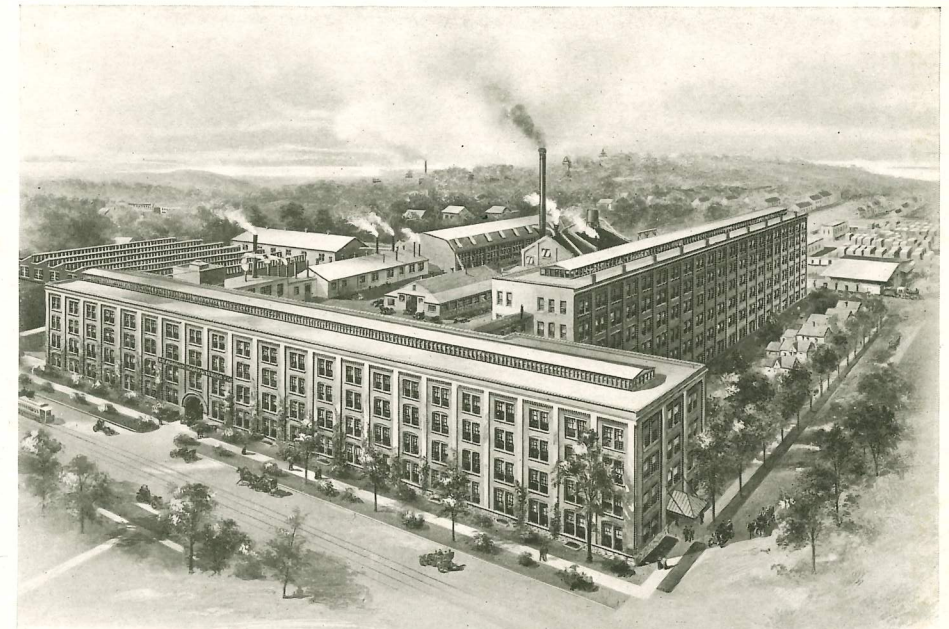


FRANKLIN

DESCRIBING THE SIXTH SERIES OF THE SIX-THIRTY MODEL
TOURING CAR, ROADSTER, SEDAN
BERLIN AND COUPE



FRANKLIN MOTOR CAR CO.
GLENN A. TISDALE
PRESIDENT
73rd ST. AND AMSTERDAM AVE.
NEW YORK

H H FRANKLIN MANUFACTURING COMPANY
SYRACUSE NEW YORK U S A

FRANKLIN AUTOMOBILE COMPANY
SYRACUSE NEW YORK

SOLE DISTRIBUTOR

This is the day of efficiency in all lines of human effort. Men and women in every class of work are striving to accomplish things in the most economical and efficient way.

The Franklin automobile is one of the great efficiency developments of the times. It does the maximum amount of work and gives the maximum benefit for the minimum investment and effort.

Automobile Efficiency

AUTOMOBILE efficiency takes into account operating cost and all the results obtained from the use of a car. Maximum efficiency comes from a light weight, dependable car, well tired and well sprung. Such a car is reliable, economical and comfortable.

An efficient automobile is difficult to build. No different in that respect than any other machine, the more highly developed it is and the more it accomplishes, the greater the experience and ability necessary in designing and building it.

The present Franklin is the sixth series of the same car. It represents the result of thirteen years' continuous work in developing automobile efficiency. The principles of construction are the same as employed in the first Franklin car; details have been improved.

To build a highly developed, efficient automobile and build it economically is an engineering achievement of great use to the world. It is something that can be done only through long experience and concentration of effort. The entire facilities of the Franklin organization and factory are employed in making and selling one model.

The investment represented in the purchase of a good automobile is large enough to demand that it meet the necessities of a variety of uses. The fundamental purpose in the design and construction of the Franklin is to make an automobile so efficient that it is comfortable and economical for both touring and every-day use. The Franklin Six-Thirty proves that it is possible and practicable to build such a car.

Features That Make Satisfaction

The features which make the Franklin practical and dependable far beyond the average car are light weight, flexibility, direct cooling and large tires.

Light construction was really born with the Franklin. The original conception of the direct cooled engine carried with it the light weight car. The thought and work spent in developing the direct cooled engine was balanced by work on other details to make a car so light and strong that it would be economical.

Flexibility is the basis of automobile comfort and comfort is the basic Franklin principle. Comfort means not only easy riding, but easy operation. It means the ability to ride and drive many miles in a day without becoming tired. Flexible construction, not rigid construction, makes comfort, and thus the greater the flexibility the greater the comfort. Full-elliptic springs, without strut rods, together with a wood chassis frame, are absolutely essential. Real comfort is not easy to explain in a catalogue but it can be readily demonstrated with the Franklin car.

Reliability takes into account everything about the car. Tires must be reliable. If the tire service is unreliable the car is not dependable. The extremely satisfactory tire service obtained on Franklin cars is the result of large tires on a light weight car in which the rim weight and unsprung weight are kept down.

Direct cooling, the simplest and most efficient method of cooling the cylinders of an automobile engine, has a great deal to do with reliability and comfort. Leakage, freezing and overheating are avoided. In fact the one big, self-evident advantage of direct cooling is that nothing about it is affected by the seasons. The winter weather is just as harmless to a Franklin as the weather at the equator. This means 365 days of usefulness each year.

The Franklin Car Six-Thirty Series Six

Formerly we made several models of both four and six-cylinder cars. Efficiency demanded concentration and our six-cylinder thirty horse-power car was selected as the best type to develop to the utmost. Concentrating on one model is of direct benefit to the owner, dealer and manufacturer. The owner is benefited chiefly in two ways—he buys a better car at a smaller price and secures better subsequent service.

An examination of the Franklin and a ride in the car discloses its fine qualities. It is made in a highly specialized plant. Only by the most efficient manufacturing methods is it possible to produce a fine car at a moderate price.

An automobile cannot be too good. The question is to get one that is good, the purchase price and operation cost of which are reasonable. The success of the Franklin is based on the fact that it is such a car. Any one able to buy a good automobile can afford to run the Franklin.

