Oct. 26, 1954 C. PERNA 2,692,433

METHOD OF BLENDING DESIGNS

Filed Jan. 13, 1953 2 Sheets-Sheet 1

Fig. 1.

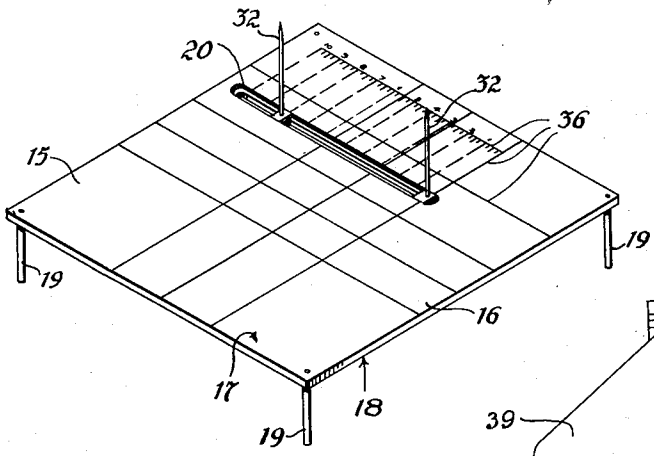
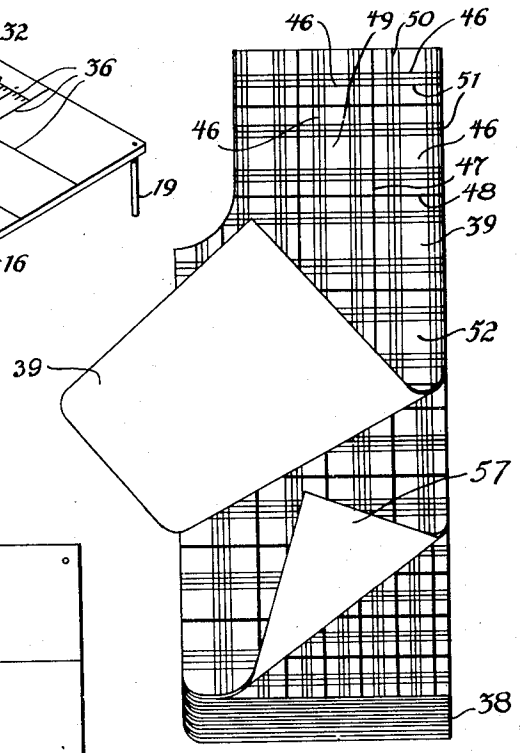


Fig. 4.



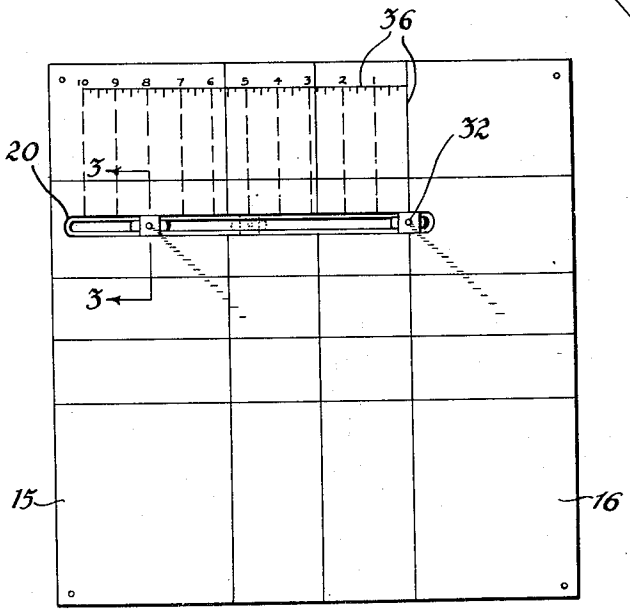


Fig. 2.

