
THE ~ ~ ~
INCOMPARABLE
WHITE
STEAM
CAR ~ ~

LONDON



1907

THE ~ ~ ~
INCOMPARABLE
WHITE
STEAM
CAR ~ ~

LONDON

PIONIER-AUTOMOBIELEN CLUB
P. A. C.

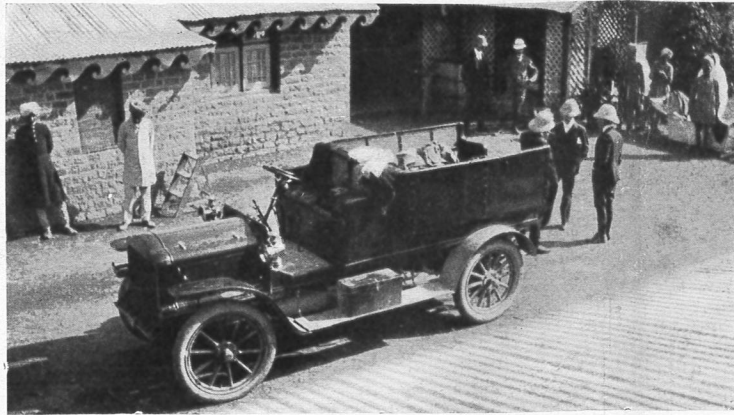
LUB

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1850
JULY
MADE



1850



THE 'WHITE' IN THE PUNJAB.

From the CIVIL AND MILITARY GAZETTE (Lahore, India), May 2nd, 1907.

**TO MURREE BY STEAM CAR.
EXIT THE JINGLING TONGA.**

[From a Correspondent.]

A FEW days ago a successful trip from Rawal Pindi to Murree was made under the direction of Mr. Reed (Manager Punjab Motor Transport Company) on a 1907 Model 30 h.p. Steam Car.

The start was made from the offices of the Punjab Motor Transport Company at 11 a.m. The car carried a load of eight passengers for the first seventeen miles to the toll-gate beyond Baracow, at which place four more passengers were taken on board, thus bringing up the total to twelve. The journey of 39 miles was accomplished in under three-and-a-half hours, including all stops.

Here it might be well to mention the utter impossibility of doing fast time. The road, though

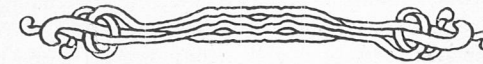
metalled, is by no means a good one for pneumatic tyres. The curves and bends in many places are so severe that a car with a long wheel base, such as the one in which the journey was made, would have considerable difficulty in negotiating them had it not been provided with an unusually wide steering-lock.

As most people are aware, the bullock-cart traffic—to say nothing of tongas and ekkas—on this road is enormous at this time of year, and those who have motored in India can appreciate the difficulty of persuading the cart-drivers to give up a portion of the road. All this means, of course, innumerable stops and re-starts on severe up-gradients.

All were struck with the wonderful hill-climbing capacity of the steam car, which was not only capable of re-starting on steep gradients, but actually "picked-up" on the same without any symptoms of stress. The car was driven right up into the yard of View Forth (Powell's) Hotel, some of the gradients near there being as much as one in seven for a few yards. This, be it remembered, with a load of twelve passengers.

The following data will help one to appreciate the severity of the test: Rawal Pindi to Murree, 39 miles; Rawal Pindi to Toll Gate, 17 miles; height of Rawal Pindi above sea-level, 1,709 feet; of Toll Gate, 2,159 feet; of Murree, 7,222 feet. It will thus be seen that there is a rise of 5,063 feet from the Toll Gate to Murree in a distance of 22 miles. After perusal of the above, one is tempted to ask what petrol (internal combustion) car now on the market would be capable of a similar performance.

The Punjab Motor Transport Company has placed an order for ten such cars with the London Agents in Kingly Street, Regent Street. These cars are on their way up country, and it is hoped that they will be in running order by the middle of May.



H.R.H. THE PRINCESS OF WALES ALIGHTING FROM LORD BLYTHSWOOD'S 30 H.P. 'WHITE' STEAM CAR. AT BLYTHSWOOD HOUSE, APRIL 24TH, 1907.



TELEGRAMS: "YENISEAN, LONDON."
TELEPHONES: 5429 GERRARD.
5449 GERRARD.
CABLEGRAMS: "YENWALT, LONDON."

**'WHITE'
STEAM
CARS.**

OFFICES AND SHOWROOMS:
**THE 'WHITE' COMPANY,
35, 36 & 37, KINGLY ST.,
REGENT ST., LONDON, W.**

HOME OFFICE: CLEVELAND, OHIO, U.S.A.
SCOTTISH BRANCH: 6A, DEVON PLACE, EDINBURGH.



SINCE 1901, when the White Company first began to put the 'White' Car on the market, the manufacturing policy of the Company has been to make but one model. The 1907 season shows the departure of the Company from this line of action, with the result that the 'White' Car can be bought in two models designated as the 20-h.p. 'White' Car and the 30-h.p. 'White' Car.

This publication is intended to show to motorists and intending motorists illustrations and descriptions of the types of car which the White Company produces. We publish various other forms of descriptive literature dealing with the past history of the 'White' Car, its success in reliability trials, races, hill-climbing contests, and other competitions such as the Town Motor Carriage Competition and events of like character which have been won by the 'White' Steam Car. We also publish booklets containing letters from various owners of 'White' Cars giving their opinion of the 'White' Car. Any or all of these little publications can be had upon application.

The features of the 20-h.p. 'White' Car most particularly recommended to the careful attention of the purchaser of a motor car are those which have distinguished the 'White' Car for years. Among them are a steam generator, which is not a boiler, and is indestructible, an efficient condenser, chain-

less drive, automatic cylinder and engine lubrication, automatic regulation of both fuel and water, two independent sets of double acting brakes, a most convenient and simple arrangement of the steering wheel and throttle, and a simple double-acting steam engine.

Three points which have distinguished the 'White' Car and gone far toward placing it in the front rank of motor car manufacture are most apparent in the 20-h.p. 'White' Car: flexibility, silence and absence of vibration. 'White' flexibility and 'White' silence are what all other motor manufacturers are striving to emulate.

Increased accessibility of working parts, greater proportionate strength of construction—the natural concomitant of increased horse-power per ton weight and perfection of detail with regard to the refinements of the system—are bringing the 'White' Car more and more under the limelight.

The most important asset of the White Company's motor car business is, however, the opinion in which the 'White' Car is held by those who have purchased it. To ride in a 'White' Car is a pleasurable experience, and frequently affords a great surprise to motorists of long standing who have been unfamiliar with the perfect motion afforded by the flexibility of steam power when properly applied to a motor vehicle. Still greater surprise is, however, frequently expressed by motorists, who, for the first time, comes into contact with an owner of a 'White' Car, with his enthusiasm for and high opinion of the 'White' system and the vehicle to which it is applied.

FUEL.

ALTHOUGH the 'White' Steam Car will burn petrol or motor spirit of all grades of specific gravity up to 760°, the fuel which is usually burned in the 'White' Steam Car is a grade of petrol known as benzoline or benzine, which costs less than petrol. As the 'White' runs nearly as great a distance per gallon of fuel as a petrol car of like actual power, the cost of running the 'White' Steam Car works out at less than that of petrol cars of the same power, size, carrying capacity and speed, and, as it consumes less lubricating oil than the amount used by the average petrol car, the whole cost of running is most economical.

WATER.

No care need be exercised in the selection of water as regards freedom from lime or chalk. The 'White' Car will run 150 to 200 miles without replenishing with water, and, when water is required, any water can be utilised, hard or soft. The water need not even be strained if it is fairly free from mud, sticks, stones, gravel, or other foreign substances.

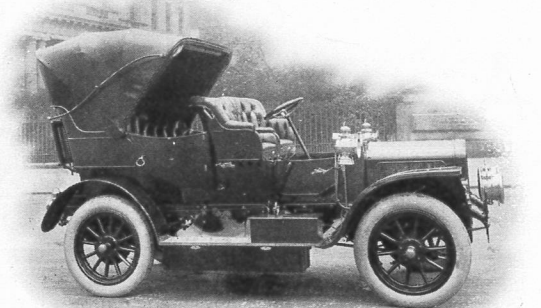
LUBRICATING OIL.

The lubricating oil which the manufacturers recommend for the cylinder lubrication of 'White' Cars is either Bowring's 'White' Steam Cylinder Oil, or the Vacuum Company's Hecla. Vacuum B Mobiloil may be used if no other is available. Vacuum C Mobiloil is recommended for the engine crank case and differential gear casing, although any good crank case oil may be used.

