Hickory Shirting.—A heavy, coarse twilled cotton shirting with narrow blue stripes or checks, commonly worn by laborers.

Highland Sheep.—This breed of sheep is found in the extreme north of Scotland, in the Orkney and Shetland Islands, and in the Hebrides. It produces a long stapled, coarse wool, chiefly used for carpets, rugs, Scotch blankets, etc.

Hoburn Gray.—A coarse woolen cloth of natural color; formerly worn by peasants in Northern England and Scotland.

Hog or Hogget.—A sheep before its first shearing.

Hog Wool or Teg Wool.—The first fleece from a sheep which has not been shorn as a lamb.

Hole Stitch.—In the making of pillow lace, a stitch forming a small round opening in the thick part of the pattern.

Holland.—Unbleached linen, glazed or unglazed, used for window shades; as, brown holland.

Holland Sheep.—A cross of the Durham sheep of England with the long-legged Guinean sheep.

Homespun.—A coarse and loosely woven woolen material made in imitation of actual home made cloth.

Honeycomb.—A variety of fabric that has a honeycomb surface, hence its name, the cloth being used largely for bedspreads, honeycomb quilts, etc. The honeycomb effect is produced by interlacing warp and filling in the weaving, so as to form small squares, by floating threads, with plain woven center portions, said centers, on account of the tight interlacing, being made lower than the sides of the squares, thus forming the characteristic honeycomb effect.

Honton Lace.—A lace made at Honiton, Devonshire, England, known for the beauty of its figures and sprigs.

Hopsack, Celtic, or Mat Weave.—See Basket Weave.

The plain weave on an enlarged scale; 2, 3 or more warp threads and a corresponding number of picks interlacing alike with each other after the plain weave manner.

Hose.—A term applied to stockings, for women or children, which are knit the full length of the leg. Half hose are men's stockings, so called from their being only half the length of the leg. Three-quarters hose is the name given to a style of children's stockings made three-quarters' length. Opera hose is a style of women's stockings made of extra length, so as to come well above the knee. Hose are made on a plain stitch knitting machine; the ribbed tops, if such are used, being first made on a rib machine, then transferred onto a plain stitch knitting machine and the hose completed by it.

Hosiery.—In this are included stockings for women and children, men's half hose or socks, infants' socks, etc., also golf hose and other special styles and types of garments worn on the leg and foot.

Woolen hosiery includes socks, stockings, gloves, drawers, undershirts, jackets, opera hoods, shawls, scarfs, comforters, and other knit goods, both all wool and mixed.

Hosiery Seaming Machine or Looper.—A machine for sewing together knitted goods.

Hot Finishing.—The process of forming an artificial gloss upon the surface of goods by the use of hot rollers.

(To be continued.)

The Exhausting of Dyebaths.

In the use of certain coloring matters there is little doubt that a better yield of color and better exhausti-
a preference for the comparatively fine crystallised Glauber's salt in many instances, particularly in machine-dyeing, and even when aiming at very bright shades in ordinary yarn or piece dyeing. (The Textile Recorder.)

A Vat Black.

The Society of Chemical Industry, Basle, Switzerland, have produced a black which belongs to the newly-introduced cibannone class of vat dyes, and although it has not yet made its appearance on the markets, it is of interest.

Whilst the ciba dyes are clearly defined derivatives of indigo and of thioindigo, the cibannones are derived from anthraquinone.

Cibannone black on cottons is said to be exceptionally fast to chlorine, and in this respect will excel not only logwood and sulphide blacks, but also aniline black, and on this account should find ready employment on many classes of goods if only the cost of production be not excessive.

How Competition Has Made the Consulting Expert Necessary.

By Frederick J. Maywald, F.C.S.

To your question "How" I will myself reply by making a few inquiries of you, and, through you, of the manufacturer.

Are your products uniform in quality, color, appearance, finish? Do your materials vary in quality? If so, the finished products will not be even. Do you test your raw materials? If not, why not?

Are there by-products of your manufacture for which you have no use? Uses have been found for many such waste products; perhaps yours may be made a source of profit.

Perhaps you wish to improve your product, or produce an article similar to or an improvement on an article produced by a competitor. The expert works out many such problems in a month.

