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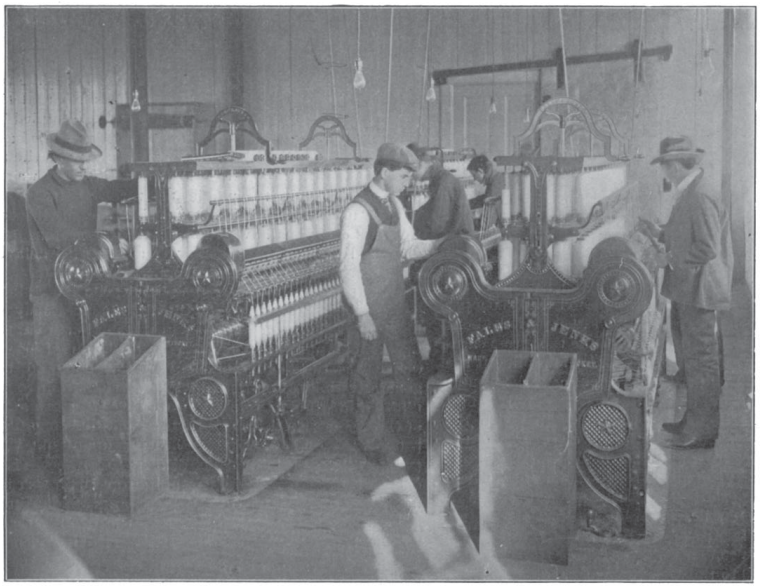
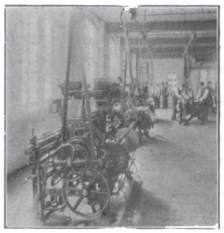
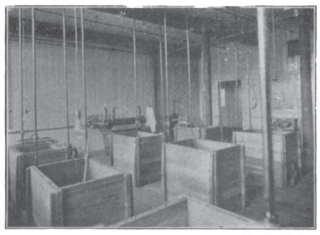


At the Ring-Spinning Frames.

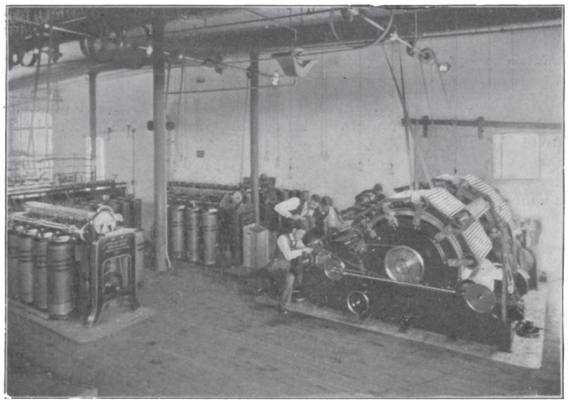


Power Weaving.

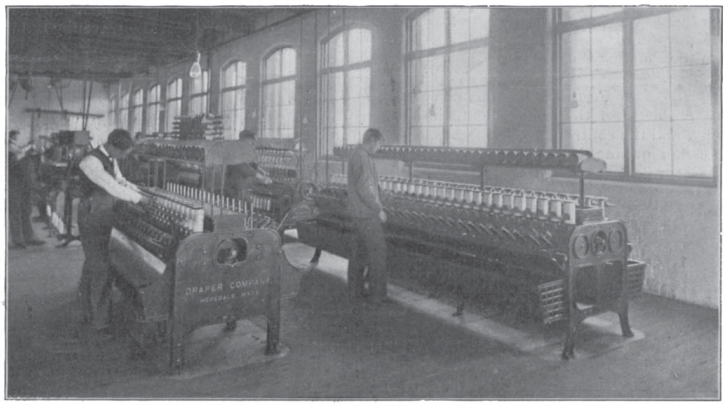


Dye House.

