IMPROVED HIGHWAYS

INCREASE IN MOTOR TRAFFIC

Statistics Show Increase of 1,418,829 Cars Over 1918—Roads Must Be Maintained.

That the present interest in the construction of new highways should not divert attention from properly maintaining highways already improved is a point which the bureau of public roads, United States department of agriculture, has had occasion to emphasize many times in recent months, particularly in view of the enormous increase in motor vehicle traffic which is taking place. The bureau recently completed a compilation of statistics from all the states of the Union showing that there were a total of 7,565,446 registered motor cars (including motor cycles and trucks) in the United States in 1919. This is an increase of 23 per cent, or 1,418,829 motor cars over 1918. Such figures indicate that the country's highways are being used far more than in the past, it is pointed out, and in consequence added attention must be given to the repair problem. The increase in the number of cars for 1919 over 1918 represents about 10 per cent more cars than the total number registered in the entire United States for 1913.

Additional use of roads and streets has, of course, been accompanied by additional revenue paid to state and local governments in the form of license fees, which in nearly all states are devoted to highway needs. The registration and license fees for automobiles, trucks, and motor cycles in use in 1919 totaled $64,697,255.58—an increase of 20 per cent over 1918. The total revenues for New York and Pennsylvania the past year were about double the revenues received for all motor vehicle registrations and licenses in the entire United States in 1912.

Certain of the states, notably Maryland, have experienced difficulty in securing road-building materials owing

How the Nation's Highways Are Being Improved.

to labor shortage, hampered transportation facilities, etc. Maryland has had to make a special appeal to the interstate commerce commission for aid in getting enough material shipped in to properly care for road repairs.

ALL RECEIVE SOME BENEFIT

Good Roads Are Advantageous Alike to Producer and Consumer—Storage Charges Less.

When the roads of the great producing zones of this country are improved, benefits will accrue not only to producers, but to consumers. When marketing is distributed throughout the year, storage charges must decline. This country is paying at present large storage prices on foodstuffs. The disadvantages of freight congestion in the fall cannot be entirely eliminated in many places, but good roads will certainly have a marked tendency to distribute hauling over longer periods.

It is reasonable to say, therefore, that good roads mean that diversified farming will be encouraged, the area of profitable production increased, the opportunity for favorable marketing improved, and more uniform distribution of farm products secured.

MUCH DEPENDS ON HIGHWAYS

Prospective Purchaser of Farm Is Concerned About Many Things, More Especialy Roads.

A prospective purchaser of a farm is concerned about the adaptability of the soil to specific agricultural activities such as general farming, stock raising, dairying or market gardening, and must inquire into conditions affecting such industries. He is also concerned about suitable home life for his family, schools, churches and community social life, all of which are very much dependent upon roads.

PROGENY OF PUREBRED BULL

First Cross on Average Dairy Herd Increased Income $32 Per Cow Per Year in Ontario.

The first cross of a purebred bull on the average dairy herd increased the income $32 per cow per year, according to figures secured by the Ontario agricultural college in a comparison of 140 herds using grade bulls and 81 using purebreds.

EARLY SELF-PROPELLED VEHICLE

Another stage in the history of the automobile was unearthed recently when Gabriel Pollock, in searching through some old relics, came upon what Achie Philion, who invented it in 1893, maintains is the first self-propelled vehicle to appear in the streets of Chicago. As a park lizard it was some boat in those days.

STOP END PLAY IN CRANKSHAFT

Bronze Washer Placed Between Bearing and Flywheel Will Overcome Difficulty.

DIAGRAM EXPLAINS DETAILS

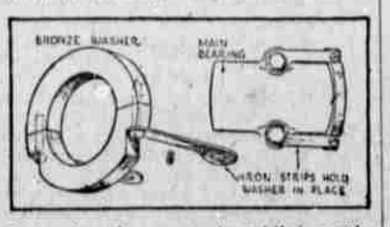
Where Screws Pass Through Halves of Washer the Lower Part Is Filed Flat to Permit Fitting of Little Iron Strips.

It is not always practical for one to replace the main bearings or the caps in an engine which is giving no trouble except for a slight end play in the crankshaft.

