

scrap metal to completed guns. At the beginning of 1942, guns were being produced in hundreds, and rifles and machine guns in thousands each month.

*Ammunition.*—At the close of 1941 Canada had produced many millions of shells for the Allied armies, and at the same time created a new industry whereby shells are filled with various explosives and shipped overseas as completed rounds of ammunition. It may be remembered that during the First World War shells were also produced in large quantities in Canada, but not until late in the conflict were components and assemblies, such as fuses, produced to any large extent.

Canadian ammunition plants are producing 30 types of shell and, in addition, 12 types of cartridge cases. Various types of fuses, primers, gaines, tubes and miscellaneous shell parts are also being turned out in quantity. Other ammunition being manufactured in large amounts includes 500-pound aerial bombs, rifle grenades, depth charges, trench-mortar bombs and anti-tank mines. Small-arms ammunition is being produced on a tremendous scale in Canada's arsenals and by several privately owned industrial firms. Eight types of four calibres including ball, tracer, incendiary and armour-piercing types were being manufactured by the end of 1941. Facilities to manufacture additional types are being created, and capacities will be more than doubled during 1942.

*Explosives and Chemicals.*—The explosives and chemicals program has been a major part of Canada's munitions production, and the modest pre-war chemicals and explosives industry has been expanded beyond recognition. Some 30 projects have been completed to turn out hundreds of millions of pounds of these essential war materials annually. Production includes 10 types of explosives and 12 types of chemicals as well as many intermediate chemical supplies. These are used not only for the filling of ammunition in Canada, but are exported in bulk to the United Kingdom, the United States and other Allied nations.

The range of production at Dec. 31, 1941, extended from high explosives, rifle and cannon propellents, and T.N.T., down through the intermediary chemicals and raw materials. A recent development has been the decision to proceed with the construction of a plant with a capacity of above 30,000 tons of synthetic rubber annually which is expected to be in production late in 1943. In the field of pyrotechnics, Canada is producing signal cartridges, flame floats, flares, smoke generators, sea markers, signal rockets, lights and igniters by the tens of thousands each month. The majority of these materials were not made in Canada before the War, but Canadian production is now becoming an important factor. Since much of the program involved the creation of new plants owned and operated by the Government, a Crown company, the Allied War Supplies Corporation, was incorporated on July 23, 1940, to operate the plants on behalf of the Canadian and British Governments.

*Miscellaneous Equipment.*—In addition to the foregoing main items of munitions production, Canadian industry is furnishing the armed forces with many types of technical and personal equipment. Technical equipment produced for use against the enemy includes such important items as radiolocators, minesweeping gear, search-lights, anti-submarine equipment, wireless transmission and receiving equipment, sighting and optical instruments as well as other special military and naval instruments. Gas-decontamination suits and equipment are being produced for use in the event of gas warfare, and asbestos and fibre-glass rescue suits provide protection against fire. Clothing, boots, steel helmets, respirators, parachutes and many other items of personal equipment are being manufactured in vast quantities to supply the needs of the nation's ever-expanding armed forces.