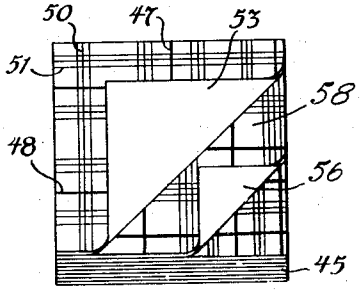


Fig. 5.

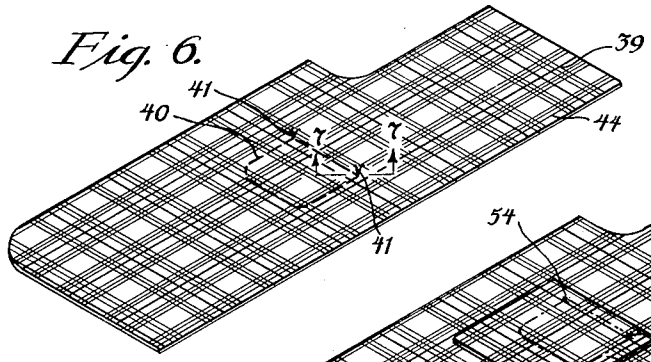
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Fig. 6.



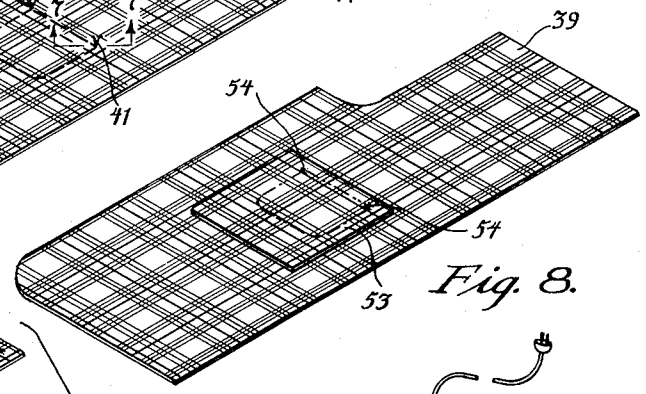


Fig. 8.

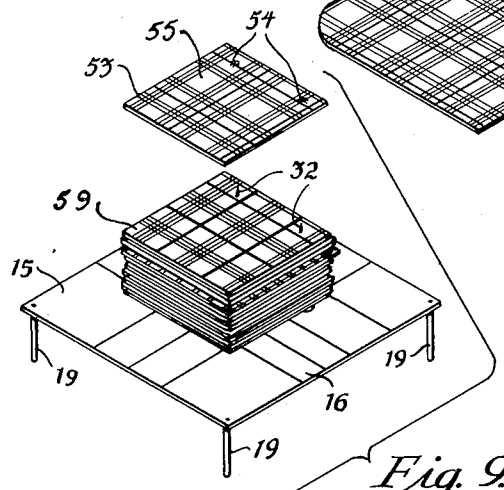


Fig. 9.

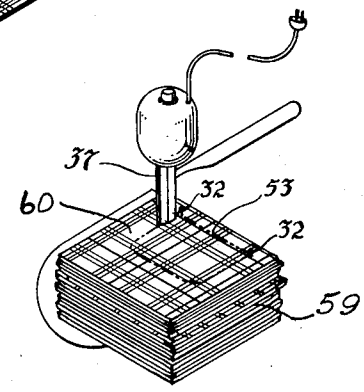


Fig. 10.

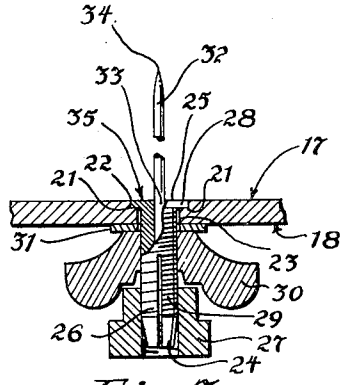


Fig. 3.

