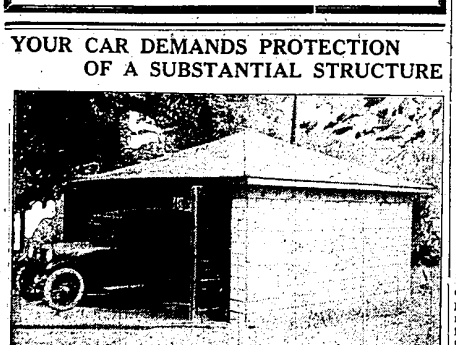
YOUR CAR DEMANDS PROTECTION OF A SUBSTANTIAL STRUCTURE



A Simple, Inexpensive Two-Car Garage Constructed of Concrete Blocks.

The amount of money invested in the average automobile or motor truck justifies a substantial garage that will afford the required protection against water, theft and fire. In addition to the fire hazard common to other buildings, garages have a peculiar hazard of their own, due to the presence of oils and gasoline necessary to car operation, making it highly desirable to build the garage out of some non-combustible material.

Construction of Garage.

This has been done in the case of the garage shown in the illustration where concrete is the construction material. In building a garage of this kind, excavation for the foundation is made to a depth of two or three feet. A footing of concrete is put in place, this footing being about 18 inches wide and 8 or 10 inches thick. The foundation wall can be continued to the ground line in monolithic construction if desired or else block can be used, laying them up in cement mortar for the sake of durability. The block construction is then continued up, leaving door openings of adequate width and height and making provision for such windows as are necessary. A fire-resistant roof, preferably of concrete shingles or roofing tile, tops the structure.

Concrete Floor Needed.

Every garage should have a concrete floor. This may be of one course construction, four inches in thickness being amply adequate. It should slope either toward the doorway or toward some point provided with a drain so that the water used in washing the car may be easily and quickly carried away.

KEEP BRAKES IN CONDITION

Expert Advises Inspection of All Apparatus at Least Once a Month.

MEANS BIG SAVING OF TIRES

Whenever Possible, Sliding the Wheels When Stopping Car Should Be Avoided—Lubrication of High Importance.

The state laws of Ohio and many other states require that the brakes and mechanism of every car driven on the public highways shall be in good working order. The reason for this is obvious and should be remembered at all times by everyone who drives a car.

The proper adjustment of the brakes in order to make them work efficiently at all times requires experience and skill. If the brake bands are adjusted a little too tight or close, they will then drag, and besides using an excessive amount of gasoline to drive the car, will sometimes become hot enough to burn out the lining and in rare cases set the car on fire.

If the bands are a little too loose, then the brake pedal will go clear against the floor board before producing the proper braking effect. If one brake band be a little tighter than the other, most of the braking effect is on the wheel with the tighter band, which means that this wheel will stop spinning and thus slide the tire with but little braking effect on the other wheel. This means, first, the spoiling of the tire in a few hundred miles of service, and, second, very poor braking or retarding effect.

Therefore, it is quite necessary that each one of the two sets of brakes on a car should be so adjusted that it is possible to slide both wheels with the action of either set of brakes without the aid of the other. At the same time, the wheels should be perfectly free to turn when the brake is not in use.

Ordinarily when stopping the car, we do not wish to slide the wheels, as this places unnecessary stress on the brakes and braking mechanism and also pulls or tears a lot of rubber off or the tread of the tires which are sliding.

Another reason is that a car will not stop so quickly with the wheels sliding as when the brakes are applied just hard enough to permit them to turn. All of the brake mechanism, such as the bands, pins, yokes and rods, should be inspected regularly at least once a month to see whether they are becoming worn enough to be weakened. Many serious accidents have been caused by a brake rod, yoke or pin breaking at a critical moment when the brake was applied suddenly and a little harder than usual, writes an auto expert, in the Cleveland Plain Dealer.

It may be true that the reserve brake, or emergency brake, as it is more often called, was at the time in perfect working condition, but the time required to get this emergency brake into action after the other had given away was too great to prevent a crash. There are usually several places on the brake mechanism which require periodical oiling and lubricating, and the driver who conscientiously takes care of this lubrication and checking of the parts to see whether they are worn, is one at least who goes a long way towards the prevention of accidents and the saving of human life.

A fact which very few people realize, perhaps, is the distance covered by a vehicle in one second of time when going at, say, 30 miles an hour. By a little figuring with a pencil and paper, you will find that when going 30 miles an hour, the car is moving a distance of 44 feet in every second. When we think this over and consider that so many drivers travel at this rate of speed, we wonder that there are not more accidents, and we can easily agree with the police department and the safety council in trying in every way possible to keep the speed down within the legal limit.

