

## DICTIONARY OF TEXTILE TERMS.

(Continued from July issue.)

**Iron Nitrate:** Iron nitrate for blue should be sharper than iron for other purposes; if too dead, *i. e.*, if the amount of iron is too great in proportion to the acid, a part of the Prussian blue formed will be deposited at the bottom of the dye pan, and that which is fixed upon the goods will be dull, loose, and cloudy. The nitrate of iron must not be acid, otherwise the color is thinned and probably irregular. Also called *True Iron Mordant*, or *Rust Mordant*.

**Irregular Satin:** A weave based on the satin order, but including certain irregular indications (Risers or Sinkers). Also called *Irregular Sateen*.

**Italian Cloth:** A lining, one yard in width, made either of cotton and wool, cotton and mohair, or all cotton. It is used for linings for the heavier styles of ladies' dresses, also for underskirts, fancy pillow backs, etc. The cloth is woven in the grey (undyed yarns). In the finer grades the warp is sized so as to facilitate the weaving process.

**Italian Hemp:** The fibres of Italian hemp are considered to be about the best of the hemp fibres that are put upon the market, mainly on account of their pliability.

### J

**Jabot:** A frill of lace, lawn or like materials, worn by women on the bodice.

**Jaconettes:** Tangibs, Mulls, Cambrics and Nainsooks are all varieties of plain cloth, differing in width, length, counts of yarn, reed, and picks. These goods are all woven in the grey.

**Jack Frame:** A finer roving frame, used only in connection with higher counts of cotton yarns; above 60's. Also called *Fine Frame*.

**Jacking:** A peculiar process practised in the finishing of cotton goods. It extends the application of the principle adopted in beetling and chasing by applying pressure through a series of folds or thicknesses of cloth, which is first calendered and then rolled up into a batch between two bowls, and sustaining the pressure between them.

Running the mule carriage out after the delivery of yarn has stopped; to stretch the yarn.

**Jack in the Box:** See Differential Motion.

**Jacks:** Short levers on the head of a loom from which the harnesses are suspended and by means of which the latter can be raised or lowered.

The pivot bars on the knitting frame holding the sinkers which form the loops on the yarn.

**Jack Towel:** A roller towel.

**Jacobite Tartan:** Was worn by the Jacobites in Scotland at the beginning of the 18th century. The design was composed as follows: A bright yellow stripe followed by a group of threads consisting of white, blue, red, white, red, blue, white stripes, the entire group being of the same width as the bright yellow stripe first mentioned, the three white lines in the

group being very narrow; next a bright yellow stripe as before, followed by a group of colors as before used, followed by a solid green stripe of the same width as the bright yellow and a group of the three colors as quoted before; followed by a solid green stripe of the same width as the bright yellow and in turn by the group of the three colors before quoted.

**Jaconet:** A slight, soft muslin, sometimes plain and sometimes figured, made at Manchester and Glasgow. The finer qualities are used principally for ladies' summer and evening dresses, the lower qualities being exported to Egypt and the East.

A hard finished cloth, the weight of Victoria Lawn, having a smooth lustrous cambric finish, used for book binding, and formerly in the southern part of the United States for shrouds.

**Jacquard Knitting Machines:** Knitting machines on which the patterns are made by automatically moving parts which work with independent threads to form combinations in color or design not possible to be made on ordinary knitting machinery.

**Jacquard Loom:** A loom fitted with a Jacquard machine on its top, for operating the warp-threads by means of leashes, heddles and lingoos, *i. e.*, the Jacquard harness.

**Jacquard Machine:** The apparatus for separating the warp-threads in the loom, similar to the dobbie, but on a more extended scale; consequently permitting the production of more elaborate patterns. Invented by Joseph Marie Jacquard, born in Lyon, France, in 1752. Jacquard's invention in itself was based upon the older inventions in the line of weaving machinery by Buchon, Falcon and Vancanson.