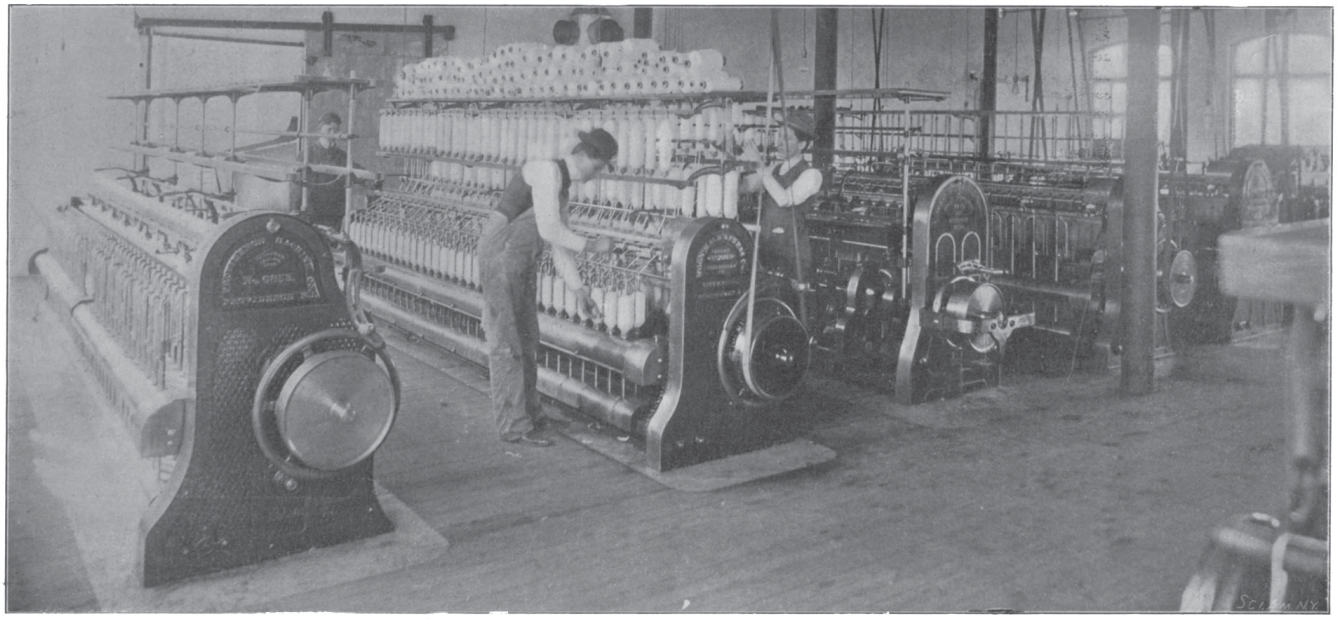
Dyeing Laboratory.



Card-Grinding Practice.



Work at the Spoolers, Twisters, and Cone Winder.



Practice on the Fly Frames.

COTTON TRADE SCHOOLS IN THE SOUTH.—[See page 342.]

COTTON TRADE SCHOOLS IN THE SOUTH.

BY J. A. STEWART.

The progress which the South has been making in cotton manufacturing augurs well for the future prosperity and advancement of the Southern section. While there were 7,160,000 cotton spindles in Massachusetts at the beginning of 1895, there was no State south of Mason and Dixon's line with a million. Now there are two, North and South Carolina, with over that number, thus exceeding all the New England States excepting Massachusetts, Rhode Island and New Hampshire.

The value of the cotton goods manufactured in the eight Southern States in 1880 was $16,173,222, and in 1890 the returns showed a value of cotton manufactures reaching $40,165,074 or a gain of nearly 250 per cent.

This splendid growth is bringing the South into prominence through the enhancement thus given to national American industries. Its progress is also bringing it into closer relation and a clearer understanding of the development of the manufacturing interests which comprise so large a portion of the life and prosperity of the nation. Furthermore, this grasp of conditions is shown by the growing realization in the South of the need of trained craftsmen and educated workmen to conduct its colossal manufacturing interests.

Like textile manufacturers in foreign countries, manufacturers in the South are recognizing that the system of training workmen in the mill is ineffective, for the textile mill is an establishment whose chief purpose is production and not instruction. Consequently they have been awake to the necessity of establishing textile schools, from which are to come trained workmen and educated engineers for the carrying on of their large and growing textile industrial enterprises.

The first cotton trade school in the South is that started in 1898–1899 in connection with the Georgia School of Technology at Atlanta, Lyman Hall, president. Clemson College, S. C., has also recently opened a textile department in a building especially erected for its use under the direction of J. H. M. Beatty. By the establishment of these two trade teaching institutions, the South has justified its claim to textile educational enterprise.

