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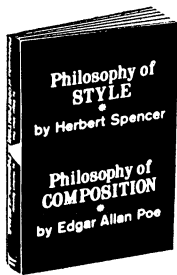
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## INVENTION

# Patents of the Week

A technique for welding metals used in jets and space probes was patented. Other new inventions are a telephone answering system and a process for treating wool on the hoof.

► **THE SPACE AGE** has come to the metal-working industry with a new patented technique for welding metals used in jets and space probes.

James S. Kirkpatrick of Dearborn, Mich., has patented a method, No. 2,985,129, for welding such valuable metals as titanium, zirconium and molybdenum. Rights were assigned to Brooks & Perkins, Inc., Detroit.

The welder, wearing a glass or plastic mask, does all welding in a huge tank with a controlled atmosphere. All oxygen, which easily combines with the metals during welding to form bothersome oxides, is removed from the chamber and is replaced by an inactive gas such as helium or argon. A pair of sleeved armholes below a view glass near a working bench permits another person outside the tank to assist the welder.

A telephone answering service system that does not require complicated wiring won patent No. 2,985,721 for Ernest H. Gatzert of Rochester, N. Y., assigned to General Dynamics Corporation, also of Rochester. A control circuit can switch as many as 100 subscribers over a few telephone lines to a secretarial answering service.

A process of treating wool still growing on the hoof was invented by an Austral-

ian. Roland Joseph Fitzgerald of Sydney received patent No. 2,985,136 for a solution containing soap, sodium or potassium silicate and water that removes excess wool waxes, dirt and unpleasant odors from the growing wool. The sheep is bathed in the solution, which forms a coating on the wool. During the next rainfall or bath, the water-soluble coating then carries away dirty material from the sheep.

A wheeled bed or stretcher for transferring hospital patients to a regular hospital bed was invented by Axel E. F. Johnson of Cincinnati, Ohio, who assigned rights of patent No. 2,984,843 to American Hospital Supply Corporation, Evanston, Ill. The bed or stretcher can be raised, lowered or tilted laterally in order to transfer the patient with minimum discomfort.

An incinerator on wheels for city and town sanitation departments burns to ashes all refuse collected by the truck during a normal day's work. The invention, patent No. 2,985,120, was designed by John B. Brandt, Melbourne A. Noel, Harry J. Kelly and John J. Burns of Chicago, and rights were assigned to Mobile Incinerators, Inc., Chicago.

• Science News Letter, 79:366 June 10, 1961

## ROENTGENOLOGY

## Sterility From Radiation

► **MALE RATS** are more sensitive to radiation than females, the Radiation Research Society was told in Washington, D. C. The males become sterile when given radiation doses that cause no loss of fertility in the females.

Drs. Sidney O. Brown and George M. Krise of A. & M. College of Texas, College Station, reported that under continuous gamma radiation amounting to 5, 10 or 20 roentgens per day, female rats produced a normal number of offspring. The offspring were normal except that those in the 20-roentgen group were smaller and weighed about 15% less than normal.

As the rat babies grew, however, their spleens proved to be a little smaller than usual and all the males in all the groups became sterile when they had received about 400 roentgens of radiation. The testes were abnormally small, and microscopic examination showed that germinal cells were greatly reduced.

Dr. Brown said the males "did not know they were sterile." The tissue between the sperm-producing cells manufactures the sex hormones, and since this tissue was mostly intact, the males behaved normally.

In another group of rats receiving only

two roentgens a day, the testes are small, but these rats are not sterile. The rats are in their seventh generation and have always been exposed to radiation. After the tenth generation, comprehensive studies of the effect of continuous radiation exposure will be made. Dr. Brown offered to give some of the rats to other investigators for study.

Whether the male sterility versus female fertility is applicable to humans is not known at present, Dr. Brown said. A 2,000 curie radiation source is being built at the college for study of animals larger than rats.

• Science News Letter, 79:366 June 10, 1961

## Questions

**NATURAL RESOURCES**—Which process for desalting water has the greatest potential at present? p. 355.

**SPACE**—Why will men be more effective than machines in deep space? p. 357.

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