Automobiles, Farm Machinery and Farm Motors

Banish the Screw-Driver.

There are a great many tools that will take the place of a screw-driver when it is a question of setting or removing screws, but the screw-driver itself should seldom be allowed to act as a substitute. We make this rather broad statement because in numerous cases, the screw-driver is put to uses which result in a great deal of harm. Amateur mechanics and new drivers sometimes attempt adjustments and repairs with the first instrument that comes to hand, and usually the screw-driver is found most readily. We will cite some specific instances. If your springs are squeaky and you wish to remove the unpleasant sound, do not pick up a screw-driver and jam it between the leaves because you are going to cause damage that will be disastrous sooner or later. Anticipate this operation by preparing a long thin strong strip of steel, properly tapered so that it will enter between the spring leaves with ease and accuracy. By slowly pushing this in, you will spread the leaves apart and find it a clean, safe proposition introducing graphite or oil into the opening. By the way, we trust that this initial paragraph about the screw-driver, will remind you that your spring leaves should be attended to quite frequently in order that maximum riding comfort may be maintained, and absolute freedom from squeaks secured.

There is another faulty use of the screw-driver, and that is in the removal of the piston rings. A great many mechanics jam the screw-driver into the slot and naturally hurt the rings, as the points of the screw driver make indentations that although not visible to the naked eye, are still deep enough to cause trouble. This rough usage of the piston ring with a screw-driver also hurts the even circumference of the ring and so prevents it from giving accurate service. Your best method would be to secure several thin, stiff strips of steel, from which the four sharp corners have been filed until they are round and smooth. Press one of these steel strips in the groove opposite the slot, and by constant pressure you will force the ring out of the slot. Now pull the end of the ring still further out and hold it there until you can slip in another piece of steel between the ring and the piston itself. The continuation of this operation will soon completely remove the ring from the grove and allow you to slide it off the piston without any damage. A great many car owners think that a piece of machinery is all right as long as it looks well, but it must be remembered that rough usuage will give, to even the hardest metal, certain pits and nicks that prevent it properly carrying out the functions for which it was made by the manufacturer.

In many electrical systems, very careful and accurate oiling is required. In fact, the lubricating system is as fool-proof as possible. You will find, on some of these devices, that little round openings have been cut in order that the oil may be dropped at some certain points and not at any others. We have seen mechanics pick up the handy old screw-driver, dip it in some oil and move it to one of these oiling holes for the purpose of dropping the lubricant. Do not, however, use a screw-driver for this purpose, because it is much better to take a piece of cloth, which in practically every instance will not scatter the oil and certainly makes a much better dropper, because the lubricant can be pressed out in a definite direction.

When you are handling tires, it is as well to forget the screw-driver, because while it may be dull for certain purposes, it is sharp enough to cause injury to casings and tubes. We again recommend strips of steel, but in this particular instance, the strips must be broader and deeper and duller than those used for finer mechanical processes.

Perhaps the most common misuse of the screw-driver comes from the endeavor on the part of many people, to make a large sized screw-driver take the place of a small one, or vice-versa, a small one substitute where a large one should be utilized. Most screw heads used in the automobile trade are of hard metal, but not a few are, nevertheless, soft enough to resent bitter treatment. If you persist in using a larger screw-driver than the screw calls for, you will soon spread the slot so that some day in a crisis, it will be impossible, or practically so, to remove the screw that has so been misused. This may appear to be a minor matter but nevertheless, when you come to the selling of your machine as a second hand car, any careful, prospective client will look at it from one end to the other, and if he finds that you have been careless and indifferent in everything that is outward and visible, he will naturally conclude that you have been the same way in those things which vitally affect the internal and more important parts of the power plant. Nothing gives one such a favorable opinion of a machine as an inspection that creates an impression of meticulous care. AUTO.

Piston Rings Too Small.

Your articles on automobiles and internal combustion motors indicate that the writer is a man of practical experience, and his hints are very useful. Here is a point for him or for any of your readers who have had the same trouble I have had. No. 1 cylinder of my car seems to get too much oil and the spark plug rapidly fouls, which causes misfiring. Less than an hour's run will often cause the trouble. What is the reason for the trouble, and what is the remedy? Any advice will be appreciated by myself and others who have had the same trouble. J. M.

Ans.—Apparently the piston and piston rings are too small. If you procure an oversize piston and oversize piston rings, the trouble will, in all probability, be remedied. The spark plug is being fouled by oil that escapes past the piston rings.

Canada's Young Farmers and Future Leaders.

Nature of Soil Determines the Rotation.

EDITOR "THE FARMER'S ADVOCATE":

The farm on which the writer of this article is working is a long, narrow strip of rather rolling and broken land fronting on the St. John River. The slope towards the river is a light, gravelly and, in some places, stony soil. Farther back the soil is mostly loam, in some places verging into clay with a stiff clay subsoil. These different classes of soil make the planning of a rotation more difficult than it would be were the soil more uniform in texture. Many reasons might be given why a systematic rotation has never been followed on this farm. One of them is that much of the land requires tile draining before it will produce a satisfactory hoed crop, consequently it has been left continuously in sod.

We have been following mixed farming. The farm has about four acres of young orchard, and the greater part of the vegetable crops needed for home use are grown between the rows of young trees. About half an acre of the land between the trees is planted with strawberries each year. Practically all land available for planting between the trees is kept almost continually in hoed crop. Potatoes, and to a lesser extent squash, cabbage, etc., are grown as cash crops, and must be included in the rotation. A large amount of roots are needed for feeding cattle in winter, but the high prices obtainable for turnips warrant the growing of them for market, so it will be seen that the rotation must be one that will have a fairly large area under hoed crop.

