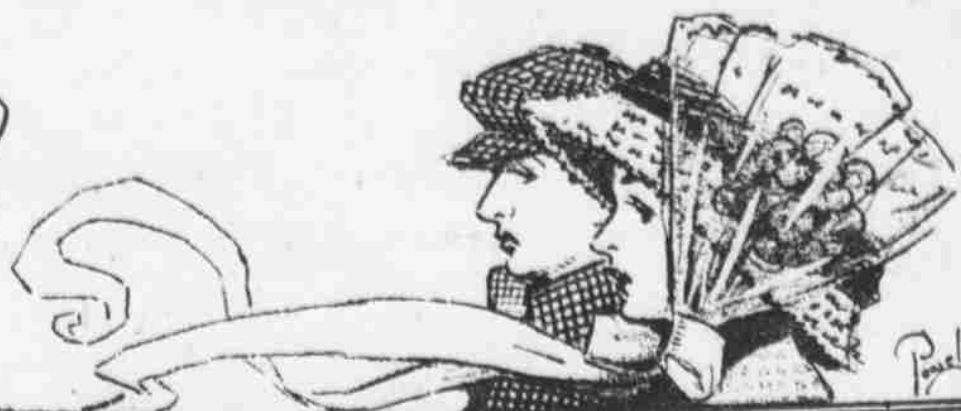




Automobiles



ART OF AUTO DRIVING TOLD

Many Essential Points Can Be Learned in Garage.

MUST FIRST LEARN THE PARTS

Driver Can Get Best Knowledge by Setting Engine Into Action and Watching Mechanism Work—Rules of the Road.

Though skillful driving can be learned only by experience on the roads, there are many essential preliminaries that can be best acquired in the privacy of the private garage or grounds, according to N. Newman Davis.

The best method for the novice in learning to drive a car is first to master the use and rationale of the component parts of the driving mechanism; then block the front wheels of the car by means of a jack, and raise the rear end till the driving wheels are just clear of the ground, supporting the rear axle carefully at both ends, so that there may be no danger of the car slipping down. Having done this, and removed the footboard so as to expose the clutch, start the engine in the following manner: having turned on the cock from the gasoline tank, set the spark lever back to the full extent of the quadrant and the throttle-lever about midway; close the sparking-circuit by means of the switch on the dashboard, and proceed to crank. In case of a car which is fired by a magneto-generator only, it will be necessary to "spin" the engine several times to obtain ignition, when batteries or storage cells are used, a half or quarter turn will often suffice. Cranking should always be started with an upward stroke, never downward, and directly the engine has begun to act the spark lever should be advanced about halfway and the throttle lever brought back to the utmost consistent with regular running.

When the engine has not been standing long it may usually, unless magneto-fired, be started "on compression," that is, without cranking, by the following method: Advance the spark lever to the limit, set the throttle half way open, switch on the current, and then draw the spark lever backward till an explosion takes place. With engines fitted with both cells and magneto, switch on the latter as soon as steady

running is indicated. When the engine is started, the driver should take his place in the driving seat. His first efforts should be confined to manipulating the spark and throttle levers so as to learn the relative positions which give definite results in speed and engine control; remembering always to attain speed in the engine as much as possible by advancing the spark lever, not by increasing the fuel supply beyond the minimum at which the engine runs satisfactorily.

What "Knocks" Mean.

"T knock" in the engine indicates that the spark is too far advanced, and weak and irregular explosions show a paucity of gasoline, an excess of which is indicated by a smoky exhaust having a strong smell of partially consumed gasoline, which is very irritating to the eyes.

"When he can adjust the engine satisfactorily to various speeds, the beginner should turn his attention to the clutch, practicing throwing it in so gently that it does not start with a jerk, and throwing it out again, till his foot is so perfectly familiar with the pedal and the movement that he knows exactly where the clutch is without having to look at it; having acquired this facility he may replace the footboard.

The next step is to attack the gears, going steadily from neutral to first speed, then to second and third and from neutral to reverse, being absolutely certain that the clutch is completely disengaged before the change is made; also practicing slowing down the engine simultaneously with disengaging, and speeding up again after the gear is changed and at the moment the clutch is thrown in again. It must be remembered always that in changing to a higher speed it is desirable to attain considerable momentum before the change is made, and conversely in changing to a lower gear that the speed should be diminished to as nearly as possible the lower speed desired before the change. These operations, especially the former, require considerable practice before they can be performed smoothly; in fact, the action of speeding up, checking the engine to prevent racing, changing the gear, and again speeding up the engine so that there may be no jerk when the higher gear comes into play, is the most difficult thing for a novice in the whole task of controlling the car; it seems so complex. In time, however, the movements become entirely automatic and are performed without conscious effort; then, but not before, is the driver fit to take the car on public roads.

