

HINTS FOR The Motorist

BY ALBERT L. CLOUGH

HOW TO PREVENT SKIDDING

Don't Procrastinate In Putting On The Chains

It is of about as much use to give practical directions how to handle a car that is skidding as it is to instruct a person unused to the water how to swim and expect him to do so. Experience seems to be the only effective teacher in both instances. Unless an operator is very expert the only precaution that can be taken against skidding is never to let a skid occur and the only rule of real value in this connection is this: Always drive very slowly on slippery going. Other suggestions as to how skidding may be prevented are the following: Always use tire-chains on the rear wheels when the surface is treacherous. While driving straight ahead the danger of skidding is but slight but on corners and curves it is great and such turns should be made very slowly indeed and in fact all sudden changes in car direction should be made gradually and gently in order to keep down the side skipping tendency. On heavily rounded roads one should drive in the centre of the traveled way, whenever possible, rather than on the sloping sides. Avoid sudden brake applications, especially if the brakes are not perfectly equalized. All suddenness in manoeuvring a car should be avoided, just as a person walking in slippery shoes on ice should start gently, stop cautiously and turn gradually in order to keep from slipping down. Always allow plenty of room when manoeuvring so that should skidding occur the car may not be dangerously close to poles, other vehicles or the curbing. If the wheels become caught in icy car tracks, slow the car away down, turn the steering gear at a sharp angle and drive out at low speed, rather than keep up speed and turn the steering gear until the front wheels suddenly climb out at such an angle as to induce a skid. Do not depend upon tires of the so-called non-skid variety to justify their name. The chain is the only device yet invented that goes far to resist skidding and even it is not effective if it is applied so tightly to the tire that the cross-links are not free to arrange themselves obliquely to the tire tread, when the tendency to side-slip manifests itself. Remember that most bad skids occur when a car is suddenly slowed down in an emergency and try to prevent the necessity for doing this by keeping out of close quarters.

SPARK KNOCK

A. E. V. writes: My engine develops a substantial knock, when the spark is fully advanced which stops only when the full retard is used. I do not think that this is caused by carbon deposits. What is your theory about it?

Answer: Are you sure that the timer is set correctly upon its shaft? If it is set too greatly advanced you would not be able to run without a knock with the lever in its advanced position. We do not know the exact spark timing for your engine and ignition system but as a general proposition, the setting of the breaker-points should be such that with the spark lever fully retarded they should be on the point of separating when the piston in the cylinder that is to fire, is exactly at the top of its stroke. In case the setting is more earlier than this you should hardly expect to be able to use the full advance.

KEROSENING CYLINDERS

M. writes: My car is laid up for the winter and I wish to know whether I put kerosene into the cylinders through the spark-plug

holes at intervals, it will work loose any carbon that may be there? Answer: We doubt whether it will have much effect in this direction and we fear that it will make the engine hard to turn over, when you wish to start it in the spring. It would be better to apply a good liquid carbon remover, according to directions as soon as you put the car into service again, leaving the cylinders well supplied with engine oil during the lay-up period. The successful use of carbon removing liquids requires that the engine be run after the application, and if the liquid is left in the cylinders deposits which may have been loosened remain and harden again, instead of being forced out with the exhaust.

PLATINUM VS. TUNGSTEN BREAKER-POINTS

J. H. writes: My small six-cylinder car, although it has recently been overhauled at times will not do better than 10 miles on the gallon of gasoline. The carburetor is hot-water jacketed and takes hot air. Please tell me if the use of platinum instead of tungsten points on the make-and-break of the igniter will enable me to obtain better mileage.

Answer: Assuming that ignition is perfectly reliable with tungsten points, you cannot expect increased fuel economy from the use of platinum. Are you absolutely sure that the ignition timing is as far advanced as permissible? A very little lateness results in very large fuel waste. Hot water jacket-

INSTALLING MASTER-VIBRATOR

L. C. P. writes: I have been advised that by installing a master-vibrator on my Ford the engine would run better, but another party has told me that the master-vibrator would give trouble after a while. What do you think as to this?

