

(No Model.)

W. H. HOWES & J. JACK.

CARPET LINING.

No. 315,503.

Patented Apr. 14, 1885.

FIG. 1.

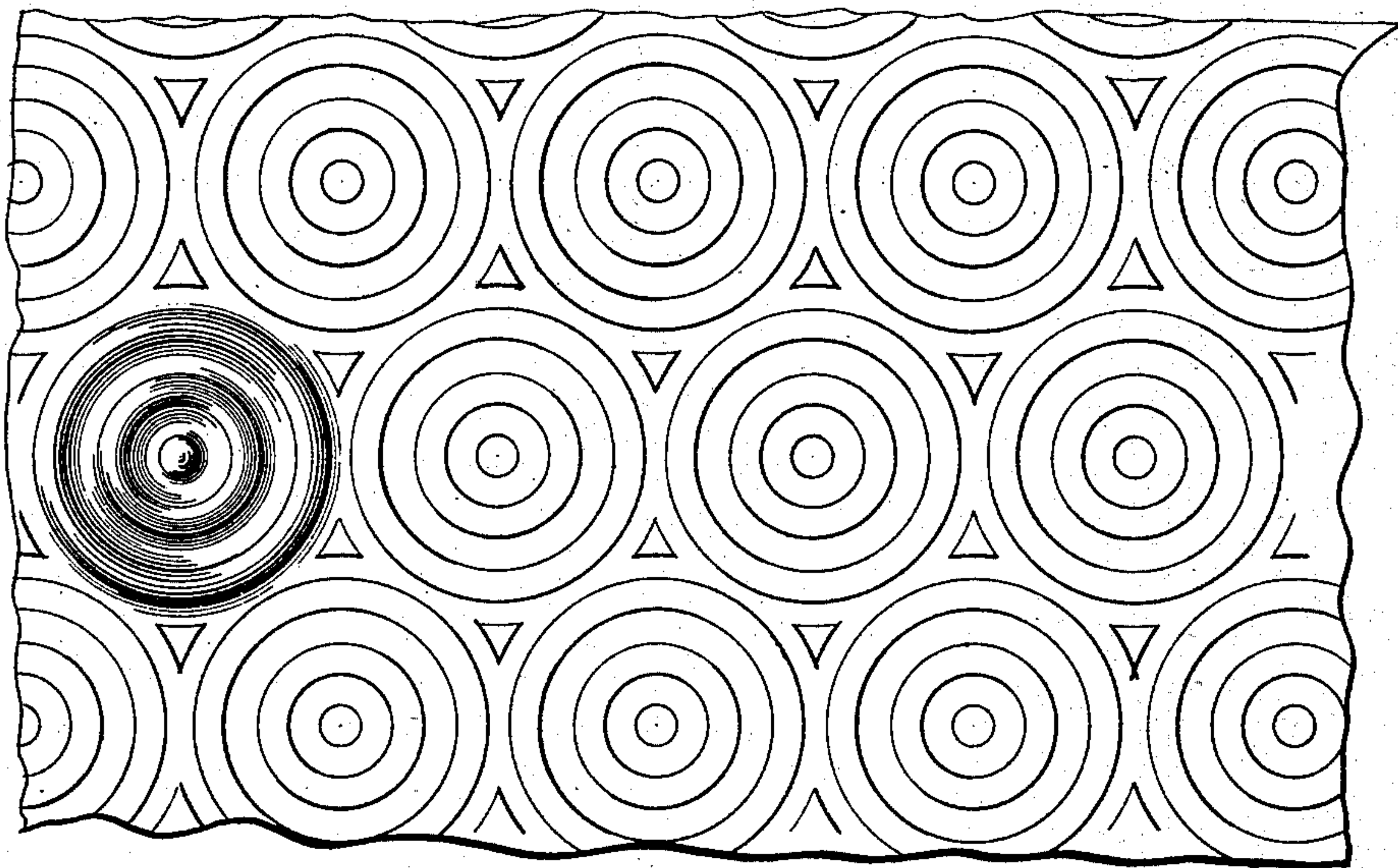
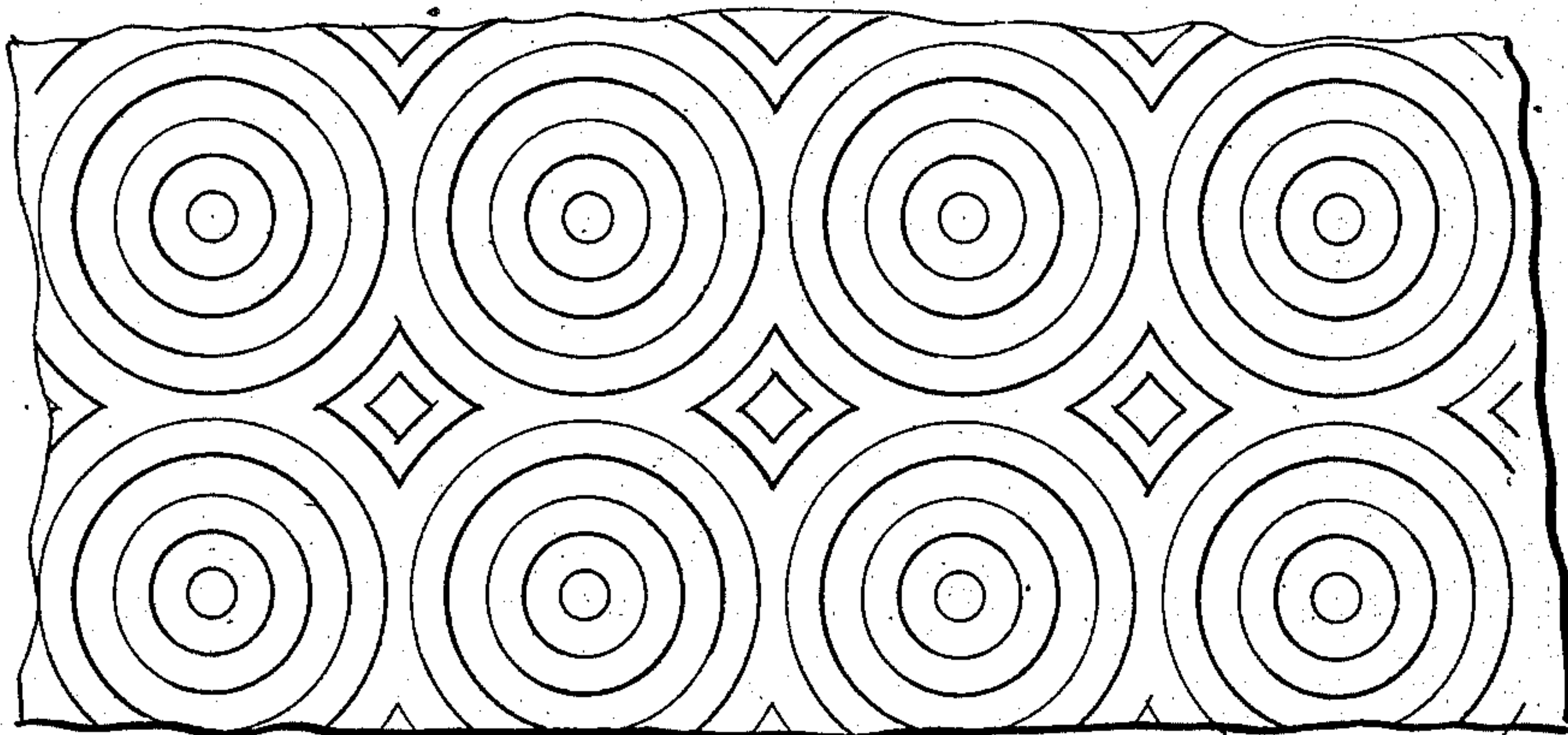


