

UNITED STATES PATENT OFFICE.

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DRY LUBRICATION OF TEXTILE MACHINES.

No Drawing.

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In the manufacture of lever laces and allied textile products it is ordinarily necessary to use a lubricant in a dry state on those parts of the machine which carry the bobbins and bobbin plates and on other parts which may come in direct contact with the textile products. A dry lubricant is necessary because the use of liquid or semi-liquid lubricants would cause serious soiling or other injury of the finished product.

Up to the present time graphite has been found to be the most efficient material for this purpose. There are, however, several serious disadvantages resulting from its use. The lace or other textile products very often become soiled from the graphite and the graphite is difficult to remove from the product. This results in loss of time and increased cost of detergents. Frequently so much graphite gets on the lace and becomes so thoroughly ingrained and interwoven in the lace that a result of loss of the finished product is occasioned.

I have discovered that there are certain compounds which are suitable for this dry lubrication of textile machines and which do not possess the disadvantages of graphite. Such compounds must be white or of very light color so as to not soil the lace and should possess the necessary lubricating properties, adhere to the bobbins and bobbin carriers or other parts to be lubricated, be non-hygroscopic and must be free from grit.

I have discovered that zinc stearate fulfills these requirements, operates as satisfactorily as graphite and by reason of its white color does not soil the lace or other light colored textile product. It may be applied in powder form by blowing onto the parts or in other ways which are now or may be employed for applying graphite to such parts.

I do not wish to be limited to the use of zinc stearate as other materials or mixtures of materials possessing the necessary properties may be employed. Among such suit-

able compounds are the stearates of certain other metals, certain oleates and other salts of fatty acids and other white compounds capable of being reduced to the state of a fine powder and having an unctuous or smooth feel and lubricating parts analogous to that of graphite.

As an example I may use calcium stearate or a mixture of one or more soaps such as magnesium stearate and calcium palmitate or stearate. The mixtures may be prepared by physical or chemical means. I may also use the alkali earth soap of the fatty acids.

As another example I may treat precipitated calcium carbonate with a suitable oil or wax which has been dissolved in a volatile solvent and then removing the solvent by evaporation the calcium carbonate will have acquired the necessary properties. Since the fat, wax, or oil treatment will naturally vary with the different materials I do not wish to limit myself to any given proportions.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. The method of lubricating bobbins and other parts of textile machines subject to contact with the textile product, which consists in applying thereto a metal salt of a fatty acid in a dry powder form insoluble in water.

2. The method of lubricating bobbins and other parts of textile machines subject to contact with the textile product, which consists in applying thereto zinc stearate powder.

3. The method of lubricating bobbins and other parts of textile machinery subject to contact with the textile product, which consists in blowing on to the parts to be lubricated a white dry powder, insoluble in water, and comprising a metallic salt of a fatty acid.

Signed at New York, in the county of New York and State of New York, this 18th day of August, A. D. 1926.

JOHN SPALDING.