W. J. F. MAIDHOF.

METHOD OF WATERMARKING PAPER.

APPLICATION FILED OCT. 6, 1909.

1,094,800.

Patented Apr. 28, 1914.

2 SHEETS—SHEET 1.

Fig. 1.

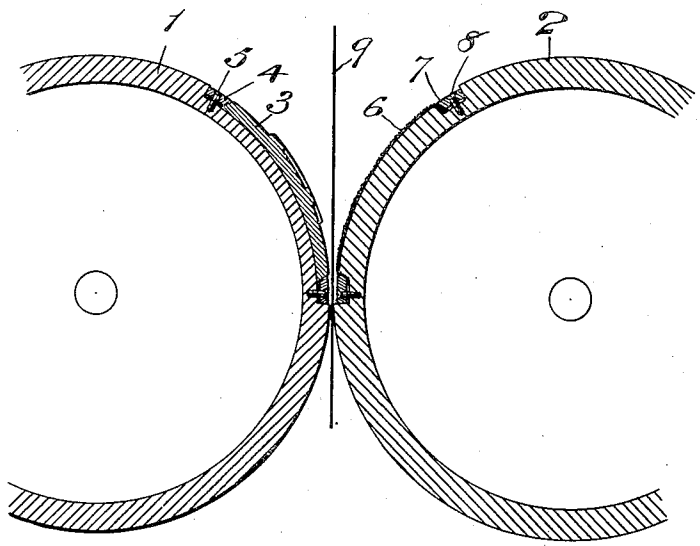


Fig. 2.

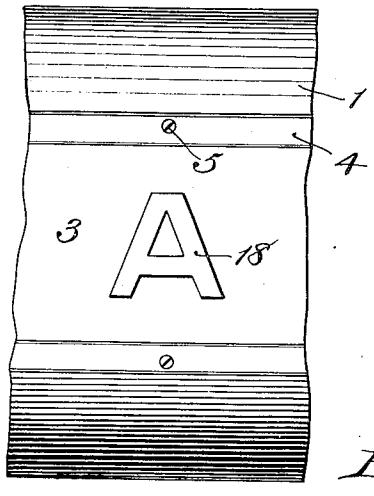


Fig. 3.

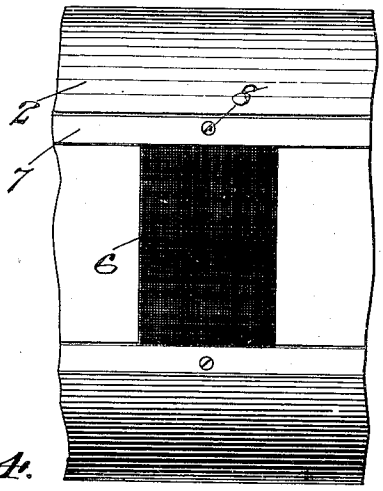
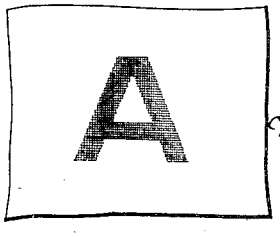


Fig. 4.



Witnesses:
F. George Barry.
Henry Theime.

Inventor:
William J. F. Maidhof
by his attorneys
Brown & Seward

W. J. F. MAIDHOF.

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2 SHEETS—SHEET 2.

Fig. 5.

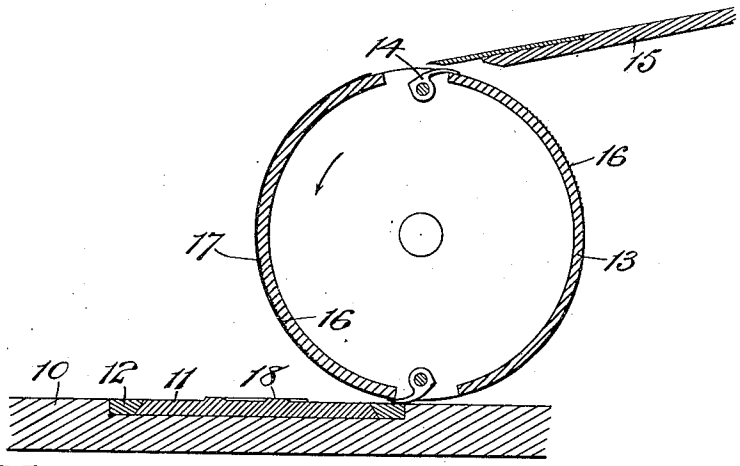


Fig. 6.

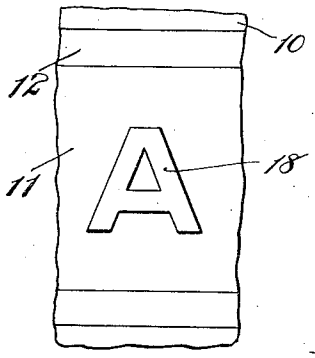


Fig. 7.

