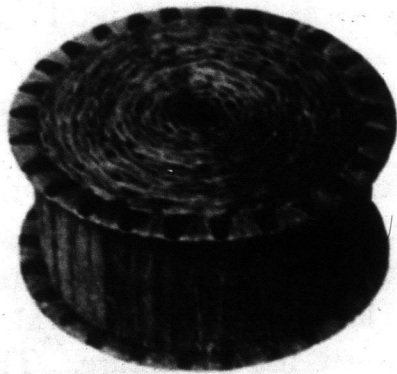


## MANUAL TRAINING DEPARTMENT.

### Raffia Work—IV.

By T. B. KIDNER.

Raffia weaving offers a wide field for the teacher in search of interesting and useful handwork, although many of the objects usually woven of this material by ladies at home are far from suitable for the average public school class. There are,



however, numerous exercises in weaving adapted for teaching to groups of children; weaving on cardboard being one of the simplest forms of the work.

The illustration, Fig. 1, shows a box with a woven cover, the body being formed in the same manner as that of the box described in a previous article of this series. Both top and bottom are greater in diameter than the body, presenting thus a better appearance than the earlier boxes with top, body and bottom all the same size.

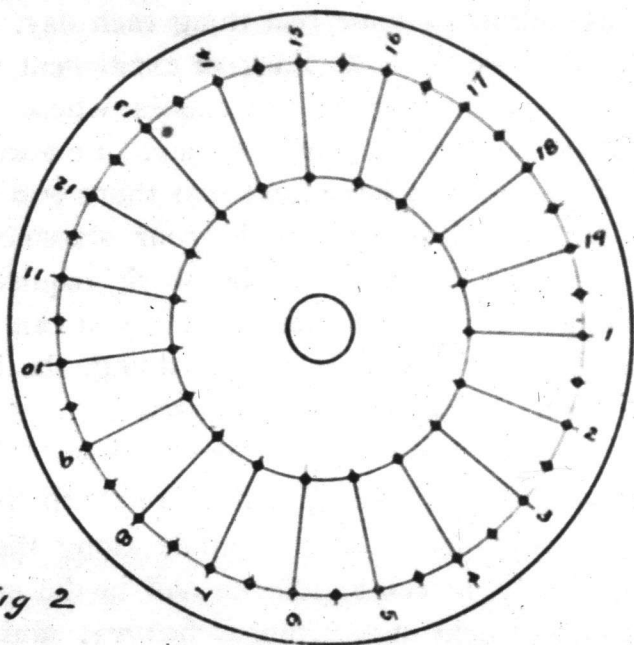


Fig 2

Fig. 2 is a piece of stiff cardboard, cut out and pierced for weaving to form the top. An odd number of long spokes must first be spaced out evenly on the circle near the rim, the short spokes being afterwards spaced between. Holes are

punched for the ends of the spokes, either with a ticket punch or bradawl. A good, full strand of raffia must then be inserted to form the spokes; any necessary joinings being made by tying the strands at the back. The spokes completed, the weaving is started at the centre, a blunt "tapestry" or "rug" needle serving to carry a strand of plain raffia for the weaver. The pattern should be the simple "under and over" variety, and continued until the outer ends of the spokes are reached.

The rim is then formed by sewing plain raffia through the spoke holes to form the little triangles seen in the illustrations, and afterwards inserting under them (round and round the circle) several strands of raffia of some contrasting colour.

The edge of the base is treated in the same way, but the centre is left in plain cardboard, being covered by the lining of the box.

### Origin of Mathematical Signs.

The sign of addition is derived from the initial letter of the word "plus." In making the capital letter it was made more and more carelessly until the top part of the "p" was finally placed near the centre; hence the plus sign as we know it was gradually reached.

The sign of subtraction was derived from the word "minus." The word was first contracted in m. n. s., with a horizontal line above to indicate that some of the letters had been left out. At last the letters were omitted altogether, leaving only the shore line.

The multiplication sign was obtained by changing the plus sign into the letter "x." This was done because multiplication is but a shorter form of addition.

Division was formerly indicated by placing the dividend above a horizontal line and the divisor below. In order to save space in printing, the dividend was placed to the left and the divisor to the right. After years of "evolution" the two "d's" were omitted altogether and simple dots set in the place of each. As with the others, the radical sign was derived from the initial letter of the word "radix."

The sign of equality was first used in the year 1557 by a sharp mathematician, who substituted it to avoid frequent repeating the words "equal to." —*St. James' Gazette.*