(Model.)

T. STEWART.

MUSLIN PAPER FOR THE MANUFACTURE OF PAPER BAGS.

No. 265,884. Patented Oct. 10, 1882.

Fig. 1.

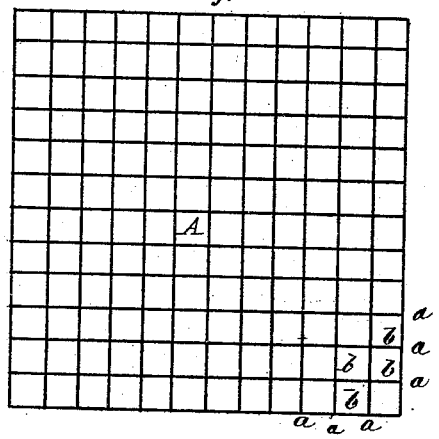


Fig 3.

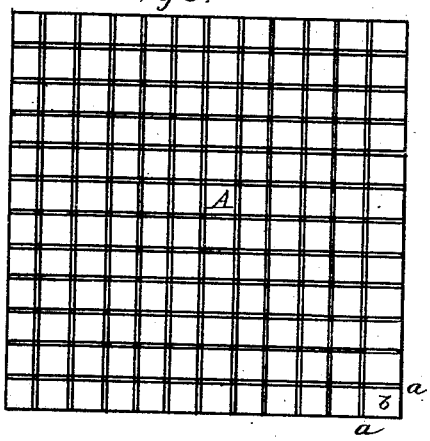


Fig 2.

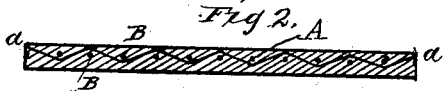


Fig. 4.

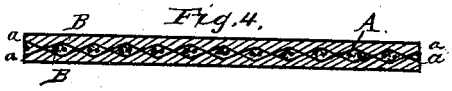


Fig. 5.

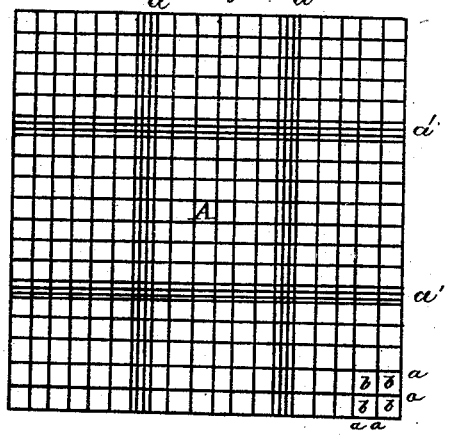
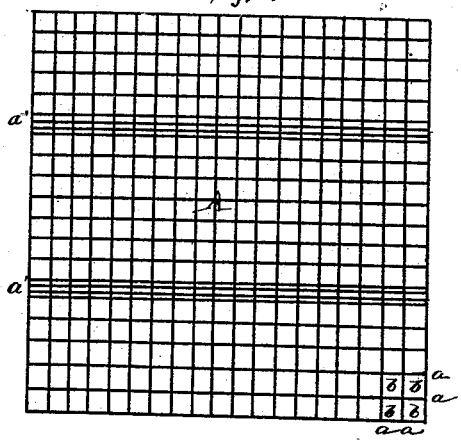


Fig. 6.



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UNITED STATES PATENT OFFICE.

THOMAS STEWART, OF PHILADELPHIA, PENNSYLVANIA.

MUSLIN-PAPER FOR THE MANUFACTURE OF PAPER BAGS.

SPECIFICATION forming part of Letters Patent No. 265,884, dated October 10, 1882.

Application filed July 15, 1882. (Model.)

To all whom it may concern:

Be it known that I, THOMAS STEWART, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Muslin-Paper for the Manufacture of Paper Bags; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My improvement has relation to paper which is specially adapted for the manufacture of sacks or bags to contain flour, salt, and similar merchandise, of which given quantities are sold put up in bags. As these bags, when filled, undergo considerable handling, it is of importance that they should be made strong and durable enough to withstand more than ordinary wear, and yet be cheaper than bags made of muslin or canvas; and to this end my improvement consists in the manufacture of a peculiar paper, as hereinafter more fully described and claimed.

In the accompanying drawings, Figure 1 represents a square piece of my improved paper, ("single strand.") Fig. 2 is a cross-section of the same. Fig. 3 is a square piece of what I term my "double-strand" paper. Fig. 4 is a cross-section of the same. Fig. 5 represents a square piece of the paper having re-enforcing strands in the woof and warp at regular intervals, crossing each other at right angles, and Fig. 6 represents a piece of my improved bag-paper having parallel re-enforcing strands at regular intervals in the warp of the fabric only.

Similar letters of reference indicate corresponding parts in all the figures.

To prepare this paper, I first make a thin woven muslin, A, with interstices of, say, from four to forty-four to the square inch. In other words, this muslin is in the nature of netting with open spaces between the strands. These strands—that is, the warp and woof—may be either single, as shown in Figs. 1 and 2, or double, as shown in Figs. 3 and 4, the letter *a* indicating the strands, and *b* the open spaces or squares between them. This open-spaced muslin or netting is embedded in the paper-pulp B. There may be more of the pulp on one side than on the other, as in Fig. 2, or it may be placed in the middle of the pulp, as in Fig. 4. In this manner the interstices *b* between the strands are filled with the pulp, which is also in part absorbed by the fabric itself, to which it is thus caused to adhere firmly.

In Figs. 1, 2, 5, and 6 of the drawings I have shown the warp and woof strands of the fabric in full line for the sake of clearness, when, as a matter of fact, the fabric is concealed from view by its coating or covering of paper-pulp.

If desired, muslin may be used in which re-enforcing strands, as shown at *a'* in Figs. 5 and 6, are so arranged or located in the fabric that these will, in cutting the paper to make the bags or sacks, come at the folds and bottoms of the bags, where the greatest strength is required.

This paper may be made on an ordinary "single-cylinder" paper-machine, or on a Fourdrinier machine, by carrying the muslin fabric from a roll located preferably at the lower left-hand corner of the machine over a roll located at the upper left-hand corner and into the vat containing the pulp, the fabric passing around a cylinder of wire-cloth located in the vat, where it takes up the pulp, after which it is fed to the drying-cylinders in the usual way.

I am aware that it is not new to mix fiber with or embed it in paper-pulp in the manufacture of paper for printing of bank-notes, the paper so used by the Government of the United States being designated as "fiber paper." I am also aware that muslin has been pasted on one side of sheets or rolls of paper already made, as in the manufacture of so-called "safety-envelopes." Again, in the manufacture of imitation-linen paper collars and cuffs muslin has been pasted on thick paper or card-board and cut into the requisite shapes; but my paper and the procedure of its manufacture differ essentially from these several styles of papers in this, that I embed muslin netting in the paper-pulp, the latter covering it completely on both sides, as shown clearly in Figs. 2 and 4 of the drawings. Hence

What I claim as my improvement, and desire to secure by Letters Patent of the United States, is—

1. As an article of manufacture, paper for

the manufacture of sacks, bags, or similar articles, having muslin netting embedded in and covered on both sides by the pulp in the process of manufacturing the paper, substantially as set forth.

2. As an article of manufacture, paper for the manufacture of sacks, bags, or similar articles, having muslin netting A, made with reenforcing strands *a'*, embedded in and covered on both sides by the pulp in the process of manufacturing the paper, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

THOMAS STEWART.

Witnesses:
JOHN W. BROWN,
J. RUSH RITTER.