The Franklin is made on one chassis with five body styles. Prices and weights, fully equipped, are as follows:

Touring car	\$2150	2750 pounds
Roadster	2150	2630 “
Coupe	2600	2788 “
Sedan	3000	2924 “
Berlin	3200	3121 “

Franklin principles of light weight and flexibility are found in all of these cars. The enclosed cars give economy of operation practically equal to the touring car and roadster.

The standard color for all types is Brewster green with black trimming. All bodies are aluminum over a wood frame. The engine hood is also aluminum. The chassis frame is made of selected second-growth ash to secure flexibility coupled with strength.

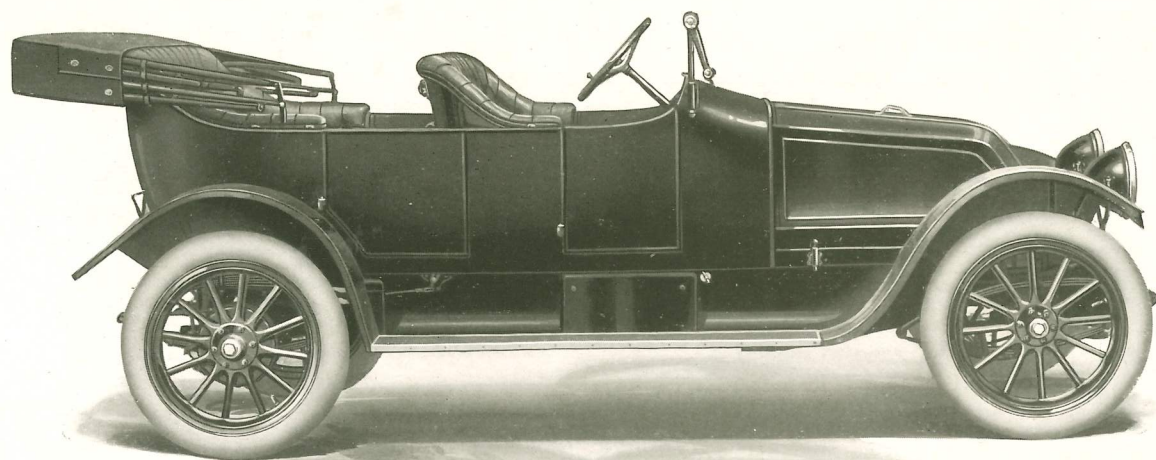
The steering wheel is on the left side with center control levers. The wheel base is 120 inches; tread 56 inches. The cylinders are 3 $\frac{5}{8}$ " x 4" stroke. The 40 inch full-elliptic springs have 4 $\frac{1}{2}$ inch opening in front and 6 inch opening in rear.

All types are equipped with electric starter and electric lights. Each headlight has two bulbs, a headlight bulb in focus with the reflector and a small bulb on the side to take the place of side lamps. The tail light and license bracket are combined. An extension trouble light is included in the equipment.

The equipment also includes a 60-mile speedometer of the flush type mounted on the driver's side of the car. The lighting switches, starter switch, oil, hot and cold air and gasoline controls are all within easy reach of the driver.

The gasoline tank is under the front seat thus affording gravity feed to the carburetor. On the Sedan the gasoline tank is in the rear with an automatic pressure feed.

Top, glass front, single cylinder power tire pump and full tool equipment are included. All prices are f. o. b. Syracuse, N. Y.



Franklin Touring Car

The Franklin touring car is built for general family service. It is as easy to operate as an electric and as safe for a woman to drive. Its beauty is an acknowledged Franklin feature. The graceful sloping hood and fine body lines represent a progressive improvement from the original smooth surfaced torpedo design adapted to a five passenger car.

The Golde one-man top fastens when up, to the glass front, making it practically water tight. This top is light and easy to operate. The side curtains are carried on the bows of the top and are easy to assemble from the inside.

The two-piece glass front is connected with the body giving a weather tight joint. Each sash swings backward and forward permitting perfect ventilation and a good rain vision.

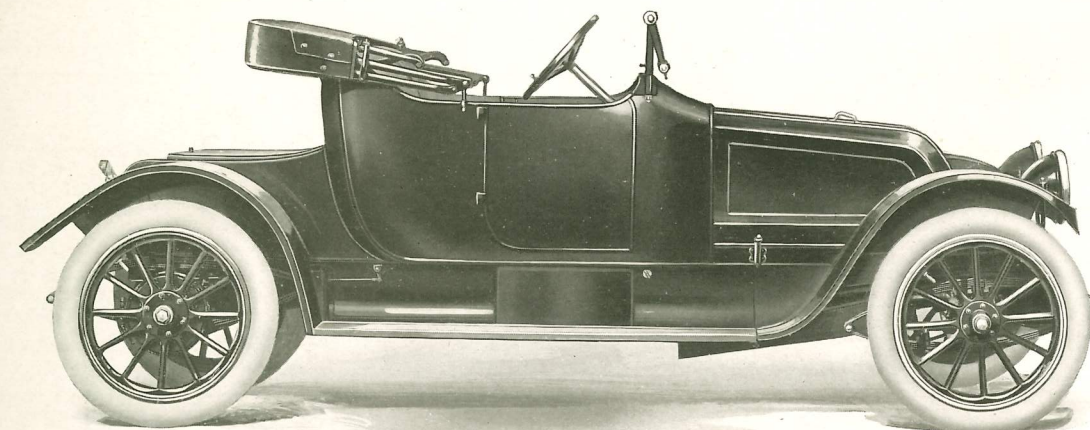
The upholstery is deep and comfortable. The leather is a medium bright, straight grain leather of highest quality.

Equipment includes a combination tire and luggage carrier which can be folded up whether a tire is carried or not. There is a leather compartment for luggage on the back of the front seat below the robe rail.

The floor mat in the front compartment is made of a horse hair material to withstand hard service. In the rear a green carriage carpet covers the floor.

All standard bodies can be interchanged on this chassis.

Five Passengers. Weight fully equipped, 2750 pounds.
Price, \$2150, f. o. b. Syracuse, N. Y.



