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LACE EDGINGS
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higher; the principle was, however, the same. At that time no artificial indigo was on the market, and it seemed therefore of interest to try the process on this product, and to compare the results obtained by those furnished by the methods of Mühlen and Zimmermann and of Bloxam. The following results were obtained on three different commercial samples of the artificial product. The percentages indicate the amounts of indigoine found.

<table>
<thead>
<tr>
<th>Mühlen</th>
<th>Bloxam</th>
<th>H. SO₃ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per.</td>
<td>Per.</td>
<td>(TiCl₄)</td>
</tr>
<tr>
<td>94.80</td>
<td>94.73</td>
<td>(TiCl₄)</td>
</tr>
<tr>
<td>91.70</td>
<td>91.48</td>
<td></td>
</tr>
</tbody>
</table>

The indigo powder No. 1 contained 4.21%, No. 2, 4.39%, and the paste 87.8% of moisture at 230 deg. F. It would thus appear that the process is also applicable to the analysis of artificial indigos.

Some further results on natural indigos are appended below, given simply to show that with these the process works equally well. In all cases the titrations were done with TiCl₄.

<table>
<thead>
<tr>
<th>Grossmann</th>
<th>Bloxam</th>
<th>H. SO₃ Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per.</td>
<td>Per.</td>
<td>(TiCl₄)</td>
</tr>
<tr>
<td>1.</td>
<td>48.22</td>
<td>48.70</td>
</tr>
<tr>
<td>II.</td>
<td>11.</td>
<td>55.97</td>
</tr>
<tr>
<td>Fig. Indigo</td>
<td>12.74</td>
<td>Not satisfactory</td>
</tr>
</tbody>
</table>

**Drugs Used by the Dyer.**

By A. Loeffer.

The drugs used by the Dyers are divided into three groups, viz:

1. Chemicals generally,
2. Mordants,
3. Dyestuffs.

This division, based on the practical application of the materials in question, is not correct from a practical point of view.

Take for instance Chrome, which is generally called a mordant, but which acts as a dyestuff in the production of Chrome Yellow, again it might also be classed among chemicals, on account of it being used as an oxidizing agent, etc.

It is still more difficult to give theoretically a definition of the three groups.

Under chemicals will be understood, those materials which are employed in the preparing of the goods before dyeing, for instance, for bleaching, as well as such materials as are required during the processes of dyeing and finishing, without the coloring part of the color, either entirely or in part.

Mordants. This name is derived from the French name modere (to corrode) because the early French dyers believed that the utility of the metallic salts they employed consisted of their corrosive nature; it was believed that these substances opened the pores of the fibre, and thus rendered them more capable of absorbing the dyestuff.

At a late period it was recognized that the so-called mordants enter into a chemical combination with the dyestuffs and formed insoluble compounds or color lakes, hence the substances were considered principally as fixing agents for the dyestuff.

In many cases this is true; however there are dyestuffs which dye without the aid of a mordant but become faster to the washing and fulling by the application of the mordants. Again in some instances the mordant is an essential constituent of the colors, since without it no color at all, or only a worthless shade is produced. For instance Chrome colors (in general) and where minus Chrome only a worthless, or no shade at all would result.

We consider as mordants, substances which partly or wholly combine with the dyestuffs to form definite compounds in the fibre, thus distinguishing them from those chemicals which take part in the dyeing process without entering into the color.

**Sterling Softener.**

After a long series of experiments, the National Soap Mfg. Co. have produced Sterling Softener, an unexcelled product for softening cotton goods of any description.

Sterling Softener is a combination of Oils which are beneficial to cotton goods and will produce the soft lustre which is so much sought for by Manufacturers of Cotton Goods.

Finishers desiring to give Sterling Softener a trial, can get full information from the Manufacturers.

**Waterproofing and Dyeing.** This is a late English invention by A. Hart, of Chelsea, and has for its object to simultaneously waterproof and dye textile fabrics. The waterproofing material is composed of a mixture of 1 lb. gum tragacanth worked into a paste with an equal amount of water, added to 3 lb. casein, also previously made into a smooth paste with water. One pint sweet oil and ½ pint caustic soda 17 deg. Tw. are added to the compound. A dry pigment powder is then added to the mixture. The pigment powder is obtained by boiling a cheap pigment for an hour and drying the residue. The goods to be waterproofed are passed through the above prepared bath, squeezed through rollers, afterwards treated in a bath containing 15% alum, and then passed through a rinsing bath of clean water and dried. The pigment can be omitted if it is not desirable to dye the goods.
Machine Dyed Silk Yarns.

