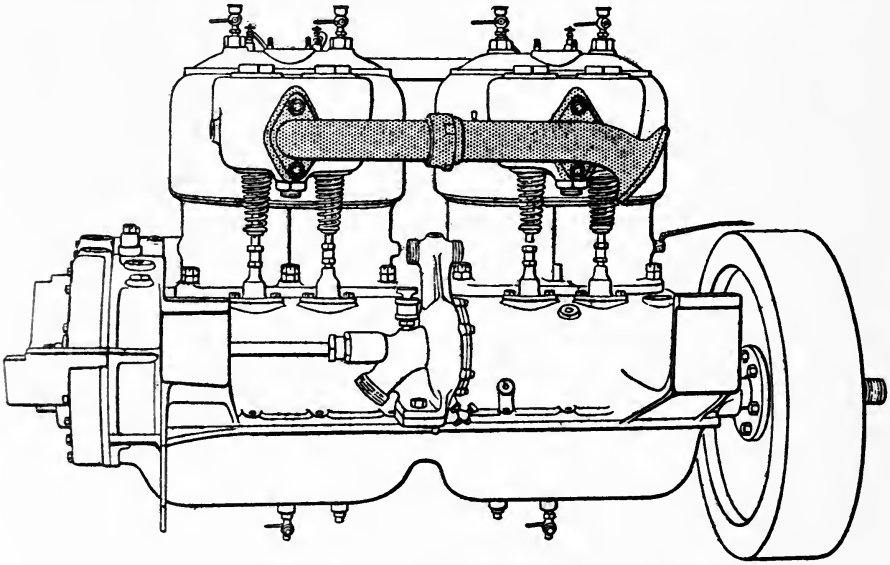


Building the "30" Motor. Seventh View

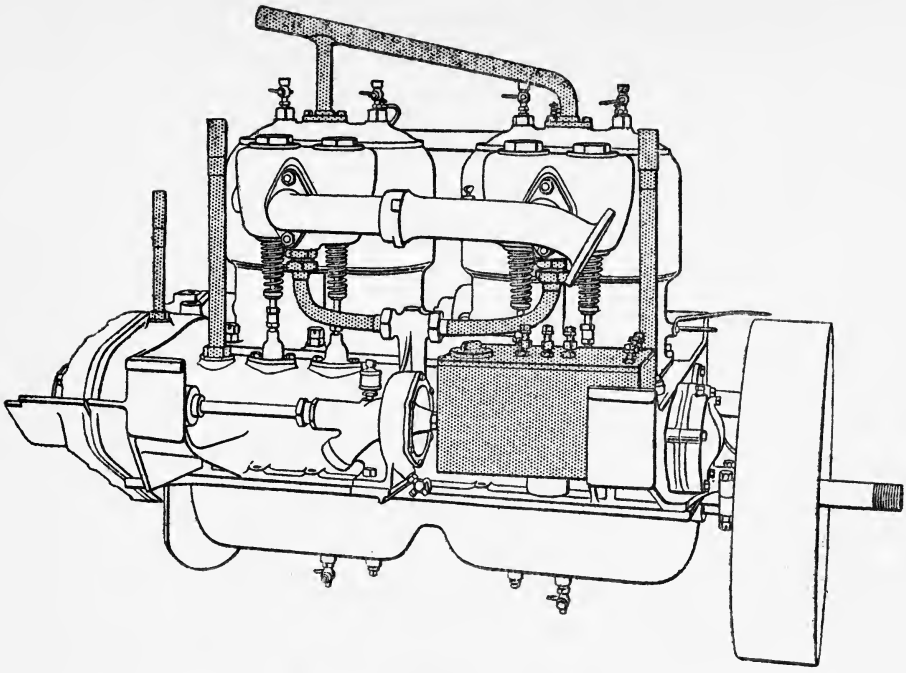
The carbureter has been installed, together with the Y pipe carrying the gas to the cylinders

practice of casting cylinders in pairs is considered to be the best as it produces a compact motor and does not limit the size or arrangement of motor bearings. A bronze cover plate is used for each pair of cylinders and carries the fittings for the water connections and the pet cocks. This form of construction greatly facilitates the production of perfect cylinder castings, enables the water jackets to be made uniform, and thoroughly cleaned out before the motor is built. This insures perfect cooling circulation. All cylinder castings are subjected to a very careful

inspection, to a sand blast, hand filing, and finally to a cold water test. The cylinders are bored three times, and ground to exact size with water flowing through the water jackets to keep the temperature uniform and prevent distortion. Each pair of cylinders is secured to the bronze crank-case by eight strong heavy studs, with double lock nuts and cotter pins. This absolutely prevents the cylinders from coming loose. The compression is about 65 to 70 pounds gauge pressure, and the compression spaces are calibrated so that the compression is uniform in all cylinders.



Building the "30" Motor. Eighth View
Exhaust manifold pipe has been added; also fly-wheel pointer for aid in valve timing



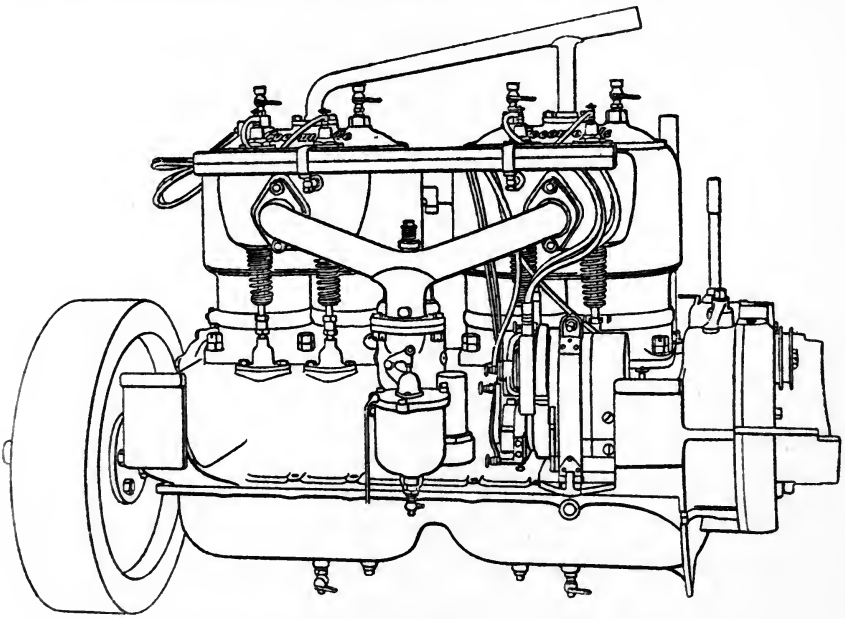
Building the Motor. Ninth View

Exhaust side, complete with oiler, oil vent pipes and water pipes

Timing Gears. Placed at the front of the motor in a housing formed by an extension of the bronze engine bed, protected by an aluminum cover. The timing gears are of metal and cut in our shop, following our practice for the past eight years or more. Metal gears are unaffected by the action of oil; fibre gears or composition gears swell when immersed in oil and shrink when the car is not used; and do not wear as long as metal gears. There are five gears in the case:

crank-shaft gear, admission cam-shaft gear, exhaust cam-shaft gear, pump gear, and magneto gear. The separate gears are cut, and the complete train of gears assembled, with the greatest possible care to produce silent running. Lubrication is continuous and thorough.

Testing. We have tested under its own power every motor that we have ever built, and we have *preserved a record* of this test. This will indicate our endeavor to make every motor as perfect as possible. When the motor is completed it is flooded with oil

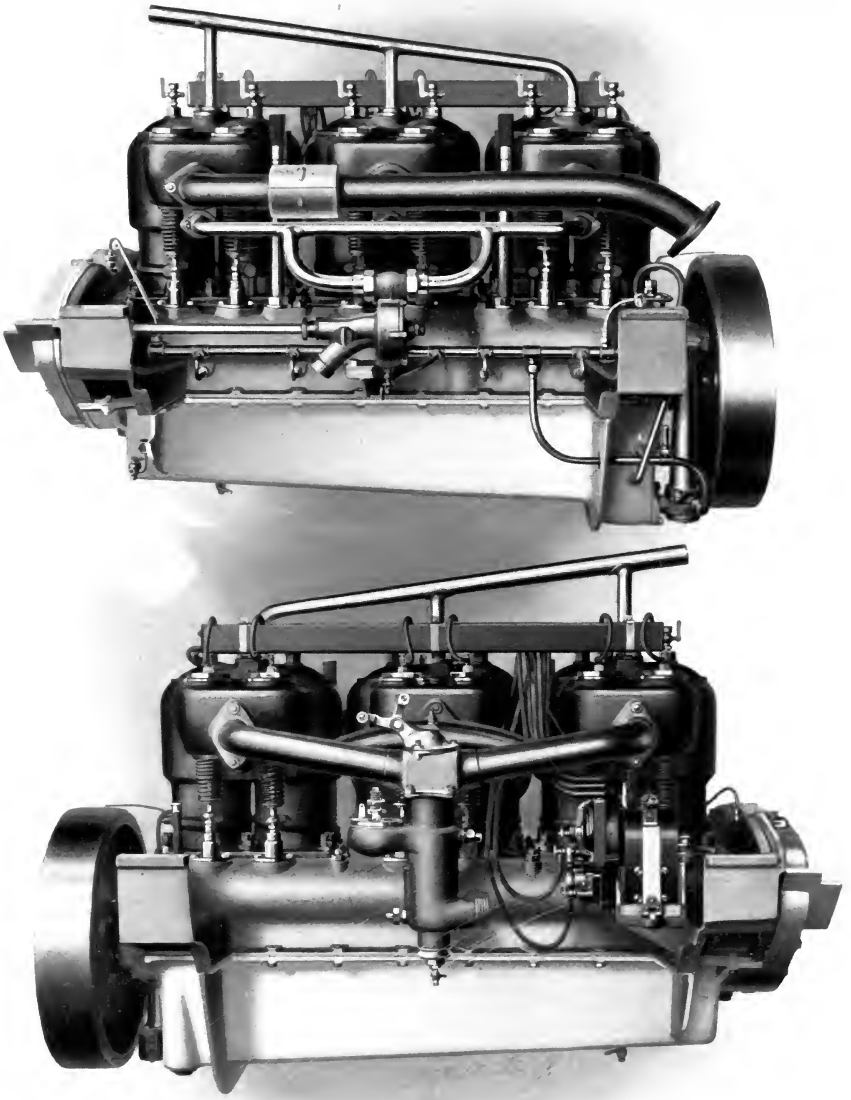


Building the Locomobile Motor. Tenth View
Complete with magneto, wiring and spark plugs

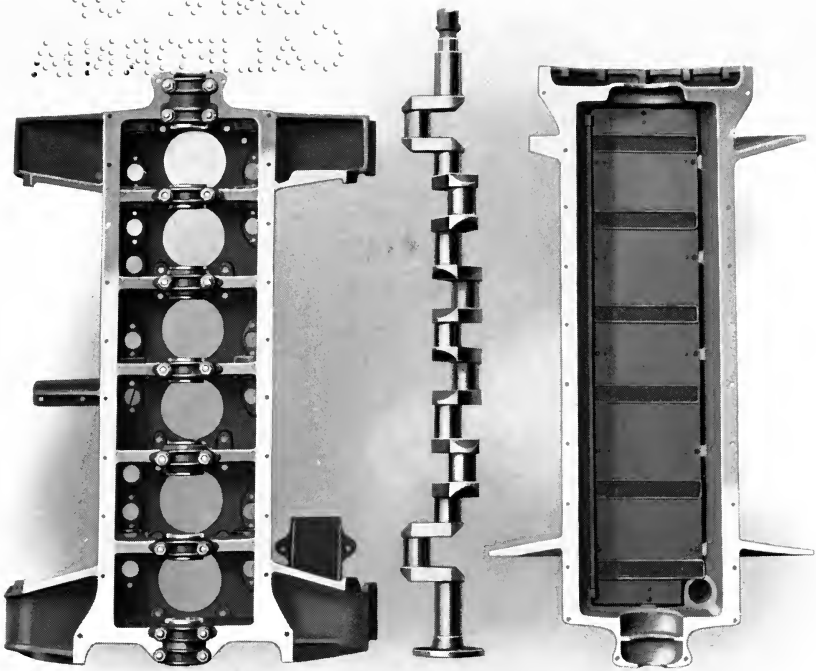
and placed on a stand where it is driven by a belt for a considerable period. It is then placed on the test stand, and equipped with its own carbureter and magneto and ignition apparatus, and run under its own power, slowly at first. After it is broken in, its power is tested by engaging the fly-wheel with the armature shaft of a dynamo. As the motor drives the dynamo its mechanical power is transformed into electrical power, which is easily and exactly measured. Each motor is operated on the test stand until it fulfills the established requirements.

Oiling System "30". Oil contained in the pan under the motor is splashed about, lubricating pistons, cylinders, and wrist pins. A gear-driven oiler forces oil through leads in the crank-shaft, thence through all its bearings. See diagram, page 111.

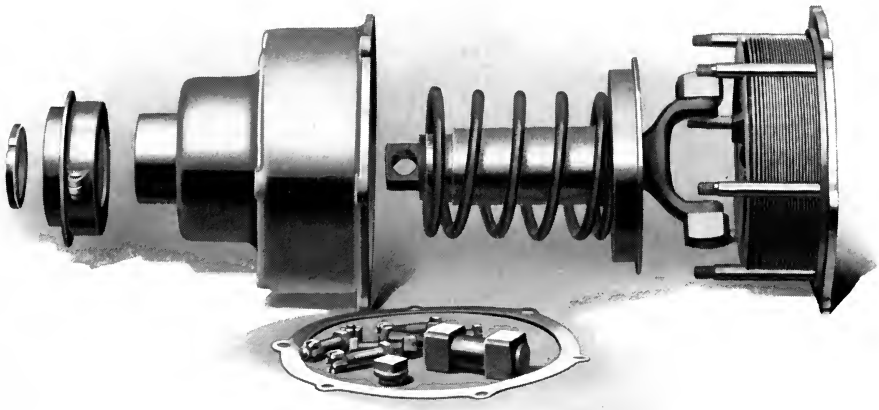
Oiling System "48". A gear-driven pump forces oil to the bearings in a constant stream. Connecting rods dip into troughs the height of which is such that complete lubrication is assured; this feature in combination with baffle plates prevents any excess of oil and consequent smoking at the exhaust. A strainer prevents any clogging of the circulating system and can be removed for cleaning. An oil by-pass combines the advantages of a gravity head with a circulating system and does away with any tank under the bonnet. See diagram, page 111.



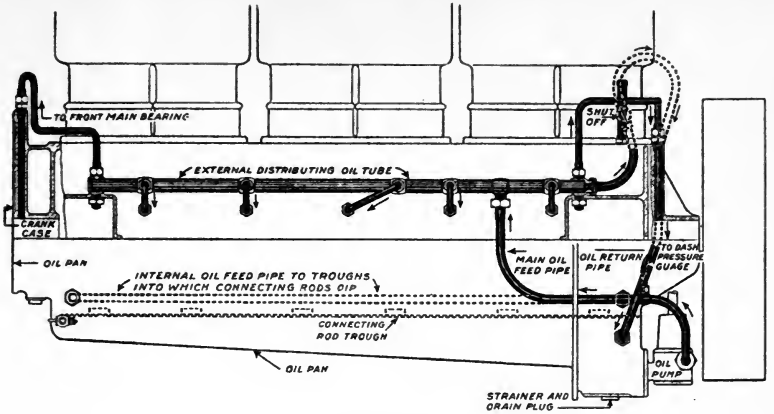
Six-Cylinder Motor. Exhaust side above, admission side below



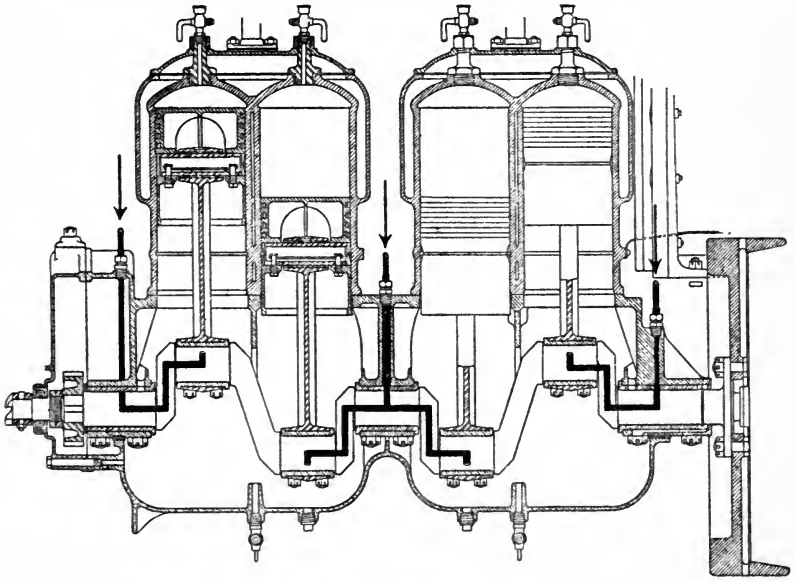
Group of Six-Cylinder Motor Components. The bronze crank-case, seven-bearing crank-shaft, and oil pan



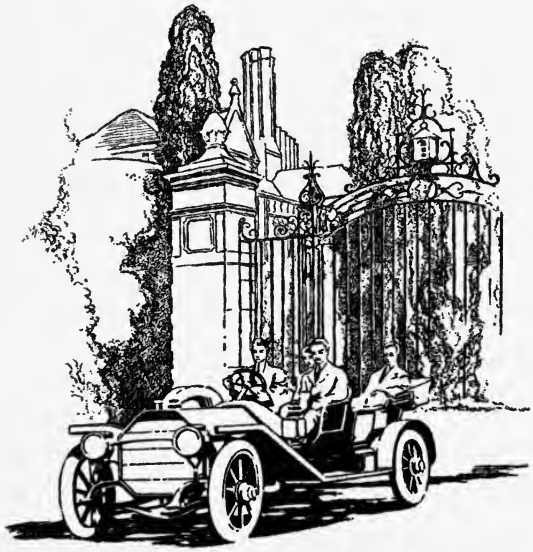
The Multiple Disc Clutch used on the "48" Locomobile "Six"



Oiling System, Six-cylinder Motor



Oiling System, Four-cylinder Motor



University of Pennsylvania

CHAPTER NINE

THE CARBURETER

Ever since 1902 when the first Locomobile gasolene car was built we have always used a carbureter of our design and manufacture. The satisfactory operation of the motor year after year depends so largely on the carbureter that we have always felt that it should be specially designed and proportioned for each motor in order to secure the best results. The "30" carbureter is specially designed for the "30" motor; the "48" carbureter specially designed for the "48" motor. As a result of this policy and long experience in carbureters the Locomobile motor is always reliable and the maximum power is obtained from the cylinders. We get seventy brake horse-power from our six-cylinder motor which has a cylinder bore of 4½ inches. This is unquestionably the maximum power that can be obtained from a motor of this size without affecting reliability.

