THE WATER-MARKS IN PAPER.

IN connection with the history of early printing it is always a matter of interest, and sometimes a question of great importance, to determine the nature of the paper employed in the case of any particular work, and to verify the water-mark. Many writers have studied the various forms of marks used by the paper-makers of the fifteenth and sixteenth centuries, and have placed on record very numerous tracings and reproductions of the emblems and devices employed upon the different descriptions of paper. It is no uncommon thing to find in an old book that the paper may contain three or four different kinds of water-marks, and the mark may often furnish an important clue to the identification of the press, when all other indications are wanting. So far as I am aware, no attempt has hitherto been made to obtain a self-printed record of the water-marks in paper, and as this is a perfectly simple and easy process, and as the sun-picture may with a little care and trouble be made to furnish, in the case of blank paper an absolutely perfect facsimile, not only of the mark itself but also of all the other wire-marks, and even the imperfections of the paper, it seems to be a process worthy of mention and, perhaps, of a more extended trial than the author of this notice has been able to undertake. The method of pro-

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cedure is simply as follows: the paper containing the mark is employed as a photographic negative, and bright light, either direct sunlight or reflected light, is caused to pass through the paper to a sheet of sensitive printing paper placed against it at the back. An exposure of from ten to fifteen minutes, in accordance with the thickness of the paper, suffices to obtain a print of the water-mark and wire-marking, which can then be developed, toned and fixed in the usual way, and by this means an absolutely perfect record is obtained of all the markings in the paper. It is convenient to place the page and the photographic printing paper between two sheets of glass to keep them quite flat.

I give here, as specimens of this process, fig. 1, the mark of the hand and star, found on the paper used by Ulrich Zell for the printing of the 'Sermons' of St. Chrysostom about 1470; fig. 2, the unicorn mark, used on thin paper, in a work printed at Paris by J. Badius, in 1532, 'De Philologia,' by Gulielmus Budæus. With the marks of this kind I have found the 'Paget prize' paper, which is self-toning, gives very good results, but in some cases the very rapid papers, such as the 'Velox' may be used with advantage, especially with artificial light. It is possible with a strong transmitted light to get on this latter paper by this means very good records of printers' marks, initial letters and various book ornaments, in white on black; printing them through the paper direct, and avoiding the necessity for making a negative. Of course the paper must be printed on one side only.

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SELF-PRINTED FACSIMILES OF WATER-MARKS.