VITAL STEERING SYSTEM OF AUTO

Proper Lubrication at All Times One of Most Important Cares of Owner.

INSPECT GEARS FREQUENTLY

Faults That Lead to All Kinds of Troubles Explained and Means Outlined for Preventing Them—Gears Always Working.

The vital steering system of the automobile is about as popular with the motorist as the traffic cop. A system so important as the steering should be well understood and well cared for. The fundamentals are easy to understand. In practically all cars there is the same fundamental design, consisting of a steering wheel, which operates a post at the bottom of which are reduction gears. One of the gears is turned directly by the wheel, the other, being in mesh with the post gear, also turns. This second gear operates a so-called steering arm to which the drag link is fastened.

The drag link connects with one front wheel through a knuckle arm and to the other front wheel through the tie rod and another steering arm.

It is clear to see that in this system there are numerous joints and other rubbing or moving surfaces, and every one of them must be constantly lubricated.

Gears Always in Action.

To the driver the steering system appears to be at rest except when the car is turned around, but actually the joints and gears are always doing some work, always rubbing, even though it be a little. The gears must always be covered with grease or graphite.

Usually there is a case which houses these gears, but sometimes they are exposed. Once every three months these gears should be inspected and the housing replaced.

The same applies to the ball joints at the drag link ends and to the tie rod joints.

If this is not done parts will get dry and rust and steering begins to be difficult. You must turn the front wheels by first overcoming the friction of the rusty parts.

In time those rusty parts break. One of the commonest causes of hard steering is due to a stiff steering knuckle. The steering knuckle is part of the front axle that moves and permits the wheels to be turned.

There are two knuckles and they must move very freely.

It is necessary to lubricate the knuckle or so-called kingpins every day. Grease is effective if sufficient pressure is used to force it to the rubbing surface, otherwise oil should be employed. If you have ordinary grease cups and wish to make sure the pins will get lubrication, substitute large oil cups.

All Show Play in System.

Every car shows a certain amount of play in the steering system, that is the steering wheel can be turned a little before the front wheels move. There should be some play but not as much as the average car has.

Play develops naturally, due to wear of all parts, but it also develops more rapidly because owners have a habit of turning the wheel when the car is standing. This puts an added strain on the rubbing parts of the steering system, and wear is more rapid.

When wear does occur it should be compensated for by adjustment at the right place. Sometimes the ball joints are badly worn, again it may be the knuckle pins or the tie-rod connections, or the gears in the post. Do not adjust the gears in the post when the ball joints or other parts are at fault.

Find out where the play exists by feeling the various parts separately and pulling and pushing them. A little play in all is likely to develop quite a bit of play at the wheel because of the gearing.

ELIMINATING DANGER FROM EXHAUST GASES

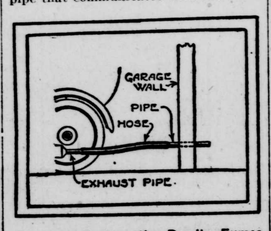
Simple Method Illustrated for Carrying Away Fumes.

Five Minutes in Small Unventilated Garage With Door Shut and Engine Working Means Another Job for Undertaker.

When Nat Willis, the noted actor, was found lying beneath his car, dead, and it was found that his death had resulted from inhaling the exhaust gases of an automobile, the motoring public began to take precautions against this menace.

If one should remain for five minutes in a small unventilated garage, with the door shut and fumes pouring from the car's exhaust he would be beyond the doctor's aid.

If you must work on the car with the engine running attach a hose to the exhaust and run the hose into a pipe that communicates with the outer



The Hose Carries the Deadly Fumes to the Outside Air and Keeps the Garage Air Pure.

air. In this way you get rid of those deadly fumes and eliminate the danger of being suffocated by them.

It is very simple to arrange so that this can be done. A hole is made in the wall of the garage, in a convenient position to the rear of the car, and piece of gas-pipe inserted. This pipe should be of sufficient length to protrude about 6 or 8 inches on each side of the wall and, if the wall is wood, duly insulated. Connection is made with a hose.—E. T. Ofeldt in Popular Science Monthly.

KEEP WINDSHIELD CLEAN

Many winter motorists have found that a simple way to keep the windshield clean when the first melting flakes of snow are flying is to apply a mixture of glycerin, salt and water. The glass should first be thoroughly washed and dried, then the mixture is applied with a cloth rubbed in straight lines. Twice as much glycerin as water and a liberal sprinkle of salt will be found efficacious.

VERDIGRIS FORMS ON BRASS

It May Be Removed by Use of Good Metal Polish, Leaving a Clean Smooth Surface.

