enables the experimenter to adjust the position of the index, *T*, at will, after the diaphragm end of the apparatus has been placed at any desired depth in water and has acquired the temperature of the water.

5. The index tube, which in ordinary use is borne in position *U* (Fig. 1) by the same pillar which carries the rest of the apparatus, is for lecture-table use fastened upon a wooden lantern-slide, *S* (Fig. 2), being gripped there between two cleats, *K* and *K*, and two eccentrics, *E* and *E*.

A SIMPLE DEVICE FOR ILLUSTRATING THE PERIODIC LAW.

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Any device for simplifying the perception of a great truth or principle on the part of students is acceptable to teachers. This is especially true of instruction in science.

Fig. 1.

The two accompanying photographs illustrate a "trick" of the writer who bases his instruction of elementary college students in chemistry on the periodic system.

An ordinary curtain pole is planed to present one flat surface. Blocks are then sawed from it 1, 7, 23 and 39 cms. long. The pole is then shaved to present two flat surfaces and cut into blocks 9, 24 and 40 cms. long; a third surface and so on until the remainder of the pole exhibits seven flat sides, when blocks 19 and 35.5 cms. are sawed off. The whole idea is now apparent to the reader. The lengths roughly indicate the atomic weights, the plane surfaces the valence of the elements in question. The so-called electro-positive blocks are stained blue and the negative red; those standing for carbon, silicon and titanium are half and half. Each block has the symbol and atomic weight in whole numbers indicated.

They are set up before the class in the order of their ascend-

Fig. 2

ing mass values, as shown in the first photograph. Immediately certain facts become apparent, as, for example, at regular intervals we have blue blocks, at others red. Further, the first blue one has one plane surface, the second two; the last red one in each group seven, and so on. The thought of classification comes to the student at once and the blocks are rearranged according to the second photograph. He sees at once that the elements may be classified according to their atomic weights, the only invariable and measurable property they possess as far as we are aware at present, and at the same time the arrangement satisfies efforts to classify the elements according to their affinity, valence and electro-chemical characteristics.

No analogy can be pushed too far, and, to be sure, a little legerdemain is practiced in directing attention away from the unobtrusive hydrogen. The idea is quickly grasped, as the instructor notes in the faces of his pupils. It has been the custom of the writer, immediately such observation is made, to sweep the tableau from the lecture table, else some facetious youngster or dullard might describe potassium as "a stick thirty-nine centimeters long," etc. Some 600 examination papers, without exception, have given a clear conception of the "periodic law" (?) as the result of the use of the above, whereas formerly many failed entirely to grasp the idea.