Franklin Roadster

The Franklin roadster is a small family car and business car combined. It is ideal for long trips. The seating arrangement is such that the passenger has a comfortable, large seat, while the driver is so located that there is no interference in the operation of the car. The driver's seat is in the same relative position to the front of the car as on the touring car but the passenger's seat is back of the driver's seat 7 inches. There is a removable auxiliary seat forward of the right door.

The two-piece glass front is connected with body giving a weather tight joint. Each sash swings backward or forward permitting perfect ventilation and a good rain vision.

The upholstery is the same as on the touring car, a medium bright, straight grain leather. A horse hair mat covers the floor.

Luggage space is provided in the rear compartment, which is completely enclosed.

The three bow top when up, fastens to the glass front, making it practically water tight. The side curtains which are carried on the bows of the top operate easily from the inside.

Two passengers and auxiliary seat. Weight fully equipped, 2630 pounds.
Price, \$2150, f. o. b. Syracuse, N. Y.

Description of Enclosed Bodies

The Franklin line of enclosed bodies exhibits a characteristic designing motif throughout, giving an easily recognized style, and preserving the essential features of convenience and good appearance.

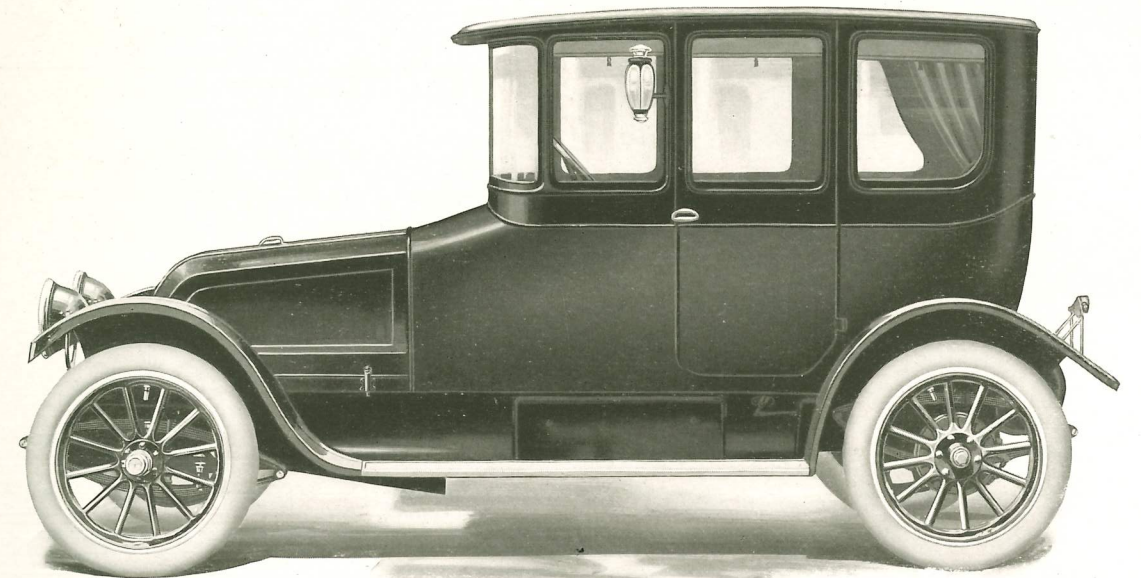
These features, which are nearly all exclusive with the Franklin, are: The moderately curved top rail; the high light line; the round-cornered window casings with easily operated, noiseless, weather-proof, frameless drop windows; the broad vision glass front with adjustable double sash centre shield and curved corner lights; the narrow frame pillars obstructing the outlook as little as possible; the clean, smooth surfaces of both the torpedo-like main body and the light superstructure; and the remarkably light but strong construction.

All models are kept within the moderate dimensions necessary for the stylish appearance now demanded by the best patronage and for easy handling in city traffic. The designing lines are in accord with the advanced general reaction in the centres of fashion from the extremes of two years ago. Garniture and appointments are new and largely exclusive.

The Franklin Sedan, quite as convenient for touring as the open car, has all the advantages of the open car plus the added comfort for fall and winter use. It is the ideal family car for owners who do their own driving.

The Franklin Berlin is a completely enclosed two-compartment carriage embodying all luxurious features usual in this type. The length dimensions are kept within the limits of good designing, thus attaining the true town car effect in style, and the easy handling so essential in city traffic.

The Franklin Coupe is designed primarily for a light, extremely comfortable, easily handled and easily operated cool weather car for two passengers. Light weight, good hamper space, comfortable upholstery, with the passenger seats located well within the wheel base, ample ventilation through drop windows and the adjustable glass front make the Coupe a good car for road work and for driving practically all the year round.



Franklin Sedan

The extremely clean lines of the Sedan with its correct proportions and luxurious interior give it all the style possible in an enclosed car, while the two wide doors and "Vestibule" front seat plan make possible a lighter body of this capacity than can be obtained in any other design.

