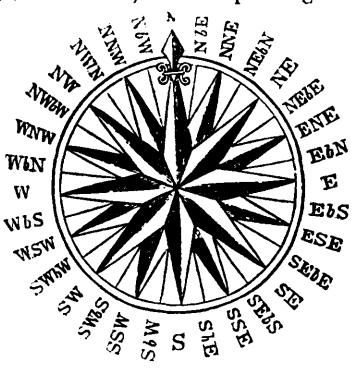
within the list of apparatus. The size should be about three and a half by six feet, and to facilitate moving, it should be set on large castors. When not in use it will occupy but little space at the side of the room. Upon the top cross-rail, neat hooks should be inserted, to hang maps, cards, etc., necessary for little pupils.

Pointers or Wands.—Several pointers should be furnished for use in the demonstration of problems on the board, and for pointing out places on the outline maps. They should be four or five feet long, neatly tapering to a point, and light.



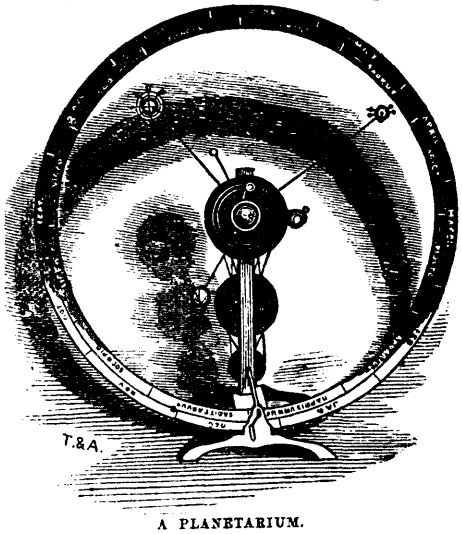
THE COMPASS.

Cardinal Points.—To familiarize scholars with the principal points of the compass, North, South, East, and West should be neatly painted or printed, and put up on the corresponding walls of the school-house.

Globes.—It is a difficult thing for a scholar to appreciate the fact that the earth on which we live is globular, and that though it has a motion which tends to throw us from its surface, yet we cannot fall from it. Maps may, to some extent, be used for this purpose; but to convey the complete idea, a model is indispensable. That model is the terrestrial globe. Not unfrequently, the pupil, attempting to learn geography without this aid, has, and will always continue to have, a confused idea of equator, meridians, parallels, and poles; of latitudes, longitudes, axis, and zones. The whole is to him without system, and with little sense. On the contrary, these terms are easily taught, if suitable subjects for illustration be provided.

SEMI-FRAME GLOBE.

The celestial globe, or planetarium, will also much facilitate the conveyance of information as to the position and motion of the heavenly bodies, and will enable the teacher to impart some knowledge of astronomy. Globes are generally constructed in pairs, and though the terrestrial is more useful, and better calculated to impress the true idea of the thing represented, than the celestial, yet both will be found highly advantageous.


A PLANETARIUM.

A hemisphere globe supplies a want long felt, viz.: An illustration, which any child can understand, of the reason of the curved lines on a map, and shows how the flat surface is a proper representation of a globe. Two hemispheres are united by a hinge, and, when closed, a neat little globe is presented; when opened, two maps are seen, showing the continents, as if through transparent hemispheres.

BRONZE FRAME GLOBE.

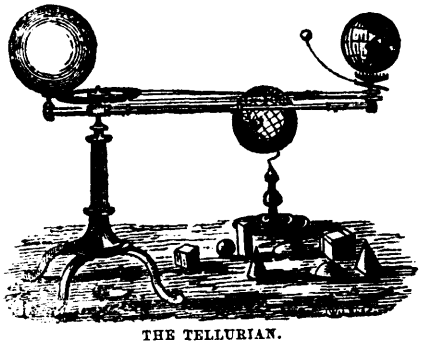
WOODEN FRAME GLOBE.

Maps.—A map is a picture of a part, or of the whole of the earth's surface. From a study of such pictures the mind is enabled, by the principle of association, to transfer and secure a mental copy or impression from the canvas or plate.

Amongst the best maps for the school-room are Johnston's and the Irish National Series. Outline maps, or such as have no names on them, but merely an outline of the general characteristics of the country represented, are also very good. When properly instructed by means of these, children have no difficulty in carrying in the mind's eye the forms and features of the various countries, and the relative positions they occupy to each other and to their own.

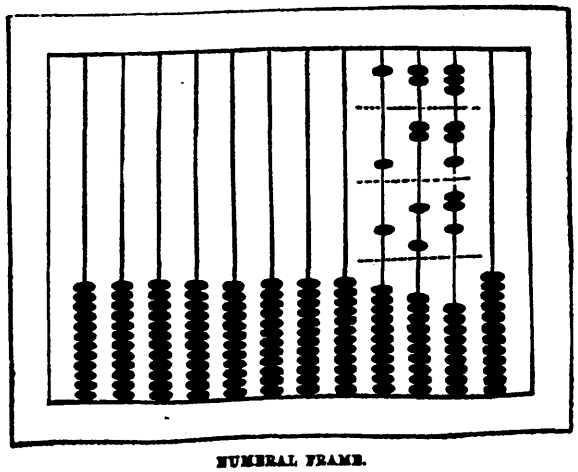
There should not be less than ten maps in the set; comprising the eastern and western hemispheres, Canada, America, Europe, Asia, Africa, United States, the British Islands, &c.; and, if possible, a map of the county and township containing the school. These maps should also be well colored, and hung as objects of beauty and taste around the room. They can also be procured in cases. Whenever they are used in recitation, they should be removed to the north side of the house, or hung on the moveable black-board, so that the points of the compass on the map may correspond with their true position on the earth.

The Tellurian, or Season Machine.—As a useful accompaniment to the globe and maps, in the study of geography, we notice the tellurian, or season machine. Among the most difficult phenomena presented to the minds of children, are the changes of the seasons—the revolutions of the moon around the earth, and the earth around the sun—and the subject of tides. These, and several others, may be illustrated and explained by the aid of this machine. The science of geography, in its common acceptation, includes, with "a description of the surface of the earth," some account of its physical phenomena—of its people, manners, customs, religion, and laws; and of its relation to the other parts of the solar system. In this view, the study of the earth's motions and changes, although belonging to the science of astronomy, might properly be classed among these subjects to be taught in the school.


THE TELLURIAN.

Multiplication Table.—In order to acquire facility in using numbers, the multiplication table must be committed to memory. To facilitate the memorizing of abstract numbers, musical association may be used. Cards, large enough to be seen across the school-room, should be hung around. They will serve as ornaments to the room, and answer the double purpose of assisting the memory and training the vocal organs. It is an immense labor to learn these tables. If any one doubts this, let the attempt he made to commit the numbers from twelve times twelve to twenty-four times twenty-four, and the doubt will be dispelled. Everything should be done to assist children, and make pleasing such hard labor, in which the thinking powers take little part.

The Abacus, or Numeral Frame.—The cut shows a frame supporting twelve rows of little wooden balls, strung on wires, along which they move readily. The simple rules of arithmetic are difficult to acquire abstractly. Children count by means of their fingers, until they acquire proficiency. This instrument is better, as the


NUMERAL FRAME.