

silk. In this respect it even excels natural silk. This feature permits the silk to be woven on looms running at the highest speed.

Plant has also been installed for the manufacture of non-inflammable celluloid, termed "celastoid." This product has all the advantages of celluloid without the great disadvantage of high inflammability. Such a material is of great value to the celluloid trade, where the high price of camphor has seriously restricted the manufacture of celluloid. The day is not far distant when the use of dangerous highly inflammable celluloid will be prohibited.

The marvelous insulating property of cellulose acetate silk or sheeting is a factor that has aroused great interest in the electrical and allied trades, and the long-sought-for non-inflammable accumulator boxes, wind screens, and a multitude of other articles of necessity will shortly be placed on the market.

The Crystal Structure of Ice. D. M. DENNISON. (*Phys. Rev.*, January, 1921.)—Distilled water was frozen in a capillary tube. The tube with the ice was rotated during a ten-hour exposure to X-rays as a result of which a series of twelve lines were obtained. The method was that of A. W. Hull's crystal powder photographs. The interpretation of the results gives an axial ratio of 1.62, while the value furnished by the crystallographer is 1.617. The number of molecules of H_2O per cu. cm. is calculated to be 3.154×10^{22} . The volume of an elementary prism can likewise be derived from the experimental results and is found to equal 0.6478×10^{-22} cu. cm. From these two it follows that in an elementary prism there are 2.04 H_2O molecules. "Ice belongs, then, to one of the two alternate arrangements which inelastic uniform spheres may assume if packed as closely as possible. This is the same form that magnesium atoms take. . . . With increased knowledge of crystal structure these data may furnish information regarding the shape of the molecule of water. With the hexagonal close packed type of lattice each prism contains on the average one molecule. The result calculated above indicates that in ice crystals the molecules of water are of the form $(\text{H}_2\text{O})_2$ or H_4O_2 ." G. F. S.

An Electromagnetic Theory of Gravitation. H. A. WILSON. (*Phys. Rev.*, January, 1921.)—When an electric system is placed in a medium whose specific inductive capacity varies from point to point it experiences a force tending to move it toward parts of the field where that quantity is greater. A like force acts in a field with variable magnetic permeability. The author bases a theory of gravitation on these facts with the assumption that both the specific inductive capacity and the permeability of the ether are modified by the presence of matter and, further, that the dimensions of the body acted on change when it passes