THREE YEARS' GUARANTEE.

WE have manufactured machinery for nearly half a hundred years, and have gained a reputation of which any firm might be proud for excellence of workmanship and care in selection of material.

No expense is spared in producing the best Car we can build. In the event of any bad material or bad workmanship being disclosed in any part of a 'White' chassis purchased new from us, we undertake on return of the part to our works within three years after delivery of the Car to examine it, and should any fault be found on such examination by us, proved to our satisfaction to be due to defective material or workmanship, we will supply a new one in place thereof free of charge. Our Cars are sold subject only to the express warranty set forth above, which shall exclude all warranties, conditions and liabilities whatsoever which might exist but for this provision.



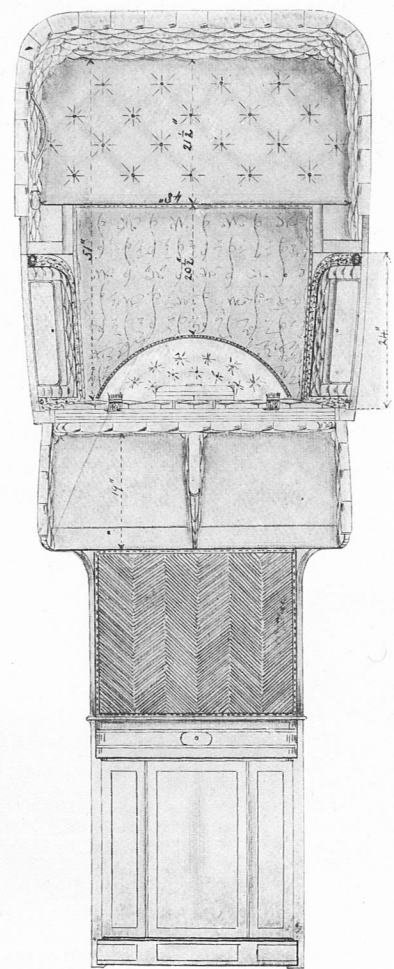
20 H.P. CAR, WITH VICTORIA HOOD.

SPECIFICATION OF THE 20-H.P. 'WHITE'
TOURING CAR.

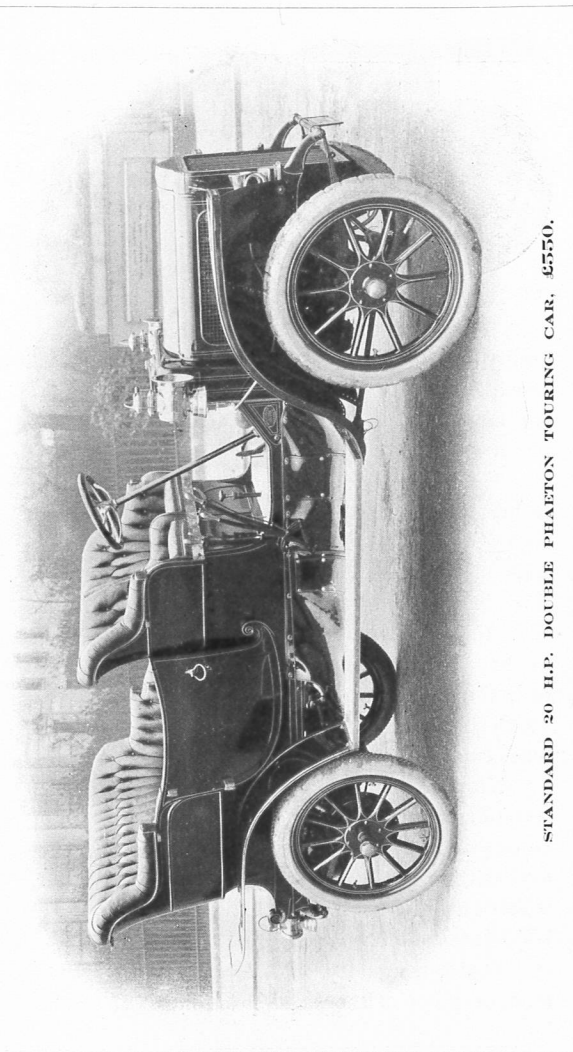
Seating Capacity	Five persons.
Rated horse-power	Twenty.
Engine	Compound.
Wheel Base	8 feet 6 inches.
Tread	4 feet 8 inches.
Wheels	34 inches.
Extreme length over all	13 feet.
Extreme width over all	5 feet 6 inches.
Extreme height over all	5 feet 6 inches.
Capacity of Fuel Tank	18 gallons.
Capacity of Water Tank	12 gallons.
Front Springs	40 inches.
Rear Springs	48 inches.
Hand Brake.	Powerful expanding brake, acting on drums on rear wheels.
Foot Brake.	Powerful expanding Brake on flywheel.
Minimum Clearance	9½ inches.
Weight of Standard 20 h.p. Touring Car complete,	26 cwt.

SPECIFICATION OF THE 30-H.P. 'WHITE'
TOURING CAR.

Seating Capacity	Five to Seven persons.
Rated horse-power	Thirty.
Engine	Compound.
Wheel Base	9 feet 7 inches.
Tread	4 feet 8 inches.
Wheels	36 inches.
Extreme length over all	14 feet.
Extreme width over all	5 feet 6 inches.
Extreme height over all	5 feet 6 inches.
Capacity of Fuel Tank	18 gallons.
Capacity of Water Tank	14 gallons.
Front Springs	44 inches.
Rear Springs	48 inches.
Hand Brake.	Powerful contracting Brake, acting on drums on rear wheels.
Foot Brake.	Powerful expanding Brake, acting within drums on rear wheels.
Minimum Clearance	10½ inches.
Weight of Standard 30 h.p. Touring Car complete,	30 cwt.



SEATING PLAN OF 20 H.P. DOUBLE PHAETON TOURING CAR.



STANDARD 20 H.P. DOUBLE PHAETON TOURING CAR, 4550.



THE 30-h.p. 'White' Car is the largest motor vehicle, both with respect to the amount of horse-power actually developed and the amount of body space available, that the White Company has ever manufactured. In speed, hill-climbing power and

ability to carry bodies of heavy weight this car will prove an exceptional bargain to those who want a car large enough to suit all purposes for which a motor car may be used.

The ordinary seating arrangements of the standard open or closed bodies, which we fit to the 30-h.p. chassis, have the usual two front seats and a wide seat at the rear capable of accommodating three people comfortably. In addition to these five seats there is ample room for two extra seats, either in the form of small auxiliary seats facing forward, or in the more usual method of a drop seat or seats which places the occupants in a position facing the rear of the car.

No expense has been spared, either in the selection of material or in the class of workmanship employed, in building for the 'White' Cars the most expensive and luxurious bodies that the coach-maker's art can produce. All the standard 'White' bodies are London made.

To ride in a 30-h.p. 'White' Gold Medal landaulette, or in one of the large limousine bodies of the

various types that may be fitted to the 30-h.p. 'White' chassis, is to experience the utmost luxury that it is possible to obtain in a conveyance propelled by any power. Quiet, the absence of vibration and smell, flexible motion, the elimination of jerk and jar and the carefully studied method of springing, produce a combination which can be found in no other motor car.

A comparison of the actual body space available and the actual length of wheelbase employed will show that a much larger and more roomy body and a much more accessible side entrance can be procured in the 30-h.p. 'White' than in other motor cars of the same dimensions as regards actual wheelbase. This means the maximum of seating capacity and room for luggage with the accompaniment of a truly handy and convenient car for country lanes or city traffic.



30 H.P. 'WHITE' LIMOUSINE (FIXED TOP).

EQUIPMENT.

Each price includes expensive and elaborate British-made oil side lights, oil tail light, large double-turn horn with flexible tube, number plates, Dunlop non-slipping tyres, tyre repair outfit, tyre pump, set of tools, spare pilot light, spare vaporizer, jack, tin of lubricating oil, and tin of grease. Brackets and fitting of acetylene lights will be provided free of charge if the lamps are purchased from The 'White' Company.

Canopy tops, cape hoods, and various special types of body, as well as side baskets, extra seats, glass screens, speedometers, acetylene gas lamps, special tyres, and all other motor accessories can always be supplied at special prices. Quotations on application.

A driver or instructor is supplied to each customer in Great Britain for one week, free of charge, except the man's living and travelling expenses during that period, and we are perfectly willing to give any man whom any customer may send to us a course of instruction in our workshops, extending over such time as a customer may desire. In short, we adopt every means in our power to make any customer, or the man whom he may appoint to drive and care for his car, thoroughly familiar in every way with all the features of the 'White' Steam Car.

