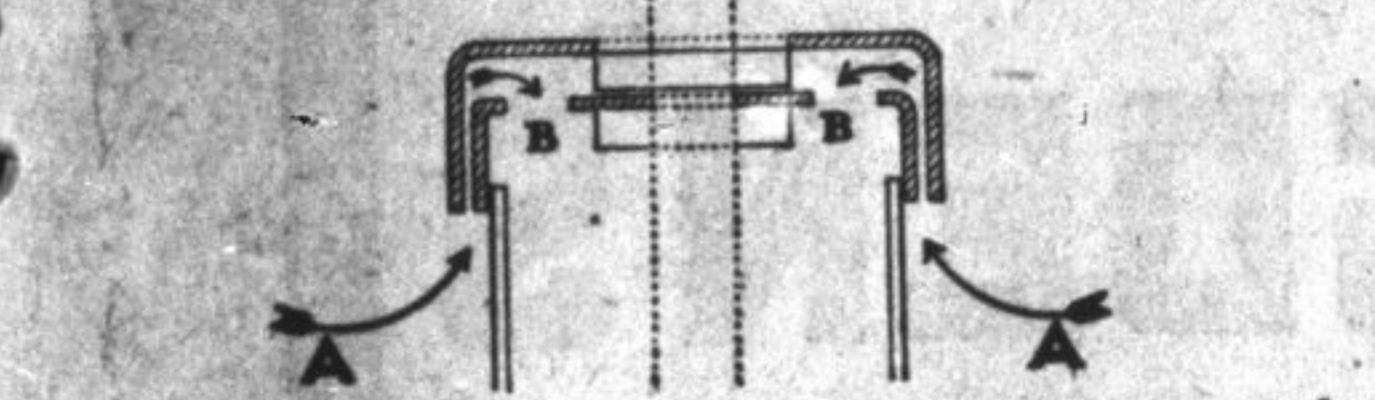
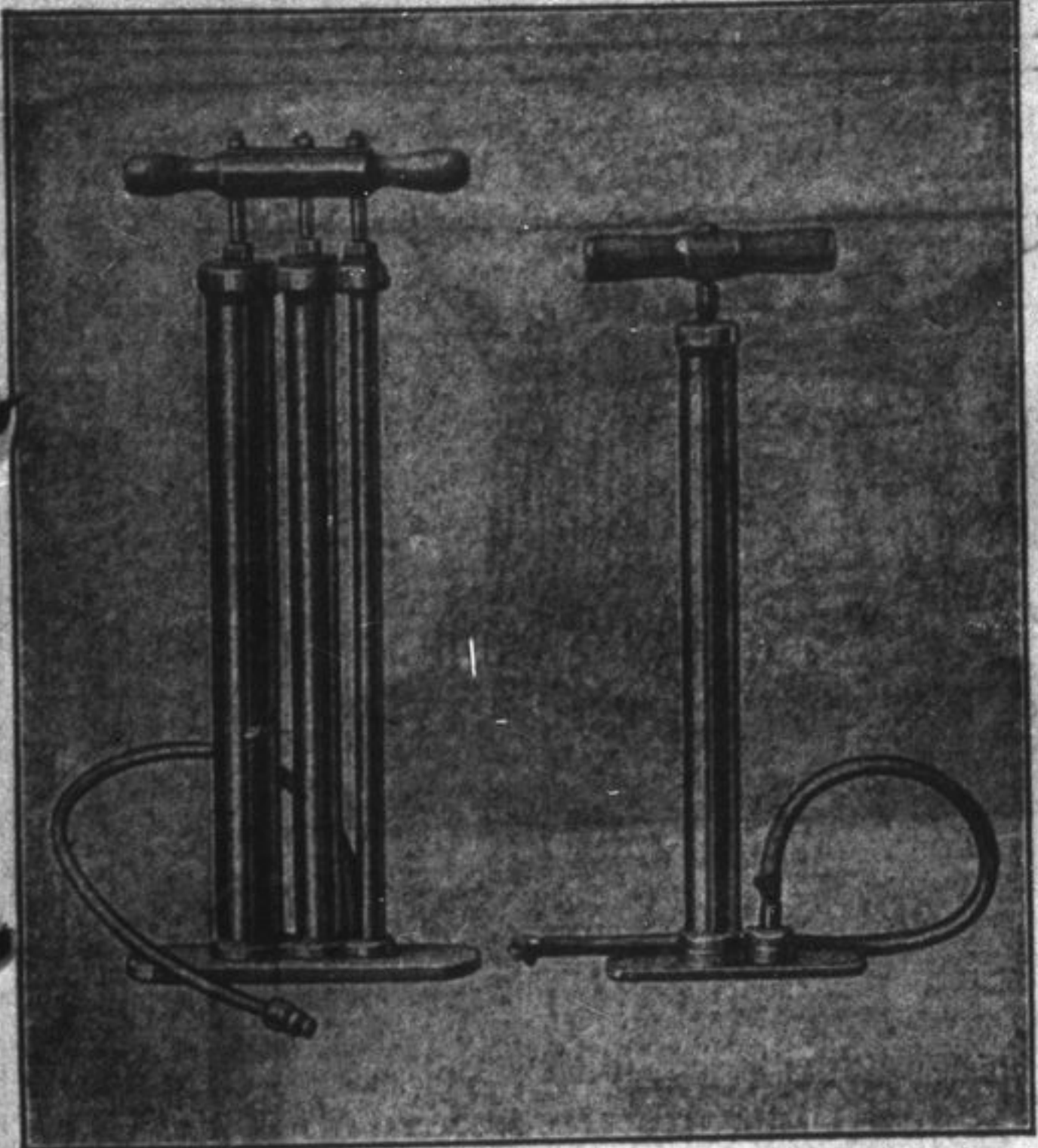


