

OILING CAUSE OF MANY AUTO ILLS

Average Owner Prone to Seek Other Sources of Evils Due to Lubrication.

"PUMPING" AND ITS EFFECTS

Kind, Quantity and Ring-Fitting Are Sensitive Points That Must Be Given the Utmost Consideration by Owner.

No car owner of the present day needs to be told how important lubrication in all its many aspects is in contributing to the life and efficiency of the motor car. However, there are certain forms of lubrication failure that the owner often does not realize as existing. He does not attribute to them the troubles which they have really caused.

For instance, it is a very common characteristic of automobile engines to develop a tendency to allow the lubrication oil to leak past the piston rings into the combustion chamber, where it soots the plugs, induces the smoking of an aggravated character and forms extremely heavy carbon deposits. Frequently car owners complain of the carbonizing tendency of their engines without realizing apparently that the trouble is due to improper lubrication or to a minor trouble in the engine.

"Oil Pumping" Evil.

The common name for this leakage of oil is "oil pumping," and its fruits are a carbonized motor, or sooty, oily plugs, which induce ignition trouble in more or less aggravated form. Large sums were spent in changing spark plugs, putting in new piston rings and even replacing the pistons, to cure a chronic case of oil pumping, and all to no use, for the simple reason that one had neglected some little seemingly minor detail that was the key to the whole situation.

The lubrication of the engine cylinder involves a good many problems and some co-operation on the part of the user if they are to be satisfactorily solved. The ideal condition, of course, is to have just enough oil supplied to keep the cylinders properly lubricated, but not so much that it will work past the rings into the combustion chamber. In practice this ideal is difficult to achieve and in practically every engine there is a certain amount of leakage. In most cases this is kept low enough to keep carbon and other troubles from the acute stage.

Every car manufacturer recommends a certain grade of oil to be used in his engine, and his advice should be rigidly adhered to by the car owner. In case there is any question in the matter the advice of the service station should be asked. The commonly recommended lubricant is a medium body oil, but this is not universal, so the car owner should make absolutely sure of his ground in this vitally important matter.

Ring Fitting Exactness Matter.

Fitting piston rings means more than merely placing the rings in their grooves. The rings must fit the grooves so that there is perhaps .001 of an inch up and down clearance, or just enough to prevent leakage, and still not cause the ring to stick. The rings should be lapped in size and ring fittings should be done by experienced hands.

There has been a tendency in recent years when engine lubricating troubles occur to fit some special type of piston ring and believe that settles the matter. Many of the special rings have real value, but they must be accurately fitted, just the same as an ordinary diagonally-split ring.

In some cases it is possible to cure a chronic case of oil pumping by drilling the skirt of the piston with 1-16-inch holes, spaced at equal distances under the lowest groove. This, with perhaps the addition of a scraper ring in the skirt, will often work wonders.

Finally, a scored cylinder will induce oil pumping, since the trenches in the cylinder wall allow the oil to escape past the rings. In this case the cylinder will have to be operated upon by some specialist in this work.

RIGHT WAY TO PLACE INNER TUBE IN CASE

First Thing to Do Is to Partly Inflate It.

Bad Practice to Allow It to Rest on Ground or Garage Floor, Thus Picking Up Particles of Sand, Cinders or Oil.

Unexpected outbursts from inner tubes originate from sins of omission and commission. By emphasizing the more glaring ones it is believed the motorist can be saved the dollars that would otherwise be wasted.

Haste in replacing punctured or blown-out tubes is one trouble. The right way to place a tube into a casing is to first partly inflate it. Then it should be applied carefully, the side bearing the stem always being kept in sight. When it is in the casing it should be taced carefully and the fingers forced all around the tire to make sure that talc has been evenly distributed. A tube never should be inserted unless partially inflated.

In pumping a tube before insertion most motorists allow it to rest on the ground or on the floor of the garage. This practice is wrong. It allows the tube to pick up particles of sand, cinders and oil, which create friction and eventually tiny holes.

The right way is to place the tube over the left shoulder and pump with the right hand. Thus no portion of the tube will be allowed to touch the road or pavement. When tube is well rounded with air and free from wrinkles it is ready for insertion in the casing, and then should be pumped to the prescribed pressure.

