

If leaded gasoline were sold as "gasoline" many housewives, mechanics and others using it as a cleaning fluid might become poisoned through absorbing in their bodies the lead it contains. The new label, "Motor fuel", will show that leaded gasoline is to be used for power generation only.

Scientific members of the committee, representatives of state health departments, manufacturers and distributors who decided on the change, also agreed to make the places where the poisonous, concentrated tetraethyl lead fluid is added to the gasoline as few as possible, so as to lessen the danger to workers.

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#### WARNS PRINTERS AGAINST LEAD

A warning to printers and molders of type metal has been issued by Dr. C. V. Weller, University of Michigan. Dr. Weller is studying lead poisoning experimentally, taking guinea pigs as the subject for his investigations.

Citing the fate of three young typesetters in Vienna who have become afflicted with gangrene of the feet, the pathologist said: "This is certainly a case of lead poisoning."

"Injury from type metal is a more common manifestation of lead poisoning than is usually realized," he added.

The lead alloy usually finds its way into the system through the mouth, as when meals are eaten carelessly in a type foundry, or through the lungs, by inhaling flying dust. The metal does not enter through the skin, in Dr. Weller's opinion.

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#### SUPERCHARGER TO CHANGE AUTO ENGINE DESIGN

Use of smaller engines in automobiles, only sufficient when operating normally to run the car on a level, but which by the use of a supercharger can be made to give enough power to take them up steep hills, may soon be a possibility, the Society of Automotive engineers was told at its recent meeting, by G. R. Short, of the General Motors Corporation.

Supercharging, Mr. Short pointed out, consists in increasing the amount of gas and air mixture that the engine normally takes into the cylinders. This may be done by some sort of a pump or compressor to put the extra amount of the mixture into the cylinders, and so get more energy out of them. Such devices have been tried on automobile engines from the first days of the industry, but a great impetus to the use of superchargers has been given in recent years by their use in airplanes. By their aid great altitude records have been possible, whereas otherwise the low pressure of the rarefied air would not permit an engine to work. Racing automobiles also use them to get the greatest power out of their engines.

However, the speaker pointed out, mere increase of pressure in the intake manifold will only result in increase of power when the engine is working at top speed. What is needed, he said, is greater power when the engine is working at low speed.

"If this is possible," said Mr. Short, "the supercharger would not only provide greater power from the same displacement of the motor, but also greater flexibility, the lack of which in the present engine is the limiting factor in the utility of the internal-combustion engine. If this can be achieved, it would mean the modification of the transmission, which is the most undesirable part of the automobile."

An engine has been produced recently in Germany, he stated, for marine use which ordinarily develops 6,400 horsepower, but by use of an electrically driven compressor the power can be increased to 7,800 horsepower, an increase of about 22 per cent.

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#### ACTUAL RUBBER SHORTAGE SEEN FOR 1930

The world's demand for crude rubber will exceed the supply by 37,000 tons in 1930 unless some plan of relief is adopted. This future shortage, which is actual, is troubling Congress almost as much now as the artificial shortage brought on by English restriction of rubber exportation which makes the price so high at present.

In hearings now being conducted by the Foreign and Interstate Commerce Committee of Congress to investigate the high price of rubber, Paul L. Palmerton, chief of the rubber division of the Department of Commerce, brought out that there were four methods by which Americans might combat the high prices caused by the present artificial shortage. One was a campaign for a more conservative use of what we have, making it last longer.

Substitutes were another possibility. Reclaimed rubber, although lacking some of the qualities of fresh natural rubber, could be mixed with new rubber in certain proportions for the manufacture of some articles wherein natural rubber had been used almost exclusively in the past.

In certain places, such as in the treads of tires, the use of reclaimed rubber decreased the durability. Tests on tire treads have shown that up to a certain point the durability is decreased regularly as the percentage of reclaimed rubber is increased.

Synthetic rubber has been unsuccessful commercially so far, although Germany, during the latter part of the war, was producing 150,000 kilograms of synthetic rubber per month. It is costly to produce and lacks elasticity, but it serves quite well in the manufacture of hard rubber products.

The stimulation of production of wild rubber in the Amazon Valley was another suggestion made by Mr. Palmerton, and the fourth was cooperative buying.

In view of the actual shortage which is prospective for us, he estimated that a million to a million and a half more acres of rubber need to be planted upon plantations of our own. Rubber trees do not begin to bear until 5 to 7 years old and full bearing is not obtained until 8 to 10 years old, so trees planted now cannot hope to affect the prospective shortage of 1930 but they can