Every customer of a 'White' Steam Car is supplied free of charge with an elaborate and detailed Instruction Book, compiled specially for customers.

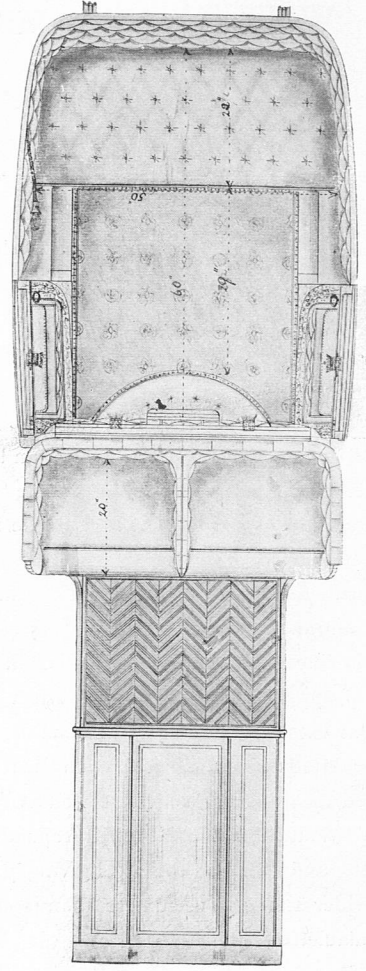
As 'White' Steam Cars are standardised, and every nut, bolt, and screw in one car is identical with each part in all 'White' Cars of similar power, spares can be procured in a minimum of time, and at a minimum of cost.

Prospective customers are invited to inspect our extensive Storerooms at 35, 36, and 37, Kingly Street, Regent Street, London, W., or our branch establishment at 6a, Devon Place, Edinburgh.

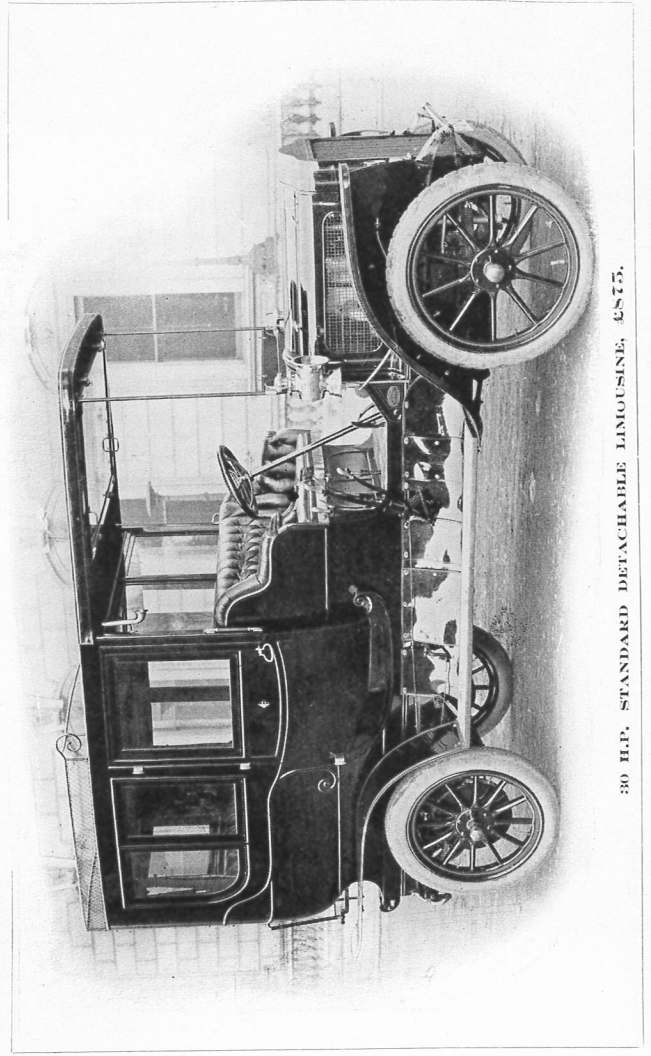
PRICES.—NETT CASH.

20-H.P. 'WHITE' Chassis - - -	£485
20-H.P. 'WHITE' Chassis, fitted with Standard Double-Phaeton Body, London made - - - - -	£550
20-H.P. 'WHITE' Chassis, fitted with Standard "Gold Medal" Landaulette Body, London made - - - - -	£675
30-H.P. 'WHITE' Chassis - - -	£675
30-H.P. 'WHITE' Chassis, fitted with Standard Double-Phaeton Body, London made - - - - -	£750
30-H.P. 'WHITE' Chassis, fitted with Standard Limousine Body (Detachable or Fixed Top), London made - - -	£875
30-H.P. 'WHITE' Chassis, fitted with Standard "Gold Medal" Landaulette Body, London made - - - - -	£875

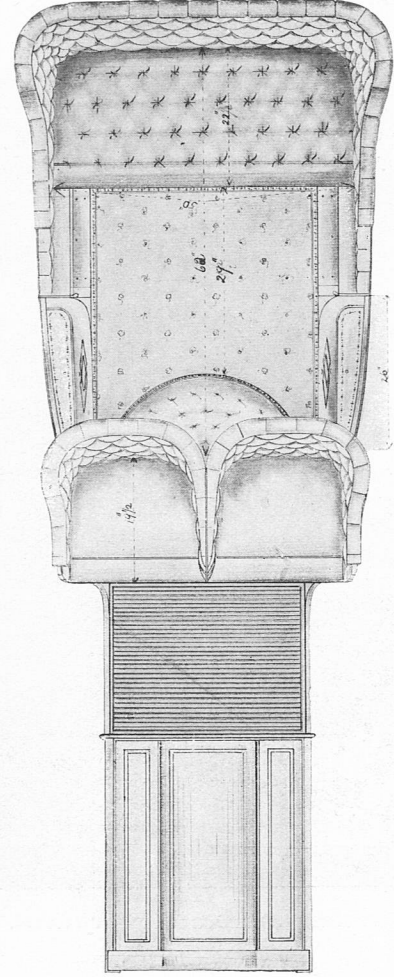
TERMS.—One-third of Purchase Price with Order, balance on Delivery from the London Showrooms of 'WHITE' Steam Cars.



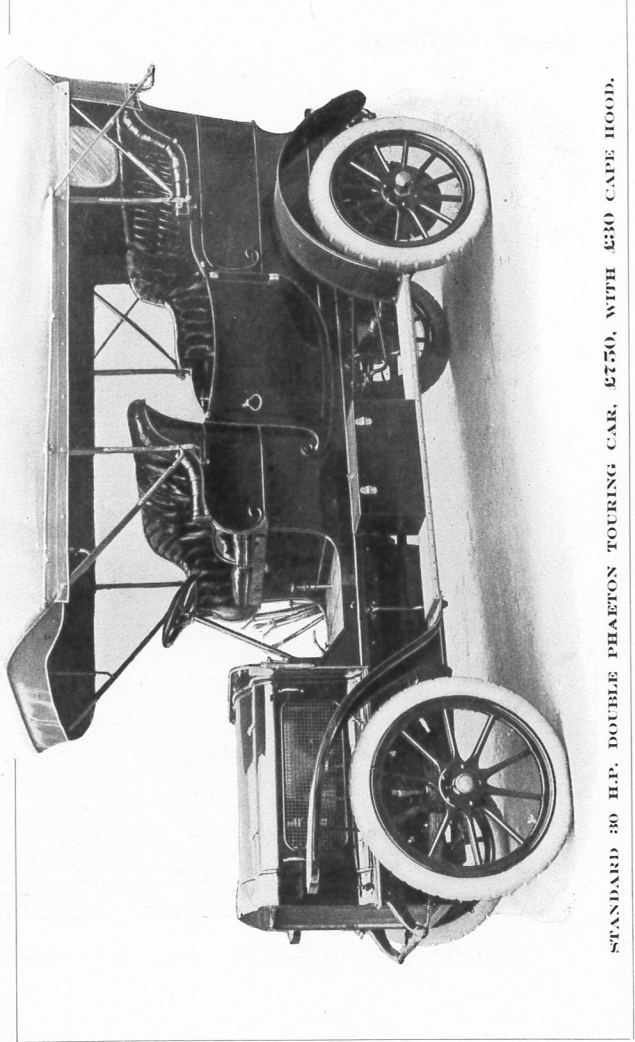
SEATING PLAN OF 30 H.P. LIMOUSINE.