Economy in fuel consumption is another great advantage of our "48" six-cylinder car which results from the carbureter to a great extent. The Locomobile has frequently been driven 12 miles to the gallon on a full passenger load. Owners have without

exception reported fine results in this direction. Some of the features of our "Six" carbureter that produce this economy and general satisfaction are as follows:

1. Special design of the aspirating nozzle producing the power of a multiple jet with the simplicity and easy starting of a single jet.

2. These results are accomplished without the attention of the driver and without the use of any automatic device of any sort.

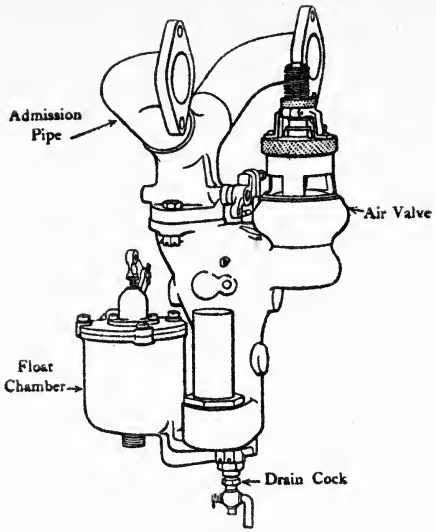
3. The use of both hot water and hot air enables low gravity fuel to be consumed with entire satisfaction.

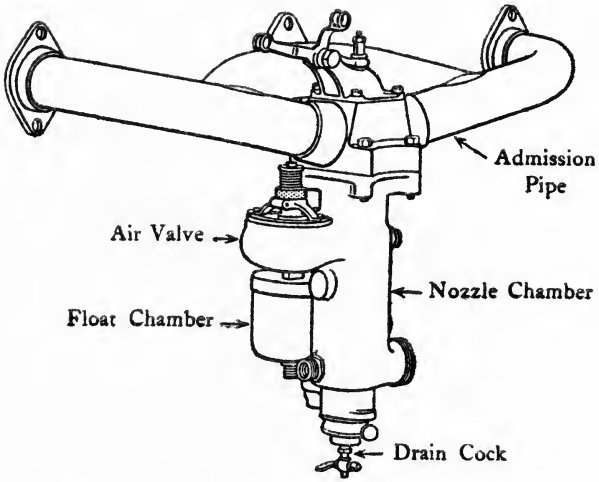
4. The hot air pipe is fitted with an adjustable opening through which cool air may be drawn in summer.

5. The quality of the mixture is controlled by a lever and quadrant on the dashboard. This facilitates self starting and enables the operator to get the most out of the car by varying the richness of the mixture to meet varying conditions.

A new carbureter (shown on page 116) has been provided for the "30" Locomobile and is different from the one illustrated in the 1911 book. It has the same dashboard control of the mixture as the "48" carbureter. The use of this carbureter makes the "30" Locomobile easier to start, more powerful and more economical. It is a valuable improvement.

All Locomobile carbureters are of the constant level aspirating type. The body is bronze and the induction pipe is bronze composition. The float is spun copper. The Locomobile gasolene tank, like everything else about the car, is permanently substantial. It is constructed of 24 gauge sheet steel, the strongest metal available for the purpose, and is heavily galvanized to prevent corrosion. The tank is braced internally with baffle plates, every joint and connection is reinforced. Every tank is tested with gasolene, up side down and in every possible position. The opening is under the seat cushion at the left of the car, provided with a removable strainer. *Gravity fuel feed* is employed; superior to any pressure system on account of its greater simplicity, reliability and safety. The force of gravity always operates, whereas any pressure system is artificial, is more complicated and needs attention. An important advantage of the gravity system is that the tank is located under the front seat where it is completely concealed and protected. The fuel tank is located at a sufficient elevation above the carbureter to insure a steady flow of gasolene at all times. The discharge pipe is located at the right and extreme rear end of the tank, so that the entire contents are available for use and the car may be operated until the last drop is gone. Roadster models, that is, the "30" Baby Tonneau and the "30" and

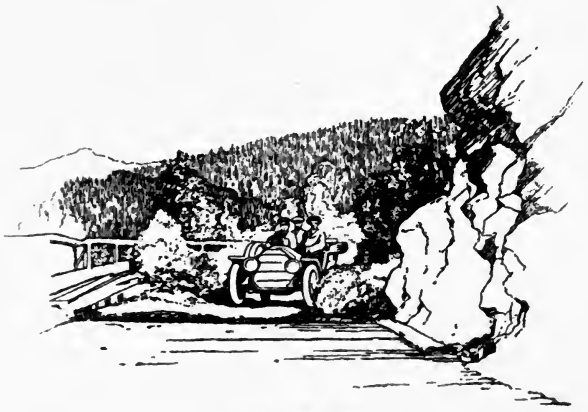




The Carbureter. View of the "30" above, "48" below

"48" Torpedo models, are provided with a hand air pump enabling the operator to pump up a little pressure in the tank in case of any emergency. A relief valve prevents the operator from pumping up excessive pressure.

A large cone shaped strainer is permanently placed over the outlet in the bottom of the tank to prevent impurities from passing to the carbureter.



Wilderness Road

In Pennsylvania

CHAPTER TEN

THE HIGH-TENSION IGNITION SYSTEM

Locomobile cars are equipped with a high-tension dual system of ignition. This system is convenient and thoroughly reliable. It consists of highly specialized apparatus of the best quality that it is possible to secure. Ignition is provided either by true high-tension magneto or by battery and coil. The operator may run the car on either system by shifting the switch on the dashboard.

The *magneto* is located at the front of the motor on the admission side, and is driven by a shaft which is rotated by a gear enclosed in the timing gear housing and meshing with the admission cam-shaft gear. The shaft is provided with a flexible coupling enabling the magneto to be removed and replaced conveniently. The magneto is of the best quality possible to buy and is the type recommended by the makers for use on the Locomobile.

Starting the motor is accomplished by slow cranking on the battery current or, if the cylinders contain gas, by pressing a push button located in the center of the switch plate. It is possible to start directly on the magneto if through any cause the battery current

should be very weak. When starting the motor from the seat, or by cranking by means of battery current, a high-speed vibrator may be locked in position. The lock is released when running on the battery and an absolutely synchronous single contact spark is produced. There is a complete absence of *lag* under these conditions, and the engine can therefore develop high efficiency on the battery.

The *coil* is simple, contained in a neat casing that is passed horizontally through the dash. The switch end of the coil is flush with the dashboard. The switch is incorporated in the coil and the switch handle and push button, for self starting, form the portion of the coil seen on the dashboard. No bulky coil box.

A lock and key on the coil enables the operator to lock the switch in the "off" position, thus preventing the unauthorized use of the car. It also makes it unlikely that the switch will be left thrown on the battery when the motor is stopped; it tends to minimize the chance of discharging the battery through carelessness or accident.

The *wiring* is simplified and neatly arranged, and of the best quality. The leads from the magneto to the spark plugs are carried along the motor in an ebonized container.

The *dual* character of the system deserves special notice. The distributor and the plugs are the only

parts common to both battery and magneto systems. Many of the so called "dual" systems use the same circuit breaker and other parts for both systems.

Simplicity of the system is evidenced by the fact that there is one switch, one contact breaker and one distributor. No external connections between the switch and the coil.

The storage battery is the best quality and is carried in an enameled metal case. Three cells are used, connected in series, delivering six volts and discharging uniformly either for motor ignition or for providing current for the electric light bulbs in the side lamps and rear lamps.

The spark plugs are of the best quality and are specially selected with the purpose of securing steady firing at all motor speeds.

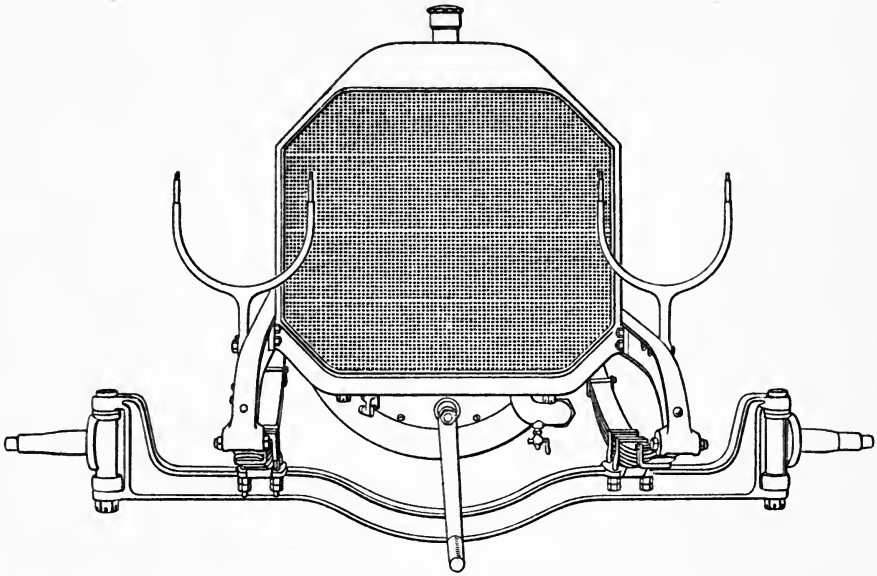
CHAPTER ELEVEN

THE COOLING SYSTEM

The cooling system of any automobile is a very important part of it, and one to be investigated carefully by the prospective purchaser. Nothing can be more disagreeable than to operate an inadequately cooled car in hilly country. In some sections the cooling system is of the greatest importance for every-day service, and cars which will not run for long periods of time on the lower gears without overheating are utterly impracticable. Further, nothing is more annoying than lack of reliability in the cooling system; a leaky radiator, leaky piping or a defective water pump are certainly matters to be avoided at any cost.

The Locomobile water-cooling system is exceedingly desirable because it is entirely adequate and perfectly reliable. The Locomobile motor is noted for its ability to run all day long in hilly country and in warm weather without overheating.

The water jackets on Locomobile cylinders are carefully cleaned out before the motor is assembled, this operation being facilitated by the construction of the castings. Each pair of cylinders is open at the top and provided with a cover plate. The cylinders and



Type "L" Radiator and Front Axle

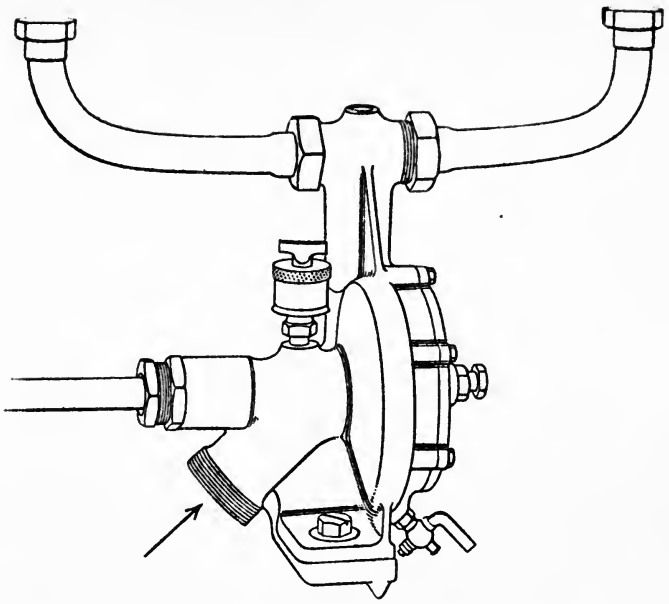
valves are completely water-jacketed and the circulation is ample and rapid, and produces a thoroughly satisfactory cooling of the cylinders.

The centrifugal pump is mounted on the exhaust side of the motor and is durably constructed of bronze material, which is used throughout the Locomobile in preference to aluminum wherever reliability is an important consideration and a small saving in weight relatively unimportant. The vanes of the pump are mounted at the rear end of the steel pump shaft

which is driven by a gear placed in the housing at the front end of the motor, and meshing with the exhaust cam-shaft gear. The base of the pump rests on a flat extension of the bronze motor base, and is secured to it by heavy screws, the piping leading to the cylinders also stiffening the construction and preventing the pump from moving or working loose. In case it should ever be desired to remove the pump, it can be very readily done as the pump shaft is made in two parts connected by a coupling. There is a long stuffing box where the pump shaft enters the pump, and lubrication at this point is provided for by a grease cup. A pet cock at the bottom of the pump allows water to be drawn off.

The radiator is exceedingly neat and attractive in appearance and is placed slightly back of the front axle and secured to one of the cross members of the frame at the bottom only, so that there is no racking action on any of the joints, and thus no tendency to produce leaks, an exceedingly important feature. The Locomobile radiator is of the true honeycomb type, possessing the greatest efficiency, and the workmanship is of the best character.

The centrifugal pump draws the cooling water from the base of the radiator and forces it up through the water jackets and out of the top of the motor into a copper pipe, thence back to the radiator through a



The Centrifugal Water Pump. Made of bronze

heavy rubber hose connection, there being a union placed at the end near the radiator.

Fan. Back of the radiator is an eight-bladed aluminum fan which draws air in through the cells of the radiator, thus cooling the water flowing through it. The fan shaft runs on ball bearings, packed in grease which requires renewing only about once a year. The fan shaft is mounted on a bracket secured to the base of the motor. A leather belt drives the

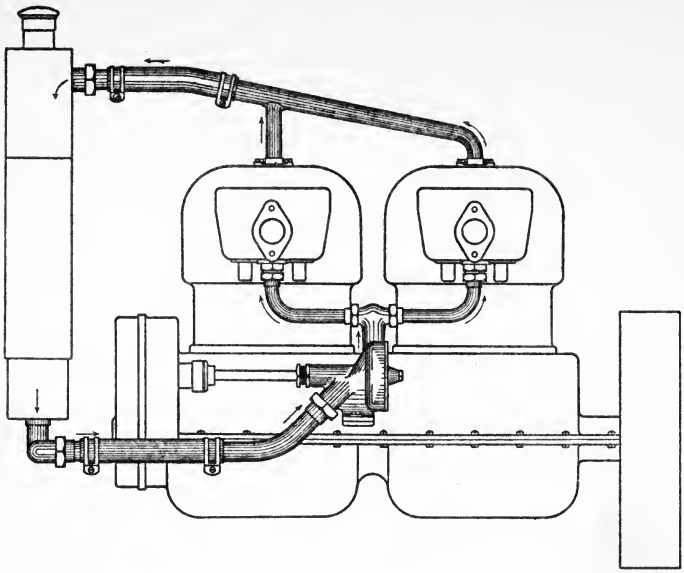


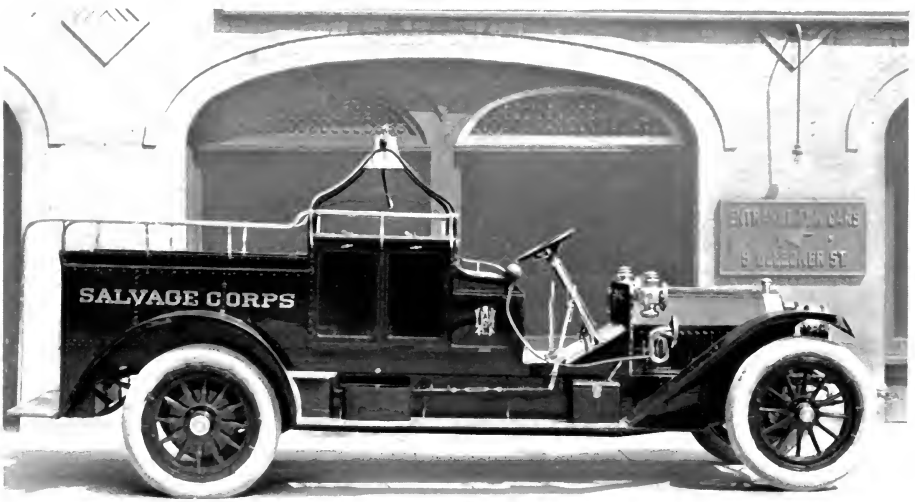
Diagram of Cooling System "30" Locomobile. The arrows indicate the direction of the flow of water

fan, one pulley being on the pump shaft, the other on the fan shaft with provision for adjustment.

