

# Current U.S. Patents

► A METHOD for making rubber-like synthetic materials earned a patent from the U.S. Patent Office.

Dr. Giulio Natta, professor of industrial chemistry at the Polytechnic Institute of Milan, Italy, and four co-workers were granted patent 3,258,455 on a process for making "polymerized polypropylenes."

The research leading to the production of such polymers was the basis for Dr. Natta's Nobel Prize, shared with Dr. Karl Ziegler, director of the Max Planck Institute for Coal Research, Mulheim-Ruhr, Germany.

The polypropylenes covered in the patent have all the qualities of natural rubber, but retain their elasticity better when aged. They have what Dr. Natta has termed "syndiotactic structure." Finding a way to make these synthetic compounds, as well as those with "isotactic structure," laid the groundwork for an entirely new field of chemistry that uses the by-products of oil refineries to produce better plastics, textiles and rubbers.

Rights to the patent were assigned to Montecatini Societa Generale per l'Industria Mineraria e Chimica, Milan, by Dr. Natta with Paolo Corradini, Italo Pasquon, Mario Pegoraro and Mario Peraldo, all of Milan.

## Self-Propelled Wheel Chair

A self-propelled wheel chair that climbs stairs as well as curbstones in much the same way as a tank covers uneven ground was granted a patent.

The design was runner-up for the top award of \$5,000 made by the National Inventors Council for the most promising way for invalids to travel about entirely by their own efforts. The prize was first offered jointly in 1960 by the Council and the President's Committee on Employment of the Physically Handicapped.

The chair is lightweight, can be folded when not in use and costs only slightly more than conventional wheel chairs. Rodvinon I. Zamotin of Miami Springs, Fla., who was awarded patent 3,259,396, is reported to be negotiating for producing the chair commercially.

## Automatic Reader With Dictionary

A method by which an automatic machine can read handwritten or typed material in much the same way as a human does earned patent 3,259,883

for Jacob Rabinow, president of Rabinow Electronics, Inc., Rockville, Md., and co-worker Arthur W. Holt. They assigned rights to this patent, as well as to patents 3,259,884 and 885, which cover technical developments in reading machines, to Control Data Corporation, Minneapolis.

The method outlined in patent 3,259,883, believed to be the first in its field, is now being considered by the U.S. Post Office for automatic sorting of hand-addressed or typed envelopes. However, in the future it could be used equally as well in machines that read or translate books.

## Other Interesting Patents

Methods of making for specific uses branched polyalkylene compounds, chemicals that could have the same potentially wide market as nylon does now, were granted six patents. Woodrow J. Dickson and Fred W. Jenkins, both now of St. Louis, Mo. assigned rights to patents 3,259,512 and 513, 572, 578, and 586 and 587 to Petrolite Corporation with headquarters in St. Louis. The patents cover asphalt additives, anti-stripping agents, drilling fluid, lubricating compounds, foam inhibitor and demulsification chemicals.

Paul D. Senstad of Golden Valley, Minn., has devised a way to use nuclear magnetic resonance to convert values obtained from an analog computer into digital form for use by a digital computer. He assigned rights to patent 3,259,735 to Honeywell, Inc., also of Minneapolis.

Dr. Francis Bitter of the Massachusetts Institute of Technology, with Edward D. Ostroff of Sudbury, Mass., was awarded patent 3,258,656 for a method of continuously adjusting magnetic fields so that they remain equally high in all the space between the two magnetic poles. Rights were assigned to Magnion, Inc., Burlington, Mass.

Dr. Donald W. Kerst of the University of Wisconsin has devised an apparatus to help scientists engaged in fusion research obtain the required high temperatures for a longer time than was previously possible. For his method of improving the conditions necessary to achieve the fusion of light elements. Dr. Kerst was awarded patent 3,258,401, rights to which he assigned to General Dynamics Corporation.

• Science News, 90:61 July 23, 1966

# Titanium Cracks When Exposed to Salt Water

► TITANIUM, the only metal tough, lightweight and heat-resistant enough for a Supersonic Transport, has been found to develop cracks at room temperature when exposed to salty water.

It has been known for 10 years that titanium suffered from stress corrosion cracking when exposed to hot chlorides at temperatures above 450 degrees F. Only 18 months ago the same thing was found to occur at room temperature in a three percent solution of sodium chloride if the titanium samples were notched so that the cracks could start.

Actually, the situation is even "far more serious" than that, two British scientists reported in Nature 211:179, 1966.

"Pre-existing notches are not required" for stress corrosion cracking to occur, according to G. Sanderson and J. C. Scully of the University of Leeds, who warned of the problems that the problem could cause for marine engineering.

Unless a seagoing version is made, the Supersonic Transport is unlikely to be exposed to salt water for long enough periods, if at all, to do any real damage.

• Science News, 90:61 July 23, 1966

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