When you buy a ton of coal, how much combustible matter and how much ash are you actually getting? Is the coal offered you at $3.50 per ton really cheaper than that offered you at $4? Is the coal delivered you on contract up to the sample submitted with the bid? Have you ever thought of the possible waste and profit-leak through the coal pile? I recently examined a sample of coal which contained 64 per cent. of ash!

How about your lubricating oils? Are they good? Is the white lead you are buying really white lead, or is it a mixture of chalk and barytes? I have found more than one sample of "white lead" to consist of those ingredients. Is the pigment ground in linseed oil, or is it really ground in corn or cottonseed oil?

When you buy a ton of rubber how much real rubber are you getting? When you put 100 pounds of rubber in your mixture, are you positive that you have added 100 pounds of true rubber, and not 10 or 20 pounds of water?

(Perhaps that is the reason that last lot of insulated wire was rejected, as being "shy" on rubber. You were honest enough, and added 100 pounds of what you supposed was pure rubber. But was it?)

Take the non-chemical industries. They have not enough chemical work to keep an experienced chemist busy, and hence cannot afford to pay him the salary he commands. Neither can they afford to maintain chemical laboratories, without which the chemist is of no more use than a carpenter without tools.

But the non-chemical industries cannot make money or even hold their own, if their chemical problems are not solved and if the chemical parts of their processes are not understood and properly carried out. For the chemical part of a non-chemical process is like a link in a chain or a cog on a wheel.

The consulting expert must not interfere in any way with managers, superintendents, engineers, heads of departments or any one else. His field of work is his own. He antagonizes no one, he competes with no one, he arouses no jealousies. He assists and benefits all.

Finally, remember that in manufacturing, the best, whether it be raw material, processes, products, plants, muscle or brains, is the cheapest and most profitable; and the greater the competition the more emphatic does this statement become.

Have I suggested how?

A Pump Proposition for the Silk Dyeing Industry.

The waste of bi-chloride of tin solution used in the silk dyeing industry has brought widely to the minds of the larger manufacturers the necessity of some method of saving this valuable by-product. Many silk dyers today are throwing away this costly tin solution, and the idea of saving it has only been advanced within recent years. Owing to the exceedingly acid and corrosive nature of the liquid, the handling of it by means of a pump has proven a difficult proposition.

Duplex Piston Pattern Steam Pump.

The Henry R. Worthington Company has lately introduced a form of steam or power pump for this purpose, which has been installed in some of the larger silk dyeing establishments, and is operating in a highly successful manner. This pump takes the bi-chloride of tin solution from the sump into which it drains after being used in the dyeing process, and raises the liquid into a tank some fifty or sixty feet above the ground, thus allowing the liquid to flow by gravity through a series of filter presses. Sometimes the pump takes the liquid direct from the sump and
discharges it through the filter press. After the liquid has been filtered, the residue is found to contain about 75 per cent. of pure tin. This residue is then placed in a furnace and dried, and is then known as bloom tin. This tin is again made up in solution with muriatic acid to be utilized again in the dyeing process. The pumps for handling this liquid are made of a special composition metal which does not in any way contaminate the tin solution, or permit the latter to corrode the metal used in the construction of the pump.

Where steam pressure is available a duplex piston pattern steam pump is used, whereas, where power from a line shaft is more convenient than steam, the volute belt driven pump is to be preferred. The design of this pump differs from the ordinary centrifugal pump from the fact that a very much higher efficiency can be obtained with a corresponding lower consumption of power necessary to operate the pump. This fact together with the non-corrosive qualities of the metal used in the construction of the pump makes it specially desirable for this class of work.

If our readers are interested in pumps for this service we would suggest their applying to the designers and manufacturers, Henry R. Worthington, 115 Broadway, New York.

Dextrin.*

By L. G. Larrmuth.

Dextrin can be manufactured for the textile industry from:

1st. Farina or potato starch.
2nd. Maise or Indian corn starch.
3rd. Tapioca.
4th. Sago, and
5th. Wheat starch. The latter is seldom used, owing to the price of raw material.

In 1814, Kirchhoff showed that a similar change was brought about by the action of malt on starch.

In 1835, Beyer and Persoz isolated the active principle of malt and named it diastase. About the same time Broth and Persoz, who had examined the gum-like body, gave it the name dextrin, because of its power of turning the plane of polarized light to the right.

