

## EXPLAINING THE CORRECT WAY TO DRIVE YOUR CAR

The Twenty-fourth of a Series of Stories by an Expert for the Car Owner.

By WALTER SHIELDS.

There are a great many of us who, after many years of careful driving, have come to the erroneous conclusion that there is little more to be learned to improve our ability at the wheel and who incidentally consider that the highway is no place for a woman at the wheel of an automobile. The newer owners of whom there will be many hundreds this year, form another group who, however, must only begin to master the principles of the art. The man or woman who can sit at the wheel of a car and drive at twenty miles an hour over a trafficless road is doing the least extraordinary of things, but the driver who can manage his car in traffic, who is not afraid to manoeuvre through it without chains of slipshod streets and comes through each time without damage of any sort, who knows how to shift gears properly, shift at the right time, accelerate when necessary and is a good judge of distance and considers the car—be truly can be placed in the class with the successful ones.

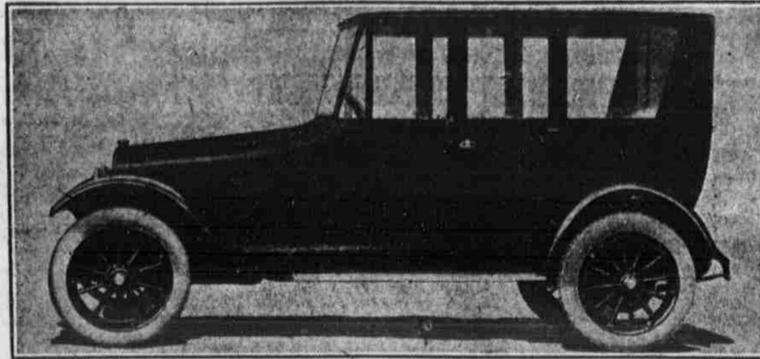
While a number of the remarks which follow may seem like repetition to the older drivers they will no doubt be of value to the newer ones, while both classes may find some instruction which has not come to their attention before. It is a fact that the race driver who is accustomed to driving at 100 miles an hour appearing behind the wheel of a touring car being driven over city streets. He is of that order of intelligence which recognizes laws and has some feeling for the mechanism of his car. He holds the wheel in such a position that the car may be turned with the least effort either to left or right. He holds the wheel with his left hand above the middle and his right below the middle, so that if the wheel were to represent the face of a clock the hands of the driver would indicate about twenty minutes after ten. In this position the hands can do the best work. The listless driver drops his hands to the bottom of the wheel or takes almost any position at all.

There is no necessity for keeping the feet on the pedals all the time. The average driver keeps the clutch pedal in control while he is driving for fear that he may have to stop quickly without due notice, forgetting that this is bad for the clutch and also that it is better to get out of the habit of making quick stops by throwing out the clutch. The driver can prove to his own satisfaction that it is much easier to stop by applying the brake only, throwing the clutch just in time, to prevent the engine from stalling. If this is done it will be found also that skidding on wet streets will be avoided to a great extent, as the car will have a tendency to remain straight. If the brakes are not properly adjusted, that is, if one side holds more firmly than the other, this method of braking may not correct the fault, but it is considerably better than depressing both pedals. Of course, it goes without saying that the driver who neglects to use chains when the streets are wet is neglecting to insure his life, so to speak, for up to the present time no better safeguard against skidding has been found. While on the subject of skidding it might be mentioned that this often is avoided by progressive application of the brakes, which practice should also be used regularly. Instead of depressing the brake pedal or applying the hand brake harshly, thus insuring that the car will come to a dead stop, the brakes should be applied and released alternately. The engineer of a locomotive and street car motorman use this method. The brake is applied for an instant and then released and this alternate application and removal of braking force is repeated until the car stops. This assumes, of course, that the braking surfaces are in fairly good condition, for if they are not the car will not be arrested on the first momentary application. When the brakes are considerably worn the pedal should be held down longer. Really a little practice with this method of using the brake will at once show its efficacy. It might be argued that the brakes become worn, but the additional use of the brakes cuts little life from them and indeed it is well worth the very slight expense of time. The engine is speeded up slightly and with it the clutch naturally, so that when the clutch is again disengaged the gears are running at the proper speeds for quiet engagement. In other words

it is usual to turn the front wheels in the direction in which the car is skidding, the object being to try to get it on a straight course. In the excitement the driver rarely remembers what to do, in fact if you were to ask a driver who had skidded around a few times what he did with his hands and feet he could not tell. He also could not tell what he tried to do. Usually control is completely lost when the car wheels are locked and the driver insists upon keeping them locked. Nothing remains in this case but to wait until the momentum of the mass is lost. However, I have found that a quick shift into second and the alternate application and release of the brakes tends to help the driver keep control. An owner recently told me that he considered it desirable at times to skid, and for that reason all owners should know how to cause a skid. He stated that he had the alternative of spinning his car around in a circle or striking a car ahead. To skid he released the clutch and jammed the brakes and purposely cranked the front wheels so the car would spin in a circle. However desirable this may be it requires a little practice to spin in a circle, the best way to learn how to do it, though I do not consider the practice correct, since a car properly operated should not skid. In winter, release the clutch and quickly apply the brakes. In some cities this is considered a sport and in the old days, when road testing was quite common in England, the test was played in this way for a few hours each day.