Answer: With the master-vibrator, the cylinders may be expected to fire more nearly uniformly than when separate vibrators are used and this conduces to smoother and more powerful engine operation. However this single vibrator does all the work and may require

OVER-EATING

is the root of nearly all digestive evils. If your digestion is weak or out of kilter, better eat less and use **KI-MOIDS** the new aid to better digestion. Pleasant to take—effective. Let KI-MOIDS help straighten out your digestive troubles.

MADE BY SCOTT & BOWNE MAKERS OF SCOTT'S EMULSION

tor bowl? After more than a certain quantity of these has collected there is bound to be trouble and that usually comes at the most uncomfortable time. Have you done anything about those cuts in the tire trends which you noticed a few weeks ago? If not you may be surprised at the better be plugged up before "warts" develop. It seems "only yesterday" that you tested and watered he battery, but wasn't it really six weeks since? Water is still cheap but batteries are not.

POSSIBLE INJURY TO GENERATOR

L. La R. writes: When laying up my car for the winter, I was told that the only thing necessary to be done to the electrical system was to remove the battery and put it in a suitable place, but I find by reading the instruction plate on the generator that its terminal should be grounded, whenever the battery is disconnected. Please tell me if I have injured the generator or anything else by not following this latter instruction?

Answer: Certainly not, if the engine has not been run since the battery was disconnected. The caution means that the generator should not be run unless the battery is connected to it and unless you have done this, no harm has been done. You should be sure to either connect your battery to the generator or ground the generator terminal before you run the engine, or the field-winding will overheat perhaps to the burning-out point.

BATTERY CHARGING OUTFIT

V. H. C. writes: I have electric lights in my garage and should like to know what equipment is required to enable me to charge my storage battery here.

Answer: We presume that you have alternating current and if so you require some form of rectifier to convert this into direct current and to reduce the voltage to the 8 or 16 volts which your battery requires, dependent upon whether it is one of the three or six cells. The rectifier is a handy, portable and almost automatic device, reasonable in price and conveniently connected to a large socket and to the battery to be charged and you can do the charging at night without a car in use. Your local electric light company can doubtless supply you with any one of several forms of rectifier.

ASKS ABOUT CHARGING RATE

J. V. asks: How much charging current is the ammeter supposed to register on a 1917 car, when it is running at a medium speed?

Answer: The general rule is that at a speed of 12 to 15 miles per hour, the charging current should be at least equal to the full lamp load. You can determine the number of amperes taken when all lamps are burning and the engine stopped and set the generator charging rate to equal this amount as shown by the ammeter indication when no lamps are on. The instruction book for this model does not state the charging rate and in fact, says that a charging indicator and not an ammeter is used.

IGNITION, THE INDUCTION COIL

The illustration shows a partial view of the induction coil. Try Making Your Own Cough Remedy

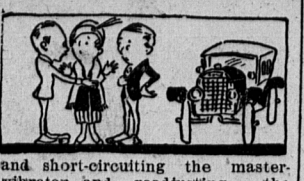
You can save about \$2, and have a better remedy than the ready-made kind. Easily done.

If you combined the curative properties of every known "ready-made" cough remedy, you probably could not get as much real curative power as there is in this simple home-made cough syrup, which is easily prepared in a few minutes. Get from any druggist 2 1/2 ounces of Pinex (50 cents worth) pour it into a 10-oz. bottle and fill the bottle with syrup, using either plain granulated sugar syrup, clarified molasses, honey, or corn syrup, as desired. The result is 18 ounces of really better cough syrup than you could buy ready-made and saves easily \$2. Tastes pleasant and never spoils. This Pinex and Syrup preparation gets right at the cause of a cough and gives almost immediate relief. It loosens the phlegm, stops the nasty throat tickle and heals the sore, irritated membranes so gently and easily that it is really astonishing. A day's use will usually overcome the ordinary cough and for bronchitis, croup, hoarseness and bronchial asthma, there is nothing better. Pinex is a most valuable concentrated compound of genuine Norway pine extract, and has been used for generations to break severe coughs. To avoid disappointment, ask your druggist for "2 1/2 ounces of Pinex" with full directions, and don't accept anything else. Guaranteed to give absolute relief at once, or money promptly refunded. The Pinex Co., Toronto, Ont.

