



ANNOUNCING
THE JEFFERY
FOUR & SIX

The Jeffery Circle



The Thomas B. Jeffery Company
Main Office and Works, Kenosha, Wisconsin

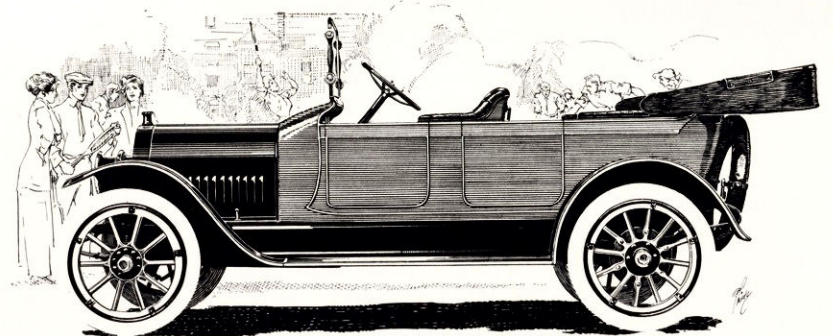
THE unquestioned position of this company, and of its product in the world at large, is due to the energy, ability and life work of the late Thomas B. Jeffery.

To the end that his name may remain in the memories of men, we have named our new car the Jeffery. We believe it to be entirely worthy of the name we have given it.

The Thomas B. Jeffery Company

Charles Jeffery

President



The Jeffery Four

The Story of the Jeffery Four

THE Jeffery Four is an absolutely new car; so modern and so superior that it can rub shoulders with the best cars the world produces and profit by comparison. It is a strictly high-grade car built in accordance with the latest European and American practice, but sold at an extremely low figure—\$1,550.

It Can Be Done

One big motor-car dealer said when he saw it, "It can't be done. You can't build a car like that to sell for \$1,550—it's too good." We proved to him that it could be done by a manufacturer with the experience, capital and equipment. Three days later he wired us an order for eight hundred cars.

The astonishing story of this car is really the story of a great factory backed by forty years of manufacturing experience and five and one half million dollars in assets.

Two things we determined to give to this car without sacrificing a third. We knew that if we could accomplish these two things, without losing the third, we would have a car that would out-rank any other American car within one thousand dollars of its price.

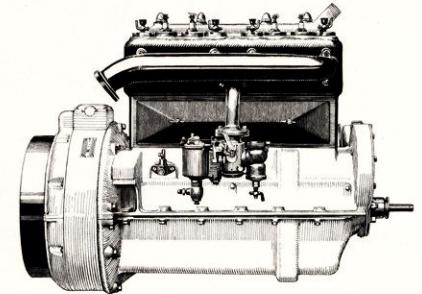
We gave it light weight and light running qualities without sacrificing comfort. Think what these things mean—less fuel consump-

tion, less vibration, less repairs, less tire expense, and real pleasure for the owner.

It's an easy matter to build a light car, but how is it usually done? By using small wheels, extremely light and short springs, narrow frames and small bodies it can be done. But cutting down the weight in this manner leaves nothing for comfort and robs the motor car of that for which it is intended—a vehicle of pleasure.

The High Speed Motor

We began with the motor. Jeffery engineers took to pieces every successful European and American motor before deciding upon this



The Jeffery Four high speed mono-bloc motor



Light weight means economy

high speed, mono-bloc design. From all these we took the best features, combined them with our own ideas and the result is a remarkable motor, powerful, light and economical.

This high speed mono-bloc motor is compact and simple. It develops, at 2200 revolutions per minute, forty horsepower.

The cylinders, $3\frac{3}{4}$ inch bore and $5\frac{1}{4}$ inch stroke, are formed in one remarkable solid casting, together with the valve seats and water jackets. This makes it strong, without vibration and easy to cool. It can travel forty miles per hour on second speed and you will be surprised how quietly it runs. The power of this motor cannot be figured on paper from the diameter of the cylinder or the length of the piston stroke. It takes motor speed to make power and, when delivered to the rear axle through mechanism which is almost entirely free from friction, the result is wonderful.

No Wasted Power

We know this is the greatest high speed light motor in this country, not only because it delivers the power but it delivers it without the extra weight. It's weight that means high gasoline consumption and increased expense all around.

The reciprocating parts of the motor are made as light as possible, consistent with strength. The pistons, together with the wrist pins and piston rings, weigh about three and one-half pounds each. Usually pistons weigh from four and one-half to seven pounds each.

The crank shaft is two inches in diameter at the smallest point and is suspended in three unusually large bear-

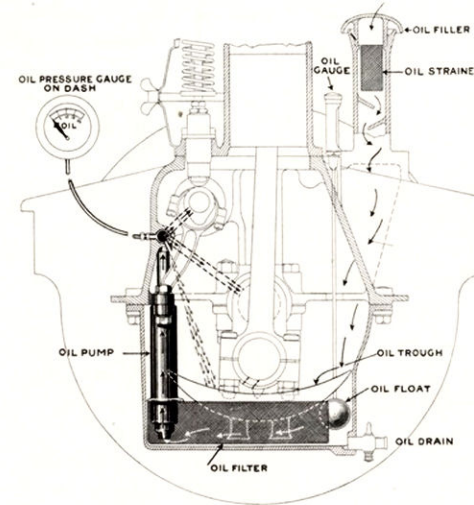
ings, the front and center bearings being three and one-quarter inches each and the rear one four and one-half inches. The connecting rod bearings are two by two and one-half inches. This car should go fifty thousand miles without touching a bearing.

It gets away with snap and go—the kind you like to feel. Touch the throttle and in seven seconds you are making twenty miles an hour, in twenty seconds forty miles an hour—fifty miles per hour in fifty-five seconds.

The oiling system is the latest. It is a combination of the internal force feed and constant level splash systems. A reservoir under the crank case contains the supply of oil. From there it is pumped through a tube extending the entire length of the crank case with lateral connections leading directly to each main bearing and to each cam shaft bearing. Any surplus to the bearings drips into small pans directly under the connecting rods. An open end tube projects from the connecting rod and leads to the connecting rod bearing. At each



From nothing to forty miles in twenty seconds. It will travel without vibration twenty-five miles per hour on low, forty on second, fifty on direct and fifty-five on fourth. You can speed it up to forty miles per hour, shut off the motor and coast half a mile.



Jeffery oiling system

revolution of the crank shaft this tube dips into the pan and forces sufficient oil directly to the connecting rod bearing for lubrication.

There is a constant circulation of oil directly to and through every bearing in this motor by means of a pump driven from the cam shaft.

The oil pressure gauge on the dash, or the indicators on the crank case, will tell you instantly what is going on. This is the most economical system we know.

Highest Priced Starting and Lighting System

The electric starting and lighting system is known as the U. S. L. All manufacturers know that this is the most expensive made and is protected by exclusive patents. Another car selling for \$3,250 charges \$200 extra for this equipment.

It is made by the United States Light and Heating Company who for years have built the lighting plants for Pullman cars. Their batteries are used in ninety-five per cent of the electrically lighted trains in this country and Canada.

This device supplies electric current not only for the starting of the motor but for the

lighting of all lamps. It will deliver a beam of snow white light along the road ahead for a greater distance than is really necessary. Not a gear, cam, chain or bearing is used in its construction—that's what makes it so quiet. None of that grinding noise you notice in the common starter.

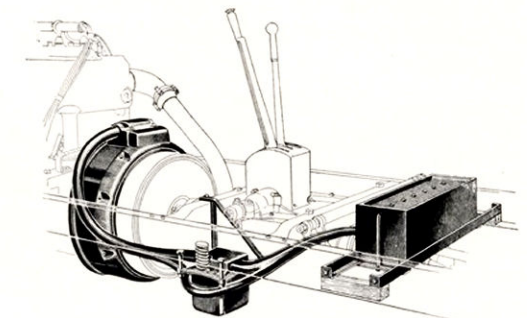
Used Only on the Best

Not a single car in America selling under two thousand dollars, except the Jeffery Four, is equipped with the U. S. L.