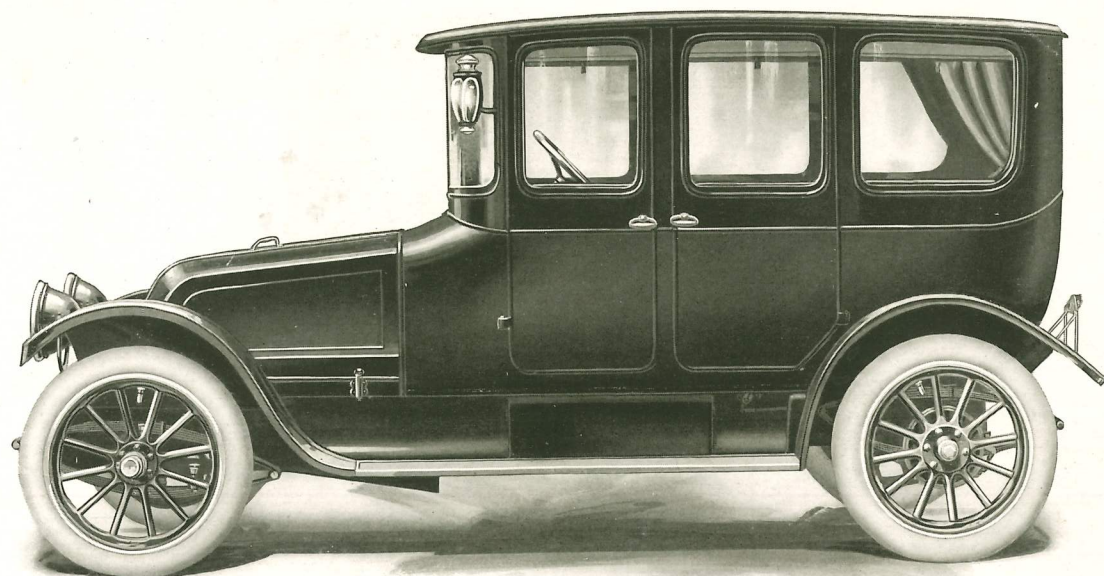
The six drop windows and adjustable ventilating glass front make of it a unique semi-convertible car, extending the range of its usefulness into all seasons. With well drawn lines for minimum wind resistance, it is practically as fast over the road as the open touring car. The high light line affords a fine, broad outlook upon the scenery.

The two-piece glass front has a double glass on the upper sash, one glass swinging out and the other swinging in, giving not only perfect ventilation and rain vision but clear vision for stormy weather.

The Sedan is upholstered in a smooth, plain, low-napped Edredon woven in Germany exclusively for this car. The color is a medium dark drab with a slight cast of green. The fabric is almost everlasting and does not soil or show dust easily, but combined with silks and laces dyed to exactly match in shade, makes a beautiful interior. The floor carpet matches the trimming in color.

The appointments include dome lights, corner reading lamps, hat and package rack, bouquet vase, concealed companion, coat hooks, umbrella holder, silk blinds, draped curtains and eight-day clock.

Five passengers. Weight fully equipped, 2924 pounds.
Price, \$3000, f. o. b. Syracuse, N. Y.



Franklin Berlin

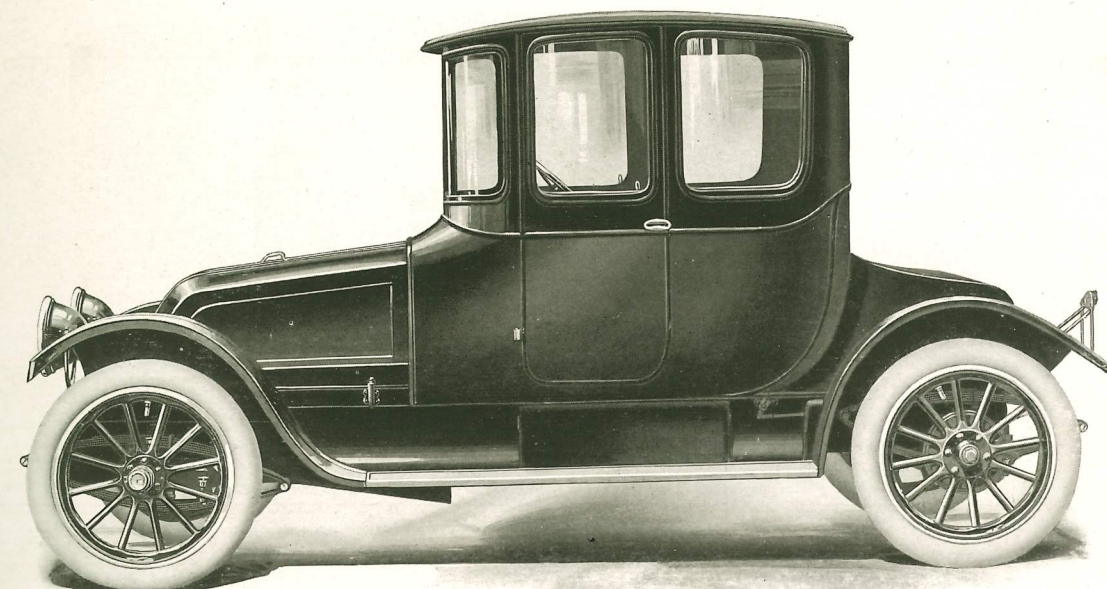
The Berlin provides room for three people on the rear seat and there is an extra large, folding arm auxiliary seat which stows entirely out of the way when not in use. There is room for another passenger in the front compartment beside the driver. The two compartments can be made into one by dropping the central partition window.

The six drop windows and the same adjustable glass front as on the Sedan make driving in the warm season agreeable in the Berlin.

The Berlin is upholstered the same as the Sedan, with a smooth, plain, low-napped Edredon woven in Germany exclusively for this car. The color is a medium dark drab with a slight cast of green. The floor carpet in both compartments matches the trimming in color.

The appointments include dome lights, reading lamps, hat and package rack, bouquet vase, concealed companion, coat hooks, umbrella holder, eight-day clock, chauffeur's telephone, silk blinds and draped curtains.

Six passengers. Weight fully equipped, 2979 pounds.
Price, \$3200, f. o. b. Syracuse, N. Y.



Franklin Coupe

The Coupe has a seat plan similar to the roadster, providing reasonable emergency accommodations for the third and fourth passengers. The auxiliary seat forward of the right door can be removed when not in use. The Coupe has all the requirements for the business man or physician, or for ladies who drive their own car.

The glass front is the same as on the Sedan and Berlin, a two-piece front with double glass on the upper sash giving perfect ventilation and good vision in all weather.

The Coupe is trimmed with a dark green waterproof worsted, having a Bedford wale. The floor carpet matches the trimming in color.

The appointments include dome light, hat and package rack, coat hooks, umbrella holder and silk blinds.

Two passengers and auxiliary seat. Weight fully equipped, 2788 pounds.
Price, \$2600, f. o. b. Syracuse, N. Y.

Principles of Efficient Construction

Light Weight

An automobile to be safe and reliable, economical and comfortable must be light in weight. The best materials correctly formed and treated, must be used, and scientific engineering principles must govern its construction. Light weight, if obtained scientifically, guarantees the use of the highest grade of materials and workmanship. It insures quality.

