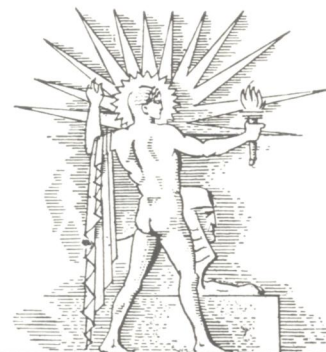


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SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE •



May 16, 1942

Gears for War

See page 319

A S C I E N C E S E R V I C E P U B L I C A T I O N

Do You Know?

Copper may have been the first metal used by man in making tools.

"Perfumes of Araby" represented the re-discovery of the ancient Egyptian art of *distillation*.

Iodine forms such an intense blue on contact with starch that it will indicate the presence of 0.0000001 gram.

By treating wrapping paper with *diphenyl*, orange shippers reduce spoilage from 9.57% to 0.37%.

Mosses have so adapted themselves that they can grow either on exposed desert rocks or under water.

Soupin shark, now our richest source of vitamin A, was once used as fertilizer and sold for as little as \$10 a ton.

At one time 60 million *buffalo* grazed on an area of more than one million square miles in the United States and Canada.

Fluorine, one of the most active elements known, decomposes water and liberates oxygen highly charged with ozone.

By altering the molecular structure of natural fiber, scientists produce a *wool* highly resistant to moths and shrinkage due to laundering.

In the Mid-Cretaceous age, the *Gulf of Mexico* extended over Texas into Colorado and Kansas, and the Pacific Coast Range was not yet elevated.

QUESTIONS DISCUSSED IN THIS ISSUE

Most articles which appear in SCIENCE NEWS LETTER are based on communications to Science Service, or on papers before meetings. Where published sources are used they are referred to in the article

AERONAUTICS

How many bombers could be built in the time lost through accidents each week? p. 311.

ANTHROPOLOGY

What people were the earliest inhabitants of Japan? p. 314.

CHEMISTRY

Under what circumstances did large doses of nicotinic acid harm rats? p. 315.

What are the advantages of obtaining curare in pure crystalline form? p. 315.

What is the outlook for silk production in Japan after the war? p. 310.

What poison can be used to cure selenium poisoning? p. 316.

DENTISTRY

How can fluorine be used to reduce tooth decay? p. 307.

ETHNOLOGY

How are Eskimo women helping to clothe the soldiers? p. 316.

MEDICINE

What ills may follow an attack of German measles? p. 314.

What relative of the sulfa drugs can be used to treat tuberculosis? p. 307.

PHYSIOLOGY

What can you take to enable you to live on a diet of wood, leaves or grass? p. 308.

PLANT PHYSIOLOGY

How were pineapple plants grown without soil? p. 311.

PSYCHOLOGY

How can rats be "psychologically vaccinated" against noise induced fits? p. 316.

How can you know a swindler? p. 310.

How do your brain waves change as you grow older? p. 309.

Why should children be taught the facts about war? p. 309.

Why should you not rely on your taste to select your diet in times of scarcity? p. 309.

RESOURCES

Where will the United States get materials needed for tanning? p. 318.

The *drum* was probably man's first musical instrument.

Tar or whitewash a *rat* and its former companions run in terror.

One species of *electric fish* was venerated by the ancient Egyptians.

Harmless *table salt* is made up of two deadly poisons—sodium and chlorine.

A thick *skull* has the advantage of protecting the brain more efficiently from injury.

A pilot of a modern *bomber* can perform almost 25 operations simply by touching buttons.

In Mexico alone there are 1,200 registered *archaeological sites*.

Safety pins were invented more than a thousand years before Christ.

Mobile *optical units* to supply soldiers with spectacles have been organized by the Army and will accompany U. S. forces in the field.

Peppermint, much used in confections and medicines, also is useful in testing steam boilers for leaks and in trying out gas masks.

The modern American *soldier* is both taller and heavier than the average-citizen soldier who entered the Army in 1917, according to the War Department.

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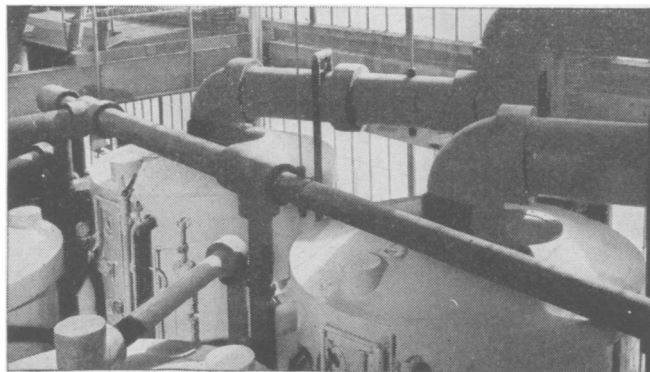
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Can you identify this industry?