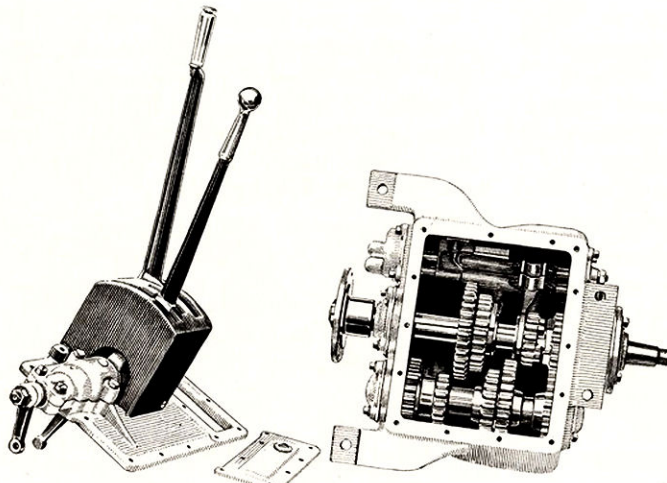
The clutch is a perfected cone, leather faced, with spring inserts operated on an improved swinging cross arm which, as will be seen by its very nature, keeps the clutch perfectly vertical on its compression and release movements. Every mechanic knows the effectiveness and simplicity of this type. Sixty per cent more cars use this type than all other forms.

A Feature New to American Cars

Between the clutch and the four speed transmission there is a feature absolutely new to American cars—the famous Daimler flexible leather coupling. Daimler introduced it first to eliminate friction in the transmission of power in his large omnibuses in use throughout Europe. We tested it for thousands of miles before adopting it on the Jeffery car.



Starting and lighting system, directly connected. No gears, belts or chains. Battery box under front seat easily accessible



Jeffery Four-Speed Transmission

Next is the transmission—four speeds forward and one reverse—which, in its entirety with operating levers and shifting rods, weighs less than one hundred pounds. It's the last word in flexibility of control and ease of operation.

The transmission case is solidly bolted to two cross members of the frame and located amidships, providing center control and left hand steer, thus conforming to that greatest influence — public opinion.

The control levers are attached directly to the transmission case, eliminating unnecessary parts, danger of misalignment and incorrect engagement. The driver may choose his speeds. The best driver always slips into second, which is certainly the getaway speed. In cities particularly, this is a great advantage. The gear you will use most, of course, is the third or direct, corresponding to high. When some fellow thinks he can give you a little dust all you have to do is to slip into fourth and smile.

The transmission shafts are of vanadium steel, hung in five imported annular ball bearings.

We are proud of our transmission gears. We make them ourselves and the fifty-two tooth bevel gear is, beyond question, the most correctly cut gear in America to-day.

Ask any mechanic about *Spicer universal joints*. Two of these are located between the transmission and the rear axle. The drive

shaft is many times stronger than the heaviest strain you could ever place upon it. Made of the finest chrome nickel steel, heat treated, it is the most expensive we can buy. These joints are fully housed, light, well lubricated and durable.

Vanadium Steel Spells Economy

There is a story farther on in this book about the quality of steels used in this car. In this we tell you exactly what vanadium steel is and what it means. Right here it is enough to say that it means quality, long life and light weight — that spells economy.

Now we come to the rear axle. It's the best in the world. It's the full floating type on imported annular ball bearings — the same quality as used by all the highest priced electric vehicles. Few American built gasoline cars have been able to adopt it on account of its cost.

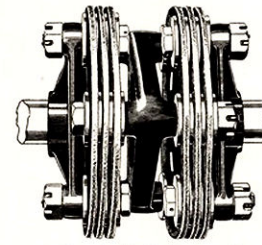
The high grade bevel differential gears are as closely meshed as the meat in a nut. The axle shaft can be removed with two fingers.

Power Without Friction

Consider, if you can, the frictionless passage of power from the high speed, well balanced motor through the flexible leather coup-



Removing drive shaft from Jeffery full floating rear axle



Jeffery flexible leather coupling

ling, into the four speed transmission, rolling smoothly on imported annular ball bearings and back through the Spicer universal joints to this remarkable axle.

What is the result? You can speed up this car to forty miles per hour, shut off the motor and coast half a mile. The mere pressure of forty-five pounds will start it rolling on the floor. Not a ball bearing in it but has been submitted to at least three engineers for an opinion as to size. Light running — of course — economy again, you see.

Two Powerful Brakes

The brakes are the life insurance on any car. There are two — a service and an emergency brake, each of the internal expanding type. This eliminates rattling, unnecessary parts and keeps them free from dust, grit and mud. They are simple, powerful and quickly released. Jeffery engineers were more careful with this feature than any other part of the car.

Owing to the compactness of this car, including every element from the radiator to the rear axle, we have been able to reduce the wheel base to 116 inches, yet we have retained the comfortable lines of the body, but still cutting out weight and again reducing upkeep.

For this wheel base we have provided 34 x 4 inch wheels equipped with demountable rims. Notice the large hubs and the number of spokes in this artillery type of wheel. Hung, as this car is, in a narrow frame, short turning space is provided. It will turn in a forty-two foot circle.

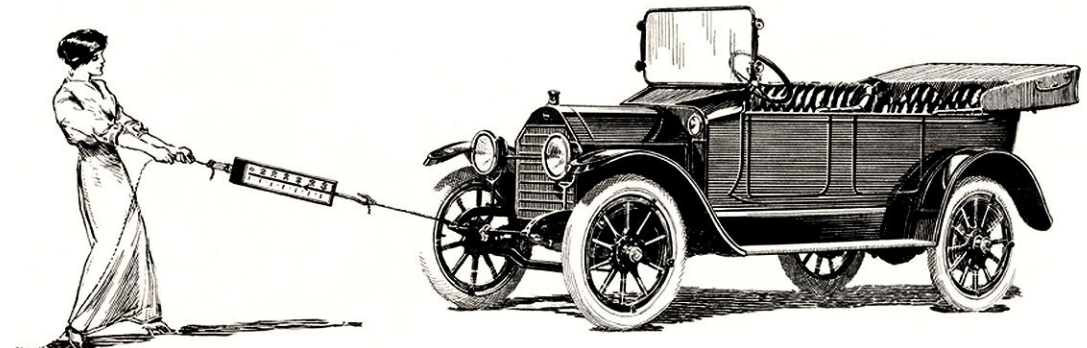
The springs are of vanadium steel, two inches wide and fifty inches long, scientifically treated. This scientifically treated steel costs 17½ cents a pound. The best ordinary springs, made of ordinary carbon steel, cost but 8½ cents a pound. We use vanadium steel because of its greater elasticity.

It will turn backward and forward thousands of times without crystallization. After passing such tests there is absolutely no danger of breakage. The spring grease cups are the best known and cost twice as much as the ordinary.

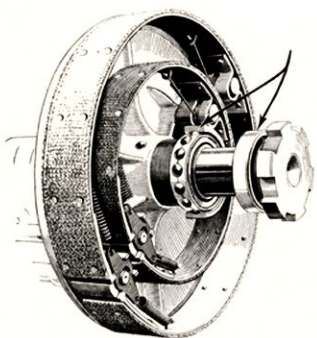
Front Axle Light and Strong

The front axle of vanadium steel is a marvel of lightness and strength. It weighs but twenty-nine pounds, but it took thirty-two thousand pounds to twist it in our torsion test machine.

On the radiator you will find the Jeffery name plate. Henceforth this will indicate ownership by a careful buyer. The radiator, with the combined cooling system, holds five and one-half gallons of water and has over nine thousand square inches of cooling surface. Circulation is by centrifugal pump.



A pulling pressure of forty-five pounds will start the Jeffery Four rolling on the floor. It's so smooth running



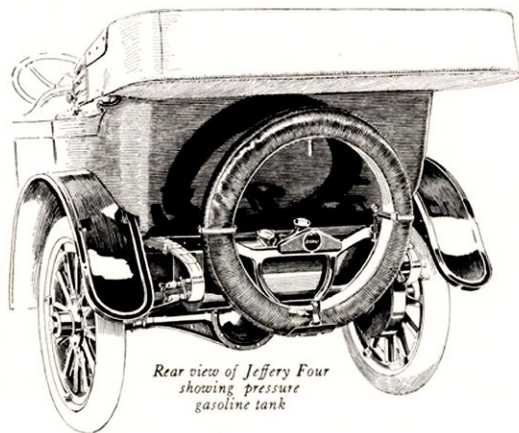
Jeffery rear axle showing imported annular ball bearings

Rothschild designed the body. It's an improvement on the Lancia—that beautiful Italian car. Two years ago streamline bodies were popular at the Paris show, but the new style came and Paris chooses quickly—thus it approved this new and beautiful design. Rothschild brought it to America and we gave it to the Jeffery Four.