Safety and reliability require that a car must be easy to control. Lightness in weight gives easy steering; the car accelerates more easily and with less strain because there is less weight to start. The brakes stop the car quickly for there is less to stop. If the car jumps out of a rut or hits a rough spot, its tendency to swerve is more easily controlled.

Scientific light weight cannot be attained without building flexibility and resiliency into the car. Both of these mean added safety and reliability. Flexibility is that quality which permits of distortion without breakage. Resiliency is that quality which causes a distorted part to resume its original shape and condition. It is obvious therefore that these qualities are desirable—even necessities—in a good car.

Relatively only a small portion of the strength of an automobile is necessary to carry the passenger load of the car. The larger part is needed to carry the dead weight of the parts of the car itself and the driving strain that originates in the engine. Practically every part of the Franklin shows the refining and strengthening processes involved in getting a light, flexible construction, yet a construction which has a maximum resistance to wear and breakage.

The detail descriptions which follow show how light weight, flexibility and resiliency are obtained in the Franklin without sacrificing strength in any part.

Direct Cooling

Part of the heat generated in an internal combustion engine, such as an automobile engine, goes to heat up the cylinder walls. The heated surfaces must be cooled or their temperature will rise so high that their lubrication will no longer be possible.

In an automobile engine there are two ways to accomplish the cooling. The direct way is to cool the cylinder surfaces by currents of air flowing over them; the indirect way is to cool the cylinder surfaces by a current of water which is in turn cooled in a radiator by air.

The direct system of cooling as used on the Franklin is simplicity itself. The flywheel of the engine is a Sirocco fan. This flywheel fan creates a vacuum beneath the cylinders and causes fresh air to rush in the front of the hood and down around the cylinders. The Sirocco fan used is the most efficient method of moving air yet invented. The suction fan flywheel of the Franklin has a capacity of 2200 cubic feet of air per minute at 1500 revolutions. The flow of air created literally wipes the heat from the radiating surfaces of the cylinders.

The indirect system of cooling, by the use of water, requires many extra parts such as pump, radiator, piping, etc. This system is used so largely on automobiles chiefly because when automobiles were first built the indirect system was adapted from stationary engine practice. It was found to work well, and there has been no incentive for manufacturers using it to change to the direct system because they have been able to market their product as it is. It would take a long time and a large amount of money for them to develop the direct system of cooling for their cars, an expense which would not be warranted as long as they can sell their product as it is.

In comparing the direct and indirect cooling systems, it is obvious that the direct, being so much more simple and requiring practically no care and not being subject to freezing and overheating, is the superior of the indirect system in every respect.

Theoretical proof of the efficiency and cooling ability of the direct system is not so convincing as a demonstration. Any Franklin dealer can and will be glad to show that the Franklin engine cools and cools better than any other engine on the market. Not only will Franklin dealers give a demonstration of the cooling, but Franklin owners all over the country will show the results they are obtaining in every-day use of Franklin cars. There is no sounder basis than this on which to judge the merits of any system.

Full-Elliptic Springs

The springs on any vehicle give the easiest riding when they have the maximum deflection for any given load. Full-elliptic springs give a greater deflection than any other spring of that type. Much of the comfort obtained in Franklin cars is due to the balanced driving which comes as a result of the use of full-elliptic springs, with springs of the same size in front as in the rear. Road shocks normally reach the springs from a direction slightly in front of the point where the wheel touches the ground. The Franklin springs both front and rear are tilted so that their front ends are higher than the rear.

The easy riding obtained through the balance of spring suspension not only adds to the comfort of the passengers, but gives the engine and mechanical parts of the car longer life.

Tire Equipment

From a quality standpoint there are two kinds of tires made to-day—the high efficiency type and the regular type. The Goodrich Silvertown Cord and the Goodyear Power Saver are the high efficiency tires. They are more highly efficient than the regular tire because less power is lost or absorbed by them. On a fast, long drive, the ordinary tire becomes very warm. The high efficiency tires practically do not change in temperature. There is less internal friction, and so there is less heat generated, and therefore less power loss.

The general efficiency of these tires is noticeable in other ways—they coast a greater distance, save gasoline, and increase the life of the car because they give it greater ability.

Efficiency spells success. The Franklin is efficient because each unit is efficient. This is our reason for using high efficiency tires. The high efficiency in our engine, transmission, axles, etc., in connection with the light weight of the car and the efficient tires, gives a grand total efficiency which means a successful, economical car. The greatest proof of this economy was the average of 32.8 miles on a gallon of gasoline of 94 Franklin stock touring cars in the National Economy Contest held on May 1, 1914. The result of this efficiency is a car that will do the maximum of useful work for the minimum cost.

As much thought has been given the proper size of tire for the Franklin as any other part of the car. Tires, like every other part of an automobile, will give poor service if strained beyond their elastic limit. Tires are subjected to three kinds of force—road shocks, driving stresses and internal stresses in tire itself. All of these are in proportion to the load placed upon the tires, that is, they are in proportion to the weight of the car. A well built tire of the correct size for the weight it has to carry will wear well, but if it is small for the weight carried, it will blow out and give less mileage than it should. The light weight Franklin is equipped with 4½ inch tires.