THE COMMON SENSE PUMP



THE COMMON SENSE AUTO TIRE PUMP—they call me so, because I waste no air. What I take in on the down stroke through the two large valves, A, and B., (shown above) I retain. I do my work well from start to finish, without a hitch or miss, up to 100 pounds or more. This is proven by a test in the shop with a steam gauge on a tank for the purpose. I am easy to work, small and neat. I put in between two and three pounds to the stroke, without cussing and perspiration. I put up a tire in a few seconds, not minutes.

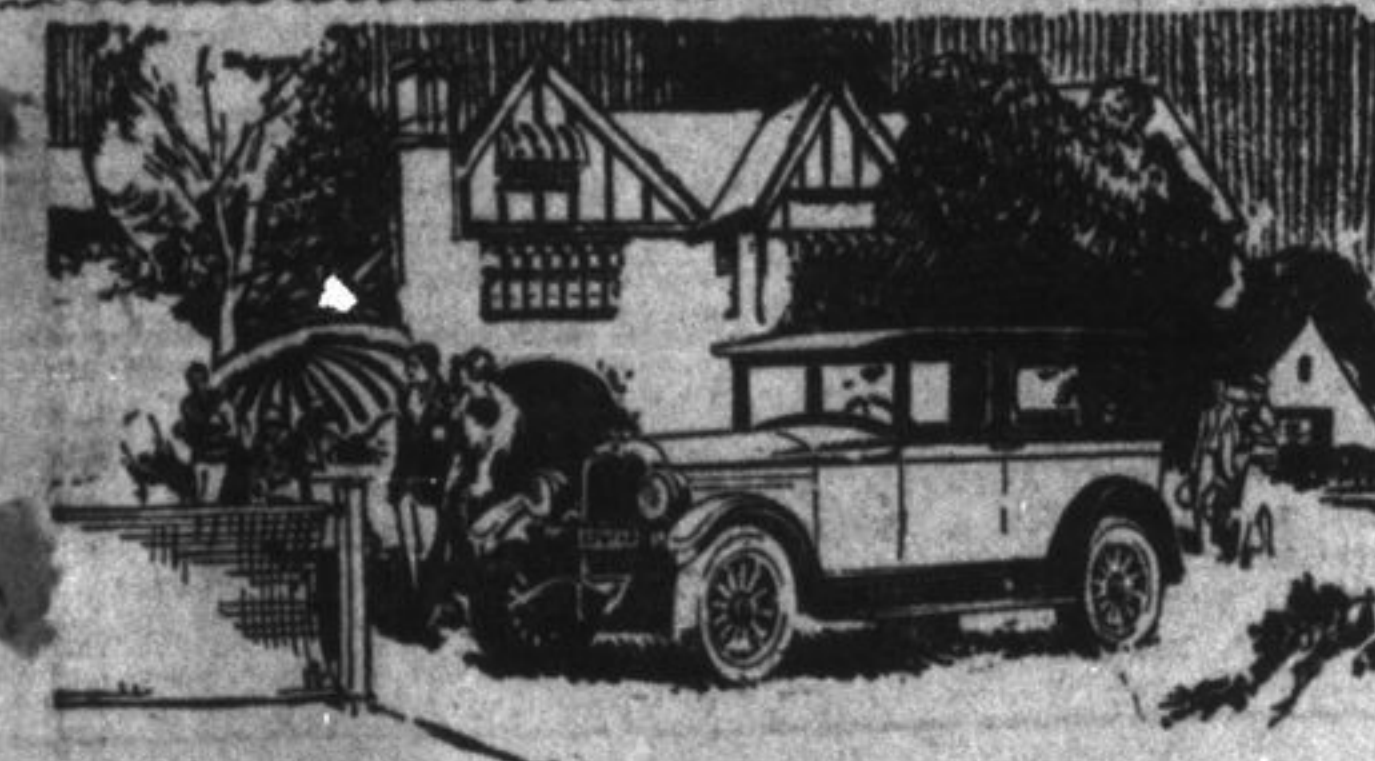
The goods are as represented and guaranteed to do the work. The first that I made was out of scrap to test it and was tight and has been on the job for over two years and no repairs wanted to be done. All that has to be done to keep the pump fit is screw off the top and put in a little leather oil once or twice in the season. I have repaired all sorts of auto pumps with little or no satisfaction to myself or the customer in my shop and as I had a car and wanted a pump to do the work and help me out on the road, I patented it to protect work for my shop. The above cut shows a larger pump at \$5.00 (five dollars), and the latter trim it and larger one at one-half the price. It is sent anywhere in Ontario by post for \$8.75, and has come to stay long after others have gone to the scrap heap.