The verdigris that forms on brass may be removed by the following treatment: Mix a good metal polish in equal parts with wood alcohol. Apply with a brush and allow to dry. When dry rub with a clean cloth and the verdigris will come off too, leaving a clean smooth surface. After this the brass may be polished in the usual way.

BE CAREFUL OF SPEEDOMETER

Spinning or Sliding of Rear Wheels Is Liable to Spring or Otherwise Injure Shaft.

When the car has a transmission driven speedometer the rear wheels should never be spun or permitted to slide. This habit is likely to spring or break the speedometer shaft, sometimes causing an error in speedometer reading of anywhere from 2 to 5 per cent.

POLICE GET AFTER TAX DODGERS



The photograph shows a Chicago policeman stopping an unlucky motorist who had neglected to obtain his city vehicle tax. The police of Chicago are stationed at all streets leading into the loop and inspecting all cars to see if the owner has a license.

AUTOMOBILE GOSSIP

Denmark is reported to be an ideal land for automobiles, the roads being good, the land quite flat and the country interesting and attractive for tourists.

• • •

Movable spring seats which are used in some cars should receive attention. They should be oiled.

The automobile industry in France is considered the greatest sufferer, due to the presence of so many foreign-built cars obtained from old war stocks.

• • •

In India an automobile show will be held in Delhi in February of this year under the auspices of the local motor trade association.

• • •

It is estimated that no less than 124,000 motor cars from other states toured in California during 1920.

JUST A LITTLE SMILE



Fellow Workers.

"Mr. Grabcoin, a man who says he's a 'money digger,' would like to see you."

"Hem! Who's he digging for?"

"He didn't say, but he looks poor and I suspect he's digging for himself."

"Ha! Tell him I'm doing the same thing and wish him on my behalf a good morning."—Birmingham Age Herald.

Limited Facilities.

"Do you find the movies educational?"

"Not any more," said the confirmed patron.

"How is that?"

"I believe I have mastered all the wiles of movie vampires and there doesn't seem to be anything else to learn."

In New York.

"Are you meeting many people in New York society?"

"Oh, yes."

"Making a lot of friends, I suppose?"

"No, so far I've been cautioned to have nothing to do with most of the people I've met."—Louisville Courier-Journal.

A Common Trouble.

"I got a letter from my husband from Paris."

"How is he getting on with the French people?"

"He says they are very nice and polite, but they don't seem to understand their own language."

Or Wuff Hound.

Owner (of noisy purp)—Don't be afraid of him, old man; his bark is worse than his bite.

"Sort of a hot Airdale, eh?"



OLD STUFF

Wild One: I've discovered perpetual motion.
His Friend: Nonsense!
Wild One: Yessir! My wife's tongue. Yessir! My wife's tongue

Mary Had the Hives.

"Mary had a swarm of bees,
And they, to save their lives,
Must go wherever Mary goes—
'Cause Mary had the hives."

The True Answer.

Interviewer—To what do you attribute your longevity?

Old Man—To the fact that I never died, principally.—Boston Transcript.

Bright Boy.

Jones—Say, Jenks, do you know who was the first bookkeeper?

Jenks—Can't imagine, Jones.

Jones—Why, Eve was the first bookkeeper when she introduced the loose leaf system.—New York Central Magazine.

Thoroughly Reliable.

Artist—I'm awfully sorry I can't pay you this month.

Landlord—But that's what you said last month.

Artist—You see, I keep my word; you can have confidence in me.—London Answers.

Good Plan.

Editor—Does your poetry pay?

Poet—Well, I manage to keep the wolf from the door.

Editor—Ah, yes! I suppose you read it to him.—London Tit-Bits.

Tuppence.

Joy—I think I'll marry you and end your suspense.

George—Suspense I can bear, but this long engagement has been an awful expense!—London Answers.

Cause for Wonder.

"I'm surprised to see So-and-So appointed to the department of agriculture."

"Why, he knows all about farming."

"That is what occasioned my surprise."—Louisville Courier-Journal.

The Result.

"The woman just elected to office in our town declares she is going to bring housecleaning methods into her politics."

"Good heavens! Does she intend to make a clean sweep?"

Lack of Harmony.

Belle—The Newriches have no idea of the fitness of things.

Nell—What are they doing now?

Belle—Why, he uses none but Turkish cigarettes and she has furnished his den with Armenian rugs.

Slander Refuted.

"You see that man going yonder? I've just found out he's a chiropractor."

"He's nothing of the kind. I know him, and he's a native-born American."

MODERN DESIGN FOR HOG HOUSE

Proper Housing Is Essential to Success With Live Stock.