In 1860, Maschus showed that the action of dilute acids on starch produced dextrin and sugar simultaneously.

In 1872, O'Sullivan showed that malt enzyme acting on starch paste for from 5 to 10 minutes at 60° C., gave a similar result:

\[
\begin{align*}
\text{C}_6\text{H}_{12}\text{O}_6 + \text{H}_2\text{O} & \rightarrow \text{C}_6\text{H}_{10}\text{O}_5 + \text{C}_2\text{H}_4\text{O}_6 \\
\text{Starch} & \rightarrow \text{Maltose}
\end{align*}
\]

The following is a translation from the French of Joseph Deprere's book on finishing, published in France in 1857, and is his version of the discovery of dextrin. He was the first to describe how the Irish destroyed starch works by fire, considering them dangerous to their principal food supply—potatoes:

"On September 5, 1841, a fire of dextrin in a factory broke out at Chapelizoo, near Dublin, in Ireland. The fire was only partial, the reserve store of starch not being burnt, but it was so much that it flowed away, a veritable stream of starch, which poured into the Liffey and was lost. A workman at a neighboring calico printer's, who had helped to extinguish the fire, was surprised the next morning by being unable to put on his clothes—yet the night before, they had become completely stiff, they having the aspect of cloth which had been steeped in gum. He returned to the spot of the disaster and examined the debris, and noticed some lumps of this, and noticed some lumps of this brown, white, and others yellow. He tried to dissolve these in water, and to his astonishment succeeded. Four other workmen present collaborated with him, bought some farina, soaked it in a cauldron, then tried to dissolve the product in water. The trial succeeded, dextrin and roasted starch being discovered. He sold the process in Manchester, then emigrated to New Orleans. Somewhat later the principal inventor of the process died. The secret was then told to a friend, who returned to Ireland, where he produced and sold some considerable quantities. Fearing the secret would become known, he divided the process into several states, carried out without any connection between them. This mode of working awakened the attention of the public, and one day the manufacturer was surprised by the authorities, who claimed that he was manufacturing a protected product. He was clever enough, however, to elude suspicion. One day, pressed for a delivery claimed by a country calico printer, he wished, although ill, to prove his good faith, and commenced roasting in the presence of his customer. The latter immediately grasped the process, and two years after it was manufactured by ten other firms."

Pure dextrin is an amorphous powder, with hardly any taste or smell, and is nearly white. It can be prepared by gradually adding and dissolving starch in sulphuric acid, immediately neutralising the acid and precipitating the pure dextrin with alcohol, or by subjecting starch to diastatic action at 60° C., then boiling and precipitating with alcohol. In both cases the product must be redissolved and precipitated several times to get it pure. In this state it should not reduce Fehling's solution.

Formerly dextrin was made by boiling starch with acids, neutralising, evaporating, drying, and then grinding the resultant mass to powder. Payner recommended the following process:

— 1000 lb. starch to be moistened with 5 gallons of water, containing 2 lb. of nitric acid, 3 gal. of water, and 5 gal. of water. In the mixture to be well kneaded, made up into balls, dried in hot air chambers, powdered, and then dried in heated ovens. The method was to sprinkle starch with a solution of acids, H₂SO₄, HNO₃, or a mixture of acid, thoroughly mix, dry in the air, and then pass to the calenizers.

In the single tin system, each tin holds about 1 cwt. of starch in a layer 5 ft. long, 2 ft. wide, and from 4 to 5 inches deep. The tin is placed above the other on carriages which are made to turn, to the content till it is heated up, especially during the first hour. The process from beginning to end, after placing the material in the calenizer, takes from six to eight hours. The time depends on the shade required. The oven itself is heated direct by coal, a series of

*Paper read before the Society of Dyers and Colorists.
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Spun Silk Yarns in the Gray or Dyed. Organizes, Trams or Singles in the Gray or Dyed, on Cones, Warped or in the Hank.

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Brinton, H. C.

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Buhlmann, A. W.

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Metallic Drawing Roll Co., The.