The Atlanta institution is very complete. It was designed by a Boston architect, and as it stands it embodies the very latest ideas of mill construction, as well as a convenient school department.

The school is the outcome of the legislative act of December, 1897, which appropriated $10,000 for the establishment of the Textile School on condition that its friends contribute $10,000 additional in money and machinery. A wealthy philantropist, Mr. Aaron French, of Pittsburg, became the chief benefactor of the institution. In his honor it has been named "The A. French Textile School." In December, 1898, the legislature appropriated $10,000 for two consecutive years for the support of the school. The building is of brick, 150 by 70 feet and three stories in height. The basement floor contains the laboratory, dye house, receiving and finishing rooms, store and washrooms, the engine room, a ginery and a lecture room. On the first floor one finds the department devoted to preparing the warps and weaving. Here are also the designing room, a room for Jacquard designing, an exhibition department besides the principal's office. The top floor is occupied by the carding and spinning department, where the cotton is brought from its crude state up to a finished yarn ready for weaving.

The equipment of the school is complete. In appreciation of the advantage of having the future mill men of the South familiar with their machinery, the machine manufacturers have donated whatever was required by way of equipment to a valuation of $20,000. The shafting makers, the belting company, the automatic sprinkling company, the ventilating and heating company followed in line, as did the makers of the Drosophore humidifiers—machines very essential to the cotton manufacturing industry in the hot, dry South, where natural atmospheric conditions would otherwise be too unfavorable. Every machine of consequence known to the cotton manufacturing industry is to be found here, and in most cases in considerable variety of makes of manufacture.

The student who has mastered the technicalities of the plant in a school of this sort will have no trouble in manipulating or caring for any machine he may find in any up-to-date mill in actual business. There are four types of cards; a Winship 60 saw cotton gin, gin feeder and condenser; two kinds of drawing frames, a railway head, a ribbon lapper, a comber, five processes of fly frames, three types of ring spinning frames, four spoolers, three winders, and a wet and dry twister. The student learns the process of weaving on about fifteen different kinds of looms, from those making heavy coarse cloth to the finest Jacquard products. Among these looms are Whitin, Mason, Crompton & Knowles, Kilburn, Lincoln, Northrop, Calvin and Jacquard looms.

The curriculum of the school is as broad as its equipment is complete. There are courses in mathematics, English, drawing, mechanics, textile design, chemistry and dyeing, millwork and shopwork to be studied in four years. Special courses of two years in designing and weaving, carding and spinning, chemistry and dyeing are provided. Thus the needs of most of the branches of the textile industry in the South are met. The special feature of the textile course in the Georgia school are the courses given in the different shops synchronously with the work in the cotton mill. Special prominence is given to the elements of practice of every department. Although this is the first year of practical operation of this department one hundred and twenty-five young men have matriculated.

Clemson College Textile School, also inaugurated last fall, provides a similar four year course in which the textile instruction is incorporated in the regular college work, the increasing development of cotton manufacturing in South Carolina having brought about a demand for more complete textile training. At Clemson the purpose is to expand into a broader curriculum of textile industrial art, to include the manufacture of wool, silk and linen products. The textile building at Clemson is a two-story brick structure of modern cotton mill design, lighted by electricity, heated by steam and protected from fire by automatic sprinklers. On the first floor are the recitation rooms, the carding and spinning departments and the office. The dyeing and weaving departments are on the second floor. The equipment is fully as comprehensive as that of the Georgia institution.

It is well held that three years spent wisely in a school are equal to twice that time in a mill. These two schools may be looked on as pioneers in a group that will cover the whole cotton growing requirements of the South; to which learner and manufacturer can turn alike for information and for assistance, and from which trained experts will graduate, whose knowledge and skill will be devoted to the further development of the great textile industry.

Without a doubt, the expansion of textile education in the South will be coincident and contributory to the new era of southern industrial progress. The time has come when the manufacture of those textiles which are now imported from abroad to an extent exceeding one hundred million dollars' worth annually will be conducted in this country; and when the South's vast product of cotton will no longer be chiefly shipped in the bale to be manufactured into cloth in foreign mills, but will be wrought into fabrics in this country, thus giving industrial impetus to a large section greatly in need of it.