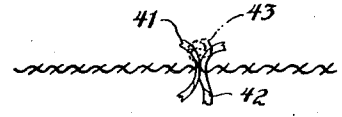


Fig. 7.

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Patented Oct. 26, 1954

2,692,433

UNITED STATES PATENT OFFICE

2,692,433

METHOD OF BLENDING DESIGNS

Charles Perna, Philadelphia, Pa.

Application January 13, 1953, Serial No. 331,002

4 Claims. (Cl. 33—17)

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My invention relates to the method of assembling and relating materials which are intended to be superimposed one upon another, and in such a manner that the designs or delineations borne by said materials will be in harmonious blend when they are thus superimposed.

In the tailoring art, and in certain other arts which require the superposition of one material upon another with the designs of the material in blended alignment, a particular problem has been to properly align the materials with the least amount of expenditure of time. Thus for instance, where patch pockets are required on the "front" of a coat, and the fabric is made of a plaid material, it is of importance to so cut the pocket out of the plaid material that the lines of the plaid of the pocket will be continuous with the lines of the plaid of the coat "front." The problem is not a simple one. The location of the pocket with respect to the "front" is fixed by the pattern. Yet when the pattern for the pocket is laid on the fabric out of which it is to be cut, there has been no guide readily to determine the proper location on the fabric for the pocket pattern to be placed in order to assure that the designs of the pocket will coincide in location with the designs of the "front" when the cut-out pocket is placed in its proper location on the "front." Only by meticulous care and constant "trial and error" procedure has it been possible hitherto for the tailor so to adjust the pocket fabric with respect to both the "front" and the pocket pattern that he has been able to cut the pocket in just the right location of the pocket fabric to enable the finished product to blend in design with the design of the "front" fabric. This has necessitated piecemeal operation which has been wasteful of fabric and very time-consuming and expensive.

One object of my invention therefore is to provide a method and means for determining the proper location on a material for the pattern according to which said material is to be cut, when the design borne by said material is to be blended with the design of another material on which the first material is to be superimposed.

Another object of my invention is to provide such a method and means which will enable large quantities of such materials to be processed in substantially one operation.

A further object of my invention is to provide such a method and means which is inexpensive, easily operated, and certain in results.

With the above and other objects in view, my invention consists of the method of locating a pattern on a piece of material whose design is to be blended with the design of a base material, with which it is to be incorporated, consisting of locating said pattern on the base material; indicating on said base material the location of said pattern thereon, and including disposing at least

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two indicators on said base material; providing a segment of material bearing a design which is to be blended with the design of said base material, said segment being of larger over-all dimensions than the dimensions of said pattern; superimposing said segment over that portion of said base material on which the location of said pattern has been indicated; adjusting said segment until its design blends with the design of said base material while said segment fully covers the indicated location of said pattern and said indicators; and marking on said segment the location of said indicators; removably mounting on a base member the same number of pins as there are indicators, and disposing said pins in parallel relation one to another, and the same distance one from another as the distance between said indicators; mounting said segment on said pins, with said pins passing through the portions of said segment which are marked as having been disposed immediately above said indicators; substantially repeating the process with respect to other segments to be cut out of the same pattern, for blending with their respective base materials, until a supply of segments is securely mounted on said pins; and substantially simultaneously cutting all of said segments in accordance with said pattern.

My invention further consists of apparatus to be used in blending the design of a segment with the design of a base material, and comprising a base member having an upper face and a lower face portion; a slot disposed through said base member and extending between said upper face and lower face portion; a plurality of collets mounted on said base member, and at least one of said collets being adjustably disposed within said slot, a pin member removably mounted in each of said collets and disposed substantially perpendicularly to said upper face, with the base portion of said pin disposed in said collets; and means to provide access to said collets.

My invention also consists of the elements, portions and combinations thereof as more fully described hereinafter.

For the purpose of illustrating my invention, I have shown in the accompanying drawings forms thereof which are at present preferred by me, since the same have been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangements and organizations of the instrumentalities as herein shown and described.