Meters.
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Silk manufacturers should realize the economies in dyeing obtained
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Fully twenty per cent. in the waste produced in winding, besides
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Manufacturers of Sizing and Finishing Compounds for all Kinds of
Fabrics, Gums, Softeners, Soluble Oils, Etc.
Special Preparations for Mercerized, and Silk and Cotton Mixed Goods.
more nearly allied to ordinary starch than is dextrin is that the former is converted by diastase into sugar, whilst the latter is not attacked. One part of diastase is capable of converting 2000 parts of starch at 62° C. into dextrin and maltose.

According to P. Heeremann, good dextrin should not be hygroscopic, nor contain more than from 6 to 8 per cent moisture; it should be soluble in an equal volume of water and be about 1.5 sp. gr.; should give a clear and as neutral a solution as possible; it should not be colored blue by iodine (starch), nor precipitated by tannic acid and baryta water (soluble starch), or by lead acetate (gum arabic, vegetable mucilage), and should not become turbid with lime water (oxalic acid); and should not reduce Fehling's solution (sugar).

For a pure dextrin this standard may be all right, but probably such a dextrin does not exist today on the market for use in the textile industry. The essential points to be taken into consideration are the purpose for which it is required, the nature of the material on which it is to be used, and the effect desired. The penetrating power is superior to that of starch, weight for weight, and some fine results may be obtained by a competent finisher, results which cannot be obtained with starch—the material having a finer feel, without being hard. Besides, there is little chance of the goods being damaged through decomposition, etc. This may easily be seen by boiling a small quantity of starch and dextrin separately, leaving them to stand several days in glasses under exactly the same conditions. Upon examination,

MILL NEWS

Philadelphia. The Firth & Foster Co., the most prominent dyers and finishers in this country, amongst other improvements are building a new dry room and extending their carpet plant. They have also installed new machinery in the dye house in order to be able to keep up with the ever increasing demand for their goods.

John Norris, manufacturer of cotton, worsted and silk goods, who has lately been the victim of an accident, has lost a portion of the mill of C. H. Feldstein & Co.

The Delta Spinning Mills, of Frankford, manufacturers of combed Egyptian and mercerized yarns, are reported with orders ahead for the next four months.

They are running their warping, twisting, winding and twisting departments day and night, and after October 1 will do the same with their mules.

The Valkone Dye and Finish Works have added to their plant the floor recently vacated by the Columbia Dye Works. They will use the increased space as a pressroom.

Thomas Develon's Sons, James Pollock & Co., and the Philadelphia Tapestry Mills have added looms to their plants.

The Patterson Manufacturing Co. is installing 12-inch reed space looms as well as auxiliary machinery, to make a heavy grade of rugs.

The plant of Thomas Henry, Jr., manufacturing carpet, cotton and upholstery yarns, is transferred from the Madison and Jasper streets mill to the new two-story building, 80 by 50 feet, recently erected at Emerald and Willow streets.

Construction has been begun upon the two new buildings of the Thomas Wolstenholme Sons & Co., Inc., manufacturers of worsted and merino yarns. They are to be one-story buildings, one 40 by 200 feet and the other 50 by 100 feet, to be used for storage and finishing.

Robert Carson & Son, manufacturers of ingrain carpets and rugs, E. Huntington street, corner Trenton avenue, are erecting a four-story reinforced concrete building on the lot adjoining their plant. It is reported that the same will be rented for textile purposes.

The addition to the mill of Irvins, Dieter & Metzger is completed and some of the machinery is being placed. It is reported that about fifty additional Wilton looms will be added.

The Elks Knitting Mills, manufacturing ladies' and children's ribbed underwear, in order to be able to increase their plant, have purchased new property, and will occupy it as their plant in December after extensive alterations have been completed. The H. L. Neltke Co., manufacturers of "Tornado," will also occupy a portion of said new building.

George W. Remsen and John L. McCloskey have applied for a charter for the Remsen Knitting Mills to manufacture horsehair. The capital has been placed at $15,000. The purpose is to take over the business of the horse hair plant of George W. Remsen.

Allenstown, Pa. Samuel Thorp, of Elmir, N. Y., who was the general manager of the Reed & Lovett Silk Mills at Elmira, Weatherly and Palmer.

(A CONTINUED ON PAGE 62.)
Chemical Management

Many manufacturers do not get the best results from their factories, because they do not make use of the chemist. They have not enough work to keep a chemist constantly employed, and so do not employ one at all.

