

taining its reputation and the reliability of its goods as well as the inflexibility of its quotations.

British exports to Central and South America show a serious decline and continue to be more or less spasmodic, being confined to firms possessing exceptional local advantages acquired perhaps by chance, and maintained apparently without the cultivation of the market so noticeable now in the far East, in Canada, Australia and India. For instance, the manager of one firm stated that some years ago there was a steady and active trade with South America, the demand, however, being for the cheaper grades of cut cotton; but that of late this trade had almost vanished, owing partly to the introduction and growth of local manufacture of the same class, notably at Buenos Ayres, Argentine Republic, but chiefly to the persistent competition of Spanish manufacturers located at Barcelona, Spain, who paid wages with which British competition was impossible, who possessed as a rule favored trade relations with the Spanish-speaking countries of Central and South America, and who were favored by better knowledge of local demands and the intricacies of commercial usage.

The manager of another house reports that his best success is with fancy goods, which the South Americans are unable to make themselves, and which are chiefly imported either from Spain, France or England. They appear to want stripes and color, the more the better, and this applies to cotton as well as to the cheaper silks.

Great Britain, in hosiery as in other manufactures, maintains a characteristic and stubborn preference for home products, and furnishes, with her colonies, the greatest developed market for British manufactures. For several years her exporters have assiduously cultivated the opening Chinese field, and they view with especial alarm the growing success of American goods and methods in that territory. Said a manufacturer prominent in the Chinese trade: "As to German competition we have no fear. In my own experience I have lost at times a number of Chinese customers through German underbidding, but in each case they have returned voluntarily, giving pretty shrewd trade reasons for doing so. They have an acute trading instinct and must be satisfied that they are not only given bottom prices, but that the goods are exactly as represented. They are quick to detect any variation between samples and invoice, but once gain their confidence, and they are excellent customers in all respects."

The cheapness of German labor at one time resulted in the experiment of importing hosiery and textile bodies, finishing them in Nottingham and then marketing the finished product both at home and abroad as "goods made in England." That this practice was profitable may be assumed from the success of the trade unions in securing a law which requires that all goods so marketed or exported be stamped as manufactures of the country whence originally imported. This law, rigidly enforced, coupled with the antagonism of organized labor, seems to have brought the practice into disuse as well as disrepute. While some individual profit may have accrued from such methods, the effect upon English trade as a whole was unhealthy. Foreign purchasers of such goods through English finishers became inquisitive, and many reached the not unnatural decision to trade direct with Germany and save middlemen's profit. Thus the German market, through English effort, was exploited to the detriment of English manufacturers. There are agents, or commission houses, at London and the large trade centres who fill foreign market orders of any description, but if certain German or other goods are included, they are generally shipped direct from the place of production.

The A. R. Clarke Co., manufacturer of leather, Toronto, has been incorporated with a share capital of \$100,000.

JUTE DYEING.

Following next in importance after cotton and linen in the textile industries, jute occupies a position equal with hemp, and for the purposes of the present article, the former of the two will receive our attention.

There was a time when the dyeing of jute did not receive any very great attention from dyers generally, but for a number of years the importance of the fibers from an industrial position has been recognized, with the result that manufacturers and others have been looking into the subject of applying colors to it that would increase its usefulness in many ways, which would not be possible if the art of dyeing it was not thoroughly understood. Jute belongs to the natural order Tiliaceae, and is obtained from two chief species, *corchorus capsularis* and *corchorus olitorius*, the former of which being the one most generally cultivated on account of its better yield of fibers, which are obtained from that part of the plant known as the bast. The plant is cultivated throughout India and Asia, and forms a remarkable part of the commerce of those countries, the major part of the plants being stripped of their leaves, etc., are tied up into bundles and shipped to manufacturing localities when it passes through the various processes of hackling, spinning, etc., in order to be made into yarn, while that part of the stalks of the plants nearest the roots, about 12 inches in length, is cut off, and with the waste from other processes forms a valuable source of raw material for paper makers.

Jute differs from the other vegetable fibers in that it contains no free cellulose, but is said by Cross and Bevan to be made up of two substances which is named *corchoro-bastose*, and which possesses properties of deep interest to dyers and others who treat jute chemically, but will not be dwelt upon here.

One of the most important preliminary operations to which the jute dyer resorts in order to prepare this fiber for subsequent treatment is the bleaching, and although not resorted to in every instance is well worthy of mention, as it is necessary before light or brilliant shades can be applied. Pass the yarn or goods through a $\frac{1}{2}$ per cent. bath of silicate of soda, heated to about 160° F., wash and then immerse the goods in a bath containing about 1 per cent. of available chlorine, in the condition of sodium hypochlorite, and obtained by decomposing a solution of two pounds bleaching powder for every ten gallons of water, with the necessary quantity of sodium carbonate. The duration of the immersion varies considerably with the grade of jute to be bleached, the darker tints requiring a longer time, lifting out when the shade is reduced to the proper color, wash and pass through an acidulating bath of hydrochloric acid at $\frac{1}{2}$ Tw., lift, and wash well, when they will be found to have a pale cream color, but if a still lighter tint is desired, they are passed through a further bath containing about 2 per cent. of sulphurous acid, either free or combined as bisulphite, when a final wash will cause the goods to be ready for dyeing.

It may not be out of place at this juncture to mention that jute can be dyed "white" by successively treating it with hydrochloric acid and bleaching powder, twice in separate baths, washing between each operation, finally work in a dilute bath of Methylene Blue. It must be noted, however, that jute is not able to withstand any vigorous acid treatment, as the fibers are much weakened thereby.

Jute is dyed by means of three general processes, each of which is based upon the chemical properties of the dye stuffs used, and we will take them up in the usual order as suggests itself to the dyer. The largest group of dyestuffs that commends itself is the Diamine, as by its use every conceivable shade may be readily obtained from the lightest tint of any color to black, while the method of application is simplicity itself, but due regard must be paid to the proper strength of the dye-bath, the more concentrated it is, the less color will be required in