Silk Manufacturers, with the exception of those who dye their own Yarns, are not aware of the waste that is made by the ordinary methods of dyeing silk. There are certain types of Machines upon the market for Silk Skin Dyeing, the Klauder-Weldon Machine being the best known which keeps the skeins distended during the dyeing process, and which avoids the tendency to cross and tangle.

The Klauder-Weldon Dyeing Machine Co., guarantee that Silk Skin dyed in their Machines will reel with about 20% less waste than skeins dyed in the old-fashioned hand kettles.

With these facts in view, it should seem reasonable that Manufacturers who use skin silk, would insist that it should be dyed by these improved and economical methods.

Farmers’ Union Condemns Blending of Sea Island and Upland

The Farmers’ Union of Lowndes County has taken high ground against the practice of mixing Sea Island and upland cotton, the practice having been adopted by some parties who did not seem to realize the wrong in it.

By planting mixed seed some farmers imagine that they will be able to make short staple cotton bring long staple prices. The cost of production is, of course, less, and if the yield of the mixed cotton were as great as that of short cotton there might be some advantage in mixing it. Many farmers realize that by mixing the seed a poorer staple is secured, and that Lowndes County cotton, which ranks high, suffers among the buyers.

Besides different kinds of gins are used for ginning the two staples.

Formic Acid. The employment of formic acid as an assistant in dyeing, is said to offer considerable advantages over sulphuric and acetic acids. In carrying out a series of experiments, Rusby states that when treating mixed fabrics of wool and cotton, the advantages claimed—better levelling properties, brighter shades, and more complete penetration—certainly make themselves evident, and there is also not the risk of tendering the cotton as when sulphuric acid is employed. In the dyeing of wool and cotton, where it is desired that the cotton should remain white, formic acid is not as recommendable as sulphuric acid, which gives most perfect whites, but in all cases it is superior to acetic acid.

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RUGS, MATS, ETC.
SINGLE OR DOUBLE WOOLEN SHEARING MACHINES
WITH PLAIN OR LIST-SAVING RESTS.

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Also to the Shearing Machine Department of
WOOSNECK NAPPING MACHINERY CO.

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Wanted.—A man with general knowledge of the manufacture of silk hosiery for position of superintendent or assistant manager, for mill in middle west. Address A. B. C. (216) care of Posselt's Textile Journal.


Wanted.—Young man with knowledge of Knitting to assist importer of Knitting Machinery with sales. Must be willing to travel, and able to approach Manufacturers. Address E. O. (218) care of Posselt's Textile Journal.

Bess Weaver or Designer.—Now with a large New England Mill, has had five years' practical experience. Will go anywhere. Address A. E. (219) care of Posselt's Textile Journal.


MILL NEWS

Philadelphia, Pa. Schofield, Mason & Co., who operate the Delaware Carpet Mill, will add two additional stories to their plant at a cost of $17,500. They manufacture Wilton and Brussels carpets and rugs.

John W. Snowden, who directed the affairs of the New York office of the Stead & Miller Company, has been called to the mills at Philadelphia, where he has assumed the duties formerly performed by Theodore M. Hillsley. Mr. Snowden has been elected vice-president and general manager of the company, and in addition to the duties of this office, will look after the local trade in Philadelphia.

Work has been started on the erection of an addition to Ivens, Dietz & Metzger's plant. The new mill will consist of three buildings, one of which will be L shape, having a frontage of 105 feet on Seventh Street and 184 feet 10 inches on Huntington Street. This building will have five stories and basement, and be of re-inforced concrete construction, with brick walls and slab roofing. The other two buildings, which will face Marshall Street, will consist of a three-story dye house with a frontage of 161 by 40 feet, and the other, a building five stories high with 104 feet frontage by 49 feet 6 inches in depth.

The National Tapestry Mills, of 1543 Ruan Street, Frankford, are being removed to the O'Neill mill, at Oxford and Josephine Streets.

N. K. Regar, formerly of Regar & Oughton, Upholstery Manufacturers, has organized the N. K. Regar Manufacturing Company, and taken a mill at Boston and Coral Streets, Kensington, where he will engage in the manufacture of worsted cloth for men's clothing. His partner, Mr. Oughton, has also gone into the manufacture of this line of goods in the Diana Mills, Frankford.

