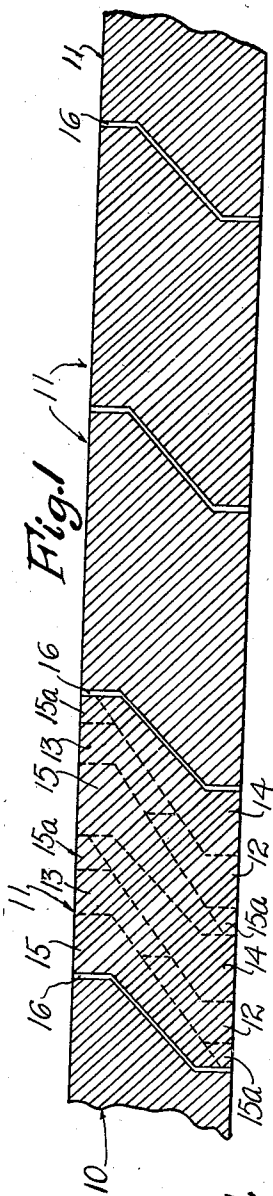
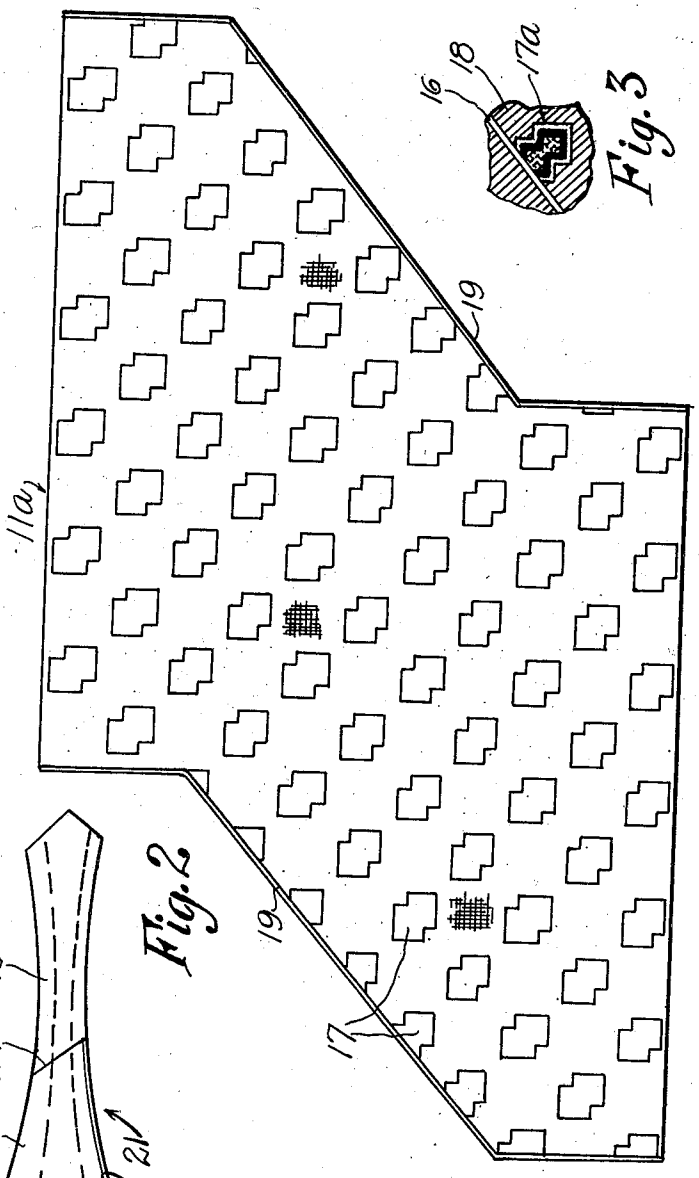
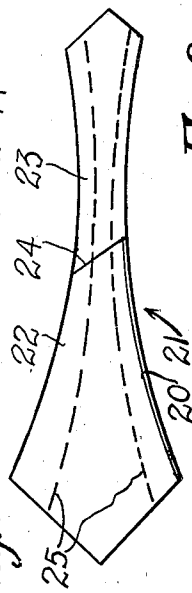
May 21, 1946. J. C. McCURRACH 2,400,700

SCREEN PRINTING OF NECKTIE FABRICS

Filed Oct. 7, 1942







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Patented May 21, 1946

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UNITED STATES PATENT OFFICE

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SCREEN PRINTING OF NECKTIE FABRICS

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Application October 7, 1942, Serial No. 461,210

2 Claims. (Cl. 101—129)

This invention relates to the screen printing of fabrics and the manufacture of articles, particularly neckties.