I run a general repair shop here. Having been a general maintenance man in large plants fits one for this line of work as well as making pumps. So far I have pleased many with the pump and why not others as it has come to stay.

The man for whom I made one while patent was pending three years ago, states that since using my pump he does not bother with "free air" service stations any more, as this pump requires such little effort and time.

An engineer who made a survey of the United States Patent office reports that in my class of 230 air and gas pumps I excel in efficiency and simplicity.

The Common Sense Pump manufactured by JOHN WARWICK HUNTER, of SYDENHAM, ONTARIO, and is sold through the trade and by persons authorized by him. It is patented—Pat. Jan. 15, 1924.



Unusual Equipment

With every sound device and engineering feature which makes for long life, low upkeep costs, and super-smoothness, the Hupmobile Six is one of the most modern and completely equipped cars in the entire field of the lower priced sixes.

HUPMOBILE SIX

Advanced Features
Oil Filter - Gasoline Filter - Removable Key Steering - Upholstery in Latest Style - Cloth Seats - Special Oil-Proof Vision-Reflecting Windshield - Dash Gasoline Gauge - Strong, Rigid Frame - Heavy, Rigid Crankshaft - Special Vibration Damper - Mechanical Compression Chamber.

Hupmobile Six	Hupmobile Eight
Sedan, five-passenger, four-door, \$1945. Coupe, two-passenger, with rumble seat, \$1945. Touring, five-passenger, includes 30 x 8.25 balloon tires, four-wheel brakes. All prices f.o.b. Windsor.	Sedan, five-passenger, \$2345. Sedan, Berlin, \$3470. Coupe, two-passenger, with rumble seat, \$2345. Touring, five-passenger, \$2775. Touring, seven-passenger, \$2950. All prices f.o.b. Windsor.

Our used cars are good buys; they are sold with your complete satisfaction first in mind.

JOHN MORRIS,
Local Distributor.
80 Brock Street, Telephone 2443.

GET THE OLD PEP BACK!!!

BY HAVING YOUR
AUTO CYLINDERS RE-GROU'ID AND NEW PISTONS
FITTED.

FLYWHEEL RING GEARS FITTED

THOS. G. BISHOP ENGINEERING CO.

HINTS FOR THE MOTORIST

By ALBERT L. CLOUGH.

How Bearings Burn Out
Stopping The Knocking Engine Immediately May Prevent This

AT MAIN AND CONNECTING-ROD BEARINGS, the forces act between portions of the crankshaft and rigidly supported bushings of friction metal, which has a low melting point. With a good supply of suitable oil, constantly flowing between these bearing surfaces, friction is reduced to a minimum, but if the oil supply becomes inadequate, friction becomes intense and its resulting heat softens the readily fusible metal of the bushing or even actually melts it, leaving a part of the shaft or a connecting-rod end loosely supported, causing severe knocking and danger of a wrecked engine.