The average woman is a better driver than the average man despite the contention of the latter that women drivers are a menace on the road. Women are decidedly more careful with respect to using the brakes. The ordinary woman driver slows down about fifty feet before the actual stopping place, which is correct. She reduces the car speed first by closing the throttle and secondly by using the brakes. The male driver usually waits until the car is five feet from the stopping place, and then attempts to arrest the motion of the car by an instant. This is bad for the tires and for the mechanism and it does not save very much time. Shifting gears quietly seems to be a difficult thing for some so called experienced owners. The reason is that they do not know why the gears clash, though I will admit that in some makes it is inherent. The ordinary man shifts gears noisily either up or down the scale. It is simply a question of getting the correct engine speed for the gear speed, and just what these relative speeds might be can be found out only by practice. Practice also can enable the driver to shift without throwing out the clutch, though this is not recommended except as a sort of feat showing what is possible. Most of the drivers I know are able to do this as much by the sound of the engine as by anything else, because the sound gives them an idea of its speed. The owner can understand this subject of gear shifting much better if he will remove the floor boards and perhaps the clutch cover so as to be able to observe the clutch. Some clutches drag, thus making noisy shifts habitual. Permit the engine to run and disengage the clutch while sitting in the seat watching the clutch shaft. If it comes to a stop quickly after the pedal is depressed it doesn't drag, but if it keeps turning for some time it does. When the clutch drags the driver must wait until it stops before a quiet change can be made. You can by experiment know almost exactly how long it takes for the clutch to stop spinning. In shifting from high to second the average driver rarely speeds up his engine slightly, but many who are having trouble might remedy it by doing this. Just a slight momentary pressure on the accelerator is sufficient, and the shift should be made quickly. About most of the owner drivers are accustomed to using the so called double clutch. In this the clutch is disengaged just for an instant, and not all the way either, so that the transmission torque is reduced, permitting the gears to be disengaged. The clutch is engaged momentarily, the throttle remains open slightly all the time. The engine is speeded up slightly and with it the clutch naturally, so that when the clutch is again disengaged the gears are running at the proper speeds for quiet engagement. In other words

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the clutch is moved in and out twice, the first one for pulling the gears out of mesh and the second one to get them mesh after the engine speed and gear speed are correct. It is a matter of practice of course to be able to do this properly each time. Ascending and descending grades, while it has no terror for any motorist, gives many considerable trouble. It is of course a first principle to shift into the first speed when in doubt as to the ability of the car to pull up the grade. That is, when the grade is very steep, to be safe, shift into first to avoid having to make a change on the grade. Some owners permit the car to climb in high until the engine labors, and then they shift. This often leads to trouble and is not good for the mechanism. Often the car will be stalled and the driver must go through the operation of keeping the hand brake applied until the shift has been made, then releasing it simultaneously with the foot brake to permit the car to proceed. Often the car starts rolling backward, the driver gets excited and does not know what to do. To avoid this the car should be permitted to roll back slightly across the road, so it will not roll down. In descending grades do not release the clutch. Leaving the gears in high offers some resistance, in second speed there is more and in first still more, and if greater resistance is needed the brakes should be used. When the grade

is very long the ignition switch should be turned off, and the engine acts as a brake, and with the throttle closed fuel is saved. The only disadvantage in doing this is that oil is thrown into the combustion chamber. In stopping on a steep grade in the city it is always best to crank the front of the car against the curb in addition to applying the hand brake. With the wheels in this position the car is not likely to roll back, even though the brakes should not hold. In touring it is of course almost elementary instruction to say that railroad tracks should be crossed diagonally, and the same holds true in driving over rough roads; that is, the car should not be steered straight into the holes and bumps, but diagonally across, since they cannot be avoided altogether. In making a right turn on an unknown road it always is best to keep to the extreme right, for if in the middle of the road is held or the car is more to the left there is a possibility of striking another car on the turn. If you keep far to the right you are sure you cannot strike an oncoming car. When trailing another car in traffic or elsewhere do not follow the wheels of the car ahead, but follow slightly to the left so that you can see a bit ahead of the car. This is a good thing, for the reason that should that car stop you have an opportunity of turning out of the way and in most instances you



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### BRIGHT PROSPECTS FOR MOTOR TRUCKS

Their Value as Carriers Never Before Emphasized as Now, Says Garford Head.