Beautifully rounded back and sides look simple enough. If we did not have a press of fifteen hundred tons capacity we could not manufacture this body and put it on a car at \$1,550. Sixteen dies were used in making the body alone and the die for the cowl took three months to build. It cannot be imitated because no one else can afford to duplicate it on a car at this price.

Note the Equipment

The upholstery is of the finest leather and hair. The doors are extremely wide, 23½ inches. There is a foot rest and the dash is replete with Stewart-Warner speedometer and ammeter illuminated with a dash electric light, pressure gasoline and oil gauges, light switch



Rear view of Jeffery Four showing pressure gasoline tank

and coil switch, a button for the electric horn and two compartments for valuables.

The hinges on the door are of the patented invisible type. The back of the front seat is finished in the finest leather.

A pressure feed gasoline tank, equipped with gasoline gauge, is carried behind on direct extensions of the frame members, thus properly distributing the weight. The pressure pump is operated from the cam shaft and provides two pounds constant pressure in the tank, insuring an even flow up hill or down. An auxiliary pressure pump is located on the dash, both for oil and air emergency.

No Parts to Rattle

The same support carries the extra rim and tire. There are no parts to rattle, no breakage, and the number of parts used is greatly reduced.

Twenty-three different painting operations are required to finish the body in the highest priced paints and varnishes we can buy.

Even the top is made by us of the finest oak bows in steel sockets and roofed with the best grade of top material padded with curled hair.

The rain vision glass front is simple to adjust and made by the Jeffery Company.

The outside dash is covered with metal similar to the body, thus avoiding deterioration of the wood that is common.

The electric light switch attachment is the most clever arrangement of its kind yet devised. Through this device the lights can be dimmed at any time for city driving and the control is such that it conserves the strength of the battery.

There are four positions to this switch: The first is the off position; the second, side lights, dash and rear are lighted. The third position, headlights are bright, dash and rear on, side lights out. Fourth position,



Jeffery hub

headlights dim, dash and rear on. The rear light cannot be turned off at the switch. The system is the same on the Six, except in this case the dash light is not controlled by the switch.



Front view Jeffery Four

This light switch can be locked in any position so that the car can safely be left at the curb without fear of any one tampering with the lights.

There is a special bracket on the motor for the attachment of a power tire pump.

The Jeffery Four Chassis can be provided with five different body styles, including the standard five passenger touring car at \$1,550, the two passenger Roadster \$1,550, a two passenger Coupelette enclosed inside drive \$1,950, a four passenger Sedan enclosed inside drive \$2,350, and a five passenger Limousine \$3,000.

This chassis model is regularly equipped with United States tires, 34 by 4 inches being used on all but the five passenger Limousine and four passenger Sedan, which take 35 by 4½ inches.

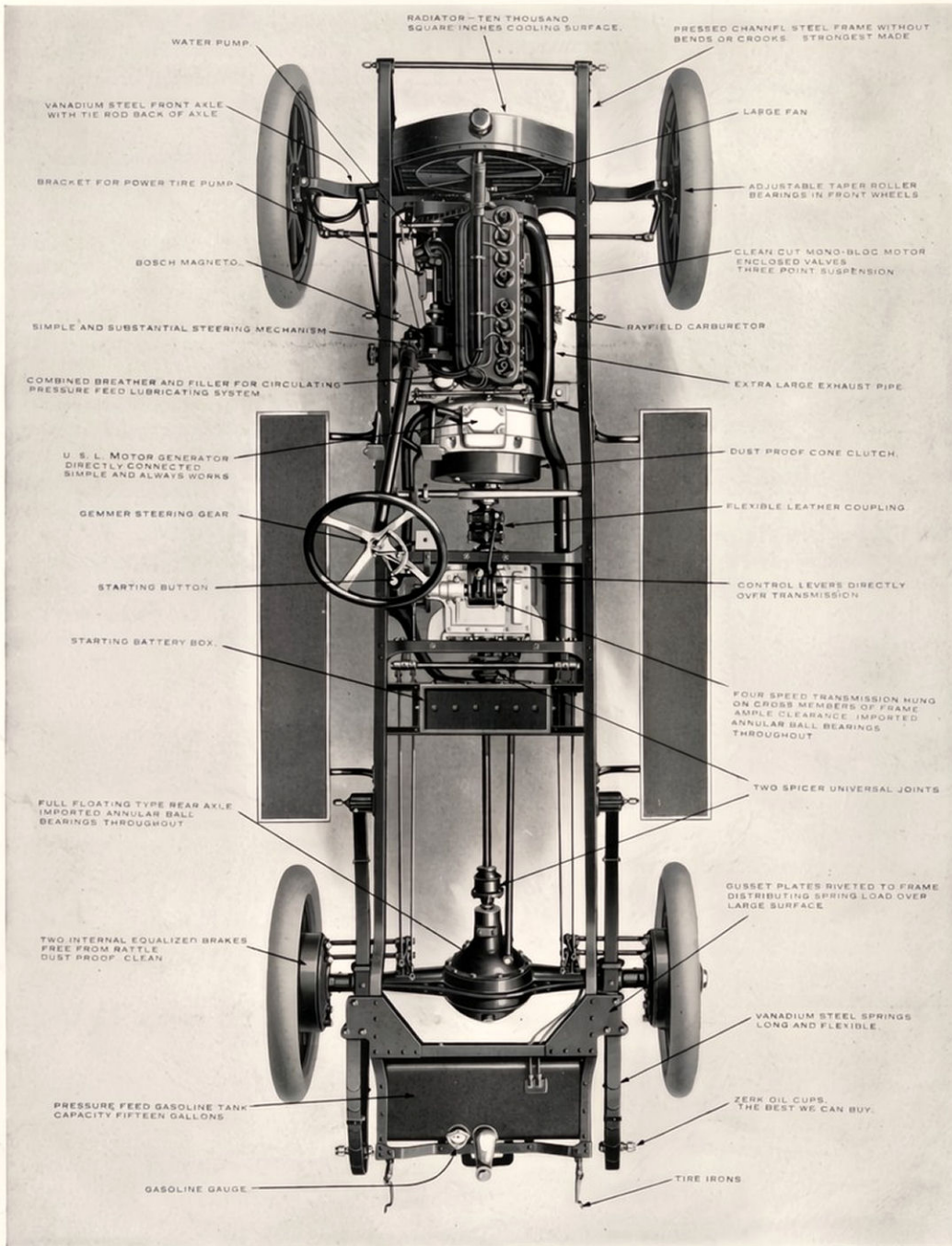
The equipment in each case is complete, including a high grade top, adjustable rain vision wind shield, high grade Stewart-Warner speedometer electric lighted, ammeter, robe rail, adjustable foot rest and illuminated dash as well as full equipment of lamps and tools.

A thoroughly dependable power-driven tire pump can be attached to the motor if desired at an additional charge of \$25 list.