AUTO BODY IS DETACHABLE

Object of Recent Invention Is to Provide Frames Which May Be Applied or Removed.

The Scientific American in illustrating and describing a detachable automobile body, the invention of W. H. Wochner, 1608 Stone street, Falls City, Neb., says: The invention relates particularly to an arrangement whereby the body of an automobile may be quickly applied or removed, the object being to provide a simple

construction which may be formed as part of the automobile or which may be made independently and attached thereto. A further object is to provide frames forming a runway, one of which is mounted on the chassis, the other on the body of the automobile, whereby the body may be slidably fitted into position.

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SUGGESTIONS TO AID HAY GROWER

Eliminate Loss and Trouble by Having Clear Understanding of All Terms.

CONFIRM ALL TRANSACTIONS

Quantity, Quality, Time of Shipment and Routing Should Be Made So That There Will Be No Misunderstanding.

(Prepared by the United States Department of Agriculture.)

Many of the difficulties and losses that shippers of hay encounter would be eliminated if more care were exercised when making sales to see that all terms are clear and practicable and that both seller and buyer have the same understanding of them. This can be accomplished by observing the following suggestions by the bureau of markets and crop estimates, United States Department of Agriculture:

State clearly in all offers or acceptances all necessary factors, including quality and quantity of hay, together with time of shipment, routing, rates, price and terms of payment.

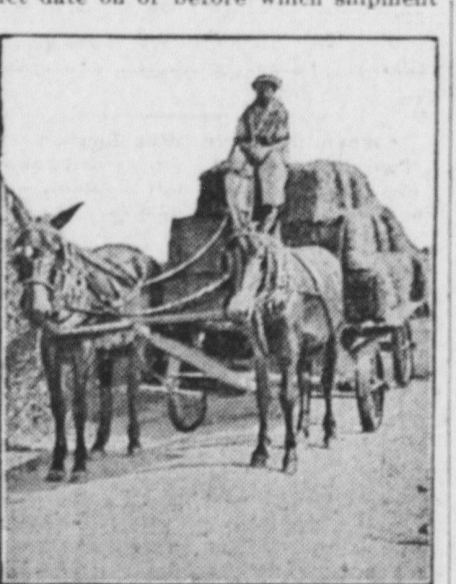
Confirm all sales and purchases by letter, in which is stated all terms as understood by the seller or the buyer, as the case may be.

Upon receipt of confirmation, correct immediately any items that appear to be incorrect.

Make Terms Clear.

Too much emphasis cannot be placed upon the matter of care in stating terms when making sales or purchases. A greater part of such transactions are usually by telephone or telegraph which makes brevity necessary. A few more cents spent in telephone or telegraph charges, however, is better than several dollars lost on an unsatisfactory shipment. On the part of the shipper, therefore, when offering hay for sale, whether the offer is by wire or letter, the following should be stated:

- Quantity by bales, tons, or carloads. If by bales, the size should always be given, and if by tons or carloads, it is well also to state the size of bales that will be shipped, as there is a decided preference in certain sections for certain types and sizes of bales.
- Quality, either in descriptive terms or in the terms of state or commercial grades. When commercial grades are used it must be made certain that both buyer and seller understand what standards are being used. It is sometimes advisable to state what inspection agency is to determine the grade.
- The time of shipment should be specified either by naming the exact date on or before which shipment



Hauling Hay to Railroad Station.

will be made, or by using the trade terms of "immediate," "quick," or "prompt," which are given the following interpretation: "Immediate" or "rush" is shipment within three calendar days, "quick" five calendar days, and "prompt" ten calendar days. Sundays and holidays excluded in each instance.

(d) The routing which can be made by the shipper, or that which is desired by the buyer, should be made in the first bid or offer, as it is an important item and, together with the rates applying, may be the determining factor in the transaction. Instead of stating the rate, the point at which the price applies may be given, such as "f. o. b. shipper's track" or "delivered buyer's station."

(e) The price should be stated clearly and it should also be made clear for what length of time the bid or offer holds good and whether or not the acceptance of either is subject to confirmation by the maker.

