

## TECHNOLOGY

# See Manned Rocket Ships

➤ A MANNED ROCKET SHIP capable of going half way across the continent in 20 minutes was described by G. Harry Stine of the White Sands Proving Grounds, New Mexico, at the American Rocket Society meeting in New York.

He said such a rocket ship might be possible in five years.

The rocket ship, dubbed the "Griffon," would carry a light-weight pilot, not over 150 pounds, weigh more than 65,000 pounds at take-off, and shoot 75 miles up into space in about five seconds.

Then it would level off, reenter the atmosphere, and glide the rest of the way to its destination.

The Griffon would be the first step toward developing rocket transports that could circle the earth, Mr. Stine said, and would supply much needed research data for future space flights.

He pointed out that one problem is determining what will happen to a man when he is weightless for more than 30 seconds.

Some studies have already been made for short periods of subgravity, but medical men are looking for a way to extend the time.

The rocket ship would be built along the same lines as the Air Force's present experimental plane, the Bell X-2. That way, Mr. Stine said, we can take advantage of what has already been learned.

The Griffon would have provisions for control either by the pilot or by ground stations. If the pilot lost consciousness at any time during flight, small-auto control systems would take over until he recovered. Mr. Stine suggested that these could be similar to units developed for V-2 rockets.

The rocket motor would use a combination of gasoline and liquid oxygen for fuel. Since the liquid oxygen would be kept at 300 degrees below zero Fahrenheit, some of it could be used to keep the ship cool. The ship would be able to land at present day airports and would have a landing speed of about 150 miles per hour.

The cost of a project such as the Griffon, Mr. Stine said, would be much less than that of present day un-manned rockets. These are sent off once and never used again.

The Griffon could be refueled and then sent back up for more research.

Science News Letter, December 15, 1956

## TECHNOLOGY

# Auto Ignition Systems Will Use Semiconductors

➤ AUTOMOBILE IGNITION systems will be available in the future using semiconductors, Joseph S. O'Flaherty, manager of Hughes Aircraft Company semiconductor division, predicted in Los Angeles.

Semiconductors constitute the relatively new kind of materials used in manufacture of transistors, diodes and power rectifiers that do not require vacuum tubes.

Semiconductors are now a \$60,000,000 business, with Hughes Aircraft producing about a fifth of the output.

Solid state physics, which produced the semiconductors, will play a large role in the future of electronics, with computers, instrumentation, industrial controls, electronic systems of factories, power and electrical industries using the devices.

Science News Letter, December 15, 1956

## ENGINEERING

# Dial Radio Telephones Planned for Farms

➤ RADIO TELEPHONES for isolated rural areas are being planned by Government engineers.

The U. S. Department of Agriculture said scientists were trying to develop radio telephones that will work directly into dial telephone switching equipment.

The dial-operated radio telephones would give service to remote ranches and farms that cannot be served by wire lines, would provide mobile subscriber service to vehicles, and would provide radio-telephone communication between the telephone office and its own vehicles.

The project is being conducted by the Rural Electrification Administration in collaboration with private firms under contract with the Department of Agriculture.

Science News Letter, December 15, 1956

## PUBLIC HEALTH

# Trace TB Germ Spread

➤ RESEARCH on how tuberculosis germs spread from infected people to healthy ones is underway at the Veterans Administration hospital, Baltimore.

Two hundred guinea pigs will be kept for many months in an exposure chamber where they will breathe air that has been drawn from the rooms of TB patients. They will be watched for any signs of the disease.

The studies are designed to show whether or not active TB patients actually contaminate the air they breathe.

Dr. Ross L. McLean, director of professional services at the hospital, said this may well be the most important way that

infectious cases infect other persons.

Laboratory tests with rabbits have shown that only very tiny particles, which float in the air like smoke, carry the TB germs into the lungs of healthy animals. Because these carrying particles are so small, Dr. McLean said, ultraviolet light treatment of the air has been effective in protecting the animals.

The number of guinea pigs in the exposure chamber that get TB and the amount of time it takes them to develop the illness will measure how much TB patients infect the air they breathe.

If it is proved that TB patients produce the same kind of minute infective particles that were so infectious for experimental animals, Dr. McLean said, new methods for protecting those who care for TB patients may be found.

Although staff members and volunteer workers are protected well enough now, findings of the research project may be used to develop methods which are much simpler in practice than present techniques, he said.

The research is being conducted by Dr. Richard L. Riley, Johns Hopkins University School of Hygiene and Public Health, in association with William Firth Wells, VA consultant on airborne infection, Mrs. Cretyl C. Mills, bacteriologist, and Dr. Walenty Nyka, pathologist.

Science News Letter, December 15, 1956

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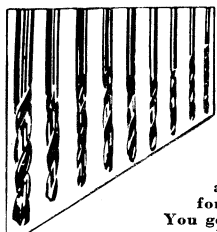
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