Another point which is interesting to all drivers is the pace required to stop a car traveling at various speeds on dry pavement with the brakes in perfect condition. Traveling ten miles an hour, a car may be stopped in less than its own length or approximately nine and one-half feet. Traveling 20 miles an hour, or twice as fast, the distance required to stop is four times as great or approximately 38 feet. Traveling 30 miles an hour, the shortest distance in which it is possible to stop is not three times as much as ten miles, but nine times as much, or a trifle over 85 feet. This means that the distance in which we can stop increases as the square of the speed at which we are traveling.

These distances represent an emergency stop under ideal braking conditions and if the streets are wet or slimy, these distances must be multiplied many times. Therefore, again the writer says, BE CAREFUL.

Tree's Roots Above Ground.

The roots of the kiziuba palm of Central America all spring from the stem above the ground, every new root emerging from a point higher on the stem than the one which preceded it.

Try A Liner—They Will Satisfy.

POOR DRIVERS WASTE POWER

Much of the Difficulty in Hill Climbing in High Gear May Be Averted.

GIVE CAR SPEED AT START

Rough Places to Be Avoided, Since Every Bounce of the Wheels Means Certain Loss of Momentum—Don't Cut Curves.

Much of the difficulty in hill climbing in high gear is due to unnecessary wasting of power by inconsistent driving. Many a driver "kills" his engine on a long grade simply because he does not give the car enough speed at the bottom and thus encourages overheating by delaying the engine the advantage of the additional draft of cool air which is available at higher car speeds. Frequently this type of hill does not appear particularly steep, and the consequence is the driver does not feed enough gas, allowing the engine to run too slow, to struggle, and eventually overheat.

A source of lost power in hill climbing which is too often overlooked is the bouncing of rear wheels over a rough road. Every bounce of a wheel that is driving means a loss of momentum due to free momentary spinning. The solution to this is to give attention to avoiding the holes in the road or feeding less gas for an instant while riding over an unavoidable rough place.

A lot of drivers imagine they are gaining momentum by rushing over the rough places, but they would accomplish more by taking it easier. Unless the throttle is closed momentarily while the wheels are going over a very rough spot with the car in second gear the machine will oftimes come almost to a standstill.

The practice of cutting curves when there is no danger in doing so has led to the habit of taking the short cut around curves when hill climbing. This accounts for the "lost power" of many a motor because the grade of the inner side of the curve is always greater than that of the outer side. The driver who in hill climbing keeps to the outer edge of curves—provided they are not dangerous—gives his engine the same sort of advantage Dobbin used to enjoy when his owner helped him up hills by criss-crossing from one side of the road to the other.

In hill climbing an apparently inconsequential thing will often mark the difference between making it in "high" or resorting to "second." Keeping on the crown of the road is just one of these determining factors. The driver who keeps getting off into the gutter or ditch unnecessarily increases the road grade when he again tries to steer upon the crown. In hill climbing every little thing counts. The point is to know what these points are.

You Auto Know

That one of the principal reasons that tires wear out before their guarantee has expired is carelessness in driving along poorly paved streets or rough roads. The "shell holes" which appear in macadam or asphalt streets especially in the spring, after the ice has loosened a portion of the hard surface, are particularly hard on tires, for the sharp edges may gash the fabric and the jar incident to the sudden rise and fall may give rise to bruises and blisters which injure the inner casing.

The habit of driving in ruts or along car-tracks, is also very hard on tires, for the projecting side rub against the side of the tire above the tread and soon wear this away, making it easy for water to enter and rot the fabric. In addition, turning corners at a high rate of speed or skidding of any kind—whether on a wet street, or in starting or stopping too suddenly—also grinds the tires and causes needless wear. Habits of this kind leave their marks plainly upon the tires and prevent the driver from securing the refund to which he is entitled if the guaranteed mileage is not forthcoming.

AUTOMOBILE GOSSIP

Wet rubber cuts more easily than the same substance dry.

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New cars should be driven rather slowly for the first 1,000 miles. Never more than 30 miles per hour.

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Two spare tires are usually carried in the car, but occasionally there are three or more punctures on one trip.

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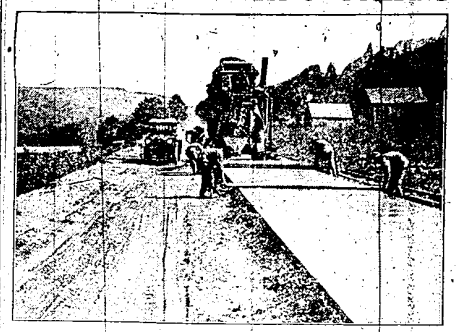
There is frequently danger of short circuits in the battery because of the fact that one of the terminals is located near the metal handle used for lifting the battery.

SOUND DEATH KNELL OF DETOUR IN NEW PROCESS OF BUILDING



Laying Pavement Over Half of Roadbed at One Time, Leaving Other Half Open to Traffic.

