PHYSICS

Chairman: MASON E. HUFFORD, Indiana University

Professor R. E. Martin, Hanover College, was elected chairman of the section for 1945.

Gas mixtures for rapid explosions. R. B. ABBOTT, Purdue University.—Oxygen and hydrogen were mixed in a cylinder open at one end exploded by means of a spark. This cycle was repeated at regular intervals. With increasing frequency, the explosions would stop and the gas would burn as in a jet flame.

It was found that the hydrogen had to be injected into the oxygen through capillary openings in order to prevent the flame from continuing after the explosions and setting fire to the next gas charge.

Rare mixtures were easier to keep up the explosions than were the richer ones. Thirty-six explosions per second were made as our top limits simply because the mechanical valves could not run any faster.