In order to understand the necessity for the maneuvers described above, one must be conversant with the changes of mechanism involved in changing speeds. We have two spur-gears of unequal size rotating at unequal speed and wish to "mesh" them, obviously the first thing to do is to reduce them to nearly an equal speed as possible. When running on the low gear the spur-wheel on the clutch-shaft, being smaller than that on the counter-shaft, revolves at a much greater rate than the latter; therefore the rate of the counter-shaft should be increased by speeding up before the clutch is released; the release allows the main-shaft to slow down, and thus an equilibrium is obtained during which the change is made; the clutch must then be instantly thrown in again and the engine at the same time quickened by advancing the spark, so that when the new gear, the relative size of which is the converse of that prior to the change, come into play, the main shaft may be driving the counter-shaft, not vice versa.

Failure to get sufficient speed on the engine before fully re-clutching means a jerk, a strain on the mechanism, and often a stalled engine.

The rationale of the operation of coming to a lower speed is exactly the opposite of the above. The effects just described are much more perceptible on the road than when the wheels are running free in the air. The ease and smoothness with which gears are changed is one of the best tests of the efficiency of a motor driver; experts can change the gears without the occupants of the car being aware of the action.

Though no force must be used, the gear lever must always be thrust in boldly and decisively; hesitation is fatal to success and produces a grinding of the spur-wheels which is detrimental to them and disagreeable to the passengers.

While the car is stationary it is well to practice the use of the brakes so that both hand and foot may become efficient in finding and applying them without the aid of the eyes. Mistaking the gear lever for the brake lever, when hurried, has proved a costly error to more than one novice on the road.

When facility in all these manipulations is attained, the car may be taken out on a level secluded road.

Should Mesh Low Gear.

Having ascertained that the gasoline, oil, and water tanks are well supplied and the engine running smoothly, the driver should mesh the low gear and, letting the clutch slip in very gradually, start the car at a slow speed, increasing the momentum as

he feels its confidence in the use of the clutch. The change to second speed may now be made, provided that the car is not climbing an incline. It will be well to run on the second speed for some distance, not throwing in the third till confidence in steering is established, because, although the engine will run best on third speed, throwing it down to run slowly requires considerable experience, and to run at more than seven or eight miles an hour is neither desirable nor safe at the first attempt. Frequent gear changes should be made, and stopping, starting, reversing, and backing should be practiced to test the efficiency obtained by the previous experiments on the stationary car. The feet should be kept constantly on the pedals of the clutch and foot-brake respectively, and ability to slow down and to pull up suddenly should be cultivated above all other tactics.

There are two recognized ways of holding the steering-wheel, which are shown in the accompanying illustrations, and both have their advantages.

The "accelerator" or foot-throttle, found on most cars has been purposely omitted from the foregoing directions, because it should not be used until complete mastery of the car is attained; many drivers, however, drive by it alone and disregard the hand-throttle entirely.

Duties of Driver.

The motor driver's duties to the public are: To drive his car on his own side of the road and at a moderate speed, especially when negotiating curves and turns; to keep a good lookout ahead, to sound his horn vigorously when he cannot see far ahead, to signal to vehicles behind when about to stop or turn off; to respect the rights of pedestrians and other users of the road; to avoid a smoky exhaust and a cut-out muffler; to carry efficient lights at night, and to watch for frightened horses. This last precaution is generally superfluous in the cities where all horses are insured to motors, but in country districts it is one of the most important items in the list.

I always make a rule in country districts of watching the ears of every horse I meet; should they be pricked up at the sight of the car I slow down, switch off the engine and try to run past noiselessly; if the horse still shows signs of alarm I stop and await developments. Failure to extend this trivial courtesy is responsible for nine-tenths of the prejudice against motor cars in rural districts. When a frightened horse is overtaken it is generally safe to shut off the engine and glide noiselessly past

him unless he shows signs of running away, in which case the car should be kept at a reasonable distance behind him until the driver has recovered control. In negotiating hills the driver should always have his car under complete control. When facing a long decline it is a great aid to control, as well as a saving of brake drums, to cut off the current and make the wheels turn the engine, additional braking power being obtained if required by throwing in the second or first speed, using the brakes, if at all, as a supplementary check only; no hill need be feared if this method be employed, should the throttle be left a little bit open, the gasoline passing through the cylinders has a cleansing effect on them. By switching in the ignition current at the bottom of the hill, before the car has lost its momentum, the normal conditions of running will be restored without any check.

Subject of Brakes.

While on the subject of brakes I would strongly urge my readers to avoid skidding the wheels; a brake gives its highest effect just short of skidding, so that skidding means the loss of braking power as well as undue wear on the tires. Another thing to be avoided is putting up so close to the curb that the front wheels cannot be turned away without rubbing against the edge of the stone.

Turning round in a street, the width of which precludes a complete semicircle, is always embarrassing to the novice, especially among traffic. Instead of starting forward to the opposite curb, which is the usual method, run backward; on starting again, the car can be turned in the desired direction without further maneuvering. Of course care must be taken to see that the road is clear before starting the backward movement.