Frederick Metz, formerly superintendent of the Oldham Upholstery Mills, Philadelphia, has organized the F. Metz Company, with a capital of $50,000, to engage in the manufacture of silk ribbons at Second Street and Allegheny Avenue. Mr. Metz will act as president, treasurer and manager of the new corporation.

Arthur Jones, manufacturer of Smyrna rugs, Jasper and Tioga Streets, is erecting a two-story brick addition to his plant, 40 by 36 feet, at an estimated cost of $4,000.
Keyworth “Model B”
Silk Thread Finishing Machine for Best Results—WHY?

Because the new features embodied in “Model B” do away with all the difficulties to be met with in silk thread finishing and make it the peer of any machine ever placed on the market. Investigate and see the number of duplicate orders we have received to date. Summed up, our success is due to the fact that we have the best and most complete system, and always honestly represent it and say to those who have tried the rest to try the best and see the difference. In ordering solutions, state the class of goods you wish to make. Correspondence solicited.

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Lehigh & Mascher Sts.

SPECIALTY: Winding Machinery in All Varieties for All Classes of Work

Illustrations, Actual Size, Showing What We Do. We Invite Comparison.

Amount of yarn on tube 458 grains or 1365 yards.

B: Single 12’s soft spun Cotton Yarn.
Amount of yarn on tube 458 grains or 660 yards.

Send Samples for Rewinding and we will convince you where you are short.
CIBA DYES

CIBA BLUE  CIBA BORDEAUX  CIBA VIOLET  CIBA SCARLET  CIBA RED  CIBA HELIOTROPE  CIBANON YELLOW, ORANGE, BROWN

Vat Dyes for Cotton Dyeing and Printing—also for Wool and Silk. Fast to Light, Chlorine and Washing.

Made by SOCIETY of CHEMICAL INDUSTRY, BASLE


Robert Carson & Sons, Trenton Avenue and Huntington Street, Philadelphia, have awarded a contract for a four-story and basement mill, 60 by 100 feet, to cost $45,000.

Dorrsceton, Pa. Ground has been broken on Eley Street for a new Silk Throwing Plant to be operated by a Paterson company. The new concern is capitalized at $25,000 and nearly all the stock is sold. Three buildings will be erected. The main structure is to be 67 feet wide and 205 feet in length. The furnace will be 44 by 39 feet, while the engine house will be 40 by 45 feet. The buildings are to be completed by September 1 and the machinery to be installed therein at once.

Easton, Pa. The incorporators of the new Girard Silk Company are M. D. Clader, John B. Smith, M. L. Dreinbach, T. Floyd McPherson and Henry McKeen, Jr. The company's plant is at present in the American Flag Building on Church Street, but it will be shortly moved to larger quarters on Wilkes-Barre street.

Forest City, Pa. The Klotz Throwing Company, who own the big silk mill at Simpson, are going to erect one of similar dimensions here.

Hamburg, Pa. The Hamburg silk mills have resumed operations under the superintendency of Mr. L. L. Madeira, one of the most widely known silk experts. The large extensions to the Hamburg knitting mills and bleaching are nearly completed. The plant doubles its capacity besides bleaching its own products.

Hazleton, Pa. Work has been started on the addition to the plant of the Duplan Silk Co. The new building will be 77 by 49 feet, one story in height. Mr. W. C. Muggill is the Superintendent of the mills, which are running now 450 broad looms on piece dyed silks and silk mixtures.

Lehighton, Pa. The Carbon Silk Mill, Silk Throwers, are so rushed with work that it is reported they are looking for a suitable location to erect a new mill.

Norristsown, Pa. James Lee & Co., the prominent woolen manufacturers of this place, have awarded contracts for a large and modern mill, work on which has been started. The building will be 200 by 75½ feet, and five stories high. Machinery in the new mill will be running by December; 150 operatives will find work.

Philadelphia. Orders at the silk mill are keeping Mr. Morgan, the Superintendent, at the jump, having made it necessary for him to install new machinery.

Slatington, Pa. Whitehead & Co.'s silk mill started operations June 14th.

Temple, Pa. Seidel Brothers, of the Main Creek Hosiery Company, being rushed with orders, are enlarging their mill. The foundation has been finished and the brick work started.

Vera Cruz, Pa. Clerk of Orphans' Court, Amundson of'the room, this place, has organized a company known as the Vera Cruz Silk Co. The other incorporators are Francis Xlaine and William E. Stahler.

