

takes pride in running it up to 40 miles an hour on the road and 60 on the hard beaches of the ocean. If he insists on an unsafe pleasure, this man ought to be made as safe as possible.

Make Gas Valve Stems Longer.

"This," writes Mr. Ferguson of Belfast to a leading Auto journal "is an everyday job with us, and our method, which we have found to be most successful, and we feel certain would be interesting to your readers, is as follows:—Braze a piece of tool steel to the end of the valve stem; before this has had time to cool, plunge in water to harden it, and grind same to correct length. This makes a splendid job—in fact, better than new, as the end of the valve stem has a perfectly hard surface, and wears much longer. Also there are fewer loose parts, and consequently less wear than in the methods recently suggested.

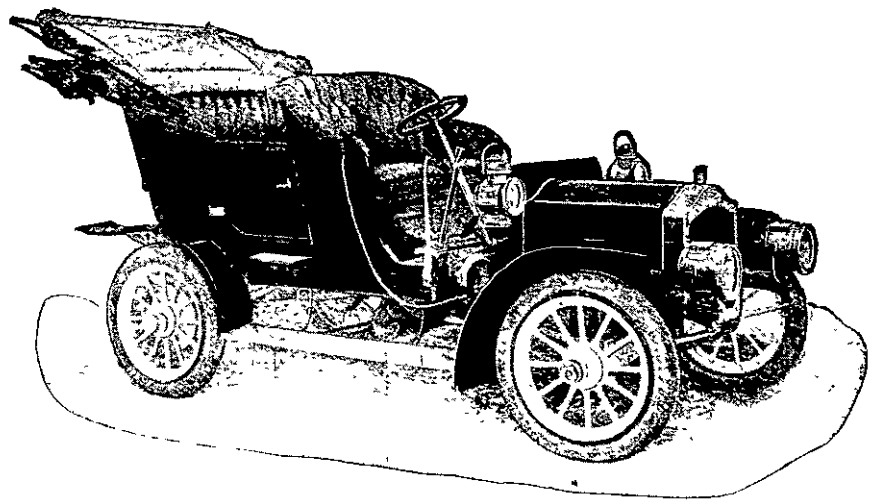
About a Low Sun.

Who has not ridden or driven in the early morning or the late afternoon with the level sun blinding him? All who have had that experience know how impossible it is to see anything on the road in front. It is the same with motoring, and for the motorist it is the same as tearing along in the dark with both eyes shut. Now smoked glass enables you to look the sun in the eye and see quite plainly without inconvenience. Every motorist ought to carry a pair of smoked glasses; without them there will some day be a terrible accident.

Catering for the Moderate Man.

Writes another enthusiast—"One hears much of the car for the man of moderate means. To fulfil his requirements it should be one of moderate price and one that requires a minimum of adjustment and attention, for in many cases he must dispense with the services of a chauffeur. For these reasons four-cylinder cars have certain obvious drawbacks, and cars of one cylinder are not to be recommended if above 8 h.p. Therefore, the man of moderate means who requires a car of about 12 h.p. must confine his search to the two-cylinder variety. All of these, if with vertical engines, possess, I believe, the undesirable features either of applying their engine impulses irregularly, or if with both pistons acting on the same crank, and firing alternately, of being wanting in balance.

The two-cylinder engine with horizontal opposed cylinders obviates both these disadvantages and also possesses many advantages over the vertical type. The crank case



MODEL D, RUSSELL 2 CYLINDER 18 H.P.

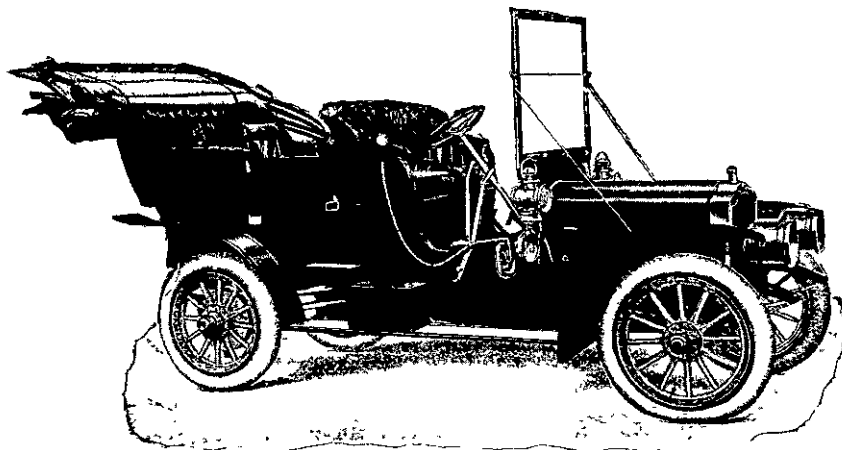
can be made more accessible, and the crank bearings can be easily inspected and adjusted. A pump can be dispensed with, as thermosiphon cooling can more readily be made efficient.

