THE TEXTILE MERCURY.

April 30th, 1859.

CITY AND GUILDS OF LONDON INSTITUTE.—The annual meeting of the governors and friends interested in the institute was held at Mercury Hall, Cheapside, on Wednesday, Lord Selborne (chairman of the council) presiding. The report showed that the income for the past year amounted to £2,713 7s. 0d., and the loss to £327 13s. 8d. The amount voted by the council for the establishment of the central institute at the beginning of the year was £12,000, and the expense £9,754; the students' fees amounted to £4,086, and the net cost of the institute, after deducting the students' fees, etc., was £7,202. The amount voted by the council for the maintenance of the technical colleges, institutes, &c., was £9,754, and the expenditure there had been £8,786. The students' fees amounted to £4,086, and the net cost of the college, after deducting students' fees, etc., was £5,694. The amount voted in connection with the technological classes and examinations was £6,230, and the expenditure under this head amounted to £6,152; while the net cost of the examinations, after deducting candidates' fees, was £6,202. The expected income available for general purposes for the present year amounted to £31,754. Lord Selborne, in the course of an address, reported very favourably upon the work accomplished in all departments. The work carried out at the central institute during the past year compares very favorably with that attained by any scientific institute in the country. He concluded by moving the adoption of the resolution of thanks. Mr. T. Watney (treasurer) seconded the motion, which was adopted unanimously. The treasurer then presented the accounts of the institute and the treasurer's report, and the accounts were then read and adopted, and the meeting concluded with a vote of thanks to the chairman.

Designing.

NEW DESIGNS.

VESTINGS, Etc.

This is a season of novelties. All the well-known weaves are in demand; but the search is still for novel combinations and patterns, and the styles of by-gone decades are now brought to the front and made fashionable in the new shades of mauve, claret, fawn, and violet. The knapsack weaves give a suggestive design A, which may be utilised for many fabrics either in silk, cotton, or linen; the ground, which is shown in the design undotted, may be plain or 4/-a-yard plain warp face. If a fine-set reed is used the ground may remain as it is, the warp and weft being made up of alternate rows of the same colour, but the last row may be made up of different colours, so as to give a change in the appearance of the fabric. This design is suitable for vests, as well as for waistcoats and linens.

SHIRTING PATTERN.

A matting on four shafts, 1 and 2 for first and second, 3 and 4 for third and fourth, all two in head, of 20's cotton for warp; 20's cotton weft, 16 ends per inch, four in a pattern. Warp pattern repeat: 2 white, 2 light blue, 2 dark blue, 2 white, 2 light blue, 2 dark blue, 2 white, 2 light blue, 2 dark blue, 2 white, 2 light blue, 2 dark blue. Weft pattern the same; two picks in a shed, 69 picks per inch.

THE ANALYSIS OF PATTERNS (continued).

In considering the influence of weave on the sett of a cloth, two questions arise: first, the effect of the warp on the sett; secondly, the effect of the weft on the sett. In any given weave it is possible to ascertain the precise influence of the bending of warp and weft on the sett; but in the use of the diameters of the sett, the diameters of the yarns must be known, but for the present we need only make a note of the common sense that we shall use in the application of the rules respecting the diameters of yarns, and consequently through the sett in the yarns, and through the sett in the yarns, and through the sett in the yarns.
warp threads. Then the angle of weft with warp—i.e., A c—must be one of 60°, and the well must be selected to give this result. To obtain this it is evident that the length a—i.e., the base of the triangle—must be ascertained, since this will represent the space required for each thread plus the angle a between the threads.

The length of a may be deduced as follows:

The perpendicular c is half the diameter of both warp and weft—i.e., it equals the diameter of either warp or weft—which for simplicity may be taken as 1 inch. Now, since the angle a c is one of 60° and a c = 30°, the triangle a c is evidently half an equilateral triangle, as shown in Diagram 254, and consequently the side a (the hypotenuse) is exactly twice the length of c, which is taken at 1 inch; thus a = 2 inches. From this data proceed as follows to obtain the length a. Since the angle a c is a right angle, the following formula is correct:

Now, inserting the figures given above—

Therefore, a = 2 inches, and b = 1.732.

Should the previous rule be adhered to, 95 ends per inch be used in the plan weave. Another example may be taken to show the application to other weaves:

Example 2. A 5/2 sleyed warp = 2 1/2 times part of an inch in diameter. Find the number of ends per inch only. Use this 3 and 1/2 slit.

Then, as shown in Diagram 256, in the 3-and-1 twill, there are 2 triangles + 4 diameters of the yarn. Therefore, for each repeat of twill, and since each twill contains three threads, 22 x 3 = 66 threads per inch. This is supposing the warp to be quite straight, which it does not, as will be seen on referring to the micro-photograph of a thread and pick from a cashmere cloth given in Diagram 42. Consequently, it may be taken for granted that a few threads should be added to the above for the selection in the warp.

Now, if the warp and weft did an equal amount of bending, the following would be the result:

This latter result is very far from correct, while the former is practically correct, for the practical net given, i.e., 64 threads per inch—i.e., the loom, while the 60—65 ends found by calculation is for the finished state, so that they practically coincide. The following is a clear statement of all the results:

1. Ends per inch accotted by adding diameters together .................................................. 89

2. Ends per inch accotted by equal bending of warp and weft and angle of 60° .................. 102

3. Ends per inch accotted by warp straight, weft bending and angle of 60° .................. 66

4. Ends per inch used in practice in loom ................................................................. 64