

1,029,543.

G. HORVÁTH.
FABRIC MARKING MACHINE.
APPLICATION FILED AUG. 14, 1911.

Patented June 11, 1912.

3 SHEETS-SHEET 1.

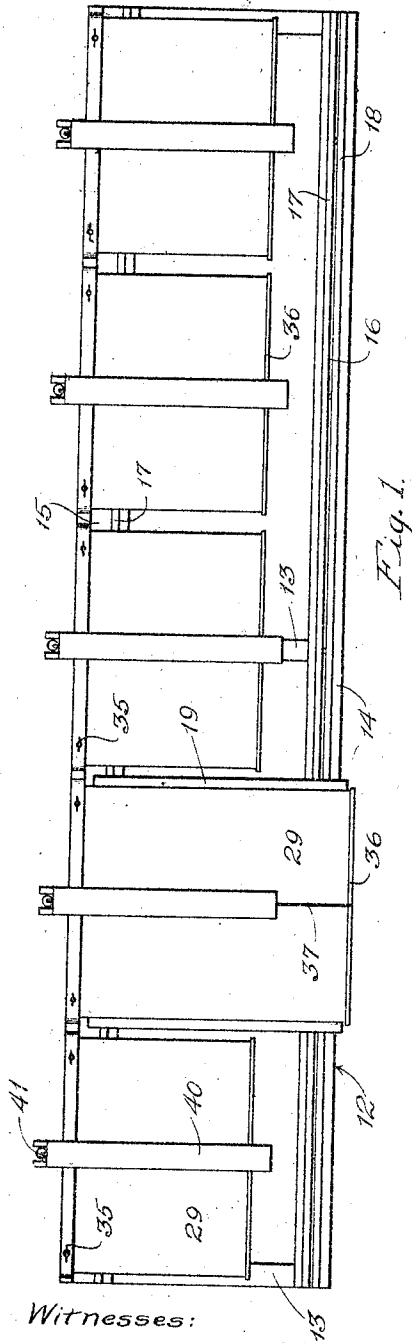
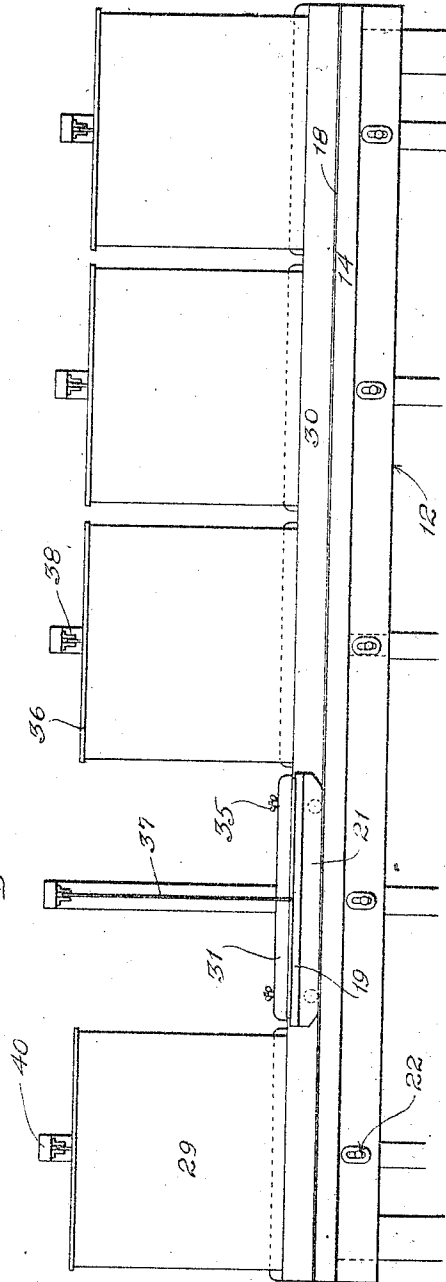


Fig. 2.



