NOTE.

Stereochemical Models.—Very few students of stereochemistry possess such vivid "picturing" powers of mind as to be able to delve far into this fascinating subject without finding themselves gaining quite incorrect impressions as to the real configuration of compounds. Leaving aside the loss of time, there is the chance in many cases of losing sight of an important new idea.

Unfortunately most of the models listed in chemical catalogues at the present time are expensive, not accurately made, and not entirely satisfactory mechanically.

The student of this fertile field of study wishes models that are simple in construction, cheap, and of such a mechanical nature as will allow of being easily built up into very complex structures that may suit his purposes. In much of my work I have found the cardboard tetrahedral models very unsatisfactory, and the Baeyer models expensive to purchase in considerable number, and quite troublesome to make.

Recently I hit upon the idea of taking two pieces of stiff wire and bending each to an angle of 109°–28′ and soldering their vertices together in such a manner that the planes of the two angles make 90° with one another. To facilitate the soldering of the wires in correct position, a wooden form, such as is shown in Fig. 1 is made. This drawing is a "cabinet" projection and is about one-half scale. Small brass clips (*c*) are attached for holding the wires in position while a drop of solder is applied at (*s*). Stiff brass or galvanized iron wire from $^1/_{16}$ to $^1/_8$ inch in diameter is found to answer the purpose very well. Rubber tubing of good tough quality is used for connecting the groups in building up complex formulae. The inner diameter of the rubber tubing should be just a little less than the outer diameter of the wire, and glycerol or vaseline applied to facilitate sliding on the tubing.

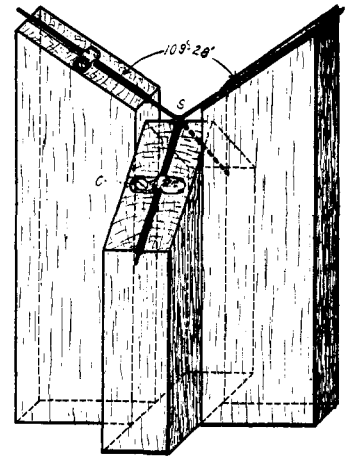

Fig. 1.

In making complex models which are to be exact and rigid it is well to vulcanize the rubber connecting tubes by applying to them a little chloride of sulphur.

Models of this style represent "affinity" directions, and much more than these is not required of any model. They are especially satisfactory when studying steric hindrance—a case where cardboard tetrahedra give very cumbersome figures when joined in great numbers.

Again one will find it very convenient to introduce cardboards into these figures to represent planes of symmetry, etc.

If one desired especially durable models the rubber-tube connectors might be replaced by thin-walled, strong, metallic tubes slitted throughout their lengths.

Of course, to represent atoms other than carbon, colored corks, or card-board disks may be used.

ARDEN R. JOHNSON.

DE PAUL CHEM. LAB.,
244 E. WEBSTER AVE., CHICAGO, ILL.

NEW BOOKS.

Ion. A Journal of Electronics, Atomistics, Ionology, Radioactivity, and Raum-chemistry. Edited by CHARLES H. WALTER.[1] Vol. I, Fasc. 1. pp. 80. Nov., 1908. London: Publishing and editorial office, 16 Heathfield Gardens, Turnham Green, London W. Issued monthly. Price per volume of six numbers, 30 s. Single numbers, 6 s.

The multiplication of journals devoted to special lines of scientific study has become particularly marked in Germany. Great Britain, on the other hand, has relatively few specialist's periodicals in science. Physical Chemistry, a well-established department of scientific study, has no journal in England. The founder of the new journal, believing that the time is ripe for starting an organ in this domain, aims to make ION the "Physico-Chemical Journal of Britain."

The field of the journal is further outlined in the opening editorial as follows: "As a point of departure in the theoretical consideration of physico-chemistry we have followed the electron theory; physico-chemistry is, in our view, only the teaching of the equilibrium and of the motion of the electrons and of their complexes. The special application of the electron theory to chemical problems we have comprised in the term Raum-Chemistry—by which we understand the geometry of the electrons in chemical compounds of matter. The bankruptcy of the chemical formula in their present form is evident. .... It is undoubted that this bankruptcy has driven many inquirers away from atomistics to so-called energetic views, which certainly do not go very far, and possess as their sole attraction that of novelty. Raum-Chemistry will not be able to furnish any ideal condition, and its hypothetical character must be strongly emphasized in order to prevent our falling into the errors of contrary views. A science without hypotheses would posit a humanity without error, a state of things which not only a Lessing would find unendurable." In view of the wonderful results achieved by Brit-

[1] The name of Frederick Soddy appears on the title page of the first issue as joint editor, but in the next issue (Dec.) his name is omitted. In *Nature* for Nov. 26th, p. 99, Professor Soddy announces that he has "withdrawn from all connection with the journal."