In negotiating corners and sharp turns it is best to throttle down the engine, disengage, and run round by momentum only at a moderate speed; this not only reduces the strain on the tires, but is also much more comfortable for the occupants of the car.

In case of side-slip never apply the brakes; this will only aggravate matters; counteract the slipping by steering, and reduce the speed, but keep a little driving power on the wheels; as a car always travels in the line of least resistance, the fact of side-slipping shows that there is more resistance to a forward than to a lateral movement; braking will only increase this disparity, but a slight drive

around the wheels will obviously tend to overcome it. In crossing railway tracks always run diagonally so that the wheels strike the rails singly and not in pairs, thereby diminishing the jar from unevenly laid rails.

Never Start Near Horse.

Never start the engine close to a horse without first acquainting the driver with your intentions, and never leave the car without having first set the emergency brake and put the gear lever at neutral; if the car is to left unattended it is safest to lock the ignition switch so that no unauthorized person can start the engine.

NEW USE FOR MOTOR TRUCK

New York Contractor Uses a Type Equipped with a Dumping Body.

A suitable dumping body has at last been designed for the motor truck, and is placed in operation by a firm in New York City. This firm has a contract in New York City for hauling coal, ashes, gravel and similar city work, and the White company were asked to design a suitable dumping body which would rapidly handle and make the motor truck feasible and economical.

The first truck has now been in operation some two months and has proven a revelation in efficiency and economy of operation. This truck is carrying wet ashes from a power house situated on the Harlem river, to a new street which is being filled in at Broadway and Two Hundred and Fortieth street.

The truck carries a load of seven cubic yards of ashes a distance of a mile. In comparison with horses the regular teams which have been used on this work have been hauling three and a half cubic yards to a load. The daily trips average from five to six trips. The truck has been carrying twice as great a load and has averaged from ten to twelve trips, or double the number of trips. In other words, it has easily done four times the work, or taken the place of four horse-drawn wagons.

Sun Never Sets on Auto.

Burton J. Westcott, president of the Westcott Motor Car company of Richmond, Va., is authority for the statement that the sun never sets upon the reign of the Westcott motor car, and in proof of his assertion, shows a letter from a prominent

wholesale merchant of Peru, which states that the first automobile, a Westcott, arrived in that country a few weeks ago, and that already he has received numerous applications from merchants of the country, both wholesale and retail, offering good references, who wish to obtain agencies of good low-priced runabouts, and that they firmly believe a good market can be developed in that country for low-priced American motor cars.

GOTHAM NATIONAL AUTO SHOW

Eleventh Annual Exhibition Will Cover Two Weeks in Madison Square Garden.

The Association of Licensed Automobile Manufacturers propose to make the eleventh National Automobile show, to be held in Madison Square Garden January 7 to 21, 1911, the most important in the history of motordom was made evident this week by the issuance of floor diagrams showing the arrangement of space for exhibitors at the double show.

Although the show is some three months distant, the show committee, consisting of Colonel George Pope, chairman; Charles Clifton, Alfred Reeves and Merle L. Downs, secretary, will leave no stone unturned to make the forthcoming exhibition minutely typical of the gigantic industry they now represent.

The automobile industry is now one of America's foremost keystones and it is proper that the great annual display of all that is latest in the automobile world should be fittingly set forth in comprehensive order for the edification of the American public. The automobile industry long has passed the embryonic stage and the purchaser of a car today needs no further guarantee of its reliability than the stamp of the Association of Licensed Automobile Manufacturers.

The forthcoming show will be the largest in the history of the trade, for no less than eighty-three manufacturers and importers licensed under the Selden patent will house their exhibits within the confines of the nationally famous Madison Square Garden. Former show-goers will scarcely be able to recognize the familiar lines of the amphitheater, so radical are the changes planned in its interior construction.

"Is Mrs. Gaussip a friend of yours?" "No, she's a friend of my wife's." "Isn't that the same thing?" "Not at all. She feels very sorry for my wife."—Pittsburg Post.

Buick Announcement!

We have received 25 carloads of Buick automobiles at our, Lincoln, Omaha and Sioux City branches. We expect in the next three months to sell and deliver nearly two hundred cars.

Ak-Sar-Ben Week at Omaha

You cannot afford to stay away from Omaha this week. It's the one big week at Omaha. Drive your old car in; it may be you are tired of it and would like to trade it on a reliable Buick, the one car that has made good, and will always be good. Satisfied customers everywhere.

We Are Now Ready to Write 1911 Contracts for Agencies

Nebraska Buick Auto Co.

Lincoln	Omaha	Sioux City, Iowa
H. E. Sidles, Gen. Mgr.	Lee Huff, Mgr.	S. C. Douglas, Mgr.