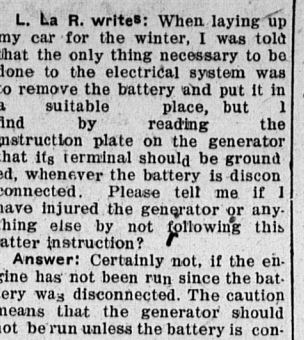
HEGELIOLAND AS BIRD SANCTUARY

It is practically agreed that the island of Helligoland, late German naval base in the North Sea, has but two possible uses: the one it served in the World War, or as a sanctuary for the millions of migratory birds that have long utilized it as a temporary resting place. Since it will never be permitted to revert to its former state there seems to be little in the way of making it a bird refuge. The proposal is made by British ornithologists, and has American support.

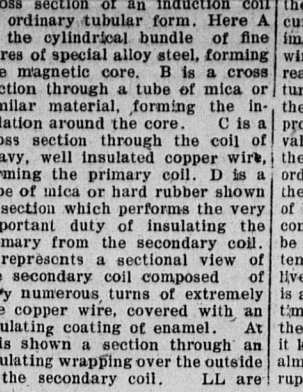
more frequent attention than any one of the individual coil vibrators. You can arrange to use either system at will, keeping the coil vibrators screwed down tight, when you are running on the master-vibrator



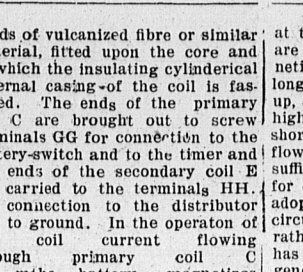
cross section of an induction coil of ordinary tubular form. Here A is the cylindrical bundle of fine wires of special alloy steel, forming the magnetic core. B is a cross section through a tube of mica or similar material, forming the insulation around the core. C is a cross section through the coil of heavy, well insulated copper wire, forming the primary coil. D is a tube of mica or hard rubber shown in section which performs the very important duty of insulating the primary from the secondary coil. E represents a sectional view of the secondary coil composed of very numerous turns of extremely fine copper wire, covered with an insulating coating of enamel. At F is shown a section through an insulating wrapping over the outside of the secondary coil. LL are



heads of vulcanized fibre or similar material, fitted upon the core and in which the insulating cylindrical external casing of the coil is fastened. The ends of the primary coil C are brought out to screw terminals GG for connection to the battery-switch and to the timer and the ends of the secondary coil E are carried to the terminals HH, for connection to the distributor and to ground. In the operation of the coil current flowing through primary coil C from the battery magnetizes core A starting up within it energy in the electromagnet form. When this current is suddenly broken by the timer, the core loses its magnetism and the energy stored within it, acting upon the very numerous turns of secondary coil E, is transformed into the extremely high-tension, momentary current which is directed to the spark-plugs by the distributor. So high is the pressure of this current, that if it were not that it had the very short gap at a spark-plug, through which to discharge, it would be likely to force a path of discharging through the insulation of the secondary wire and ruin the coil. If a wire to a spark-plug becomes detached, the current loses its regular path of discharge and when no other is provided is likely to break down the coil insulation. Such damage is forestalled by the use of the safety spark-gap, represented by the metal points M and N fixed within the outside casing K; point N being connected by means of a heavily insulated conductor to the live end of the secondary coil which leads to the distributor and point M to the grounded end of the secondary. The gap between M and N is very much greater than that between spark-plug points, but still is small enough to allow the secondary current to discharge through it, without danger of damaging the coil insulation. If a spark-plug is detached the current passes harmlessly at the safety spark-gap instead of at the usual place. The rate at which an ignition coil is required to deliver sparks is astoundingly high. For instance, in the case of an eight cylinder engine, capable of running as high as 3,000 revolutions per minute, a single coil is called upon to furnish 200 sparks each second when the engine is at top speed, and thus the core of the coil must be capable of being magnetized and demagnetized with almost inconceivable rapidity. Unless it is fully magnetized, at the time the primary circuit is broken there will be but little magnetism to be discharged there will be but a weak secondary current impulse and no spark will occur. The magnetizing effect of a current is proportional to the number of turns in