30 H.P. STANDARD DETACHABLE LIMOUSINE, £875.



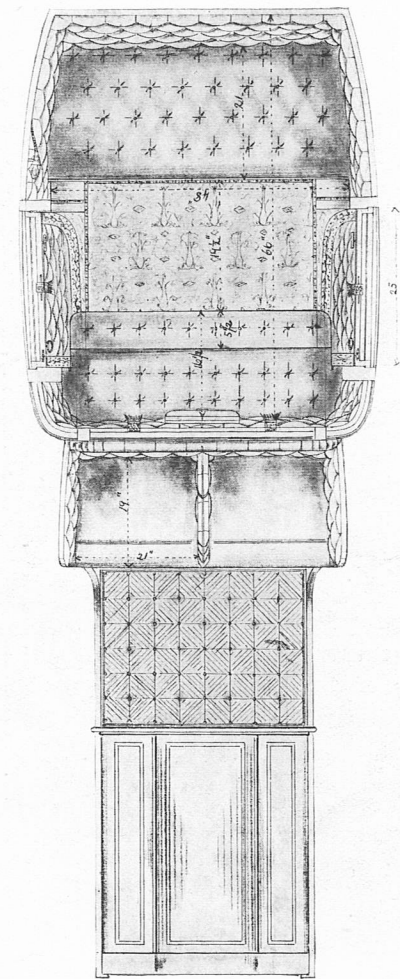
SEATING PLAN OF 30 H.P. DOUBLE PHAETON TOURING CAR.



STANDARD 30 H.P. DOUBLE PHAETON TOURING CAR, £750, WITH £30 CAPE HOOD.



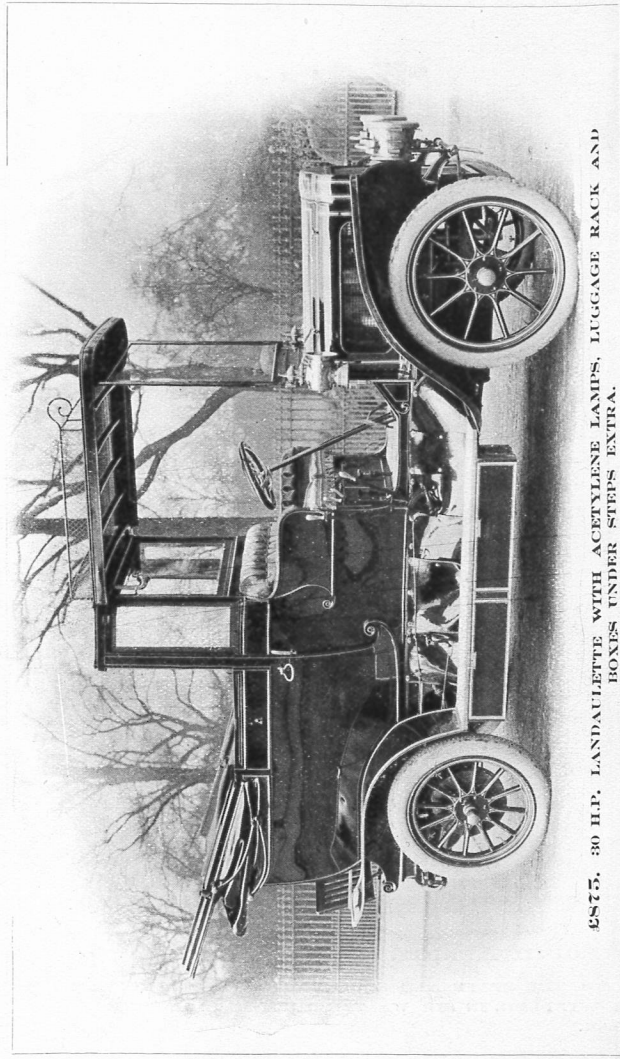
THE 30 H.P. 'WHITE' CAR ON THE ROUTE OF THE SCOTTISH RELIABILITY TRIALS.



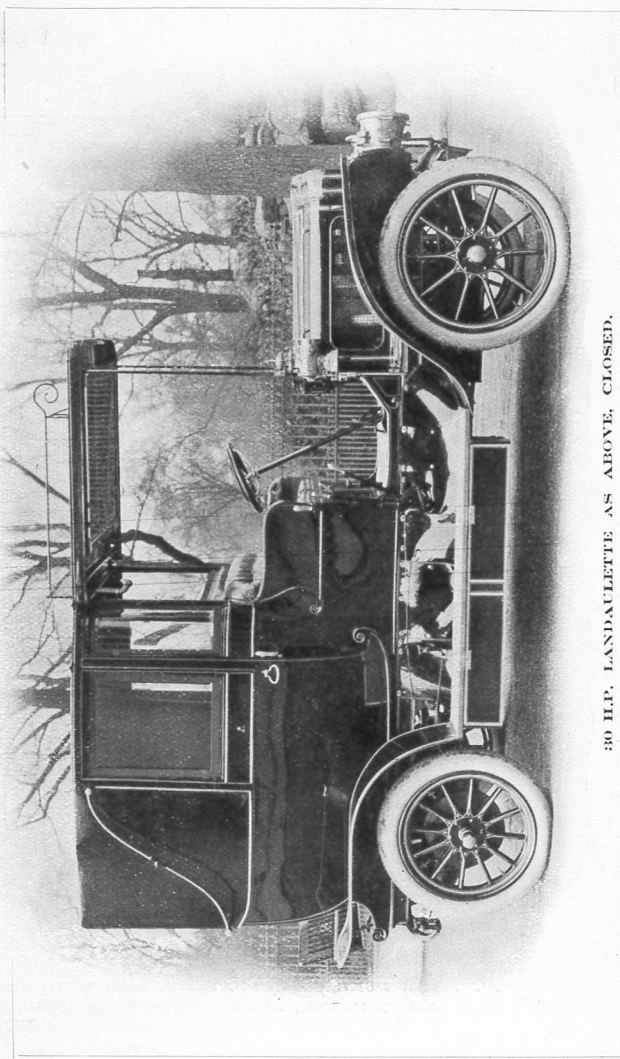
SEATING PLAN OF 30 H.P. LANDULETTE.

THE 'WHITE' GOLD MEDAL LANDAULETTE.

IN awarding the Gold Medal to the two 'White' Landauettes in the competition for town motor carriages, held in London in October, 1906, the Royal Automobile Club of Great Britain and Ireland, in addition to the commendation for silence, absence of smell, freedom from vibration, and ease of manœuvring in traffic of the 'White' Chassis, testified to the high class of the complete cars in respect of general design, appearance, and finish. The bodies of both the single and double 'White' Landauettes are of the highest type of the London coachbuilders' art, both as regards design and quality of materials. Exceptionally roomy inside, and fitted with side entrances of ample width, they are constructed on lines combining luxurious comfort and elegance of appearance in the most perfect degree. As the front extension canopy is detachable, the car may be converted into a completely open one if desired and utilized as a touring vehicle as well as for town work, the 'White's' well-established reputation for hill-climbing and speed on the level giving this type of car a wider range of usefulness than is usual in motor landauettes.



EST. 30 H.P. LANDULETTE WITH ACETYLENE LAMPS, LUGGAGE RACK AND BOXES UNDER STEPS EXTRA.



30 H.P. LANDULETTE AS ABOVE, CLOSED.

1,871-MILES NON-STOP RUN.

WHITE' reliability is rarely disputed by the well-informed. Record after record and medal upon medal have been piling up ever since 1901 as a lasting testimonial of the reliability of the 'WHITE' cars.

The 30 h.p. 'WHITE' car has also proved its reliability early in its career as a new model.

A friendly run in company between a 6 cylinder 40-50 h.p. Rolls-Royce car driven by Mr. Claude Johnson and a 30 h.p. 'WHITE' steam car was held from May 3rd to May 14th, 1907. The route chosen was from London to Glasgow, thence along the route which it is anticipated will be followed in the Scottish Reliability Trials of 1907, and then from Glasgow again back to London.

That the journey might be constituted a permanent record of actual performance, each car carried an official observer of the Royal Automobile Club. Such observer watched the car for the twelve days during every moment that it was out from under lock and key. Every drop of petrol used was noted and every moment spent on adjustments in garage was recorded.

Both of the cars finished their runs with records of which any car could well be proud.

The 'WHITE' car entered for 1,850 miles and ran 1,871 miles without one single involuntary road stop, except for two punctures and one burst tyre that was the result of the first puncture.