HOGS NEED LIGHT AND AIR

No Type of Farm Building Is Given More Attention in the Agricultural Colleges Than Hog Houses—Good Plan Shown Here.

By WILLIAM A. RADFORD.

Mr. William A. Radford will answer questions and give advice FREE OF COST on all subjects pertaining to the subject of building work on the farm, for the readers of this paper. On account of his wide experience, as Editor, Author and Manufacturer, he is, without doubt, the highest authority on all these subjects. Address all inquiries to William A. Radford, No. 327 Prairie avenue, Chicago, Ill., and only inclose two-cent stamp for reply.

Success in raising hogs depends on two things—well-bred stock, both sows and sires, and proper housing.

Well-bred stock is plentiful, and no farmer in these days of better farm live stock can afford to breed or raise "scrubs." In every community, especially in the so-called "corn belt" states, hogs are one of the principal farm products, and high-bred, if not registered purebred sires, are available. With a start of one or two well-bred sows and the service of a pure-



bred boar, careful management will insure a good profit in hog raising.

The second essential—good houses—is just as available as good breeding stock. During the last ten or more years, architects who have made a careful study of the needs of farm animals have designed, and local contractors have erected, thousands of buildings—barns, hog houses and chicken houses—that provide the livestock with houses where they can be kept at the highest state of productivity and in the best of health.

The product that farmers turn into cash with their hogs is flesh. Both can be obtained with "scrub" stock, but the cost is prohibitive. About the same amount of care will bring a well-bred young pig to marketable size in half the time required by a "scrub," and the amount of feed both consume per day is practically the same.

Before the days of efficient hog houses, a farmer considered himself lucky if half the litter was brought to maturity. Young pigs are subject to many diseases and have little stamina to withstand them. Pneumonia is one of them. The pigs that were littered in the early spring and were not housed in weather-proof, well-ventilated and warm quarters had and still have little chance of reaching maturity.

It was with these facts in mind that the modern hog house was designed. And in passing it might be said that no type of farm building has been given more attention in the agricultural colleges than hog houses.

The modern hog house is a well constructed building. It usually is set on a concrete foundation, with a concrete floor. The side walls are weather-tight, and the roof is designed so that a maximum of sunlight can reach the pens on both sides of the building. Also some system of ventilation, either through the roof or by the suction ventilators that are used on every modern dairy barn, is provided. Half of the floors, whether they be of concrete or cinders, are covered with heavy boards, raised slightly above the ground. On this half floor there is placed plenty of bedding, so that the young pigs will be kept dry—with emphasis on "dry"—and warm.

When the farm has such a hog house, the sows farrow in early spring and again in the fall, which is as nature intended. Late February pigs are kept in the warm, sunny house, and get the start that makes them healthy and strong when they are weaned and ready for the pasture in spring. There they develop rapidly and are of marketable size when there is small supply and better prices.

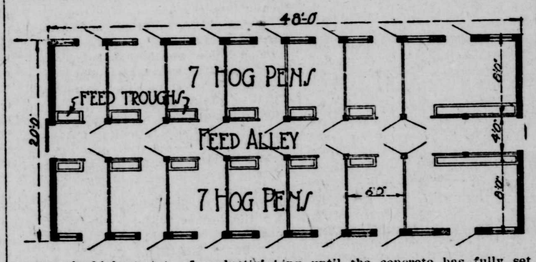
One of the modern types of hog houses is shown in the accompanying illustration. It is of frame construction, set on a concrete foundation and will hold 14 sows and their litters. The dimensions are 48 by 20 feet. To get the most of the early spring sunlight this house is run east and west, and has double sets of roof windows, one set to permit sunshine to filter into the pens on the south side of the building and the other into the pens on the north side.

Two suction ventilators in the roof provide for a circulation of fresh air, without there being drafts near the floor, where the young pigs and their mothers are penned. Surrounding the building is a concrete feeding floor where the corn and dry feed is thrown for the hogs.

Accompanying the illustration is the floor plan of the building showing the dimensions of the pens and the feeding alley that extends through the center.

Too much emphasis cannot be laid on the need of fresh air, dry beds and sunshine in a hog house. These three essentials to healthy young pigs cost nothing and can be obtained in abundance by planning the house correctly and constructing it according to the modern knowledge of what is best for the animals.

By proper care in laying the concrete foundations and floor this hog house can be built at any season of the year. By heating the aggregates of the concrete and covering the foundation and floor so as to prevent freezing until the concrete has fully set, which, in cold weather, requires at least six days, the work can be done and the superstructure erected in time for the early spring litters.