The Jeffery Four will turn in a forty-two foot circle

Compare The Jeffery Four with any Car you know



Compare The Jeffery Four with any car you know

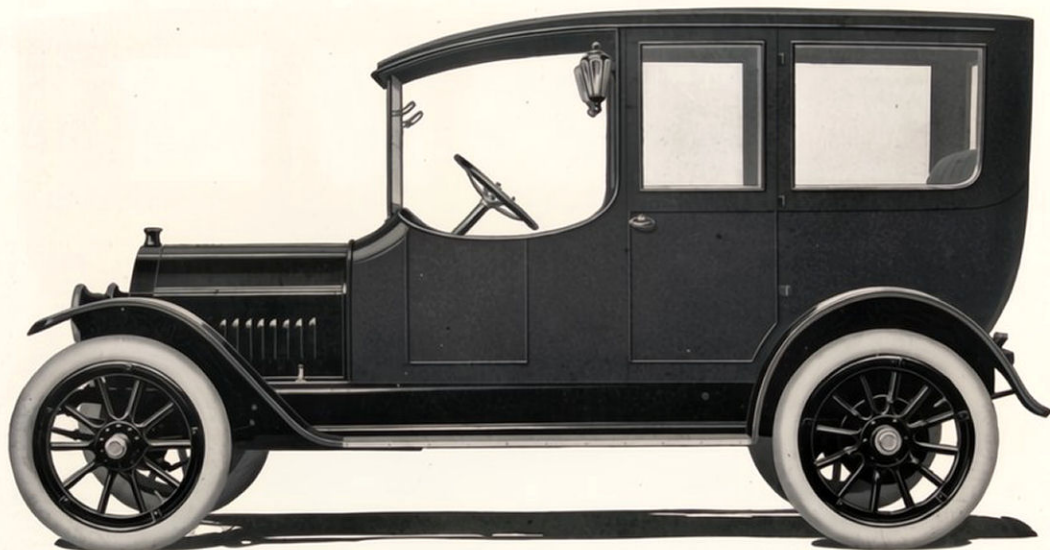
- Axle** (Front) one piece "1" section forging of alloy steel double heat treated. Steering spindle of alloy steel heat treated. Roller bearings of case hardened chrome nickel steel. (Rear) full floating. No load being carried on axle shafts, shafts do nothing but drive while the axle housing which is of pressed steel carries the entire load. Axle shafts are of chrome nickel steel, heat treated.
- Bearings** Imported Annular Ball Bearings are used throughout the car except in front axle where taper roller bearings of high grade material are used.
- Brakes** Two sets of pressed steel drums 14 x 1 3/4 inches expanding internal and 10 1/4 x 1 3/4 inches expanding internal. Best quality brake lining is used and ample braking surface is afforded.
- Cam Shaft** Drop forged with integral cams hardened and ground. Three bearings are used lined with highest grade bearing metal. The cam shaft of selected auto steel is driven by spiral gears.
- Carburetor** Float feed automatic type with hot air connection from exhaust pipe. Air or gas adjustment from steering column.
- Clutch** Cone type faced with best quality chrome leather.
- Connecting Rods** Drop forged selected auto steel double heat treated fastened by chrome nickel steel bolts provided with lock nuts and cotter pins to insure rigidity.
- Cooling** Water cooled pump circulating system. Extra large radiator vertical tube type. Large water jackets around cylinder and valves. Large ball bearing fan insures thorough cooling of motor.
- Crank Case** Cast aluminum. Crank shaft bearings easily adjusted by removing bottom half of case.
- Crank Shaft** Drop forged of selected forging steel 35-45 per cent carbon, double heat treated extra large diameter. All bearings ground and polished to two thousandths clearance.
- Crank Shaft Bearings** Phosphor bronze lined with highest grade bearing metal, carefully machined and hand fitted. Three extra large bearings are provided.
- Doors** Upholstered with pockets in side. Invisible latches, easily accessible, and concealed hinges.
- Drive** Direct shaft drive with two Spicer high grade universal joints provided with dust proof grease retaining housings.
- Frame** Extra heavy pressed channel steel.
- Front Wheels** Ten 1 1/2-inch spokes artillery type securely bolted to hubs.
- Gasoline Tank** Suspended at rear of car. Capacity fifteen gallons pressure feed float gauge in rear of tank indicating the amount contained.
- Gears** Transmission 6-8 pitch, 3/4-inch face chrome nickel steel, heat treated and oil tempered. Rear axle bevel pinion, 5 pitch 13 teeth, 1 1/8-inch face chrome nickel steel case hardened double heat treated. Rear axle bevel drive gear, 5 pitch 53 teeth, 1 1/8-inch face chrome nickel steel case hardened double heat treated. Differential—bevel type with four pinions extra large faces of high grade material. Differential and bevel driving gears mounted on imported Annular Ball Bearings.
- Ignition** Bosch Duplex magneto, single wiring system, single set of plugs.
- Lubrication** Combined force speed and splash system, plunger type pump is employed for circulating oil through crank case to each main bearing and each cam shaft bearing, oil returning to bottom of crank case ends draining into troughs in which connecting rod bearings dip. Timing gears oiled by splash.
- Motor** High speed type L head cylinders cast en bloc 3 3/4-inch bore by 5 1/4-inch stroke.
- Pistons** Special analysis gray iron extremely light. Piston pins ground polished and carefully fitted. Piston pins are of special carbon steel case hardened and ground to an accurate fit. They are fitted with high grade bronze bushings.
- Piston Rings** Special analysis gray iron, four to a piston. These are carefully ground and fitted.
- Rear Wheels** Twelve 1 1/2-inch spokes artillery type. Wheels run on imported annular ball bearings. Axle shaft drive through projections on same fitted into slots milled in the hubs.
- Springs** Front semi-elliptic 36 3/8 inches long by 2 inches wide. Rear three-quarter elliptic 50 inches long by 2 inches wide. Springs are of chrome vanadium steel, special heat treated.
- Starting and Lighting** Electric, United States Light & Heating Company, fly wheel type.
- Steering Wheel** Worm and sector type. Knuckles drop forged of chrome nickel steel double heat treated. Steering arms are of the same material.
- Tires** Standard equipment 34 x 4 inches front and rear. United States straight side clincher type fitted on demountable rims with one extra rim. On Sedan and Limousine, 35 x 4 1/2-inch tires.
- Transmission** Selective sliding gear four speeds forward and reverse. Gear shift lever centrally located for right hand control. All gears are heat treated and oil tempered and run on Imported Annular Ball Bearings.
- Tread** Standard or Southern.
- Valves** 1 3/4 inches clear diameter 45 degree seats. Valves are of selected material and are enclosed.
- Wheel Base** 116 inches.

Gear Ratio

	13:53=1: 4.08	14:53=1: 3.78		13:53=1: 4.08	14:53=1: 3.78
Reverse	1: 15.63	1: 15.45	3rd Speed	1: 4.08	1: 3.78
1st Speed	1: 12.48	1: 11.58	4th Speed	1: 3.39	1: 3.15
2nd Speed	1: 6.76	1: 6.28			

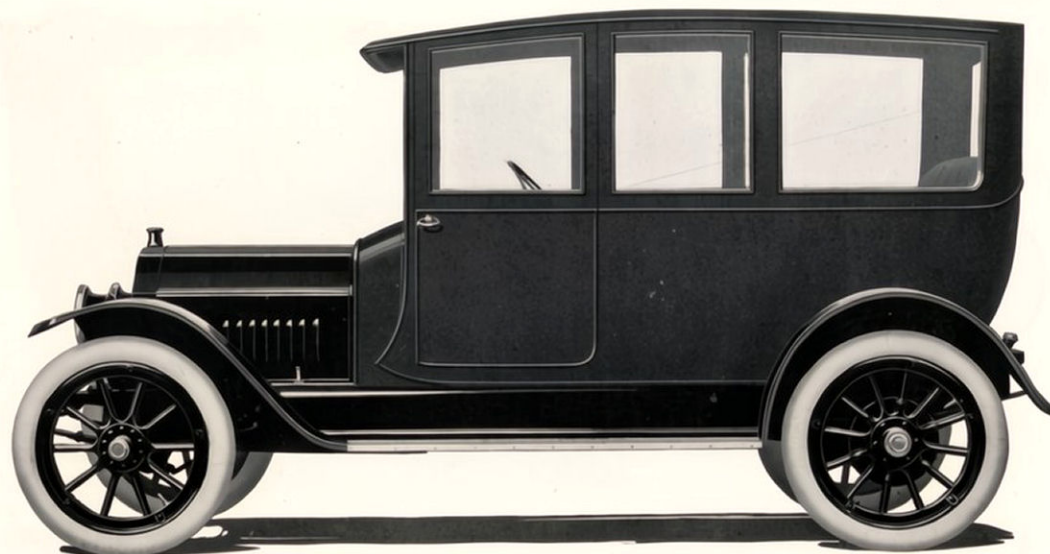
General Dimensions

Front Door	23 1/2 inches	Width of Body across Top Irons	56 1/2 "
Front Seat across Cushion	40 "	From Radiator Cap to Rear Limit of Body	135 "
From Seat Fall to Dash	29 1/2 "	Clearance under Front Axle	10 3/4 "
From Floor to the Top of Upholstery	21 1/2 "	Clearance under Starter	11 3/4 "
Inside Rear Door	23 1/2 "	Diameter of Hub Drum	14 "
Rear Seat across Cushion	45 "	Steering Wheel	18 "
From Back of Back Seat to Back of Front	48 "	Rear Springs—50 inches long; 2 inches wide; 7 leaves	
Front of Back Seat to Back of Front Seat	29 1/2 "	Gasoline Tank	15 gallons



