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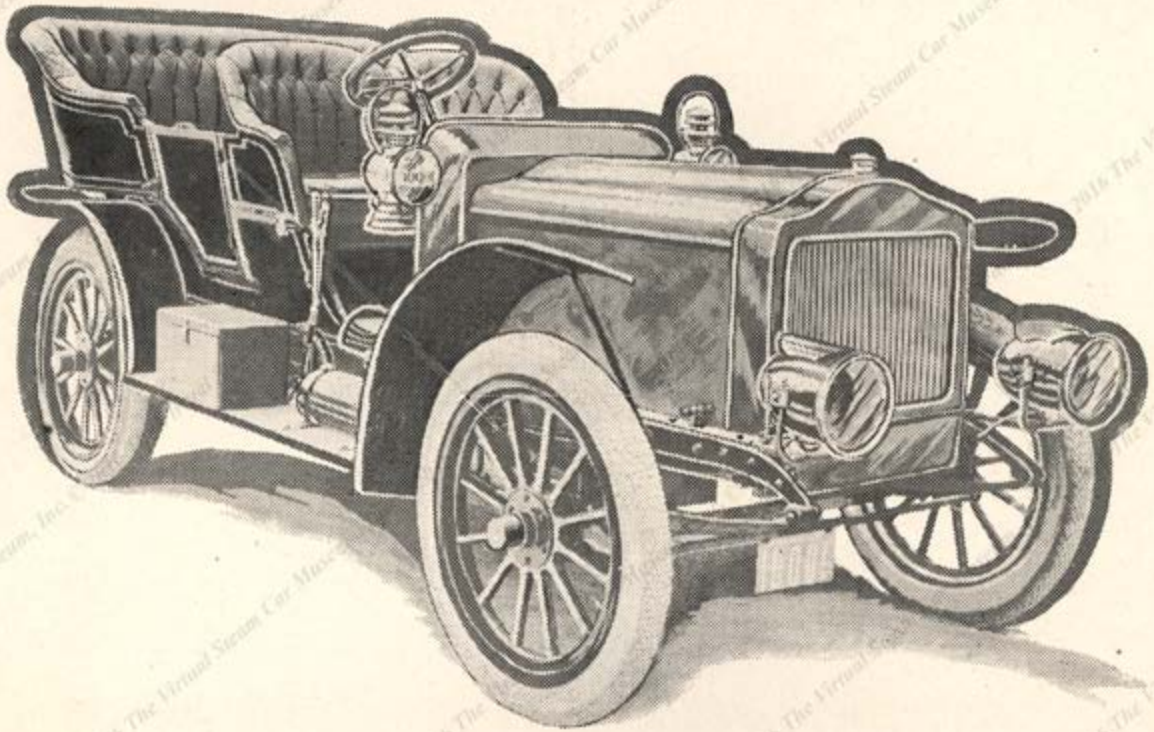
ROSS STEAM CAR.



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1906

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The Ross Steam Touring Car.

THE Ross steam touring car represents a most radical departure from the accepted lines of steam automobile construction, for it embodies the most successful ideas in automobile construction, combined with new and original features pertaining to the steamer.

The frame is of pressed steel, strongly riveted and re-enforced, and narrowed in front to allow of turning in short radius. There are three pressed steel cross members, one at the rear and two at the middle of the frame, while in front a flanged steel plate furnishes a support to the boiler, and a forged steel pan is designed to carry the engine. Both the boiler and the engine beds are strongly riveted to the frame.

SPRINGS OF BEST STEEL.

The wheel base is 108 inches, the car being supported in front by forty-two inch springs, and at the rear by forty-eight inch springs. These springs are semi-eliptic, two inches wide, eight leaf in front, nine leaf rear, and made from best English steel. The spring hangers are drop forged, and the rear springs are shackled free at each end, and are not required to drive the car, but act only as an elastic suspension, insuring luxurious riding.

The entire front axle is a steel forging with heavy spindles and steering knuckles, and adjustable distance rod, placed in front of the axle. The rear axle is of the floating type bevel gear drive, strongly braced and trussed to secure continued alignment. The torsion of braking and driving is taken up by a steel rod running parallel to the drive shaft, and securely attached to engine pan and in a line with forward universal joint.

NO STRAIN ON SHAFT.

The entire weight of the car rests on the tubing, and no strain comes upon the shaft, except to drive the wheels. Both axle and differential can be removed from the car, and adjustment of bearings can be easily made at any time. Both front and rear axles are entirely supported on Timken roller bearings packed in grease, and encased in dustproof housings. The differential is of the Spur gear type, while the bevel gears have a wide face and heavy teeth, hardened and tempered.

The wheels are 34 inches in diameter, of best hickory, and 34 x 4 tires are used both front and rear. Two universal joints are used, one placed close to rear axle housing, the other where the engine joins the drive shaft. The forward universal joint has a large steel flange securely attached, and the footbrake applies power to this. Both universal joints are of ample size, steel and bronze, and encased in dustproof housings and packed with grease, insuring long service without additional lubrication or attention.

EMERGENCY BRAKES

The emergency brakes are of the internal expanded type, with friction faces expanded against steel and operated by a lever beside of driver, and will control the car at all speeds and on sharp grades, either forward or backward, and are applied directly to the rear wheels. The footbrake is operated on the drive shaft, and has renewable friction face, and also gives sharp control of the car.

Both brakes are entirely free from any grease or oil, and can be relied upon at all times. The steering gear is of the irreversible type with worm and sector, with ample provision for adjustment. The steam plant consists of a tubular boiler twenty-four inches in diameter and fourteen inches long, placed over the front axle.