Referring to the drawings in which like reference characters indicate like parts:

Figure 1 represents a perspective view of an apparatus adapted to perform my novel method, and embodying my invention.

Figure 2 represents a plan view of the apparatus illustrated in Figure 1.

Figure 3 represents a sectional view, greatly enlarged, taken generally along the lines 3—3 of Figure 2.

Figure 4 represents a perspective view of a stack of base material cut from the same pattern and bearing a plurality of designs which are to be blended by similar designs of piece material which is to be cut according to a pattern and superimposed thereon, in accordance with my invention.

Figure 5 represents an enlarged perspective view of a pack of segments of design material which have been aligned in accordance with one stage of the method of my invention.

Figure 6 represents a perspective view of a coat "front" which has been cut out of a design material, and on which a patch pocket bearing the same design is to be aligned and secured, and showing one stage in the method of aligning said pocket, in accordance with my invention.

Figure 7 represents an enlarged sectional view taken generally along the lines 7—7 of Figure 6.

Figure 8 represents a perspective view similar to that of Figure 6, but showing a subsequent stage of the method of alignment, and embodying my invention.

Figure 9 represents a perspective view showing a further stage of my method, and showing the same in conjunction with the apparatus illustrated in Figures 1 and 2, and embodying my invention.

Figure 10 represents a subsequent stage of my method, showing the cutting procedure whereby a large quantity of piece material may be cut at the same time, and in a manner to assure perfect alignment of the piece material with the base material on which it is to be superimposed, and embodying my invention.

In utilizing the method of my invention, I find it helpful to provide an apparatus such as that illustrated in Figures 1 and 2 and designated by the reference numeral 15. This comprises a base member such as the platform 16 having an upper face 17 and a lower face portion 18. The platform may be mounted on suitable legs 19. A slot 20 is preferably formed through the platform 16 and extending between the upper face 17 and lower face 18 thereof. The slot 20 may be rabbetted as at 21 along its upper edge so as to provide an upper slotted portion 22 of greater width than the lower slotted portion 23. A suitable collet 24 is mounted on the platform 16, and may comprise an upper sleeve portion 25 and a lower, jaw portion 26 which may be compressed by a suitable nut 27, which may be knurled (not shown). The upper portion of the sleeve 25 preferably is outwardly flanged as at 28 to a width substantially equal to the width of the upper slotted portion 22 while the remainder of the sleeve is preferably of a width slightly less than the width of the lower slotted portion 23. The sleeve 25 and the preferably integral jaw portion 26 are preferably continuously exteriorly threaded as at 29 to receive in threaded engagement a wing nut 30 and the nut 27. A suitable washer 31 may be disposed between the wing nut 30 and the lower face 18, and the nut 27 is preferably disposed about the jaw portion 26 and beneath the wing nut 30.

A pin 32 is provided with a diameter substantially equal to, or very slightly less than the internal diameter of the sleeve 25, and comprises a shank or base portion 33 adapted to be inserted within said sleeve, and a pointed end 34 adapted to be disposed above the upper face 17 and spaced therefrom a suitable distance. In a preferred form, the axis of the sleeve 25 and pin 32 is normal to the upper face 17.

At least two collet and pin assemblies are provided, and may be both disposed within the slot 20, or one (not shown) may be substantially fixedly mounted on the platform 16 while the other is adjustably disposed within the slot 20. It will be observed that the adjustable collet assembly illustrated in Figure 3 permits the pin 32 to be inserted, held by, and removed from, the sleeve 25 and jaw portion 26 by means of the nut 27, while the collet itself may be adjustably disposed along the slot 20 and secured to its adjusted position by means of the wing nut 30 and flange portion 28 cooperating therewith. The upper face 35 of the upper end of the sleeve 25 with its flange portion 28 is preferably substantially coplanar with the face 17.

