UNITED STATES PATENT OFFICE.

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MANUFACTURE ON THE PAPER-MACHINE OF PAPER HAVING RELIEF-LIKE EFFECT.

No. 918,525. Specification of Letters Patent. Patented April 20, 1909.

Application filed May 28, 1908. Serial No. 435,506.

To all whom it may concern:

Be it known that I, KUNO FRANZ, a citizen of the Empire of Germany, residing at Höchst-on-the-Main, Germany, have invented certain new and useful Improvements in the Manufacture on the Paper-Machine of Paper Having Relief-Like Effect, of which the following is a specification.

By this invention there are produced on the paper web while it is still moist and on the wire-cloth or the wet-felt, patterns in elevations and depressions by means of rollers on which are corresponding patterns in deeply engraved relief, and there is then sprayed on the web a dye-solution from nozzles, arranged in known manner, at an acute angle to the surface; or the dye-solution is applied by means of felts which dip at one end in a color bath and trail on the paper web. Only the elevations are dyed and the more so the higher they are, whereas the depressions as well as the places behind the elevations remain uncolored. A certain relief-like effect is thus produced so that after treatment the paper presents a good imitation of crocodile-leather, plaited- or wicker-work and the like. The effect may be enhanced by applying to or spraying on the web different dye-solutions. It is best to place the roller for impressing the pattern on a part of the wire-cloth or the wet-felt, where the paper web is already desiccated in large measure; it is also advantageous to arrange beneath the wire-cloth or felt opposite the roller a suction box which helps to prevent the paper pulp from sticking to the roller. The impressed and colored paper, is finished in the usual manner, and, although it is afterward calendered, it acquires the effect of having a pattern in relief. This paper is intended to be used for book-binding, wrapping-paper and the like.

Having now particularly described my invention, what I claim is:

1. The process for the manufacture of paper having a relief-like effect which consists in impressing on the paper web, while in a partly desiccated condition on the wire-cloth or wet felt, patterns in elevations and depressions by means of rollers which have corresponding patterns in relief, applying color to the elevations only of the web and finally finishing the paper in the usual manner.

2. The process for the manufacture of paper having a relief-like effect which consists in impressing on the paper web, while in a partly desiccated condition on the wire-cloth or wet felt, patterns in elevations and depressions by means of rollers which have corresponding patterns in relief, applying color to the elevations only of the web by means of nozzles which spray dye-solutions on the paper web at an acute angle to the surface, and finally finishing the paper in the usual manner.

3. A paper web having on its upper surface a colored design having a relief-like effect, such design being produced by impressing on the paper web, while in a partly desiccated condition on the wire cloth or wet felt, patterns in elevations and depressions, applying color to the elevations only of the web, and finally finishing the paper in the usual manner.

In testimony whereof, I affix my signature in presence of two witnesses.

KUNO FRANZ.

Witnesses;
JEAN GRUND,
CARL GRUND.