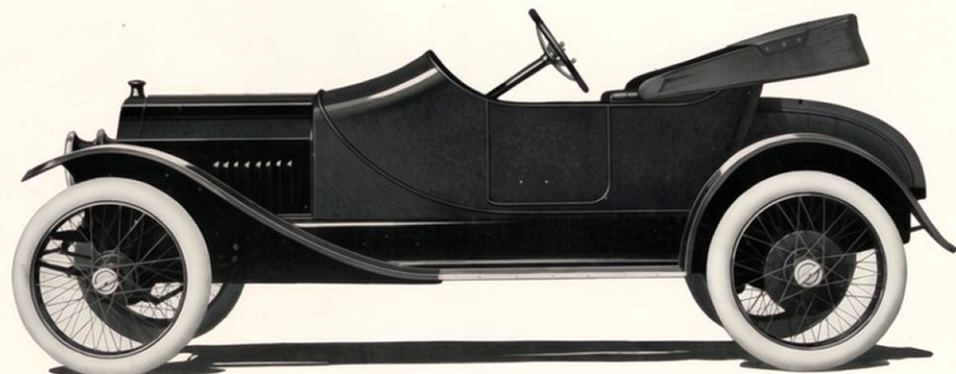
Jeffery Four Limousine, five passenger, \$3,000

EQUIPMENT includes two dome lights, two pillar lights, vanity bag, toilet case, luggage carrier, umbrella drain, hat rack, cigar lighter, flower vases, telephone and best English and Mersick curtain rollers.



Jeffery Four Sedan, four passenger, inside drive, \$2,350. It has many qualities, which mean gratification and pride of possession in the ownership

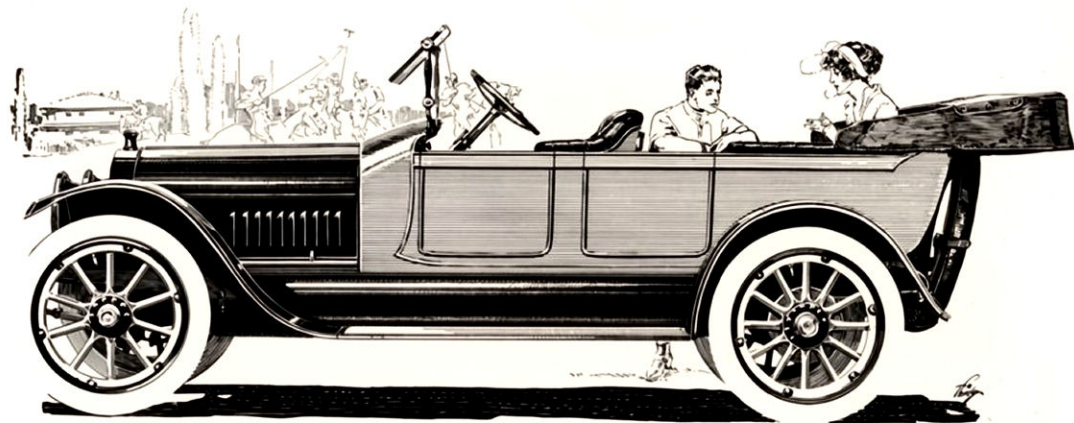
THE interior is trimmed in high-grade broadcloth, harmonizing with the body color. The best quality curtain silk is used. This car accommodates two passengers in rear seat, and there are two auxiliary front seats. The glass in doors and rear window is made to slide. Frameless windows, overlapping rain vision wind shield, front side glasses curved and stationary, dome light and Yale locks.



Jeffery Four Roadster, with special body. The most distinguished up-to-the-minute roadster in America. An exclusive car for people who demand the latest. Price \$1,550. Five wire wheels extra, the best money can buy



Interior of Jeffery Four Sedan. Note the comfortable character of the seat and the position of the steering wheel.



Jeffery Six

Jeffery Six

THE Jeffery Six is a duplicate of the wonderful Jeffery Four, except for size, but the cylinders are cast in pairs instead of en bloc.

This car, which sells at \$2,250, has all the best features of all the best cars. We built it for the man who demands Jeffery quality in a six. We determined first that it should be light to be economical and powerful to give the owner all the speed he wants and as near frictionless as possible to make it silent and light running.

3570 Pounds with Full Equipment

It is light—actual scale weight 3570 pounds, with full equipment. The character of the material and the simplicity of every part makes that possible. We made it luxurious without making it extravagant.

Gasoline consumption so much depends upon the driver that we do not specify the economy in this particular that we know it will perform.

It is a beautiful car to look at and a delight to drive. It's smooth, flexible and responsive. We know that a better Six cannot be built for the simple reason that parts of better quality have yet to be produced.

It is a fit companion for the Jeffery Four, representing in its class exactly the same thing the Four represents in its own. It is a

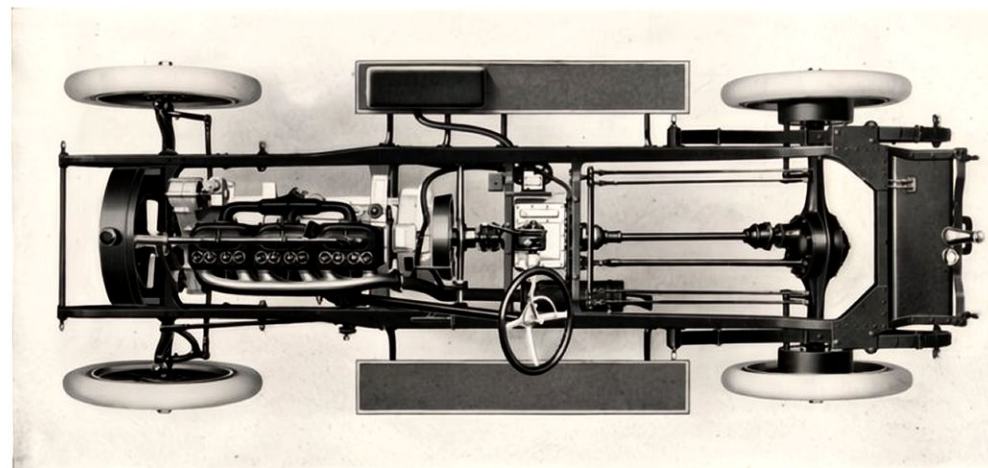
strictly high grade Six made up of the finest parts that ingenuity and long tests have produced.

The horse-power is 48. The motor is $3\frac{3}{4}$ by $5\frac{1}{4}$ with extra large bearings. There is Bosch Duplex ignition, Rayfield carburetor, imported annular ball bearings throughout, four forward speed transmission, Warner Auto-Meter, Ammeter, U. S. L. starting and lighting system, engine driven power tire pump, wheels and tires 36 by $4\frac{1}{2}$ inches, wheel base 128 inches, demountable rims, one extra rim in carrier, 12 inch electric head lights, top, top cover, rain vision wind shield, electric horn, and illuminated dash. Rothschild body with extra wide doors and low deep seats, pressure feed gasoline tank with gauges, and full floating rear axle with imported annular ball bearings.

Comfort and Convenience in Jeffery Cars

Much has been done to provide comfort and convenience in Jeffery cars. The electric light switch attachment is the most clever arrangement of its kind yet devised. Through this device the lights can be dimmed at any time for city driving and the control is such that it conserves the strength of the battery.

There are four positions to this switch: The first is the off position; the second, side lights, dash and rear are lighted. The third



The Jeffery Six has all the best features of all the best cars.

position, headlights are bright, dash and rear on, side lights out. Fourth position, headlights dim, dash and rear on. The rear light cannot be turned off at the switch. The system is the same on the Four, except in this case the dash light is controlled by the switch.

Cushions are of the finest genuine leather—"Turkish" style—padded with high grade genuine curled hair.