the exact instants when sparks are required. In this way the magnetism of the core is given the longest possible in which to build up, with the result that even at the highest engine speeds with the shortest periods of primary current flow, the core is able to attain a sufficient degree of magnetization for effective spark production. The adoption of this so-called "closed circuit" system of ignition, with its rather large current consumption, has been made possible by the general introduction of the generator and storage battery system which supplies a practically unlimited supply of electrical energy. Questions of general interest to motorists will be answered in this column, space permitting. If an immediate answer is desired, enclose self-addressed, stamped envelope. Address Albert L. Clough, care of our office.



the side-draft has a tendency to make one wheel do more work than the other. A tractor with differential gears cannot pull evenly under that side-draft. It becomes again a one-wheel-drive machine. It gets uneven wear and uneven strain, which must shorten its years of service. The Chase Tractor pulls evenly—and so wears evenly.

Also Saves Kerosene

It also operates more economically—uses less fuel. For two reasons. First, driving through gears wastes about 10% of the power. The Chase saves that 10%. Second, the even pull requires less power and uses less gas.

World-wide Industry

Canadians build the Chase—in Canada. Canadians build the Chase that is sold in Great Britain and foreign lands—yes, and also in the United States. The Chase institution was created to establish in Canada a world-wide tractor business founded on Canadian principles of doing business. The men behind it, R. J. and W. J. Cluff, are men of high manufacturing ideals. They are exacting in their demands. They want the

men who buy Chase Tractors to make money out of them. They are determined that every customer shall receive the service he requires to keep his Chase Tractor always at its best and always "on the job."

You can make Money with a Chase

You will find it to your advantage to deal with an institution with these ideas of service. You will find that the Chase Tractor is a piece of machinery that will gladden your eye. If you haven't seen it, be sure to do so. Or, write for illustrated literature and detailed information. We will send it promptly and tell you where you can see a Chase Tractor.

SPECIFICATIONS

Motor—Euda Model H.T.W. Heavy duty, Tractor type 4 cyl. 4 1/2" bore, 5 1/2" stroke. Set cross-rod of frame. Every part readily accessible. Extra large water passages for cooling. Forced-feed lubrication, through vaporizing of lubricant glands. Hoisted and "water washed" air. Fuel—Specially designed to burn Kerosene or low-grade gasoline. Drive—No differential gears are used, the drive being direct from the transmission to outer rim of wheel through bull pinions and gears. Gear shaft pinions and bull gears cut from forged steel and case-hardened. Transmission—Fully enclosed and running in oil. Gears accurately machined from high grade steel. Chain Drive—Power is delivered to the transmission gears by a wide chain fully enclosed and running in oil. Belt Pulley—In direct line with crankshaft—no bevel gears. Located at side—best position for lining up with the machine to be driven. Control—Driver has unobstructed view. Control levers are simple and easy-working. Turning-radius—12 feet circle.