Since a necktie is a relatively small decorative article, it is subjected to careful examination disclosing any small blemishes such as those which frequently occur in the screen-printed fabrics, for instance, foulards. In screen printing successive sections of a length of cloth, the printer relies upon considerable care and skill in attempting to cause the printing of adjacent sections to register with each other to produce continuous unbroken printing free of blemishes. As often as not, he obtains only partial register between the successive sections. To appreciate the difficulty, assume that the printed background color is red; aside from the other design features which may aggravate the trouble, if the red of one section should slightly overlap the red of an adjoining section, a deeper red would be produced which would be a blemish readily noted by a discerning eye. Accordingly, I conceived the idea of screen printing in such a manner that the normal overlap portion or region of inaccuracy shall lie along the cut line or seam of the necktie, with the screen printing directly producing an indicator to locate the region of inaccuracy to thus avoid error on the part of the operator. By this invention considerable time and care is saved in course of screen printing, and the operation can be performed with much less skill than heretofore.

Accordingly the objects of the invention are:

1. To avoid the blemishes produced in screen printing.

2. To produce a necktie whose body portion shall be free of screen printed blemishes.

3. To provide for continuous screen printing of a length of cloth with the blemishes, if any, located along predetermined lines coordinated with the article to be produced so as to be concealed in a seam or hem of such article.

4. To provide for screen printing of successive sections of roll of cloth so that the boundaries between the sections shall lie along lines on which the cloth is to be bias cut to form article blanks.

5. To provide for concealed-located meeting lines between successive screen printed sections of sufficient size to permit rapid screen printing and to form sections from each of which a plurality of necktie blanks can be cut, with allowance for stretch of the fabric, if desired.

6. To provide an indicator or neutral line or band between successive printed areas to guide the person cutting the cloth into blanks, whereby blemishes are avoided.

7. To afford a clearance area to permit the operator to screen-print rapidly without concern as to blemishes heretofore caused at overlapping lines of color between successive printed sections.

8. To produce a necktie having an indicator along a bias-cut edge to show that the tie is free of screen print blemishes caused at the junction of successively printed sections of the cloth. This feature may be omitted.

9. To save time and labor in screen printing.

Other objects and advantages of the invention will become apparent as the specification proceeds.

With the aforesaid objects in view, the invention consists in the novel combinations and arrangements of parts hereinafter described in their preferred embodiments, pointed out in the subjoined claims, and illustrated on the annexed drawing, wherein like parts are designated by the same reference characters throughout the several views.

In the drawing:

Figure 1 is a plan view of a portion of a fabric strip member embodying the invention and illustrating a step in the novel process, the lining of the successive sections being schematically indicative of multicolor designs forming a substantially continuous design on said member, one of the sections showing in dotted lines blanks for four neckties.

Fig. 2 is an enlarged view of one of said sections severed from said member and showing a repeating design pattern.

Fig. 3 is an enlarged view of a portion of the fabric showing an illustrative combination of colors.

Fig. 4 is a plan view of an opened necktie or completed blank embodying the invention, the printed design being omitted, and the dotted lines being the fold lines.

The advantages of the invention as here outlined are best realized when all of its features and instrumentalities are combined in one and the same structure, but, useful devices may be produced embodying less than the whole.

It will be obvious to those skilled in the art to which this invention appertains, that the same may be incorporated in several different constructions. The accompanying drawing, therefore, is submitted merely as showing the preferred exemplification of the invention.

Referring in detail to the drawing, 10 denotes a long piece of fabric as taken from a bolt or roll

of cloth, this being a textile of the type usually subjected to screen printing. A decorative article or garment may be made from this cloth, and the invention is adapted even for such cases as require that the fabric be cut on the bias in order to obtain maximum stretchability for adjustment or wear, as illustrated by a necktie of the four-in-hand type.

According to the present practise a cloth member is printed at successive sections until the entire member presents one continuous printed pattern. Each section so printed is rectangular in shape, and as many screens are used as there are colors. Thus one color is printed at a time, until a desired pattern is produced as illustratively-shown in Fig. 3. If there is any overlapping of the background color there results a color of deeper shade producing a blemish. This has frequently occurred at the junction of different colored sections. Thus after one section has been printed with the background color, the operator shifts the screen to print the next section with the background color. While he has gages to assist him, yet he must exercise great care and skill for accuracy, and nevertheless such overlapping of the background color occurs. If the line of junction cuts across one of the multi-color areas, the problem is greatly complicated.

