

## CHEMISTRY

# Now a Second Synthetic Rival For Japan's Natural Silk

## Polyvinyl Acetal Resin is Material For New Fibers Claimed to be Strong, Elastic, Waterproof, Fireproof

ANOTHER synthetic resin fiber, that can be turned into lustrous silk-rivaling hosiery for Miss America's legs, was reported to the meeting of the American Chemical Society at Boston.

Known as polyvinyl acetal resin, the new fibers are further cause for headaches among the Japanese for they are synthetic, made-in-America rivals for Japan's natural silk. Silk is the largest single export of Nippon to Uncle Sam.

While chemists at the meeting heard the details of this newest plastic resin wonder, full information had already been disclosed, but little noted, in patents issued at the U. S. Patent Office in Washington during the present summer.

A research team of Carbide and Carbon Chemicals Corporation including Harold F. Robertson, Edward W. Rugeley, Theophilus A. Feild, Jr., John F. Conlon, C. O. Young and S. D. Douglas have been busily piling up patent after patent. Some of them have been issued in the near-record time of 2½ months.

Polyvinyl acetal resin can be produced in fibers as fine as natural silk, virtually as strong, more elastic, waterproof and fireproof.

The basic materials of the newest fibers are salt, coal, lime and air. Out of these cheap and plentiful raw materials are made high molecular weight (7,000 to 13,000) water-clear resins. The actual production consists of polymerizing vinyl halides with vinyl esters.

### Many Possibilities

Among the suggested uses of the new fibers, besides the hosiery field, are: waterproof clothing, bathing suits, fireproof awnings silk-like in appearance, fishing lines, fishing nets and seines, acid and alkali-resistant clothing, electrical insulation and curtains for shower baths.

The new fiber material, to be known as "Vinyon," is not yet in commercial production for hosiery. In its properties it is comparable with "Nylon" developed by du Pont chemists, although the latter is made by a different chemical method.

Both fiber resins have been in the industrial "hush-hush" class because no

technical details were ever released to the press in the pioneer stages of development and not until long after pilot stage of production had been reached.

Only by a week-by-week search of the voluminous Official Gazette of the U. S. Patent Office was the American press able to learn of these rumored but never-discussed developments.

### Other Nations Active

Other nations have not been idle in developing comparable fibers made synthetically. Germany's famed chemical works, the I. G. Farbenindustrie is known to have a synthetic textile thread known as "Pe-Ce" which consists of a polyvinylchloride. This chemical is one stepping stone on which the Carbide and Carbon Chemicals Corporation chemists have polymerized the new Vinyon fiber.

The German fiber is thermoplastic,

(molded with heat) and therefore cannot be used in clothing which requires ironing. It is extremely resistant to acids, however, and can be kept for 24 hours in aqua regia without harm. Fishery nets made of it will not rot on exposure to fresh or salt water.

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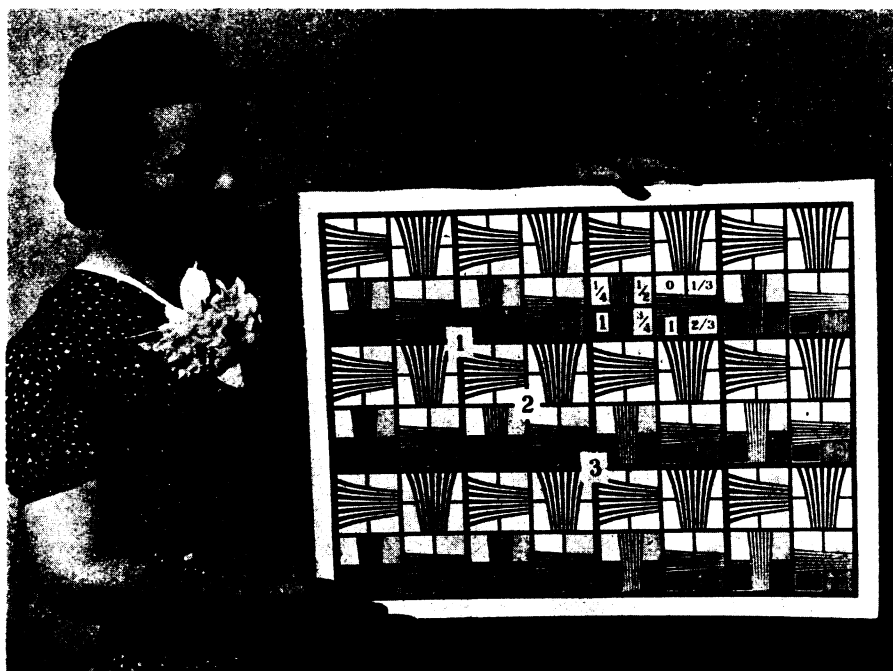
## GENERAL SCIENCE

## "Ersatz" Education Rules Universities in Germany

JUST as Germany is using large amounts of "ersatz" or substitute materials, such as artificial rubber and artificial wool made from milk, so "ersatz" university training has invaded the halls of learning to which in the days of the Kaiser youths of all nations went for scientific polishing and research baptism.

The Nazis have banished a large percentage of Germany's scientific brains. Even this may not be their greatest loss. If younger scientists were being trained effectively, the research and scientific services might be maintained successfully. But such does not seem to be the case.

Drastic and radical changes in the universities and technical institutes have been many, with more to come in the future. Most serious has been molding of



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