Send Confirmation Promptly.

When a bid or offer has been accepted and a sale consummated, whether by letter or wire, a confirmation by letter, setting forth in detail all the terms and conditions of the transaction, should be mailed by each party to the other. If, upon receipt of these confirmations, either party notes any item that is contrary to his understanding of the terms he should notify the other immediately by telegraph, so that all errors may be corrected before a shipment is made. If the hay was ready for shipment when the sale was made, however, it may not be possible for the shipper to wait for a written confirmation of the acceptance by the buyer, but he should forward a telegram to the buyer confirming the terms of his original offer and his understanding of the acceptance.

INDUCE SHIPPERS TO BOX GOODS PROPERLY

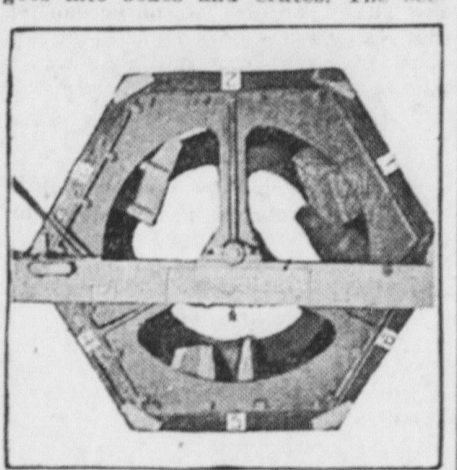
Chief Aim to Decrease Big Drain on Timber Supply.

Transportation Company Also Endeavoring to Decrease Enormous Waste of Goods Due to Defective Packing.

(Prepared by the United States Department of Agriculture.)

"Perfect package month," a movement recently promoted by the American Railway Express company in an effort to induce shippers to pack goods better, will receive additional impetus from scientific investigations on box and crate construction by the Forest Products Laboratory, Madison, Wis., according to an announcement made by the Forest Service, United States Department of Agriculture.

In making a detailed study of boxes and crates, one of the chief objects was to eliminate waste of wood and thus decrease the drain on the timber supply. That this is highly important can be seen from the fact that nearly one-sixth of our total cut of timber goes into boxes and crates. The sec-



Box Testing Machine.

ond chief object of the study was to diminish the enormous waste of goods in transit due to defective packing.

By the use of special machinery designed at the Forest Products Laboratory, boxes can be artificially subjected to the same kind of shocks and strains they receive in actual transport. From these tests it has been possible to determine the correct amount and quality of material to use, the result of defects in the wood, the adaptability of different species of wood, and the best types of box and crate construction.

The results of these investigations have recently been compiled by the Forest Service and published in book form under a co-operative arrangement with the National Association of Box Manufacturers.

In addition the book includes the standardized specifications for box-making tentatively adopted by the American Society for Testing Materials, and also a key to the identification of the chief wood species used in the construction of boxes and crates. It can be obtained from the Secretary of the National Association of Box Manufacturers, Conway Bldg., Chicago.

GREEN FOOD FOR FOWLS.

It is very easy to have a few flats in the basement to raise green food for the chickens before it is time for the early spring grass on the vacant lot.

Oats, wheat, rye, barley, corn or other greens may easily be produced in quick succession. By planting a few days apart, a stand of the green food two or three inches in height may be had. By using judgment, a fresh flat of green food may be had for the poultry every few days. After the green tops have been devoured replant, set in a reasonably light place and have another crop within a few days.

MAKING SUCCESS OF GARDEN

Soils Must Be Deep, Mellow and Friable and in Crumbly State When Plowed or Hoed.

The success of a garden is largely due to the manner in which the soil has been prepared. The soil must be deep, mellow and friable, so that it will be in a crumbly state when plowed or hoed. That is, the minute particles of the soil must be granular, each maintaining its form and consistency. When such soil is wet, each portion is enveloped by a film of water which is retained for some time. The plant food is thus dissolved and this water-laden plant food is taken by the roots of the plants.

LIMITED SUPPLY OF MANURE

Behooves City Gardener to Secure Fertilizer Needed for Soil in His Garden Plot.

