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PROCESS FOR PREVENTION AND REMOVAL OF FOAM IN THE MANUFACTURE OF PAPER

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4 Claims. (Cl. 92—21)

This invention relates to improvements in paper manufacture and is more particularly concerned with removing foam formed during the manufacture of paper and/or preventing the formation of such foam.

At various manufacturing phases in the paper industry, a heavy formation of foam often takes place through the presence of surface active substances which is very objectionable. To avoid this, various expedients have been resorted to, for example, ether has been poured on the material or oil has been added to the paper pulp. Both of these prior processes have disadvantages, ether being inflammable and toxic and oils causing spots on the finished paper. More recently attempts have been made to solve the foam problem and to overcome these disadvantages, by the use of solutions of oils in organic solvents. However, relatively large quantities of these expensive substances are required.

I have found that foam may be removed or formation of foam prevented through the use of small quantities of phosphatides, particularly vegetable phosphatides. The action is entirely different from that of oils. The action of the latter is more of a mechanical nature and the formation of foam is prevented only when a thick enough layer of oil has formed on the liquid, whereas, when phosphatides are used, the surface tension of the foam, that is, of the surface active particles, is reduced.

The phosphatides, which may comprise lecithin, are preferably used in solution. Such a solution is practically free from oil, and the danger of spots such as are caused by oils or mixtures of oils with volatile organic solvents, is entirely avoided.

The solution may be added to the pulp or aqueous suspension of fibrous material to prevent foam formation, or added after formation of foam to remove the same.

When the first drop of the solution is added, the foam bubbles burst and it requires but very small quantities to remove the foam completely. In the manufacture of paper, if the formation of foam takes place, such as, during the washing of rags, during the treatment of old paper, or at the strainer, such foam may be removed immediately by the addition of 30 grams of a 10% aqueous solution of vegetable phosphatides. The process of my invention, however, is not limited to the foregoing quantity and solution concentration which are exemplary only.

Having described my invention, I claim:

1. A process for preventing or removing foam during the manufacture of paper, which comprises, introducing a material consisting essentially of a phosphatide to the aqueous suspension of fibrous material, and thereby preventing or removing foam.

2. A process for preventing or removing foam during the manufacture of paper which comprises introducing phosphatides in aqueous solution to the aqueous suspension of fibrous material, and thereby preventing or removing foam.

3. A process for preventing or removing foam during the manufacture of paper which comprises introducing a small quantity of vegetable phosphatides in aqueous solution to the aqueous suspension of fibrous material, and thereby preventing or removing foam.

4. A process for preventing or removing foam during the manufacture of paper, which comprises, introducing a substantially oil free solution of phosphatides to the aqueous suspension of fibrous material, and thereby preventing or removing foam.

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