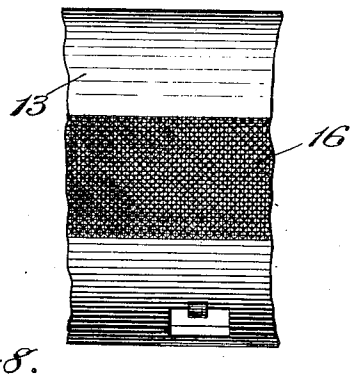
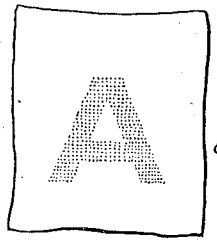


Fig. 8.



Witnesses:
F. George Barry.
Nancy Thieme.

Inventor:
William J. F. Maidhof
by his attorneys
Brown & Seward

UNITED STATES PATENT OFFICE.

WILLIAM J. F. MAIDHOF, OF NEW YORK, N. Y.

METHOD OF WATERMARKING PAPER.

1,094,800. Specification of Letters Patent. Patented Apr. 28, 1914.

Application filed October 6, 1909. Serial No. 521,354.

To all whom it may concern:

Be it known that I, WILLIAM J. F. MAIDHOF, a citizen of the United States, and resident of the borough of Bronx, in the city and State of New York, have invented a new and useful Method of Watermarking Paper, of which the following is a specification.

This invention relates to an improved method of water-marking paper, with the object in view of providing a method by which paper may be water-marked at any time, even after it has been manufactured, and without the necessity of any preparatory treatment; and in carrying out which method any ordinary printing or embossing form may be used.

It has heretofore been customary to water-mark paper during the process of its manufacture, thus requiring a very large amount of paper to be stamped with a given mark in order to prevent the cost of water-marking rendering the price of the paper commercially prohibitive.

My method is especially adapted for marking small lots of paper because it may be carried out in connection with finished paper.

A practical form of means for carrying out my method is represented in the accompanying drawings, in which, Figure 1 represents a detail vertical section through the cylinders of a rotary cylinder printing or embossing machine arranged to carry out my method; Fig. 2 represents a detail face view of the form cylinder; Fig. 3 represents a similar view of the impression cylinder with the roughened sheet in place; Fig. 4 represents a detail view of a piece of paper after being water-marked by the apparatus represented in Figs. 1, 2 and 3; Fig. 5 represents a detail vertical section through a rotary flat bed printing or embossing machine, with the surface of the impression cylinder roughened, arranged to carry out my method by a modified means: Fig. 6 represents a detail face view of the form; Fig. 7 represents a detail face view of the impression cylinder, showing the roughened portion, and Fig. 8 represents a detail view of a piece of paper water-marked by the apparatus represented in Figs. 5, 6, 7.

Referring to the apparatus represented in Figs. 1 to 3 inclusive; the form cylinder is denoted by 1 and the impression cylinder by 2. The former is provided with the ordinary form or plate 3 secured thereon by the clamps 4 and screws 5. The impression cylinder is provided, at a point registering with the form or plate 3 on the form cylinder, with a roughened surface 6, which, in the present instance, consists of a sheet of textile fabric, such as linen, secured in position on the impression cylinder by clamps 7 and screws 8. The web or sheet to be marked is indicated by 9.

Referring now to the apparatus represented in Figs. 5, 6, 7; the bed of a rotary flat bed embossing or printing machine is indicated by 10, and the form 11 is held thereon by clamps 12. The impression cylinder is represented by 13 and is provided with the usual grippers 14 for receiving sheets to be marked from the sheet feeding table 15. The impression cylinder is further provided, at point adapted to register with the form on the bed, with roughened surfaces 16, indicated in the present instance by a multitude of fine adjacent protuberances. The sheet to be marked is denoted by 17.

In the apparatus set forth in Figs. 1, 2 and 3, as well as in that set forth in Figs. 5, 6, 7, the forms or plates 3 and 11 are provided on their faces with a raised character 18, in the present instance, A.

In operation, the sheets to be water-marked are subjected to the action of the cylinders represented in Fig. 1, or to the action of the cylinder and bed represented in Fig. 5. As a result, the character on the forms 3 or 11 will be embossed on the sheets in exact simulation of water-marks. The roughened surface of the impression cylinder causes the character to have a dull appearance as of a quantity of intersecting lines or adjacent marks.

It will be seen that this method is comparatively cheap and rapid and extremely desirable in that it permits the commercial water-marking of small lots of paper after the latter is manufactured.

It is to be understood that various changes may be made in the form, construction and arrangement of the means for carrying out my method; hence I do not wish to limit myself strictly to the mechanism herein shown and described, but

What I claim is:

1. The method of water-marking paper consisting in subjecting the paper to a direct contact with the form of a printing or em-

bossing machine while a roughened sheet is interposed between the paper to be marked and the impression surface.

2. The method of water-marking paper consisting in subjecting the paper to direct contact with the form of a printing or embossing machine while a sheet of textile fabric is interposed between the paper to be marked and the impression surface.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this fourth day of October 1909.

WILLIAM J. F. MAIDHOF.

Witnesses:
F. GEORGE BARRY,
HENRY THIEME.