

# Patents of the Week

A method for shaping metals by explosions has been patented. A warning system for trucks traveling over the safe speed limit has been invented.

► EXPLOSIONS CAN BE USED to shape large pieces of metal, a new patent holds.

Shock waves generated by the explosion shape hard-to-form metals and metal alloys placed in a die, inventor Donald W. Cole of Weatherford, Texas, stated in patent No. 2,983,242, assigned to General Dynamics Corporation, San Diego, Calif.

The die and metal are sunk in a liquid, rubbery solid or a powder. Dynamite is packed into a plastic ball and exploded, sending shock waves slamming into the metal and die.

Because the metal is formed in a split second, all air trapped between the metal and die is removed before the explosive is set off to prevent a rough surface from forming. The invention can replace the huge, expensive hydraulic presses and drop hammers now generally used, the patent stated.

A warning system for large trucks and other heavy vehicles that travel over the safe speed limit while going downhill won patent No. 2,983,911 for James O. Brafford of Pontiac, Mich., assigned to General Motors Corporation. A warning light shows up on the instrument panel when the engine reaches a speed controlled by a governor.

Nighttime driving can be safer by using a patented paint to mark divided highways and lanes for which James F. Wynn of

Marietta, Ohio, received patent No. 2,983,202, assigned to American-Marietta Company. Greater visibility, durability and resistance to skidding are claimed by the inventor. The paint contains rough-surfaced quartz grains that reflect light from a motorist's headlights. The grains do not dislodge easily when cars run over the lines, reducing the tendency to skid that is supposedly found in conventional highway paints.

For persons with a green thumb, Patterson D. Merrill of South Bend, Ind., has invented a compact unit (patent No. 2,983,076) for growing plants and flowers without soil. Nutritious liquid is pumped periodically into a gravel-packed plastic container containing seedlings or plants. The liquid then drains back into a false-bottom where it is stored for reuse.

A new type of surgical mask that permits normal unimpaired breathing, yet traps the bacteria in a person's breath, received patent No. 2,983,271. William C. Beck of Sayre, Pa., assigned the rights to The Frances Beck Memorial Fund, Waverly, N. Y.

A series of slats or shutters across the opening of the surgical mask are claimed to stop the bacteria-containing particles given off when the doctor or nurse exhales.

• Science News Letter 79:333 May 27, 1961

## National Science Fair

(continued from p. 327)

judges, presented the U. S. Army and the Association of the United States Army Science Awards. Trips to Medical Service, Walter Reed Army Institute of Research, Washington, D. C. were awarded to: David Blaine Goodson, 18, Auburn Senior H.S., Auburn, Wash., for "DNA Mechanisms in Viral Infections"; and Jon Gardner Wilkes, 17, Hall H.S., Little Rock, Ark., for "Chemical Modification of Radiation Effects."

Trips to Ordnance Corps, Aberdeen, Md. were awarded to John E. Pearson, 17, Brookings H.S., Brookings, S. Dak., for "The Hyperbolic Paraboloid—An Amazing Surface"; Will F. Rogers, 17, Jonesboro-Hodge H.S., Jonesboro, La., for "Wind Tunnel"; Robert E. Strom, 14, Bronx H.S. of Science, New York, N. Y., for "Symbolic Compiler for Arithmetic and Logical Programs"; and Baylor B. Triplett, 18, Highland H.S., Albuquerque, N. M., for "Solid Rocket Propellants."

A trip to the Army Chemical Center at Edgewood, Md. was awarded to Christopher George Cherniak, 16, Melbourne H.S., Melbourne, Fla., for "Development and Use of Tissue Culture of Functioning Single Neurons"; and to the Army Chemical Center at Fort Detrick, Md., the trip went

to Kathryn Aleene Kampe, 16, Albert G. Parrish H.S., Selma, Ala., for "Transduction in Bacteria."

