

## A TRIP THROUGH THE SAXON HOSIERY DISTRICT.

(Continued.)

Leaving Chemnitz at its western extremity, we immediately enter a series of villages, which may be looked upon as a continuation of the town. First comes Kappel, then Schonau and Neustadt. The chief articles produced here are bathing drawers and suits, and low cut hosiery for South America and the West Indies. The combinations of colors in the latter are often very startling, navy, cardinal, royal blue, yellow, and bright grenat being indiscriminately mixed. The application of honey-combed and pored patterns renders the effects still more complex. The amount of cheap bathing drawers turned out in these villages is enormous. They are nearly all delivered to the large Chemnitz houses, very few being made anywhere else in Saxony. There are over twenty concerns making bathing drawers and hosiery, and about ten for producing tricot cloth, which is largely used for ladies' jerseys. There are few factories in this district, the industry being chiefly carried on in the homes of the people, and in small tenanted workshops. In these villages, too, most of the fleecing of hose and half-hose is done. Brushing machines are not employed for this purpose, it being all done by hand with teasels. The stocking is soaked in soap and water, brushed on the wrong side, then sent to dye, and brushed up again in the same way before finishing.

About seven miles from Chemnitz, in the same direction, lies Gruna, a place of importance in the glove trade. There are about a dozen concerns here making cotton, lisle, plated, and silk gloves, with fashioned hands, cut fingers with one seam, and fashioned finger-tips; a few low lines are made with the tips only sewn together, but the demand for these clumsy goods is rapidly declining. Lises predominate in numbers of 50/2 and 60/2, and even 70/2, and the corresponding numbers in four threads, and silk. Many beautiful designs of lace armlets are shown, and have been very popular in the past season, especially in the United States. One of the oldest bleaching establishments in the Kingdom stands here. It first introduced the English system of finishing Balbriggan hosiery. Under the pressure of fast blacks, however, bleachers have difficulty in keeping their concerns going.

Continuing in the same direction, with an inclination to the south, an hour's walk brings us to the town of Hohenstein, prominent for its manufactures, and as a bathing place. There are about ten factories here, employed on best silk and plated hosiery. Very elaborate fancies are also turned out. The plated goods are made in great variety, with cotton and lisle backs. Plain stockings, or such with colored tops or colored boots, are elaborated with every imaginable style of drop-stitches, worked throughout, or in boot only. By plating different shades on each other exquisite shot effects are obtained. Frequently, too, fine embroidery made by the machine is inserted between the open-work. This, however, is not so neat as hand embroidery, the figures having too stiff an appearance. There are here also two concerns making underwear of a fine grade, and several factories for other kinds of goods not within our province.

Two miles due south of Hohenstein, the village Oberlungwitz stretches along a road of about eight miles in length. It has about twenty glove factors, and a dozen establishments for hosiery, chiefly supplied by the house industry. Nearly all the goods here produced are sent to Chemnitz. This village is the principal seat of striped half-hose, with English and French feet, all full-fashioned, 27 and 33 gauge. The goods are made in two, three, and four-end patterns, chiefly from 1/12 and 2/22 cotton on the coarse gauge, and 2/36 cotton, 2/40, 70, and 80 lisle on the fine gauge. The 27 gauge half-hose are now made at absurdly low prices; a nice-looking sock, three-end, gusseted, can be got by Chemnitz houses for 1s. wages, and out of this the factor has to get his expenses and profit. A considerable quantity of low plated hose, with cotton and lisle backs, is made here, but only quite plain. A nice little trade is also done in expensive striped cotton lisle and cashmere half-hose for the German market. The glove styles made in this village are much the same as those in Gruna. The west end of Oberlungwitz joins on to the little village Gersdorf, where there are six concerns. One is now

doing a direct export trade. The hosiery industry does not thrive very well here, owing to the proximity of the coal mines, which detract the working powers. The mining district extends to the south-east, with Lugau and Oelsnitz as main centres, about an hour's walk from Gersdorf.—*Knitting Circular*.

## ELECTROLYTIC BLEACHING.

For bleaching purposes an effort has been made for some years to replace chloride of lime by chlorides obtained by the action of the electric current on chlorides of the alkalies or the alkaline earths in aqueous solution. Hermite uses in this way a solution of magnesium chloride to which sea-salt is added. Gebauer and Knoeffler leave out the chloride of magnesium in the preceding method, and simply run the electric current through a bath of chloride of sodium. Saget has been making experiments with a view of testing the action of these two liquors on cellulose, and reports the results of his experiments in the current *Moniteur Scientifique*. It is claimed for the Hermite process that no oxy-cellulose forms in the bath they use. The German firm say that as there are neither salts of lime nor of magnesium used in the process, the stains on textile fabrics which these salts cause cannot occur. Saget notes that these liquors must be used with as many precautions as chloride of lime, and that under certain circumstances, the electrolyzed liquids are more dangerous than bleaching solutions of hypochlorite. His experiments were of two descriptions. In the first he immersed the goods totally in the bleaching liquor in full daylight, in the second series of experiments he gave only partial immersion in the shade, the liquor running through the fibres of the tissue by capillary attraction. The three solutions contained the same amount of chlorine, so that a satisfactory comparison could be made. In the first series of experiments, giving a total immersion in full daylight, he reports that the Gebauer liquor, containing less than 0.25 grammes per litre of chlorine, does not produce any oxy-cellulose. This proportion falls to 0.20 grammes per litre for the Hermite liquor and rises to 0.54 for the chloride of lime bath. In the sun, therefore, the action of either of the two electrolyzed liquids is more energetic than that of chloride of lime. In the second series of experiments, that is to say, partial immersion in the shade, the chloride of lime bath proved the most active. Below 0.30 grammes of active chlorine per litre, the chloride of lime still produced oxy-cellulose, whereas at this degree of condensation neither of the two electrolyzed liquors gave it. At this step Saget wished to know whether there was no free chlorine in the electrolyzed liquors, and therefore tried the action of chlorine water on the cotton fibre.

The chlorine with a partial immersion in the shade gave no trace of oxy-cellulose, even at a concentration of two grammes per litre. On the other hand, exposed to the sun the chlorine energetically attacked the cellulose, and this attack was produced when the concentration fell to below 0.25 grammes per litre. He then prepared two solutions of hypochlorite of magnesium; the one by double decomposition between sulphate of magnesium and hypochlorite of lime; the other by the action of a current of chlorine on magnesia in suspension in water. These two solutions were tried comparatively with the Hermite liquor and with the solution of hypochlorite of lime. The result of these experiments showed that the Hermite solution approached very nearly that of the reagent obtained by the action of the current of chlorine on magnesia. Below 0.30 grammes of active chlorine per litre, neither solutions produced any oxy-cellulose in partial immersion in the shade. In the sun the concentration of the baths had to be lowered to 0.20 grammes before the production of oxy-cellulose ceased. On the other hand, chloride of magnesium produced by double decomposition was exactly similar in its action to chloride of lime. In comparing the Hermite and the Gebauer and Knoeffler solutions, it was found that the first was more active than the second. In fact, in partial immersion in the shade the Gebauer liquor containing 0.52 grammes of active chlorine per litre gave feeble traces of oxy-cellulose, whereas the proportion of oxy-cellulose formed is very great when a Hermite solution of this concentration is used. This superiority of the Hermite liquor over that of the German firm is, in Saget's opinion,