



**X-RAYS IN OPERATING ROOM**—Shown in action is the new Picker operating room X-ray unit, which is the first to win Underwriter Laboratories' approval as safe from explosion.

## SURGERY

## Explosion Proof Unit

► AN EXPLOSION proof X-ray unit for operating rooms, delivery rooms and anesthesia rooms was shown to doctors and hospital administrators at the meeting of the American Hospital Association in San Francisco.

The unit, said to be the first of its kind, was made by Picker X-ray Corporation of White Plains, N. Y.

Officially the unit is listed as safe for use in what are designated by the Underwriters' Laboratories as hazardous locations Class I, Group C, such as operating, delivery and anesthesia rooms, where high concentrations of combustible gases may be present.

The commonly used anesthetic gases, including ether, ethylene and cyclopropane, are all highly combustible. The technical problem of making a mobile X-ray unit safe from explosion has hitherto resisted solution because any housing strong enough to prevent the X-ray tube-head from exploding should gas enter it has to be so thick that X-rays cannot get out.

Picker engineers solved this dilemma by designing a safety device that makes the unit inoperable in the event that a leak in the normally sealed "head" should allow gas to enter.

The control panel is located separately from the mobile unit, and is permanently installed in the wall of the room five feet above floor level. This location is consid-

ered as safe because the anesthetic gases, being heavier than air, sink to the floor. This follows the practice approved, as well, by the National Fire Protection Association.

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## MEDICINE

## Doctors to Get Cancer Training via Color TV

► STARTING OCT. 21, doctors in five cities will get weekly lessons on cancer via color TV. The telecasts will last one hour and give the latest methods of detecting, diagnosing and treating cancer.

They will be beamed over a closed circuit linking medical centers in New York, Boston, Philadelphia, Pittsburgh, Detroit and Toledo. The series will run for 30 weeks. The American Cancer Society is putting on the program in cooperation with the Columbia Broadcasting System. The series establishes the following firsts:

First regular color network telecast series concentrating on one subject and presenting over a year a coordinated review of the latest information on a medical subject.

First time that a large screen—four-by-six feet and each screen accommodating 500 viewers—has been employed in an inter-city series of closed-circuit programs.

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## ENGINEERING

## High Voltage Lines Carry Hydropower

► SWEDISH ELECTRICAL engineers are transmitting great blocs of hydroelectric power at record high voltages from the far northern peninsula of that country to the heavily populated areas in the south.

B. G. Rathsman and G. Jancke, both of the Swedish State Power Board at Stockholm, told the American Institute of Electrical Engineers meeting in Vancouver, B. C., that 400-kilovolt lines have been tried and found satisfactory for linking the hydroelectric stations with consumer areas 600 miles away.

The 600-mile stretch has been at work since April, 1952. Swedish engineers are planning for an ultimate 1,700-mile system by 1956.

Scarcity of coal and oil in the centers of population created similar localized scarcities of steam-generated electric power. The hydroelectric supplement helps fill the growing power demand.

Because of the electrical resistance in power lines, substantial power losses often must be endured in long-distance transmission. However, power losses drop sharply as the transmission voltage goes up.

Swedish engineers have met their problem by trying out 400-kilovolt transmission potentials. They have been the first to use this voltage satisfactorily. Previous attempts to use such high voltages have been beset by numerous insulation problems.

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## INVENTION

## Electricity-Conducting Glass Sandwich Patented

► AN ELECTRICITY-CONDUCTING glass sandwich that is fortified against operational failure has been patented. This may come as good news to the aircraft industry, which uses electrically heated glass in airplane windshields.

The safety glass invention involves two sheets of glass, one of which is coated with an electricity-carrying film such as tin oxide. Sandwiched between the panes is a plastic filler separated from the glass panes by special tape or strip material located at the margins of the unit.

The special tape and strip material sharply cut chances of operational failure of the glass, report inventors Romey A. Gaiser and James H. Boicey, both of Toledo, Ohio. Thus when current flows through the conductive layer, the high temperature created there, contrasted with the "inside" room temperature and a possible sub-zero "outside" temperature, will not cause an electrode failure within the unit due to difference in expansion of the glass-sandwich elements.

The inventors assigned their patent, No. 2,650,976, to Libbey-Owens-Ford Glass Company, Toledo.

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