A Big Trip in a Small Car.

A record of achievement by a practical man has much impressed us—Car. 8 h.p. 1905 Darracq tonneau, accumulator and coil ignition, driving tyres 700x90, non-slipping Dunlops; weight of driver and passenger about nineteen stone, as much luggage as tonneau would hold, three spare covers, spare can of petrol, etc.—in all, equal to more than three people. The following is the record; voluntary stops, stops due to overthrottling when standing, and stops due to empty petrol tank are not counted against the car: This thing started from Glasgow in July 31 of last year, and on to Carlisle the first day 95 miles, and got to Fowey in the remote end of Cornwall (travelling by Chester, Hereford and Exeter) on August 4th, spent the rest of August touring round Fowey in the highest part of Cornwall, travelled back by Barnstaple, Bath, London, Granton, Darlington, and Dumfries to Glasgow, arriving there on September 10th.

The Record of the Same.

July 31st.—Glasgow to Carlisle Non-stop—95 miles.
Aug. 1st.—Carlisle to Chester. Non-stop.—137½ miles.
Aug. 2nd.—Chester to Hereford Burst tyre. One stop. 94 miles.
Aug. 3rd.—Hereford to Exeter. Burst tyre, one stop.—142½ miles.
Aug. 4th.—Exeter to Fowey. Non-stop.—74 miles.
Aug. 5th to Aug. 31st.—In one of the hilliest parts of Cornwall, touring from Fowey as centre. One gear box stop, one loose wire stop—532 miles.



MODEL F, RUSSELL 4 CYLINDER 40 H.P.

Sept. 1st.—Fowey to Bideford, Westward Ho, and Barnstable. Stops owing to severity of gradients, shed passengers, chocked wheels, raced engine, and banged in clutch. No other compulsory stops.—91 miles.

Sept 2nd.—Barnstaple to Bath. Non-stop.—100 miles.

Sept 3rd.—Bath to London. Non-stop.—108 miles. Sept 4th to Sept. 6th.—Car not used. Accumulators charged, tyres changed, no other adjustments.

Sept. 7th.—London to Grantham. Loose wire, One stop.—110 miles.

Sept. 8th.—Grantham to Darlington. Puncture, several stops to inflate, and finally tube changed.—120 miles.

Sept. 9th.—Darlington to Dumfries, via Barnard Castle, Brough, Penrith, and Carlisle. Loose wire finally adjusted. One stop.—106 miles.

Sept. 10th.—Dumfries to Glasgow. Puncture. One stop.—80 miles.

Total number of miles, 1,795.

Average speed (stops excluded) Glasgow to Fowey 16.1 m.p.h. (no acetylene lamps).

Average speed Fowey to London, not taken (no acetylene lamps).

Average speed London to Glasgow, 17.5 m.p.h. (no acetylene lamps).

Mileage per gallon of petrol, approximately 29.

There was thus only one mechanical stop of any consequence in about 1,800 miles running, of which 548, 300, and 416 were continuous day-after-day journeys. This one breakdown was due to tilting over the washer between crankshaft and gear box shaft, thus disengaging the clutch. Further, between July 12th and 19th the car had done a non-stop trip (tyre trouble and loose switch excluded) in the highlands, extending to 464 miles, only ordinary adjustments like valve grinding being done between this and the start of the long trip. Some days after returning from London, and without any adjustment beyond ordinary oiling and greasing and one tyre change, the car took four people a non-stop run of 136 miles at 18.8 miles per hour, and did 32 miles to the gallon of petrol.

How the tyres and the transmission mechanism stood the strain I was obliged to put upon them to get up certain Cornish hills I cannot imagine. At least six times it was necessary to race the engine at its hardest and let in the clutch in the most heart-breaking style. I am inclined to think that this record, taking into account the size of the car and the gear racking work performed in Devon and Cornwall will take some beating on the score of reliability, even in the matter of speed, when it is remembered that time lost over wrong turnings, asking the road, and all such minor delays, is counted in the running time, and that a good many hours of driving were after dark and with only paraffin side lamps, the average for the South and North journeys is very fair.

I have absolutely no interest in the Darracq Co., and while by no means considering that my car is faultless, as so many writers consider their cars, I think my journeying is a proof of more than average merit in a small car set to do heavy touring work over all roads and in all weathers. E.T.

A Company is being formed for the purpose of erecting a first-class motor garage on Lambton quay, Wellington. The building will have four stories and basement with showrooms on the ground floor. In addition, the usual appurtenances of a garage will be provided for, such as repair shop, social rooms, and ladies and gentlemen's retiring rooms. The architect, we understand, is Mr. William Turnbull.