In the Locomobile cooling system every precaution is taken to eliminate minor inconvenience; the piping is of the best quality, all joints and connections are made with great care, and every radiator is thoroughly tested with cold water pressure before it is put on a car. An important part of the finished product is the water-cooling system and no car is approved until every detail in connection with it is entirely satisfactory.

Locomobile Police Patrol, Baltimore, Md.

One of several cars having special 40 horse-power Locomobile chassis with 148-inch wheel base. We are prepared to supply this chassis for fire department work or similar municipal service



Salvage Corps Wagon, recently purchased for Newark, N. J., owing to the success of a similar Locomobile Car used for three years previous

Rebuilt Locomobiles in high-class retail delivery service

CHAPTER TWELVE

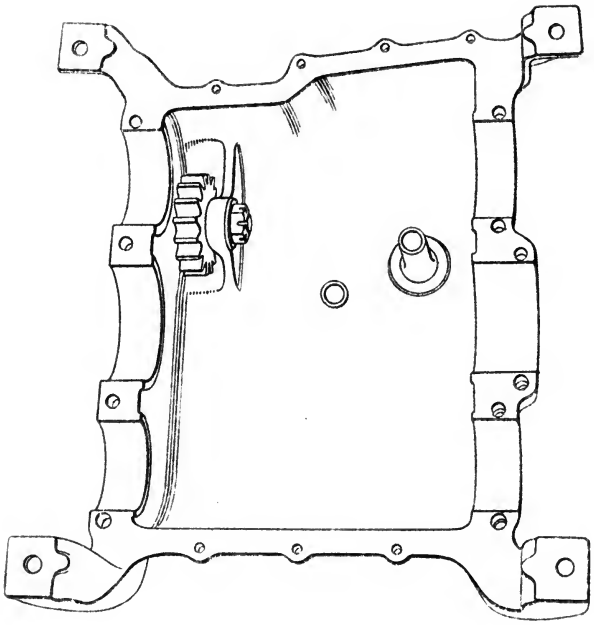
THE FOUR-SPEED SELECTIVE TRANSMISSION

Most everyone now appreciates that the transmission is fully as important as the motor. The transmission is sometimes a subordinate issue in the purchase of the car, but later on, after trouble has developed, its importance is better realized.

In most cars, the transmission is not as strong as the motor, strength is sacrificed to gain cheapness or light weight. Thus trouble sooner or later occurs.

The Locomobile transmission is as strong as the motor—strong enough to handle the power year after year. *It never gives trouble.*

Early automobiles had two speeds, as a general rule. Later, three speeds were commonly employed, and today the high-class car has, or should have, four speeds. A car provided with four speeds is more flexible than one with three speeds; the operator has more tools to work with, he can operate the car better under any road conditions at any particular time, the car is more easily accelerated and operated with less shock to the motor and transmission. The four-speed transmission is as much better than the three as the three is superior to the two-speed transmission. It occupies no more



Building the Locomobile Transmission. A series of views showing the constructional features of the gear box. First View

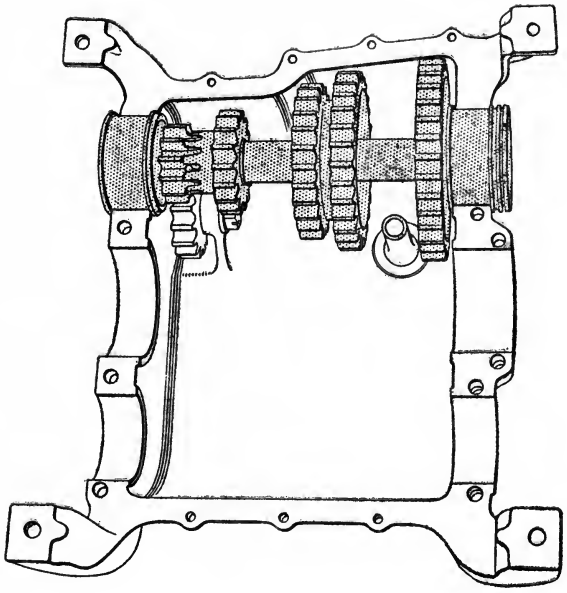
The bronze gear case. Constructed of manganese bronze which is several times as strong as the best aluminum alloys employed by other makers. Reverse pinion is shown at left. At right, grease stand pipe regulating height of lubricant. Note supporting points at four corners.

room, is no more complicated, requires no more attention and no more lubrication.

There are three types of transmission gear. The *planetary*, which only lends itself well to two speeds and is used nowadays only on cheap small cars; the *progressive* system, which is used less than it used to be, and has given way, particularly in high-class cars, to the *selective* system.

The Selective System, used on the Locomobile, lends itself perfectly to the use of four speeds. The term "selective" means that the operator, by means of the gear lever, selects one of two sliding members to operate, certain speeds being obtained from one gear and different speeds from the other gear. For example, in the Locomobile the forward sliding gear gives third and fourth speeds, the rear sliding gear gives first and second speeds and reverse. The particular advantage of the selective transmission is its greater ease of operation; gears may be shifted easily, with absolute certainty and without the need of any complicated mechanism. There is a definite stop position for every position of the lever. Gear changing in the Locomobile is particularly easy as there are only two slots in the quadrant instead of three.

Bronze Case. The case is a single casting of manganese bronze, the strongest material that can be cast in light section and intricate form. The cover is not



Building the Locomobile Transmission. Second View

The shaded portion shows the first unit in place. This is the counter-shaft with gears assembled on it, and ball bearings in specially designed cases at the ends. Locomobile shafts are short and rigid — made in the Locomobile works — from raw material to finished product.

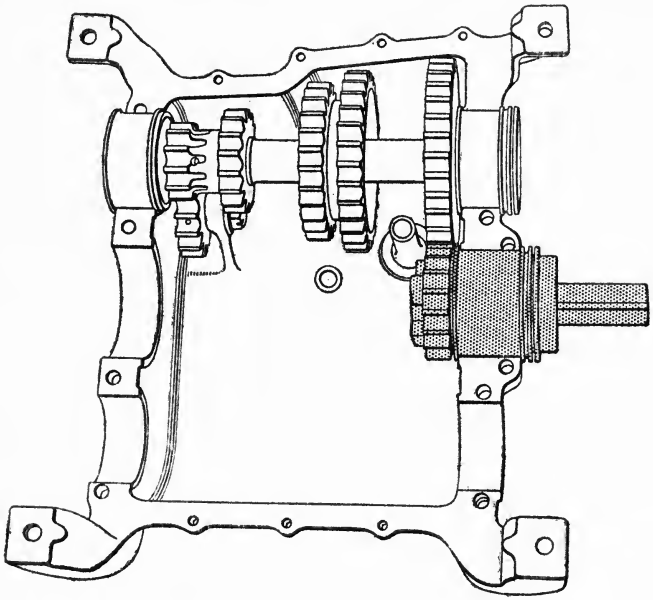
subjected to any stress whatever, consequently is made of aluminum to save weight. The absolute reliability of the Locomobile transmission is in a large measure due to the rigid character of the case, which prevents the gears and shafts from getting out of line.

Location. The Locomobile transmission is placed in the center of the chassis frame, where it is protected from road shock. The four corners of the bronze base are extended up to meet the cross members of the frame and are securely bolted thereto.

Gears. There are ten gears in the transmission case. Each one is strictly a Locomobile product from beginning to end—from rough material to finished product. Material used is alloy steel, heat-treated. Gear teeth are cut on the best obtainable gear-cutting machinery, are absolutely uniform, and absolutely correct as regards the shape of the teeth. Gears are carefully tested for hardness and elasticity, and are measured within .001 of an inch.

Shafts. These are alloy steel, heat-treated. Forged and finished in our works. Particular attention is called to the fact that the case is compact and the shafts are thick and relatively short. This produces the greatest possible strength and prevents any mis-alignment due to bending.

Bearings. Large annular bearings of the finest quality obtainable are used throughout.



Building the Locomobile Transmission. Third View

The clutch pinion shaft and ball bearing are shown at the right—the front end of the case. The clutch pinion is always in mesh with the forward gear on the counter-shaft. Locomobile gears are made in the Locomobile works from raw material to finished product.

A Grease-Tight Case. Transmission gears, shafts and bearings are lubricated by soft grease. The design of the case, and care used in assembling, prevent leakage of grease, so that the car may be driven for several thousand miles without adding to the supply of lubricant.

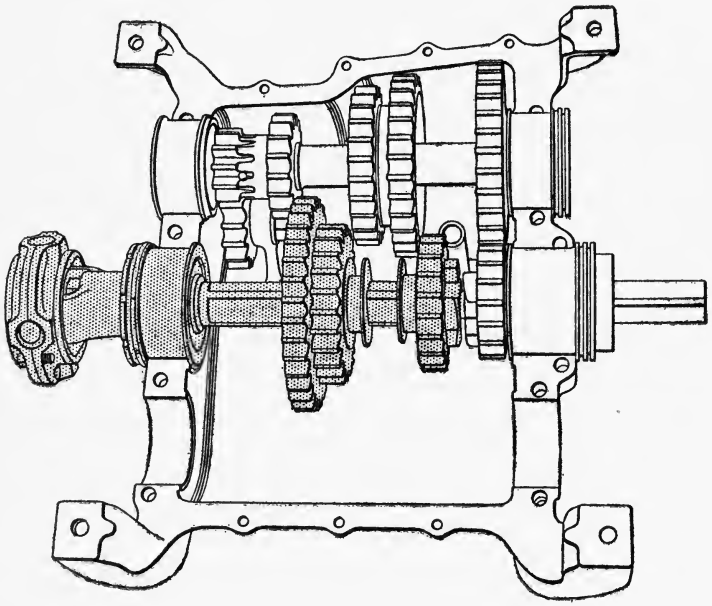
Operation. When the lever is in the outer slot of the quadrant and pushed as far forward as it will go, with button on top depressed, *reverse speed* is engaged. This action of the gear lever causes the rear sliding member to move backward until the large portion of it meshes with the idle pinion at the bottom and rear of the case.

When the gear lever is in the outer slot of the quadrant and pushed as far forward as it will go without touching the button on top, the large gear of the rear sliding member meshes with the rear gear on the counter-shaft, and this gives *first speed.*

The gear lever now being pulled back to rear position in the outer quadrant, the sliding member moves forward until the small gear meshes with the third gear on the counter-shaft, and this gives *second speed.*

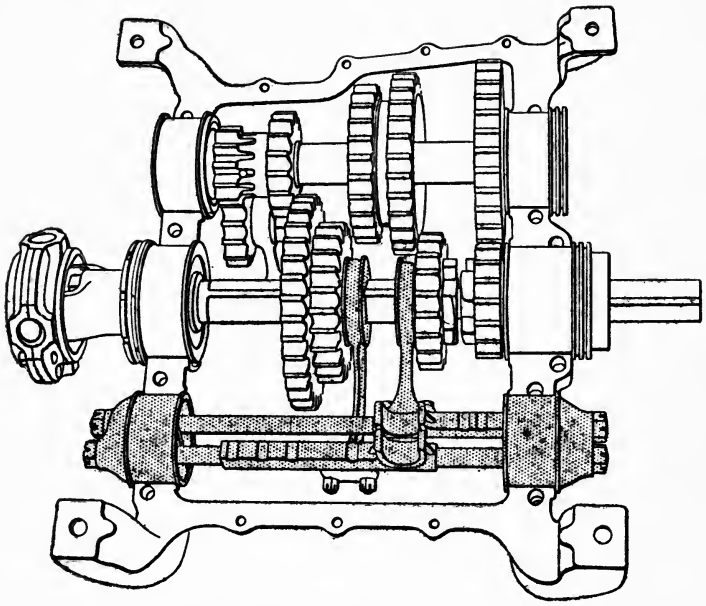
The lever is now pulled through the gate and pushed forward as far as it will go, this causing the front sliding member to move backward until the gear meshes with the second gear on the counter-shaft. This gives *third speed.*

When the gear lever is pulled back as far as it will go in the inner slot, the forward sliding member moves forward until the jaw clutch locks with a corresponding jaw clutch integral with the clutch pinion. This gives *fourth speed and direct drive.*



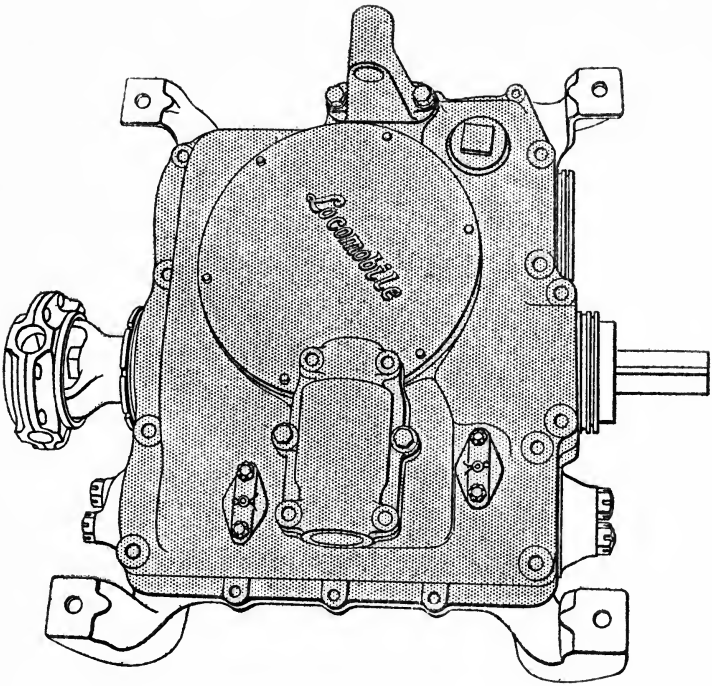
Building the Locomobile Transmission. Fourth View

The next unit to be installed is the main driving shaft with universal joint at the rear end outside the case. On this shaft are placed the sliding gears which are moved backward and forward to engage the various speeds. Normally the car is driven on 4th or top speed, the forward sliding member being locked with the clutch pinion, the drive being direct from the motor to the rear axle.



Building the Locomobile Transmission. Fifth View

The contents of the case are now complete. The mechanism that moves the sliding gears backward and forward has been installed. Each sliding member is moved by a fork, the other end of which slides on a shaft. When the gear lever is moved in the outer slot of the quadrant by the driver of the car, the rear sliding member only is moved. It has two gears and gives 1st speed, 2nd speed, and reverse. The other sliding member is moved when the gear lever is moved in the inner slot and gives 3rd and 4th speeds. When the gear lever is slipped from one slot to the other, no gears are in mesh, as in the illustration above.



Building the Locomobile Transmission. Sixth View. Complete with cover

CHAPTER THIRTEEN

LOCOMOBILE SHAFT DRIVE

It is important to examine with the greatest care the shaft-drive system of a car before purchasing it. Reliability, safety, efficiency, tire economy and ease of riding all depend to a large extent on the design and construction of the rear axle and driving mechanism. Shaft-drive is popular because it is quiet, clean and convenient; whereas chain-drive has been a favorite system of prominent engineers because it is efficient, flexible and permits of proper balance, with consequent good control of the car. Locomobile shaft-drive excels because it combines the best features of both systems without their disadvantages. It is quiet, clean and convenient; it is mechanically correct owing to the introduction of all possible advantages of double side chain-drive.