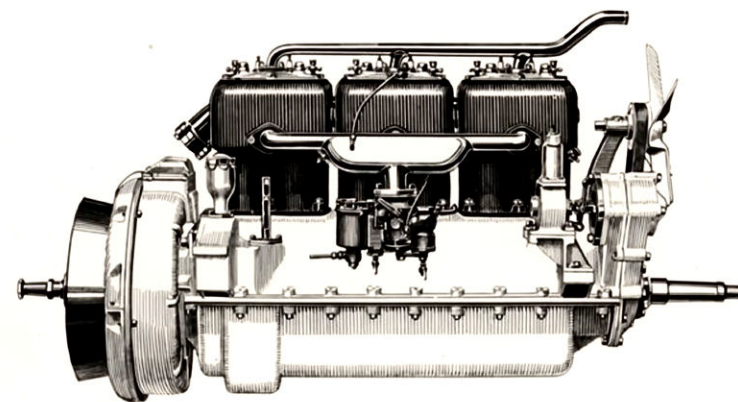
The Jeffery Six is furnished in a five passenger touring car at \$2,250—a six passenger touring car at \$2,300, a two passenger Roadster at \$2,250, a five passenger Sedan inside

drive at \$3,250 and a five passenger Limousine at \$3,700.

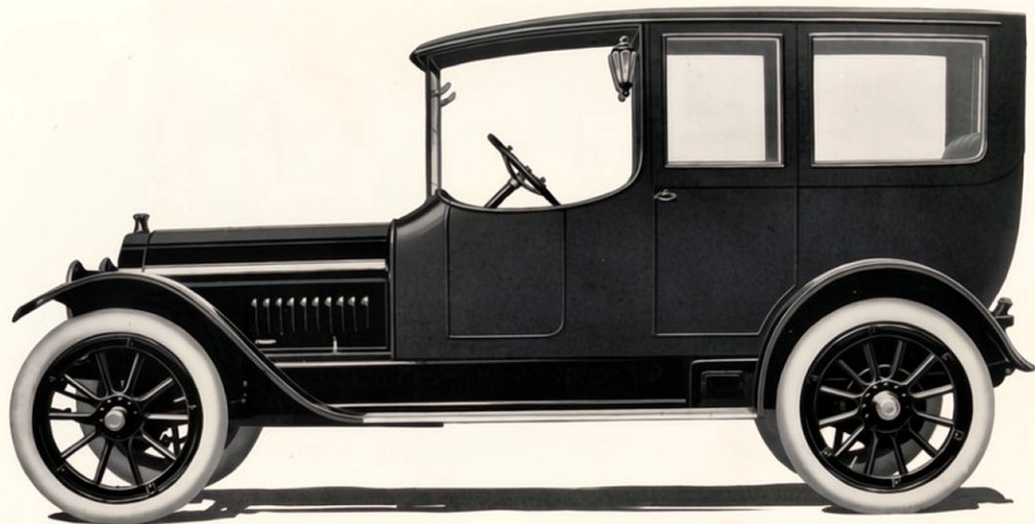
Touring Body Can be Used

The closed style bodies of the Six, as in the Jeffery Four, are so fitted that touring bodies can be substituted as the season demands. Special prices are quoted where these combinations are ordered.

The Jeffery Six is equipped for touring, carrying gasoline and oil sufficient for 250 miles under ordinary conditions. All the comforts and conveniences possible are provided in this model.

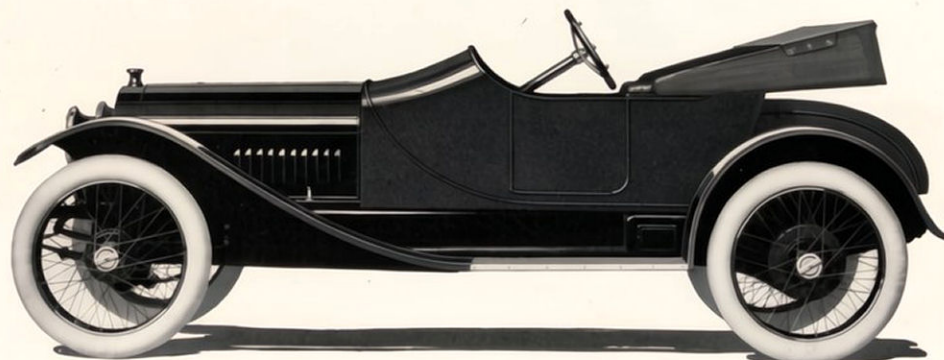


Jeffery Six Motor



Jeffery Six Limousine, five passenger, \$3,700

EQUIPMENT includes two dome lights, two pillar lights, vanity bag, toilet case, luggage carrier, umbrella drain, hat rack, cigar lighter, flower vases, telephone and best English and Mersick curtain rollers.



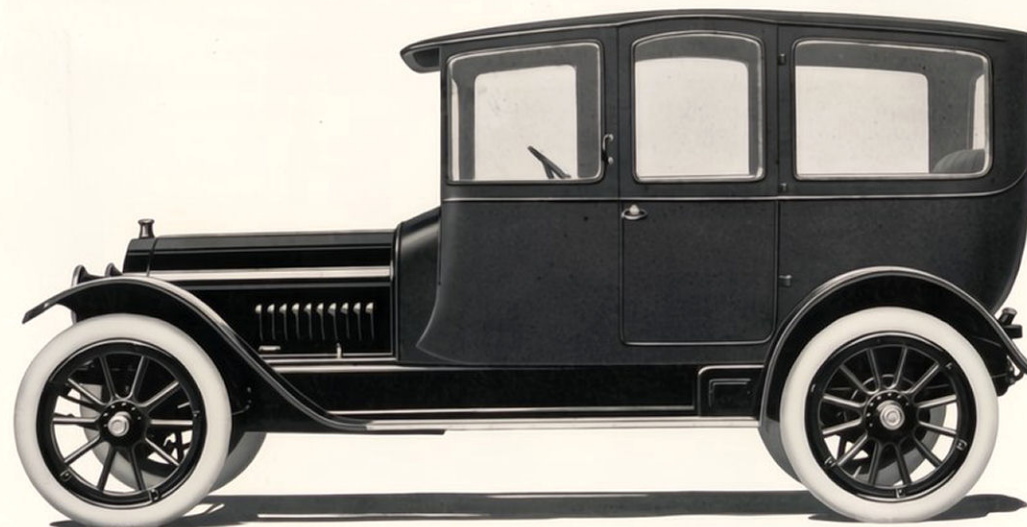
Jeffery Six Roadster with special body, \$2,250, five wire wheels extra



Interior of Jeffery Six Sedan, showing forward seat arrangement

Interior of Jeffery Six Sedan, showing rear seat, rich upholstery and broad windows

THE interior is trimmed in high-grade broadcloth, harmonizing with the body color. The best quality curtain silk is used. This car accommodates three passengers in rear seat, and there are two auxiliary front seats. The glass in doors and rear window is made to slide. Frameless windows, overlapping rain vision wind shield, front side glasses curved and stationary, dome light and Yale locks.



The Jeffery Six Sedan, \$3,250

What We Demand of Jeffery Parts

WHEN the Jeffery engineers were instructed to put into the Jeffery Four and Six the finest materials that money could buy, they began a series of tests more strenuous and exacting than any similar examination ever conducted in this industry.

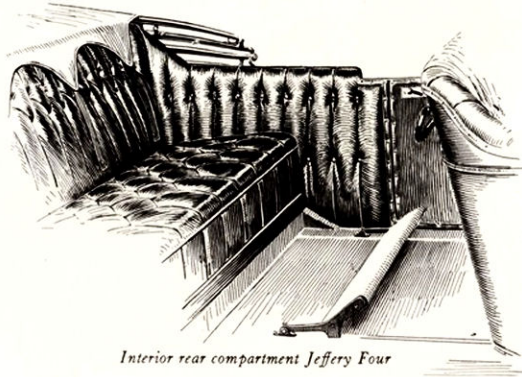
There gathered at Kenosha the greatest experts of the steel industry, the wizards of the carburetor field, the leaders in foundry practice, the smartest men in the field of accurate machining, the greatest body designers and makers of forgings—in fact, every line was represented by its own expert.

Jeffery engineers determined that they would get the latest and best information from every source before proceeding to build these cars. But Jeffery workmen did the work.

From every quarter there came the advice—use vanadium steel, no one can ever question that. But Jeffery engineers questioned it insofar as they put it through a final examination before passing it definitely for use in these cars.

What is vanadium steel, such as is used in the Jeffery front axle, springs, transmission shaft, main drive shaft, knuckles and other parts of the steering gear which are subjected to extreme weight, strain, road shock or vibration?