Wood Chassis Frame

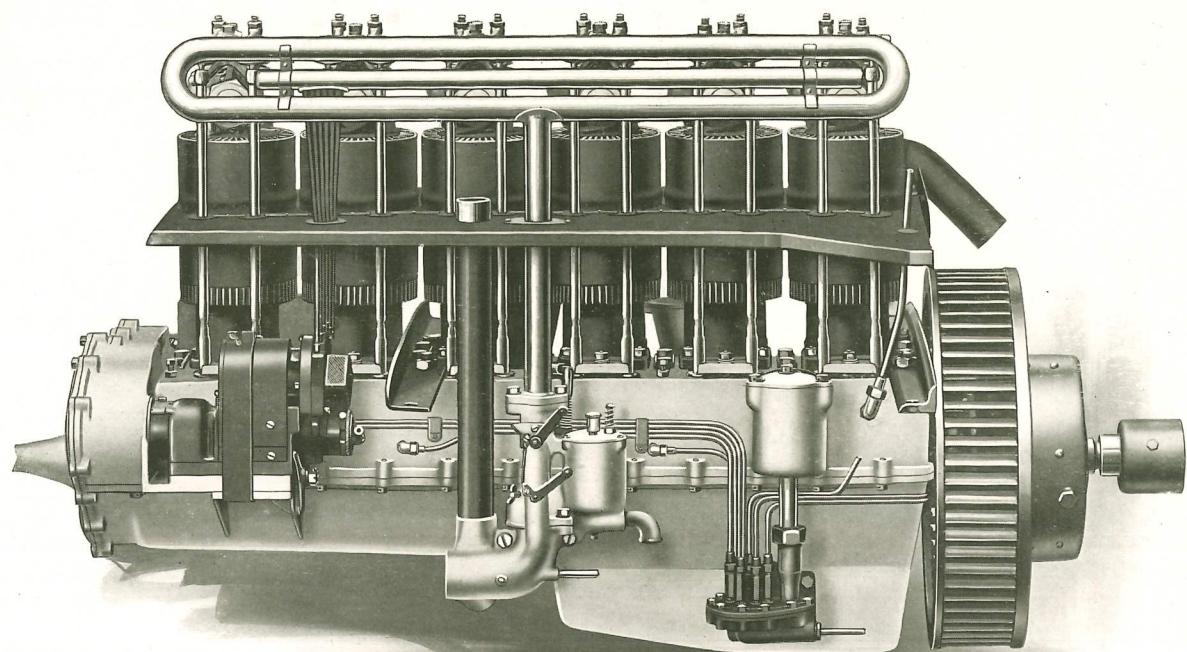
In designing an automobile frame, most makers have but one idea; to build a frame which will hold the driving mechanisms in their relative positions, and will support the body and passenger load.

In designing the frame for the Franklin, another idea has been kept in mind, viz., to construct a frame which would not only carry the different parts of the car, but one which would absorb shocks. No constructive material has the shock-absorbing power of wood. This is perhaps best shown by its use in hammer handles. The Franklin frame is built of three laminations of second-growth ash, glued and screwed together, having a cap piece on the top

and bottom to keep out the moisture. This wood frame by actual test is stronger than the steel channel frames used on cars of equivalent capacity. In addition the wood frame absorbs a large part of the road shocks which reach the frame after passing through the tires and springs. The elimination of these shocks gives much easier riding to the passengers and reduces the strain upon the engine and other power-transmitting parts.

Electric Starting and Lighting System

The Dyneto electric starting and lighting system used on Franklin cars is one of the simplest, mechanically and electrically, which has been built. This 12-volt system as employed on the Series 6 Six-Thirty has been greatly simplified. The motor generator and battery are accessible and easy to keep clean. The system consists of a motor generator connected to the crank shaft by a silent chain drive, a storage battery, switch and necessary wiring. At car speeds from zero to ten or twelve miles, the starting unit is acting as a motor, taking current from the battery and supplying force to turn the engine over. At speeds above this, the starting unit is acting as a generator and supplies current to re-charge the battery. It does this simply as a function of the way in which the armature and field windings are designed. The starting of the engine is accomplished without noise and consists of simply throwing "on" the switch. To stop throw the switch "off". While the switch is "on" the motor can not stall.



Intake side of Franklin engine showing Sirocco fan flywheel

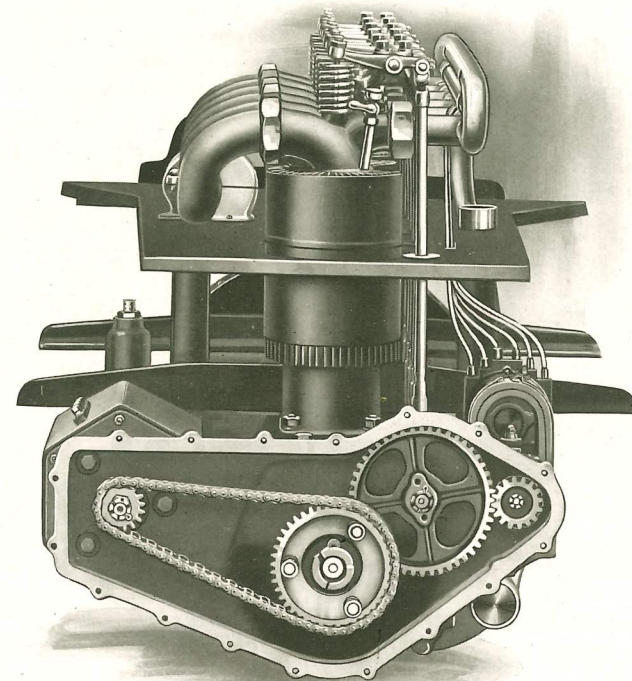
The Franklin Six-Cylinder Engine

Six-cylinder construction is used on the Franklin because the application of power in a six-cylinder engine is much more even than in a four. With all the revolving parts properly balanced, a six-cylinder engine is practically vibrationless at any speed at which it may be run. The absence of vibration and nearly continuous application of power gives a smoothness in the operation of the car which can be obtained only with a six-cylinder engine.

The usual material of which cylinders are built is grey cast iron. Franklin cylinders are made of vanadium cast iron because the use of this more expensive material gives longer life and shows less wear. The valves operate in the head of the cylinder, through a mechanism so constructed that the effect of expansion on the valve timing is eliminated, always giving quiet operation to the valves.

Both the crank and cam shafts are solid drop forgings, having seven large plain bearings. The use of a bearing between each cylinder and at both ends of the shafts, holds them much steadier, and gives less wear because of the large bearing surface per unit of pressure.

The engine gears operating the cam and magneto shafts, and the silent chain driving the electric starter are all housed in the front end of the engine base. These parts continually receive oil while the engine is in motion.



Front view of Franklin engine showing timing gears, starter chain, etc.

