

THE LOWELL TEXTILE SCHOOL.

We are apt to consider that the trade school is a product of the nineteenth century, but in truth it goes back to the middle ages. The apprentices really at-

power, and in the near future it is likely that all progressive mills will be operated in the same manner.

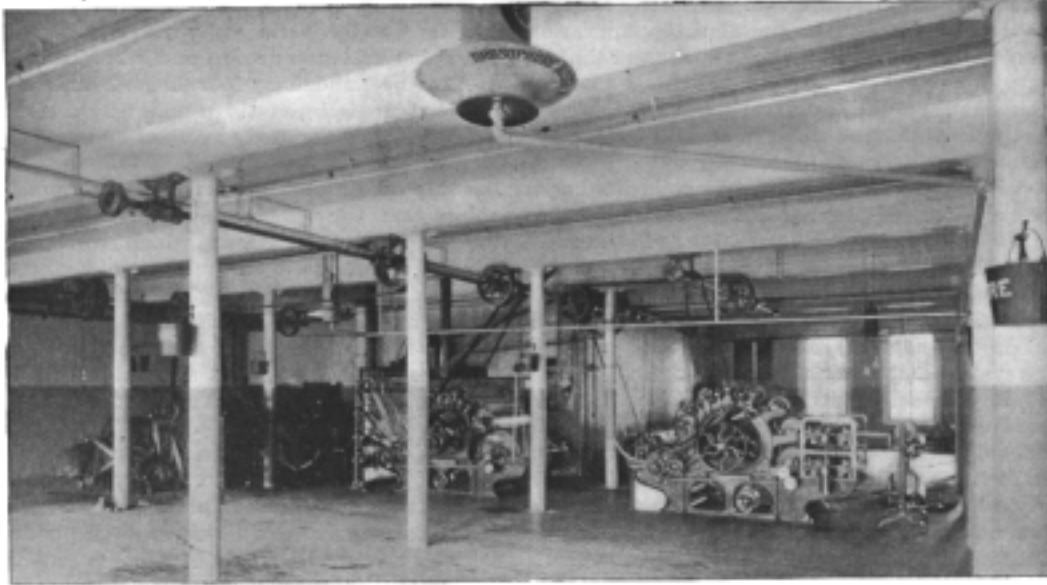
The trustees include mill treasurers, agents and superintendents in various parts of the Merrimac Valley,

features of the school are carried throughout. Almost all of the members of the teaching staff have been practically engaged in the manufacture of textile fabrics. The director of the school is Mr. Christopher P. Brooks, who has for many years held the position of mill superintendent.

The instruction is divided into several sections; the principal departments are the day classes for regular students and the evening classes for the people employed in the mills. In the day classes, which are held both morning and afternoon, arrangements are made for the training of students in any one of four courses. First, the cotton manufacturing course; second, the woolen manufacturing; third, the designing; and, fourth, the dyeing. These courses overlap to a considerable extent, so that a student in any one branch attains sufficient knowledge of other branches so far as they appertain to his own section, but the work is specialized as far as possible, so that at the end of the three years' course in the school, the student will have the knowledge of a practical manufacturer.

In the evening school the work is much more specialized, as the evening students have less time to devote to the work than the day students. The evening students have all the advantages that the day students have in manipulating the machinery and taking the same subjects of study.

The application of art to fabrics is one of the most important subjects that is to be dealt with in a textile school, and in the Lowell school arrangements have been made for the art instruction to form part of the regular course, and ultimately every branch of applied art, which can in any degree be considered applicable to textiles, will be taught there, whether applied to the