Wilkesbarre, Pa. The plant of the Leon-Fahrenbach Silk Co., situated on Jones street, near Hazle, is ready for operation, all the machinery having been installed; 150 operatives have found employment. The main building of the new concern is 500 by 200 feet, two floors and basement. The power and boiler departments are embraced in a separate detached brick building and the plant is one of the most completely equipped in the country.

Garfield, N. J. The new building of the New Jersey Worsted Spinning Company will have a floor space of 124,000 square feet and will be 500 by 200 feet. It will be one story high, with a saw-tooth roof.

Hokahau, N. J. The Dale Brook Bleaching has been leased to the Hokahau Bleachery, which will operate the plant upon khaki, butcher linen, specialties in general, and will continue the finishing of clay-lined work.

Orange, N. J. A silk mill, that will employ between eighty and ninety operatives, is to be started here by Frost & Van Ripper, of Paterson. They have rented the new Butterfield building in the rear of 19 Day Street.

Paterson, N. J. Mr. A. H. Robertson, years ago a student of E. A. Possett, has taken charge as Manager of the Plant of Messrs. Jas. McCarrach & Brothers, of this place and New York City. They manufacture Tie Silks and Mufflers.

Ribbons and narrow fabrics are to be manufactured by the Manhattan Ribbon Company, a new concern incorporated with a capitalization of $25,000.

The Ray Ribbon Company has been incorporated, the same will engage in the manufacture of ribbons, etc.

The Staple Silk Company has been incorporated with a capital stock of $50,000.

Phillipsburg, N. J. It is rumored that the Standard Silk Company has plans nearly completed for the erection of a large addition to its plant. The new addition will extend the entire length of the present mill on the north and east, and when completed, will provide room for 200 new looms, making it one of the largest silk mills in the country.

St. Johnsville, N. Y. The Royal Gem Company is erecting additional buildings to be double its output in women's and men's ribbed cotton underwear.

Utica, N. Y. The Utica Steam and Mohawk Valley Cotton Company has had plans prepared for the addition to the mill on State street. The new building will be 60 by 70 feet and will be located on the Court street side. It will take in the L which was formerly used as a cloth room. The exterior length will be about 160 feet and the width 80 feet. There will be four stories. The new addition will be equipped with broad looms and will supplement the big mill with which it will be connected.

Boston. The directors of the Ipswich Mills have decided to increase the capital stock by $200,000, in order to provide the necessary funds to acquire the Gilman Mills.

Clinton, Mass. The new mill of the Bigelow Carpet Company, to be erected here, will be 300 feet long and five stories high.

Franklin, Mass. The Franklin Felt Co., has been organized with a capital of $80,000. The new concern has plans under consideration for the erection of a new mill on what is known as the Fisher Farm, the property of Mr. Bullard, the President of the new concern.

Lawrence, Mass. The plants of the United States Worsted Company and which includes the Ironsides mills at Sausug, the Lawrence Dyke Works, the Meductaquid mills of Lowell and the Tinkham mills at Harrsville, R. I., are to run day and night, to keep up with the orders, of which sufficient are on hand to tax the capacity of both mills of the company till fall. Mr. James P. Barnes is the Head Designer of the concern, with offices at 100 Fifth avenue, New York. He was a student of E. A. Possett in 1888.

Lowell, Mass. At least 300 hands will be added to the 3,500 already employed by the Merrimack Manufacturing Company. Lowell's largest concern will have the completion of a new weaving shed, the proposed construction of which is announced. The building will be 174 feet long and 154 feet wide, with two stories and a high studded basement.
BOOKS ON TEXTILE SUBJECTS.


The Dyeing of Cotton Fabrics, by F. Bosch. Price $3.00.

Table of Contents: Fibre Action of Alkalies, Acids and Oxidizing Agents; Bleaching; Dyeing Machinery and Manipulations; Principles and Practice of Cotton Dyeing; Dyeing Cuttings, Cotton-Wool, Cotton-Silk; Washing, Drying; Dyeing; Testing Color; Experimental Dyeing and Comparative Eye Testing.


Table of Contents: Fibres; Rolling Off; Bleaching; Dyeing Blocks and Fancy Colors; Weaving; Dyeing Mixed Fabrics; Printing; Dyeing and Finishing Machinery and Processes.

Dyeing of Textile Fabrics, by Hummel and Haufler. Price $2.00.


