

than the machine is built to take, the fabric is made thick and heavy in texture, as the space left is not sufficient to ensure a proper interaction during wear, for the necessary elasticity and stretch are reduced. There is also a greater tendency to increased breakage in needles, and more rapid wear and tear of the machine parts. Should the yarn selected be too light for the gauge of machine, then the space available for the yarn will be in excess of what is essential, and the textures will appear slack and lack the essential qualities of robustness. It will yield readily in length or breadth when the slightest strain is applied, and the wearing property of the fabric will be greatly impaired.

COTTON MILLS IN CHINA.

The introduction of the modern method of cotton spinning into China dates back to the year 1890, when a cotton mill, later on known as the Heng Feng Mill, was first established in Shanghai. During the following 30 years there has been a rapid progress in this branch of industry. The following table shows the gradual increase in the number of cotton mills in China within the past three decades:

Year	Number of Mills.	Number of Spindles.
1891	2	65,000
1896	12	417,000
1902	17	565,252
1911	32	831,106
1916	41	1,145,136
1918	49	1,200,000
1921	63	1,747,312

Cotton mills to the number of seventeen, with a capital of 198,777,650 yen and with 469,780 spindles, have been established as follows: 8 in Shanghai, 1 in Hankow, 1 in Mukden, 3 in Tiensin, 4 in Tsingtau.

CHINA.

Silk.

The Ministry of Agriculture and Commerce, has established a Bureau of Sericulture, with branch offices in the provinces, to encourage the improvement of the industry.

Reports from South China indicate that the silk business conditions there are greatly improved.

Grasscloth.

In recent years the grasscloth industry has made immense strides, until now the export exceeds 15,000 piculs, of a value of over 3.7 million taels. By far the greater portion (about 85 per cent.) went to Shanghai, whence it is said to be shipped to Korea. Most of the balance was sent to Taipeh, its ultimate destination being the Loochoo Islands and Japan. A small quantity finds its way to the Straits and adjacent islands. It is woven from ramie brought from Hankow, and its manufacture gives employment to a large number of females in the Kityang and Puning districts.

Hosiery.

Chinese ladies' silk hose is arising in price as the result of the increasing demands from abroad. The factories in China cannot adequately cope with the demand and many extensions are pending.

Dyes.

The increase in value under aniline dyes of Hk. Tls. 653,000 shows how very much the colors were needed, and the market would have been much brisker had interneccine strife not made dealers inland hesitate with forward contracts. Practically all imported dyes are German, though those from the United States supplied most of the local demand.

Towel Manufacture.

Since 1917 this industry has also progressed rapidly, aided by the invention of a new machine for the manufacture of towels by the principal of the Yeh Cheng Factory. Two types of machines are now used, the automatic and the hand machine. The former can turn out daily about six dozen towels, while the latter's capacity is only about eighteen.

DICTIONARY OF TEXTILE TERMS.

Z

Zacate: Mexican name for various species of fibrous grasses; used for mats, ropes, etc.

Zackel Sheep: The same originated in the Island of Crete, from where it spread over Greece, Turkey, Transylvania, Hungary, and also into Austria and Bohemia.

Zafri: Raw cotton of brown staple, grown in Egypt.

Zaguris: A waste product of Japanese hand filatures, containing more silky matter than other kind of waste, but at the same time more dust.

Zanella: A mixed twilled fabric used for covering umbrellas.

Zante-fustic: See Fustet.

Zanthine: The yellow dyeing matter contained in madder.

Zanzibar Cloth: Gray cotton goods made in India.

Zephyr: Worsted or woolen yarn of very light-weight, of a fine, soft quality, loosely twisted; used for embroidery and knitted hoods, shawls, etc. Also called *Zephyr Worsted*.

Zephyr Gingham: The finest grade of gingham made; a light-weight cotton fabric composed of 1/40s to 1/60s cotton warp and filling; woven with

either the plain or a small granite weave. It is made in attractive patterns by using good fast colors in warp and filling, and as a cloth has splendid wearing qualities.

Zerak: Dark blue cotton shirting; used for native dresses in the Sudan.

Zerbaze: Persian double faced silk fabric interwoven with gold or silver threads.

Zero: The point on any scale of measurement from which numeration commences.

Zibeline: A cloth manufactured from merino lamb's wool for warp, and a light wool mixed with camel's hair for filling; or, worsted warp and camel's hair for filling; or either of the foregoing warps and a mixture of wool, camel's hair and fine cashmere for filling. The long camel's hair spreads over the surface. It is used for ladies' tailor-made coats or suits, according to weight. The name is derived from the Latin word *sabellam*, meaning sable. Applied originally to a variety of long-haired fur, generally thought to be the same as sable.

Zig-zag: Herring-bone textures; a twill worked backwards and forwards.

Zinc Acetate: A substitute for tartar-emetic in fixing tannin on cotton. It is also used in wool-dyeing with malachite-green.

Zinc Chloride: A white hygroscopic

salt. It is used in cotton finishing as an antiseptic. It also increases the adhesive properties of starch and enables it to carry more China clay. It is used as a mordant for Water Blue and as a double salt of certain commercial dyes (green, methylene blue, etc.). In the manufacture of lakes it is used altogether with tin, alumina and iron (lakes of the ponceaux, eosines, etc.); also added in small quantities (5 to 10 grammes; 1,000) to dressings, as a preservative, to prevent the formation of mould.

Zinc-chloride-iodine Solution: One gram of iodine crystals, 5 grams of potassium iodide and 30 grams of zinc chloride are dissolved in 15 grams of water.

Zinc Dust: The same should contain no grains which can be seen or felt by the fingers, it should feel uniformly dusty. It should not contain too much iron and zinc oxide, its usual impurities.

Application:—As a reducing agent and resist in calico-printing; in indigo-dyeing (hydrosulphite vat).

Zinc Sulphate: White vitriol, obtained by dissolving zinc in sulphuric acid.

Zori: Japanese name for sandals made of straw or wood. Also called *Geta*.

Zulu Cloth: Twilled and closely woven cloth; used for embroidery foundation in England.