

split into two alpha particles, which are the hearts of helium atoms. A large amount of mass was thus transformed into energy, and on a much more vast scale, this is what happens when an atomic bomb explodes.

The energy given off by the capture-and-splitting process was several hundred times as much as that possessed by the proton whose smashing brought about the reaction. But still, for every atom disintegrated, several millions of particles were required.

When boron was attacked by a stream of protons, some 25 times the number of helium atomic hearts were found as when lithium was bombarded. The same technique was used that the two scientists had successfully applied to transmuting lithium into helium with release of energy.

Also by bombardment with hydrogen, fluorine was broken up into oxygen and helium, and beryllium was changed into lithium and helium.

Science News Letter, November 24, 1951

INVENTION

Water-Tight Case Makes Any Camera Usable Under Water

► ORDINARY CAMERAS for still and motion pictures can be used under water with a fluid-tight and gas-tight case which has been awarded a patent. Being gas-tight, it can be used in scientific work in atmospheres containing gases that would be injurious to the photographic film if they got inside the camera.

The case is made of material resistant to corrosion by water or gases, and has openings through which the focusing scales of the camera may be viewed and through which pictures may be taken. Patent 2,573,885 was awarded on this invention to Dudley A. Whitman, Miami Beach, and William F. Whitman, Dade, Fla.

Science News Letter, November 24, 1951

MEDICINE

Ulcer Personalities

► THE "ULCER PERSONALITY" may be the result rather than the cause of stomach ulcers, Dr. T. D. Kellock of Central Middlesex Hospital in London believes.

His opinion, which is contrary to that of most modern doctors who have studied the problem, is based on a study of 250 men with ulcer of the duodenum. This is the upper part of the small intestine close to its junction with the stomach and is very commonly the place attacked by ulcer.

The ulcer personality is usually considered that of a hard-working, energetic, successful person who unconsciously is dependent emotionally and wants to be taken care of.

Since personality is formed during childhood, the man or woman who develops an ulcer personality must have had a different childhood from persons who do not get ulcers, Dr. Kellock reasoned. So he investigated the childhood situation of the 250 ulcer patients and compared that with the childhood situation of 164 patients suffering from other diseases.

He found no difference between the two groups in the size, composition or social class of the family into which they were born, in their educational standard at school or in illness in childhood. There did not seem to be any more or less cases of broken homes, with and without step-parents, among the ulcer patients than among the non-ulcer patients.

It may be that other childhood features might have been different between the two groups, Dr. Kellock states. Or factors operating in late teens or early twenties may be responsible for the characteristics said to be shown by ulcer patients.

"However," he states, "unless further investigations show some clear-cut differences between duodenal ulcer patients and

the general population regarding factors operating before the appearance of symptoms, the possibility that the ulcer personality may be the effect rather than the cause of the disease must be considered."

Dr. Kellock's findings are reported in detail in the *BRITISH MEDICAL JOURNAL* (Nov. 10).

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