

ALCOHOL IN GAS ENGINES.

It has been asserted that farmers use more gasoline every year in small engines than do the owners of automobiles. Careful tests show that the same amount of power can be had from a given quantity of alcohol as from gasoline. One estimate makes it possible to get a horsepower from a pint of either per hour. Alcohol can usually be made to work in an engine intended for gasoline, but in building entirely new engines, the designs will probably need to be modified in certain ways.

The opinion is expressed by *The Iron Age* that the most important change that will be required will be in the cylinder and its intermediate parts. Other things being equal, the essential factor in determining the economy and efficiency of an explosive engine is the extent of compression that is possible with the mixture of vapor and air. This is greatly in favor of alcohol, since the compression can be carried much higher than with gasoline without danger of premature explosion. The same rule obtains here as in other explosives; gun cotton is a comparatively harmless substance until closely confined. Compression in a gasoline engine ranges from 45 to 60 pounds a square inch, varying according to the design and the rapidity of the cooling of the cylinder. A higher compression being possible with an alcohol mixture, the combustion is more perfect and the energy greater with equal volumes of gas.

In all gas engines, except those of the throttling type, the cylinder is completely filled with the mixture during the stroke just preceding ignition. If the clearance were as small as in the ordinary steam engine, the heat due to compression would be so great as to cause inflammation of the gas before the piston had reached the end of its stroke. To overcome this, the common gasoline engine is made with a clearance equal to one-fourth to one-fifth of the volume of the cylinder. This clearance will have to be reduced to meet the requirements of an alcohol mixture and obtain a higher compression before ignition by the spark takes place. In this country, engines have not been designed for the use of alcohol, neither have endeavors been made to modify the ordinary engines for that purpose. The price of alcohol has been so excessive as to discourage, and, in fact, prohibit its employment as a fuel for power purposes. There has been absolutely no incentive along that line. But much work has been done in this direction in Germany and France, where alcohol is cheap and engines using it are common.

ALSO BURIED.

A certain village on the Roman road to Scotland used to have a bad reputation among cyclists. Few ever got through it without suffering from the attacks of a big dog, which (incited, it is believed, by its owner) flew viciously at passing machines and gave the riders a very bad time. Often enough had the dog's decease been reported, but the story of its ultimate defeat and death is graphically told in the neighborhood.

One hot day a meek-looking clergyman stopped at a wayside inn and begged Boniface to give him a meal. He explained his inability to pay for it by declaring that, as he was passing through an adjacent village, a brute of a dog jumped out of a house and got under his motor. He rode it down and killed it, and had given the owner all the money he possessed as compensation.

The landlord's eyes grew wide. "Are yer certain yer kilt that dorg?" he asked. "Indeed, yes. To make sure it was really dead, I compelled them to bury it while I was there."

"Then come inside and have a dinner at my expense, parson," cried Boniface, enthusiastically. "That dorg's been kilt mony a time before, but you're the first man 'at's had the gumption to stop an' see it buried." — *London Tit-Bits.*

MATTER OF TASTE.

"Can any fish boy," asked the new teacher, "tell me the difference between a lake and an ocean?" "I can," replied Edward, whose wisdom had been gained from experience. "Lakes are open passants to swallow when you fall in." — *Youth's Companion.*

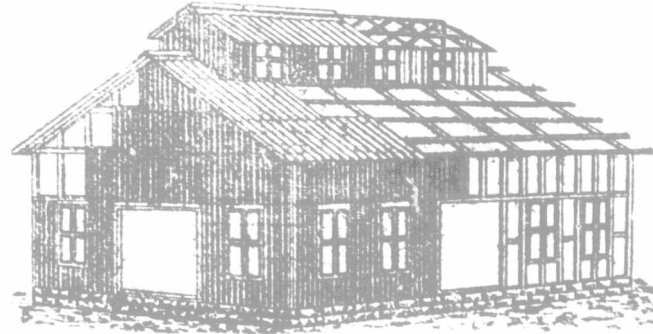
HER AMBITION.

Some children were discussing 'what we'll do when we get big.' One wanted to be a milkman and ride around in a wagon. The second wanted to be the man to ride on the freight cars and 'make the round things go.' The third, also a boy, could not decide whether to be a minister or a grocer. The fourth child, a girl of eleven, did not care to tell what she would do. 'Aw, yur!' contemptuously cried he for whom the ministry and confectionery had equal attraction. 'Yur want to get married!' he said, with the traditional blindness of his sex. When the boys had run off, the girl's ambition was confided to her favorite aunt. 'I wouldn't tell before them,' she said, scornfully. 'They couldn't understand. But, aunty, I want to be a justice of the Supreme Court, and'—her voice became solemn—'beyond human control.' — *Youth's Companion.*

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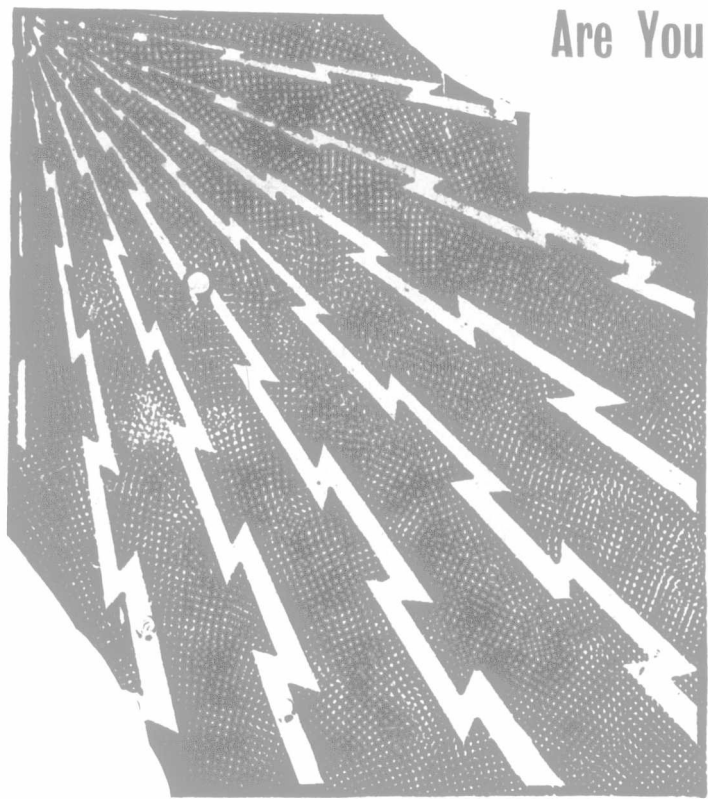


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