I serve as Chemical Manager in charge of a small chemical department for a fixed monthly sum. I take entire charge of the chemical work of a manufacturer. This includes testing and analysis of supplies and raw materials, improvement of processes and products, with consequent reduction of manufacturing costs; recovery of wastes; investigation of complaints from customers; overcoming defects in manufacture; working out new products, perfecting inventions, etc. This gives the manufacturer the benefit of my own supervision and experience, the services of a trained and competent corps of chemists, and the advantage of a well-equipped laboratory.

Write for full particulars.

Fred’k J. Maywald, F.C.S.
CONSULTING CHEMIST
91 Pine Street —— New York City

hands, is to be built here by the Martin L. Cohn Company.

Passaic, N. J. The new worsted mill of the Forstmann & Huffman Co. has been formally opened. A number of looms have been in operation for some weeks. The new mill is in a building which must be considered a model mill with reference to lighting, the latter being of the G. Droux Co.’s skylight.

Trenton, N. J. Improvements, costing about $60,000, are made at the worsted mills of F. A. Strauss & Co.; it is expected that the new buildings will be ready for occupation about Nov. 1.

Amsterdam, N. Y. McClary, Walin & Crouse, manufacturers of carpets and rugs at Amsterdam, are to increase their capital stock from $1,000,000 to $2,000,000. They are erecting an addition 50 by 80 feet to their tapestry mill, to be completed in November.

Shuttleworth Bros. Co., manufacturers of carpets and rugs, will build a plant 170 by 320 feet, thus doubling their present capacity. Three floors of the main mill will be used for looms.

Fulton, N. Y. The six-story yarn mill of the American Woolen Co. is completed and a large quantity of machinery installed. About five hundred additional operatives will be employed.

Johnstown, N. Y. It is announced that the P. F. Argensinger Company of this place, has been incorporated with a capital
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Established 1834.
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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.

Wm. C. Keyworth, Engineer and Designer
Textile and Special Machinery
219 Van Houten St., Paterson, N. J.

This is the Most Suitable Machine for Winding Fine Cotton, Worsted, Dupion and Silk On Paper Tubes or Quills Equally Successfully
CIBA DYES
CIBA BLUE CIBA BORDEAUX
CIBA VIOLET CIBA SCARLET
CIBA RED CIBA HELIOTROPE

Vat Dyes for Cotton Dyeing and Printing—also for Wool and Silk.

CIBANON YELLOW, BROWN, ORANGE
Vat Dyes for Cotton Dyeing—Fast to Light, Chlorine and Washing.

Made by SOCIETY of CHEMICAL INDUSTRY, BASLE

now in course of erection by the Man-
ville Co. The bleacher will also be
enlarged by additions and by utilizing
some space occupied by looms in the
large main mill.

Providence, R. I. Owing to the ins-
sufficient capacity of its mill on Cal-
lender street, the Norway Worsted
Company will erect a new mill at South
Barre, Mass. A plot of land has already
been purchased from the Barre Wool
Combining Company, and work on the
building will begin immediately. Mr.
Alfred T. Hostler is the successful man-
ger of the concern. The company spins
worsted and manufactures novelty yarns.

The American Silk Spinning Co.,
which was incorporated in 1908 with a
capital of $250,000, has started opera-
tions. About 100 hands are present
employed, but it is expected that this
force will soon be increased to 400.
The output of the new plant, which is
equipped with 7,000 spindles, consists of
spun silk yarn and silk noils.

It is reported that the Crompton &
Knowles Loom works will erect a build-
ing on Harris avenue, which will double
the size of their Providence plant.

Sayreville, R. I. An addition, 100
feet square and four stories high,
and divided by a fire wall into two
compartments, is being made to the
storehouse of the Sayles Bleachers.
When completed the entire storehouse
will be 400 feet long and 100 feet wide,
divided into seven compartments, and
will have a capacity of about 20,000
cases. The method of constructing the
plant in compartments is to prevent a
fire from sweeping through the entire
building.

Woonsocket, R. I. The new plant
for the French Worsted Company will
be six stories, as the concern is to add
three stories to its new three-story mill
building now in course of construction.
The dimensions are 112 by 192 feet.

