

UNITED STATES PATENT OFFICE.

JOSEPH O. GREGG, OF ELKHART, INDIANA.

IMPROVEMENT IN COMPOUND PAPER OR BOARD.

Specification forming part of Letters Patent No. 214,250, dated April 15, 1879; application filed March 4, 1879.

To all whom it may concern:

Be it known that I, JOSEPH O. GREGG, of Elkhart, Indiana, have invented an Improvement in Compound Paper or Board, of which the following is a specification.

My invention relates to a compound paper or lined paper-board of that class in which a coarser or less expensive backing is united with a surface of finer or better appearance; and it consists, essentially, of a compound paper or compound board composed of ordinary straw-pulp with a facing of clear unbleached wood-pulp.

In all methods heretofore used in the manufacture of a compound paper, or in lining a board, to cause one face to be white or colored as a finished face, the finished face is invariably composed of more expensive materials, such as cotton, linen, manila, &c., invariably whitened by being subjected to expensive chemical processes in bleaching; and where wood has been used it has always been mixed with bleached rags or other bleached and more expensive materials, the wood invariably being used as a filling only; or, if wood-pulp be used alone for the manufacture of the board, it cannot be used in a finely-ground condition without being subjected to chemical process for hardening, as it would not have the requisite strength.

In making my improved paper or board I take ordinary coarse and dark straw-pulp, without any bleaching, by which its strength would be impaired. This material forms the body of the paper or board, and renders it strong and substantial at the least possible expense. To this strong dark unbleached body I add a surface of white unbleached and finely-ground wood-pulp, which, by reason of its fineness, forms a fair and finished surface. The element of strength is not a consideration in applying a finishing surface to this board or pulp, since the straw-board to which it is united is made sufficiently coarse and strong, and requires nothing more than a surface of proper fineness and color. The wood-pulp may therefore be ground as finely as desired, and as it is firmly united to the board

in the process of manufacture, it is strengthened and supported by the coarse and strong material to which it lends finish.

It will be seen, further, that the cost of bleaching is avoided by using the naturally-white wood-board reduced to proper condition by fine grinding and by washing out the sap.

The use of clear wood-pulp in this condition also avoids the expense of rags and other expensive materials, and the completed article of board possesses all the finish of chemically-strengthened wood-pulp board, made very cheap by the backing of straw. As the wood-pulp derives its fineness from grinding and its whiteness from the natural color of the wood, its cost is not materially greater than that of the coarser straw-pulp, and it may be laid thickly upon the straw backing, thereby giving a better surface than could be obtained by rag-pulp or more costly material without greatly increasing the expense.

By this combination a strong and highly-finished paper or board may be made at a cost of twenty-five per cent. less than any other heretofore made.

The facing of wood-pulp is firmly united to the coarse backing in process of manufacture, and by methods which have heretofore been described and are well known in the art.

What I claim as my invention is—

1. A compound paper or board composed of coarse unbleached straw-pulp and a facing of finely-ground white wood-pulp, substantially as described.

2. A compound paper or board composed of coarse dark straw-pulp and finely-ground unbleached wood pulp, as set forth.

3. A compound board consisting of coarse straw-board and wood-pulp firmly united in the manufacture, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH O. GREGG.

Witnesses:

ORVILLE T. CHAMBERLAIN,
JULIUS D. WOOD.