UNITED STATES PATENT OFFICE.

FREDERICK BECK, OF NEW YORK, N. Y.

WALL-PAPER.

SPECIFICATION forming part of Letters Patent No. 388,472, dated August 28, 1888.

Application filed May 31, 1887. Serial No. 239,872. (No specimens.)

To all whom it may concern:

Be it known that I, FREDERICK BECK, a citizen of the United States, and a resident of New York City, in the county of New York and State of New York, have invented certain new and useful Improvements in Wall-Papers, of which the following is a specification.

My invention relates to improvements in the manufacture of paper or sheathing, principally used for wall and ceiling covering, although applicable to many other uses; and it consists, broadly speaking, in a waterproofed sheet of paper placed between a facing and a relatively thin paste-receiving backing sheet, whereby a compound sheet is formed which will not be detrimentally acted on by the adhesive material used for attaching it to the wall or ceiling, which will have a decorated outer surface which may be embossed as desired, which will retain permanently the sharpness of the embossing, and which, owing to the paste-receiving sheet being thin relatively to the waterproofed sheet, consequently having but little paper-stock, will not have paste-absorbing properties sufficient to materially enlarge the size of the sheet or to curl it when the paste is applied.

In making my improved paper I proceed as follows: I take first an ordinary sheet or roll of sufficiently strong and hard paper and coat it on one or both sides with a resinous varnish, a shellac, a deodorized tar, or equivalent tenaceous and waterproofing compound or substance. There are many such substances known in the arts, and I do not limit myself to any special material for this purpose. I then attach to each side of this waterproofed "base-sheet," as I will hereinafter call it, a sheet of paper or muslin or other equivalent material, one of them preferably ornamented, to act as the exposed surface of the paper, and the other may be plain, it being on the back side of the compound sheet and receiving the paste; and in order that these sheets may be firmly attached to the base-sheet, I preferably, but not necessarily, pass them all together through heated rollers forming part of any suitable machine, the sheets being preferably under some tension to secure absence of wrinkles. The heat from the rollers strikes through the outer sheets and melts or softens the coat of tenaceous waterproofing material on the base-sheet, making it sticky, and the pressure of the rollers while the waterproofing material is thus adhesive firmly squeezes the three sheets together, thus uniting them all together and constituting when completed a single compound sheet formed of the waterproofed base-sheet lined on both sides with the outer sheets. After the compound sheet has been thus formed it is passed through embossing-rollers, preferably arranged immediately in advance of the heated rollers and in the same machine, whereby the embossing is performed before the waterproofing material has entirely cooled or set and solidified. This is not essential, however. The embossing may be done on a separate machine, and, moreover, the embossing-rollers may be heated if desired, to partially soften the waterproofing material. The embossing is apt to be more sharp and permanent if it be produced while the adhering and waterproofing material is still somewhat soft. If preferred, the uniting-rollers may themselves be the embossing-rollers, so that the uniting and the embossing operations are performed simultaneously.

As before stated, the base-sheet is usually covered on both sides with an outer sheet, and these sheets, as also stated, may be, and usually are, different on different sides of the base-sheet, and they are preferably different, not only in finish or quality, but also in thickness, the sheet that is to go against the wall and upon which the paste is to be applied being thin and having but little body as compared with the waterproofed base-sheet. Its function is simply to enable the paste to take hold of the compound sheet, because it would not very well take hold of the surface of the "greasy" so-called waterproofing material, and the reason for having this paste-receiving sheet thin and without much body relative to the base-sheet is in order that there may be but little paper-stock for the paste to act on to swell it up. Thus the heavier base-sheet and the exterior surfacing-sheet will control this thin paste-receiving sheet, and there will be but little, if any, tendency on the part of the compound sheet to curl at the edges on the application of the paste, and the waterproofing material, preventing the penetration of the paste into the base-sheet, protects all parts of the compound sheet except the thin backing-

piece from being acted on by the paste, and consequently the dimensions of the compound sheet remain always the same. The surfacing material which is attached to the exposed face of the interior waterproofed base-sheet may be any suitable paper, such as the mica papers, grounded or tinted papers, and, in fact, any desired paper or cloth or other desired fabric, which may be decorated as preferred.

From the foregoing it is obvious that my papers may be made plain—that is, without embossing—and also that the waterproofing substance may be placed on one side only of the base-sheet and the relatively thin material to which the paste is applied be secured to the waterproofed side of the base-sheet, and in this case the second or exposed surfacing sheet may be altogether omitted. When I practice my invention according to this plan, I prefer to employ as the base sheet a paper which is itself decorated on the exposed surface at least, and I also emboss the sheet thus formed or made in the same manner as heretofore described.

I prefer that all the sheets of material should be in rolls, so that the operations of uniting and embossing may be continuous. This is not essential, however.

Having described my invention, I claim—

1. As a new manufacture, the herein-described compound waterproofed paper, composed of a base sheet of paper treated with a waterproofing material and having a thinner sheet for the reception of the paste secured thereto, substantially as set forth.

2. As a new manufacture, the herein-described compound waterproofed paper, composed of a base-sheet of paper treated with a waterproofing material and having a thinner sheet of paper for the reception of the paste secured thereto on one side and another decorated surfacing-sheet attached to the other side thereof, substantially as set forth.

3. As a new manufacture, the described compound waterproofed and embossed paper, composed of an embossed base sheet of paper treated with a waterproofing material and having a surfacing-sheet of thinner paper for the reception of the paste secured thereto, substantially as set forth.

4. As a new manufacture, wall-paper comprising an interior waterproofed base-sheet of paper and a thinner backing sheet, and another sheet attached to the opposite side of the waterproofed base sheet, substantially as set forth.

Signed at New York, in the county of New York and State of New York, this 28th day of May, A. D. 1887.

FREDERICK BECK.

Witnesses:
W. J. ANDERSON,
THOS. J. WAY.