Vanadium steel is an element or chemical which is added to steel while it is in a molten condition, purifying it of a number of impurities which ordinarily prevent the small



Interior rear compartment Jeffery Four

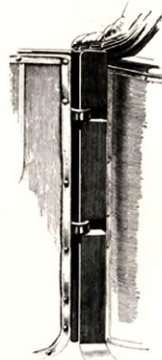
particles or grains of steel from uniting. Steel properly amalgamated with vanadium will be tougher and closer grained and have longer life.

Vanadium is very expensive, especially so as more than one-half of the vanadium which is added to the molten steel unites with the impurities and rises to the surface and, consequently, cannot be found in the steel at all. The presence, therefore, of even a small amount of vanadium shown by analysis clearly indicates that the vanadium has done its good work.

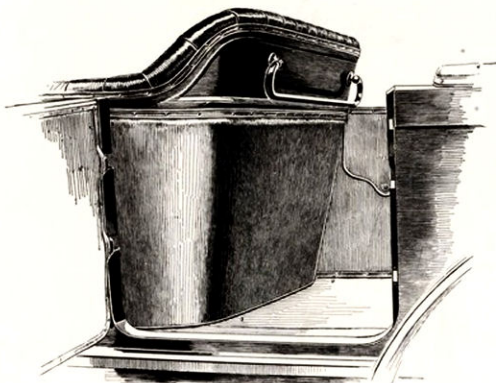
Jeffery engineers carefully selected chrome nickel vanadium steels, nickel and chrome nickel steels for all essential parts. The inspection begins at the mills. They make sure that the proper raw materials are used. When it is received at the factory it passes through severe physical and chemical tests. Then it is intelligently heat treated and properly heat treated parts have been known to last ten times as long as similar parts not heat treated.

Vanadium steel is used in the springs because it will stand a great deal of fatigue. It will bend backward and forward thousands of times without crystallization.

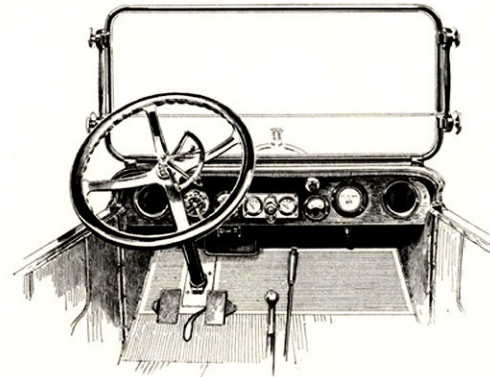
The transmission gears are forged from chrome nickel steel because this has a com-



Jeffery invisible door hinge



The rear of the front seat is finished in finest leather



Jeffery Dash and Controls

bination of a hardening element and a toughening element, each of which impart very necessary qualities.

Chromium imparts strength, hardness, and intensifies the toughness of the nickel which has been used to impart strength and resistance to frictional wear or abrasion.

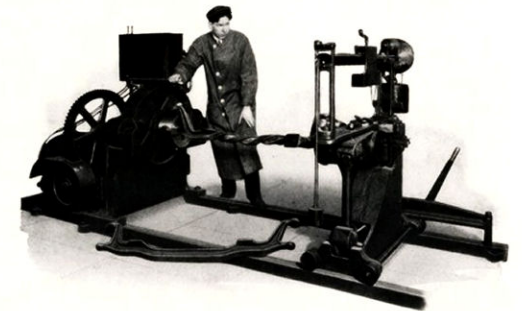
The lay shaft and propeller shaft, steering knuckles and steering knuckle arms are made of chrome nickel vanadium steel. The combination of chrome nickel and vanadium makes these parts almost wear and vibration proof.

We could go over every part of the Jeffery car and tell the same story of extraordinary caution and choice in the use of materials. There are fewer malleable castings in the Jeffery car than in any other car made. It is a car of steel, the finest stampings and drop forgings.

The Jeffery front axle received a terrific twist before it passed the examination. Thirty-two thousand pounds—sixteen tons—that's the energy it took to twist this axle through two complete turns, and it never broke. We demanded that kind of stability so it could withstand the jar, pounding and constant vibration under which an ordinary piece of steel would become brittle and snap.

The connecting rod was subjected to a tensile strain of one hundred and twenty thousand pounds per square inch before it was passed. Then it was distorted cold and ten thousand pounds, or five tons of pressure, were required to make it twist—and it never broke.

The crank shaft was twisted under a strain of seventy thousand pounds, or thirty-five tons.



The Jeffery Front Axle was given a thirty-two thousand pound twist in the torsion test machine. It did not break



Jeffery doors are wide and the bodies roomy

These Things Made the Jeffery Four and Six Possible



Delicate device for testing Jeffery gears with hair breadth accuracy

FIVE and one-half million dollars in assets, with the highest credit in the industry and a factory equipped with three million dollars worth of the latest machinery, are the things that made the Jeffery Four and Six possible. Nothing else.

Few Makers Could do it

People who know would tell you, if they spoke in confidence, that few makers in the industry could produce a car like the Jeffery

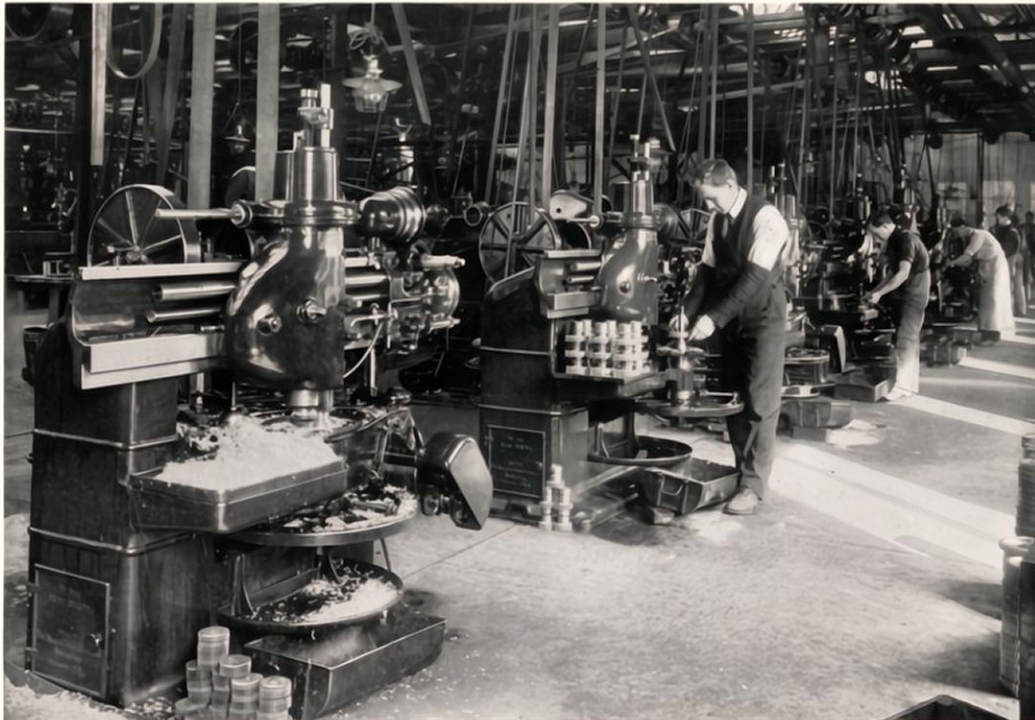
Four to sell for \$1,550 and make a cent of profit — except Jeffery.

They know that the Jeffery Company is not controlled by stockholders demanding dividends. They know of its unlimited credit, of its fine manufacturing facilities and of the great resources behind the name.

True, the margin will be small but the sales will be enormous and the quantity production large and we will be satisfied with the profit if the owner is satisfied with his car.

Practically Every Part Made in Our Own Plant

The Jeffery car is a manufactured car. We make practically every part, including radiators, hoods, guards, fillers, bodies, steering



The gear cutting room at the Jeffery works, only one of many superbly equipped departments for accomplishing the most accurate operations of high grade manufacturing



The Jeffery drop forge shop, where all drop forged parts for Jeffery cars are made

knuckles, controlling rods and levers — the latter from bar steel drop forged within our own plant.

We cut our own gears. The motor with its cylinders, pistons and rings is here cast and finished. The crank case and transmission case are cast of aluminum. The crank shaft, cam shaft and connecting rods are all drop forged and from the crude material are finished and assembled in the car under the supervision of experienced and competent foremen trained in the particular department over which they have supervision.