If desired, the face 17 may have delineated thereon suitable markings 36 to indicate locations and sizes with respect to the slot 20. The legs 19, in addition to support, serve to space the lower face 18 a distance from the table or other mounting to a height sufficient to enable the hand of the operator to have access to the collet mechanism so as to adjust the collet 24 along the slot 20 and to release or permit the insertion of the pins 32 therein.

The method of my invention is adaptable for use in blending the designs of superimposed materials of various kinds; and for purposes of illustration only, I have shown in the accompanying drawings the use of my method in the tailoring art. Thus, in the manufacture of a large quantity of coats or jackets from the same pattern but made of different fabrics or fabrics having different designs, the fabrics are laid one above the other and are all cut at one time by means such as the electric cutting machine 37 according to the given pattern. Accordingly, when the "front" of a jacket is to be cut, a stack 38 of fabrics of various designs is simultaneously cut into jacket fronts from the same pattern (not shown).

In making a large quantity of "fronts" of the same size and pattern, although not necessarily of the same design material, it is a standard practice to dispose a pattern, such for instance as a pattern having an outline 40 of a patch pocket, on its proper location on the top "front" of the stack 38, and to indicate this proper location on every "front" in the stack 38 by passing a stitcher through two arbitrarily chosen points in the pattern and extending said stitcher through all of the "fronts" beneath said points in said stack 38 until the stitcher has penetrated every "front" in said stack, and then to withdraw said stitcher therefrom while leaving in its place a substantial length of thread 42. Following this operation, it has been the practice to knot the ends of this thread and to separate each "front" from the length of thread by cutting a short length of said thread immediately beneath each "front" and if desired adjusting the length of thread so that in this thread-cutting operation there will be a short length of thread passing through each "front" at the arbitrarily chosen location thereof, and extending a short distance both above and below said "front." In this manner, every "front" of the stack 38 has disposed thereon two indicators 41 to designate the proper location of arbitrarily chosen reference marks

on the pattern. In practice, the arbitrarily chosen location of the reference marks is generally the upper corners of the pocket and thereby designates the limits of width of the pocket itself as well as the location of the corners of said pocket.

In accordance with the method of my invention, I may utilize the short lengths of thread thus disposed on the "front" as indicators for further steps in the process of my invention. If desired, however, I may provide other arbitrarily chosen indicators for said process. Also, I may provide the knot 43 or otherwise provide a tactile indicating means preferably on the upper face 44 of the "front" 39.

A stack 45 of segments of piece material may be provided, of material of the same design as the material in the stack 38, and located in the same order therein.

The designs borne by the fabrics in the stacks 38 and 45 each comprises component units 46 which are repeated substantially throughout the fabric. Each unit 46 in turn may consist of component elements such for instance as single warp lines 47 crossing the single weft lines 48 to form squares 49, and triple warp lines 50 crossing triple weft lines 51 to form smaller squares 52.

Each segment of the stack 45 is of a width equal to preferably at least the sum of the width of the pocket outline 40 plus the width of one design unit 46 for the design of the fabric of that particular segment, and the length of said segment is preferably at least the sum of the length of said pocket outline 40 plus the length of the said design unit 46.

The operator then takes the top segment 53 of the stack 45 and places it on the coat front 39 and over the indicators 41. He then adjusts the segment 53 until the design of the segment fabric blends with the design of the front fabric. Thus, in the case of the segment 53 wherein the segment was cut from the same fabric as the coat front 39, the design units 46 would be identical. In such case, presumably the most perfect blending would be the superimposing of the design of the segment 53 on the design of the front 39 in such a manner that the design of one would be continuous with the design of the other. Thus, the single lines 47 and 48 of the segment would be made to coincide with the respective single lines 47 and 48 of the front, and the triple lines 50 and 51 of the segment would be made to coincide with the respective triple lines 50 and 51 of the front. In this adjusting operation, the segment 53 is shifted about on the front 39 until both designs coincide and the border 54 of the segment completely surrounds the location of the outline 40. The operator then determines the location of the indicators 41 either by passing his fingers over the segment 53 until the locations of the tactile indicators 41 have been determined, or by lifting a portion of the segment until he visually determines the location of the indicators 41. He then indicates on the upper face 55 of the segment 53 the locations of the indicators therebeneath by making a suitable mark 54 on the segment 53 directly above the indicators 41 by any suitable means such as tailor's marking chalk, candle chalk, or the like.