Although any end play in this member is destructive to both the engine and the transmission, it seems a pity to spend time in fitting new bearing caps, and so the following suggestion is given to obviate the trouble.

To Obviate Trouble.

Measure the clearance between the last or rear bearing and the flange on the end of the crankshaft, and dress off the end of this last bearing until approximately one-quarter-inch play clearance at this point is obtained. Next fit a bronze washer so that it



End play in an automobile crankshaft can be prevented by placing a bronze washer over the crankshaft between the bearing and flywheel.

will compensate for this clearance and have a hole in it one-eighth inch larger than the shaft. Cut the washer into two pieces with a hacksaw, then fit two machine screws to hold the two parts together. This split washer may then be placed over the crankshaft between the bearing and the flywheel flange, and will compensate for end play.

Illustration Explains.

Upon referring to the illustration, one will note that where the retaining screws pass through the halves of the washer, the lower part has been filed flat. This is to permit the fitting of a flat piece of iron between the head of the screw and the washer. This latter piece of iron should be clamped beneath the head of the bearing-cap retaining bolt and will prevent the washer from rattling.—Popular Science Monthly.

DETECTION OF SHORT CIRCUIT

By Feeling Carefully Along Wires Driver Can Locate Seat of Trouble by Heat.

When two of the wires of the lighting or starting systems are producing a short-circuit, an inevitable accompaniment of the condition is heat. By feeling carefully along the line the operator can usually detect the presence of a short by the heat that is being generated.

WHEN VACUUM TANK FIZZLES

Possible to Get Up Enough Pressure Temporarily to Feed Fuel by Blowing in Line.

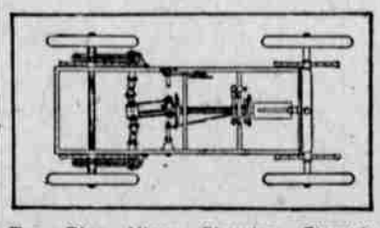
When the vacuum tank fails on the road, it is possible to get up enough pressure temporarily to feed the fuel by blowing in the main fuel line. By repeating this process every quarter of a mile enough fuel will be fed to get the car to a garage where repairs can be made

MOTOR POWER TRANSMISSION

Invention That Enables Driver to Change Speed Without Breaking Connection.

The Scientific American in illustrating and describing a power transmission invention of G. L. Jacques of Neillsville, Wis., says:

This invention relates generally to transmission of power and more particularly to a power transmission for motor vehicles, the primary object being a power transmission which will enable the changing of speed without



Top Plan View, Showing Flexible Shaft, Driving Disk, and Propeller Shaft.

breaking the power connection between the motor and the drive wheels. A further object is the provision of a friction power transmission in which greater bearing is provided and maintained between the driving and driven friction members.

WORN TIRES ARE EXPENSIVE

Slight Gain Effected Is More Than Offset by Excessive Deterioration of Wheels.

The slight gain effected by using badly worn tires is much more than offset by the excessive deterioration of the wheels, motor and transmission, not to mention breakdowns or serious wrecks. It would be a good thing if truck makers generally suggested to their customers the advisability of not attempting to secure further mileage after the tires have worn down.

AUTOMOBILE GOSSIP

King Albert of Belgium is an experienced motorist.

• • •

There are 2,400 to 2,500 parts in the popular-priced touring car.

• • •

Canada and the United States have together some 8,000,000 motor vehicles.

• • •

Automobile manufacturers are planning to standardize hub sizes to any and all wheels.

• • •

In filling the gearset put in the lubricant to a depth of about half the height of the gearbox.

• • •

A car that is driven on a fixed throttle will show lower fuel consumption than one driven on variable throttle movement.

• • •

Surprising as it may seem, the first automobile was built and tested half a century before the first railroad track was laid.

• • •

Mileage capacity of a motortruck varies according to make and purposes for which it is used and manner in which it is handled.

• • •

Automobile tires are wrapped in paper by the manufacturers because tire makers know that sunlight and air sap the strength of rubber.

• • •

During the active running season it is a good plan to test the wheels for side play once a month. Side play causes excessive bearing wear and tire wear as well.

