by hand on arrival to throw out all grease-stained bits and is then dried at 100 degrees Fahr. The cotton, which contains less than 1 per cent, moisture, is put into earthenware jars (one kilo in each jar), with a mixture of nitric and sulphuric acids; the temperature is kept uniform and low to prevent formation of highly-nitrated compounds. After six hours the nitro-cellulose formed is pressed into a hard cake to remove the acid liquids. The pressed cake is next roughly broken by hand, and washed mechanically till free from acid. The washed nitrocellulose is then dried in a hydro-extractor, which leaves about 28 per cent, of moisture. The dried material is put into a drum with a mixture of alcohol and ether; it dissolves to a liquid stiffer than treacle, which is next forced through a filter by air pressure to ensure a perfeetly clear liquid. The clear collodion solution is now ready for the production of artificial silk. The clear solution is forced under 300-lb. and 400-lb. pressure to the silkworm machine, which "spins" the silken filament, the sticky liquid being ejected through glass jets with orifices in. 1/250 or 1/10 mm. in diameter. The room is kept at a temperature of about 72 degrees F., so that the ether evaporates readily, and the collodion on its passage from the bobbin, a distance of 2ft. 9 in., is solidified; the filaments from several nozzles meet together and are wound as untwisted thread upon a bobbin. The bobbins are next unwound on a twisting machine, which strand the several fibres into a twisted thread that is rewound on to a bobbin. The spun or twisted silk thread is recled off the bobbins on to reels, forming skeins similar to ordinary silk skeins. The material, being nitrocellulose. is highly inflammable, and the skcin is next treated with calcium sulphydrate solution, by which, it is said, the nitro substitution product is reconverted into cellulose. This treatment is followed by a wash, next by a weak chlorine bleach, and finally by another wash, after which the skeins are dried. The dry skeins are graded as to size of thread by "dramming"-i.e., by weighing each skein, and skeins of like fineness are put together into bundles. This completes the operation, the bundles being sent to the dyer or weaver. Several of the processes are characteristic rather of a chemical works than of a textile factory, being similar to the manufacture of collodion and of gun-cotton. No. 4 has been called spinning, probably from its resemblance to the spinning of its thread by the silkworm; but instead of one twin filament only being wound by the worm into a cocoon, a number of filaments, 16 or more, meet together immediately after formation, and are wound together on to a bobbin. Operation No. 4 is a combination of the preparatory process of silk-winding, in which the twin filaments from several cocoons are wound off together on to reels, and the subsequent initial spining process of winding the raw silk skein on to bobbins; the spinning operations thus resolve themselves into: "Winding" the raw silk fibre, and "throwing," which includes doubling, twisting, and recling.

DAMASKING.

A process, patented in Germany, consists in treating cotton, dycd or undycd, mercerized or unmercerized, with a solution of cuprate of ammonia, printed on by means of a suitable machine. The goods are then left for a time, best in an ammoniacal atmosphere, until the surface is fully dissolved by the cuprate. They are then treated with a solution of cellulose or silk in the same solvent, and after a time given the desired pattern by means of engraved bowls. The fabric is then dried, and rinsed with water or dilute acid. After again drying, a thin coat of varnish, which may be colored with coal tar dye, is applied to increase the lustre.

GLOVE DYEING.

The usual processes have the great disadvantage that they dye the leather through and through. This not only wastes dye, but shrinks and hardens the leather. A recent patent claims to remove this trouble by using a solution of dye in benzole. Three ounces of a fat soluble aniline are dissolved in 200 oz. of benzole, and mixed thoroughly to a paste with soap-powder and spirit. The gloves are stretched out, cleaned with benzole, and then brushed over with the paste.—Dyer and Calico Printer.

COATING LACE WORK WITH METALS.

The Textile Record describes a method of making metallic lacework by covering ordinary lace with a thin film of metal which has been patented by an American. In the first process the lace or similar openwork fabric, or linen, cotton, silk or other fibre, is stretched out and varnished with collodion, pyroxylene, or a similar acid-resisting varnish. Afterwards, while still sticky, this is covered with finely divided metal or bronze powder; or a thin adhesive varnish is prepared with a considerable quantity of metal powder mixed therein until a creamy mass is produced, and the lace is immersed in this varnish or metallic paint, then removed and stretched out in a form. By a brush, or a blower, or by centrifugal action, all excess of the varnish and metal is removed from the lace, leaving the mesh open but the threads coated with a very thin coating of metallic powder, and stiffened by the varnish. The openness of the mesh is preserved, and the lace may remain flexible, but in general the coated lace will be much stiffer than before the treatment, and can readily be attached on a frame. Instead of securing the first metallic coating 'of the lace in the manner above described, the lace may be stretched and covered by a very thin coating of varnish or shellac, applied with a brush or When dried, this coating of shellac serves to otherwise. stiffen the lace. When the shellac is dry, the surface of the lace is covered with an aqueous solution of nitrate of silver. and this is allowed to partially dry. But before this silver solution has fully dried, and before it can have had much effect to weaken the lace, the surface is again covered or painted with an equeous solution of sulphide of potassium. The effect of this potassium solution is to decompose the nitrate of silver and leave the lace covered with a conting of sulphide of silver, which is a conductor of electricity, is comparatively inert, and will not destroy the lace by its caustic properties. After the lace has received its metallic covering, which acts as an electrical conductor, it may be stretched on a frame, immersed in an electroplating battery and there receive an electro-deposit of gold, silver, copper or other metal capable of electro-deposition.

A NEW COTTON BLEACHING PROCESS.

A very interesting bleaching process has been worked on a commercial scale at a bleach works at Armenticres. The invention of the process is due to M. Henri Lagache, and the principle of it is to set free the hypochlorous acid from the bleach by means of carbonic acid. In its present form the invention is said to be a great success. Every bleacher has noticed that between the morning and evening of a day's work a gradual diminution takes place in the amount of bleach required for every pound of the same sort of yarn. This, it has been discovered, is due to a gradual acidification of the bath by carbonic acid formed by the oxidation of the color-