Not one single part, however small and unimportant, was replaced, although the 'WHITE' car used for the officially-observed

trial had run 1,511 miles by odometer before starting on its 1,871 mile tour.

The repairs and adjustments in garage during the twelve days occupied but one hour and two minutes, or an average of five-and-a-quarter minutes per day. Thirty-five of the sixty-two minutes were used in repairing a broken main burner valve spindle, which was accidentally broken by the driver's foot while he was trying to assist in putting up a Cape hood in a gale of wind. Nineteen of the remaining twenty-seven minutes were taken up by tightening a locking nut and removing the engine crank case for cleaning and refilling with oil. Of



CLIMBING THE BRIG OF AVON ON THE ROUTE OF THE SCOTTISH RELIABILITY TRIALS.

the other eight minutes, seven were used in fitting a washer under the air pump check valve cap and the final one minute for adjusting the lubricator chain idler to tighten the chain.

The condition of the 'WHITE' car after its run of nearly 2,000 miles over a severe course was practically the same as when the car started. The following is an extract from the official certificate issued by the Royal Automobile Club:—'On the completion of 1,871 miles, covered in twelve days, the car was dismantled for examination (except that the pistons and valves were not taken down, the cylinders being in good condition) by the Technical Committee and was found to be generally in good



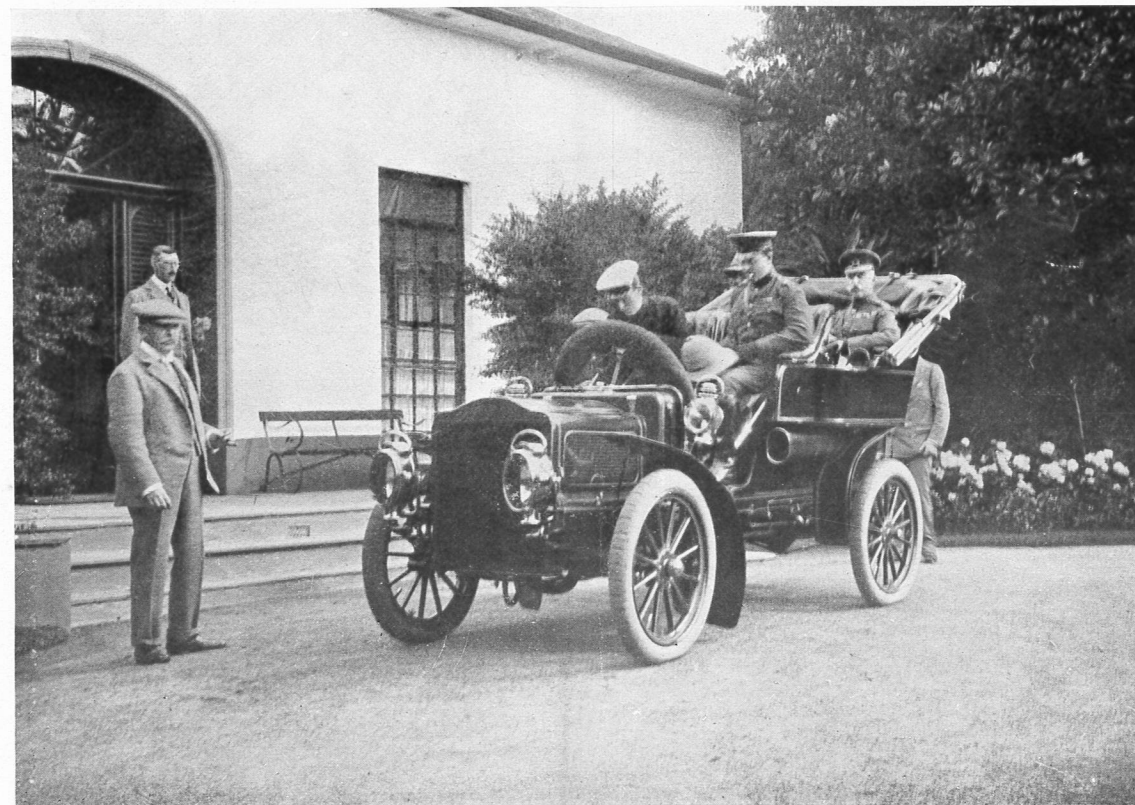
ON THE SPITTAL OF GLEN SHEE, 2,200 FEET ABOVE SEA LEVEL.

order. The only parts that called for remark were: One of the eccentric straps showed a little side play; one back axle ball race had its security lugs damaged; on the front axle the large cone on near side and small cone on off side had part of its case hardened surface broken.'

The 'WHITE' car was fitted with an ordinary touring body and Cape hood, but was specially loaded to bring it to the weight of a 30-h.p. 'WHITE' landaulette, which is from 32 to 34 cwt. The car weighed 33.08 cwt. without passengers and luggage. All complete the load was 41.4 cwt. In spite of the heavy load, the hilly nature of the route, the bad road surfaces encountered, the windy and wet weather, and the metal-studded tyres, the petrol consumption for the 1,871 miles was 9.12 miles per gallon. The petrol consumption in ten miles per gallon was 18.89, or nearly 19 miles per gallon. This does not take into account between forty and fifty miles extra running which was incurred during the trip by runs off the actual course, and though not officially recorded, was shown on the odometer. Taking the actual mileage covered and the actual amount of fuel used, the petrol consumption works out at about 9½ miles per gallon.

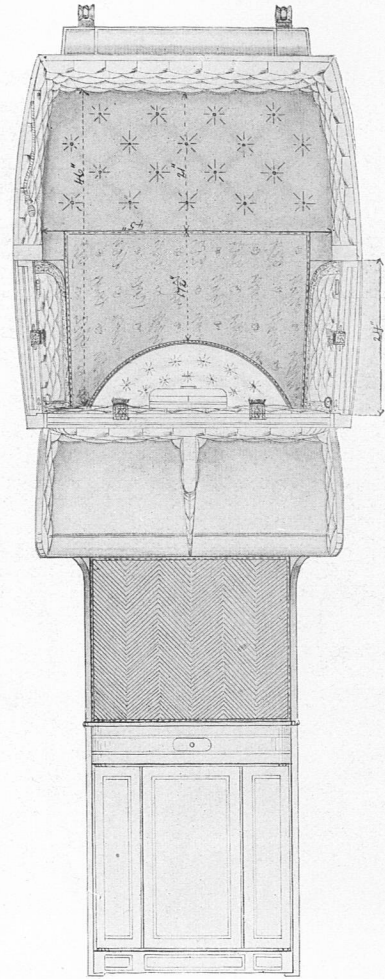
Water was only placed in the tanks at night and at luncheon stops, and on some days no water was put in from the start in the morning until the journey's end at night. The longest days' runs were 221 miles, 198½ miles, 198 miles, and 188 miles.

A copy of the certificate of the Royal Automobile Club and a map of the route may be procured upon application to The 'WHITE' Company.

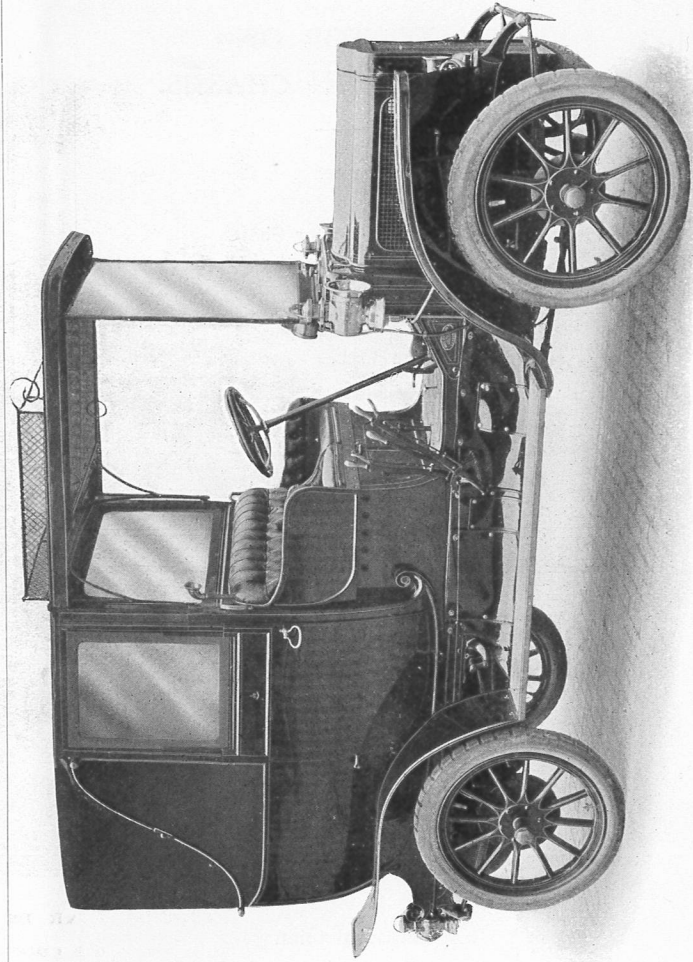


THE 'WHITE' CAR IN SOUTH AFRICA.

