June 15, 1948. G. MICHAELIS 2,443,358

PRODUCTION OF RUGS, CARPETS, AND THE LIKE

Filed Jan. 16, 1945

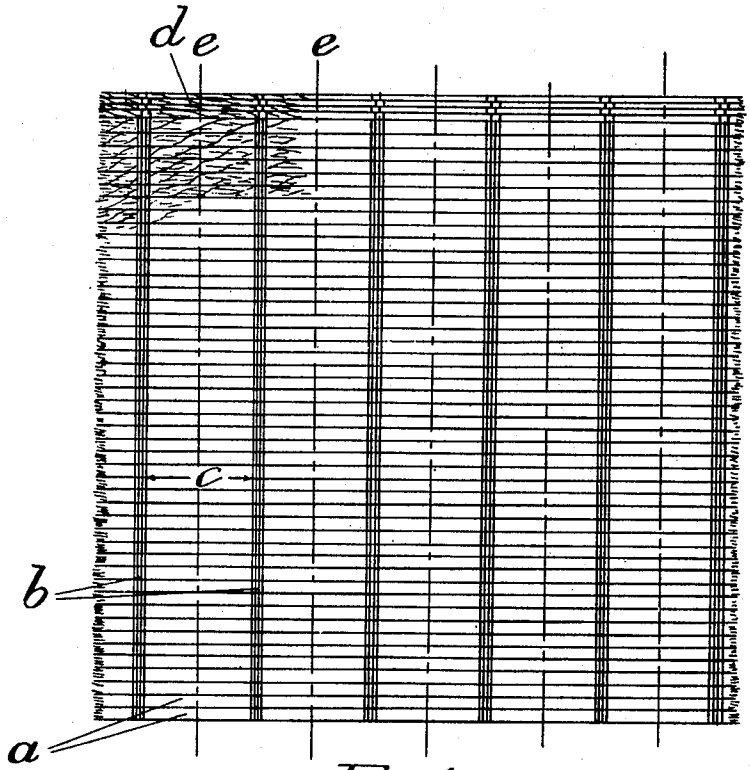

Fig. 1

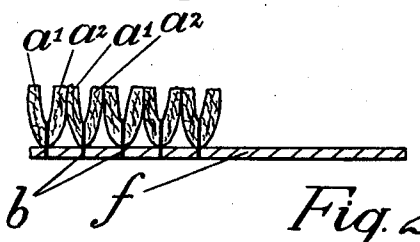

Fig. 2.

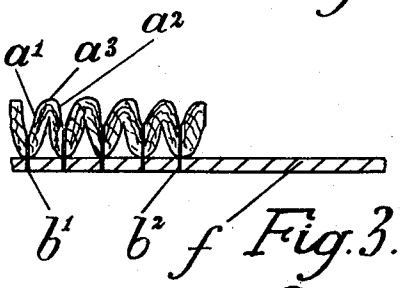

Fig. 3. Inventor

G. Michaelis

By Glascock Downing & Seibold

Attys.

SEARCH ROOM

Patented June 15, 1948

2,443,358

UNITED STATES PATENT OFFICE

2,443,358

PRODUCTION OF RUGS, CARPETS AND THE LIKE

Gustav Michaelis, Kenton, England

Application January 16, 1945, Serial No. 573,076
In Great Britain June 21, 1944

3 Claims. (Cl. 2—278)

1

This invention relates to the production of rugs, carpets, covers, cushions and the like.

The main object of the invention is to provide an improved method of making rugs and the like without using a loom.

The invention consists in producing a fabric comprising wefts of wool, fibre or any other suitable material placed parallel in close contact with each other and united together along lines at right angles to the wefts over a length corresponding to one of the two dimensions or portions thereof, of the intended rug, carpet or the like and at such distances apart from each other as required for the desired pile of the rug or the like, said distances being approximately double the height of the intended pile, and attaching the fabric to a prefabricated backing along the junction lines of the wefts with the said junction lines close together with the portions on either side of each junction line bent up on the prefabricated backing to form the pile.

The fabric may be produced in two or more superposed layers of wefts, joined together along the same lines.

The fabric may be used for the production of the rug or the like in different, and more particularly two, ways.

According to one mode the fabric may be cut into strips along lines intermediate the lines of the weft junctions, or centrally with respect thereto, which strips are then attached to a backing along the said junction lines with the two sides of the strips bent upwards with respect to the backing to form the pile, the lines of attachment to the backing thus being more or less close together. This method of manufacture of rugs or the like from strips of the character referred to, but each produced separately, and not cut from a fabric obtained according to the main feature of the invention, is known and does not come within the scope of the present invention.

According to another method, which is the second feature of the present invention, the fabric referred to is first attached to the backing along one junction line of the wefts, the adjacent portion lying between the said junction line and the next one being then so pushed in as to get the two junction lines more or less close together, the wefts lying in between being thereby raised in the form of loops to form the pile, and the fabric being then attached to the backing along the second weft junction line, and so on. The loops may then be cut along their tops or be left uncut.

The joining together of the wefts of the fabric

2

on the lines along which they will be jointly attached to the backing to form the rug or the like may be effected in any suitable manner, preferably by a number of warps, e. g. a group of four cotton threads close to each other.

In some cases, the joining together of the wefts may be effected along two lines at a short distance from each other and the attachment to the backing be effected in between the said lines; in one instance, for example, by using the short portion between the two lines in the form of loops, pulled through the backing and held together by a thread.

The fabrics may be made of any desired width, and the distances between the weft junction lines may be the same or varied in order to produce a uniform pile or a pile with a pattern in it.