Witnesses:
Ephraim Banning.
Wm. H. Bond

Inventor:
Guido Horváth.
BY *Banning & Banning*
Attorneys

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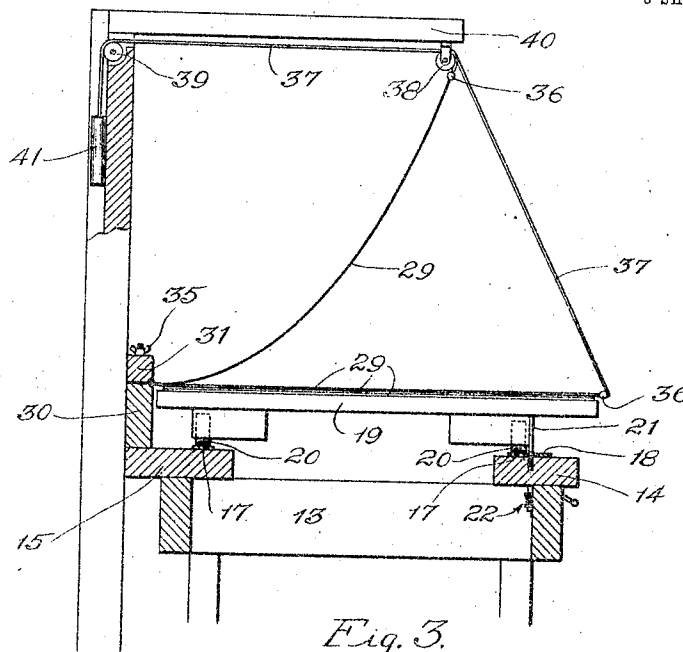


Fig. 3.

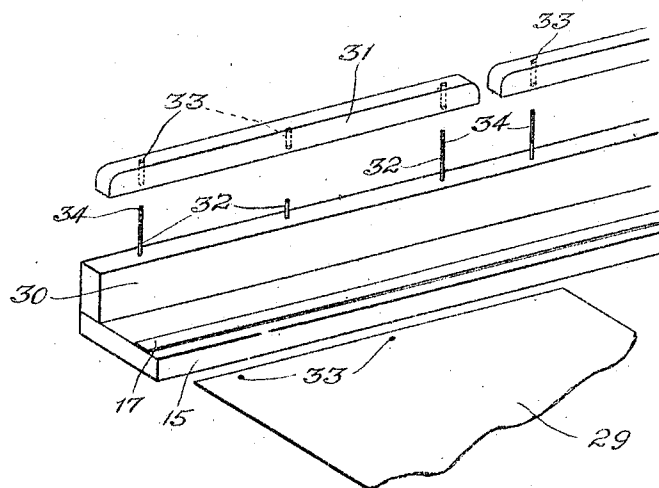


Fig. 5.

Witnesses:

Ephraim Banning.
Wm. Ford

Inventor:

Guido Horváth.

BY Banning & Banning
Attorneys

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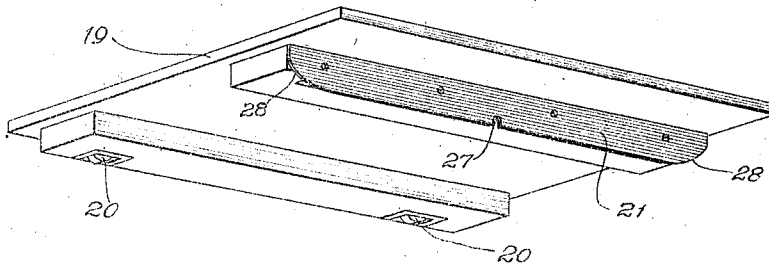


Fig. 4.

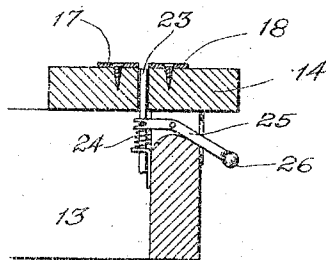


Fig. 6.