The collet assemblies comprising the pins 32 are adjusted along the slot 20 until the pins 32 are spaced a distance equal to the distance between the indicators 41, and the wing nuts 30 are tightened so as to hold the pins 32 in place. Moreover, the pins 32 are adjusted to dispose

their tips 34 a distance above the upper face 17 equal to, or greater than, the height of the pack 45 of segments. The segment 53 is then mounted on the pins 32 by passing the pointed ends 34 thereof through the marks 54 thereon.

The top "front" of the stack 38 is then either thrown back or is laid aside. The next segment 56 is then removed from the pack 45 and is adjusted over the design of, and the indicators 41 on, the next "front" 57 of the stack 38, in the same manner as the segment 53 was adjusted on the "front" 39, and the locations of the indicators 41 on the properly adjusted segments 56 are similarly indicated on the upper face 58 of the segments 56 in the same manner as was done with the segment 53. The segment 56 is then similarly mounted on the pins 32. This process is repeated with all of the segments in the pack 45 with the respect to the "fronts" in the stack 38 until every "front" has had the proper segment appropriately adjusted in position thereon and the locations of the indicators 41 thereof marked on its respective segment, and said segment mounted in proper order on the pins 32. Moreover, in this process, the "fronts" are either thrown back in order to reveal the next adjacent "front" beneath them, and are thus kept in proper order, or they are laid aside, and in this laying aside process, I prefer to lay each processed "front" on the "front" which has been processed immediately before it. Thus, the stack of "fronts" is maintained in proper sequence to receive the segments when they have been cut according to the pattern.

When the last segment of the pack 45 has thus been marked and mounted on the pins 32, the resultant pack 59 is removed from the platform 16. This may be done by loosening the nut 27 and thereby releasing the pins 32 so that they may be lifted from the collet 24 and carried with the pack 59 when the pack 59 is lifted vertically from the platform 16. Alternatively, and preferably in the cases where the segments are made of fabrics such as wool, cotton, or the like, wherein the friction between adjacent segments is sufficient to hold them in place, the pins 32 may be allowed to remain mounted in their collets 24 and the pack 59 lifted bodily out of engagement with the pins 32. In either event, the outline of the pattern is disposed, as by delineation or otherwise, on the top segment 60 of the pack 59, as indicated at 53. A suitable cutting device, such for instance as the electric cutting machine 37, is then brought to bear on the pack 59 and simultaneously cuts all of the segments thereof in accordance with the outline 53, thus in one operation cutting the pocket out of each segment in its proper location on said segment with respect to the particular design of the fabric thereof, so that the design of that pocket will blend properly with the design of the "front" on which that pocket is to be mounted.

When the cutting operation is completed, it will be found that the cut-out pockets are in proper sequence for mounting on the "fronts" which are disposed in the stack. In the case of the thrown-back stack, if the "fronts" are thrown forward again, the sequence will be in inverse position, and the pack of cut-out pockets should then be turned upside down, whereupon the resulting top segment will be the proper segment to apply to the top "front," and all of the remaining segments will be in proper order.