Bridgeport, Conn. Max Henkel, the
representative of the American branch
of the Henkel Lace Company of Bar-
nien, Germany, has purchased about
five acres of ground for the new factory
referred to last month.

Danielson, Conn. The weavers in the
Danielson Worsted Co. are operating
two looms each, which is a new system
in this mill.

Putnam, Conn. It is rumored that the
Putnam Woolen Co. is to replace
some of their old looms with 17 of a
more modern type.

Taftville, Conn. The Ponemah Mills
Company, it is reported, is to spend
about $25,000 for a 670 by 200 foot
addition.

Bennington, Vt. Announcement is
made of the incorporation by Tiffany
Bros., manufacturers of knit goods and
knitting machinery. The new concern
has a capital stock of $25,000 divided
into 500 shares. The incorporators are
E. J., Eli, Harry E. and Carrie P. Tif-
fany, all of Bennington, and Frank W.
Tiffany, Winthrop, Mass.

About $60,000 will be expended on an
addition being built to the mill of the
Holden & Leonard Company, manufact-
urers of dress goods. It is expected
the new building will be ready for oc-
cupancy about October 1. New looms
will be added.

Manchester, N. H. The Ameskeg
Manufacturing Company has increased
the number of its spindles until it now
holds 15,000 persons on its pay roll.
The corporation comprises nearly
twenty mills, all leased in Manchester
and which have 620,000 cotton spindles,
50,000 worsted spindles and 2,500
looms. The plant is the largest engaged
in the textile industry in this country
and possibly in the world.

Springvale, Me. The Springvale
Spinning Co. is installing three twisting
frames besides making other extensive
improvements.

Waterside, Me. The Lockwood
Co. will build a brick and stone addition
to their mill, the same to cost $20,000.

Westbrook, Me. The Dana Warp
Mills, it is reported, are to build an ex-
tension to their dye house, 30 by 100 feet,
3 stories high. The first floor will be
used as a dye room and the other two
floors for the beaming process.
Wilton, Me. Extensions are to be built by the Wilton Wool Co. to their mill, to accommodate about 36 new looms.

Baltimore, Md. The income from sales of the Consolidated Cotton Duck Company for the six months ending June 30 was $1,649,877 and from other sources $12,300, a total income of $1,662,177. Cost of labor, materials and supplies, $3,268,874; current interest and general expenses, $117,000; net earnings, $81,567; interest on bond, constituent companies, $212,775; surplus, $157,875; for renewals and repairs in various plants there was $79,555 expended.

Dassville, Va. A merger of the Riverside Cotton Mills and the Dan River Power & Manufacturing Co., two of the largest cotton mill corporations in the South, has been effected. The name of the new company is the Riverside and Dan River Cotton Mills. This company has a total of 165,764 spindles and 2,066 looms and is building an additional mill of 10,000 spindles and 1,500 looms at a cost of $1,000,000.

Parkersburg, W. Va. The United Woolen Mills Co. has been incorporated with a capital stock of $5,000. Its incorporators are George V. Uhl and John F. Laid, of Parkersburg; Charles H. Hersch, of Dunkirk, Ind., and others.

Burlington, N. C. The Aurora Cotton Mills are building a 60 by 100 feet one-story brick addition to their dye house. New dyers and bleaching machinery will be added.

Charlotte, N. C. The Odell Bleachery, erected at a cost of $100,000, is about ready to begin operation.

Cherryville, N. C. The Vivian Mills are changing from a yarn to a sheeting mill, and are now starting a new Crompton and Knowles looms.

Henderson, N. C. The Henderson cotton mills will build a No. 2 mill, to be equipped with 16,000 spindles.

Henrietta, N. C. The old looms of the Henrietta mills have been replaced by modern Draper looms.

Hickory, N. C. The A. A. Shuford Mill Company has been incorporated with a capital stock of $80,000 by A. A. Shuford, G. H. Geinzer and others. They expect to have the mill running by March, 1910.

High Point, N. C. J. H. Adams, of the High Point Hosiery Mills, has organized another knitting company, known as the Piedmont Mills Co. It will erect a three-story brick building, 60 by 150 feet, and install machinery for knitting hosiery.