The performance of our shaft-drive models during the past three seasons has fully demonstrated the great practical value of the interesting features that distinguish our system. Some of these features are:

1. *No Driving through the Rear Springs.* We drive through distance rods as in the best chain-drive

construction. Springs cannot give the maximum comfort when performing the functions of distance rods.

2. *Rear Springs are Shackled at Both Ends.* Thus they have full play.

3. *Distance Rods have Lubricated Bearings on the Rear Axle.* This increases the flexibility of the drive, furthers easy riding and removes torsional stress from the rear axle.

4. *Correct Handling of Driving and Braking Stresses.* Driving stresses are taken up by the distance rods which have universal action at front ends. Expansion brakes, operated by hand, are mounted on the distance rods. Contracting brakes, operated by foot, are also mounted on distance rods, thus removing braking stresses from rear axle.

5. *Straight Line Drive.* When the car is loaded the propeller shaft is practically horizontal, giving a straight line drive. Result: increased flexibility and efficiency.

6. *Two Full Universal Joints.* These permit the power to be transmitted with minimum loss. Locomobile universal joints are encased in metal housings and are so nicely designed and made that they may be run practically indefinitely without attention to lubrication. Large bearing surfaces and light pressures.

7. *Torsion Rod.* This absorbs the torque reaction of the bevel gears. Rigidly mounted at rear, spring

supported at front end. Some cars have a torsion tube covering the propeller shaft, but this permits the use of only one universal joint which is inadequate for maximum efficiency.

8. *Maximum Strength, Minimum Weight.* The use of the finest alloy steels in the axle tubes, shafts, gears, etc., results in enormous strength with the least weight. Safety combined with efficiency.

9. *Minimum Dead Load.* All weight below the springs is dead load. Our comparatively light rear axle construction reduces the amount of weight not spring supported, thus furthering easy riding. It also reduces the dead load on the tires, thus adding to their life.

10. *No Keys or Keyways Used.* Thus a frequent cause of lost motion or other difficulty is avoided.

11. *Large Annular Bearings.* Imported annular bearings of best quality and generous size eliminate friction and trouble.

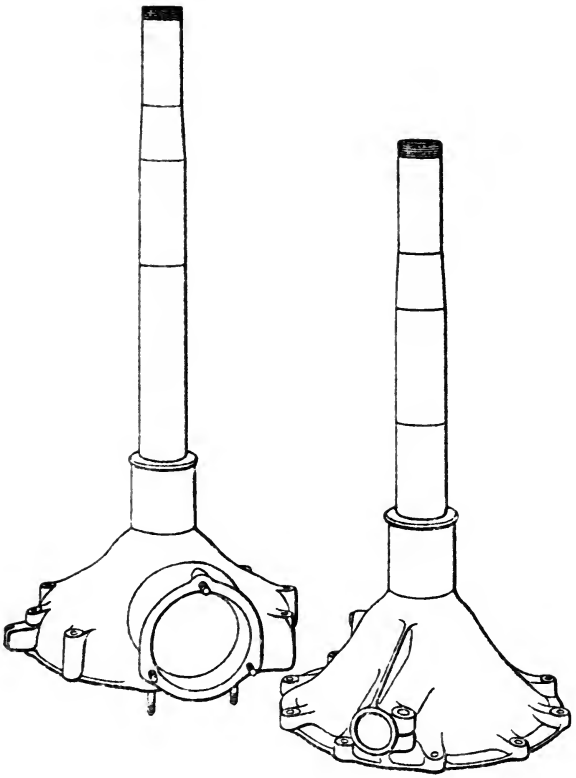
12. *Large Gears and Shafts.* Locomobile gears and shafts as well as other parts of the shaft-drive are made in the Locomobile works from raw material to finished product, are of large dimensions and of the finest alloy steel.

13. *Free Action of Differential Gear.* The Locomobile differential never binds or cramps under any conditions of road operation, thus reducing the grinding action on the rear tires when turning corners. This

is a very important point in connection with economy of tires.

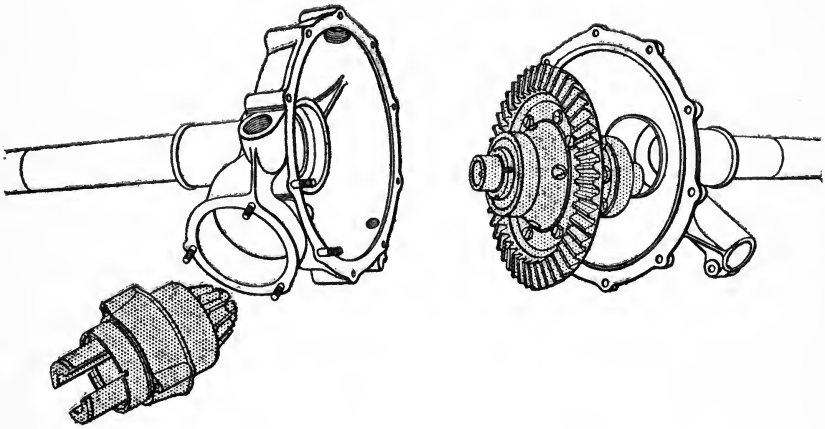
14. *No Brazed Joints.* There is no brazing in the Locomobile rear axle. For example, the tubes are forced into the central housing under hydraulic pressure and riveted. A brazed joint has unknown strength—it may be strong or weak. No Locomobile axle tube has been known to break or loosen in the housing.

15. *Complete Lubrication System.* Convenient, clean grease cups are used to lubricate the wearing parts of the shaft-drive system not contained in the central housing — spring shackles, distance rods front and rear, torsion rod spring bearing, etc.



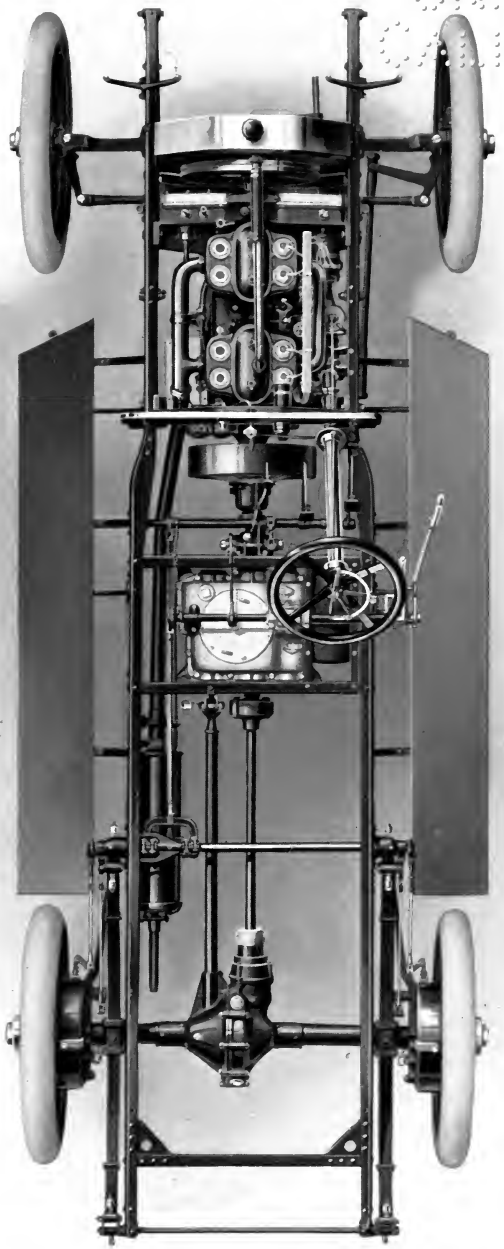
Building up the Shaft-Drive System of the "30" Locomobile. First View

The axle tubes are forced into the outer ends of the housings by hydraulic pressure of from 18,000 to 20,000 pounds. Great care is used to prevent excessive pressure as this might exceed the elastic limit of the steel housing. The axle tubes carry the load, and are large in diameter near the center; the necessary reduction in diameter at the outer ends is accomplished by means of a taper — no shoulder. This gives a tube of maximum strength and minimum weight.

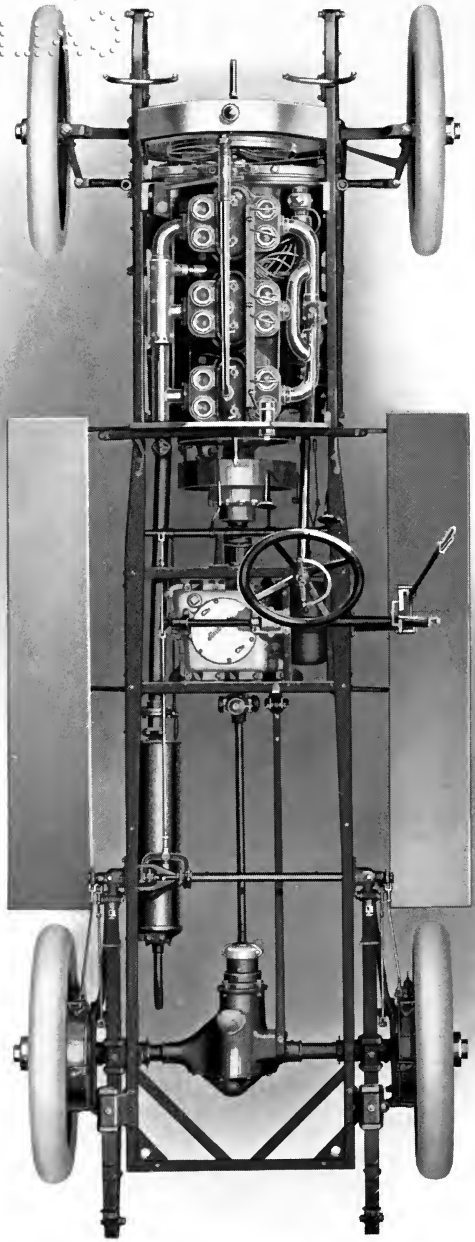


Building up the "30" Shaft-Drive System. Second View

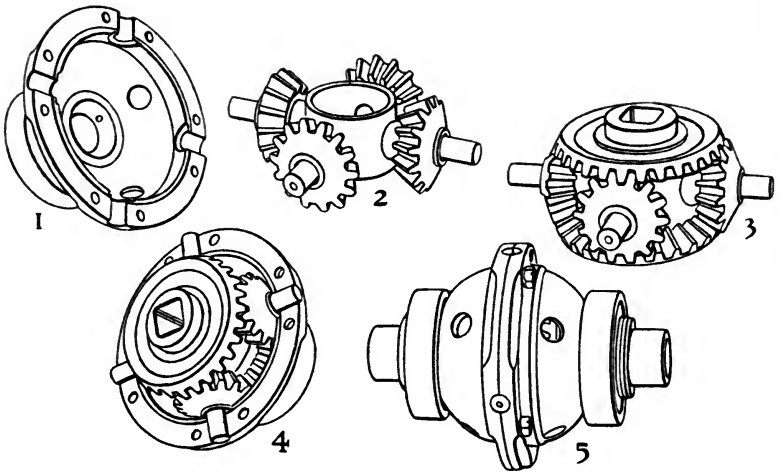
The central housing contains the bevel gears and differential. At left, pinion gear, ready to be inserted. Very firmly supported. At right, bevel gear bolted to differential case. Thrust bearings are used to take up the thrust of the bevel driving gears.



The "30" Chassis, Type "L", Four-Cylinder

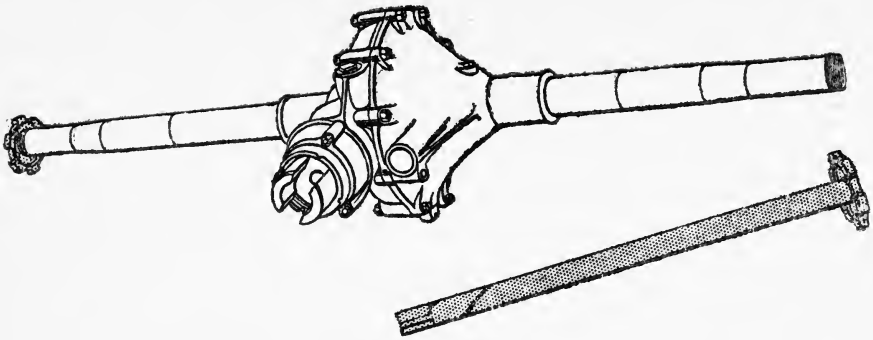


The "48" Chassis, Type "M", Six-Cylinder



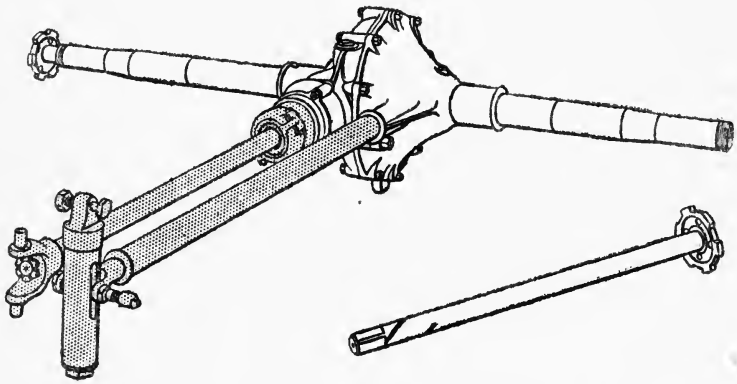
Building up the "30" Shaft-Drive. Third View. The Differential

1, Case. 2, Pinions mounted. 3, Bevels and pinions assembled. 4, Case with gears. 5, Case complete with bearings. Power passes from propeller shaft to driving pinion, thence through driving bevel gear to the differential case, thence to differential pinions, to bevels, to live axles. Construction of the differential permits a rigid housing and shaft for the driving gear. Differential pinions are very firmly supported.



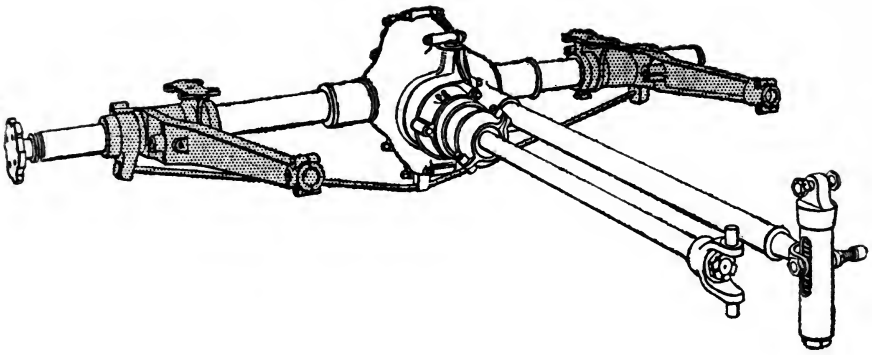
Building up the "30" Shaft-Drive. Fourth View

The halves of the central housing have been firmly bolted together making a unit. At left is the outer end of a live axle in position; at right, a live axle withdrawn. Live axles have square inner ends which fit into square holes in the differential pinions; outer ends are in the form of jaw clutches, engaging with the wheel hubs. Live axles are one piece and alloy steel. Light and very strong construction.



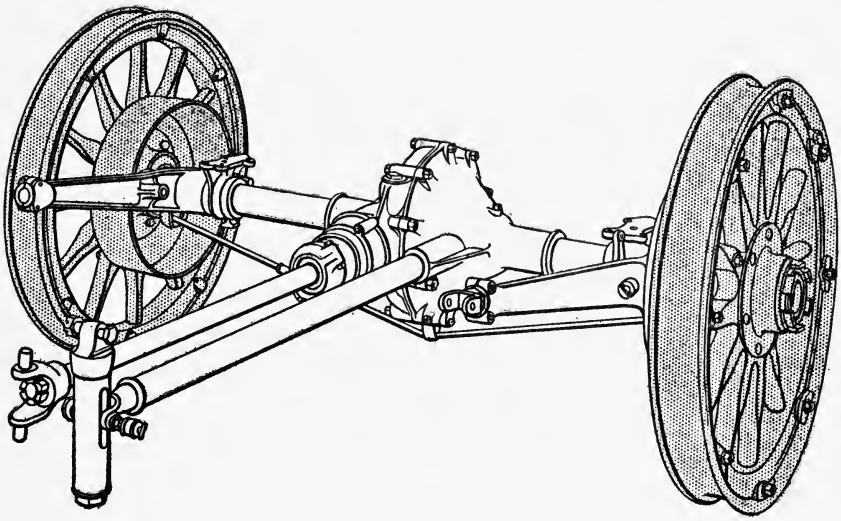
Building up the "30" Shaft-Drive. Fifth View

Propeller shaft with universal joints at left. Is alloy steel and very strong. Is locked in place under all conditions, an important feature. Forward universal joint is of the yoke pattern giving motion in two directions at right angles; rear one is a slip universal joint and provides compensation for any tendency to cause a change in distance between the rear axle and gear box. Universal joints are in metal housings, run 5000 miles or more without re-greasing. Torsion rod at right of propeller shaft.