Trips to the Army Quartermaster Research and Engineering Command, Natick, Mass. were awarded to David C. Hill, 16, Grand Blanc H.S., Grand Blanc, Mich., for "New Titanium Polymers"; and to Ann Elizabeth Stuart, 17, Camp Hill H.S., Camp Hill, Pa., for "Development of Lysozyme-Resistant Mutant, *Bacillus megaterium*."

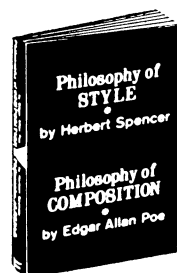
Trips to Army Signal Corps, Fort Monmouth, N. J., went to Keith Goley Morgan, 18, Idaho Falls Senior H.S., Idaho Falls, Idaho, for "Phonetic Digit Recognizer"; and to Rosemary Therese Smith, 18, Carlsbad H.S., Carlsbad, N. M., for "A Study of the Solar Cell."

Trips to the Army Corps of Engineers, Fort Belvoir, Va., went to Robert W. Berner, 17, Flathead County H.S., Kalispell, Mont., for "Nuclear Magnetic Resonance"; and to Joseph F. Litwin, Jr., 18, Masconomet Regional H.S., Boxford, Mass., for "Mechanical-Optical Seismograph."

Trips to the Army Transportation Corps, Fort Eustis, Va., were awarded to Robert Himes, 17, Belmont H.S., Dayton, Ohio for "The Peripheral Jet Ground Effect Machine"; and to Richard Lee, 18, Williston, Senior H.S., Williston, N.D. for "The

## FREE CATALOGUES OF SCIENCE BOOKS

State your interest! Mathematics, physics, history of science, general science, biology, social sciences, earth sciences, chemistry, languages, philosophy, engineering. Dover publishes over 100 books per year; quality production standards, priced for your budget. Dept. SNL. DOVER, 180 Varick St., N. Y. 14, N. Y.

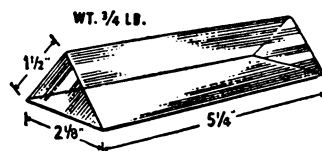


## IF YOU WRITE FOR MONEY!

Enrich your writing by applying Herbert Spencer's and Edgar Allan Poe's classic principles that have inspired many of the world's greatest authors. Indispensable if you want to get published! Send \$1.00 to

PAGEANT PRESS  
Dept. SN  
101 5th Ave., N.Y.C. 3.

## PRISMS \$1.50



Made for U. S. govt. for tank periscopes. Fine optically ground, big precision prisms with silvered base. Terrific for all types of spectrographic work, in homemade telescopes & other optical systems for bending rays. Makes unusual paper weight (paint your name on it) or conversation piece for mantel. You'll find many other uses. NEW, PERFECT! Cost U. S. govt. \$25 ea. NOW—\$1.50 ea. ppd. or 4 for \$5.00. Same as above—1" long (no silver backing) \$1. ea. 5 for \$4. Postage paid on prepaid orders. Calif. res. add sales tax.

Volume Sales Co., War Assets Div., Dept. C211  
3828 Sunset Blvd. Los Angeles 26, Calif.

FREE  
50  
PAGE  
OBSERVER'S  
GUIDE

**UNITRON**  
ASTRONOMICAL TELESCOPES  
OBSERVER'S GUIDE

With artificial satellites already launched and space travel almost a reality, astronomy has become today's fastest growing hobby. Exploring the skies with a telescope is a relaxing diversion for father and son alike. UNITRON's handbook contains full-page illustrated articles on astronomy, observing, telescopes and accessories. It is of interest to both beginners and advanced amateurs.

### CONTENTS INCLUDE:

Observing the sun, moon, planets and wonders of the sky • Constellation map • Hints for observers • Glossary of telescope terms • How to choose a telescope • Astrophotography

**UNITRON**  
INSTRUMENT COMPANY • TELESCOPE SALES DIV.  
66 NEEDHAM ST., NEWTON HIGHLANDS 61, MASS.

Please rush to me, FREE of charge,  
UNITRON'S OBSERVER'S GUIDE and TELESCOPE  
CATALOG # 5-P-4

Name \_\_\_\_\_  
Street \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_