General Lubrication Failures
Among the causes of such lubrication failures are lack of oil, failure of the oil pump, obstructed oil pipes, oil too cold and thick to circulate or ice formed around the pump. Even very much diluted or excessively dirty oil may produce the same effect.

Cylinders Run Dry First
Such general failures of the oiling system are, however, usually indicated, before bearing burn-outs are likely to occur, because cylinder lubrication generally fails first. Loss of power, overheating, knocking from pre-ignition and squeaking of the pistons ordinarily gives a warning which, if immediately heeded will, in most cases, save bearings from damage.

Oil Deficiencies From Local Defects
In the case of an engine having its bearings individually lubricated by direct pressure oil-feed, with a special source of supply to each main bearing and connecting-rod end, a particular bearing may be deprived of oil by a local defect, which may not affect other bearings or immediately interfere with cylinder lubrication to such an extent as to provide a warning based upon abnormal engine operation.

Stopped Up Oil Ducts
Such accidents arise from clogged oil-passages in the crankshaft or elsewhere, bearing bushings fitted altogether too tightly or carelessly installed, so as to obstruct oil movement. A bushing, once overheated, through lack of oil, frequently has its metal "spun over" the oil ways or drilled passages, so that circulation is thereby permanently stopped and a complete burn out occurs.

Forestalling Obstructed Oil Flow
Extreme care and intelligence is required in fitting and readjusting such bearings, if lubrication troubles are to be avoided. Oil should never be allowed to become dirty, the lubrication system should be frequently cleaned out and all oil passages should be blown out with compressed air occasionally to make sure that they are open. In case such a lubrication system fails and the engine runs dry, an expert examination of the entire oil distribution system is very desirable, before the engine is given further service, as a precaution against interruption of bearing lubrication.

INCOMPLETELY SEATING VALVES?
pushrod and valve stem when the valve is in its closed position and, if not, readjust for the correct clearance. If you do not find this defect present, please write us again.



G. E. K. writes: The engine of my car misses badly, but does not begin to miss until it has warmed up. Can you tell me why this is? I have renewed the wiring and had the battery repaired, but this has made no improvement in the trouble. The cause of this particular trouble is the close adjustment of the pushrod and valve stems (most common the exhaust). These parts, which should be sufficiently contracted so that there is a very slight clearance between them, which permits the valves to seat, but when hot they may expand enough so that the valves do not do so, and the leakage through the slightly opened valves, during suction and compression strokes, may so foul or dilute the charges that they fail to fire. When your engine is hot, see if there is clearance between each



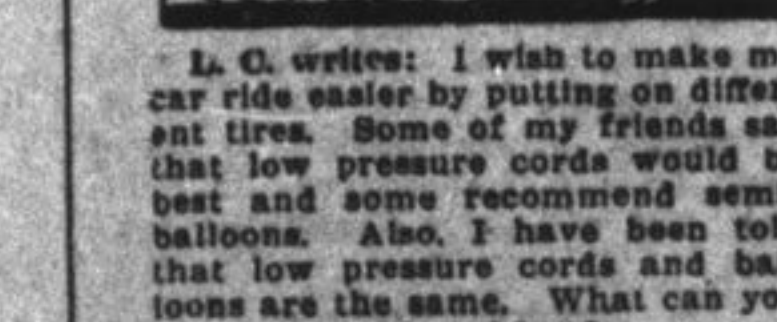
FILTERING CARBURETOR AIR
C. R. asks: Would cloth of suitable mesh, arranged to loosely cover the carburetor air-intake, act as an effective air-cleaner?
Answer: Cloth of very fine weave would be required to exclude the dust particles and it would have to offer a very large area in order to permit the entrance of air with such perfect freedom as not to reduce the amount entering the carburetor so much as somewhat to choke the engine. Removal of dust by centrifugal separating action seems to have advantages over the filtration method, especially in that there is no filtering material which requires frequent cleaning or renewal.

Shortcircuits
A SHORTCIRCUIT OCCURS WHENEVER any uninsulated part of a circuit, connected with the "live" side of the battery, comes into direct contact with any "grounded" part of a car, or put more concretely, when an uncovered part of a wire touches the car frame or anything metallically connected with it.

Fire And Stalling Dangers
Unless a fuse or circuit-breaker acts to break a shortcircuit, the very large resulting current may burn off the wire through which it is flowing, may set the car on fire and will soon discharge the battery and make the car inoperative. Some cars have nothing to break such "shorts," which continue until a wire melts, but most have fuses or circuit-breakers. The starting motor circuit is never so protected.