FIG. 2.



FIG. 3.

Witnesses:

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UNITED STATES PATENT OFFICE.

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CARPET-LINING.

SPECIFICATION forming part of Letters Patent No. 315,503, dated April 14, 1885.

Application filed February 2, 1885. (No model.)

To all whom it may concern:

Be it known that we, WILLIS H. HOWES and JOHN JACK, both of Lockport, New York, have jointly invented certain new and useful
5 Improvements on Carpet-Linings; and we do hereby declare that the following description of our said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification,
10 which will enable others skilled in the art to which it appertains to make and use the same.

Our present invention has general reference to an improved article of manufacture—paper for packing, lining, and other analogous pur-
15 poses; and it consists, essentially, in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claim.

20 In the drawings already mentioned, which serve to illustrate our said invention more fully, Figures 1 and 2 are plan views of our improved paper. Fig. 3 is a transverse sectional view of the same.

25 Like parts are designated by corresponding letters of reference in all the figures.

The object of our present invention is the production of packing and lining paper that shall be more elastic and better adapted for
30 carpet-lining than any similar article heretofore produced.

Carpet-lining, as heretofore made, consists, principally, of the usual unsized or but slightly-sized paper, formed into corrugated sheets,
35 said corrugations consisting either of straight undulatory lines or of zigzags, or else the paper is embossed with a series of alternate hollow bosses or elevations and depressions arranged in oblique lines on both surfaces of the
40 fabric. In either case, however, except where the corrugations consist of parallel undulations or raised and depressed portions, these projections, bosses, or angularly-arranged corrugations are so slight as to render the paper
45 or fabric nearly flat and unfit for its designated purpose, the non-adhesive nature of the unsized fabric preventing the production of so-called "embossed paper" otherwise than to a very limited extent only. In paper having
50 alternate bosses these bosses, if of a sufficient depth to produce the desired elasticity of the

fabric, will cause numerous breakages in the paper, while if sufficiently shallow to avoid breakage they are practically useless, the theory being that upon a comparatively small
55 surface the fabric will not yield sufficiently to allow the production of such bosses. To avoid these objections and drawbacks, which is the object of our present invention, we produce in the paper a continuous series of concentric
60 rings or alternate concentric undulations, as shown in Figs. 1 and 2, the groups of annulus being either arranged as shown in Fig. 1—that is to say, in line both vertically and horizontally, or staggering, as illustrated in Fig. 2—
65 the individual group of circles being separate and distinct from its adjacent groups, and the space produced at or near the intersections of the circles filled with either rectangular or triangular bosses or projections, as shown in
70 Figs. 1 and 2, the transverse section of the paper, as shown in Fig. 3, being a series of undulations or waves having their apex at regular intervals, the whole being of rather
75 pleasing design, and, owing to the peculiar configuration, more elastic than any other similar fabric, and yet not more difficult to produce than any other lining-paper with which we are acquainted.

In producing this paper, we arrange a series
80 of embossing-rolls at a desirable station in the series of drying-cylinders, preferring, however, to place them immediately next to and succeeding the thirteenth cylinder, when the paper is in such a moist state as to readily
85 conform to the embossing-rolls, and yet already sufficiently coherent to allow its passage through said rolls and then over the drying-cylinders in the usual manner. It is evident that this paper may be produced in either
90 plain sheets or lined, at the option of the manufacturer, the configuration of the undulations being such as not in any way to interfere with the lining, if thought desirable.

It will be readily observed that in place of
95 concentric rings alternating as described helical, elliptical, oval, or other analogous scroll-like groups of undulations may be substituted for the concentric annular alternating projections and depressions without changing the
100 nature of or departing from our invention. It will be further observed that, owing to the

peculiar configuration of the undulations, there is no possibility of the paper curling up or folding in any direction, the undulations being nowhere in a straight line, thereby securing a
5 paper much better adapted for its designated purpose than any other heretofore produced where the flutes run parallel in straight lines or in the same direction.

Having thus fully described our invention,
10 we claim as new and desire to secure to us by Letters Patent of the United States—

As an improved article of manufacture, a

carpet-lining and analogous paper or fabric having a series of groups of annular concentric undulations arranged in relation to each other, as described, and for the objects specified. 15

In testimony that we claim the foregoing as our invention we have hereto set our hands in the presence of two subscribing witnesses.

WILLIS H. HOWES.

JOHN JACK.

Attest:

CHAS. G. ROGERS,

J. J. ARNOLD.