Elimination of the "detour bogey," the bane of every touring motorist's life, is seen as the successful outcome of recent experiments in what may be termed "split crown" construction of concrete roads.

The new method lies simply in laying paving over but half of the roadbed at one time, keeping the remaining half open to traffic as the work progresses. This method has been found particularly effective in rough and hilly country where detours are practically impossible, but urgent appeals from automobile owners who have experienced the torture of detouring by night, may bring it into general use.

Co-operation Essential.

Careful co-operation between the motoring public and the contractor is, however, essential. By stationing responsible guards at each end of the open strip, traffic may be sent over the route, first in one direction and then in the other, without danger.

Great care must be exercised by the contractor in order to avoid settlement of dust particles on the fresh-laid paving. In order to insure the proper curing of the concrete it is necessary that he keeps the unimproved side of the road well sprinkled at all times. Failure to do this would affect the concrete to an extent that might cause "scaling" in later years.

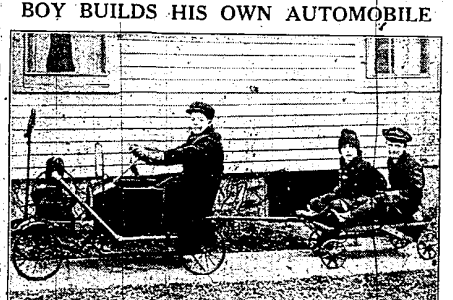
Following the completion of the first section of paving, it must be permitted to harden under expert "curing" supervision for at least 30 days. At the end of this period it may then be opened to traffic while work is begun upon the second strip.

Two Principal Virtues.

Although a slight increase in original cost may be charged against this method, it has two principal virtues which commend it to the taxpayer and the motorist alike. Doing away as it does with the detour, it cuts cost of motor operation more than half aside from the big item of decreased danger and loss of time and patience. Secondly, it eliminates the cross-wise cracks which appear in some hard-surface roads through letting down of the grading after the paving is completed. The joint where the two sides come together leaves an almost imperceptible line in the exact center of the roadway. This is known as a construction joint and allows just sufficient "play" to obviate the chance that imperfect grading or poor designing on the part of the contractor might result in unsightly cracks.

The accompanying illustration shows this system in use in Litchfield county, Connecticut, in foothills of the Berkshires, where it is reported to be "holding up" under the most severe traffic conditions.

BOY BUILDS HIS OWN AUTOMOBILE



Clarence Sutcliffe of Aurora, Ill., though only twelve years of age, constructed his own automobile from parts of old machinery and a motor and some gas pipe and gocart carriage wheels. The boy, who is shown driving his car with a tender attached, is of mechanical turn of mind. The little auto will pull twice its own weight.

AUTOMOBILE HINTS

Blown by suction from the intake manifold, a whistle has been invented to warn a motorist that the circulation of lubricating oil in his car has stopped.

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Few owners pay the attention to the ball bearings that these latter deserve. They usually wait until the garage man calls attention to the injury done by breakage.

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As a matter of safety to the car and passengers, as well as to save the storage battery from discharging, a short circuit in the electric system should be repaired as soon as possible.

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The high-tension wiring of the electric system requires a much heavier insulation than other wires of the system, because of the high voltage current which passes through the former.

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If it becomes necessary to remove a cam-shaft gear it must be marked so that it may be replaced correctly. Mark on tooth on the crankshaft gear and the two adjacent teeth on the cam-shaft gear.

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A tap should never be used in a cored or rough hole. A heavy flat arm should be run through to take out the scale, sand or projections. Plenty of good lard should be used in cutting the threads with a die.

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Carburetor adjustment is of prime importance. A mixture too lean or too rich makes for wastage, when a correct one will do the work without loss. But without some knowledge, this is a task better left to the carburetor expert.

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A little dust on the body or hood is a constant irritation to the owner and so he wipes it off with a cloth, grinding the grit into the polish. A light dust brush of fine hair may be used, but the only satisfactory way to remove the dirt is to flow water on it.

You Auto Know

That one of the most usual places for wear on a car is at the steering knuckles, which are always under a heavy strain. Comparatively few car owners realize that the knuckles need a constant supply of heavy grease in order to prevent undue wear, and for this reason it is the part of wisdom to see that the proper lubricant is applied—either through screwing down the grease cups or using the grease gun. A good rule to follow in this respect is to grease the knuckles whenever it is put in the car or, at least, whenever the oil is changed.

Worn steering knuckles are also one of the infallible signs of an over-used car and, in purchasing a second-hand machine, these should be inspected in order to see whether the car has been used or abused. In this respect, the knuckles, together with several other particular parts, are regarded as the "teeth" of the automobile, for an examination of these will disclose the real age of the car—not the length of time which has elapsed since its original purchase or even the number of miles it has been driven, but the care it has received.