

UNITED STATES PATENT OFFICE.

ARTHUR BOTT, OF ALBANY, NEW YORK.

ALBUMENIZED PAPER.

SPECIFICATION forming part of Letters Patent No. 463,326, dated November 17, 1891.

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To all whom it may concern:

Be it known that I, ARTHUR BOTT, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Albumenized Paper; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to the production of an improved paper for photographic printing, and has for its object to prevent the albumen coating, which is to receive the subsequent sensitized coating of silver, from sinking into the body of the paper. To this end I interpose between the albumen coating and the surface of the paper an intermediate stratum or layer of a suitable mineral—such as sulphate of barytes (commercially known as “blanc fixe”) or its equivalent—capable of receiving a very high finish, and whose adherence to the paper surface is insured by means of an adhesive waterproofing composition with which it is intermixed prior to its application.

The result attained by my invention is a paper for photographic printing wherein the albumen coating is separated from the body of the paper by a smooth even resistant substratum of a mineral character impervious to the albumen itself, and which serves as a barrier to prevent any impurities in the paper from affecting the albumenized surface, or through such surface the sensitized coating of silver subsequently applied. By reason of these distinguishing characteristics of my improved paper it is capable of rendering the finest detail heretofore lost in the use of the ordinary albumenized paper, and it permits the employment, while still insuring these radically better effects, of a paper requiring less care, time, and skill in its manufacture, and consequently of considerably lower cost.

In carrying out my invention I first prepare a highly-sized and highly-calendered paper free from metallic substances, which paper is to constitute the main body portion of the final product. Upon the surface of this paper I apply by any of the ordinary ma-

chines well known in the art for such purposes a coating consisting of a mineral substance—such as sulphate of barytes, (blanc fixe,) china-clay, Cremnitz white, or zinc-white—intermixed in such suitable proportion with any of the well-known waterproofing adhesive compositions as to form a flowing paste that can be readily spread upon the paper by the machines just referred to in such manner as to effectually coat the paper with a thin layer, whereupon I “finish” the said surface and calender it very highly, thereby producing the smooth, even, resistant, and water-proof mineralized facing desired.

It will be understood that the mineral substance employed is, when added to the waterproofing composition, either an impalpable powder or in the form of a paste prepared from said powder, this minute state of subdivision being essential to the production of the smooth highly-finished facing. The mineral substance must also be carefully and thoroughly incorporated with the constituents of the adhesive or waterproofing composition, so as to produce a homogeneous mixture throughout, thereby securing uniformity in the final product. The constituents of the adhesive or waterproofing composition and the proportions thereof for use with different kinds of minerals may be considerably varied, as will be apparent to those skilled in the art. Both the paper itself and the composition should, however, be devoid of acid, and the mineral should be in such large proportion to the ingredients of the composition that the highly-calendered facing will be essentially a mineral facing made adherent and water-proof by the composition and by the finishing and calendering operations. For the adhesive composition I have successfully employed a solution in water of shellac, borax, and alum with gelatine, starch, or arrow-root; but, as I have said before, such compositions are well known in the art, and I do not therefore restrict myself to the employment of any particular one. In so far as the mineral is concerned I have secured the best results by the employment of sulphate of barytes, (or blanc fixe.)

It will be understood that after the highly-

calendered mineralized facing is produced I apply the albumen coating thereon in the usual manner.

Having thus described my invention, what I claim is—

1. The process of preparing an improved albumenized paper for photographic purposes, which consists in providing the paper previous to the application of the albumen with a water-proof mineral facing, substantially as described.

2. As a new article of manufacture, paper having a water-proof mineral facing and a

coating of albumen thereon, substantially as described.

3. As a new article of manufacture, paper having a water-proof facing of sulphate of barytes and a coating of albumen thereon, substantially as described.

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

ARTHUR BOTT.

Witnesses:

JOSEPH ROY,

J. A. GOLDSBOROUGH.