GENERAL SCIENCE

Proposes Special Colleges For Science in England's Service

Sir William Bragg Points Out Peril of Neglecting Science, Leaving Its Use to Others Less Well Disposed

POST-WAR England will have special colleges devoted to training men for a career in applying science in the nation's service, if the proposal of Sir William Bragg, president of Britain's Royal Society, is carried out. (*Nature,* Dec. 7, 1940)

These colleges devoted to applied science would be founded just for this purpose as in the past schools were founded to train men for the ministry or for the State.

The war has brought to England an appreciation of the importance of science in the service of the nation, Sir William points out.

The recently formed Scientific Advisory Committee, British parallel to our own National Defense Research Committee, is in close and direct association with the Cabinet, the nation's governing body. Its functions are broader than merely to give advice in carrying on the war. It is, Sir William explains, "to watch all occasions and opportunities for the employment of science in the service of the nation, and also for the continuous encouragement of that employment."

"Science," Sir William told the Royal Society, "may be rightly or wrongly used. There is a prime danger if those who are in the position to use it rightly shut their eyes to its presence and its power, like an army which relies on bows and arrows when its enemies know how to use machine guns.

"It is not universally or even sufficiently understood how important natural knowledge has become. It is true that in a vague way the nation is brought by the happenings of war to guess at the meaning of scientific research in every kind of enterprise. But still it would be difficult for most people to grasp the significance, much less the meaning, of the description of a fact like this: that the Royal Air Force could not carry out its operations without the knowledge resulting from the studies of cathode rays and electrons made by our physicists, which is equivalent to saying that by this time we might well have lost the War. . . .

"Since experimental science has assumed such a commanding influence on all our affairs, so that we run the risk of great perils if we take no account of it, and leave its uses to others, let us say, less well disposed than ourselves, and, on the other hand, have opportunities of great benefit if we use it rightly, it becomes a first duty to direct our steps accordingly.

"Just as in former times schools and colleges were founded to train men for the service of Church and State, in ways which were appropriate to that high end, so now we have to see to it that the men are produced by our educational systems who can appreciate and act up to a new state of affairs. This can be done without jettisoning any of the fine instruction which has been a proud feature of our older systems."

Science News Letter, February 1, 1941

PHYSICS

Swiss Scientist Invents Improved Cyclotron

AN IMPROVEMENT on the present form of cyclotron, powerful atom-smasher invented by Dr. E. O. Lawrence of the University of California and now in use in many laboratories, will, it is claimed, give more punch to its atomic bullets.

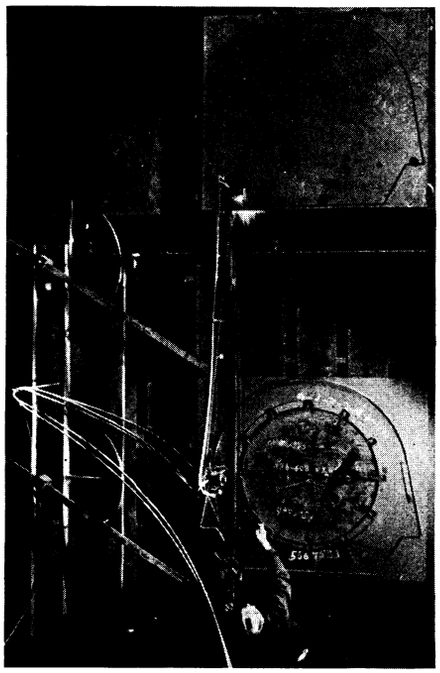
The new device has just been granted U. S. patent 2,229,572, awarded to Julius Jonas, of Zurich, Switzerland. His rights have been assigned to Aktiengesellschaft Brown, Boverie and Cie, of Baden, Switzerland.

Cyclotrons as now constructed, Mr. Jonas claims, neglect the fact that, as the atomic bullets are speeded by being whirled around and around, their mass increases, in accordance with the relativity theory. This, he states, sets a limit to their speed with current designs.

In the ordinary cyclotron, the electrical field which acts on the accelerating particles is constant. The improvement, quoting from the first claim of the Jonas patent, "comprises progressively increasing the strength of the electric field from the center to the outer portion thereof by an amount equivalent to the retardation of the charged particles due to the relativistic mass increase of the charged particles at extremely high velocities."

In other words, as the particles move in bigger and bigger circles, and faster and faster, more electricity is put into them to compensate for the increased mass or "weight."

Science News Letter, February 1, 1941



PANTOGRAPH

A familiar drawing instrument for copying a design is less well known in this form which cuts out steel plates for turbine generators in the General Electric plant at Lynn, Mass.

MEDICINE

Diet Important Part of Sulfanilamide Treatment

THE kind of food eaten by patients being treated with sulfanilamide may have an important bearing on the results of the treatment and whether or not the sulfanilamide causes toxic effects, it appears from research by Dr. M. I. Smith, Dr. R. D. Lillie and Dr. E. F. Stohlman, of the U. S. Public Health Service and National Institute of Health.

If the patients get too little protein food, such as meat, eggs and milk, they may be more likely to experience toxic effects from the drug, but the drug may be more effective because of reaching higher concentrations in the blood when the dietary protein is low, it appears.

Rats were the patients in the National Institute of Health studies. A low pro-