H.R.H. THE DUKE OF CONNAUGHT, K.G., WITH HIS CHIEF OF THE STAFF AND EQUERRY, STARTING FROM GOVERNMENT HOUSE, NEWLANDS, FOR AN INSPECTION AT WYNBERG, IN SIR WALTER HELY-HUTCHINSON'S 'WHITE' CAR.



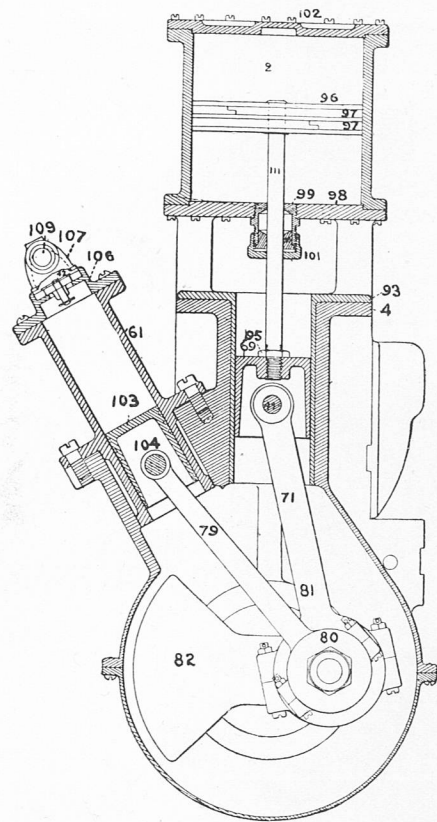
SEATING PLAN OF 20 H.P. LANDAULETTE.



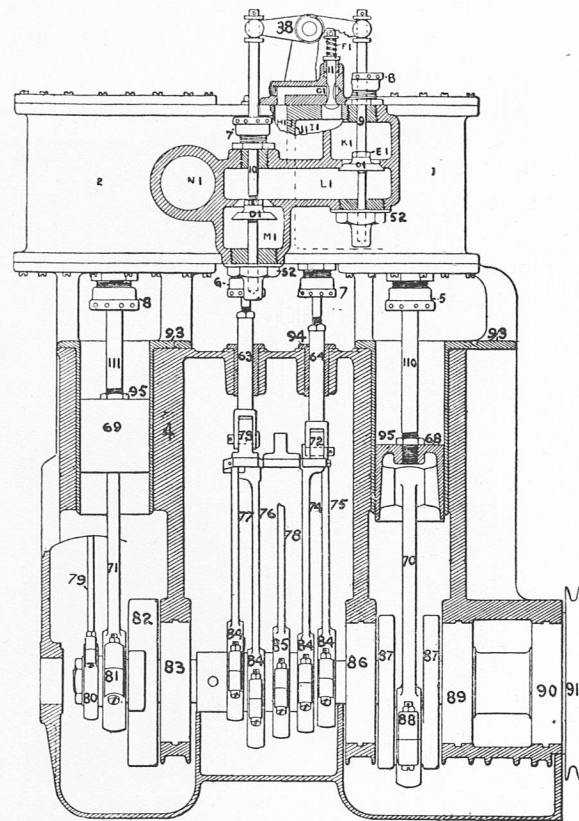
STANDARD 20 H.P. LANDAULETTE, \$375.



THE 'WHITE' COMING UP THE SMA' GLEN IN THE HIGHLANDS.



FRONT-SECTIONAL VIEW OF 20 H.P. 'WHITE' ENGINE.



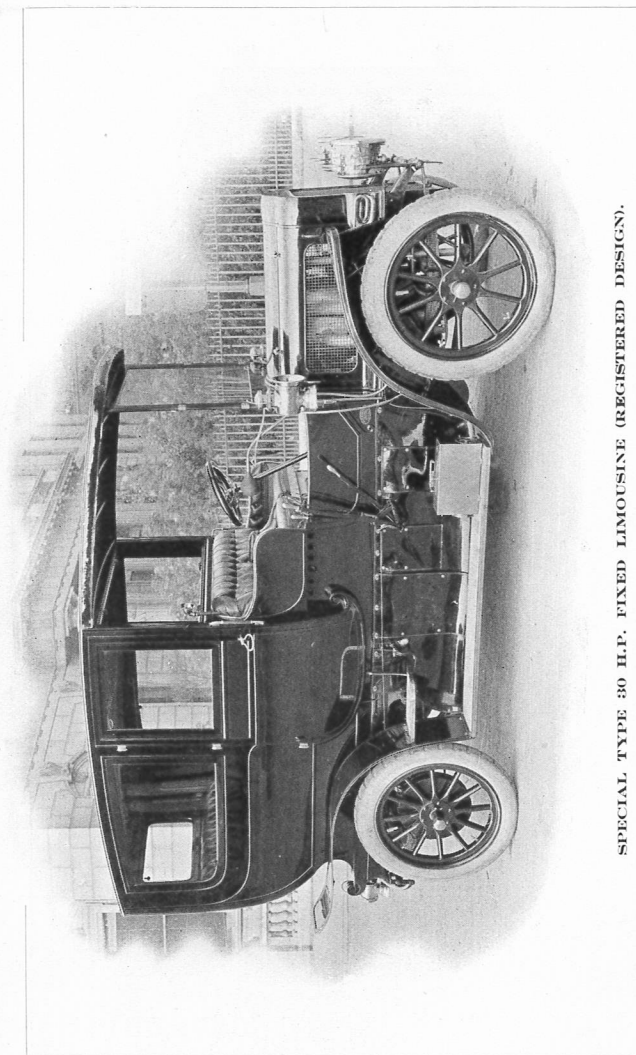
EXHAUST SIDE-SECTIONAL VIEW-OF 20 H.P. 'WHITE' ENGINE.

KEY TO TOP OF 30-H.P. 'WHITE' CHASSIS.

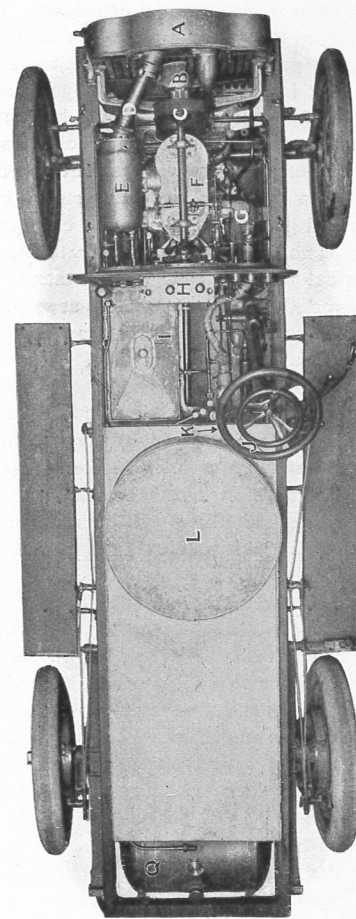
- A Top of Condenser.
- B Fan.
- C Automatic-Lubricator Shaft.
- D Exhaust Pipe.
- E Feedwater Heater.
- F Cover of Cylinders.
- G Main Steam Pipe.
- H Lubricator Cups.
- I Water Tank.
- J Throttle Wheel.
- K Steering Wheel.
- L Top of Generator Casing.

KEY TO BOTTOM OF 30-H.P. 'WHITE' CHASSIS.