High Point, N. C. The Piedmont Mills Company has been organized to build a mill for the manufacture of hosiery. It will erect a three-story 60 by 100-foot brick building and install the necessary machinery. J. H. Adams, of the High Point Hosiery Mills, will be its manager.

Katonah, N. C. The Cannon Mills are installing new looms, building also an addition to their bleachery.

Levine, N. C. The Moore Cotton Mill Company will add 2,170 spindles to its present equipment of 3,200 spindles.

Lincolnton, N. C. The Saxony Spinning Company has been fully organized and elected Edgar Love, president, and James Lee Love, treasurer. They will erect a one-story mill structure, 30 by 75 feet. They will install about 8,000 spindles for manufacturing fine cotton yarns from combed Sea Island cotton staple. The company is capitalized at $100,000.

Monroe, N. C. In order to meet the increased demand for its wide sheetings the Monroe Cotton Mills have placed an order with the Crompton & Knowles Loom Works for ten 90-inch and thirty-two 72-inch looms, which will make a total of one hundred and ninety-four 8/4 to 11/4 looms.

Thomasville, N. C. Business men have accepted the proposition of outside capitalists to furnish a site for a $150,000 cotton mill, as well as to subscribe half the capital for the proposed mill.

Wilmington, N. C. John D. Bellamy and J. Walter Williamson have purchased the Wilmington Cotton Mills at $125,000. They will organize the Bellwill Cotton Mills to operate the plant, which has 7,000 spindles and 290 narrow looms.

Anderson, S. C. The plans for the establishment of a library at the Orr Cotton Mills have been carefully considered, and it is expected that within a very short time they will have been fully realized.

The Cox Manufacturing Company is contemplating the installation of looms to weave into cloth the yarns now produced by its 15,000 ring spindles. The company has for this purpose increased its capital by $40,000.

The Comeross yard mill is arranging to install additional spinning frames, to increase its annual output about 40 percent.
WOONSOCKET YARN GASSING MACHINES

THE WIND

Woonsocket Machine & Press Company, WOONSOCKET, R. I. Builders of Cotton and Woolen Machinery

GRAN-CARB-SODA
THE HIGHEST GRADE OF SODA CRYSTALS MADE
“The Best is Good Enough.”
THE HOLBROOK MFG. CO.
470 Washington Street
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MILL SOAPS

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FARBENFABRIKEN OF ELBERFELD CO.,
IMPORTERS OF ANILINE & ALIZARINE COLORS
NEW YORK

New England Butt Co.
Provence, R. I.

Braiding Machinery, both American and German types, for making Dress Braids, Shoe and Corset Laces, Underwear, Trimmings, and all kinds of Round and Flat Braids.
Clover, S. C. The Clover Cotton Mfg. Co. has declared its regular 10 per cent. dividend.

Edgefield, S. C. The Beaver Dam Mills has been incorporated with a capital stock of $200,000 by B. F. Zimmerman, W. E. Beattie, T. L. Beattie, and others, of Greenville; W. W. Adams, T. H. Rainford and others, of Edgefield. This company takes over the Edgefield Manufacturing Company's plant of 5,000 spindles and 538 looms. They are to erect a new 2-story 80 by 10 foot building at a cost of $10,000.

Goldville, S. C. The Barra Manufacturing Company is proceeding with the construction of its additional building, which will be of brick, 100 by 162 feet, mill construction, costing $5,000. Its machinery for this addition will comprise 4,000 spindles and 250 looms, costing $40,000. Construction has also been started for an additional 80 looms for operatives' cottages. They have awarded the contract for a humidifying system to John W. Fries, Jr., 45 Lafayette street, New York, Manufacturer of the Hygroso. The installation will complete the hygroso-driven Hygroso in all its departments.

Greenvile, S. C. After having been closed for a long time on account of the deflated cotton market, the Greenville Cotton Mills will resume operations at once. Arthur Trappleton is the Superintendent.

Rock Hill, S. C. The Hamilton Carhartt Cotton Mills is building a 120 by 400 building to accommodate 400 looms. The mill is at present operating 7,486 spindles and 204 looms on denim. The new mill will be equipped with new machinery, including 74 new Draper looms and 6 new Dober looms running and the capacity has been increased from 10,000 to 16,000 spindles. The Superintendent is P. D. Wade, formerly Superintendent of the Pelzer Mills.

