

ENGINEERING

Antiquated Science of 1875 Slows Progress in Defense

THE SCIENCE of mechanisms or of moving machinery, as taught in our engineering schools, is antiquated and useless so far as the production of new machines, particularly of automatic machinery—so much and so quickly needed in our defense effort—is concerned.

This statement was made by Prof. A. E. Richard de Jonge of the Polytechnic Institute of Brooklyn at the meeting of the American Society of Mechanical Engineers in New York.

It all goes back to Reuleaux's "Theoretical Kinematics" published in 1875. Only two of our textbooks have got beyond that date, and that only to the extent of including Gruebler's further developments of 1883-85.

The primary aim was then, and still is in this country, the analysis of already existing mechanisms. But, to be really useful, the science must help in the creation of new mechanisms, of new automatic devices for accomplishing particular purposes, Prof. de Jonge pointed out.

At present, the engineer or machine

designer, called upon to produce the proper mechanism for accomplishing a new task, is obliged to resort to a trial-and-error process, aided only by such knowledge and experience as he has gained since leaving his alma mater. "Yet, to his credit, it may be said that, by his ingenuity, or intuition, he frequently arrives at suitable solutions by such a process," Prof. de Jonge said.

Practical use of the theory of mechanisms requires application of the projective geometry. This subject has been dropped from our college courses. It should be reinstated, Prof. de Jonge declared emphatically. Our whole instruction in kinematics should be reorganized and brought up to date by inclusion of the great advances made in Europe and especially in Germany since 1875. And further research is needed because, even in Germany, the science is still incomplete and has been stagnant for some years past. This should be done quickly and with courage if it is to be in time to be of value in the present emergency, he concluded.

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NUTRITION—ECONOMICS

U. S. Finds New Source of Fish Oil Vitamins in Peru

THE United States can have a new source of needed vitamins from fish oils and Peruvians can improve their diet, if Peru's wealth of fish is made the basis of an expanding fishing industry, it is revealed by a survey made by three U. S. Government experts.

Chartering a purse seiner, the Federal fishery specialists sailed their boat through Peruvian waters, trying experimental fishing with nets, trawls and harpoons, and visiting Peru's fish markets on land. A survey of Venezuela's fishing possibilities is expected to follow, and plans are being studied to survey the whole sweep of Latin American waters from the Caribbean to Cape Horn, with cooperation of countries concerned.

Peru financed virtually all of the expedition's cost, and purchased the exploring fishing boat at the end of the project.

Peru has about 100 varieties of fish used for food, the United States scientists learned, and 60 or more are common in certain markets there. But, while rail facilities for shipping fresh fish inland are adequate from the port of Mollendo and the inland cities would like fish, relatively little sea food is being shipped there and prices in some cases are higher than meat per pound.

As a source of protein, mineral and vitamin ration, fish are pronounced an industry worth expansion in Peru. The United States scientists who made the survey are specialists in fishing problems from varied angles, including marketing, canning, smoking and freezing. They are R. H. Fiedler, Chief of the Fish and Wild Life Service's division of fishery industries, Norman D. Jarvis, technologist, and Milton J. Lobell, biologist.

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