The Franklin engine base is made of aluminum for lightness. At the same time it has a large cross-section, so that it is strong and will not change its shape. The base is split on the main bearings so that removing the bottom half of the base, which is the oil reservoir, permits easy access to all main bearings and connecting rod ends.

The cooling system on the Franklin engine requires no working parts except those which would have to be used on any engine whether it is cooled or not. The bottom part of the engine is enclosed in a practically air tight chamber formed by the engine boot, the hood and the air jacket deck. The only exit from this chamber is through the flywheel, and the only entrance is around each cylinder. A Sirocco suction fan is built into the flywheel. When the engine is running this flywheel creates a partial vacuum in the suction chamber. Atmospheric pressure then forces fresh air continuously down and around each cylinder.

The operation of the cooling system does not depend at all upon the speed of the car; there is a constant, uniform, ample supply of air rushing over the cooling surfaces at all times when the engine is in operation.

Oiling System

The oiling system used in the Franklin engine is of the re-circulating force feed type. Oil is carried in the engine sub-base and flows by gravity into a gear pump which in turn forces it under pressure through the main bearings of the engine. The oil flows from the main bearings through holes drilled in the crank shaft to the connecting rod ends. After lubricating the rod ends, it is thrown off as a fine spray or mist and lubricates all the cam shaft bearings as well as the wrist pins and cylinder walls. All excess oil drains to the bottom, passes through a fine screen, and is pumped over again.

There is an oil adjustment built into the pump and controlled by a finger on the dash which has a "Less" position for regular driving and a "More" position for high speed or hard driving.

Carburetor

The carburetor used on the Franklin is of special Franklin design. All dimensions of this carburetor are made to suit the requirements of the Franklin Six-Thirty engine only. Flexibility, power and high economy are obtained from the Franklin carburetor.

The dash adjustment of the gasoline supply is a distinct feature. A rod operating on the needle valve and terminating in a ball-ended handle within easy reach of the driver secures immediate and perfect adjustment. This can be made while the car is in motion and with the engine carrying its load, and therefore is far more satisfactory because made under running conditions.

Ignition

For over five years the Franklin has used high-tension magneto ignition, with the spark advance automatically controlled. The Eisemann high-tension magneto used contains a built-in centrifugal governor which advances the spark automatically with increase of speed and retards it with decrease of speed, giving at all times that location of the spark which insures best operation. The spark being automatically controlled obviates the chance for any accident or trouble from back-firing due to too great an ignition advance.

Clutch

The clutch is completely assembled in a housing readily removable and is of the multiple disc type, with plates running in oil. The plates themselves alternate of steel and phosphor bronze, giving a clutch that will stand a great deal of abuse.

The trunnion is made of phosphor bronze and lubricated from a large grease cup located on the chassis frame.

Rear Axle

An automobile when running over ordinary roads is being subjected continuously to greater or less shocks. These shocks are proportional to the weight of the car, and that part of them which are due to the weight of the axles have the greatest effect upon tire wear. This is because there is no cushion between the axle and the road except the tires. The rest of the weight of the car rests on the springs by which the shocks are much reduced. The axle, therefore, should be as light as possible consistent with strength, to secure long life for the tires.

The rear axle used on the Franklin is of the semi-floating type. With this type of construction the axle can be built lighter for the given strength than any other type.

The bevel gear and pinion are made of nickel steel, specially heat treated to give high resistance to wear. The gear and pinion are cut with skew teeth. With this type of teeth there is very little gear noise and the driving strain comes upon the teeth more gently. All bearings are of the Timken roller type, and can be adjusted to compensate for wear, or for any adjustment of the gears which may be desired. All of the different parts of the axle are accessible, the removal of one cover exposing all the working parts and permitting their easy removal.

Front Axle

The strains to which an automobile axle are subjected are liable to reach it from any direction. The Franklin front axle is made of nickel steel tubes because these tubes are equally strong to resist force from any direction, and therefore meet requirements better than an I-beam axle. The usual type of I-beam axle used is as strong as the tubular type in a vertical direction, but weaker in every other direction. All parts of the Franklin front axle and steering connection are made of special alloy steel so treated as to insure safety and reduce weight to the minimum.

Transmission

The Franklin transmission is selective, with three speeds forward and one reverse. The gears are all of nickel steel heat treated so as to be glass hard. Annular ball bearings are used throughout. The whole assembly is carried in a compact aluminum case. The shift levers are mounted in the cover of the transmission case. The transmission requires practically no care except to see that it is supplied with oil and that this oil is cleaned out and a fresh supply added occasionally.

Steering Device and Connections

The Franklin uses the reversible type of steering device. This means that motion is not only transmitted to the front wheels by turning the steering wheel, but it can be transmitted to the steering wheel by turning the front wheels. This reversible action combined with the caster construction of the front wheels, permits unusually easy control of the car. After turning a corner, the car will ordinarily straighten up of its own accord, eliminating the necessity of pulling it back into a straight line with the steering gear. The car continuously adjusts itself to all irregularities in the course over which it passes and there is practically no labor required of the operator.

The fact that the device is reversible also permits of a more gradual absorption of road shocks, and therefore insures any of the steering connections against breakage from fatigue or shock.

Brakes

The service brake on the Franklin is of the contracting type and is located at the forward end of the universal drive shaft at the rear of the transmission. Braking force is applied through a pedal.

The braking effect is multiplied by the rear axle gear reduction so that the application of a small force of the pedal produces a powerful braking effect on the rear wheels. This braking effect is absolutely equalized since it must pass through the differential and the rear axle.

The emergency brakes are located one on each rear wheel and are also of the contracting type. They are so constructed as to be entirely free from rattle, and will not drag. Both transmission and emergency brakes are powerful and will bring the car to a stop very quickly. In ordinary use, however, their action is gradual and will not produce any sudden jolts or jars.

Early History

The history and development of the Franklin car began with the thought and drawings of John Wilkinson in the summer of 1898. By the following spring these had crystalized into a form that seemed feasible to build up into an experimental automobile. This was done in a very crude and simple manner.