• • •

Take a shovel for emergencies and also a tow-rope. You may have to be pulled out of a ditch at the side of the road, or you may want to help out someone else.

Rann-dom Reels

By HOWARD L. RANN

THE $16 HOG

THE $16 hog is a successful attempt to discourage people from eating meat three times a day.

The American people, as a class, have paid very little attention to the hog in recent years. They have been too busy protecting margins and learning how to adjust the needle-valve carburetor so that it would carb in sequence. When a business man received orders to bring up a small section of pig for dinner he did so without taking his checkbook out of the safe. When we look back and see how many lean pork chops one could buy for a quarter and then see how far it will reach in that direction today, we can see why so many people turn vegetarians over night.

The $16 hog was caused by the European war, the same as the price of uncut diamonds and bronze shoes.

People who serve any kind of pig do so with an air of pride and comment on the price per pound in an awed tone of voice.

Before the war a stout-legged, adult American hog could be bought almost anywhere for less money than it takes to start up in the grocery business. No Sunday dinner was considered complete without a nine-pound pork roast which could be strung along through the week with the utmost success. The recumbent form of the pickled pig's foot was seen both in mansion and cottage and produced the same kind of indigestion in each. Now, however, people who serve any kind of pig do so with an air of pride and comment on the price per pound in an awed tone of voice.

The $16 hog has been a priceless blessing to the farmer, however, as it has enabled him to take nine full-grown pigs and four runts to market and return with enough money to choke a safety deposit box. Thousands of automobiles are being bought today with the proceeds of a few squint-eyed pigs which a few years ago were as much of a drug on the market as the self-sprouting potato. We should not be envious, but when a business man who is pleased to be able to break even at the end of the year sees a farmer lead a few head of bow-legged pigs to market and return with the price of a twin six, it produces a lump in his throat as big as a football.

(Copyright.)

ONE ON THE COCO

De Bluff—Yes, when I was quite a young man I determined to get ahead in the world.

Miss Pert—Where did you go—in a cabbage patch?

THE ROMANCE OF WORDS

"DOUGHBOY."

OF all the names applied to the American soldier during the world war—"Yank," "Sammy," "Buddy" and the like—the only one which stood up under the strain was "doughboy."

Probably they didn't know it, but the reason that the men of the A. E. F. accepted the term and answered to it without hesitation, is because doughboy is the oldest of slang words for American infantrymen, dating back to the days of the Revolution. At this time, following the custom of the British army, each man of the Colonial army was served with three or four cakes of bread a day—flour and water, usually underbaked. These cakes were known as "doughboys" and, before the end of the war, the men to whom they were served were called by the same name.

During the Civil war the appellation was revived—partly on account of the way in which it had been used during the Revolution and also because of the manner in which the large brass buttons of the infantrymen were ridiculed. "They're as big as boiled dumplings or doughcakes," stated one critic, and the name "doughboy" stuck—to be again resurrected when the American forces crossed the Atlantic.

(Copyright.)

Last Night's Dreams —What They Mean

DO YOU DREAM OF SWIMMING?

SOME of the scientists go so far as to attribute dreams of swimming to an atavistic reminiscence of the days "when you were a tadpole and I was a fish." It is a generally accepted theory that all life on this planet began in the primeval sea from which the continent afterward emerged; and scientists declare that rudimentary gill-slits are not uncommonly found in man, physical vestiges of our fish state. So they say, as these gill-slits linger in our physical structure in our mental structure there may linger "some faint atavistic echo from the primal sea."

Freud states that in dreams of swimming as in those of falling, hovering and flying—a general statement cannot be made as to their significance—they signify something different in each case. But he holds it as a truth that these dreams represent impressions from our earliest childhood which are seized upon and made use of by the dream thought. These dreams of swimming are, as a rule, very pleasant ones and are classed by the scientists as among the "typical" dreams.

The mystics account a dream of swimming to be a most favorable omen, especially if the water of the sea of dreams is clear and you seem to swim easily. To dream of swimming yourself or even seeing some one else swimming, prognosticates a reconciliation with a friend with whom you are now at odds. If you swim along easily with your head well out of water you will be successful in love and business; if you are a sailor a profitable voyage is before you. But if in your dreams you swim along with your head under water you will shortly be called upon to face many hard struggles. You will win out in them, however, by keeping "a stiff upper lip."