Considerable rough land is available for pasture, but it is necessary to provide some succulent feed to supplement the pasture in the late summer and fall. The farm is not large enough to make a silo a profitable investment, so it is necessary to grow corn, peas and oats, clover and the soft, white English turnips for green feed. In order to provide grain to feed the horses, pigs and to have some home-grown concentrates to feed the cattle, it would be necessary to have about one-quarter of the tillable land in grain each year. To choose a single rotation to meet all these requirements is not easy. The lighter gravelly land is hungry and must be cropped in such a way that it will receive frequent applications of manure. A three-year rotation, while it would supply this need, will not give enough hay and would possibly tend to loosen the light soil too much. To my mind a combination of a three- and four-year rotation would be more satisfactory than any single one; having about three-quarters of the land under a four-year rotation, and the remaining quarter under a three-year rotation. The area under the three-year rotation would include part of the heavy or clay land and would be used for growing soiling crops. This rotation would run as follows: First year, hoed crop, chiefly corn, with perhaps a small acreage of white turnips; second year, peas and oats, to be cut and fed green, the land to be seeded down to red clover. The third year, clover would give two crops in the season. The remainder of the farm, including quite a variety of soils, would be cropped under a four-year rotation, of which the following is an outline: First year, hoed crop, principally swede turnips and potatoes. White turnips usually sell for a high price in this locality, they are about the only succulent feed the farmer can have to feed his cattle during winter, and the greater part of them would be used for this purpose. The second year crop would consist of grain, chiefly oats with a small amount of barley and wheat, which would be crushed for hog feeding. This land would be seeded down with clover and timothy, which would give hay, mostly clover, the third year. Then timothy hay would be harvested the fourth year, and the land plowed shallow in August and cultivated at intervals of ten days or two weeks until late fall, when it would be plowed deeply and thrown up roughly to allow the frost to make plant food available for the succeeding root crop. In both rotations the manure would be applied to the hoed crop. This combination of two rotations seems to meet the requirements of this farm. It would supply the crops needed in the right proportions, maintain the fertility of the soil, control the weeds, and should be more profitable than the methods under which the farm is worked at the present time.

Kings Co., N. B. F. LESLIE WOOD.

One-Third of the Farm in Grain.

EDITOR "THE FARMER'S ADVOCATE":

A long or short rotation of crops can be applied on the different kinds of soil and will give better results than where one crop is grown year after year on the same soil. We prefer a long rotation, which is as follows: Sod is broken up in the summer, thoroughly worked and sown to wheat in the fall. Manure is applied on the sod for most of the field, and the remainder is top-dressed and worked in just previous to sowing the wheat. The following year a crop of oats is grown and manure applied to the land during the winter. This is plowed under for hoed crop, which includes corn, potatoes, mangels and turnips. The next spring this land is sown to barley and seeded to timothy, red clover and alsike. This is left in sod two years; a crop of hay and pasture being taken off. The sod is then broken up and the same cycle followed. Our farm of one hundred and fifty acres is mostly clay-loam soil, with twenty-five acres with a sandy bottom on which wheat does exceptionally well. The farm is fairly well drained. We put about fifty acres in grain crop, forty acres in hay, ten acres in hoed crop and the remainder is pasture. We follow a system of mixed farming and keep, on the average, about thirty head of cattle, five horses, twenty-five hogs and one hundred hens. Most of the products of the farm are fed on the place, although we do sell a large portion of the wheat and occasionally we have a little seed grain for sale.

Middlesex Co., Ont. T. W. H.

Crop Rotation Increases Production.

EDITOR "THE FARMER'S ADVOCATE":

Crop rotation, in my opinion, is one of the most important factors in keeping up the farm production. However, in many cases it is very often neglected, as far as careful consideration of it is concerned. The soil in this district is of medium texture, consequently, almost any farm crop can be produced to good advantage. Our experience is that the nearer the rotation is balanced the better are the results. We follow mixed farming, which gives an opporutnity to follow crop rotation possibly to greater advantage than with specialized farming. On our soil barley does the best after a hoed crop, and oats follow very well. The land is always plowed out of sod in the fall for roots, and is manured during the winter or spring. The land is never left in sod more than two years. Fall wheat is also grown on sod which has been cut twice and then manured before plowing. If for any reason the manure cannot be gotten out before the sod is plowed, we find that top dressing gives good results. Oats very often follow wheat, and the land is seeded. This requires that about twenty-five acres to seeded each year. When alfalfa is grown it is not broken until the third or fourth year as it takes one year for it to get a good stand. We find that if it is left down much longer than four years that there is considerable difficulty in plowing it.

Middlesex Co., Ont. J. McL.

Three-Year Rotation Keeps the Farm Clean.

EDITOR "THE FARMER'S ADVOCATE":

Our farm was running wild; weeds and thistles ran riot and raspberry bushes had grown up along the rail fences. It was rather a hard looking problem to work on. However, we knew the land was all right, so we set to work on a three-year rotation. The fall we purchased the farm we cut and burned the weeds, then plowed those fields which required plowing, breaking up some that had been in sod for a long time. During the winter and spring one field was manured for hoe crop. The next fall we double plowed the fields which were not seeded and sowed grain the next spring, seeding down one field and putting another in hoed crop. Another field was broken for wheat. A hoed crop was put on this field the next year and the third year grain was sown and the field seeded. We are quite satisfied with this rotation. It is working fine on our land, which is a clay-loam soil. Our farm is getting in good heart and is fairly free from weeds. The chief advantage of the short rotation is the facility it affords for controlling weeds. With a long rotation the fields are in one crop longer which is harder on the soil and increases the difficulty of securing a catch of seeds. This difficulty is overcome when the farm is kept in good heart.

Perth Co., Ont. C. W. T.