

Experts Deny U. S. Must Depend On Imports Of Vital War Metals

By CHARLES P. McMAHON
Cleveland, O.—The United States need not fear lack of vital metals necessary for its defense program and industries because of enticement of overseas shipments due to the European war according to some of the foremost American metallurgists.

They believe that virtually every metal the country needs either exists in adequate quantities in the Western Hemisphere or can be replaced by a satisfactory substitute which is available domestically.

However, some of these substitutes cost considerably more and that is believed the real reason why the United States is energetically safeguarding its supply of strategic metals by arranging to buy far in advance of actual requirements and store the reserve.

Jesse Jones, Federal loan administrator, has announced the creation of the Metals Reserve Company and authorization of loans up to \$100,000,000 for the purchase and storage of vital metals, such as tin and manganese used in steel making, and now coming largely from foreign sources.

Cost May Rise

William H. Eisenman, secretary of the American Society for Metals, is confident these metals could be obtained, however, from domestic sources.

"Most of the metals actually are available in the United States, or at least in the Western Hemisphere," he said. "Where the metals especially desired are not available in suitable quantity or quality from domestic sources others can replace them although at an increased cost."

He said that tungsten, important in steel making and electrical manufacture, could be replaced by molybdenum, of which the United States has a world monopoly.

Only one-half the weight of molybdenum is necessary to obtain approximately equal physical properties as tungsten. However, it is somewhat more difficult to handle. But this disadvantage is overcome by the saving of strategic material and the release of tungsten for many other uses.

Tungsten Carbides Increase

Perhaps one of the most important of these uses is the every-widening field of tungsten carbides which are extremely hard materials used in cutting and grinding operations. Production economy is effected in certain of their uses.

Eisenman believes that the use of cemented tungsten carbides in ma-

chine tool operations will be increasingly valuable in preparing metals for aircraft parts, armor for mechanized units, and shells.

Another vital metal of which the United States does considerable importing from South America and Russia is manganese, also used in steel manufacturing. If these sources were served the United States could obtain sufficient quantities from large deposits in Cuba and South America, according to Eisenman.

Recent attention has been given to electrolytic processing of low-grade deposits in the western portion of the United States, Eisenman pointed out.

He added, however, that tremendous expense and lack of plants large enough to bring production up to the country's needed capacities make domestic sources of little immediate use to fill defense needs.

Mercury Inflow Halted

Eisenman cites still another example for a vital metal which may be produced in this country and which hitherto has been imported.

Mercury currently is imported from Spain and Italy at a cost of about \$180 for a flask of 76 pounds. Recent war developments have barred Spanish and Italian ports to American ships.

If shortage of other carriers should close this market or greatly restrict it, mercury can be produced in this country, according to Eisenman, by using charcoal and mercury sulphide, and at present prices domestic production is certain to increase.

Dr. Zay Jeffries, former president of the American Society for Metals and recognized as a world authority on metals, says that two metals which find extensive use today in airplane manufacture were little known in the early days of the World War. They are stainless steel and magnesium.

He declared raw supplies of magnesium are practically unlimited in the United States.

"Between 1914 and 1918," he said, "magnesium was not used as a base metal for alloys. It was produced on a small scale and used largely in pyrotechnics such as night flares and flashlight powders. It also was used to a certain extent as an alloy ingredient in aluminum base metals."

Magnesium Alloys Plentiful
"At present magnesium base alloys are widely used in aircraft construction. The supply is unlimited as to raw materials."

He pointed out that strong aluminum alloys, either forged and heat treated or cast and heat treat-

ed, are used for wheel supply porting members, gas tanks, fuel and hydraulic pumps and fuel equipment, while aluminum forgings go into such products as propellers, pistons, and crankcases. Aluminum clad metals, with surfaces of pure aluminum, are used for wing and fuselage covers, tail construction and similar units.

According to E. E. Thum, editor of Metals Progress, journal of the American Society for Metals, stainless steel first was made by accident in a wartime British laboratory where metallurgists were experimenting to discover a strong, erosion-proof alloy for lining big guns.

Thum believes that any shortage of metals that might develop can be obviated by the use of the same or other metals, but taken from domestic sources at an increased cost of production, and use.

He said that prior to 1917 the United States had relied on foreign nations for technical knowledge as well as specialized metals, but no longer is in this position.

It is his contention that through coöperation in research and interchange of information outstanding American metallurgists have placed this country in a better position than ever before to strengthen defenses.

Schools will soon reopen and millions of young Americans will learn, to their regret, that the schoolhouse didn't get washed away in the recent floods.

Now that the pennant races are entering their final stages we know local citizens who are about to have what looks like convulsions.

WHO KNOWS?

1. What is the relative plane strength of Germany and Great Britain?
2. How old is Wendell Willkie?
3. Who is the Prime Minister of Canada?
4. How far is Hawaii from the Canal Zone?
5. Did the Republican party sell a campaign book in 1936?
6. When did the United States begin its occupation of Philippines?
7. How many night clubs operate in New York City?
8. What was the electoral college vote in 1928 and 1936?
9. Is the population of this country increasing?

State College Answers Timely Farm Questions

Question: How should the pullet flock be culled?

Answer: According to C. F. Farish, State College extension poultryman, the pullet flock, if it has been fed and housed properly, should be ready now to begin laying. The only culling possible in this kind of flock is the elimination of the very small, deformed pullets and those with small combs, an indication of slow sexual maturity. This weeding out of the runts is perhaps the safest culling that can be practiced with pullets at this season. Of course, the older birds may be culled throughout the year.