Building up the "30" Shaft-Drive. Sixth View

Spring chairs have been added. These are clamped to the rear axle tubes. Their lower ends are formed so as to provide a lifting point for the jack, an attractive feature, as tire changes are frequently made under difficult conditions. Steel distance rods also added with lubricated bearings on rear axle consisting of bronze bushings working against the alloy steel axle tubes. Front ends of distance rods are provided with bearings that provide for stresses tending to bend or twist the distance rods. Consist of hardened steel pins and bronze bushings with complete grease cup lubrication.



Building up the "30" Shaft-Drive. Seventh View

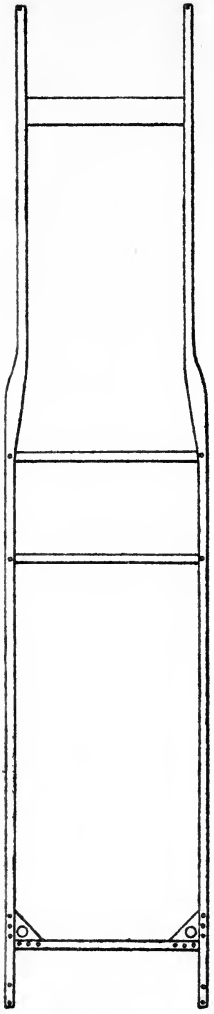
The wheels with brake drums have been added, completing the system. Note notches on outer end of hub at right. These engage with corresponding ones on the live axles. Hub caps are not part of the driving system and have no tendency to unscrew. Note truss rods under housing to prevent stresses from being centered — enables us to use a lighter axle than we otherwise could. Means provided for adjustment should it ever be necessary.

CHAPTER FOURTEEN

CHASSIS CONSTRUCTION

The Pressed Steel Frame. This is the actual foundation of the car and must be permanently strong; the Locomobile frame is characterized by its great strength. The material used is pressed alloy steel, heat-treated several times before completion. It is vastly superior in stiffness and durability to a frame constructed of open-hearth steel, or other low-priced steel. The parallel side members are narrowed in front, enabling the operator to twist the front wheels at a sharp angle and turn the car in a small circle; at the point where the side members are narrowed, the flanges are increased in area to secure additional stiffness against side stresses.

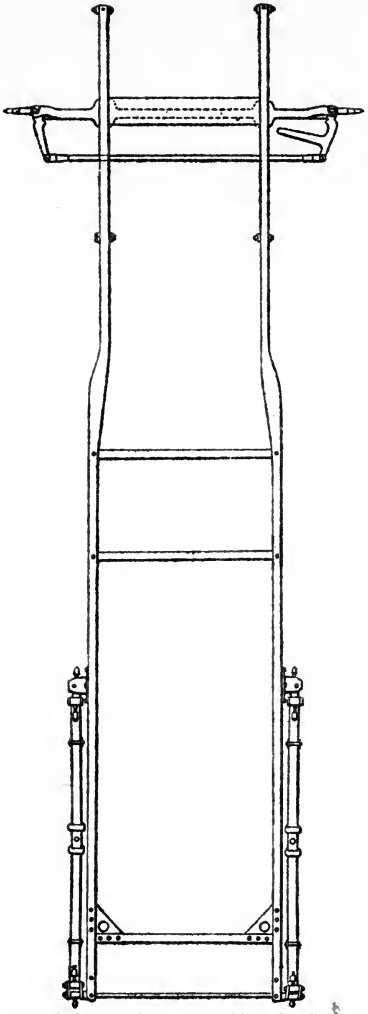
Cross members of pressed steel brace the frame, all rivet holes being drilled instead of punched, all rivets being put in hot, and each one tested. Corners at the rear are braced with triangular gusset plates. The Locomobile frames are of the drop variety, whereby the center of gravity is lowered and the general effect of the car improved without any reduction in clearance. The Type "L" frame is dropped 2½ inches, the Type "M" frame 4 inches.



Building up the Locomobile Chassis

A series of bird's-eye views showing the assembling of the "30" Locomobile Chassis.

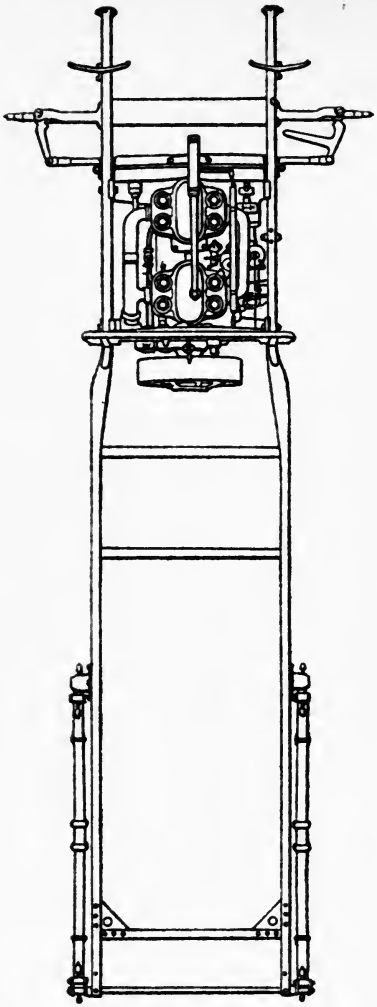
First view. The pressed steel frame, the foundation of the car. The enormous strength of the Locomobile Frame is one of the important features of our car.



Building up the Locomobile Chassis

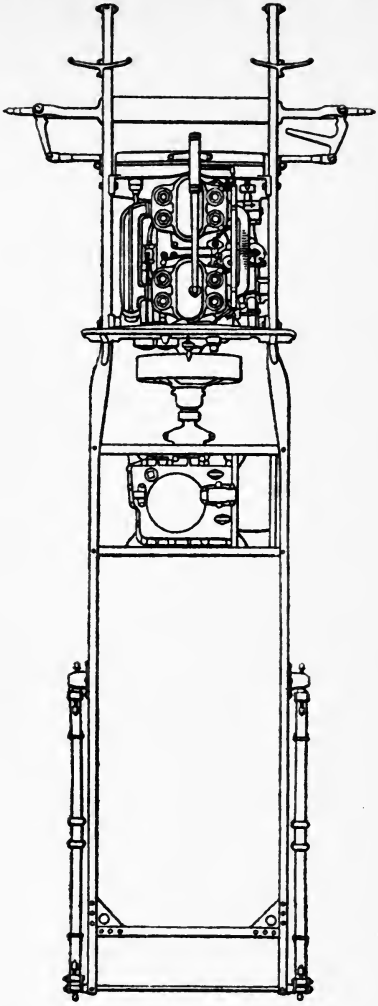
Second view

The front axle, front and rear springs have been installed, also the rear spring hanger tube.



Building up the Locomobile Chassis
Third view

The motor with fly-wheel has been placed in position, also the dashboard, headlight brackets, etc.



Building up the Locomobile Chassis
Fourth view

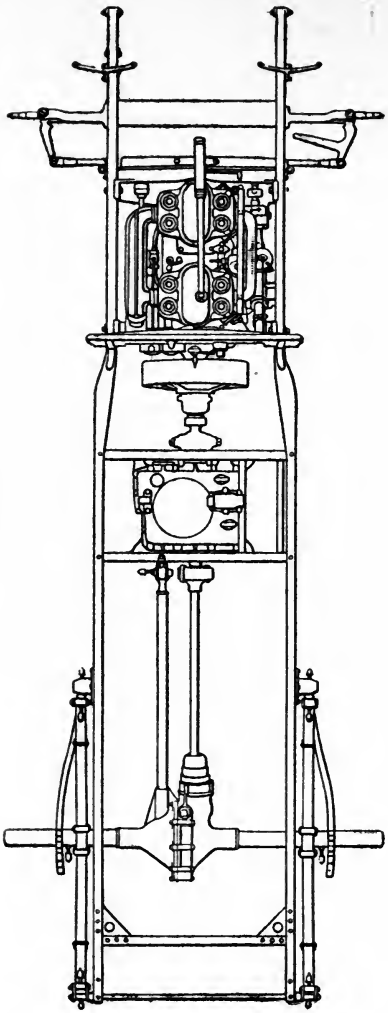
The transmission case has been secured to the frame near the center. The clutch has been placed between motor and transmission and all three components lined up.

Front Springs. The front ends of the front springs are bolted to the spring horns of the frame and are shackled at their rear ends. Lubrication is accomplished, front and rear by grease cups. The spring eyes are fitted with steel bushings to prevent wear.

All Locomobile springs, both front and rear, are tongued and grooved to prevent side motion and are polished and assembled with graphite to insure free action and prevent wear. Spring leaf retainers are also employed, both front and rear, these being clipped around the four top leaves of each spring on each side of the axle. There are seven leaves in the front springs.

Front Axle. The front axle is a massive Locomobile drop forging, heat-treated. It is secured to the front springs on each side by two heavy drop-forged spring clips of nickel steel. Any side motion is prevented by a vertical dowel pin, part of which is in the axle and part in the spring. The spring clip bolts pass through horizontal flanges in the axle and are secured by a nut and lock nut, the end of the bolt being headed over to prevent any possibility of the ends working loose. The front axle is assembled to the frame with steering pivots and cross-tie rod complete. All wearing parts are lubricated by grease cups.

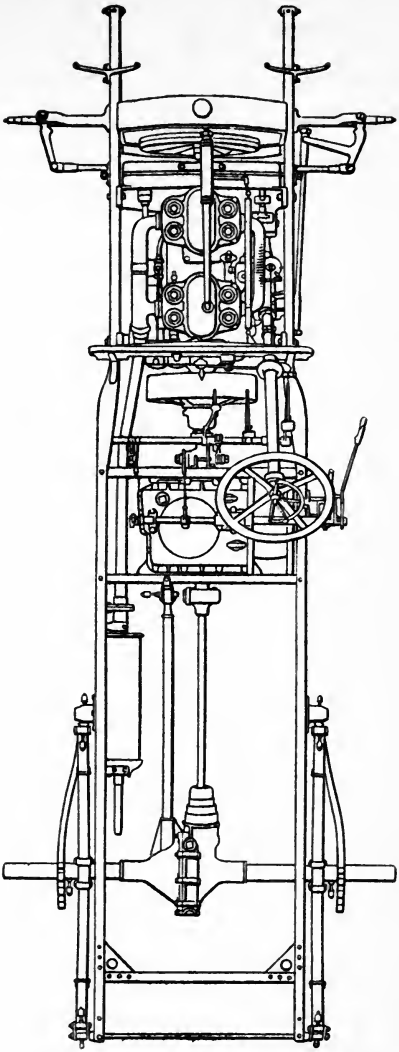
Rear Springs. The next process of assembling is to secure the rear springs to the chassis frame. A heavy steel bracket bolted to the frame by five strong



Building up the Locomobile Chassis

Fifth view

The rear axle has been installed. Also distance rods. The propeller shaft and torsion rod have been placed between the transmission and rear axle.



Building up the Locomobile Chassis

Sixth view

The steering column and steering wheel have been added. Also the operating levers and pedals, exhaust pipe, muffler, radiator, etc.

bolts carries the front end of the rear springs, the shackle bolt passing through the rear of this bracket. The rear springs are shackled at both ends with complete grease cup lubrication. In the "L" car the springs are semi-elliptic, while in the larger Type "M" model, the rear springs are of the three-quarter elliptic variety. There are ten leaves in the rear springs, the weight of which varies with the load to be carried, the springs being heavier for limousine bodies. The rear springs are secured by two nickel steel clips to a spring chair clamped to the rear axle tube.

Motor. Lateral arms of the bronze crank-case extend to the side members of the frame and are securely bolted thereto. These side members are so shaped that the upper portions rest on the top flanges of the frame, thus making a very substantial construction, and a very simple one. It is interesting to note that in the Locomobile all holes drilled through the pressed steel frame are *jig drilled*, so that *any* motor will fit *any* frame. This is also true of the assembly of the transmission, springs and other parts of the frame.

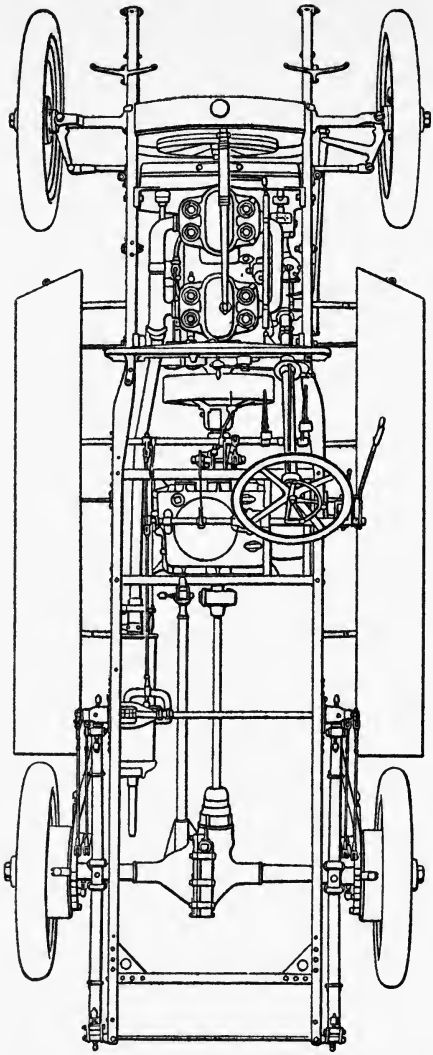
Transmission. The manganese bronze transmission case of the Locomobile is provided with arms at the four corners which extend upward and are securely bolted to cross members of the frame, double lock nuts and cotter pins forming substantial connections. After the motor and transmission case have been

installed, the clutch and driving shaft are located and very carefully aligned so that the power is transmitted without frictional loss due to inaccurate fitting.

Rear Axle. The rear axle is next put in place, this being accomplished by breaking the spring shackle connections and slipping the axle underneath the frame and then slipping the spring chair bearings over the axle tubes. Distance rods, which maintain the position of the rear axle with respect to the frame, are next installed. The propeller shaft is then connected with the front universal joint placed just back of the gear box, and is connected at its rear end with a slip universal joint at the forward end of the rear axle housing. The assembling of this part of the car is completed by the installation of the torsion rod, which is made fast to the rear axle housing, the front end being spring supported to a cross member of the chassis frame.

Levers and Pedals. The various levers and pedals with their shafts and fittings are very carefully put in place and lined up, thus making brakes, clutch, and transmission gears operative. The details of assembly in connection with these various parts are executed very substantially and accurately for the reason that they are essential to the safe operation of the car.

Steering Mechanism. Next the steering column is mounted, its lower portion consisting of a two-part



Building up the Locomobile Chassis. Seventh view

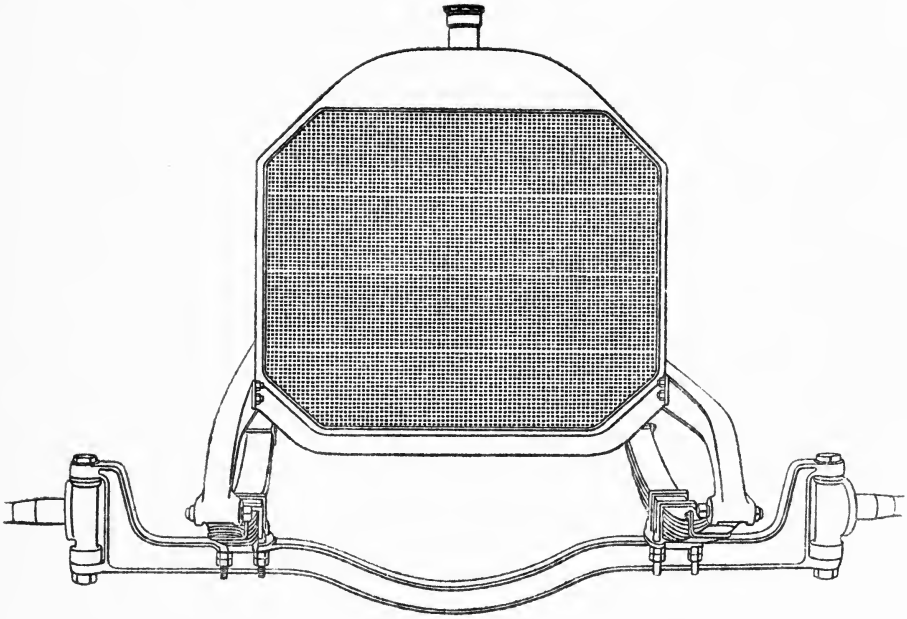
The chassis is shown complete with wheels, running boards, brake shaft, but without bonnet or fenders

housing of manganese bronze containing the steering gears; the whole is bolted to the side member of the frame at sides, top, and bottom. The steering connecting rod is assembled with right-hand steering knuckle at the front, and steering tail shaft at the rear, thus making the steering mechanism operative.

