UNITED STATES PATENT OFFICE.

BRUNO BEYER, OF GROSSENHAIN, GERMANY.

PROCESS OF TREATING RAW SILK.

SPECIFICATION forming part of Letters Patent No. 489,919, dated January 17, 1893.

Application filed March 30, 1892. Serial No. 426,992. (No specimens.) Patented in Germany June 14, 1890, No. 57,059, and in England July 28, 1891, No. 12,817.

To all whom it may concern:

Be it known that I, BRUNO BEYER, a subject of the King of Saxony, residing at Grossenhain, Saxony, German Empire, have invented a certain new and useful process of treatment of waste raw silk or "burr" with a view to its employment for the manufacture of underclothing or the like, (for which I have obtained Letters Patent in Germany, D. R. P., No. 57,059, dated June 14, 1890, and in Great Britain, No. 12,817, dated July 28, 1891,) of which the following is a specification.

Silk clothes are universally appreciated, not only because more pleasant to the touch than any other material, but also because more healthy, inasmuch as silk will not absorb the emanations from the human body, and, provided it has no smell of its own, will remain inodorous after wearing. These properties would undoubtedly insure silk clothes a general preference over others were it not for their costliness.

Now the object of this invention is to enable sanitary underclothing of waste raw silk (burr—"bourrette") to be produced, which, while possessing the good qualities of silk goods, will not be much more expensive than if they were made of wool. This object may not, however be satisfactorily accomplished unless the waste silk or burr is so treated as to be freed from the offensive smell which it is well-known to retain, and which even the ordinary chemical bleaching cannot remove, or unless it is made incapable of readily absorbing and retaining surrounding odors as in its natural condition it is rather apt to do. In order therefore to render yarn made of silk-burr, or the fabrics manufactured therefrom free from, and proof against, offensive odors, it is necessary to submit the same both to a mechanical and a chemical treatment. In a bath prepared with oil-soap, the yarn or fabric is boiled for fifteen minutes daily for a number of days. When removed from the bath the material is washed in cold water, and then conveyed into a steam bath in which it is left for several hours. While in this bath the material is sprinkled with a thin layer of chloride of sodium (common salt). The salt is dissolved by the steam and caused thoroughly to permeate the yarn or fabric. After steaming, the material is again washed and then, while yet moist, spread for bleaching on the turf, or else conveyed into a drying chamber in which a moderate temperature is maintained. After drying, the material is removed and submitted to the same treatment next day *i. e.* again placed into a soap-bath, and so on. This operation is repeated daily for preferably at least twenty days, after which the material is suspended in a water-course so as to be thoroughly washed by the water as it flows. This is continued for twenty-four hours. The yarn or fabric will then be found to have assumed a dull white color and become perfectly inodorous. When this result is attained, the material is fit for use in making articles of wearing apparel, underclothing or the like. It should not be dyed, but the finished articles must be washed in a cold water bath containing permanganate of potash and then once more steeped in a weak solution of chloride of sodium. The same solution should be used for washing the clothes when worn.

I claim:—

1. The process of treating silk waste, consisting in subjecting the same to the action of oil-soap, cold water and salt-steam baths, drying the material as described and then subjecting the same to the action of running cold water, for the purpose specified.

2. The process of treating silk waste and articles manufactured therefrom, consisting in subjecting the waste to the action of oil-soap, cold water and salt-steam baths, drying the said waste, as described and then subjecting the article made from the waste so treated, to the action of permanganate of potash as described, for the purpose specified.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

BRUNO BEYER.

Witnesses:
FERNANDO DE SOTO,
PAUL HERZ.