PHYSICS

Ink Absorbing X-Rays Aids in Identification

A SPECIAL ink that absorbs X-rays and can be used to mark X-ray films for later identification has been devised by Captain T. W. Raison, M. C., and Chief Pharmacist's Mate H. C. Walker, U. S. N., at the U. S. Naval Hospital at Great Lakes, Ill. The formula calls for water, sodium iodide, barium sulphate, mucilage of acacia and chloroform.

The radiographs are marked and witnessed at the time of exposure. A ball-pointed pen is recommended for use with this ink, and the writing should be done rather slowly in order to produce a broad, heavy line. The method is not practical for routine use because of the time involved, but is valuable for radiographs intended for medico-legal cases where it is desirable to have the signature of the patient and witnesses on the border of the film.

The ink is not sufficiently absorbing to produce a marked X-ray shadow, but samples of writing made with it were clearly legible, according to the report in *Radiography and Clinical Photography.*

Science News Letter, November 28, 1931

ENGINEERING

Bubbling Sand Separates Coal from Heavier Slate

A NEW process of separating coal from the useless slate with which it is often mixed when it comes from the mine was described by Thomas Fraser to the Third International Conference on Bituminous Coal. Coal, being lighter than slate, is floated away from the worthless product, not on a liquid which would wet the coal, but on a fluid made of sand with air bubbling through it.

By pumping the right amount of air through the sand it is made of such a consistency that the coal will float while the heavier slate falls through to the bottom, just as wood floats on water while rock sinks. An ingenious mechanical arrangement makes the process continuous.

Mr. Fraser said that a machine of this kind which has been installed at Cadogan, Pa., cleans one hundred tons of coal per hour for a total cost of a little less than eight cents a ton. Another separator is being built at Mogg, Ky.

Science News Letter, November 28, 1931