**Jaeger's Sanitary Woolens:** The trade mark for a special class of woolen underwear, garments, and fabrics made of pure wool, that has not been dyed; the color being gotten by blending together white, and natural black or brown wool. Scouring does not alter its shade, the process only removing the grease, etc., from the fibres.

**Jamewar:** A coarse woolen shawl, woven in broad stripes of patterns. They are known in the European trade as *Turkish Shawls*, and are sometimes sold as that. They are chiefly made in the Gurdaspur District in the Panjab, India.

**Jangipuri:** Inferior quality of Indian jute, having a reddish brown, weak fibre.

**Jannequin:** Coarse cotton cloth, made in Asia Minor.

**Janus Cloth:** A fabric, the color of one face of which is different from that of the other; used for reversible garments, etc.

**Japan Curlies:** Silk waste of good merit, shipped from Yokohama. It is of a good color and yield, and as a rule of a better quality than steam waste or China curlies. It is not a lustrous waste but it is lofty and gives body to the yarn.

**Japan Wax:** The same is obtained from the berries of a Japanese plant. It is a yellowish substance melting at

50 deg. C. When shaken with hot water it forms a good emulsion, which property gives it some value as a softening agent in the finishing of cotton goods. It saponifies with caustic lye and in this form is sold as paste. The latter is used for dressing (finishing) flannelettes and other colored cottons.

**Japonette:** Printed cotton crêpe in Canada.

**Japarak:** Green, red, orange and blue Smyrna rugs.

**Jaquenolle:** East Indian plain or striped muslin.

**Jardinière:** Garden effect in which many colors are employed to form patterns of buds, fruits, flowers, foliage, etc.

**Jasper:** A fabric constructed with a black warp and white filling, or *vice versa*, forming gray, or gun metal shades.

**Javelle Water:** Used for bleaching vegetable fibres.

**Jean:** A 3-harness twilled (filling effect) stout calendered cotton cloth, either striped or white, usually twenty-seven inches in width; used chiefly for dress lining and in the manufacture of corsets; also an undressed cloth having a cotton warp and woolen filling. *Satin Jean* has a different twill which gives it a smooth, glossy surface.

**Jeanette:** A similar fabric to the jean, but in which the warp predominates.

**Jellabia:** The hooded woolen blouse worn by Arabs and Moors.

**Jenkins:** A strong cotton plant, pyramidal, prolific; bolls medium in size, oval, maturing early; lint 34 to 36 per cent, staple 22 to 25 mm. One of the best of the Rio Grande type.

**Jenny:** The invention of Hargreaves of Blackburn, England in 1767; named after his daughter Jenny. Before this period a person could only tend one spindle and spin only one thread at a time. By means of the Jenny he could work 20 or 30 threads at one time. Also called *Spinning* or *Hand Jenny*.

**Jerga:** A coarse woolen fabric with plaid pattern; used by the natives of Mexico.

**Jerkin:** A waistcoat; still in use in the north of England.

**Jersey:** A fine thick knit shirt worn by athletes. A close fitting elastic woolen or silk jacket.

**Jersey Cloth:** A knitted silk fabric made on the crocheted principle, which distinguishes it from flat or knitted goods; made from raw silk and dyed in the piece. Used for women's undergarments, silk gloves and various dress accessories. Also called *Milanese* and *Tricot Cloth*.

**Jersey Flannel:** An elastic woolen fabric having a nap on one side.

**Jig:** A dyeing machine. Also called *Jigger*.

**Jigging:** The first drawing-off of a sliver from a given lot of wool by the Hand-comber prior to the true combing operations which follow.

**Joannovitch:** Very fine and strong cotton, grown in Egypt, the staple measuring from 1½ to 1¾ inches in length.

**Johnston:** A Highland tartan, made as follows: A wide dark green bar split in the centre by three narrow stripes (black at the outside, yellow in centre) these three stripes being divided by green stripes of the same width; followed by a navy blue bar of the same width as the dark green bar previously quoted, split in this instance in the centre by three narrow black stripes spaced their own width from each other.