Radiator. At the front of the frame is a cross member in the form of a cradle, which supports the radiator. At the base of the radiator are four large studs, which pass through holes in the pressed steel cradle, and are securely bolted to it. By this method of fastening there is no racking action on the radiator, consequently no tendency to produce leaking. We originated this system of radiator support eight years ago and it has been widely copied. The bearing for the starting crank is a bronze bracket riveted to the radiator cradle.

Muffler and Exhaust Pipe. The muffler is a metal cylinder with internal compartments through which the exhaust gases pass, the sound being deadened. The muffler is bolted to the frame at the rear end of the car. The exhaust pipe and exhaust manifold are then assembled in position.

Running Boards. The running boards are wide and substantially built, being mounted on heavy Locomobile drop-forged brackets. They are covered with suitable material and bound in heavy brass angle strips.



Type "M" Radiator and Front Axle

Locomobile fenders are designed for efficiency, durability, and graceful appearance. They are constructed of sheet metal, braced by Locomobile drop forgings, and mounted on Locomobile drop-forged steel brackets. Fenders are provided with inner shields to prevent mud or water being splashed between the wheels and car. Fenders are strongly constructed to prevent deformation, rattling, loosening, or breakage. They are enameled to produce the most durable finish.

Wheels. The completion of the chassis is arrived at by putting on the wheels, also the mud pan which protects the clutch and other mechanism from mud and water. All wheels have twelve heavy spokes and are very strong, being made of the toughest second-growth hickory thoroughly seasoned. The front wheels run on highest grade roller bearings which are well adapted for the purpose because they are designed to take care of the end thrust which occurs in turning corners, in addition to the ordinary radial load. The rear wheels run on large imported annular bearings. There are two bearings for each of the four wheels.

On the Moor, Scotland

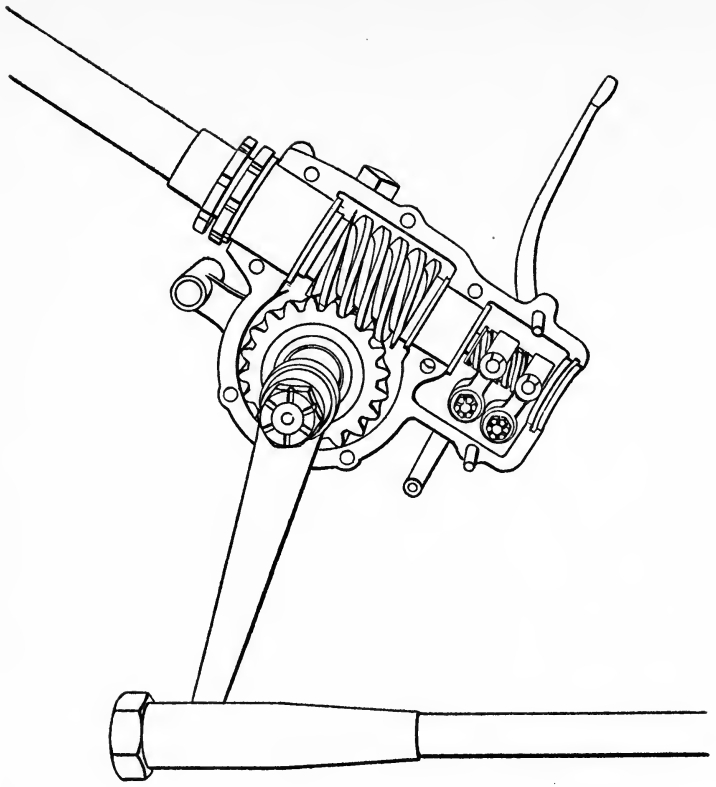
CHAPTER FIFTEEN

THE CONTROL OF THE CAR

Steering Wheel. Most cars use an aluminum steering wheel with a wooden grip. The Locomobile wheel is bronze, with a black, hard rubber grip moulded around the rim. Cases have been known where the steering wheel has actually broken at a critical moment; Locomobile bronze construction renders this impossible. A wood grip cracks and opens up through constant handling and the action of the weather; our hard rubber grip is permanent.

Throttle and Spark Advance. On the steering wheel is mounted the quadrant carrying the hand levers stamped, "Gas" and "Spark" respectively. When the gas lever is moved forward the supply of gas delivered to the motor is increased, and when it is pulled back as far as it will go just enough gas is admitted to keep the motor turning over at slow speed. The spark advance lever is pulled back to retard the spark, and is moved forward to advance the spark.

Accelerator. Operated by the foot. Enables the driver to speed up the car without removing one hand from the wheel to operate the hand throttle.



Steering Mechanism showing gears, tail lever, rear portion of steering connecting rod

Note full circular worm sector. Complete provision is made for removing lost motion. Screw and nut mechanism for operating throttle and spark advance is fully enclosed

Steering Gear. The power exerted at the rim of the steering wheel is transmitted through the steering shaft to the worm gears in the bronze housing at the base of the steering column. The worm is secured to the bottom of the steering shaft and meshes with the sector, which is a full circular gear, not a segment. A vertical shaft, called the steering tail lever, fits over the outer end of a shaft integral with the sector gear. The connection is by a hexagon taper. The lower end of the tail lever is ball-shaped, forming a portion of the ball and socket joint at the rear end of the steering connecting rod. There is a similar ball and socket joint at the other end of the connecting rod, both joints being very carefully made, packed in grease, and protected by leather boots strapped in place. Buffer springs at each end absorb the shocks caused by rough roads.

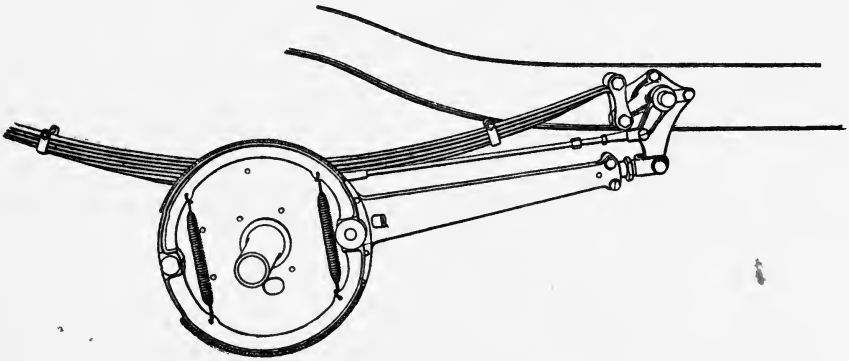
The right-hand steering knuckle terminates in a ball, forming part of the ball and socket joint at the front end of the steering connecting rod. A cross-tie rod connects both steering knuckles. As the steering wheel is turned, the sector shaft turns, causing the lower end of the tail lever to move, the steering connecting rod moving backward or forward with it. As a result, the front wheels, mounted on pivots and tied together, turn to the right or left, according as the wheel is turned. Steering knuckles are heavy forgings, very strong and absolutely safe.

Gear Lever and Quadrant. The gear lever is located at the right of the car, operating in a simple two-slot quadrant. It is very easy to operate a selective type of transmission in any case; but the four speeds of the Locomobile are obtained by moving the lever in two slots only, which makes it unusually convenient.

Clutch. The clutch is operated in the conventional manner by a push pedal operated with the left foot.

The Hand Brake. A latch lever at the right of the car when pulled backward expands the internal brakes against the inner circumferences of the brake drums bolted to the rear wheels. There is a brake shoe for each rear wheel, covered with asbestos and wire composition. See cut below.

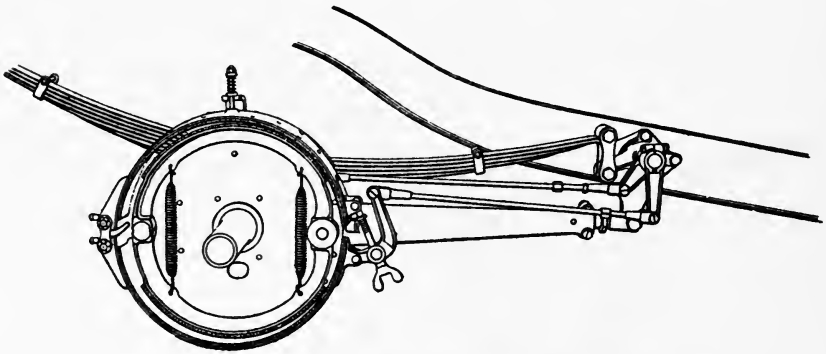
The Foot Brake. This is ordinarily used in stopping the car and is engaged by operating a push pedal with



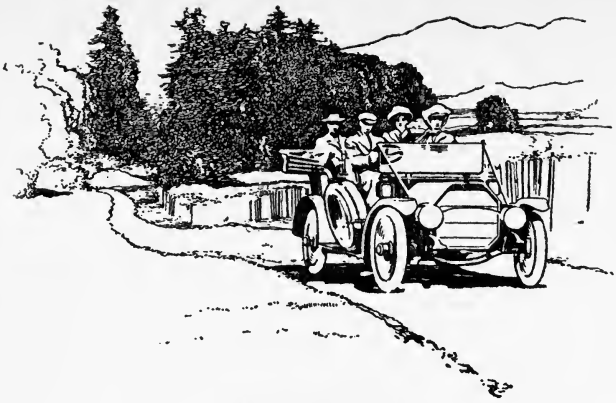
Distance Rod and Internal Brake

the right foot. The running brake consists of two shoes, one for each rear wheel, of the external contracting variety, operating on the outer circumference of a drum mounted on the rear wheels. The brakes are large in diameter, producing ample braking effort, and are wide, diminishing wear. The shoes are lined with an asbestos and wire composition. To adjust the brakes simply turn a thumb screw at the front of the brake as may be needed. See cut below.

Muffler Cut-Out. A round pedal in the floor, operated with the left foot, opens or closes the muffler cut-out valve. This is convenient in testing the motor. The pedal may be locked in place with the cut-out valve open. Ordinarily it is not proper to operate the car with a free exhaust.



Same view as on preceding page only with foot brake added



Mountains and Pines

CHAPTER SIXTEEN

REBUILT LOCOMOBILES

Doubtless many readers of this book favor our car and would like to purchase one, but feel that the price is more than they are free to pay. Similarly, numbers of our friends say to us, "When I can afford it I will buy a Locomobile in preference to any other car." To these people we point out the desirability of owning a Locomobile that has seen service but which has been rebuilt and repainted. Such a car may be purchased for considerably less than a new one; it will run, however, with the same efficiency and reliability. It will give entirely satisfactory service. It carries the same guarantee as a new car and being bought directly from us, the original makers, no risk whatever is involved.

We have on hand, from time to time, cars of this description which are *bargains* in the highest sense of the term. Certain owners of Locomobiles, financially able to do so, frequently exchange cars for different models or styles. These cars are ordinarily in good shape before overhauling, as they have been judiciously operated by experienced chauffeurs employed by the original owners. We take them apart, overhaul

them in the Locomobile shops and re-assemble and test them with the same care that is applied to the manufacture of new cars. All worn parts are replaced. The body and chassis are repainted and the upholstering and equipment gone over carefully. As a result these cars run and look like new.

The term "rebuilt" is used only in the sense of complete renovation; it does not imply that the car is redesigned or reconstructed. A rebuilt Locomobile is put in perfect mechanical order; and aside from some use, is like a new one.

When the rebuilding process is completed these high-class machines offer to the intelligent buyer an economical chance to own an automobile of the best design, material, construction, and finish, at an exceedingly moderate cost. There is nothing second-hand about the proposition. Every rebuilt Locomobile is backed with the full guarantee of the Locomobile Company. Every buyer is assured of the same service and treatment as an owner of a new car.

There is a big difference between a "second-hand car" and a "Rebuilt Locomobile". The former you can buy anywhere — no one has any interest in it beyond the commission involved in the sale. It may be in good or bad condition. It is just as the owner left it. Your success or safety in such a car is problematical — a gamble. In the case of the Rebuilt

Locomobile you do business with our Company direct; you are sure of our co-operation and interest. We have a reputation for making reliable cars that we desire above all things to maintain. We want every Locomobile, old or new, to give the safe, steady service it was designed and built to give.

Every rebuilt car when delivered is equipped with four *good* tires; that is, a serviceable and satisfactory shoe and inner tube on each wheel. As we do not guarantee new tires we cannot guarantee old ones. We undertake, however, to satisfy you fully as to the matter of tires at the time of purchase and for a reasonable period thereafter. Locomobile tire sizes have always been larger than those recommended by the makers; thus our cars have always been unusually free from tire trouble.

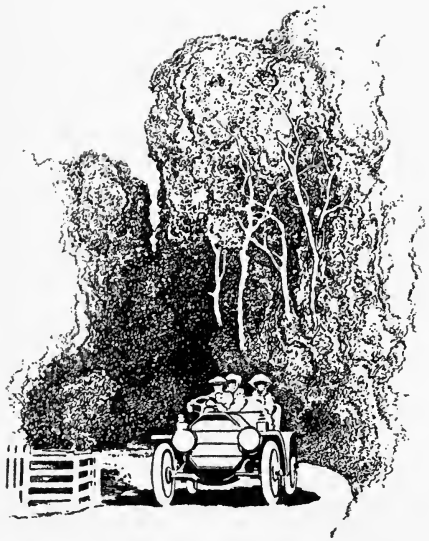
Rebuilt Locomobiles are recommended for business. The automobile is a time-saving method of transportation. A practical way of installing motor-car service for commercial or municipal purpose is to buy a good rebuilt chassis from a manufacturer of high standing and equip it with whatever type of body is needed. Rebuilt Locomobiles are successfully used as delivery wagons, light trucks, ambulances, police patrols, fire chemicals, automobile stages and the like. We publish a special pamphlet on Rebuilt Locomobiles, and will forward a copy on application.

In Nevada

CHAPTER SEVENTEEN

USEFUL HINTS OF VARIOUS KINDS

Lismore Castle, Ireland



The Enchanted Wood

CHAPTER SEVENTEEN

USEFUL HINTS ON OPERATION AND MAINTENANCE

1. *Engine Oil.* Use an oil specially prepared for water-cooled automobile motors of the best type. Use the best quality, light grade. It should have the following characteristics: Medium light in body; filtered to a pale, clear amber color; gravity between 29° and 30° Baume scale; flash point from 400° to 425° Fahrenheit. An oil made from a Pennsylvania base is considered best.

2. *Greases.* In the transmission and rear axle use a high-class ball-bearing grease, free from acid. Similar grease, only heavier grade, for the wheels. Use highest quality graphite grease in grease cups and steering universal joints and similar places.

3. *Lubrication of Steering Mechanism.* Cultivate a habit of over-lubricating, rather than under-lubricating, the various parts of the steering mechanism.

4. *Good General Rule.* Simply pour in oil, water and fuel, and run the car. The Locomobile does not need to be tinkered with — therefore don't do it.

5. *Good Maintenance Rule.* Set aside some hour in the week for general lubrication and inspection. Systematic maintenance is good maintenance.

6. *Cleaning and Washing.* Use the best imported castile soap. Soak the mud off carefully by a slow stream from a hose. Have the water not colder than 50° and not warmer than 75° — the best temperature is from 60° to 70°; this is important. Sponge must be free from grit — the *highest priced* one on the market, intended for the purpose. Dry the body with a clean chamois. Clean the upholstering, top, etc., with good castile soap and water — never use gasolene.

7. *To Lower Cape Top.* Unbutton rear curtain, hook front bow down in lower socket, folding the top cloth to the center between each bow. This will let the bows rest in the bow supporters and not chafe the cloth. Strap top down tightly. Raise top occasionally so that the cloth will not become too badly creased.

8. *Care of Tires.* Favor the tires on bad roads and at bad places. That is the most important rule and the least observed. Pressure should be enough to make all four tires stand up round under full load. This is probably the best rule. The tire makers recommend the following pressures, average figures being given:

"30" Locomobile, front	75 pounds
"30" Locomobile, rear	85 pounds
"48" Locomobile, front	75 pounds
"48" Locomobile, rear	90 to 100 pounds

Continued speeding on a hot day is plain maltreatment of tires. The rule is obvious, but is honored more in the breach than in its observance. Many motorists turn corners at immoderate speed, apply the brakes over forcibly, and neglect to have cuts in the tires vulcanized. It takes two to get the best tire mileage —the maker and the user.

9. *Anti-freezing Solution.* Use wood alcohol and water. Use 30 per cent wood alcohol in such a climate as New York, 40 per cent alcohol where below zero weather is common. Cooling system of the "30" Locomobile holds 4¼ gallons; that of the "48" Locomobile, 5 gallons.

