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UNITED STATES PATENT OFFICE.

ADOLF KÄMPF, OF PREMNITZ, GERMANY.

PROCESS FOR TREATING VISCOSE SILK IN A VACUUM.

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To all whom it may concern:

Be it known that I, ADOLF KÄMPF, a citizen of Germany, residing at Premnitz, Germany, have invented a new and useful Process for Treating Viscose Silk in a Vacuum, of which the following is a specification.

In the manufacture of artificial silk, processes for effectively clearing newly spun bobbins from spinning bath residues have been employed, by forcing water through the newly wound perforated spinning bobbins, either by suction or pressure from within outwardly or from without inwardly. The effect of this washing process consists, as will be readily understood, in a quick change of the washing fluid throughout the whole layer of fibres, for which purpose perforated bobbins are indispensable. In so far as a sucking action is employed for producing this change of water, the idea of these processes is to permanently prevent the formation of an actual vacuum in the layer of silk through the streaming water. These washing processes may have proved useful for certain kinds of artificial silk (such as of copper oxide ammonial), where the chemicals adhering to the fibre are completely soluble in water. This is, however, different with viscose silk, especially such of unripe viscose matter (unripe alkali-cellulose). In this case, as is well known, considerable quantities of bisulphide of carbon are produced in the decomposition of the viscose matter, which bisulphide of carbon is insoluble in water. This bisulphide of carbon repels the washing water, thereby preventing a favourable washing effect. In order to effectively carry out this washing process, considerable time is required in this case, or washing water of a higher temperature must be used, the application of which, as experience has shown, meets with certain difficulties.

The present invention relates to a process for removing the bisulphide of carbon, from the fibre in the shortest possible way and this in a manner which is as harmless to the silk as possible, in order to clear the way for the subsequent water wash and to shorten and improve the latter, since, by the careful treatment, a clearer and more uniform viscose silk is at the same time produced.

This is attained by subjecting the newly spun skeins or artificial silk bobbins to a maximum vacuum in an autoclave, either in the presence of water or without water (in which case the bobbin bodies themselves need not be provided with holes). It has been shown that viscose silk, which has thus been freed from bisulphide of carbon, can be freed from spinning residues by any of the usual processes within a fraction of time, as compared with the length of time required in the usual washing processes, without previous vacuum action.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A process for treating freshly spun viscose silk on spools consisting in subjecting said silk to a vacuum of sufficient strength to rapidly and completely remove the carbon disulphide from the fiber, and afterwards washing said silk.

2. A process for treating freshly spun viscose silk on spools, consisting in subjecting the spools of silk to a vacuum of sufficient strength, in the absence of water, to rapidly and completely remove carbon disulphide from the fiber.

3. A process for treating freshly spun unripened viscose silk on spools, consisting in subjecting said silk before the usual washing to a vacuum of sufficient strength to rapidly and completely remove the carbon disulphide resulting from the spinning, from the fiber.

In testimony whereof I have signed my name to this specification.

DR. ADOLF KÄMPF.