A definite length of fabric is required for each particular width or length of rug or carpet. After the manufacture of each such length or portion thereof, there is woven in a number of fine wefts to form a cutting line in a manner known in the weaving industry, the process of manufacture being continued as before, thereby producing a more or less great length of fabric, subdivided into sections of the required lengths. It is, of course, to be understood that this line of demarcation between the individual lengths may be provided in any other convenient manner.

All the wefts may be of one and the same colour. Further, all kinds of coloured designs may be obtained by printing the fabric in colours or by using wefts of different colours.

Use may be made of any suitable material for the backing, but preferably of such which are soft or felt-like, such backing being cut to correspond to the actual size of the final rug or carpet.

The attachment of the fabric or of the strips cut therefrom to the backing along the junction lines of the wefts, may be effected in any convenient manner, such as, for instance by hand sewing or by means of a sewing machine, by crocheting, intertwining, glueing, etc.

Referring to the accompanying diagrammatic drawings illustrating one mode of carrying the invention into effect:

Figure 1 shows a portion of the length of fabric in plan view,

Figure 2 illustrates in transverse section a portion of a rug produced in a known manner from strips cut from the fabric, and

Figure 3 shows in transverse section a portion of a rug produced from such a fabric according to one of the features of the present invention.

a are the wefts of wool or the like and b are the cotton warps by which the wefts are joined together at distances c of say, about ½" to 1". d is the cutting line of thinner wefts provided at the ends of each length.

Prior to the manufacture of the rug, the fabric may be cut into strips along the central lines e and be attached along the junction line b to a backing f by sewing or otherwise, as already known, and as shown in Figure 2, the two sides a^1, a^2 of each strip being bent upwards to form the pile, the height of which is approximately half the width c.

Alternatively, according to the second feature of the present invention, the fabric may be attached to the backing f as follows: The fabric is first secured to the backing along the first weft junction line b^1 by sewing or otherwise, whereupon, preferably by means of a removable flexible wire, rope or the like (not shown), the weft portion between b^1 and b^2 is lifted up and pressed towards b^1 and the fabric is again secured to the backing along the weft junction line b^2, this process being continued until the whole width of the fabric is used up, whereupon further widths of the fabric are added on in the same manner until the rug is completed. The loops a^1, a^2 forming the pile, the height of which is again approximately half the width c, may be left as they are or be cut along their tops a^3 by means of suitable knives or a pair of shears.

If desired, the final rug may be bound all round in a known manner, and fringes may be provided at both its ends. These may for instance be produced from the actual fabric by letting one or more strip-like sections hang over beyond the backing and by removing the warps b thereof. The wefts forming the fringes may be left as they are or be knotted together.

In order to impart the right finish to the rug or carpet the same is preferably steam treated and its surface carefully sheared.

It is to be understood that in this specification the expressions "wefts" and "warps" are interchangeable.

The details for carrying the invention into effect may be modified without departing from its scope.

I claim:

1. The method of making rugs, carpets and covers without a loom consisting in producing a fabric comprising wefts placed parallel in close contact with each other and united together along lines at right angles to the wefts over a length corresponding to one of the two dimensions, or portions thereof, of the intended rug, carpet or cover, and at such distances apart from each other as required for the desired pile, said distances being approximately double the height of the intended pile, and then attaching the fabric to a prefabricated backing, first by securing it along a junction line of the wefts, then lifting up the weft portion of the fabric between the said first junction line and the next one and shifting it towards the first junction line to form a loop, thereupon securing the fabric to the backing along the said next junction line, and then continuing in the same manner the operation of fixing the fabric to the backing until the rug is completed.

2. A method of making rugs, carpets and covers without a loom consisting in producing a fabric comprising wefts placed parallel in close contact with each other and united together along lines at right angles to the wefts over a length corresponding to one of the two dimensions, or portions thereof, of the intended rug, carpet or cover, and at such distances apart from each other as required for the desired pile, said distances being approximately double the height of the intended pile, and then attaching the fabric to a prefabricated backing, first by securing it along a junction line of the wefts, then lifting up the weft portion of the fabric between the said first junction line and the next one and shifting it towards the first junction line to form a loop, thereupon securing the fabric to the backing along the said next junction line, and then continuing in the same manner the operation of fixing the fabric to the backing until the rug is completed, finally cutting the tops of the loops formed by the weft portions between two of their junction lines.

3. A method of making rugs, carpets and covers without a loom consisting in producing a fabric comprising wefts placed parallel in close contact with each other and united together along lines at right angles to the wefts over a length corresponding to one of the two dimensions, or portions thereof, of the intended rug, carpet or cover, and at such distances apart from each other as required for the desired pile, said distances being approximately double the height of the intended pile, and then attaching it to a prefabricated backing, first by securing it along a junction line of the wefts, then lifting up the weft portion of the fabric between the said first junction line and the next one and shifting it towards the first junction line to form a loop, thereupon securing the fabric to the backing along the said next junction line, and then continuing in the same manner the operation of fixing the fabric to the backing until the rug is completed, finally cutting the tops of the loops formed by the weft portions between two of their junction lines, end portions of the fabric being left hanging over the backing and their junctions being removed to free the wefts, which thus form fringes.

GUSTAV MICHAELIS.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
266,147	Hensel	Oct. 17, 1882
520,400	Cattlow	May 22, 1894
1,769,970	Silverman	July 8, 1930
2,003,741	Daughdrill	June 4, 1935
2,202,663	Lahey	May 28, 1940
2,293,008	Murdock	Aug. 11, 1942
2,379,085	Kahn	June 26, 1945

FOREIGN PATENTS

Number	Country	Date
4,120	Great Britain	Sept. 24, 1881
8,437	Great Britain	Apr. 14, 1903
228,727	Great Britain	Feb. 12, 1925