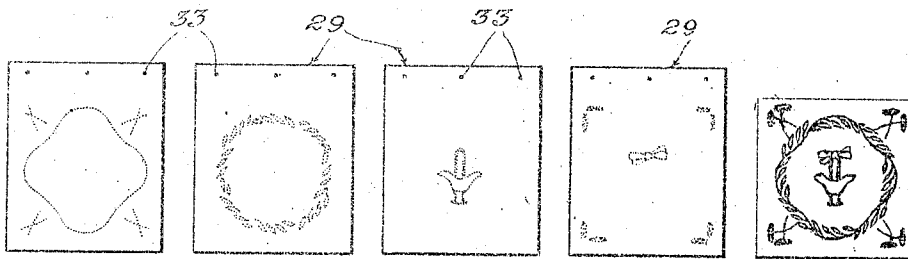


Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.

Fig. 11.

Witnesses:

Ephraim Banning
Wm. Bond

Inventor:

Guido Horváth.
By Banning & Banning
Attorneys

UNITED STATES PATENT OFFICE.

GUIDO HORVÁTH, OF CHICAGO, ILLINOIS, ASSIGNOR TO T. BUETTNER & CO., OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FABRIC-MARKING MACHINE.

1,029,543.

Specification of Letters Patent. Patented June 11, 1912.

Application filed August 14, 1911. Serial No. 643,931.

To all whom it may concern:

Be it known that I, GUIDO HORVÁTH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fabric-Marking Machines, of which the following is a specification.

This invention relates to machines for imprinting designs in outline and body upon textile goods, and, in particular, for markings of more than one color.

The principal object of the present invention is to provide a machine of an inexpensive and simple style, by the operation of which an endless variety of colors may be applied to the markings of fabric.

Another object of this invention is the production of a machine in which a number of pieces of fabric may be handled simultaneously, to expedite and facilitate its operation. And a further object of the invention is to provide a machine in which color markings may be accurately registered upon the goods.

The present invention is concerned principally with the imprinting on fabrics and textile goods of designs, which may be embroidered. Usually it is desired to work such designs in several colors, and, in order to better assist in the embroidering thereof, the forms which constitute the design may be printed in the appropriate colors. In this manner it is necessary only to work each form according to the color indicated on the material, in order that the whole design when worked shall present a proper and harmonious appearance. The means by which such a design is imprinted, representing accurately the lines in suitable color, is the subject matter of the present invention. For the accomplishment of this purpose, there is employed for each design a series of perforated patterns, each one of which represents only so much of a complete design as is to be worked in a single color. Accordingly, there must be as many patterns in each complete series as there are colors to be worked into the entire design. The number of colors which it has generally been possible to incorporate into designs on textile goods by means of a single machine has been very limited, and the method by which such multi-color designs have been imprinted is slow. In the present inven-

tion there is supplied a rapid means for accurately marking goods with any desired number of colors.

Referring to the drawings, Figure 1 is a plan view of my fabric marking machine; Fig. 2 is a front elevation thereof; Fig. 3 is a cross section through the machine; Fig. 4 is a perspective looking toward the under side of a carriage; Fig. 5 is a view in perspective, looking at one end of the machine; Fig. 6 is a detail of the locking mechanism for a carriage; Figs. 7, 8, 9 and 10 are views of a set of patterns forming together a complete series; and Fig. 11 is a view of the finished design printed from such patterns.

There is shown in the drawings a table or platform 12, suitably reinforced by braces 13, and provided along the top with front and rear rails 14 and 15 respectively, which extend substantially the length of the table. In the upper face of the forward rail there is formed a longitudinally extending slot 16, along the edges of which guide rails 17 and 18 are positioned, and upon the rear rail another rail 17 is secured. Upon the guide rails 17 a movable carriage 19 is adapted to travel, being provided with rollers 20, which run thereupon, and with a flange 21, which travels within the slot 16 formed between said guide rails, said flange serving to guide the carriage in its travel.