According to the present invention the successive printing sections on the cloth member 10 are shaped in accordance with an article blank or multiple thereof as shown at 11. The screen frame may be correspondingly shaped or it may be rectangular and the screen itself blocked out to the desired size and shape. Usually each section 11 is relatively large and may be 30 or more inches in length. Hence the shape of the section is made to conform to that of a group of article blanks as shown in dotted lines in Fig. 1. In the making of neckties, the blanks are generally laid out and cut as indicated in Fig. 1, with the narrow portions 12, 13 serving for the rear or narrow parts of a four-in-hand tie, and the wider portions 14, 15 serving for the front or wide parts of the same. There may be some cutting away of waste portions 15*a*, but this is not important here. Accordingly four neckties are produced from each section 11.

With the method described, the lines or rows of printed blemishes are at 16 and these occur at the junctions of the sections 11 and along the edges of certain of the blanks, such as the portions 14, 15. These lines may be purely imaginary and may be merely areas in which the blemishes are confined; or the blemishes along these lines 16 may be deliberately enlarged so as to form an easily visible guide for the cutting operator; or the sections 11 may be spaced a small distance apart to leave a narrow band as illustrated in the drawing, which may show in the white color of the cloth to provide one form of an indicator. If desired, such an indicator 20 may be concealed in the necktie as in Fig. 4 whereby an informed person can discover whether the fabric has been printed by this novel process so that a minute examination for blemishes is unnecessary. In laying out the sections 11, allowance may be made for stretch or shrinkage of the fabrics that may occur during processes of vat finishing the cloth or fixing the colors. As the printing proceeds, the pattern elements such as 17 are produced, limited to the areas of the sections 11 as above described. These may have multi-color patterns as indicated in Fig. 3 on a colored background 18, but the showing of colors has been omitted in Fig. 2 as unnecessary, while in Fig. 1 only a background color is shown which is intended to schematically illustrate the patterns of Figs. 2 and 3. Naturally any pattern or color combination may be used.

The operator now proceeds to cut the fabric 10 and he may sever it along the lines or bands 16 and along the dotted lines of Fig. 1 to provide the blanks 12 to 15. The cloth is cut on the bias and each severed section 11 appears as at 11*a*, being a biased member whose upper and lower portions are offset and interconnected by an angular portion. There is no occasion for cutting across the indicator lines 16, and the cutting may proceed along the center of the bands 16 to produce a marking or indicator as shown at 19. The necktie 21 may consist of two blanks 22, 23 like those at 12 to 15, interconnected along a bias line 24, and having longitudinal fold lines 25. The longitudinal side edges may be regarded as seamed together, or the seam may be regarded as opened up to show the completed blank of the tie. The indicator 20 or line of blemishes is concealed at the back, or in some other inconspicuous part and may be partially or entirely hidden in the seam or hem of the article.

The invention thus provides novel blanks structures as at 10, 11, 11*a* and 21 embodying the invention and fulfilling the advantages noted and avoiding the difficulties that have perplexed the art. The invention also provides a novel idea in screens and improved methods of screen printing and of making articles. It will be apparent to those skilled in the art that the invention is also applicable to other articles to positively locate blemishes in a predetermined normally concealed region. Time, skill and labor are saved on the part of the printer, and careful inspection is avoided in the factory, so that the cost of the article produced is less.

Within the terms of the invention, an indicator or blemish line may consist in a marking which need not be located directly between successive sections 11 but may lie only along an edge of the cloth member 10. And it is also possible for an operator to determine the location of the areas or sections 11 by direct measurement, without utilizing any marking. But the best and quickest results are obtained if the marking is continuous and easily discernible directly between adjacent sections, as shown herein.

I claim:

1. The method of screen printing by hand successive areas of a long web of fabric from which article-forming blanks are to be formed by bias-cutting and in which the successive areas may be printed with the same color or different colors, the edges of the successive imprints when either spaced or overlapping providing a noticeable departure from the intended design, which comprises printing successive areas of said fabric through a screen formed with two substantially rectangular end portions joined by a connecting portion in the form of a parallelogram the oblique lines of which coincide with the bias-cutting lines along which the fabric is to be cut, said departure from the intended design thus forming a bias-cutting indication across the fabric.

2. The method of screen printing by hand successive areas of a long web of fabric from which necktie blanks are to be formed by bias-cutting and in which the successive areas may be printed with the same color or different colors, the edges

of the successive imprints when either spaced or overlapping providing a noticeable departure from the intended design, which comprises printing successive areas of said fabric through a screen so shaped that two of its edges coincide with the bias-cutting lines along which a plurality of said necktie blanks are severed from said web of fabric, said screen including two substantially rectangular end portions and an intermediate portion in the form of a parallelogram, each oblique edge of said parallelogram portion coinciding with a bias-cutting line along which the fabric is to be cut so that said departure from the intended design will provide an indication of said line.

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