Wool, Cotton, Silk; Fibre to Finished Fabric, by Posselt. Price $7.50.

Table of Contents: Raw Materials; Preparatory Processes; Carding, Drawing, Spinning, and Twisting; Spinning, Winding, Warping; Weaving Machinery and Supplies; Knitting; Processes and Machinery; Dyeing, Bleaching, Mercerizing, Processes and Machinery; Finishing, Processes and Machinery; Color in Woven Design, by R. Beaumont. Price $7.50.

This work contains 32 plates 126 colored illustrations of Diagrams indicating the Mixing of Colors; Fancy Yarns for Coats, Stockings, Wools, Trimmings, Coats, Suits, Ladies Dress Goods, Cloaks, Fancy Cotton and Silk Fabrics. Besides 126 colored illustrations, the work contains 218 illustrations, in black and white, of Weaving and Color-Effects in Fabrics, etc., accompanied by 440 pages of reading matter.


A textbook presenting the student in an condensed a form as possible the extremely wide domains of the modern chemistry of dye-stuffs; bringing into prominence all the relations known to exist between the various dyes and groups of dyes, as well as the connection between color and constitution, since the proper appreciation of these relations forms the main object of color chemistry.


Table of Contents: Different parts of the Jacquard Machine, and its Method of Operation; The Jacquard Harnesses; The Tappet Beam; Fixing up of Jacquard Harnesses for all Kinds of Fabrics; Modifications of the Single Lift Machine; Stampers, Lacing and Repeating of Jacquard Cards; Practical Work on Jacquard Designing.


A guide for the Manufacturer and Large Purchaser, who observe definite specifications to insure standard material and workmanship; also giving a collection of tests, both of physical and of chemical nature.


Table of Contents: Fibre, Spinning, and Textile Machinery; Spinning, Weaving, and Extruding, Dyeing, Mercerizing, Mixing, and Bleaching.


A treatise on the Principles of Silk Throwing and Waste Silk Spinning, with illustrations and Descriptions of the Machinery used.

Textile Calculations, by E. A. Posselt. Price $2.00.


A Complete Self-Instructor (with Questions and Answers) on this subject, treating machinery and processes as used abroad.

The above books, as well as any other books on Textile Subjects, no matter where published, sent charges prepaid. Remittances should be made by Check or Money Order, or in Registered Letters. Not responsible for money lost, when otherwise sent.

TEXTILE PUBLISHING COMPANY
Lambert and Berks Sts. PHILADELPHIA, PA.
Milbury, Mass. With a full force of 45 hands, the new branch of the Uxbridge Worsted Company, recently established here, began work June 14. The plant contains 18 looms, producing worsteds.

New Bedford, Mass. Plans for the new cotton mill of the Pierce interests, to be erected at the corner of County and Sawyer streets, have been filed. The spinning mill will be 191 feet by 354 feet, and three stories high. The card room, to be attached to the spinning mill, will be 97 feet by 109, one story high. The weave shed will be 241 feet by 300 feet, one story and basement, and the picker house, a part of which will be used as a cotton store house, will be 53 feet by 150 feet, four and five stories high.

North Brookfield, Mass. Twenty-six new looms, including twelve jacquards, have been added by the Oxford Linen Mills. The equipment will be further augmented by thirty-eight looms, which will arrive shortly. The number of spindles, also, has been practically doubled, while four new cloth bleaching machines have enlarged the bleach house department.

Salem, Mass. The Naumkeag Steam Cotton Company has purchased the Danvers Bleachery property in Peabody, which was established as far back as 1847, and employs about 400 hands. The purchasers have been their largest customers.

Saugus, Mass. Three carloads of new looms are being installed in the old Saugus Manufacturing Co.'s plant, recently taken over by the United States Worsted Co., and is now known as the Iroquois Mills. Work on the new four-story addition to the mills is completed and 100 looms are in operation.

Stoughton, Mass. The two-story addition to the Stoughton Woolen Mills, West Stoughton, is about completed. The new structure, which is 120 by 65 feet, will enable the company to move some of its old machinery and install twelve new sets of cards, two pickers and some additional carbonizing machinery. The present carbonizing plant has a capacity of 60,000 pounds of stock, and this amount will be increased to 82,000 pounds. It is expected that the machinery in the new addition will be in operation about August 1.