CITY OF GHASTLY LEGENDS

All Sorts of Blood-Curdling Stories Current in the Mexican Metropolis, and Believed.

Mexico City is a city of legends, ghostly horrors, most of them established at least upon a basis of truth. One of them is about the deeds of Don Juan Manuel who had the merry habit of stalking the streets in his cloak at night and asking the first man he met what time it was. Upon being answered, "It is eleven by the clock," he would reply: "You are very lucky, for you know the exact hour you die." Thereupon he would stab the chance-met stranger. He had a dearly loved nephew, and one night he met him in the dark, and not recognizing him followed his usual custom of homicide.

The next day, mad with grief, Don Juan went to the priest, who ordered him to say his beads at midnight before a church and near the public gallows. He tried three times before he was able to do so, and then, the legend says, angels took him and hanged him. The basis of the story lies in the fact that a man of the name of Juan Manuel did stab at least one man, and his body was found hanging on the public gallows without any explanation ever being made as to how it got there.

NOT THE GIRL OF HIS HEART

For a Moment Lonely Youth Had Hopes, but Alas! Joy Was Not for Him.

It is not good that a man should live without a woman in his heart. And on that particular spring day—one of blue and gold—I bore a strangely sorrowful heart because of my utter loneliness. I sat at my window, and stared out without seeing anything.

There was no one in the house but the landlady, myself and the landlady's daughter—a beautiful, brief thing, whom I called the "Pongee Princess" by reason of her blonde hair, an acquisition precipitated through a reckless use of peroxide.

She was calm, pretty and silent. The more I thought of her, the more she intrigued my fancy. I remembered she was downstairs at this very minute rearranging the pillows on the davenport that seemed to have spent a sleepless night. I thought to myself: "Ah! if she were only here by my side that she might pass her cool, white hands over my eyes, my depression would be lifted as if by magic."

I was interrupted by a timid knock on the door. I was startled for a moment. It was foolish to think that—and yet—

I called eagerly: "Come in."

It was the landlady with my waste-paper basket.—Iowa Frivol.

Largest Animal.

Most boys have seen pictures of the huge lizard which roamed the earth millions of year ago, and is supposed to be the largest animal which ever lived. Searchers in Utah have discovered some bones of an animal which was twice the size of this great prehistoric animal. A hole 600 feet long and 80 feet deep had been dug when some one claimed the land. The government thereupon created a national dinosaur monument, comprising the locality, which will be protected until the investigations are finished. The work is being directed by the Carnegie institute, which discovered and assembled the skeleton of the familiar dinosaur.—Boys' Life.

Hall's Catarrh Medicine

Those who are in a "run down" condition will notice that Catarrh bothers them much more than when they are in good health. This fact proves that while Catarrh is a local disease, it is greatly influenced by constitutional conditions. HALL'S CATARRH MEDICINE is a Tonic and Blood Purifier, and acts through the blood upon the mucous surfaces of the body, thus reducing the inflammation and restoring normal conditions.

All druggists. Circulars free.
F. J. Cheney & Co., Toledo, Ohio.

A popular photographer is one who can make a woman feel satisfied with her face.

To Have a Clear Sweet Skin

Touch pimples, redness, roughness or itching, if any, with Cuticura Ointment, then bathe with Cuticura Soap and hot water. Rinse, dry gently and dust on a little Cuticura Talcum to leave a fascinating fragrance on skin. Everywhere 25c each.—Adv.

Ingratitude stings the most deeply those whose vanity makes of thanks the chief reward.

A torpid liver condition prevents proper food assimilation. Tone up your liver with Wright's Indian Vegetable Pills. They act gently and surely.—Adv.

Least of all satisfactions is reflecting on how foolish people can be.



Tonic Fruit Jellies
Benefit the System

Those of fruit in the diet is beneficial. Fruits introduce into the system salts and acids which improve the quality of the blood. They serve as laxatives and anti-scorbutics. They are refreshing, stimulate appetite and add a pleasing variety to the diet. Gelatine makes good things go twice as far, preserving all the aroma, taste and lusciousness.

"PURITY"

In the Tornado Belt.

"Taking your piano lesson, are you, dear?" said the farmer's wife to her daughter.

"Yes, mother."

"Where is your father?"

"In the cyclone cellar, mother!"—Yonkers Statesman.

Expensive.

Knicker—What bankrupted Smith?

Bocker—The courtshipping board.—New York Herald.



