

IBM

**LASER LIGHT**—A process for making an injection laser was patented by International Business Machine Corporation. The photograph was taken with infrared film, since the laser emits infrared light with a wavelength of about 9,000 Angstroms. The laser shown emits pulses of light of about 10 watts at room temperature.

INVENTION

## Current U.S. Patents

► THE "PHOTOGRAPHS" sent to earth from a future Mariner probe scanning Mars may be carried on the beam of light generated by a semiconductor laser.

A basic patent covering such injection lasers of a type that includes those made with gallium arsenide, the most widely used of the semiconducting lasers, was granted a patent by the U.S. Patent Office.

A laser system for sending information from interplanetary space should allow transmission of a picture in a few seconds, compared to the eight hours required to transmit each of the Mariner 4 pictures by microwave radio.

Patent 3,265,990 for "stimulated emission of radiation in semiconductor devices" was awarded to Drs. Gerald Burns, Frederick H. Dill, William P. Dumke, Gordon J. Lasher and Marshall I. Nathan, five scientists working for International Business Machines Corporation, to which patent rights were assigned.

### Radar Device Once Secret

A radar device held under secrecy wraps for some 16 years has finally been made public in patent 3,266,037. Dr. Robert M. Page of the Naval Research Laboratory, Washington, D.C., granted

the Government royalty-free use of his invention, which provides a pulse-echo search system using signal integrating techniques.

Search radars are used primarily to locate a distant object. Dr. Page's system greatly extends the range at which airplanes or other objects can be detected.

### Other Interesting Patents

A superconducting maser that amplifies microwave radio waves by tunneling electrons through thin metallic films earned patent 3,265,988 for Drs. Aly H. Dayem and Ping K. Tien, who assigned rights to Bell Telephone Laboratories, Inc., the company for which they work.

To increase the rate of the nuclear reactions essential for controlling fusion of light elements in useful power production, Drs. William R. Baker of Orinda, Calif., and Klaus Halbach of Berkeley, Calif., devised an apparatus for producing and purifying the reacting plasma. They assigned rights to patent 3,265,583 to the Government through the U.S. Atomic Energy Commission.

The stainless steel equipment in which radioactive waste materials are processed prior to long-term storage will not corrode as quickly if a lithium-

sodium mixture is used rather than sodium alone. For this discovery concerning disposal of radioactive wastes as glass-like solids, Walter E. Clark of Oak Ridge, Tenn., and Curtis L. Fitzgerald and George D. Davis of Kingston, Tenn., were awarded patent 3,265,627, rights to which they assigned to the Government through the AEC.

A braking system incorporating an anti-skid device that works when the brakes are pumped is the invention of Maxwell L. Cripe of South Bend, Ind., who assigned rights to patent 3,265,446 to the Bendix Corporation, South Bend.

A class of resins, now on the market under the trade mark of Surlyn, earned patent 3,264,272 for Richard Watkin Rees of Wilmington, Del., who assigned rights to E. I. du Pont de Nemours and Company, Wilmington, the company now producing them at a plant in Orange, Texas. The thermoplastic materials are said to combine transparency and chemical resistance, as well as to adhere to wood, paper, metal and glass.

Without touching human hands, money and other valuables can be transferred from a bank or store to the truck transporting them to a safe depository, using the method devised by three members of the Share family, who have a family business at Copiague, N.Y. The vacuum collection system earned patent 3,263,943 for Barnett Share and his two sons, Stanley and Jack.



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-Y**

Name \_\_\_\_\_

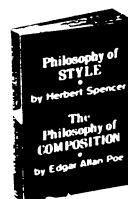
Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_

#5-Z

### FREE BOOK!

"How do you play chess?" 48-page book with 86 questions on rules, strategy, history, etc., answered by Fred Reinfeld. Excellent for beginners. Entirely free; no strings attached; no obligation. Supply limited, write now. Dept. SNL, Dover, 180 Varick St., N.Y., N.Y. 10014



### WRITE FOR MONEY!

Enrich your style through Herbert Spencer's and Edgar Allan Poe's classic principles that have influenced many of the world's great authors. Indispensable for writers eager to get published! Send \$1.00 to PAGEANT PRESS, 101 5th AVE., N. Y. 3, Dept. SN.