There is a fusible plug, which melts and gives warning of low water, preventing injury to the boiler This plug has a steel shell, and can be easily renewed at any time. Directly back of the boiler is placed a verticle two-cylinder engine direct connected by shaft to rear axle bevel gear drive.

BALL BEARINGS USED.

The engine cylinders are four-inch diameter, and five-inch stroke. Hess-Bright ball bearings are furnished on the main bearings, cross heads and connecting rods. The valve gear is the Stephenson link motion, and controlled by four ball bearing eccentrics.

A water pump of ample capacity and variable stroke supplies the boiler with water, and is actuated by a spur gear from main shaft. This pump is of a large diameter, and slow speed, insuring a silent running and positive acting pump. The connecting rod and gears to the pump all run on Hess-Bright ball bearings.

Cylinder lubrication is provided for by a positive acting plunger pump with a variable stroke, and running at the same speed as the water pump, which is one-half that of the engine. The advantages of ball bearing slow running pumps will be appreciated by all who have had experience with high speed types.

The burner is a one-piece casting, entirely enclosed, and is controlled automatically by a heavy diaphragm, maintaining the steam pressure at any desired point.

KEEPS TAB ON FUEL.

The gasolene is carried in a steel tank at the extreme rear of the car and has a capacity of twenty-five gallons. An indicator placed in the top of the tank shows amount of fuel at all times. No gasolene pumps, automatics or check valves are required in handling the gasolene, as it is forced to the burner by air pressure. A water-jacketed air compressor connected to the engine automatically maintains the desired pressure.

An auxiliary air tank allows of filling of gasolene, and firing up without the use of any pumping by hand, and permits the car to stand two or three days with steam up and ready for immediate use.

The manner of firing up is a novel feature, as the hand torch or alcohol drip cups, so common to all users of steam cars, are entirely dispensed with. A small Bunson burner is connected with the acetylene gas supply, and can be ignited instantly with a match, regardless of weather conditions or high winds and in a few seconds the main fire will be perfectly ignited.

SHIELD FOR MACHINERY.

A large false radiator front and heavy brass dasher of the full roll type add an attractive appearance, and combined with a hinged bonnet, accessible from either side, furnishes a dustproof shield to the machinery. The dasher is beaten from a continuous piece of brass, and has no joints or brazed corners. It is lined on the driver's side with a laminated mahogany panel, richly finished in its natural color. The steam and air gauges are placed on this mahogany, and also the indicator, showing water level in boiler. All connections are made from the back, thus insuring strength and a neat finish.

An auxiliary Marsh steam pump allows filling the boiler under conditions when the water becomes low or engine pump inoperative from any cause. The driver's seat is upon the righthand side, and the throttle control is placed on top of the wheel and connected by rod inside of steering column. The engine reverse is a lever at the side and close to emergency brake lever.

BODY OF WOOD.

The body is of wood, finely upholstered, and has double side entrance. The front seat is divided into two individual seats, while the rear comfortably seats three, besides allowing ample room for light baggage. The body is entirely independent of the chassis and can be removed easily by taking out four bolts, and the car can be operated equally as well either with or with out the body, as there are no parts or piping in any way connected with it.

Mud guards and wide running boards are provided, with two Tool Boxes on opposite sides of same. A copper water tank of heavy gauge copper is placed on the chassis so as to come under the front seat. It has a capacity of forty gallons and is divided into several compartments to insure rigidity and prevent slopping of water due to road vibrations.

The car is completely equipped with oil side lamps and large acetylene searchlights. A Presto-o-Lite gas tank charged with acetylene gas is also furnished and is carried upon running board. A connection with this tank is used to fire up the car when cold or left for interval of several days, but ordinarily the Pilot light is left running continually. A complete tool equipment is also furnished and the body is ironed for a top any desired style of which can be furnished.

A summary of the car embraces the following features: High-grade construction throughout, 108 inch wheel base, pressed steel frame, all machinery forward under bonnet, simplicity and ease of operation, car always under steam without any attention for several days.

Manufactured by

LOUIS S. ROSS,

Crafts Street, - NEWTONVILLE, MASS.

The Ross Steam Touring Car.

Body: Wood.
Double Side Entrance.
Color: Optional.
Seating Capacity: Five.
Weight: 2600.
Wheel Base: 108 inches.
Wheel Tread: 56 inches.
Tire Dimensions: Front 34 x 4. Rear 34 x 4.
Any desired make.
Steering: Through worm and sector.
Brakes: Internal expanded on rear hubs.
External on shaft.
Springs: Palmer semi-eliptic best
English steel.
Rear 48 x 2 x 9 leaf.
Front 42 x 2 x 8 leaf.

Water tank: Heavy copper. Divided in 6 compartments. Capacity: 45 Gallons.
Under Front seat.
Gasolene Tank: Pressed steel. Capacity, 25 gallons.
Float in tank indicates quantity.
Tank suspended from rear of car.
Frame: Pressed steel.
Engine Bed: Forged steel pan.
Boiler Bed: Forged steel pan.
Horse Power: 25.
Boiler: 24 inches diameter, 15 inches high.
Engine: Vertical 4 x 5, 2 cylinder.
Hess-Bright ball bearings.
All machinery in front of dasher.
Auxiliary Steam Water Pump.
Rear Axle: Bevel gear, drive roller bearing.
Front Axle: I Beam forging, roller bearings.

PRICE: $2,800 complete, including oil side lights, acetylene head lights, Prest-O-Lite Gas tank, and 2 tool boxes on running board with necessary tools, wrenches, etc.