

## LAYING UP A MOTOR CAR FOR THE WINTER.

By HERBERT L. TOWEL.

BEFORE considering the working parts of the car, it is well to remove all loose parts and accessories, such as the horn, lamps, baskets, floor mats and spare parts. The lamps should be emptied of carbide or oil, the oil lamps washed with gasolene, and

able, take out the balls and examine them and the cups and cones for wear, using, if possible, a micrometer to caliper the balls. If the balls in any bearing show the slightest signs of wear, replace the whole set in that bearing, being sure that the new balls caliper alike within one-half of a thousandth of an inch. Ball bearings should be packed with grease or vaseline, rather than oiled, and should run very slightly loose.

Drain all oil from the motor-crank case, from the gear case and from the oil cups and tanks. Squirt kerosene into the motor cylinders and crank the motor rapidly by hand, with the spark plugs out to

filling the boiler nearly full of water, when cold, then introducing about a pint of kerosene, then running off the water slowly. As the kerosene floats on the water, it will reach all the scale in the boiler from top to bottom. The boiler should be left full of water, not empty. The burner, pilot light and vaporiser should be cleaned inside and out.

Drain the differential case; wash it with kerosene, and oil afresh, as above; and apply the same treatment to all the bearings in steering gear, countershaft, control mechanism, etc.

Disconnect the batteries and clean the electrical apparatus as may be needed. Storage batteries should be fully charged and given a small freshening charge about once a month, when not in use, or else should be slowly discharged and the plates washed, dried and laid away. The former treatment is preferable. The batteries, whether dry or storage, should be left in a cool place, and if they are removed from the car one should not forget to tag the various wires.

Finally, give the body and running gear a good cleaning, which for the body may be followed up with a very little furniture polish or boiled linseed oil and a thorough rubbing with dry cheesecloth or chamois. Polish the bright parts about the gear, and grease the iron parts freely with vaseline.

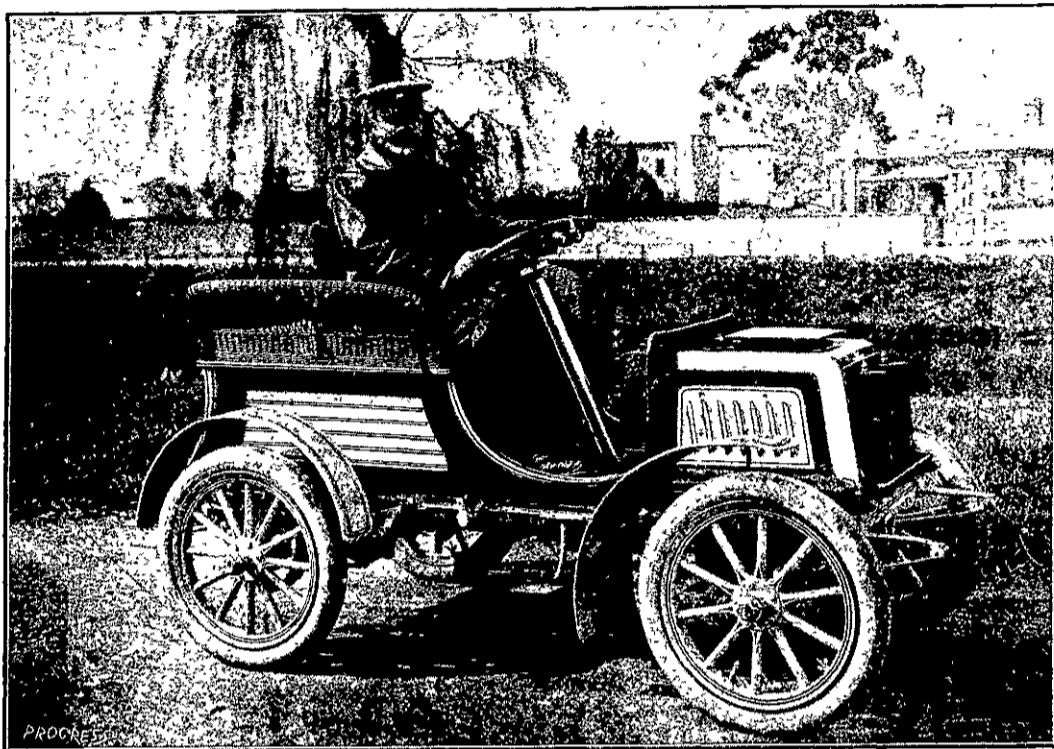
Treated as above, your car will stand through the winter or through the year without deterioration, and will be ready for business as soon as the tanks are filled.

## The Nomenclature of Automobiles.

By ROBERT BRUCE.

A FEW practically minded men on two continents have been at work more or less continually on some type or other of self-moving apparatus, for use on the highways, for upwards of a century. But for the greater part of the time, their efforts met with scant, short-lived encouragement. The engineering and mechanical foundations for new and independent systems of locomotion were slowly laid, while to constructive genius, busy with problems of more immediate promise, these were things of occasional speculation and experiment.

The progress of the last ten years of the nineteenth century brought new and vital life into the field. Electricity extended and specialised its usefulness, co-operative means adapted steam power



THE SECRETARY OF THE NELSON AUTOMOBILE ASSOCIATION, MR. M. A. JENNY, AND HIS 6-H.P. DARRACQ.

