been permitted to operate at more than a fraction of capacity, largely because of French fears of a resurgent German munitions industry. Our own fixation plants, geared mostly to war needs, adapt only slowly to peacetime production; though these are being put into use as fast as possible. The one great source of natural nitrate, the desert of northern Chile, is being worked for all it will yield; but there is a limit to the capacity of mining and handling machinery and to shipping space.

Potash presents Europe's greatest fertilizer anomaly. For many years the world's greatest source of potash has been a limited area near Stassfurt, in Saxony. We ourselves have been to a considerable extent dependent on German potash, although since World War I a sizable American industry in this mineral wealth has grown up. The postwar zoning of Germany has placed the Stassfurt potash mines under Soviet control. The Russians quite naturally have seen to it that their own needs are satisfied first, and are said to be demanding a rather high price for what potash they permit to move westward.

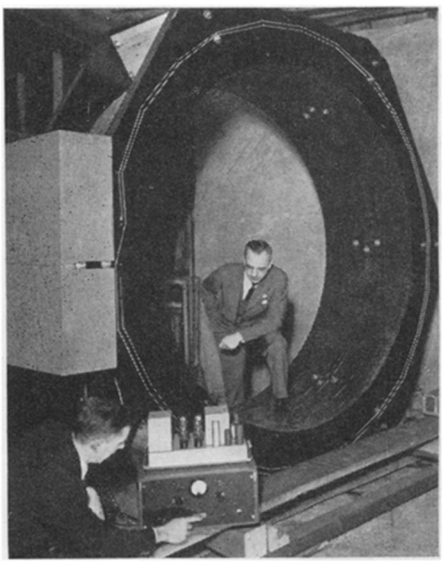
Even if, by some miracle or magic, all these dislocations in Europe's food-producing capacity could be immediately adjusted, Europe would still need food imports. Since the maturing of the industrial age, western Europe has always been an importer of food. Grain and meat have flowed to Britain, Germany, the Low Countries, Italy, from the United States, Canada, Australia, Argentina, South Africa. Industrial Germany has received grain from Russia and Poland, and from the latter country also pork—which of course is to a major extent grain on the hoof.

From this country and the members of the British Commonwealth the food-export stream is not only remaining normal but is being accelerated. Australia especially has had a great crop, and is looking hopefully towards another, as spring gets well under way in the Southern Hemisphere. Argentina's wheat-price policy is cutting into that country's sales: Argentine farmers, as already mentioned, are reluctant to produce for what they can get; European consumers make only distress purchases at the high price Argentina demands.

The 1947 wheat crop in the USSR is said to have been very large—how large, though, nobody but the Soviet officials know. It is known that they offered Britain a two-million-bushel grain deal—one million bushels of wheat and one million of corn and other feed grains. However, the British government could not agree to the price asked, and it was no sale. Since then, 350,000 bushels of Russian wheat has been consigned to Poland, which country in turn has been selling part of its potato surplus to American buyers for use in Germany and Austria. Poland expects to have exportable wheat of her own when the 1948 harvest comes in.

This is only a very sketchy outline of the European farm and food situation, with most of the details left out lest the story become simply interminable. It should be enough, however, to give an inkling what a complex and difficult situation faces our legislators, administrators and economists.

Science News Letter, November 22, 1947



SHELL DETECTOR—An electronic detector that will look like this apparatus will be used to find unexploded shells and metal fragments in trees being harvested at Fort Lewis, Washington.

ELECTRONICS

Metal Detector for Logs

Hidden shells or metal fragments in trees can be located by new device so that the timber can be sawed into usable lumber.

➤ HIDDEN metal shells or fragments in logs are to be located with an electronic device, a "metal detector", reports General Electric. In the process the logs will be floated through a magnetic field set up by the detector coil system.

The device was perfected for the U. S. Army, and is being used on the Fort Lewis Military Reservation in Washington state where there are some 3,700 acres of forest containing many trees which have hidden shells within them. No one seems to know where the shells came from, but the timber can not be sawed into usable lumber until the saw-destroying metal is removed. Some buried shells which had not exploded were found in logs, it is reported.

In use the device will be placed in water. When logs pass through the magnetic field set up by the detector coil system, an electronic circuit measures the amount of voltage unbalance in the field created by any metal in them. If the unbalance is great enough, both visual and audible alarms are affected, and workmen can mark the section of the log containing the metal.

Science News Letter, November 22, 1947

ENGINEERING

Germs Removed from Water By Electric Precipitation

➤ WATER need no longer taste of chlorine to assure you of its safety, if the patent claims of G. P. Ham and Dr. R. B. Barnes, researchers for the American Cyanamid Company, are made good on a large scale. Their process, covered by newly-issued U. S. patents 2,428,328 and 2,428,329, gets the germs out of water by electrically precipitating them on sand or other granular dielectric material.

Typical setup consists of a cylindrical, rubber-lined tank containing a mass of sand separated into layers by thin mats of glass wool. Platinum electrodes, properly spaced, pass an electric current through the sand as the water filters through. The bacteria are not killed, but are found alive, adhering to sand grains in the uppermost layer. They may be destroyed in any manner desired, or saved alive for scientific use.

Science News Letter, November 22, 1947