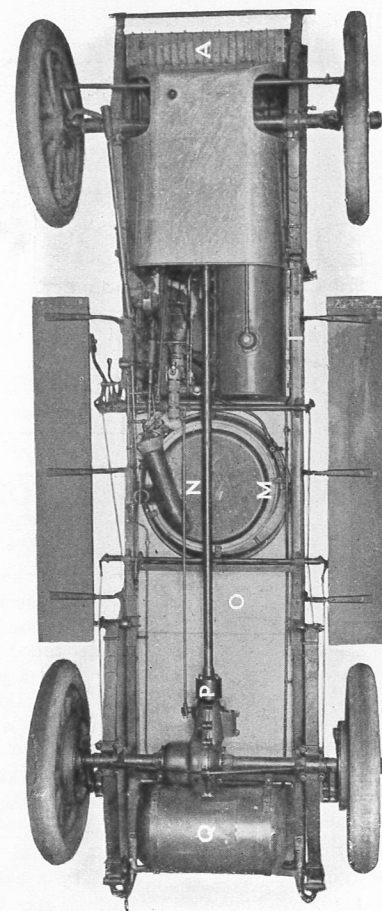
- A Bottom of Condenser.
- C Main Steam Pipe.
- I Chassis Frame.
- M Bottom of Main Burner.
- N Cardan Shaft.
- O Flue.
- P Rear Universal Joint.
- Q Petrol Tank.



SPECIAL TYPE 30 H.P. FIXED LIMOUSINE (REGISTERED DESIGN).



30 H.P. 'WHITE' CHASSIS.
TOP VIEW.



30 H.P. 'WHITE' CHASSIS.
BOTTOM VIEW.

KEY TO 20-H.P. 'WHITE' ENGINE.

1. High-pressure Cylinder.
2. Low-pressure Cylinder.
11. Simpling Valve, admitting steam from high-pressure to low pressure side of Steam Chest.
9. Valve opening exhaust from high-pressure Cylinder.
10. Valve closing high-pressure Exhaust from low-pressure Steam Chest.
61. Passage connecting high-pressure Steam Chest with low-pressure Steam Chest.
110. High-pressure Piston Rod.
111. Low-pressure Piston Rod.
68. High-pressure Crosshead.
69. Low-pressure Crosshead.
70. High-pressure Connecting Rod.
71. Low-pressure Connecting Rod.
72. High-pressure Valve Link.
73. Low-pressure Valve Link.
- 74-75. High-pressure Valve Eccentric Rods.
- 76-77. Low-pressure Valve Eccentric Rods.
78. Pump Eccentric Rod.
79. Air-Pump Connecting Rod.
82. Counter Balance—low pressure.
83. Main Crank Bearing.
86. Main Crank Bearing.
87. Counter Balance—high pressure.
89. Main Crank Bearing.
90. Main Crank Bearing.
91. Oiler Belt Wheel.
4. Aluminium Engine Casing.
96. Piston.
98. Cylinder Bottom.
99. Stuffing Box.
103. Air-Pump Piston.

THE 20-H.P. 'WHITE' ENGINE.

THE Engine used in the 20-H.P. 'White' Car is a Two-Cylinder Compound Engine of the marine type, fitted with D slide valves and Stevenson link motion, similar in general design to the engine of the 18-H.P. 'White,' but strengthened to meet the greater demands of increased horse-power. It is also fitted with a feed-water heater, a simple attachment in the exhaust pipe, by which the exhaust steam is made to contribute to fuel economy by heating the water thrown by the engine pumps to the generator. The high-pressure cylinder is three inches in diameter and the low-pressure cylinder five inches. The stroke is three and one-half inches.

The Engine does not differ in principle from the recognised and generally-accepted type of compound steam engine.

One of the foremost points of merit about this Engine is its careful construction as regards detail. Every part of it is interchangeable. Twenty 'White' Engines could be taken to pieces and one Engine made out of parts from each engine of the score.

The crank is ball-bearing, which allows the engine to run smoothly and quietly, and the wearing surfaces are designed to give the maximum durability, while the whole is so suspended as to afford perfect accessibility.

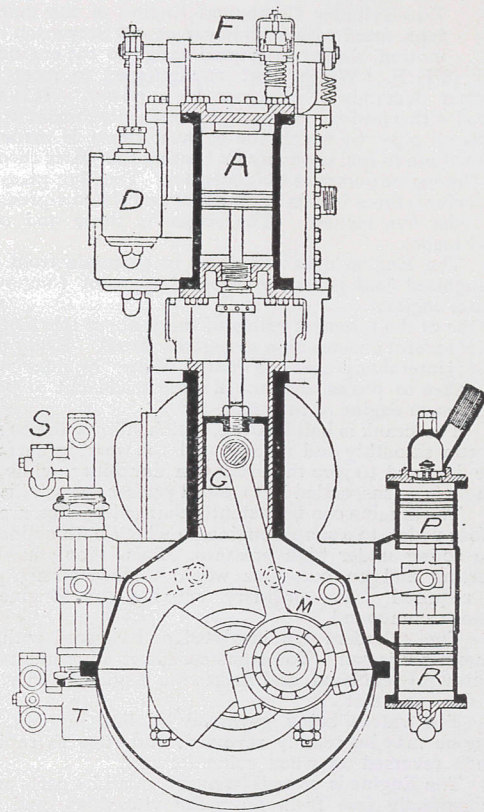
The Engine can be instantly changed by pressure on a foot-pedal, to a simple engine, in which both cylinders are acting under high pressure. This is only used in starting and on occasions when a slow, strong pull is required. For ordinary running the Engine is always compound.

The cylinders are insulated and covered with an aluminium jacket. The crank case is of aluminium and thoroughly enclosed, and makes the Engine impervious to dust and dirt.

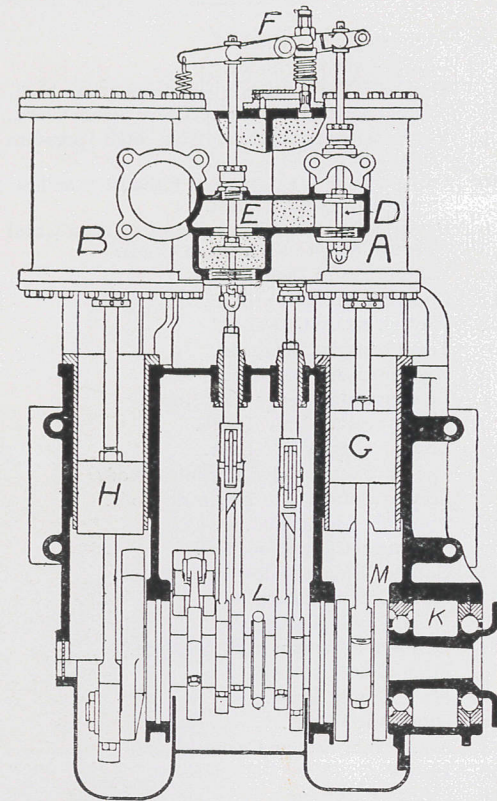
The valves being governed by link motion, the Engine may be readily reversed, and runs as rapidly when reversed as when going forward.

The Engine is so well balanced in all its parts as to be perfectly free from all motor vibrations, and the exhaust steam is muffled so as to be absolutely noiseless.

The lubrication of the 'White' Steam Car is automatic. The Engine shaft runs in oil, the system of splash lubrication having proved highly efficient.



FRONT-SECTIONAL VIEW—OF 30 H.P.
'WHITE' ENGINE.

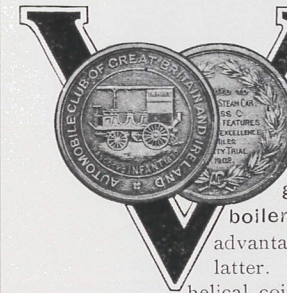


EXHAUST SIDE—SECTIONAL VIEW—OF 30 H.P.
'WHITE' ENGINE.

KEY TO THE 'WHITE' GENERATOR.