A NERVOUS WOMAN

Huntersville, W. Va.—"After I got over the influenza last spring I was all run down and suffered from functional disturbances. I suffered with bearing pains and was so nervous I felt as if I would go to pieces. My breath was so short that I could not walk up hill at all or hardly walk upstairs. Having used Dr. Pierce's Favorite Prescription with good results when I came into womanhood, I decided to try it again. I have taken three bottles and am feeling fine."—MRS. NELLIE J. BUSCH.

Stomach on Strike 20 Years
Eatonic Settled It!

"Eatonic is wonderful," says C. W. Burton. "I had been a sufferer from stomach trouble for 20 years and now I am well."

Eatonic gets right after the cause of stomach troubles by taking up and carrying out the acidity and gases and of course, when the cause is removed, the sufferer gets well. If you have sourness, belching, indigestion, food repeating or any other stomach trouble, take Eatonic tablets after each meal and find relief. Big box costs only a trifle with your druggist's guarantee.

Young Men Desiring Employment in Chicago communicate with Great Lakes Letter Svce., 329 Plymouth, Chicago. Not employm't agcy.

Gifts.

The greatest grace of a gift, perhaps, is that it anticipates and admits of no return.—Longfellow.

Every gift that is given, even though it be small, is in reality great, if it be given with affection.—Pindar.

Foolish Question No. 8,427.

No, Roger, we should not call it a case of heredity when a hard-headed business man has a bonehead son.—Boston Transcript.

WARNING

Unless you see the name "Bayer" on tablets, you are not getting genuine Aspirin prescribed by physicians for 21 years, and proved safe by millions.—Say "Bayer"!

say BAYER Aspirin

SAFETY FIRST! Accept only an "unbroken package" of genuine "Bayer Tablets of Aspirin," which contains proper directions for Headache, Earache, Toothache, Neuralgia, Colds, Rheumatism, Neuritis, Lumbago, and pain generally. Strictly American!

Handy tin boxes of 12 tablets cost but a few cents—Larger packages.
Aspirin is the trade mark of Bayer Manufacture of Monoaceticacidester of Salicylicacid

WELL KNOWN AS MOSES' POOL

Is Believed to Be That Mentioned in the Bible in Connection With Great Law Giver.

In the Egyptian desert, about ten miles east of Suez, is situated a picturesque pool known as "Moses' Well." This is believed to be the well mentioned in the Bible, where Moses, at the bidding of the Lord, cast a branch into the bitter waters, and they were sweetened. Set in a deep grove of date-palms and pomegranate trees, the well is a dark, calm, mysterious looking pool, faithfully reflecting the palms which fringe its edges. The scene at sunrise, when the first rays strike the still water, is exquisite beyond description.

Attempts to identify various natural beauties and locations with mentions or descriptions as given in the Bible have always been difficult, owing to the fact that the records of the rulers of Egypt at the time of the captivity of the Jews were destroyed by rulers that came into power immediately afterward. The motive was jealousy, and a determination to wipe from the minds of the people any regrets for rulers gone.

A Lone Star Sign of the Times.

It has just about gotten so in this country that when a married woman has candy it's a sign she bought it herself.—Dallas News.

A large element of society is so cheerful that it parts with its liberties with a joke.

We all like a silent man if he will unbosom himself to us only.

FOLLOWED EXAMPLE OF HOST

Tactful Visitor Had No Desire to Be "Called," So He Duly "Sarsed" His Coffee.

The oil magnate, Mike Murphy, who passed away not long ago, was fortunate in the fact that his sons inherited their father's consummate ability, says the Philadelphia Ledger. One of them, John, tells this story of a recent visit to a certain section of the country, where he was careful to do as the people did, and to conform with social usages as he found them.

At the table the venerable host poured coffee into a saucer. But the host's son drank it from a cup. That made the host angry. "Why don't you sarse your coffee?" he bellowed at the son.

"It's all right this way, father," answered the young man, mildly.

"Son, if your eddication is goin' to make you reflect on your father I want to know it. I tells you, sarse your coffee!"

Whereupon the dutiful son emptied the cup in the saucer, and, says Mr. Murphy, "I sarsed mine, too!"

Graduated, as It Were.

Katherine was trying to say her evening prayers, but the hum of conversation in the room seemed to distract her.

Finally she said: "You folks talk so much I can't say my prayers."

"Huh!" said Harold, her brother, "I know mine so well now I don't need to say them any more."

Shaving, according to one doctor, increases neuralgia and other troubles of the face.

THE STURDY FOOD VALUES
of wheat and malted barley
are combined in
Grape-Nuts
as in no other
prepared cereal food

Its rich, nut-like flavor attracts and its nourishing qualities are staunch. Unlike most prepared cereals, Grape-Nuts needs no added sweetening

SOLD BY GROCERS EVERYWHERE

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