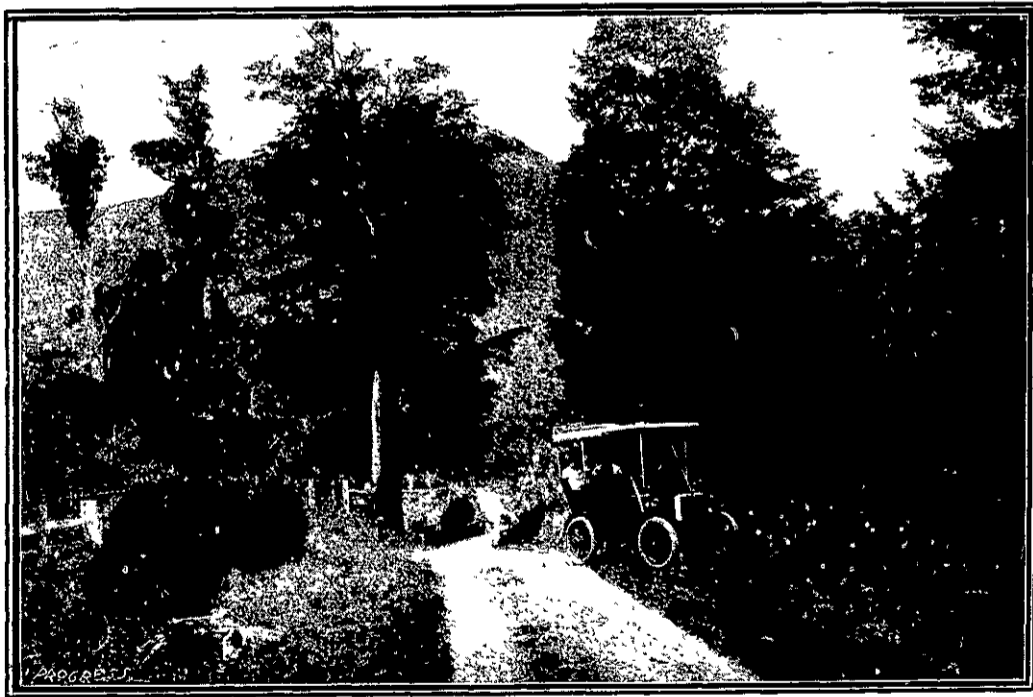
the bright parts polished. The horn may be polished also, and the floor mats cleaned of oil so far as possible, as the oil ruins rubber.

Next to be considered are the tyres. A common, but shiftless and wasteful, practice is to leave the tyres on the wheels, merely jacking up the axles so that they may be deflated. When tyres are left on the wheels, the inner and outer tubes are liable to stick together, and the rubber may crack and rot, especially if exposed to warmth or sunlight. The body should be jacked up, preferably under the frame, so as to relieve the springs, and the tyres taken off. Clean the cases or outer tubes, and examine both the cases and the air tubes for cuts and leaks. Repair these carefully, as directed by the makers, and wrap the inner tubes in French chalk or flour of sulphur, folding them loosely, not creasing. Wrap the cases in cloth, and put all away in a dark cool place. If the treads are worn down so that the fabric is exposed, the cases should be sent to the makers to have new treads vulcanised on, assuming that they are otherwise in good condition. This must be done as soon as the fabric shows itself, as otherwise the fabric will rot and be impossible to repair. Next to depreciation, the tyre bill is the largest item in the expense account of the average car, and it is well worth while to give the tyres all needful attention.

Empty the water and gasolene tanks, and see that no water remains in radiator, pipes or cylinders to freeze and make trouble. Empty the carburetter, flush it with gasolene and see that no water gets into it during the subsequent processes.

Take off the wheels, and clean and oil the hub bearings. If the latter have balls and are adjust-

relieve the compression. This cuts the oil and half-burnt residuum from the cylinder walls and piston rings. Flush out the crank case and gear case with kerosene, and remove any accumulated dirt. Pour



A HALT ON THE NELSON-BLENHEIM ROAD.

[Photo by Mr. M. A. Jenny.]



THE 7-H.P. OLDSMOBILE OF DR. PURDY, WELLINGTON.

kerosene into the oil cups, etc., and see that it flows or is pumped to all the bearings. If it fails to reach any bearing, it may be that the duct is stopped by dirt or waste. Investigate and remedy. If the shaft bearings are oiled by splash, squirt kerosene into them freely. If you know your car, you may take the shafts out for inspection, but the novice will find this a troublesome job. Planetary gears may be flushed with kerosene, unless they have raw-hide pinions, in which case they should never be touched with oil or other liquids. If wick feed or wipers are used, wash them with kerosene or gasolene.

When the motor and gear case have been cleaned, oil them with small quantities of the lubricants proper to each.

If you have a steam machine, the scale inside the boiler can be softened with kerosene by first

nearer to the special requirements of road travel, and the all-round possibilities of the hydrocarbons were demonstrated. Mechanically propelled road devices began to appear on all sides, in this and other countries, not infrequently bearing names as new and strange as themselves. The philologist was not called into consultation. Not only complete machines, but individual parts and fittings, were treated in the same manner. Out of the abundance of the offering many survived, but none triumphed. An element of grim humour was invariably developed from any situation requiring legal definition of the new vehicle types. The powers that be—from national governments to everyday patrolmen—suffered humiliation alike, being bound by a sort of conventionality unknown in the wider freedom of press and public. In England, not long ago, electric machines were, practically,