At intervals along the table are locking mechanisms 22, preferably located in the position shown in Figs. 3 and 6, each mechanism consisting of a vertically sliding bolt 23, suitably guided and held in its uppermost position within the slot 16 by any suitable means, such as tension mechanism 24, and which may be downwardly retracted by means of a pivoted arm 25, formed to provide a handle 26, which is conveniently located, as shown in said figures. Upon the under edge of the flange 21, located on the under side of the carriage, there is provided a notch or recess 27, in which the bolts 23 may seat, and, in order that said bolts may be moved downwardly during the travel of the carriage, the ends 28 of said flange are inclined in the manner shown.

A series of perforated patterns 29 are held in fixed positions at definite intervals along the table and substantially at the same level with the carriage, one edge of each

pattern being clamped between a back rail 30 and clamping blocks 31. The positions along the back rail, in which the patterns are clamped, may be determined, as shown in Fig. 5, by means of a series of upwardly extending stems 32, adapted to register with openings 33 along an edge of each pattern, thus permitting the same to be placed thereover. The said clamping bars are similarly provided with openings 33, adapted to register with the stems 32, and thus permit of their being laid flat upon the back rail. The upper portions 34 of as many of the said stems as is necessary may be threaded, and when protruded through the openings 33, by the superimposing of the bars 31, are adapted to receive thereon locking members 35, which, as best shown in Fig. 3, may consist of wing-nuts. By means of these wing-nuts and threaded stems it is possible to readily clamp the bars 31 firmly upon the edges of the pattern and thus hold them in fixed position.

In order that the patterns may not interfere with the travel of the carriage, and that they may be conveniently removed out of harm's way, a clamping rail 36 is secured to the edge of each pattern which is opposite and parallel to that held beneath the block 31; and there is attached to each of said rails a cord 37, which passes over pulleys 38 and 39 mounted on a bracket 40, to connect with a counterweight 41, the said weight being sufficient to pull on the cord to draw the free end of the pattern upward and out of the way, as is best indicated in Fig. 3.

The machine which is represented in Figs. 1 and 2 is designed for five patterns, each one of which represents as much of the complete design as is to be imprinted in one color. The operation of such a machine is as follows: A set of patterns is secured properly along the rear edge of the table, between the back rail and clamping blocks, in the manner described, the free edges of said patterns being held by means of the rails to which cords and weights are attached. It is not intended that the weight shall be so heavy as to cause the free edge of the pattern to draw up close to the pulley, but only sufficient to overcome and counterbalance the weight of said pattern and hold the same in whatever position is desired. A piece of fabric which is to be marked is stretched across the carriage and held thereon by any suitable means, such as pins secured to the carriage, or clamping members (not shown in the drawings). The carriage is positioned at one end of the table and is locked directly in line with the first pattern from which an imprint is to be made, by means of the locking mechanism 22. The pattern is then drawn down over the carriage and fabric stretched thereover, assum-

ing a position such as is indicated by the second pattern illustrated in Figs. 1 and 2. While thus stretched over the fabric, a poncet coated with suitable marking material may be drawn over the pattern and imprint therethrough as much of the design as is to be worked in a single color. As soon as this marking is completed, the locking mechanism 22 is released, by raising the handle of the arm 25 and the carriage moved to a position before the second pattern. The flange 21 travels in the slot 16, and during the movements of the carriage engage with its inclined ends the locking bolt 23. The bolt, of course, is downwardly retracted against tension, but continues to bear its acting end against the edge of said flange. Whenever the carriage in its travel causes the notch 27 to be brought into registering position with the locking mechanism, the said bolt seats instantly into the notch to prevent any movement of the carriage either way. The operation with the poncet is there repeated, except that the imprint is made in another color. In this manner, the carriage is advanced along the table, and, as it is locked before each pattern, the fabric is positioned exactly to receive another color marking.