**WOOLEN SPINNING ROOM.**

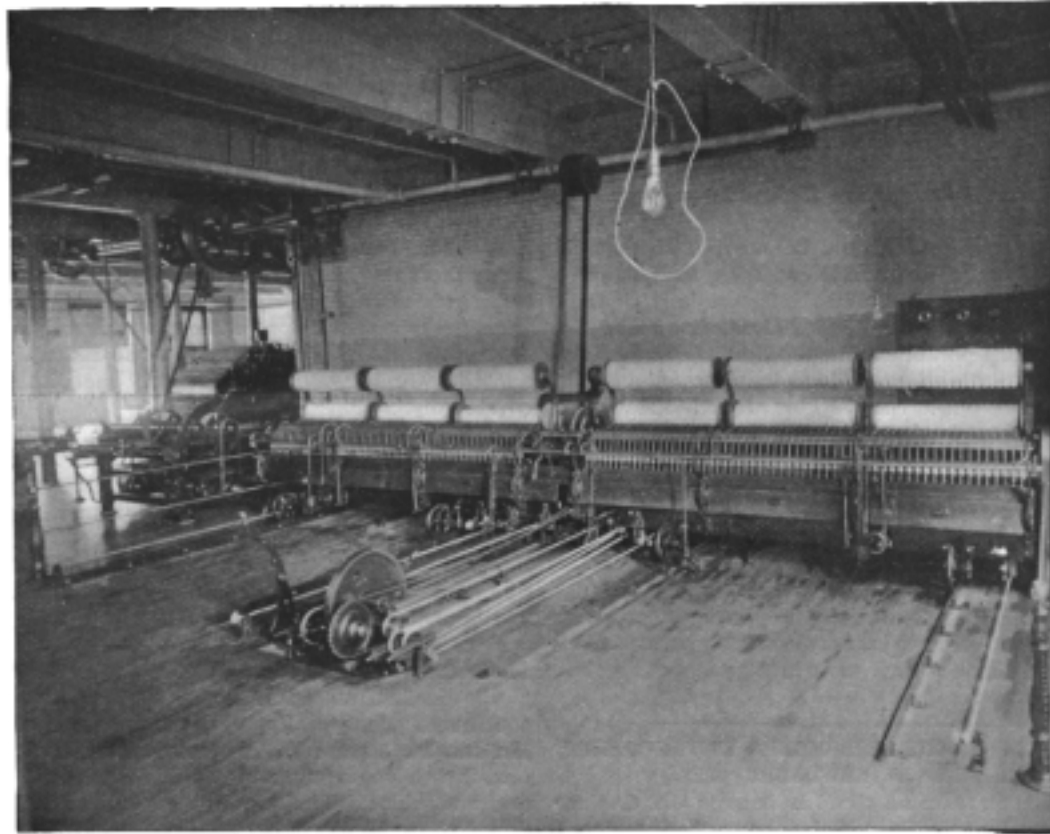
tended trade schools, and during the time when they were learning their trades they were under the direction of the guild. The admission of an apprentice was an act of special solemnity, and as it was the beginning of a kind of novitiate to citizenship, it generally took place in the town hall. At the expiration of his apprenticeship the lad was received into the guild with special forms and solemnity and became thereby a citizen of the town. This corresponds to examination and graduation in the modern trade schools. The apprenticeship system is, of course, largely in vogue at the present time, but in the trade school the information is imparted in a thorough and practical manner, and it is to the trade school that we must look in future for the educated and trained mechanics who are fitted to superintend the work of others.

It is doubtful if any industry in the world requires more attention to detail, and a knowledge of the machinery and the principles which underlie their operations, than does the manufacture of textile fabrics.

At every large exposition the attention of visitors is always attracted by the textile exhibit. There is something particularly attractive in the series of processes involved in converting the raw fiber into yarn or in the swiftly running loom producing elaborate fabrics. The idea of a textile school is not a new one. One will in Germany in a couple of years celebrate its fiftieth anniversary. In America there are only two textile schools, but these are both important ones, and it has been the good fortune of the Lowell Textile School, which forms the subject of the present article, to be in a position to eclipse all other existing textile schools in the world in the completeness and variety of its equipment.

The school is admirably located at Lowell, Mass., and within the radius of a hundred miles are included many of the most important textile industries in the United States. The arrangement of the school is admirable in every respect. Its equipment includes passenger and freight elevators, electric lights and power, humidifiers and a complete system of fire protection, together with all of the most modern machinery which can be considered at all necessary for the equipment of a school or mill. The school is specially interesting from the fact that all of the machinery is operated by electric

under the presidency of Mr. A. G. Cumnock, of Lowell, and the capital invested in the mills they represent amounts to about \$25,000,000. The advice and experience of these trustees is not only a benefit to the school

**WOOLEN SPINNING.**

and its equipment, but it is also advantageous for a young man to be educated under the supervision of men who have it in their power to practically recognize ability and progress in studies. The practical

artistic adornment of the fabric or in any process, such as printing, etc.

The chemistry and dyeing section of the school is one of the most important. Several thousand dollars have been spent last summer in equipping the room with all the apparatus that experienced manufacturers and the board of trustees of the school could recommend or that experienced instructors from other institutions found advisable.

There is a bewildering variety of machinery in the school, and our three engravings give an idea of only a few of the rooms. The list of the various pieces of machinery which the school possesses occupies five pages of the excellent catalogue issued by the institution. They include the complete equipment of a cotton mill, a woolen mill, and a silk mill; all of the machinery being of the very latest type, and, as already stated, run by electric power.

The collection of power looms includes representative machines from almost all of the American loom makers, and looms capable of weaving all varieties of fabrics. Among others are noticed a group of jacquards from the Knowles Loom Works, Providence, R. I., and some handsome carpet looms from the shops of the Crompton-Knowles Loom Works, Worcester, Mass., with plain looms, dobby looms, leno looms, lap-loom and other masterpieces of weaving machine making. In the same room is a collection of machinery showing the various methods of preparing and dressing warps, both for cotton, woolen, worsted, and silk fabrics.

There is between the leading nations of the world a continuous industrial warfare existing. Tariffs and

**HAND LOOM WEAVE ROOM.**

treaties are of great importance in modifying the conditions under which this war is conducted, but no tariff can keep out the highest productions of art or make up for the disadvantages that exist in the lack of a population of artisans thoroughly trained in eye and hand. There are over \$100,000,000 worth of textiles imported into this country every year, all of which represent special advantages that are possessed by no other country, and principally the advantage of a highly trained industrial population. All the leading European nations are spending fabulous sums in the establishment of trade schools of all kinds, not necessarily all in textiles, but in every branch of industry they realize the great advantage that nations like Germany have received in the possession of specialized tradeschools in their midst during the last twenty years.