10. *Overhauling.* It is not necessary or desirable to overhaul your Locomobile after a season's use. The expense of taking a car apart and putting it together without doing anything else, is considerable. We recommend overhauling only after about 18,000 to 20,000 miles of use. At the end of the season a general inspection and "tightening up" of the car may be desirable. It certainly is not expensive.

11. *Instruction Book.* We issue a complete instruction book, arranged by chapters and indexed. Read the instruction book.

Palms, Jamaica

CHAPTER EIGHTEEN

MISCELLANEOUS INFORMATION FOR MOTORISTS

State Laws. The digest of State laws in this chapter contains information needed from time to time by the tourist. Most States exempt non-residents either indefinitely or for a limited period. New Jersey is an exception. In sections where many cars are in use, regulations are strictly enforced and care must be taken. If in doubt, write the proper State authorities for detailed information regarding the State law. If when entering any large city, you are in doubt about the traffic regulations, an inquiry may save you trouble. For instance, in Boston the horn must be sounded before every street intersection or arrest is apt to follow.

The motorist should use what may be termed *standard lamp equipment*, consisting of two headlights, two side lights, and rear lamp with white light illuminating license number, and red light showing to the rear. Numbers should be carried, front and rear, and should not swing. In some States the automobilist will get in trouble if the tail lamp goes out and extra care must be given to this when touring. Sound the horn when passing under *bridges*, *viaducts*, or at dangerous points.

State	Registration	License	Numbers	Non-Residents
Alabama	Sec. State, annual. 20 h.-p., $7.50; 20 to 30 h.-p., $12.50; 30 to 40 h.-p., $17.50; 40 or more, $20.	License required for chauffeur.	One rear tag.	Exempt if home State reciprocates.
Arizona	No State Law.			
Arkansas	New Law, August 13, 1911. Non-residents exempt			
California	Secretary of State at Sacramento. $2, perpetual.	Chauffeur, $2. Owner may drive.	Rear, 3 inches high; Cal., 1 inch high; black on white ground. Numbers on front and rear lamps.	Exempt — both owner and chauffeur.
Colorado	No State Law.			
Connecticut	Secretary of State at Hartford. Jan. 1 to June 1. 1 to 24 h.-p., $0.50 per h.-p.; 25 or more h.-p., $0.60 per h.-p. June 1 to Dec. 31, pro rata fees. A. L. A. M. Formula h.-p. rating.	All operators must carry license. $2, annual.	Numbers front and rear, furnished by State. Numbers of one State only can be carried. Cannot swing.	Exempt 10 days if registered in home State and plates comply with regulations.
Delaware	Secretary of State at Dover. $5, annual.	All operators must carry license. $5, annual.	Front and rear, furnished by State.	Exempt if O. K. in home State.
District of Columbia	Registration fee, $2.	Operators examined and licensed. No fee.	Rear, 3 inches high; D. C., 1 inch high.	Exempt 10 days. Must register temporarily within 24 hours.
Florida	Secretary of State at Tallahassee. $2, perpetual.	Chauffeur, $2, perpetual. None required by owner.	Rear, 3 inches long, 2 inches wide; not supplied.	Exempt 30 days.
Georgia	No State Law.			
Idaho	No State Law.			
Illinois	Sec. State, Springfield. $2, annual. Jan. 1. Law effective July 1, 1911.		Front and rear, furnished by Sec. of State.	Exempt if carrying home State numbers.

State	Registration	License	Numbers	Non-Residents
Indiana . .	Secretary of State at Indianapolis. $1, perpetual.	None required for drivers.	Front and rear, 4 inches high; Ind. white on black. Not supplied.	Exempt if carrying home State numbers and initials.
Iowa . . .	Secretary of State at Des Moines. Up to 20 h.-p., $8; over, 40c. a h.-p.	Covered by registration.	Front and rear, different color each year. Ia and number.	Exempt if home State reciprocates.
Kansas . .	No State Law.			
Kentucky .	Secretary of State, Frankfort, annual. Less than 25 h.-p., $5; 25 h.-p., 50 h.-p., $10; 50 h.-p. and over, $20.	Not required.	Front and rear, furnished.	Exempt.
Louisiana . .	No State Law.			
Maine . . .	Secretary of State at Augusta. $2, perpetual.	All operators require license. $2, perpetual.	Front and rear, supplied by State.	Exempt if home State numbers are carried.
Maryland .	Commissioner of Motor Vehicles, Baltimore. Fee, under 20 h.-p., $6; 20 to 40 h.-p., $12; over 40 h.-p., $18.	License required, all operators, $2. Age limit, 16 yrs.	Two front and rear, furnished by State. Other tags to be removed. Must not swing.	Exempt two periods 7 days each in one year. Dist. Columbia does not reciprocate.
Massachusetts	Mass. Highway Comm. Fee, less than 20 h.-p. (A.L.A.M. formula), $5; 20 to 30 h.-p., $10; 30 to 40 h.-p., $15; 40 to 50 h.-p., $20; 50 and over $25.	Driver's license required, $2; examination, $2; additional renewal, 50c.	Front and rear, furnished by State.	Exempt for any 10 days in the year if carrying home State numbers. Summer residents may pay half the State fees for July, August and September.
Michigan . .	Secretary of State at Lansing. $3.	Chauffeur, $2, annual.	Two front and rear, supplied.	Exempt.
Minnesota .	Secretary of State at St. Paul. Fee, $1.50, annual.	Chauffeur only, $2 annual; $1 for renewal.	Front and rear, furnished by State. Remove others.	Exempt.

State	Registration	License	Numbers	Non-Residents
Mississippi	No State Law.			
Missouri	Secretary of State at Jefferson City. $1.50, annual. Less than 12 h.-p., $2; 12 to 23 h.-p., $3; 24 to 35 h.-p., $5; 36 to 47 h.-p., $7.	Chauffeurs, with Secretary of State, $1.50.	One rear tag only, with number and initials Mo.	Exempt when displaying registration number of own State.
Montana	No State Law.			
Nebraska	Secretary of State at Lincoln.	No special provision. Age limit, 16 years.	Rear only; letters 3 inches high; Neb., 2 inches high. Not supplied.	Not exempt.
Nevada	Secretary of State at Carson City.		One rear; seal must be displayed.	Exempt.
New Hampshire	Secretary of State at Concord. Fee, $10.	License, $1; both owner and chauffeur.	Two, furnished by State.	Exempt 10 days, conditionally.
New Jersey	Commissioner of Motor Vehicles. Fee, 10 h.-p., $3; 11 to 29 h.-p., $5; 30 h.-p. and over, $10.	Driver's license required, graduated according to h.-p. Less than 30 h.-p., $2; over 30 h.-p., $4.	Front and rear, furnished by State.	Not exempt. Special license, good for 8 consecutive days, or 4 periods, 2 days each, $1. Based on reciprocity.
New York (New 1910 Law)	Annually with Secretary of State at Albany. 25 h.-p. (A.L.A.M. rating) or less, $5; 25 to 35 h.-p., $10; 35 to 50 h.-p., $15; over 50, $25.	Chauffeur, $5; annual examination required. Age limit, 18 years. Owner may drive.	Numbers front and rear, 3 inches high; N. Y., 1 inch high. Furnished by State. Illumination rear number important.	Exempt if properly registered and home State reciprocates.
New Mexico	No State Law.			
North Carolina	Secretary of State at Raleigh. Fee, $5.	No license required.	2 number plates, 3 inches high; N. C., 1 inch high.	Exempt.

State	Registration	License	Numbers	Non-Residents
North Dakota	Secretary of State, $3, annual. No State provision.		Front and rear, furnished.	Exempt, temporarily.
Ohio . . .	Secretary of State at Columbus. Fee, $5, annual.	Chauffeur, $2, annual. Jan. 1.	Front and rear, furnished by State.	Exempt when displaying home State numbers.
Oklahoma .	No State Law			
Oregon . .	Secretary of State at Salem. Under 26 h.-p., $3; 26 to 36 h.-p., $5; 37 to 40 h.-p., $7.50.	Chauffeur, $2, annual.	1 rear, 3 inches high; light on dark preceded by Ore., 3 inches high.	Exempt for 30 days, except vehicles of non-resident corporations.
Pennsylvania	State Highway Department, Harrisburg. Fee, $5, under 20 h.-p.; 20 to 50 h.-p., $10; over 50 h.-p., $15.	Chauffeur's license required. $2, annually. Owner may drive.	2 plates, furnished by State. Other tags to be removed.	Exempt 10 days, based on reciprocity.
Rhode Island	Secretary of State at Providence. Fee, 5 to 20 h.-p., $5; 20 to 30 h.-p., $10; 30 to 40 h.-p., $15; 40 and over, $25.	Driver's license required. Fee, $1.	Front and rear, furnished by State.	Exempt 10 days if home State laws are complied with.
South Carolina . .	No State Law			
South Dakota	Secretary of State at Pierre. Fee, $1.		Rear, 3 inches high; S. D., 2 inches high.	Exempt.
Tennessee .	Secretary of State at Nashville. Fee, $2; $1 for filing.	Not required.	Front and rear, letters 3 inches high, 1½ inches wide.	Not exempt.
Texas . . .	County Clerk. Fee, 50c.		One, 6 inches high, conspicuous.	Not exempt.
Utah . . .	Secretary of State at Salt Lake City. Fee, $2.		One rear plate. Seal must be displayed.	Exempt.

	Registration	License	Numbers	Non-Residents
Vermont . .	Secretary of State, Montpelier. $1 per h.-p., first registration; 75c., second registration; 50c., third.	Driver's license. Fee, $2. All drivers.	Front and rear, furnished by State.	Exempt not exceeding 10 days. Special arrangement for 60 days or less.
Virginia . .	Secretary Commonwealth, Richmond. 20 h.-p. or less, $5; 20 h.-p. to 45 h.-p., $10.	No driving license required.	Front and rear, supplied by State.	Exempt two periods, seven days each.
Washington .	Secretary of State, Olympia. Fee, $2, annually.		Rear, 4 inches high; Wash., same size.	Exempt.
W. Virginia .	State Auditor. Fee, $10.	Chauffeur's license. Fee, $2.	Two numbers, plates supplied by State.	Exemption based on reciprocity.
Wisconsin . .	Secretary of State at Madison. Fee, $2, perpetual.		Rear, 3 inches high with Wis., supplied by State.	Exempt if complying with home State law.
Wyoming . .	No State Law.			
Ontario, Can.	Provincial Secretary at Toronto. Fee, $4; $2 renewal, annual.	Chauffeur's license required. Fee, $1.	Front and rear, furnished. Remove other tags.	Not exempt.
Quebec, Can.	Comptroller of Provincial Revenue, Quebec. Fee, $5.	Owner's and chauffeur's license. $5, annual. April 1.	4 inches high, 1 inch wide, front and rear; Que. underneath.	Non-resident Canadians only exempt.
New Brunswick, Can. . . .	Secretary Public Works, Fredericton. Fee, $5.	Chauffeur's, $2. Owner may drive.	Rear, figures 3 inches high; N. B., one inch high, black on white. Not supplied.	Exempt.
Nova Scotia, Can. . . .	Provincial Secretary at Halifax. Fee, $5.	Chauffeur's, $2. Owner may drive.	Rear, figures 3 inches high; N. S., 1 inch high, black on white.	Exempt if complying with home Province or State.

Horse-power. The most familiar formula for estimating the horse-power of an automobile motor is that known as the A. L. A. M. formula. It is now used as a standard in a number of State laws. This formula is as follows: H. P. $= \frac{D^2 N}{2.5}$. D is diameter of the cylinder, N is the number of cylinders, and 2.5 is a constant. According to this formula the "30" Locomobile is rated at 32⅜ H. P., and the "48" Locomobile at 48⅜ H. P.

Metric Tire Sizes. One meter equals 39.37 inches. One millimeter equals .039 of an inch, or about $\frac{1}{25}$th of an inch. The metric sizes of foreign tires that fit on rims used on the Locomobile are as follows:

34 x 4 = 815 x 105	36 x 4 = 915 x 105
34 x 4 = 875 x 105	36 x 4½ = 920 x 120
34 x 4½ = 880 x 120	37 x 5 = 935 x 125

Automobile Organizations. The largest organization in this country is the A. A. A. or American Automobile Association. New members pay $5.00 a year dues, but are not required to pay any entrance fee. Membership is of value in connection with American and foreign touring, and other matters, details of which may be obtained from the secretary, Robert Bruce, 437 Fifth Avenue, New York.

The Automobile Club of America maintains a Bureau of Tours, which offers information and assistance

to tourists who are either members of the club or of the Bureau of Tours. Membership in the Bureau of Tours amounts to $10.00 a year. Inquiries should be addressed to the Secretary of the Bureau of Tours, Automobile Club of America, 54th Street, west of Broadway, New York.

The Touring Club of America, Broadway and 76th Street, New York, makes a specialty of supplying touring information. Membership, $10.00 a year.

Road Books for American Touring. The "Blue Book" is a standard publication issued for the convenience of automobile tourists, and is the official tour book of the Touring Club of America. Published by the Automobile Blue Book Publishing Company, 243 West 39th Street, New York, and 910 S. Michigan Avenue, Chicago. It is issued in five parts as follows:

Vol. 1: New York State and Lower Canada. Vol. 2: New England and the Maritime Provinces. Vol. 3: New Jersey, Pennsylvania, Delaware, Maryland, and Southeast. Vol. 4: Ohio to the Mississippi River. Vol. 5: Mississippi River to the Rocky Mountains.

These books are illustrated with maps and are very convenient. Price is $2.50 a volume.

The tour book of the Automobile Club of America is a good publication, containing American touring routes, and miscellaneous information on foreign touring,

etc. This book is free to the members of the Bureau of Tours; the price is $3.00 to the general public.

American Automobile Maps. Blue Book "Pilot" maps of New England are published by the Automobile Blue Book Publishing Co. Other maps are issued by the Touring Club of America and cover a large part of the United States. Large maps published by the A. C. A. are on sale at the Bureau of Tours. C. S. Mendenhall, 512 Race St., Cincinnati, Ohio, publishes twenty State automobile maps, and a printed folder describing them will be sent on request.

Road maps of a number of the far Western States such as Colorado, Wyoming, Utah, Nevada, Idaho, Arizona, New Mexico and Montana, are published by Clason. Consult your bookseller. Other maps are Servoss' sectional maps; Blanchard's Pilot maps of New England; Walker's Adirondack and Canadian districts, etc. Brentano, New York, publishes a catalogue referring to automobile maps.

The topographical maps of the United States Geological Survey interest those who are familiar with contour maps. They are useful in exploring a limited area, because they give so much accurate and detailed information. Address the Director, U. S. Geological Survey, Washington, D. C., and he will furnish advertising matter regarding them.

Foreign Road Books and Maps. Publications for the benefit of foreign touring are many in number. Brentano, Fifth Avenue, New York, publishes a catalogue of such publications, and this may be consulted to advantage. Bartholomew's Strip Maps of England are well regarded by those who have used them. The *Routes Taride* are excellent for France, Italy and Switzerland. The Carte Routiere Dion-Bouton is a very good general road map of France. Mittelbach's road maps of Germany and Austria are similarly well known.

Hand books are published by the Michelin and Continental Tire Companies, and are easily obtainable. The automobile clubs of France, Italy and Switzerland publish excellent guide books, and membership in these clubs will enable the tourist to secure copies of these books. *"Le Guide Taride"* is a guide book that is regarded as excellent for touring in France.

Foreign Touring. The following suggestions will be found useful:

1. The tour should be planned in advance. This will be facilitated by reading up on the subject. "Five European Motor Tours" is a pamphlet of value which we can supply to any Locomobile owner on request. It contains five articles written by members of the Automobile Club — two of these are written by a Locomobile owner. Pamphlet is a reprint from the

Club Journal. There are a number of entertaining books about foreign automobile travel, among which are "Motoring Abroad", by Presbrey; "English Highways and Byways from a Motor Car", by Murphy; "The Automobilist Abroad", by Miltoun; "High Roads of the Alps", by C. L. Freeston, and others. Consult your bookseller.

2. Shipment of the car may be placed in the hands of some reliable customs house broker in New York, or wherever the point of departure may be. He can take care of many details, including the crate, which should be of the "knocked down" variety, and ordinarily costs from $40.00 to $65.00; also pay the ocean freight and other charges, all for a lump sum. The rates for ocean freight are cheap from Boston and Philadelphia. All charges, including freight (ocean), boxing, dock charges, and customs charges, from New York to Liverpool, amount to about $108.00.

3. Some of our customers urge the advantage of shipping through one of the less conspicuous agencies to get personal service—such as Sheldon & Co., State St., New York, or Stone & Downer, State St., Boston. Members of the Automobile Club of America usually find it most convenient to ship through the Club Bureau of Tours. The Morris European Express is the Official Forwarder of the A. C. A.