The future of few lines of manufacturing endeavor is more widely discussed than that of motor truck building. During the last twelve months the increase in the commercial vehicle business has been the talk of the business world. Its success has been well nigh phenomenal, and yet there are those who insist that the success already attained only marks the beginning of an era of growth which will rival anything which has occurred in the passenger automobile field. Among the men directly responsible for the development of the motor truck to its present high state of efficiency is E. A. Williams, Jr., head of the Garford Motor Truck Company of Lima, and he is among those who refer to the success of the industry as still being in its infancy. To-day the commercial vehicle business is simply a healthy, growing child, he declares, and its tremendous possibilities are yet to be realized. Williams has played no small part in the building up of Garford business. In 1901 the Garford plant consisted of a shed at the rear of a city lot. To-day it is said to be the largest plant in the United States exclusively devoted to the manufacture of a complete line of motor trucks. Firm in the opinion that no commercial vehicle could be successfully built without the proper kind of equipment for its building, the erection of a model motor truck factory soon became Williams's hobby. That factory has been completed for several months, and it is one of the principal points of interest for sightseers in the thriving industrial city of Lima. Every department of the plant is now complete. There is the forge shop,

with its gigantic steam hammers used in making the drop forgings. In the heat treating department are the massive ovens for annealing, the furnaces for heating and the tanks for oil and water quenching, used in the process of properly treating the metals before they are built into the trucks. Next there is a model machine shop, with its vista of modern machinery of every description that seems to display almost human understanding. Then come the sheet metal building, the tire room, the chassis assembling department, the wood working department, the test track for the finished chassis, the paint shop and finally the huge room for the finished products. Every department is as complete as its neighboring department and all combined tend to produce that thoroughness in manufacture which has spelled success for the Garford. "Although the advantages of the motor truck are more widely recognized to-day than ever before there are many reasons why we who understand their efficiency, believe that the present popularity of that type of vehicle is but the beginning of a splendid era of success," says Mr. Williams. "Several circumstances have combined during the last year to awaken the public to the necessity of commercial vehicle transportation. "For example, the unprecedented volume of freight which our common carriers were suddenly called upon to transport last year, in some instances involving an excess of 50 per cent, was an ill wind that blew good to the motor truck business. "The freight car shortage resulted in thousands of new owners of motor trucks. Horses were discarded in favor of the power vehicle because the motor truck would help alleviate the freight transportation conditions. An ever increasing number of trucks engaged in intercity trade resulted, and trucks made many new friends. "Had the freight car shortage existed five years ago it is probable that business conditions would have been paralyzed. Motor trucks, however, saved the situation. Necessity proved that they had solved the "short haul" problem, and every one of the thousands of new owners of commercial vehicles became staunch supporters of that method of transportation. To-day they are telling their friends about it. Their friends are

buying trucks and the original owners are buying more trucks. "The advantages of the motor truck from the standpoint of business efficiency, economy and endurance have been most satisfactorily demonstrated. The additional motor truck service during the last few months has been the biggest selling factor in the history of the business." **BE CAREFUL, SAYS HOUP.** Carelessness the Cause of Many Avoidable Accidents. "Nearly every Sunday brings its record of death and disaster through numerous automobile accidents in the city or nearby suburbs," says Harry H. Houpt, president of the Hudson Motor Car Company of New York. "It may be stated in broad terms that practically every accident is the result of absolute carelessness on the part of at least one driver, although the opportunity of occupants of another car may be the innocent victims in a collision for which they are in no manner to blame. "Many of the ordinances designed for the safety of the public, and which are in the most part reasonable, may be put down as almost null and void because of their non-observance by users of the highways. This does not specifically apply to motorists but to drivers of horse drawn vehicles as well. "Not one in a hundred, either motorist or driver of horses, obeys the ordinance providing that vehicles shall come to a dead stop before crossing a boulevard, not one in a hundred obeys the ordinance which provides that slow moving vehicles shall keep as near to the curb on the right as possible; not one in a thousand horse driven vehicles is provided with lights, as the law requires; how to leave or enter a street without danger to others; not one in a thousand has the least regard for other vehicle users. "The State of New York has just put into effect a law which will compel every person in New York city who drives a motor vehicle to secure a license from the Secretary of State, although not requiring an examination. There is some merit in this, but it is doubtful if it goes far enough."

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