**Jones Long Staple:** A large cotton plant; limbs long and spreading, prolific; bolls large, oval, pointed, maturing medium or late; lint 29 to 30 per cent., staple 30 to 34 mm. One of the many descendants of the Jethro, and one of the most popular long-staple varieties for the middle and southern parts of the cotton-growing region.

**Joree:** A silkworm in Assam, living on fig trees and yielding a strong, lustrous fibre.

**Joseph:** A long coat, with or without a cape, worn by women; especially on horseback.

**Josette:** A strong, stout twilled cotton fabric; used for sporting wear.

**Jouy:** Fabrics printed in small floral effects similar to Pompadour designs. Named after a Frenchman who established a plant for such work during the reign of Louis XV.

**Jumel:** Variety of Egyptian raw cotton. Also called *Mako*.

**Jumper:** A loose outer jacket reaching to the hips and made of cotton drilling or coarse linen, worn by sailors, longshoremen, truckmen, and others. A hooded fur jacket, worn by Eskimos and Arctic explorers.

**Jupon:** Plain woven French dress goods made with a cotton warp and wool filling.

**Jusi:** A gossamer fabric woven in the Philippines, made of silk imported from China. Two kinds of silk enter in its construction, one forming the body (unscoured, lustreless, and stiff) the other produces the figures, stripes, plaids, etc., as the case may be (scoured, lustrous, soft, and flossy), the fabric having the appearance of silk as we usually know it in the American and European markets. It has erroneously been supposed for many years that Jusi was made of vegetable fibres mixed with silk, but this is not the case. It is true that the body of jusi cloth, owing to the natural glue present on the fibres, has the dull appearance of cloth woven from vegetable fibres, but there are many simple tests for proving it to be silk.

**Jute:** A plant of the fibre-producing genus *Corchorus*, natural order *Tiliaceæ*; chiefly one of the two species *C. Capsularis* and *C. Olitorius*, which alone furnish the jute fibre of commerce. The fibre of the jute plant is obtained by maceration from the inner bark. It is grown in India, China, America, and West Africa, and maybe considered essentially a tropical plant; used in the manufacture of coarse fabrics, such as gunny bags, ropes, etc. Also called *Calcutta Hemp*.

**Jute Count:** See Count.

**Jute Tow:** The medium and lower grades of jute, as well as the coarse unsplit ends which are found in the finer sorts, are manufactured into what is called jute tow.

## Prospects of Indian Indigo.

### History.

On account of the absence of artificial indigo in the market, on account of the war, the latter product being one of the many dyestuffs invented and kept more or less a secret by German chemists, controlled by German capital, second to no other industry of the world; data as to the history of Indigo Dyeing and its prospects after the war, must thus be of interest to the reader.

From a point of antiquity indigo was extracted by prolonged fermentation from *indigoferous* plants. By that means, a whitish product (reduced indigo) is obtained, which upon agitation in the air becomes blue by oxidation.

Next the means of dyeing fabrics was discovered, i. e., fixing on the fibre the indigo reduced by fermentation and allowing it to become blue by exposure to the air. This mode of operating was mentioned in the writings of Caesar, Ovid, Arsamandi, Pliny, and Herodotus. Some authors regard orpiment as one of the first reducing agents employed for the purpose, but it surely comes after the fermentation vat.

The principal methods that have received practical applications are now given in the order of their appearance in the dyeing trade, as: the ferrous sulphate vat, invented at the end of the seventeenth century; the zinc vat in 1845, followed by Lalande and Schutzenberger's hydrosulphite vat. Later on some interesting accounts were published by Goppelsroeder on the preparation of vats by electrolysis.

In 1873 Fitz studied the fermentation vat and discovered the *Bacillus subtilis*, the reducer of the indigo.