These foremen have made their particular branch of the automobile a study and have brought their departments up to a state of perfection by close application and a study of the developments of that particular branch of the business in which they are engaged.

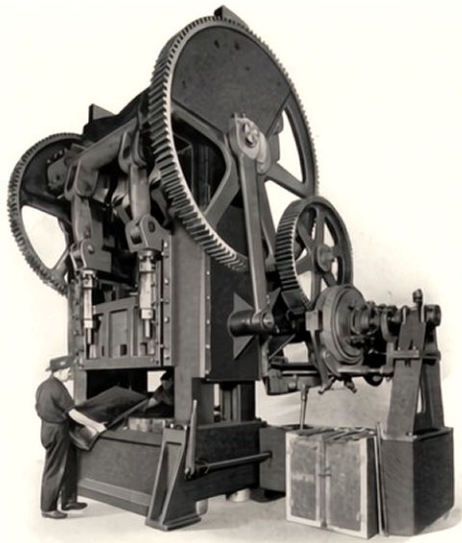
Even the wind shield and top, in fact practically all essential parts of the motor car are produced in this gigantic factory covering twenty-five acres, with buildings made of concrete. Then we have our own half mile

testing track and available grounds covering one hundred and five acres. Is it any wonder that visitors turn and say, "I never expected to see such a plant?"

Additional Mechanical Equipment Installed

In preparation for building this 1914 car we have put in a great deal of additional mechanical equipment. There is an electric spot welder which will instantaneously join two sheets of steel without rivets, solder or any other means of holding. This device melts the two sheets and fuses them together with their own metal. In a piece of steel approximately $\frac{1}{8}$ of an inch thick, such as is used in the Jeffery body, a weld of this nature can be made in approximately one second. The weld takes place quickly and there is no chance for distortion of the surrounding metal.

There are new machines for milling crank cases, one 24 spindle gang drill for drilling crank cases and several eight spindle valve



The new press with 3,000,000 pounds capacity in which Jeffery bodies are formed

hole machines for drilling valve stems and reaming valve seats. The eight holes are drilled in one operation.

There is a new six spindle horizontal equipment for machining the transmission case.

In every part of the big plant, and it really is made up of several great factories formed in one unit, the new devices have been introduced, until to-day this car is produced in a factory as near up to date as capital and ingenuity can make it.

The Great Body Press

For example: If we did not have a press with fifteen hundred tons capacity, we could not manufacture the Jeffery body and put it on a car at this price. Sixteen dies were used in making this body alone. The die for the cowl took three months to build. A giant double toggle drawing press, with a capacity of three million pounds, was installed just for this purpose.

This press weighs one hundred and eighty six thousand pounds, or ninety-three tons, required six freight cars in its transportation and is one of but two or three of the same size in use in America. If paid for in silver dollars, placed one above the other, the pile would measure one hundred and twenty feet high. It is operated by a directly connected electric motor and it takes just one minute and one operation to make a complete cowl.

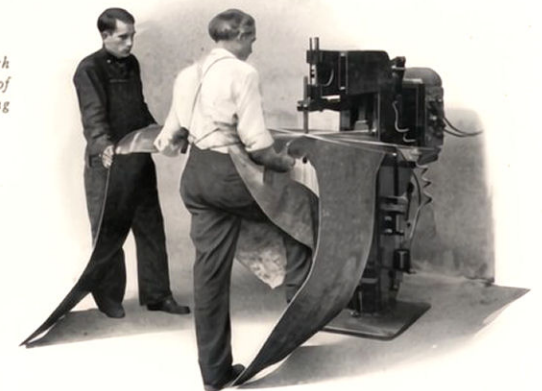


The Jeffery fender department. All sheet metal parts of Jeffery cars are made in a department so large in equipment and capacity as to constitute a factory in itself



The big battery of boilers in connection with the Jeffery power plant, showing automatic coal carrying apparatus and stokers

The Jeffery electric spot welder which instantaneously joins two sheets of steel without rivets. Used in making high grade Jeffery bodies.



Warranty

WE warrant the motor vehicles manufactured by us for ninety days after the date of 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.

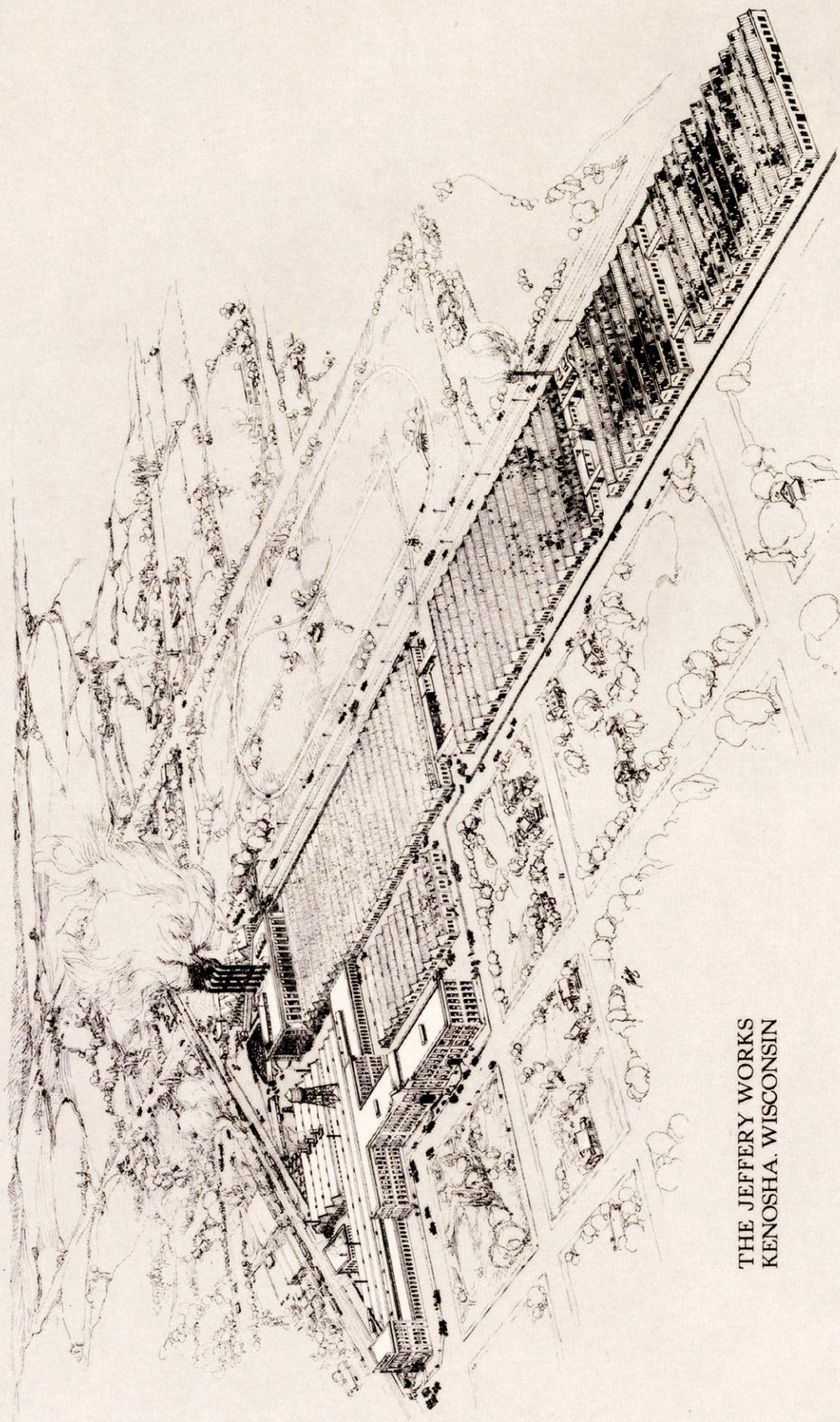
This warranty is limited to the shipment to the purchaser without charge, except for transportation, of the part or parts claimed to have been defective, and which, upon their return to us at our factory for inspection, we shall have determined were defective, and provided the transportation charges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

We make no warranty whatever in respect of tires, rims, or electrical equipment.

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 herein above set forth.

The Thomas B. Jeffery Company
Main Office and Factory, Kenosha, Wisconsin



THE JEFFERY WORKS
KENOSHA, WISCONSIN