Tawton, Mass. The New England Cotton Yarn Co. will install about 12,000 additional spindles, either in its Canoe River or Cohasset Mill. A rearrangement of machinery is to make room for the new machinery.
Worcester, Mass. Plans for the enlargement of the Lyon Carpet Company's mill have been completed. Twenty new looms will be installed, and a large addition will be built to the present building.

Pawtucket, R. I. The Lorraine Mfg. Co. is to build a $1,500,000 addition to its cotton mill, which, when completed, will give employment to about two thousand additional operatives. The company now employs 1,300 persons.

Woonsocket, R. I. Work on the addition to the Lafayette Worsted Company's plant has begun. The new building, which will be a duplicate of the main mill, will be 100 by 174 feet, four stories high and constructed of brick. Employment will be given to about 400 additional hands upon the completion of the new structure. Mr. Henry Duran is the agent of this progressive concern.

The Reeves Spinning Company has been incorporated by Frank B. Jefferis, L. B. Benoit and William W. Bearman. The capital stock is $100,000. The company will manufacture linens and other textiles. The plant is located on Pond street.

Meriden, Conn. The Union Braid Co. is the name of a new concern just incorporated here with a capital stock of $20,000. The concern, it is rumored, has purchased the Charnack Braid Company's plant at Mechanic and George streets and will begin manufacturing there.

Norwich, Conn. It is reported that the Westerly (R. I.) Silk Mill Company will remove its plant to this city and occupy the industrial building at the corner of Franklin and Chestnut streets.

The company will immediately equip the plant and employ about 75 operatives at the start.

South Norwalk, Conn. The Fibre Products Company of New York has a lease of the plant at East Norwalk, formerly occupied by the Colonial Foundry Company, for two years, with an option of purchase. The fibre company whose product is made from Chinese grass, and is used as a base for various kinds of cloth, has assumed possession of the plant and will thoroughly equip it. 200 operatives will find employment.

Dover, N. H. It is rumored that the Pacific Mills of Lawrence, which recently acquired the Coeheco, are to invest $2,000,000 in building a large cotton mill.

Lewiston, Me. Construction on the new factory for the Hill Mfg. Co. has been started. The new building is to be six stories, brick, 160 by 75 feet. The building of this addition will increase the capacity about 20,000 spindles and give employment to 400 more hands. It represents an outlay of about $300,000.

Sanford, Me. The weaving capacity of the Goodall Worsted Company is to be extended by the addition of a branch mill at Kennebunk.

Bennington, Vt. Work has been started on a stone and concrete addition by the Holder-Leonard Company. The dimensions of the new building will be 96 by 123 feet, and it is planned to install enough machinery to double the capacity of the plant. Mr. Frank B. Carver is the successful manager of this mill.

Martinsville, Va. The Martinsville Cotton Mill Co., has recently been incorporated with a capital stock of $100,000. The company will build a new 100-foot mill and erect a 400-foot addition. The mill will be equipped with the latest improvements and will be capable of producing 2,000 bales of cotton per year.

Reamore, Va. F. L. Ammen has purchased the knitting mill of this place.

Winchester, Va. The Virginia Woolen Company has begun construction of addition reported last month, three stories high, 12 by 100 feet, costing $4000; there will be installed woolen machinery and electric motors for 30 horse-power at cost of $8,000. The company is now operating 2,880 spindles, 40 looms. M. F. S. Hunt is the successful Superintendent of the mills. He was a student of E. A. Possett in 1889-1900.

Nashville, Tenn. The Nashville Woolen Mills are installing new broad looms in place of their old narrow looms at an expense of about $10,000.

The Hartford Hosiery Mills, of this place, has been incorporated with a capital stock of $100,000.

Rockwood, Tenn. The Rockwood Mills have increased their capital stock by $25,000, to build a 60 by 200-foot addition to be equipped with machinery for increasing the company's daily output to 1,000 dozen pairs of hosiery.

Albemarle, N. C. Extensive additions will be made to the Wissacsett and the Eford Mills. The first will get an addition of 300 by 100 feet, the other an addition of 300 by 100 feet.

ApeX, N. C. The Apex Knitting Mill, of this city, of which W. H. Harward is president, has started business with a capital of $15,000.

Beaumont City, N. C. The Russ Mfg. Co., which is running about 50 looms on
WOONSOCKET YARN GASSING MACHINES

THE WIND

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table damask, is adding a spinning plant to provide the yarn.

Concord, N. C. The Kerr Bleaching and Finishing Works are now in operation, having been completed at an expenditure of $150,000.