I am aware that the invention may be embodied in other specific forms without departing from

the spirit or essential attributes thereof, and I therefore desire the present embodiments to be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

Having thus described my invention, what I claim as new and desire to obtain by Letters Patent is:

1. The method of locating a pattern on a piece of material whose design is to be blended with the design of a base material with which it is to be incorporated, comprising locating said pattern on the base material; indicating on said base material the location of said pattern thereon, and including disposing at least two indicators on said base material; providing a segment of material bearing a design which is to be blended with the design of said base material, said segment being of larger over-all dimensions than the dimensions of said pattern; superimposing said segment over that portion of said base material on which the location of said pattern has been indicated; adjusting said segment until its design blends with the design of said base material while said segment fully covers the indicated location of said pattern and said indicators; marking on said segment the location of said indicators; removably mounting on a base member a plurality of pins and disposing said pins in parallel relation one to another, and the same distance one from another as the distance between said indicators; mounting said segment on said pins, with said pins passing through the portions of said segment which are marked as having been disposed immediately above said indicators; substantially repeating the process with respect to other segments to be cut out of the same pattern, for blending with their respective base materials, until a supply of segments is securely mounted on said pins; and substantially simultaneously cutting all of said segments in accordance with said pattern.

2. The method of locating a pattern on a piece of material whose design is to be blended with the design of a base material with which it is to be incorporated, comprising locating said pattern on the base material; indicating on said base material the location of said pattern thereon, and including disposing at least two indicators on said base material; providing a segment of material bearing a design which is to be blended with the design of said base material, said segment being of larger over-all dimensions than the dimensions of said pattern; superimposing said segment over that portion of said base material on which the location of said pattern has been indicated; adjusting said segment until its design blends with the design of said base material while said segment fully covers the indicated location of said pattern and said indicators; marking on said segment the location of said indicators; providing a plurality of pins and mounting said segment on said pins, with said pins passing through the portions of said segment which are marked as having been disposed immediately above said indicators; substantially repeating the process with respect to other segments to be cut out of the same pattern, for blending with their respective base materials, until a supply of segments is securely mounted on said pins; and substantially simultaneously cutting all of said segments in accordance with said pattern.

3. The method of locating a pattern on a piece of material whose design is to be blended with the design of a base material with which it is to be incorporated, comprising locating said pattern on the base material; indicating on said base material the location of said pattern thereon, and including disposing at least two indicators on said base material; providing a segment of material bearing a design which is to be blended with the design of said base material, said segment being of larger over-all dimensions than the dimensions of said pattern; superimposing said segment over that portion of said base material on which the location of said pattern has been indicated; adjusting said segment until its design blends with the design of said base material while said segment fully covers the indicated location of said pattern and said indicators; marking on said segment the location of said indicators; providing a plurality of pins and disposing said pins in parallel relation one to another, and the same distance one from another as the distance between said indicators; mounting said segment on said pins, with said pins passing through the portions of said segment which are marked as having been disposed immediately above said indicators; substantially repeating the process with respect to other segments to be cut out of the same pattern, for blending with their respective base materials, until a supply of segments is securely mounted on said pins; and substantially simultaneously cutting all of said segments in accordance with said pattern.

4. The method of locating a pattern on a piece of material whose design is to be blended with the design of a base material with which it is to be incorporated; said design comprising a repetitious design element; said method comprising locating said pattern on the base material; indicating on said base material the location of said pattern thereon, and including disposing at least two indicators on said base material; providing a segment of material bearing a design which is to be blended with the design of said base material, said segment being of a length at least equal to the sum of the length of said pattern and the length of said design element, and of a width at least equal to the sum of the width of said pattern and the width of said design element; superimposing said segment over that portion of said base material on which the location of said pattern has been indicated; adjusting said segment until its design blends with the design of said base material while said segment fully covers the indicated location of said pattern and said indicators; marking on said segment the location of said indicators; providing a plurality of pins and mounting said segment on said pins, with said pins passing through the portions of said segment which are marked as having been disposed immediately above said indicators; substantially repeating the process with respect to other segments to be cut out of the same pattern, for blending with their respective base materials, until a supply of segments is securely mounted on said pins; and substantially simultaneously cutting all of said segments in accordance with said pattern.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
626,182	Marsden	May 30, 1899
943,947	MacKenzie	Dec. 21, 1909
2,589,105	Maiocchi	Mar. 11, 1952
2,605,921	Johnson	Aug. 5, 1952