The supply of manure in cities is now quite limited, and it behooves the city gardener to secure enough somewhere to fertilize his garden plot, especially if his soil is heavy and lacking in organic matter. Where manure cannot be obtained, a number of crops, such as Irish potatoes, beans, peas, and tomatoes, can be grown fairly well by the aid of commercial fertilizers. Street sweepings are unsafe to use if they contain much oil or tar—United States Department of Agriculture.

AFTER EVERY MEAL

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It's a **DOUBLE** treat —Peppermint Jacket over Peppermint gum

WRIGLEY'S SPEARMINT CHEWING GUM
THE PERFECT GUM
MINT FLAVOR

WRIGLEY'S JUICY FRUIT CHEWING GUM
THE TARTER TASTE

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SWEET & SWEET

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Sugar jacket just "melts in your mouth," then you get the delectable gum center.

And with Wrigley's three old standbys also affording friendly aid to teeth, throat, breath, appetite and digestion.

Soothing, thirst-quenching. Making the next cigar taste better.

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AFTER EVERY MEAL

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—land similar to that which through many years has yielded from 20 to 40 bushels of wheat to the acre—oats, barley and flax also in great abundance, while raising horses, cattle, sheep and hogs is equally profitable. Hundreds of farmers in western Canada have raised crops in a single season worth more than the whole cost of their land. With such success comes prosperity, independence, good homes and all the comforts and conveniences which make life worth living.

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Nothing Serious. Prosecuting Attorney—Have you ever been convicted of anything? Witness—Yes, sir, once.

Prosecuting Attorney—All right, tell the jury what you were convicted of. Witness—I was just convicted of waiting on myself in a grocery store; that's all.—New York Globe.

Important to all Women Readers of this Paper

Thousands upon thousands of women have kidney or bladder trouble and never suspect it.

Women's complaints often prove to be nothing else but kidney trouble, or the result of kidney or bladder disease.

If the kidneys are not in a healthy condition, they may cause the other organs to become diseased.

You may suffer pain in the back, headache and loss of ambition.

Poor health makes you nervous, irritable and may be despondent; it makes any one so.

But hundreds of women claim that Dr. Kilmer's Swamp-Root, by restoring health to the kidneys, proved to be just the remedy needed to overcome such conditions.

Many send for a sample bottle to see what Swamp-Root, the great kidney, liver and bladder medicine, will do for them. By enclosing ten cents to Dr. Kilmer & Co., Binghamton, N. Y., you may receive sample size bottle by Parcel Post. You can purchase medium and large size bottles at all drug stores.—Advertisement.

If one does not learn in youth, what will one do when old?

Wise is the fool who knows enough to keep it to himself.

CURES COLDS IN 24 HOURS

AT ALL DRUG STORES

CASCARA QUININE

FOR TWO GENERATIONS

CURES LA GRIPE IN 3 DAYS

DETROIT, WAM-HILL CO. MICHIGAN.

Charlotte Bronte's writing was so small that it appeared to have been traced with a needle.

No Rubber but More Stretch in No-Nay

OF EXCELLO SUSPENDERS

Wear Guaranteed Ask Your Dealer

If he hasn't them, send direct, giving name, and accept no substitute. Look for guarantee label and name on buckle.

Ask for No-Way Garters and Hose Supporters

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Known as "that good kind"

Try it—and you will know why

DROPSY TREATED ONE WEEK FREE

Short breathing relieved in a few hours; swelling reduced in a few days; regulates the liver, kidneys, stomach and heart; purifies the blood, strengthens the entire system. Write for Free Trial Treatment. COLLUM DROPSY REMEDY CO., Dept. B. O., ATLANTA, GA.

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Baby Chicks, Thorobreds, 20 breeds. Right kind, prices. Immediate shipment. Catalog. A. T. Livingston Hatchery, Draw 37, North, S. C.

W. N. U., BALTIMORE, NO. 10-1922.

NOT SO BAD—FOR AN OLD FELLER



Maney Oldfield is shown in the photograph driving an 1899 model steam-driven machine. It beat an equally aged gas car in a race for the honor of leading the parade opening the auto show at the Coliseum in Chicago recently.