Chase power is driving power

Both rear wheels get the same steady driving power

Paying on the Nail

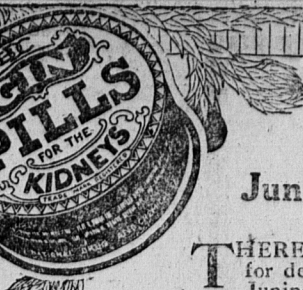
An expression with which everyone is familiar, "paying on the nail," comes from the old method of settling accounts. In the early days of trade and commerce, merchants on Chase paid their debts by counting out their gold on to a copper "nail" or table, in the market place. Written receipts are now almost universal, and these nails are no longer used, but two splendid specimens still remain among the most interesting treasures of the ancient port of Bristol. They are each about four feet high, shaped like a gigantic hour glass. There they stand in the busy street, a lasting monument to the integrity of the old trading and merchant class, who paid on the nail and scorned a receipt.

So The Chase Stays on the Job

The Chase Tractor, having no differential gears, has an equal positive drive on both rear wheels, and thus gets the full benefit of the driving power of the heavy-duty motor. This means that the Chase is not easily blocked, and consequently stays on the job more hours per day.

Less Strain, Less Wear

And this no-differential feature of the Chase insures longer service because it avoids uneven wear of parts. Even in ordinary plowing on the level,



Nature Gave Man Juniper—to Preserve His Health

THERE is one great restorative and corrective for deranged kidneys. It is obtained from the Juniper Berry. When combined scientifically with other medicinal properties, valuable as diuretics and with antiseptics, as it is combined in Gin Pills, a sure, quick and safe remedy for kidney and bladder trouble is available. In fact, no other formula begins to compare with that on which Gin Pills are prepared. They stand alone as the finest aid in kidney and bladder trouble.

Our forefathers were wont to use Gin for treating these troubles. The help it rendered was due to the Juniper in the Gin. In Gin Pills there is not a trace of the harmful alcohol. But all the soothing, healing action of Juniper has been retained.

Since Gin Pills were placed on the market—sixteen years ago—the work they have done in relieving the pain and danger resulting from kidney and bladder troubles is almost beyond reckoning. Thousands and thousands of letters, sent voluntarily by grateful sufferers, testify to the enormous benefit Gin Pills have brought to sufferers throughout the length and breadth of Canada, in the United States, and in parts of Europe, where a sale was never sought.

If you are enduring the agony of backache, gravel, rheumatic, sciatica and neuralgia pains, brick dust deposits, mucus, congestion, or inflammation of kidneys or bladder, or any of the symptoms, lose no time in getting Gin Pills. Your druggist or dealer has them—at 50c. a box, with money-back guarantee. Get them at once. Free sample sent on request.

THE NATIONAL DRUG & CHEMICAL CO. OF CANADA, LIMITED, TORONTO U.S. Address—Na-Dru-Co., Inc., 202 Main St., Buffalo, N.Y.



SUPREME COURT JUDGE

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The best cough cure he has ever used. Read his letter to us:

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HON. H. A. MCKEOWN, Chief Justice, N. B. Supreme Court.

Hawker's Tolu and Cherry Balm should be in every home. Buy it today and be prepared. It will help to guard against "The Flu". Sold by all druggists and general stores. The same price everywhere—25c. & 50c. None genuine without Company's name.

HAWKER'S LITTLE LIVER PILLS CURE ALL STOMACH ILLS. HAWKER'S REMEDY AND STOMACH TONIC THE GREAT INVIGORATOR. IT BUILDS UP THE SYSTEM. THE CANADIAN DRUG CO., Limited, ST. JOHN, N. B.

Try Making Your Own Cough Remedy

You can save about \$2, and have a better remedy than the ready-made kind. Easily done.

If you combined the curative properties of every known "ready-made" cough remedy, you probably could not get as much real curative power as there is in this simple home-made cough syrup, which is easily prepared in a few minutes.

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Chase Tractor Corporation, Limited, Toronto, Ont. J. Stanley Wedlock, Charlottetown