Precautions To Be Taken
Fuses or a circuit-breaking device may advantageously be installed, as additional equipment, on cars having no such protective devices, and on all cars, occasional inspections of all wiring for weak points, in its covering and for too close proximity to grounded car parts should be made. Any possibility of a "short" in the starter circuit, such as worn insulation and improper support of the cables, should be carefully guarded against. Even though protective devices are in use and work properly to avert danger, it is often a tedious job to locate a short circuit and especially so in the dark or rain. It is far better to forestall such troubles.

TIRE NOMENCLATURE
IS THIS WHAT IS CALLED A BALLOON TIRE?
ANSWER: The terms "low pressure cord tire" and "balloon tire" are two names for the same thing. This form of tire differs from the ordinary cord tire in being larger for the same weight carried and carrying less air-pressure. The fact that a lower air-pressure is carried permits the walls of the tire to be made thinner and more flexible, a smaller number of plies of fabric being employed. Probably the use of impracticable on your car as the construction of the steering gear and the clearances between tires and fenders and other parts, would not permit of their being successfully fitted. However, you can put on semi-balloon tires, using your present rims and presumably secure an improvement in riding qualities. The semi-balloon tire is simply the low-pressure cord principle adapted, as far as possible, to a tire that will fit on rims originally designed for high pressure cords.



L. C. writes: I wish to make my car ride easier by putting on different tires. Some of my friends say that low pressure cords would be best and some recommend semi-balloon. Also, I have been told that low pressure cords and balloons are the same. What can you tell me on this subject?
Answer: The terms "low pressure cord tire" and "balloon tire" are two names for the same thing. This form of tire differs from the ordinary cord tire in being larger for the same weight carried and carrying less air-pressure. The fact that a lower air-pressure is carried permits the walls of the tire to be made thinner and more flexible, a smaller number of plies of fabric being employed. Probably the use of impracticable on your car as the construction of the steering gear and the clearances between tires and fenders and other parts, would not permit of their being successfully fitted. However, you can put on semi-balloon tires, using your present rims and presumably secure an improvement in riding qualities. The semi-balloon tire is simply the low-pressure cord principle adapted, as far as possible, to a tire that will fit on rims originally designed for high pressure cords.

and a temperature of about 375° F. is required to remove 70% of them. Since 400° F. is the usual flash point of engine oil, at which decomposition of the oil itself commences, this temperature presumably should not quite be attained in an attempt to distill off fuel dissolved.

IGNITION FAILS WHEN STARTER ACTS
G. E. K. writes: The engine of my car is hard to start, especially when cold. If I press the pedal, it sometimes will not start even though I keep the starter going until the battery gets very low, but then, if I get out and pull up on the crank, it will start at once. How do you account for this?
ANSWER: The heavy drain of current required to run the starter motor, reduces the voltage of the battery to a point too low to produce sparks at the plugs, but when the starter is no longer running, the voltage of the battery recovers to a point high enough to operate the ignition system, sparks then occur and the engine fires. You better check up your spark-plugs to make sure that their points are not set more than a scant thirty-second of an inch apart and see that all connections between the battery, coil and distributor are tight and clean. If there is anything which causes the starter motor, starter drive on the engine to turn over unusually hard, it should be corrected. Test your battery to see that its voltage holds up normally under heavy current demands. If you cannot remove this trouble in any other way, you can have a set of dry-cells installed to furnish ignition current at 10% of the starting gasoline engine.



Questions of general interest to the motorist will be answered by Mr. Clough in this column, space permitting. If an immediate answer is desired, enclose self-addressed, stamped envelope.

AUTOS ARE BLAMED FOR FISH DEPLETION
Washington, June 4.—Extensive fishing made possible by the automobile is causing depletion of game fish in streams, according to the War Department.
This is an answer to a charge that the department's dams were interfering with fish spawning and causing depletion.

AN OVER-PRODUCTION OF CRUDE OIL TO-DAY
A Big Waste in Evaporation and Producers Want to Curtail.
(By Israel Klein.)
Instead of finding ways to meet the ever-increasing demand for gasoline in America, producers are getting so far ahead of themselves that they're trying to control the present output.

Out of more than 750,000,000 barrels of crude oil produced in the United States have come almost 11 billion gallons of gasoline. Improved cracking processes, less waste in production, and use of more natural gas gasoline, have brought this immense production far above what is needed for the automobiles and other engines of to-day.

