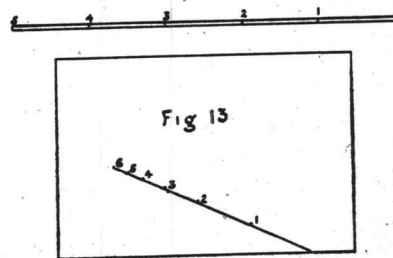


DRAWING—No. III.

F. G. MATTHEWS, TRURO MANUAL TRAINING SCHOOL.

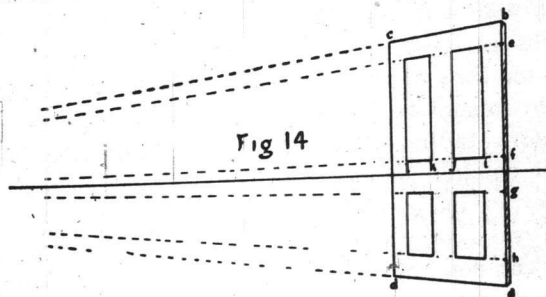
NOTE.—To avoid repetition, references will frequently be made to figures appearing in preceding numbers. It will be well, therefore, readers who wish to follow these articles to keep back numbers by them.

Attention has already been drawn to the changes in the apparent breadths of rectangles when placed either perpendicular or horizontal. The only occasion on which this change is not seen is when the plane is parallel to the tracing plane, or in other words, at right angles to the line of sight. This change, or to give it its proper term, foreshortening, should now be studied a little closer. Referring again to Fig. 1 and 2, it will be seen that the windows on the right and left appear to get narrower towards the further end of the court, and that this narrowing is gradual. To show this more effectually, take a strip of paper and mark it off into equal divisions, numbering them 1, 2, 3, 4, etc. Place this strip on a table at various angles behind the tracing plane, and after making the tracing of it, note care-



fully the results. (Fig. 13). In the accompanying figure the space between 2 and 3 appears about half of that between 1 and 2, while that between 3 and 4 is little more than a quarter of the same, and so on, the effect being more noticeable when more points still are taken. Good concrete examples may be found in the rows of street lamps, or the sleepers on a railway track.

Now to return to the drawing of the door. We

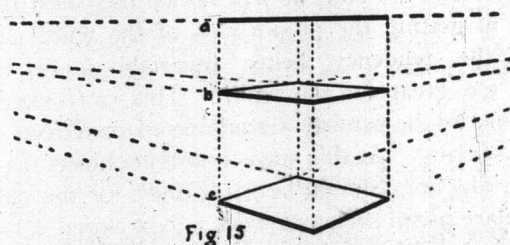


left this in outline and will now proceed to put in the panels. Hold the pencil at a convenient distance

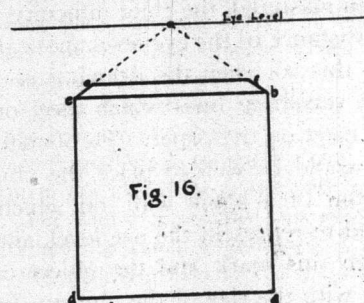
from the eye in a line with the top edge of the upper panels. Imagine this line continued to the front edge of the door, and after noting the apparent distance from *b*, mark it on the drawing (*e*, Fig. 14). In a similar manner mark off *e f g* and *h*. From each of these points draw lines to meet on the eye level at the same spot as *a d* and *b c* produced. With the pencil held horizontally, this time in line with the lower edge of the upper panels (because it is so nearly horizontal), note the apparent positions of *i j k* and *l*, and mark them off on the drawing. Vertical lines through these points will complete the outlines of the panels.

3.—THE CUBE.

The drawing of a cube will be a fairly easy matter after the difficulties of the vertical and horizontal



planes have been overcome. Fig. 15 shows three planes at different levels. This forms a splendid exercise, and at the same time shows how a cube may be represented. If *b* be the top of the cube and *c* the bottom, vertical lines joining the corner will represent the edges of the perpendicular sides. While the horizontal sides run to meet on the eye level. If the top of the cube be on a level with the eye of the observer the four edges of the horizontal surface will appear as one straight line, as at *a* in the figure.



The student should now endeavor to make drawings of a cube in various positions. The first and easiest is as Fig. 16. The front face is practically a square, and the top is simply a repetition of the horizontal plane with one edge facing the observer. A more difficult view is shown in Fig. 17. To draw this, place a vertical line *a e* in suitable position on the paper. At *a* draw *a d* and *a b* exactly as when draw-