Question: Can AAA cotton marketing cards be transferred from one person to another?

Answer: Cotton marketing cards are personal property and should not be loaned to any other person for the purpose of ginning or selling cotton in his name. The AAA warns that future payments may be withheld if there is evidence to show that these cards have been misused. These marketing cards should be shown to the ginner, since he is required by law to make complete and accurate reports on all cotton ginned, giving the grower's name and the serial number on his marketing card.

Question: What are prospects for good quality small grain seed this fall?

Answer: A. D. Stuart of State College says North Carolina has one of the best supplies of quality planting seed in years. Certified seed growers this fall will have approximately 37,000 bushels of wheat, 41,000 bushels of oats, 22,000 bushels of barley, and 4,000 bushels of rye to supply the State with its demands for pure seed.

As we see the situation the nation has any quantity of men ready to save it, if you let them have their way.

THE ANSWERS

1. No accurate information available.
2. Age 48.
3. MacKenzie King.
4. 8,383 miles.
5. Yes.
6. In 1899, during the Spanish-American war.
7. About 1,200.
8. 1928: Hoover 444; Smith 87; 1936: Roosevelt 523; Landon 8.
9. Yes; estimated increase during last ten years was at the rate of 7.5 per cent.

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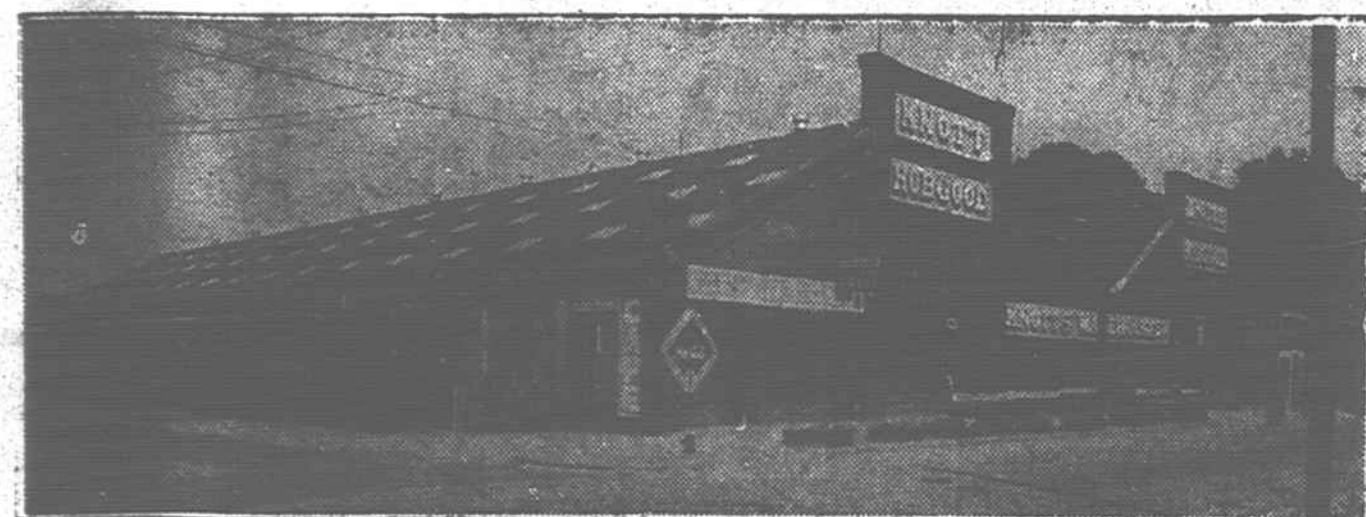
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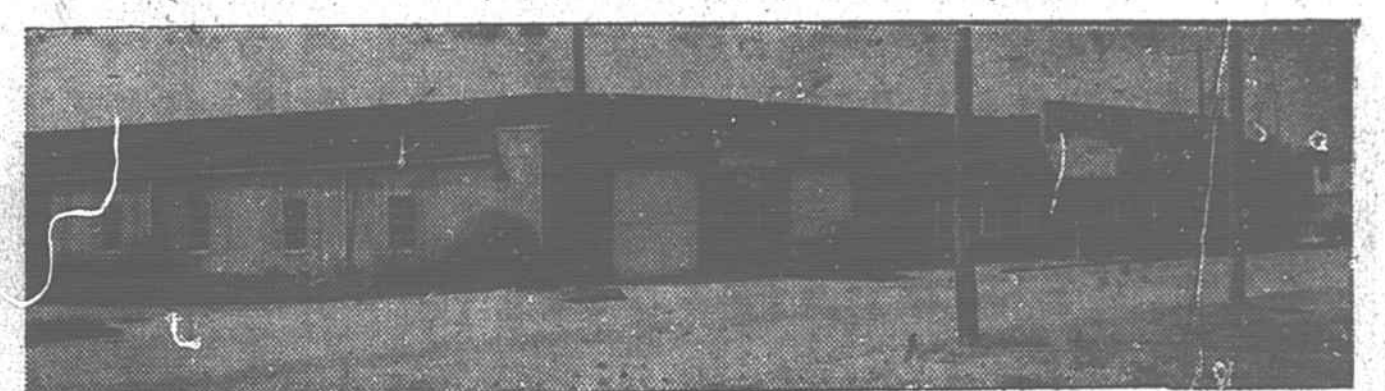
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