(Copyright.)

SCHOOL DAYS

MOTHER'S COOK BOOK by Nellie Maxwell

Earth's grandest hearts have been loving hearts,
Since time and earth began,
And the boy who kisses his mother
Is every inch a man.
—Eben Rexford.

TOOTHSOME DAINTIES.

Some of these dishes may be a little too much work for every day, but will be found very satisfactory for occasions:

Chestnut Salad.

Cook one pound of Italian chestnuts, shelled and blanched, in chicken or veal broth seasoned with vegetables. When tender, let cool and cut in shreds. Cut tomato jelly into cubes or other shapes, shred half a green pepper, cut a bunch of lettuce or endive into shreds. Wash and dry the hearts of two heads of lettuce. Arrange the lettuce on salad plates, sprinkle with the shredded foods, and set a tomato cube above. Pour over two tablespoonfuls of dressing and serve at once. To prepare the jelly: Soak one-fourth of a package of gelatin in one-fourth of a cupful of cold water. Place over the heat two cupfuls and a half of tomato, three branches of parsley, half a dozen celery tips, one-fourth of a bay leaf, half an onion with two cloves thrust into it, half a teaspoonful of salt, paprika or a piece of chili pepper, a tablespoonful of dried mushrooms. Let simmer twenty mintes and press through a fine sieve. Add the softened gelatin, stir until dissolved, then turn into a dish to mold. When cold use as above.

Lightning Cake.

Beat half a cupful of butter to a cream, add gradually one-half cupful of sugar, the yolks of four eggs, beat until light, add three tablespoonfuls of milk and lastly one cupful of flour, sifted with one teaspoonful of baking powder. Spread the mixture in a shallow baking pan. Beat the whites of the eggs until stiff; gradually beat into them three-fourths of a cupful of sugar, then fold in one-half cupful of almonds, blanched and shredded lengthwise. Spread this mixture evenly over the cake, dredge the top with sugar and cinnamon and bake thirty minutes. Cut in strips when serving.

Potato Dumplings.

Take two cupfuls of mashed potatoes, add salt and nutmeg to taste, one egg well beaten, half a cupful of buttered cubes of bread browned in butter, one teaspoonful of chopped parsley or marjoram; mix well, form into balls rolled in flour and cook in boiling salted water ten minutes. Remove carefully from the dish, cover with buttered breadcrumbs, browned in butter.

Orange Honey.

Grate the yellow rind from two fine oranges and add it to two pounds of strained honey. Take one quart of juice and pulp of oranges; add this to the honey. Boil carefully for half an hour then put into glasses and cover with paraffin when cold.

To Remove Mildew.

Mildew is a plant which fastens itself into the fiber of the cloth. If taken early it may be removed by soaking in sour milk or buttermilk. Lay the cloth in the sun and spread with butter thickly salted with table salt, is another method said to be effective.

3 BILLIONS NOT IN BANKS

Enough to Put Nation's Liberty Bonds Back to Par Now Being Held in Stocking Bank.

Philadelphia.—The combined "Lisle Thread National bank" and the "Feather-Bed-Mattress bank" now hold more than $3,000,000,000 of the country's cash.

This is the estimate of William H. Hutt, acting governor of the Philadelphia Federal Reserve bank, made of the loose cash being carried around in pockets and stowed away in various places.

Even a small proportion of this $3,000,000,000 invested in Liberty bonds would bring them back to par, he pointed out, or if the money was deposited in savings banks it would inject new life into industry.

Rat Attacks Child.

Shenandoah, Pa.—Victor, fourteen-months-old son of Prof. and Mrs. A. Guimes, was attacked by a large rat as he lay asleep in his crib in a second-story flat at 1:30 o'clock one morning, and bitten a number of times on the arms and hands. The child's cries awoke the parents and as they approached the crib a large rat jumped out and disappeared in a hole near the radiator. Doctors treated the wounds and no serious results are feared.

A method for casting hollow concrete building slabs with sand cores that can be washed out with hose has been invented by a Montana man.