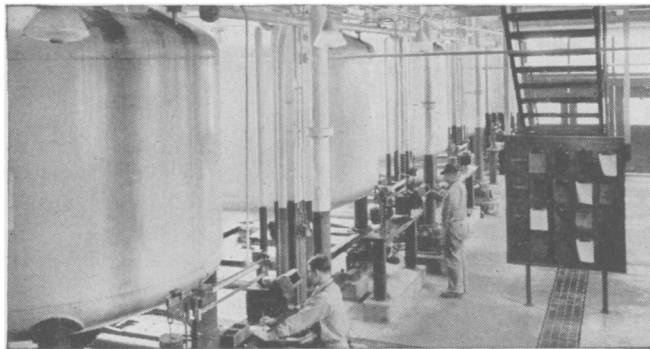
(IT HELPS GIVE EXTRA POWER TO AMERICA'S WARPLANES)



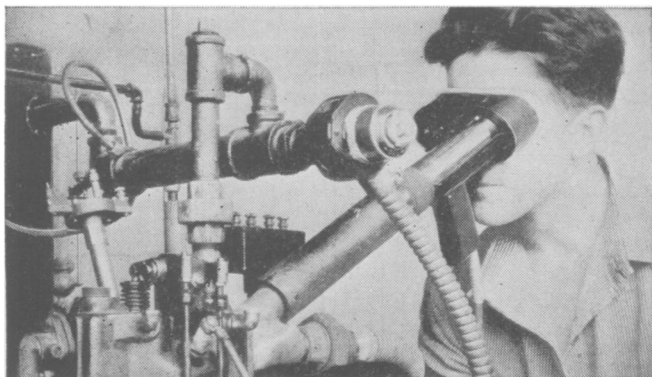
CLUE No. 2 . . . The battery of compressors above is used to compress petroleum gases to make ethyl chloride. This chemical is very necessary—but there is not a drop of it in the finished product.



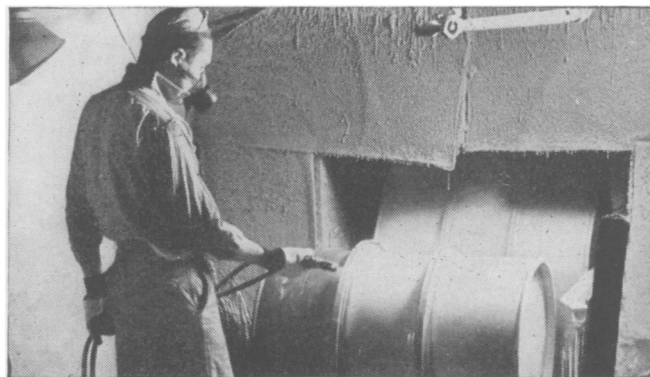
CLUE No. 1 . . . The basic raw materials used are—salt, sulphur, sea water, molasses, lead and petroleum gas. This picture shows part of the equipment for evaporating salt brines to produce table salt.



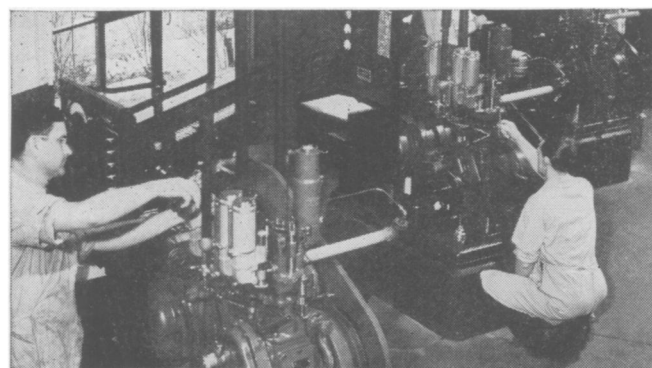
CLUE No. 3 . . . Tons of the various ingredients that make the finished product are blended in these weigh tanks at one time. They measure the ingredients accurately to within one part in ten thousand.



CLUE No. 4 . . . This research engineer is using an optical pyrometer to tell, by color, temperature of an exhaust valve in an engine running "wide open." Research is very important in this industry.



CLUE No. 5 . . . Painting a drum to ship the product overseas for war use. Each drum is cleaned and painted gray each time used, so the least leak of brightly colored product would show immediately.



CLUE No. 6 . . . The final clue is an easy one—if you're an automotive or petroleum engineer. These machines are "C.F.R." knock rating engines which are used in the six gasoline-testing laboratories.

It's probably no secret to you by now—these are a few pictures of the company that produces Ethyl brand of anti-knock fluid. Oil refiners use Ethyl fluid to produce the high-octane gasolines that give extra power to America's warplanes, tanks and other motorized equipment. Fortunately, the Ethyl Corporation has sufficient plant capacity to supply all war needs without delay and still produce anti-knock fluids for improving gasoline used in the tractors, trucks, buses and passengers cars of our motor transportation system.