The salient features of this design were direct air cooling, four cylinders, compressed air starter, surface carburetor, and jump spark ignition. While it was recognized at this time that a transmission was a necessary adjunct of a gasoline automobile, the knowledge in regard to it was so vague that it was deemed advisable to wait until further knowledge should point the way to a satisfactory design, and so the car was built with only one speed forward and no reverse, the gear reduction to the rear axle being $5\frac{1}{2}$ to 1.

At this time very little could be found out about either ignition or carburetion, particularly as related to multi-cylinder engines, and it was only after a painful process of experimenting that the correct application of high-tension ignition to a four-cylinder engine was developed. When the spark trouble was conquered, the surface carburetor worked satisfactorily, and the car made short exhibition runs quite successfully.

In the spring of 1900 another car was started along the same lines but with such improvement in detail as had been gained from experience. This car was finished in about three months and was used a year with good results, making country runs as high as 80 miles on one trip.

In the meantime, compressed air starting was abandoned as too heavy and cumbersome, and the surface carburetor gave way to the float feed type of the present day.

A two-speed transmission was then designed and a third car built in the fall of 1901. This car had a four-cylinder air cooled motor $3\frac{1}{4} \times 3\frac{1}{4}$ " placed under a bonnet in front, wood sills, elliptic springs, float feed carburetor, throttle control, single high-tension coil ignition, planetary transmission and chain drive. This was the model from which was made the first Franklin, marketed in 1902.

Specifications

Motor—

HORSE POWER—Thirty.

CYLINDERS—Six, $3\frac{5}{8}$ " x 4", cast individually.

VALVES—In head.

CRANK SHAFT BEARINGS—Seven.

COOLING—Direct air cooled.

OILING—Re-circulating type, through hollow crank shaft, pressure feed.

OIL CAPACITY— $1\frac{1}{2}$ gallons in sub-base.

IGNITION—Eisemann high-tension magneto with governor, single system.

CONTROL—Throttle control by lever on quadrant. Foot accelerator. Spark advance automatically regulated.

CARBURETOR—Special float feed, Franklin type. Gasoline and air controls on dash.

Gasoline Tank—

LOCATION—Under front seat, except on Sedan, on which it is carried in the rear with an automatic pressure feed to the carburetor.

CAPACITY—Total, $16\frac{3}{4}$ gallons. Main 14 gallons. Reserve $2\frac{3}{4}$ gallons.

Clutch—

Multiple disc, running in oil, in fly wheel.

Transmission—

Selective sliding.

SPEEDS—Three forward, one reverse.

Axles—

FRONT—Tubular, with Timken roller bearings.

REAR—Live rear axle, semi-floating with Timken roller bearings. Gear and pinion cut with skew teeth. Gear reduction, 3.7 to 1.

Tires—

$34 \times 4\frac{1}{2}$ inches. Goodyear Power Saver tires with straight-sided quick

detachable rims, or Goodrich Silver-town Cord tires with quick detachable clincher rims.

TIRE PUMP—Hartford single cylinder.

Steering—

Worm and gear.

Brakes—

SERVICE—Double-acting on transmission drum operated by pedal.

EMERGENCY—Double-acting on rear wheel drums operated by hand lever.

Springs—

Full elliptic. $40 \times 1\frac{3}{4}$ inches.

Opening, $4\frac{1}{2}$ inches front, 6 inches rear.

Wheel-Base—

120 inches.

TREAD—56 inches.

Body—

Sheet aluminum.

COLOR—Brewster green with black trimmings.

HOOD—Franklin sloping type, made of aluminum.

WINDSHIELD—Two-piece adjustable.

TOP—Golde one-man top on touring. Three bow on roadster.

CURTAINS—Collins Ever Ready on touring and roadster.

Combination trunk rack and tire carrier on touring car.

Speedometer—

Warner.

Starter—

Dyneto, direct connected.

Lighting—

Electric throughout. Two bulbs in each headlight, no sidelights.

Horn—

Electric.

Storage Battery—

Willard twelve volt.

FULL TOOL EQUIPMENT.

Additional Special Information

The Franklin engine and vehicle are patented under date of July 2, 1908.

The weights given on Page 5 are for cars as shipped, fully equipped, less gasoline.

Special color for any body type will be furnished at an extra charge of \$50.

There is no regular equipment for carrying tires on the Sedan and Berlin but as special equipment side tire carrier can be embodied on the Sedan and rear tire carrier on the Berlin. On the Roadster and Coupe place is provided in the rear hamper for carrying a spare tire.

Cable address "Franklin", A. B. C. code 4th edition.

Each purchaser of a Franklin car, new or old, is requested to register his car with us in order to secure the benefit of our service to owners.

Folders giving detailed information, such as different types of bodies, engine, transmission, etc., will be mailed to anyone who desires further information on some particular subject.

The Franklin Company reserves the right at any time, without notice to discontinue any model or to change its construction, equipment or price.

Franklin Guarantee

Adopted from the Standard Warranty for Passenger and Commercial Vehicles, Approved as to Form by National Automobile Chamber of Commerce, Inc.

We warrant each new motor vehicle manufactured by us, whether passenger car or commercial vehicle, to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at our factory any part or parts thereof which shall, within ninety (90) days after delivery of such vehicle to the original purchaser, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part, and we neither assume nor authorize any other person to assume for us any other liability in connection with the sale of our vehicles.

This warranty does not cover any labor charges for replacement of parts, adjustments, repairs, or any other work done on Franklin cars.

This warranty shall not apply to any vehicle which shall have been repaired or altered outside of our factory in any way so as, in our judgment, to affect its stability, nor which has been subject to misuse, negligence or accident, nor to any commercial vehicle made by us which shall have been operated at a speed exceeding the factory rated speed, or loaded beyond the factory rated load capacity.

We make no warranty whatever in respect to tires, rims, ignition apparatus, horns or other signaling devices, starting devices, generators, batteries, speedometers or other trade accessories, inasmuch as they are usually warranted separately by their respective manufacturers.

FRANKLIN AUTOMOBILE COMPANY

Syracuse New York