In order that the color imprints on the design, when completed, shall be accurate, and that no lines of one color shall overlap with respect to those of another color, it is absolutely necessary that each pattern when superimposed upon the fabric, should assume the same relative position. To this end, the patterns are each locked and held in their correct position by means of the clamping blocks already described, the openings 33 in such patterns enabling them to be located accurately with respect to the table. It is also necessary that the carriage upon which the fabric is borne must be stopped at precisely the same point with respect to each pattern, and to accomplish this the locking mechanisms already described are designed to coöperate with the notch 27, to determine these positions correctly and accurately.

After each marking operation, it is an easy matter to raise the pattern out of harm's way and have the free end thereof held in any desired position by means of the counterweight 41. The carriage is thus enabled to travel freely along the table without encountering the edges of any of such patterns. In actual operation, it is possible to use several carriages, and to employ an operator to mark through each pattern. In this manner the work may be facilitated and expedited, each operator attending to the marking of the fabric as it comes before him. It is, of course, practicable to place at one time several layers of fabric upon the carriage, and at the end of the table to re-

move only the top layer, which has been marked, leaving additional fabrics in position for subsequent markings.

It is highly essential, in the travel of the carriage along the platform, that no lateral movement or play should take place, as otherwise the position of the fabric before each pattern would be altered. By means of the flange which extends substantially across the front and rear sides of the carriage, and which fits between the guide rails to guide the carriage, any such lateral movement is prevented. The locking mechanisms 22 are also so formed as to be positive in their action, thus rendering any longitudinal movement impossible. On account of these features of construction, the marking operations upon the fabric are rendered accurate, and, regardless of the number of patterns used, it is possible to produce in colors a perfect design.

I claim:

1. In a fabric marking machine, the combination of a table, a movable carriage for the fabric thereon, locking mechanism for said carriage, a series of patterns each having openings in proximity to one edge thereof and arranged to be separably superimposed on said fabric, means for holding one edge of each of said patterns in fixed position upon said table, means for positioning each of said patterns with respect to said holding means, said positioning means consisting of pins attached thereto and adapted to register with the said openings in the pattern, a clamping member secured to the free edge of each of said patterns, and means connected with said clamping member adapted normally to maintain said pattern out of engaging position, substantially as described.

2. In a fabric marking machine, the combination of a table, a movable carriage for the fabric thereon, locking mechanism for said carriage, a series of patterns arranged to be separably superimposed on said fabric, means for holding one edge of each of said patterns in fixed position upon said table, means for positioning each of said patterns

with respect to said holding means, a clamping member secured to the free edge of each of said patterns, and means connected with the said clamping member adapted normally to maintain said pattern out of engaging position, substantially as described.

3. In a fabric marking machine, the combination of a table, a series of patterns, each having openings in proximity to one edge thereof, arranged along said table, a carriage for the fabric movable along said table, means for guiding said carriage in its travel, a member adapted to engage with said guiding means for locking said carriage in proper relation to each of said patterns, means for holding one edge of each of said patterns in fixed position upon the table, means for positioning each of said patterns with respect to said holding means, said positioning means consisting of pins attached thereto and adapted to register with the said openings in the pattern, a clamping member secured to the free edge of each of said patterns, and means connected with said clamping member adapted normally to maintain said pattern out of engaging position, substantially as described.

4. In a fabric marking machine, the combination of a table, a series of patterns arranged along said table, a carriage for the fabric movable along said table, means for guiding said carriage in its travel, a member adapted to engage with said guiding means for locking said carriage in proper relation to each of said patterns, means for holding one edge of each of said patterns in fixed position upon said table, means for positioning each of said patterns with respect to said holding means, a clamping member secured to the free edge of each of said patterns, and means connected with the said clamping member adapted normally to maintain said pattern out of engaging position, substantially as described.

GUIDO HORVÁTH.

Witnesses:

C. LOVGREN,
FRED KURZ.