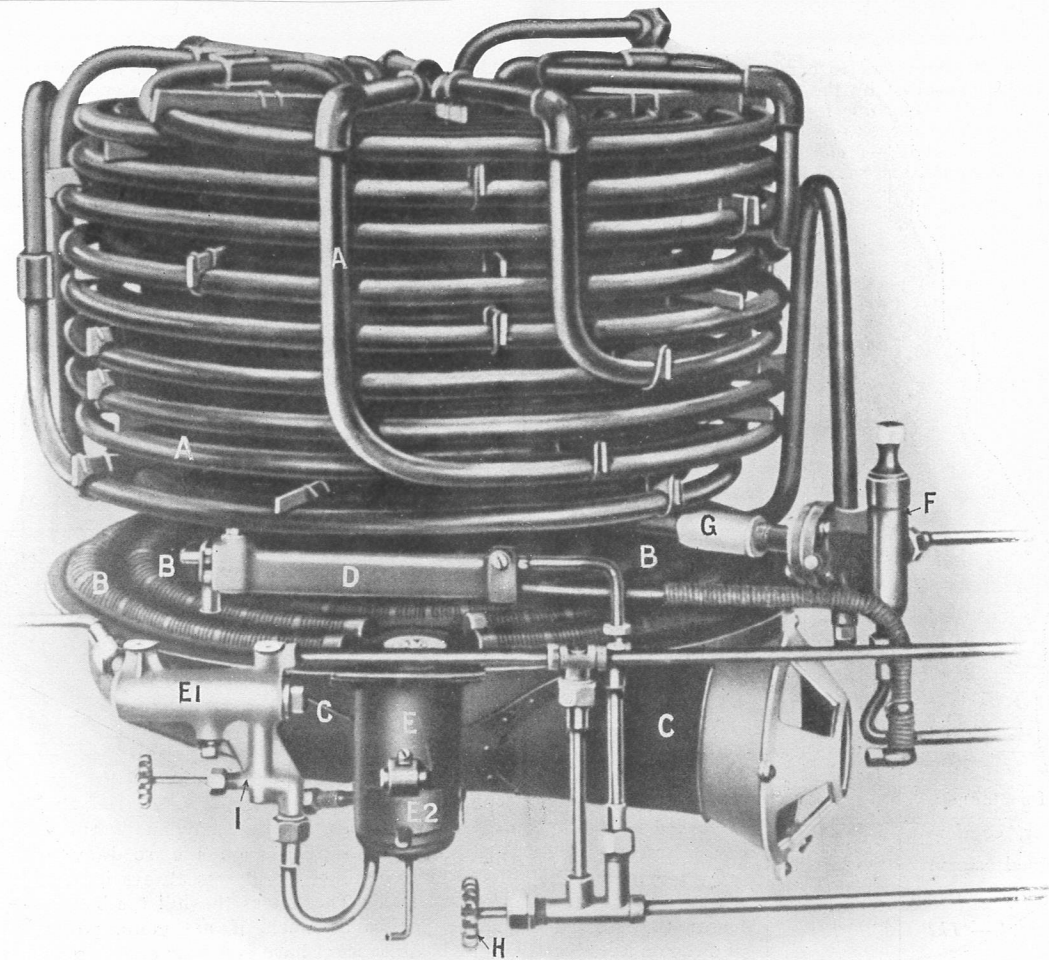
- A Generator Coils.
- B Main Burner.
- C Mixing Tube.
- D Vaporiser.
- E Pilot Light.
- E₁ Fuel Strainer.
- E₂ Pilot Light Ignition Shutter.
- F Thermostat.
- G Superheating Tube.
- H Hand Valve to Main Burner.
- I Hand Valve to Pilot Light.

THE 'WHITE' GENERATOR.



VITAL to the success of any motor is the method of power generation, and in this respect the 'White' Steam Car is in a position of unique distinction. It is equipped with a steam generator which is not a boiler, and has none of the disadvantages which are peculiar to the latter. This generator consists of helical coils of seamless tubing, placed one above the other, and surrounded by a casing of insulating material, and at the bottom the heat is applied by means of a burner, the supply of fuel to which is governed by a simple automatic device ope-

rated by the flow of water to the generator. The coils of tubing are so connected that the water, entering at the top, cannot pass through the successive coils below by gravity, but is held in place entirely subject to the action of the pump. In this way we have a steam generator in which none of the conditions of a steam boiler exist. The water comes into and is at all times in the top coils, while the steam is in the lower coils and goes out of the lowest coil next to the fire. There is no boiling water to generate steam. The upper coils act practically as water heaters, and the water is converted instantly into steam at some variable point in the lower coils, depending upon the amount of steam which the engine is using. There is no water level to maintain, consequently no water-glass. It is absolutely non-explosible, impossible to burn out, and all this without fusible plugs or other mechanical contrivances. The formation of any deposits or incrustation in the generator is rendered impossible by the rapidity of the circulation. Hence the generator is "unscalable," and never requires cleaning. The water supply is automatically controlled by the steam-pressure. The steam as it comes from the lower coil is super-heated, ensuring perfectly dry steam, which gives the greatest efficiency. A special device of our own regulates the flame in such a manner as to furnish sufficient steam to meet all requirements. We wish to emphasize the fact that the above takes place automatically, without entailing any care or thought on the part of the operator. The car can be run until the water-supply is entirely exhausted, and only comes to a stop by reason of lack of water in the generating coils, without the slightest danger of explosion or damage to the coils. The operator will only have to obtain a new supply of water before he can proceed as usual.



THE 'WHITE' GENERATOR AND BURNER, SHOWING VAPORIZER AND PILOT LIGHT.

KEY TO 30-H.P. 'WHITE' ENGINE.

- A H.P. Cylinder.
- B L.P. Cylinder.
- D H.P. Simpling Valve.
- E L.P. Simpling Valve.
- F Rocking Lever.
- G H.P. Crosshead.
- H L.P. Crosshead.
- K Thrust Crank Bearing.
- L Power Water Pump Eccentric Strap.
- M H.P. Connecting Rod.
- P Power Air Pump.
- R Return Pump.
- S Power Water Pump.
- T Power Water Pump.

THE Dutch Government purchased six 18 h.p. 'White' Steam Cars for use in carrying the mails in the Dutch East Indies. The first two of these mail cars are already at work on their routes in Sumatra, and are reported to us to have run 4,000 miles each without any trouble. Native drivers are employed to handle the Cars and care for them, and much of the route in Sumatra lies over new roads, rudely constructed for the Motor Mail Service.



THE 'WHITE' IN SUNNY SUMATRA.

THE 30-H.P. 'WHITE' ENGINE.

ALTHOUGH similar in arrangement, the 30-H.P. Engine differs from the 20-H.P. Model in several minor respects, besides, of course, being very much stronger in every way. Its cylinders are of 3 and 6 inches bore respectively, and the stroke is $4\frac{1}{2}$ inches, while a piston valve is used instead of the D valve on the H.P. cylinder. The return pump, which carries the water back from the condenser to the tank, is driven by an eccentric on the crankshaft, instead of being coupled-up with the L.P. crosshead.

"A car that can climb Ramsay Lane, Edinburgh, at something like 30 miles per hour, can crawl through the maze at the west-end of Princes Street at, say, two miles an hour and almost immediately thereafter open out at a pace very few would care to exceed outside a racing track."—*Glasgow Herald*.

"The persistence of the steam car at all and the place it has won may, without exaggeration, be said to be due to the admirable design and workmanship which the manufacturers of the 'White' Car have progressively introduced into vehicles."—*London Daily Chronicle*.

"A car capable of continuing to compare favourably with those propelled by the 'petrol engine' A distinguishing feature in the performance of these cars is their pronounced economy of both fuel and water."—*Motor Vehicles and Motors*, by W. WORBY BEAUMONT.

"Here were no perpetual throbbings, no sudden impulses, no muffled roarings, as of a monster chained and restrained, but a steady, silent, compelling force, always present, fierce and yet docile, almost boundless in its possibilities, and yet always amenable. It was fascinating; it was awe-inspiring."—*Motor News*.



1901.

1902.

1903.

1904.
SEVEN YEARS OF

'WHITE' PROGRESS.

1905.

1906.

1907.

UP CUDHAM CHURCH HILL.—"Here we were on as stiff a rise as any you shall find in the south country, having got going to 20 miles an hour in the space of two or three score yards, and having traversed a hundred yards were going at 30 miles an hour, the steam pressure rising all the time. Just at the finish of this climb there is an S turn, with the gradient seemingly about one in three, sufficient, at any rate, to slow down the most powerful petrol touring car to legal limit speed or less. But it proved no tax on the steamer. The needle of the speedometer pointed steadily at a rate of travel the law does not encourage, and the steam pressure needle showed in the neighbourhood of 800 lbs. to the inch as the car rushed on to the level at the top of the hill."—*Morning Post*.

"In every way a high-grade production and quite fit to compare with the best cars produced on the Continent or at home."—J. D. SIDDELEY, in the *Engineering Supplement to The Times*, February 13th, 1907.

"Money for money, power for power, comfort for comfort, good steam cars are distinctly better than petrol cars."—*The Times*, March 5th, 1907.

"Thereafter we sought Westerham Hill, but the work it called for was in no wise comparable with the run upward from the valley bed, and so we turned at random into country lanes, where many an abrupt twist of the track revealed unexpectedly steep lifts on the roadway with surfaces that were not of the most inviting, but it was always impossible to take the 'White' Car by surprise. The longer the hill the better she went. She seemed to me to possess as much, if not more, power to get away on a gradient than the biggest racer I have ever been on."

Morning Post, April 2nd, 1907.