Cordova, N. C. The new machinery for the finishing department of the Cordova Cotton Mills has been installed.

Duluth, Minn. C. The Macklin-Harris Company, of this place, has been incorporated with a capital stock of $100,000.

Hillsboro, N. C. The Beulah Mfg. Co. are starting up 200 new Crompton Knowles looms on fancy gingham.

Lincoln, N. C. The Saxony Spinning Co., has been incorporated with a capital stock of $100,000.

Edgar Love has engaged the well known Textile Engineer, Mr. Stuart W. Cramer, of Charlotte, N. C., to superintend the construction and completion of new cotton mill erected here.

Lumberton, N. C. The directors of the National Cotton Mills have decided to duplicate their spindle capacity.

Montague, N. C. The capital stock of the Isomiller Cotton Mill Company has been increased from $125,000 to $300,000, in order to provide for its 75 by 350 foot building, also for the addition of 5,000 spindles to its No. 2 mill.

Four mills here will consume about 15,000 bales of cotton annually, and 12,000 bales are sold on the Monroec market.

Morristown, N. C. Mr. Sam Horn, one of the wealthiest men of that section of the country, is soon to have in operation a big hosiery mill.

Kooske Rapids, N. C. It is rumored that another important Southern cotton manufacturing enterprise is to be incorporated. The new concern is to be known as the Patterson Mills Co., and will have an equipment of 22,000 spindles and 750 looms, for manufacturing gingham; the entire plant to cost about $250,000.

Warrenton, N. C. Charter has been granted to the Peck Manufacturing Company, to be a cotton mill manufacturing clothing in cotton yarns and cloths. The capital stock is fixed at half a million dollars with $115,000 paid in.

Winston, N. C. The project for a cotton mill here, headed by Mr. J. W. Cannon, of Concord, associated with Winston-Salem capitalists, is practically assured. It is reported that $125,000 will be the paid-in capital stock to start with.

Canton, S. C. The Pine Creek Manufacturing Co., have added another floor above their machine shop to install 24 additional looms.

Fairmount, S. C. Great improvements are being made at the Fairmount Manufacturing Co., who will add 1,000 spindles and replace 250 looms with 300 new ones.

Gaffney, S. C. The capital of the Gaffney Mfg. Co. has been increased to $500,000, in order to build an addition to its Cotton Mill.

Goldicke, S. C. It is announced that the Banna Mills, of this place, are to double their capacity.

Greenville, S. C. The stock of the Greenville Mfg. Co., has been increased to $1,000,000, and the concern will begin the erection of another mill.

It is rumored that the Vauxhase Mill will double the capacity of its plant.

Greenville, S. C. The Cotton Mills of this city paid (July 1st) over a quarter of a million dollars, in half annual dividends to stockholders. The latest report of the company shows a building of 300 bales of cotton. It has expended $60,000 for 2,000 spindles, rope machinery, broilers, finishing equipment, electric motors, etc., and will manufacture sash cord, cotton rope, cotton twine and clothes lines. About 150 new operatives will be employed.

Barnes, Texas. The Bonham Cotton Mills is planning improvements amounting to $35,000.

Cleveland, Ohio. Plans have been completed for another six story factory building for the Cleveland Worsted Mills Co.

Columbus, Ohio. The Masillon Worsted Mill Co., has been incorporated, with a capital stock of $50,000.

Piqua, Ohio. The Orr Felt and Blanket Co., have started the erection of a new mill, which will be equipped with the newest machinery, and will require an investment of $200,000. The output of this company is army blankets for the Government.

Fort Wayne, Ind. Dividends of 10 per cent. on the $600,000 common stock and 6 per cent. on the $500,000 preferred stock were declared at the annual meeting of the stockholders of the Wayne Knitting Mills, June 10th.

Mishawaka, Ind. The Dodge Manufacturing Company is in the midst of plant extension work at the factory in Mishawaka. The new south machine shop is being enlarged by the erection of a large addition which when complete will be a complete building in itself. The addition is 280 feet long and 122 feet wide, like the older portions of the shop, but the sides will be higher to accommodate a second floor or gallery. The frame work of the structure is of steel, the supporting columns resting on concrete foundations. Steels are being used for the walls and metal sashes.

Light and ventilation are always big items in the Dodge buildings and the new one will contain 178 windows and two good sized doorways.

When the old shop is thrown into that under construction, the total length will be 585 feet on the crane runway in the center bays. Two electric traveling cranes, 25 tons and 10 tons respectively, will serve the main middle bay, where all machines are placed, and where all heavy work is done.

