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INVENTION

Patents of the Week

Two Nobel Prize winners in Chemistry have been awarded U.S. patents for chemical methods that have led to the syntheses of many new plastics materials—By Elizabeth Hall

► **THE TWO 1963 WINNERS** of the Nobel Prize in Chemistry each received a U.S. patent for research which laid the groundwork for an entirely new field of chemistry—using the by-products of oil refineries to produce better plastics, textiles and rubbers.

The U.S. Patent Office awarded patent 3,119,799 to Dr. Giulio Natta, professor of industrial chemistry at the Polytechnic Institute of Milan, Italy, and his associates Giorgio Mazzanti, and Piero Pino, also of Milan.

The patent describes the process of making polyacetylene and other high polymers of the hydrocarbons of the acetylene series. These polymers are used in producing synthetic rubber and plastics articles. Polyacetylene has a reinforcing effect on natural and synthetic rubbers when mixed with them before vulcanizing.

Rights to the patent were assigned to Montecatini, Societa Generale per l'Industria Mineraria e Chimica, Milan, where Dr. Natta is a consultant.

The other Nobelist, Dr. Karl Ziegler, director of the Max Planck Institute for Coal Research at Mulheim-Ruhr, and noted for his fundamental work on new catalysts for petrochemicals, was awarded U.S. patent 3,119,854, with his associate, Herbert Lehmkuhl, also of Mulheim-Ruhr.

The patent describes a new process for separating mixtures of metal ethyl compounds that eliminates conventional distillation, especially in the case of tetraethyl lead, the chemical added to gasoline to prevent auto engine knock.

Removing Automobile Exhaust

When automobile drivers of the future stop at a service station to fill up the gas tank, they may have to empty exhaust tanks at the same time.

William E. Cook of Van Nuys, Calif., won U.S. patent 3,119,231 for his invention in which a compressor forces the exhaust gases into storage containers under the auto, instead of polluting the atmosphere.

Pressurized Instant Liquid Coffee

A replacement for instant powdered coffee and other types is seen in an instant liquid coffee dispensed in an aerosol container such as is used to dispense whipped cream and women's hair spray.

Mortimer J. Kahan of Whitestone, N. Y., says that his is "the only coffee that remains completely sealed until entirely consumed, thus insuring a continuous just-brewed flavor from first cup to last."

A blanket of pure nitrogen gas inside the container prevents any oxygen, dust,

bacteria or foreign substance from coming in contact with the coffee. Mr. Kahan assigned rights to patent 3,119,695 to Glamorene Industries Factors, Inc., Clifton, N. J.

Life Saving Sled

A life saving sled propelled by a motor will aid lifeguards in rescuing drowning swimmers. The lifeguard guides the vehicle by moving his legs behind the vehicle, while resting the top half of his body on the sled.

The front part of the vehicle is designed to support the upper half of an unconscious victim so that he will not slip into the water. Hugh O. Brown of Playa del Rey, Calif., received patent 3,119,364 for his invention.

Heated Ice Skate Blades

Ice skaters who occasionally get cold feet will not have to suffer any longer. Electric batteries mounted on the skates transfer heat to the skater's feet, and at the same time increase the lubricating water film occurring naturally from the combination of pressure and friction, thus making it easier to skate on soft and hard ice. Julius Czaja of Syracuse, N. Y., earned patent 3,119,921 for his apparatus.

Other Significant Patents

A revolving floor for horse stalls that aids in cleaning the stall and exercising the horse—patent 3,119,374 to Gerard Ladner, Kailua, Hawaii.

A small device for hunters that heats and spreads into the atmosphere a scent to attract wild game—patent 3,119,650 to Archie E. Bilyeu, Joice, Iowa; assigned to Aladdin Manufacturing Company, Minneapolis.

A removable snug-fitting shoe cover for women who like to vary their shoes to keep up with fashion—patent 3,119,191 to Virginia E. Vitzthum of Westwood, N. J.

• Science News Letter, 85:110 Feb. 15, 1964

Do You Know?

Radar reflections from meteor trails can be used to obtain wind and density information about the atmosphere at certain altitudes.

Giant nuclear desalination plants—providing low cost electricity and fresh water from the sea—may prove to be the basis of a new nuclear industry.

• Science News Letter, 85:110 Feb. 15, 1964