

UNITED STATES PATENT OFFICE.

OTTO EMANUEL TINGBERG, OF STOCKHOLM, SWEDEN.

MANUFACTURE OF PAPER, CARDBOARD, AND THE LIKE.

1,048,110.

Specification of Letters Patent.

Patented Dec. 24, 1912.

No Drawing.

Application filed April 27, 1912. Serial No. 693,666.

To all whom it may concern:

Be it known that I, OTTO EMANUEL TINGBERG, a subject of the King of Sweden, residing at 63 Fleminggatan, Stockholm, in the Kingdom of Sweden, have invented certain new and useful Improvements in the Manufacture of Paper, Cardboard, and the Like, of which the following is a specification.

The present invention relates to a novel process of weighting paper, card-board, and similar articles by means of lime, and at the same time increasing the coherence of the weighted article. Heretofore it has been proposed to use kaolin, heavy spar, and similar material as weighting material, but such material has the disadvantage that the coherence of the treated and weighted pulp is thereby decreased so that it is necessary to add to the paper or other material additional binding media.

According to the present invention the paper is so weighted that the binding of the paper or similar material is at the same time increased without the addition of further binding medium. This result is effected, according to the present invention by the use of lime in the form of freshly slaked lime, or white-lime. This lime, added to the pulp from which the paper is to be made, combines with the material of the pulp and has a valuable binding action and thus serves to increase the strength of the paper as well as its weight. Moreover the lime

gives to the paper in the subsequent processes a finish suitable for writing and printing, owing to its sizing effect. The appearance of the paper is also improved. The lime also aids in bleaching the pulp. The lime is added to the pulp in the rag engine, the amount added depending upon the particular wood treated. Resinous woods require more, the greater the content of resinous material. In addition to the lime added other weighting materials can also be used. Also obviously, where greater strength still is desired, additional sizing and binding agents can be used.

The product of the present process is a sized and weighted paper of attractive appearance, and contains the lime not only as a weighting material but as a binder and a sizing material.

I claim:

The process of weighting and simultaneously sizing and increasing the strength of articles made from paper pulp which comprises treating such pulp with freshly slaked lime and combining the same with the pulp by thorough intermixture of the solid slaked lime with the pulp without the aid of additional neutralizing agents.

In testimony whereof I have affixed my signature in presence of two witnesses.

OTTO EMANUEL TINGBERG.

Witnesses:

Greta Prine,
Harry Albin.