THE WARREN WATER FILTER.

Mr. Frederick Nell, Hydraulic Engineer, has published a pamphlet entitled "Machinery and Appliances." The pamphlet contains valuable information on the design and construction of the Warren Water Filter, which is said to be a more efficient and economical method of water filtration.

The pamphlet describes the principles of the Warren Water Filter and explains how it can be used in various applications. It also includes diagrams and illustrations to help readers understand the design and operation of the filter.

The pamphlet concludes with a summary of the key benefits of the Warren Water Filter, including its ability to remove impurities and improve water quality. It is recommended for anyone interested in water filtration technology or looking for a reliable and efficient solution for their water supply needs.

---

BLEACHING WOOL BY PEROXIDE OF HYDROGEN.

During recent years there has been considerable interest in the use of peroxide of hydrogen for bleaching wool. This method has been found to be effective in removing impurities without damaging the fabric.

The process involves treating the wool with a solution of peroxide of hydrogen, which is a strong oxidizing agent. The reaction between the hydrogen peroxide and the impurities in the wool results in a bleaching effect, leaving the fabric clean and white.

However, care must be taken when using peroxide of hydrogen, as it can be dangerous if not handled properly. It is important to work in a well-ventilated area and wear protective clothing to avoid any exposure to the gas.

Overall, the use of peroxide of hydrogen for bleaching wool is a promising and effective method that offers several benefits over traditional bleaching techniques.
peroxide of hydrogen is the following:—Prepare the bleaching bath by mixing 1 part of peroxide with 4 parts of water. The strength can be varied to a great extent, but the only thing that should be kept in mind is that the process can be carried on by means of a small amount of water, and therefore a loss of valuable material. To the bath prepared just enough ammonia should be added to make it alkaline. This process may be accelerated by heating, and worked well, so that they become thoroughly saturated. They then are gently wrung and exposed to the air for some hours, but must not be allowed to get dry, because only so long as they are moist is the bleaching going on; if they get dry, the goods should be re-entered into the bath and again exposed to the air. If one treatment is not sufficient, the process should be repeated. The peroxide bath is not exhausted, and only requires new material to be added to it in sufficient quantity to enable the goods to be ready and easily worked in the liquor. Any degree of whiteness may be obtained with a sufficient number of workings. No further treatment is necessary. It is found in practice that an alkaline bath gives the best results.

Another process of preparing the bleaching bath is to prepare a bath with peroxide and water as before, then to add a sufficient quantity of a solution of silicate of soda—4 parts water to one of silicate of soda at 100° Tw.—to make the bath alkaline. Into this bath the goods are entered, and are then exposed to the air as before, after which they may be passed through a weak bath of sulphuric acid, being well washed in water, and dried.

The advantage of bleaching with peroxide is that, as it leaves only water in the goods as the result of its action, there is no danger of their becoming tendered by an after development of acid due to defective washing, as is the case with the use of alkaline liquors. The latter in colour afterwards, because there is nothing left in that will change colour. Some bleachers add a little magnesia to the bath, but this is not at all necessary.

(The above is continued.)

A new substantive blue, which is said to possess a purer colour than any known blue of this group, and to retain its colour by gaslight, has been patented. It is produced by combining a new naphthol sulphonate with anilidine, oxidised in the usual way. The advantages of the use of hydrochloric acid are obvious; when used, it is a strong bluing liquor than has hitherto been possible, even with the increased efficiency of a bleaching liquor to be made cheap enough to compete with bleaching powder.

In soap-printing fabrics, especially when they have been printed with tannin colours, there is a great tendency for some of the

colour to leave the fibre and floating about in the bath to become fixed upon the fabric in undesirable places. Methylene blue is well known for its ability to effect a great improvement, so that it is difficult to use it in printing along with alizarin reds, which in the soap-bath become changed to a brownish purple. In this case the methylene blue becomes loose in the bath and fixing itself on the red. Messrs. Faire and Hrbani have taken out a patent in which oil which overcomes this difficulty. They add to the soap bath a small quantity of a paste of tannin of anodyne, which, when used, prevents any of the colouring matter that may be loosened from the fabric in the process of soap-bath and fixed by the process of bleaching. This patent is well worth the attention of dyers.

The saponification of the anodyne paste, mostly black of various shades, can be developed by first working the dyed cotton in an acidulated bath of sodium nitrate, then passing it into a bath containing a solution of a phenol or aniline, whereby the cotton acquires a new colour, which is fixed by washing, so that it is not fast to acids, alkalies, or washing. In the patent a very copious list is given of the phenols and anilines and their derivatives that may be used, together with a list of the shades that each yields. This method of dyeing promises to become of much importance in the future, and is certainly worth the attention of dyers. The method of dyeing has never received the attention of dyers that it ought to have done.

Mr. Allen North has taken out a patent for dyeing mixed fabrics of wool and cotton black, by first dyeing them a black by any of the usual methods and then topping with methylene blue.

FINISHING OF HALF-SILK GOODS.

In weaving half-silk goods the tendency prevails to give those the lustre of all-silk goods, and for that purpose the finishing is as loose as possible. After singeing and scouring the yarns are often displaced, there is no uniformity of appearance, and the texture appears lustreless and poor. To remedy these faults, to straighten out the threads, and to give the goods lustre and the necessary stiffness, is the object of the plain finish, which is different from the finish by pressing and wetting. We observe that the remarks on the finishing of half-silk goods apply both to the back satin (sateen) and the full finish (ottoman). Natural factors in the finishing are to be mentioned; the condition to which the yarn is left, the drying following their application, the effect of shrinking the goods, and the influence of one or several processes with more or less heavy pressure.

In order as much as possible to prevent the alteration, dulling, or darkening of the colours