A complete series of experiments made recently on the anaerobic microbes has demonstrated that the butyric ferment can cause the reduction of the indigo, by itself, in a sterile vat. As a matter of fact, in the ordinary fermentation vats this bacillus is quite abundant, but the preponderance of other micro-organisms may diminish its vital power.

The question of the reduction of indigo interested Berzelius in the nineteenth century. He maintained that the indigo white forms with the lime an insoluble basic compound; but to-day it has been established that an excess of lime is not prejudicial, and that the coloring matter does not become precipitated in the insoluble state.

Chevreur demonstrated in 1846 that indigo becomes more fastly fixed on wool, if the dyeing be followed by steaming.

In 1861 Sak admitted the purely mechanical fixation of the indigo on textile fibres, and expressed the belief that acetate of alumina determines a more complete adhesion.

In 1864 Crum regarded dyeing in the indigo vat as being produced by molecular attraction and thought that the porosity of the fibres and the duration of immersion had a great influence on the intensity of the resulting color. An important improvement appeared in 1870; it consisted in employing zinc chloride which gives more intensity to the color (*Vervirne*).

Next appeared the indophenol indigo vat of H. Koechlin, which had some share of success, and afterwards many preparations were suggested from time to time for use in the dyeing of indigo.

In recent years much attention has been given to the enormous residue formed at the bottom of certain vats and it is supposed now that there is a much stronger connection between indigo white and wool than simple mechanical fixation.

Binz and Rung undertook (1892) to determine (1) the amount of coloring matter reduced; (2) the amount that could be destroyed by too advanced reduction; (3) the amount of coloring matter retained by the insoluble residue; (4) means of recovering the coloring matter by treatment of the residue; (5) amount of coloring matter fixed on the fibre; and (6) the amount lost in the washing.

Figures quoted with data given, will give an idea of the way in which the coloring matter becomes fixed on the cotton fibre in the hydrosulphite and soda vat.

Amount fixed on the fibre 87.89 per cent; amount found in the wash waters 11.24 per cent, and loss, by difference, 0.87 per cent.

Binz did not think that the reduction of the indigo was due to the hydrogen produced by the action of the zinc on the alkali, because, according to his experiments, he found at the end of a certain time of working the vats, that the vat containing the least amount of hydrogen was the one most completely reduced.

Later he announced that nascent hydrogen could reduce indigo under the influence of heat but never in the cold. On the contrary, zinc reduces it well, even in the cold, which leads to the supposition that an intermediary compound is formed, i. e., indigo zinc white.

Binz, in collaboration with Rung, has studied the influence of different alkalis on the intensity of the dyed color. It was found that in comparative trials the depth of color of the fibre was less by replacing soda by lime. It was supposed that the duration of the dyeing and that of the air-oxidation had no influence on the intensity of the color, and that the fibre was charged with lime indigo white on leaving the liquor. When using a mixture of the two alkalis, lime and soda, there can also be on the fibre soda indigo white. These authors have stated that, contrary to the opinion of Berzelius, there remains in the vat deposit of the zinc-lime vat no insoluble compound of indigo white and lime. The yellowish color of the deposit that does form is not due to precipitation of the coloring matter, as was hitherto supposed. It is due simply to an optical illusion, because upon introducing pieces of white porcelain into the vat, they also appear yellowish.

A more advanced reduction induced by a too prolonged action of heat on the zinc and lime vat can be the cause of a loss of indigo white. Caustic soda exercises a curious action on indigo blue, noted by Bodlander. Indigo blue in suspension in distilled water is precipitated quantitatively by a few drops of caustic soda. Binz and Rung connect this phenomena with their theory, and assume that the indigo upon coming into very intimate contact with zinc, temporarily combines with it to form zinc indigo white.

Manchot and Persoz have recalled the observation made by Schoenbein in 1860 of the production of hydrogen per-