Montgomery, Ala. The Montanta Manufacturing Company, which recently purchased the old People's Cotton Mills and a few weeks ago started operations, is now running eleven cards with three spindles each and fifty cards with new Draper spindles.

Walthall, S. C. The Hetrick Hosiery Mills have been incorporated with a capital stock of $130,000 and organized. Wm. A. Hetrick is president, R. T. Jaynes, vice-president, and Chas. H. Hetrick, secretary-treasurer. This company is a consolidation of Wm. A. Hetrick & Bros., Philadelphia, and the Ocone Hosiery Mill at Walthall, purchased by Mr. Jaynes. The Philadelphia plant has been removed to Walthall and the entire stock of 186 knitting machines, with accompanying dyeing and finishing apparatus, etc., for a daily output of 80 dozen pairs of hosiery for men, women and children.

Athena, Ga. The new mill building of Ingle & Jordan, in East Athens, is now ready for the installation of the machinery.

College Park, Ga. The Gate City Cotton Mills has installed twenty new spinning frames with 1,000 cards, six speeders, two stubbers, two intermediates and ten winderers.

Columbus, Ga. The executive committee of the Bibb Manufacturing Co. has authorized the expenditure of $50,000 for the purchase of new machinery. A large amount of this machinery will be installed in the Columbus branch. The output of the plants consists of hosey, yarns, warp and twist yarns. The Georgia Manufacturing Company has given an order to the Columbus Hosiery Manufacturing Company's plant will result in doubling its capacity. The present building, which is four stories high, 261 feet long, 128 feet wide, will be extended west a distance of 272 feet. The enlarged building will thus be 533 feet long, 128 feet wide, four stories high—being an imposing structure that will rank as one of the largest cotton manufacturing plants in the world, under one roof.

Elberton, Ga. The Home Cotton Mills, successors to the Swift Cotton Mills, has purchased $50,000 worth of new machinery, including pickers, cards, drawing cards, fractioners, spoolers, slasherers, etc. The mill operates 75,000 spindles and 210 looms.

Lufaula, Ala. All the old looms at the Cowee Cotton Mills are being replaced with improved Draper Looms. New rings are put in on all the ring frames and all defective spindles replaced with new Draper spindles.

Lacomb, Ill. The Lacoon Woolen Mills are building a new one-story dyehouse, 26 by 30 feet, to make room for five new dyeing machines.

Louisiana, Okla. It is reported that a deal has been closed for the location here of a $250,000 woolen goods factory, to be built by Chicago capital. It is claimed that it will be the largest textile factory west of the Mississippi.

Montréal, Que. C. F. Smith was appointed director of the Dominion Textile Co., Ltd., H. S. Holt, second vice-president, to replace Charles B. Gordon. Mr. Smith is the Director of the Bank of Canada, and his election is highly satisfactory to the large English interests in that corporation.

The Canadian Spool Cotton Co. has completed its new mill at Providence Park, Hochelaga, P. Q., and is installing the machines.

Montgomery, Ala. The Montanta Manufacturing Company, which recently purchased the old People's Cotton Mills and a few weeks ago started operations, is now running eleven cards with three spindles each and fifty cards with new Draper spindles.
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. Curved twills, Combination twills warp drafting Combination twills filling drafting, 63° twills, 70° twills, Wide wale twills, Entwining twills, Checker-board twills, Poluted twills, Fancy twills, thus covering every sub division of twill weaves possible to be made.

Satin's 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 DOBLE CLOTH, 2 @ 1; and above the same one example, with the arrangement 2 @ 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, Honeycomb, Imitation Gauze, Velvet, Corduroy, Chinclines Quilts Puff, Double-puff, Tapestry, Crape, 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? 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 e, underneath the first broken twill indicates that the same is obtained from the 1 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 t v, has for its foundation the 63° twills, marked also respectively t and v, the latter two weaves have again for their foundation respectively the common twills marked t and v.

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

Example.—Backed by filling e 5, means the common 4 harness twill c, (fifth 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 c 8 A, means that the common 4 harness twill e, the common plain (A) and the 8 leaf satin (8) 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 for 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.