In the side bays several lighter electric cranes will handle the smaller work.

The traveling cranes are of the Whiting and Niles types. They have a speed of 300 feet per minute and much time and labor is saved by their use in moving heavy products and placing them in cars which are brought directly into the plant for this purpose.

The top floor will be devoted to the production of Dodge split friction clutches, this department of the Dodge works being overgrown with the growth of the business, even though at this time it covers a space of more than 12,000 square feet. Electric power for these operations will be supplied by the two floors for transportation.
EXPLANATIONS FOR THE CHART OF WEAVES ON

"Textile Designing Simplified."

The object of this chart is to show how easy weaves for all classes of Textile Fabrics can be constructed; it will be a search light in the misty matters in the field of Designing Textile Fabrics. Keep this chart of weaves for reference. Millions of new weaves can be obtained by it.

All weaves for Textile Fabrics have their foundation in Plain Twills and Satins.

Plain. —This weave and its sub-divisions are explained on the chart in the top row by 16 weaves, the sub-divisions covering common, fancy and figured Rib and Basket weaves.

Twills. —The foundation of constructing regular (45°) twills is shown by rows 2 and 3 with twenty six weaves, covering twill weaves all the way from 3 harness up to 13 harness. The sub divisions of twills are quoted next on the chart, being Broken twills, Skip twills, Corkscrews, Double twills, Drafting twills, Carved twills, Combination twills warp drafting Combination twills filling drafting, 65° twills, 70° twills, Wide wale twills, Entwining twills, Checker-board twills, Pointed twills, Fancy twills, thus covering every sub division of twill weaves possible to be made.

Satin are next shown, giving also their sub divisions, viz: Double satins and Granites.

HOW TO PUT A BACK FILLING ON single cloth is shown below the satins by two examples, and at its right hand is quoted the principle of:

HOW TO PUT A BACK WARP ON single cloth.

On the bottom line are given the four steps for:

THE CONSTRUCTION OF DOUBLE CLOTH, 2 @ 1; and above the same one example, with the arrangement 1 @ 1.

THREE PLY CLOTH is shown by one example.

HOW TO BACK SINGLE CLOTH WITH ITS OWN WARP is shown by two examples.

WEAVES FOR SPECIAL FABRICS are quoted: Tricots (warp, filling and Jersey effects), Rib fabrics, Honeycombs, Imitation Gauze, Velveteen, Conduroy, Chinchillas, Quills, Plush, Double-plush, Tapestry, Gimp, Terry, Worsted coating stitching, Hacks, and Bedford cords.

HOW TO WORK THIS CHART OF WEAVES.

CAPITAL LETTERS of references refer to the plain weave and its sub divisions.

SMALL LETTERS of references refer to twills and their sub-divisions.

NUMERALS of references refer to satins and their sub divisions.

Example. —How to ascertain the construction of the weave at the right hand top corner of the chart; being the figured rib weave marked C C C? These two letters of reference mean that said figured rib weave is nothing else but the combination of the 2 harness 6 picks common rib weave warp effect C and the 6 harness 2 picks common rib weave filling effect C.

Example. —The letter of reference c, underneath the first broken twill indicates that the same is obtained from the 1 2 4 harness twill c (third weave on the second row); in other words, letter of references below each weave of any of the various sub divisions refer always to the corresponding foundation weave.

Example. —Twills q, and o, are the foundation for the eight combination twills filling drafting, said common twills are drafted 1 @ 1, the different designs being obtained by means of different starting.

Example. —The wide wale twill q w, has for its foundation the 65° twills, marked also respectively t and w, the latter two weaves have again for their foundation respectively the common twills marked t and w.

Example. —Granites marked 8 have for their foundation the 8 leaf satin, such as marked 12 the 12 leaf satin.

Example. —Backed by filling e 8, means the common 3 4 harness twill e (6th weave on second row) and the 8 leaf satin is used in the construction of this weave.

Example. —The complete design of double cloth, marked e A A, means that the common 3 4 harness twill (e), the common plain (A) and the 8 leaf satin (B) are used in the construction.

Example.—Rib fabric A, indicates that the plain weave forms the foundation.

It will be easy to substitute different foundations in constructing weaves of heavy weights.

In reference to single cloth weaves we only want to indicate that by following rules shown in the chart, millions of new weaves can be made up from it.