



#### The Principle of the Loom.

For teaching children and others, who may be ignorant of the simple principles involved in the ancient art of weaving, a very simple object lesson may be contrived by using materials at hand in the following simple manner: The only tools and materials required are a penknife, some thread, a piece of card-board, two lead pencils, a paper-cutter, and a heavy book to serve as a weight. The lead pencils are made to serve as the warp beams; the heddle may be cut out of the card with the penknife, with which, also, one or two shuttles may be fashioned (Fig. 1). On these last should be wound the thread that is to serve as the weft to be passed through the threads of the chain.

To rig up this improvised loom, it is only necessary to place the two pencils on the edge of a table, held firmly in place by the weight of the book above named, as shown in Fig. 2. Now comes the operation of warping, which is done as follows: Fasten one end of the thread that is to form the warp chain to one of the pencils, pass the other end through the first slit in the heddle, then around the other pencil, and through the first aperture, then around the first pencil, and so on, until the last slit in the heddle is reached.

The next step is the weaving. For this purpose, the heddle should be raised and lowered alternately, while at each motion the shuttle carrying the weft is passed through the warp threads, one half of which will be alternately lifted and lowered by the raising and lowering of the heddle. After each passage of the shuttle, the weft thread may be pushed home to the web with the aid of the paper-cutter.

This simple experiment, which may be carried out at home with little trouble, will serve the purpose of a most instructive object lesson to elucidate the fundamental principles involved in weaving.

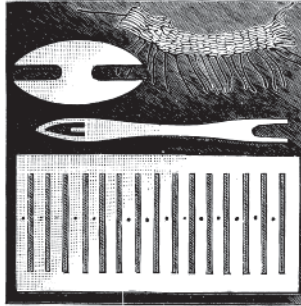


Fig. 1.—Heddle and Shuttles.