4. The owner's car must be registered at the Custom House in New York, or other point of departure, to obtain outward bound clearance, and before returning to America the owner must obtain from the American Consul at the point of departure, an inward bound clearance, and a declaration must be made before the consul that the car was exported from America. If the car is shipped through a customs broker, as in No. 2, this trouble is obviated as the broker will handle the matter.

5. The American Express Company are authorized forwarding agents of the American Automobile Association, and have issued a pamphlet entitled, "Auto Tips for Auto Trips", which will be mailed on application to the Foreign Department of the Company at 65 Broadway, New York.

6. Oelrichs & Company, Bowling Green Building, New York, are general agents for the North German Lloyd Company, and issue a pamphlet called, "How to Ship an Automobile Abroad". This may be consulted to advantage.

7. Before starting, obtain a letter from the manufacturer of the car, giving the name of the maker, model (year), style of car, number of car, color of body and chassis, make of tires, number of seats (places), weight, value, number of motor, number of cylinders,

motive power, horse-power, together with the owner's name and address.

8. Membership in the Touring Club of France, at a cost of six francs, is desirable, and this can be secured by presenting certificate of membership in the A. C. A., or a letter from the A. A. A. certifying membership therein. The Touring Club of France arranges for a deposit to cover customs, duties, etc., by a "Triptyque". Deposit is returned at the end of the tour. Thus all duties are paid in advance, eliminating delays and trouble.

9. The Association Generale of France also offers service to the tourist. Membership is ten francs a year. Application blanks may be secured from the A. C. A. or the A. A. A. This Association can furnish chauffeurs and has the power to issue licenses. The matter of license is very important in France.

10. The A. A. A. maintains reciprocal arrangements with the Automobile Association of London, and the Motor Union of Great Britain and Ireland, whereby these bodies extend certain courtesies and supply certain information upon presentation of A. A. A. membership cards. Members of the A. C. A. are able to obtain cards of introduction to the Royal Automobile Club in order to secure information in planning trips in Europe.

11. Acetylene Gas Tanks can be charged in England by applying to The Acetylene Illuminating Co., 268 Lambeth Road, London, S. W.; and in Germany, by applying to "Autogen", Trebinner-Strasse 9, Berlin, S. W. In France, exchange temporarily for tank of French make, write Rodriguez, Gauthier et Cie., 67 Boulevard de Charonne, Paris. They have 80 agents in France.

Insurance. Automobile owners carry insurance in some of the various forms given below, especially the "floater" form of fire insurance, which includes burglary, theft, and hazards of transportation. Liability insurance for injuries to persons and damage to property is also desirable. While some desire insurance covering damage to the *car*, it is not carried by the majority of motorists today, owing to its high rate of premium, the cost being double that for personal injuries.

1. Fire, burglary and theft, and hazards of transportation. This policy is issued in floating form, covering the car wherever it may be within the boundaries of the United States or Canada, or on board a United States or Canadian coastwise steamer, against loss or damage to the automobile by fire, arising from any cause whatsoever, explosion, self-ignition, and all hazards of transportation by railroads, steamboats, and coastwise steamers, at the lowest prevailing rates. The

cost of this class of insurance is now 2½ per cent. (Policies can be extended for a small additional premium to cover European touring.)

2. Injuries to persons. (Liability.) This class of insurance protects the owner against his legal liability for injuries caused by his car to person or persons. The limits of this policy are $5000 for injuries to one person, and $10,000 for injuries on any one accident, no matter how many persons may be involved. The Insurance Company defends all suits and pays all the law costs incurred by the owner in addition to the full limits of the policy. It gives protection for claims and suits which are many times brought against an owner for exorbitant sums, and which are always annoying and costly. The rates for this class of insurance vary with the horse-power of the car, and also as to whether the car is used in or around large cities or in small cities and in the country.

3. Damages to car. This insurance covers damages done to the car by collision with another car, or with any other object. It covers all damages up to the full insurance value of the car (including tires, if damage amounts to $200). It includes damage done to lamps.

4. Damage to property of others. This provides insurance for damage to property of others by collision,

for which the assured is liable. It applies to any other automobile or wagon, or fence, bridge or other object. Such insurance will cost about 25 per cent of the rate charged you for personal injuries. For this small premium it is well worth while to have this insurance.

5. Owner's insurance. This class of insurance insures the owner against personal injuries sustained while operating, being driven in, or caring for the insured motor car. Costs a little more than ordinary accident insurance.

NATIONAL ASSOCIATION OF AUTOMOBILE MANUFACTURERS, INC.

STANDARD WARRANTY

ADOPTED MAY 14th, 1910

We warrant the motor vehicles manufactured by us for ninety days after shipment, this warranty being limited to the furnishing at our factory of such parts of the motor vehicle as shall, under normal use and service, appear to us to have been defective in material or workmanship.

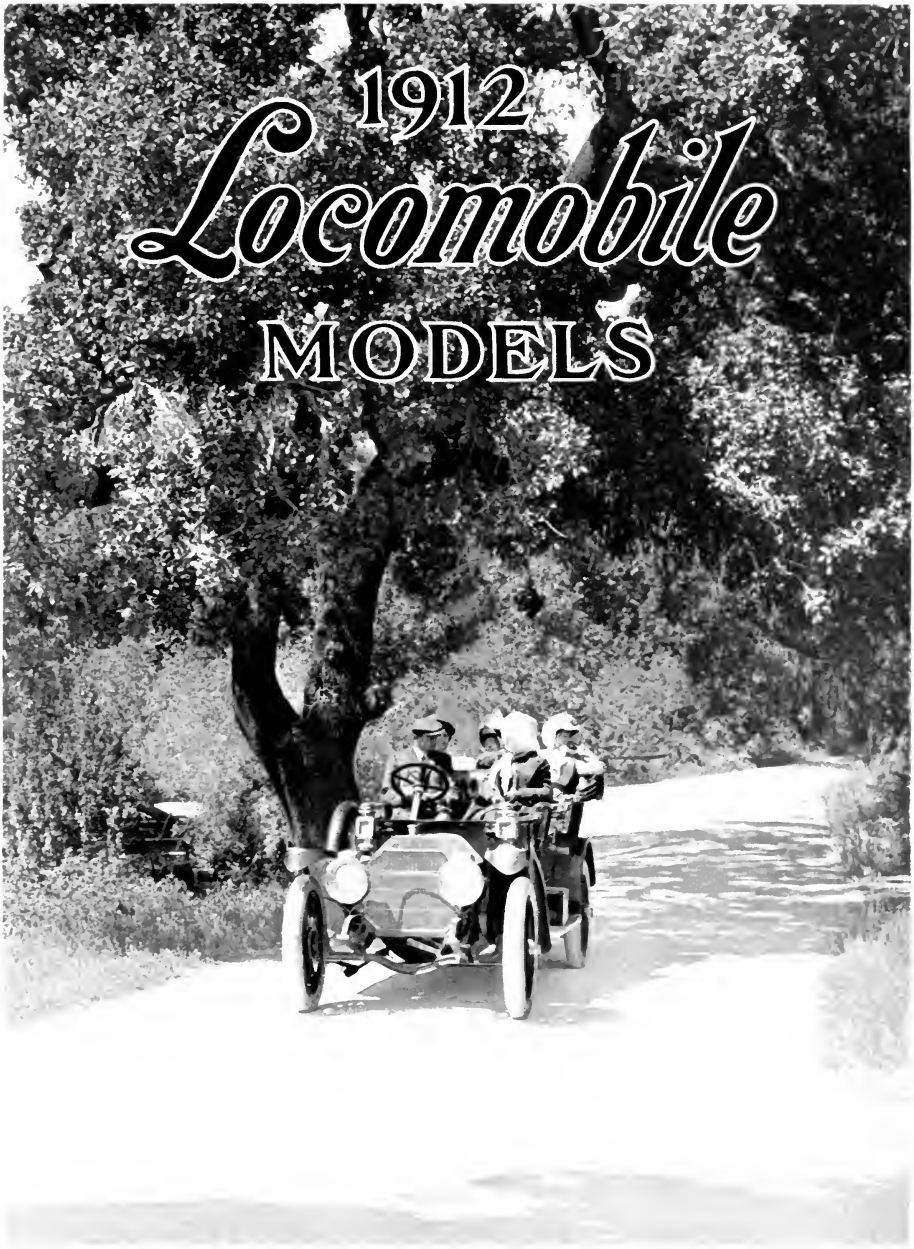
This warranty is limited to the shipment to the purchaser, without charge, except for transportation, of the part or parts intended to replace the part or parts claimed to have been defective, and which, upon their return to us at our factory for inspection, we shall have determined were defective, and provided the transportation charges for the parts so returned have been prepaid.

We make no warranty whatever in respect to tires or rims.

The condition of this warranty is such that if the motor vehicle to which it applies is altered or repaired outside of our factory, our liability under this warranty shall cease.

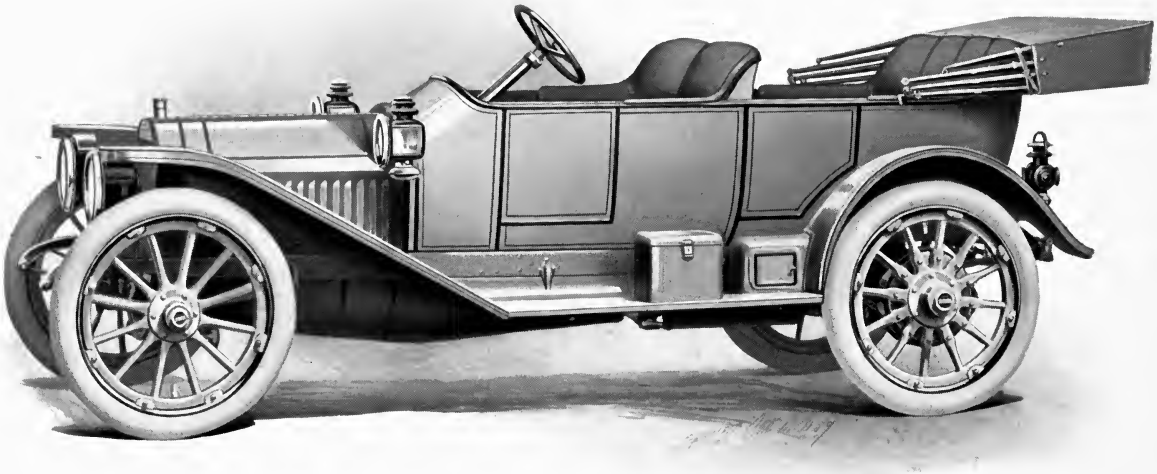
The purchaser understands and agrees that no warranty of the motor vehicle is made, or authorized to be made, by the company, other than that hereinabove set forth.

Dated.....


1912
Locomobile
MODELS

The "30" Locomobile, Four-Cylinder, Shaft-Drive. Type "L", *Touring Car.* Seats five passengers
Price, $3500, with top and demountable rims

The "30" Locomobile, Four-Cylinder, Shaft-Drive. Type "L", *Baby Tonneau.* Seats four passengers
Price, $3500, with top and demountable rims



The "30" Locomobile, Four-Cylinder, Shaft-Drive. Type "L", *Torpedo.* Seats four passengers
Price, $3600, with top and demountable rims

The "30" Locomobile, Four-Cylinder, Shaft-Drive. Type "L", *Landaulet.* Seats six passengers
Price, $4700, with demountable rims

The "30" Locomobile, Four-Cylinder, Shaft-Drive. Type "L", *Limousine*. Seats six passengers
Price, $4600, with lamps and demountable rims

Interior Views of the "30" Limousine

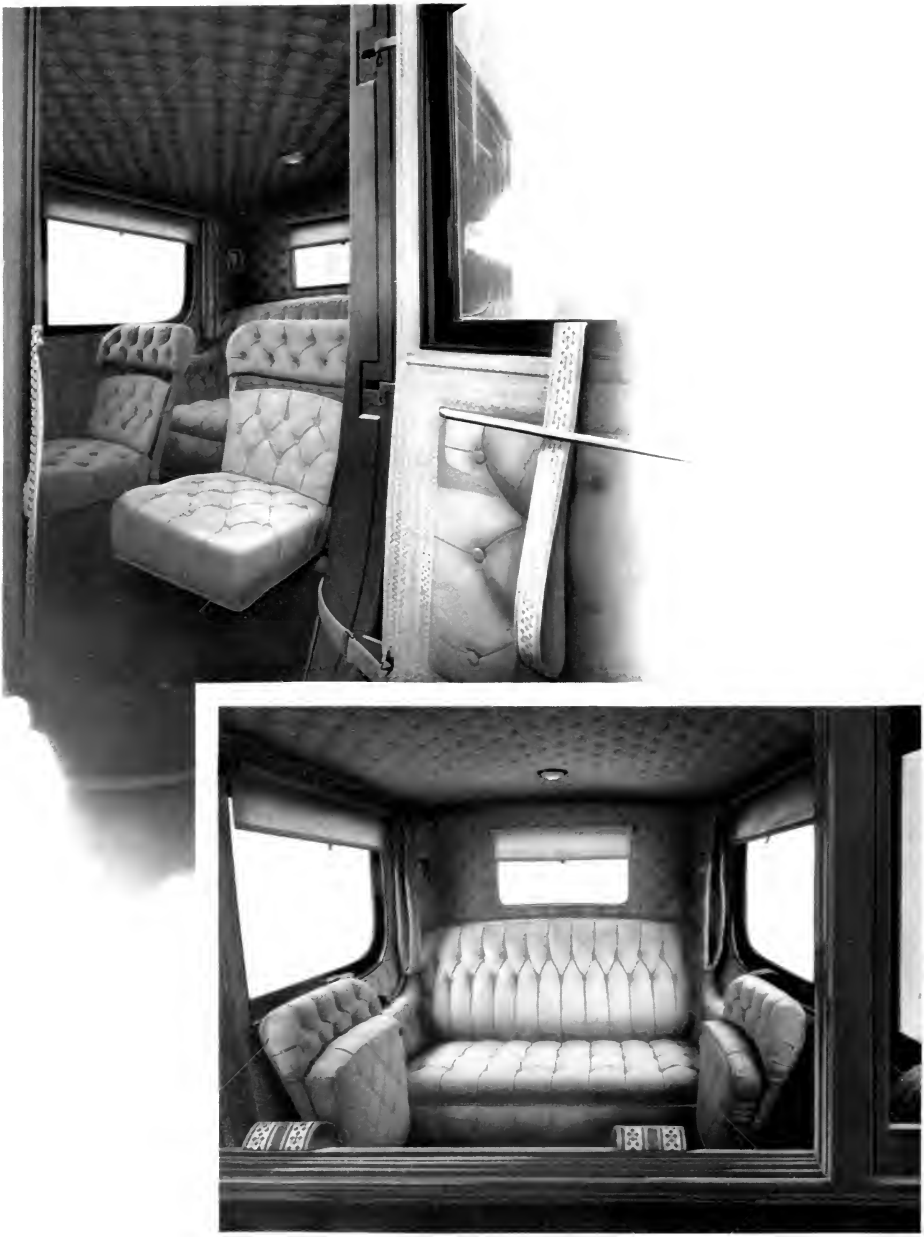
The "30" Locomobile, Four-Cylinder, Shaft-Drive. Type "L", *Berline*. Seats six passengers, two in front, two on folding seats, two on the rear seat. Price, $4800, with lamps and demountable rims

The "48" Locomobile, Six-Cylinder, Shaft-Drive. Type "M", *Touring Car*. Seats seven passengers, two in front, two on folding seats, three on the rear seat. The rear seat cushion and back are provided with upholstery ten inches thick, making this model the most luxurious touring car on the market The extra seats fold against the sides of the body when not in use and are exceptionally comfortable. Price, $4800, with top, lamps and demountable rims

The "48" Locomobile, Six-Cylinder, Shaft-Drive. Type "M", *Torpedo, for four passengers.* Seats two in front, two in the rear. Price, $4800, with top, lamps and demountable rims. See illustration, page 20

The "48" Locomobile, Six-Cylinder, Shaft-Drive. Type "M", *Torpedo, for five passengers.* Seats two in front, three in the rear. Price, $4800, with top, lamps and demountable rims. See illustration, page 19

The "48" Locomobile, Six-Cylinder, Shaft-Drive. Type "M", *Limousine*. Accommodates seven passengers
Price, $6050, with lamps and demountable rims



Interior Views of "48" Limousine

The "48" Locomobile, Six-Cylinder, Shaft-Drive. Type "M", *Landaulet*. Accommodates seven passengers
Price, $6150, with lamps and demountable rims

The "48" Locomobile, Six-Cylinder, Shaft-Drive. Type "M", *Berline.* A new 1912 Closed Car Model
Accommodates seven passengers. Price, $6250, with lamps and demountable rims

The "30" Locomobile Limousine with six passengers. Two are seated in front, two on the extra seats facing forward, and two on the rear seat. Seven passengers can be accommodated on occasion