And while there seems to be no sign of a drop in production, there are some who are already turning their attention to the possibilities of other fuels for automobile engines. In fact, there is even more promise to-day of getting more gasoline out of a definite amount of crude oil than at any time heretofore.

Te demand for gasoline last year reached a little more than nine billion gallons. More than a billion gallons of gasoline have evaporated from the excess crude oil produced last year.

That's why producers want to curtail their production. "There has been a real overproduction far beyond our economic needs," says Dr. Gustav Eglloff, prominent mining engineer of America. "The fundamental cause has been the marvelous technical achievement of the cracking process for producing gasoline from heavy oils."

"Without this process our needs for crude oil would be more than a billion barrels for 1926 instead of the 500,000,000 barrels now required. "The earth should remain the storehouse for this natural wealth until needed by man. Instead of continuing the present wasteful methods of storage, we should run the oil into the pipe line and immediately into the refinery to be processed into cracked gasoline and other products."

The world's production of crude oil last year was 1,066,000,000 barrels, of 42 gallons each, an increase of 5.2 per cent. over the peak of 1923. Almost three-fourths of this came from American soil.

Single Auto Control.
Effort are being made in Illinois and other mid-western states to place automobile law enforcement under one head instead of vesting this power in four or five directing bodies.

Town Wants Speeders.
Southgate, California, invites fast driving through its midst in order to get highway traffic out of the way and to give space to local traffic and parking.

Mud-Splashing Law.
Mud-splashing automobile drivers may be guilty of a criminal offense in Paris if the ordinance proposed by the prefect of police is adopted there.

U. S. Car Exports.
There has been an increase of 270 per cent. in the export sales of American-made automobiles during the last four years.

PRICE
Only large production could build Champion superior quality at such low prices as 80 and 90 cents.



CHAMPION
Dependable for Every Engine
A Canadian-made Product
Windsor, Ont.

DUOCO

CLASS A.—PROFESSIONAL
All the old paint and varnish removed from your car and eight coats of GENUINE DUPONT DUOCO applied with an Automatic Spraying Machine.

CLASS B.
Providing the paint on your car is not badly checked or crazed, we remove the varnish and apply four coats of GENUINE DUPONT DUOCO.

CLASS C.
This corresponds with a paint job, but we apply BRUSHING DUOCO with our Automatic Spraying Machine. The price will suit the most conservative purse, and will outlast a paint job by months.

For the owner that desires to paint his own car we have BRUSHING DUOCO on Sale.

OHLKE & BRADEY

Authorized "Duco" Refinishers,
CODNER QUEEN AND ONTARIO STS.,
Kingston.



—yet Unmatched Smoothness

Sixty miles an hour and more is not uncommon among able motor cars. But sixty miles and more with perfect smoothness and steadiness is rare—so rare as to be virtually exclusive to the Oakland Six.

This unmatched freedom from vibration at all speeds is made possible by a new invention, The Harmonic Balancer, described by automotive engineers as the outstanding achievement of recent years.

If you have not seen The Harmonic Balancer—if you have not tested its remarkable effect upon motor car performance—drive this new Oakland Six and experience the new thrill of an unvarying smoothness.

HUGHES & BURNS,
Frontenac Garage,
39 Montreal St., Kingston.

OAKLAND SIX

PRODUCT OF GENERAL MOTORS

ACCIDENTS

Remember that 83% of accidents happen through personal negligence. It is for you to avoid these accidents by having your automobile, boat, engine or machinery of any kind thoroughly inspected and put in condition to avoid such accidents.

Let us estimate on your requirements and we can guarantee satisfaction, both in the workmanship and prices.

Shall be glad to have a call.

Davis Dry Dock Co.

KINGSTON, ONT.

"Think For Them."
"Think for them" is the latest slogan for motorists that is being passed out by motorist organizations of the country to their members.

Buses in Canada.
More than 2,000 buses are now in use in Canada. Many of the provinces employ buses to transport school children.

High Parking Grounds.
Parking space for 50,000 automobiles at one time is being provided in Philadelphia for motorists who attend the Sesqui-centennial Exposition.

To maintain atmospheric pressure in the "gas" tank keep the pin hole in the cup of the filler pipe open. This also allows air to replace the gasoline drawn out.

Lime or alkali in the water will cause a deposit of these substances on the inside of the radiator, thus interfering with circulation.