(No Model.)

# E. A. BOHM.

## RUCHING FOR DECORATIVE PURPOSES.

No. 364,085. Patented May 31, 1887.

Fig. 1,

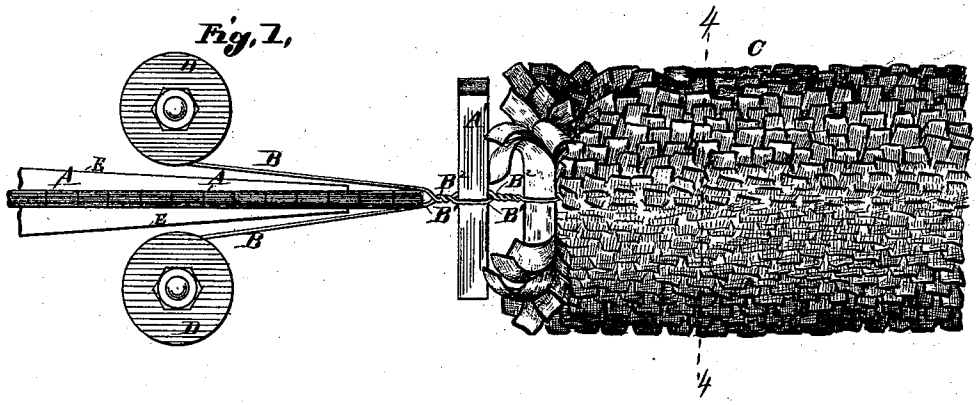



Fig. 2,

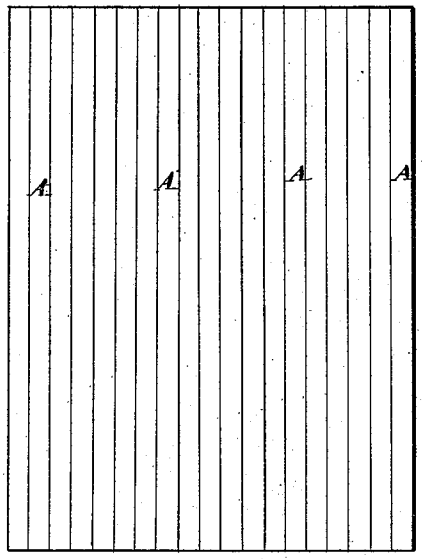



Fig. 3,




Fig. 4,

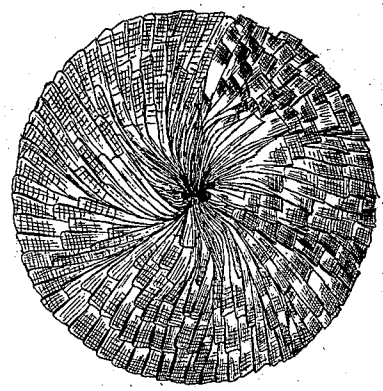



Fig. 5,




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# UNITED STATES PATENT OFFICE.

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## RUCHING FOR DECORATIVE PURPOSES.

SPECIFICATION forming part of Letters Patent No. 364,085, dated May 31, 1887.

Application filed October 14, 1886. Serial No. 216,290. (No model.)

*To all whom it may concern:*

Be it known that I, ERNST A. BOHM, of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Ruching for Decorative Purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 shows a side view of a garland in process of manufacture, with a portion of the machinery used in said manufacture. Fig. 2 is a top view of a number of sheets of tissue-paper or other suitable material cut into bunches of strips of filaments. Fig. 3 is an edge view of one of the bunches of filaments. Fig. 4 is a transverse section of the finished garland, taken on line 4 4, Fig. 1. Fig. 5 is a view of the wire, showing the mode of twisting, with the loops formed by the falling into place of the bunches of filament, with different lengths of twist as adjusted by the operator to adapt it to open or close garlands.

This invention relates to a machine-made ruching for decorative purposes, and the invention consists in features of novelty, hereinafter fully described, and pointed out in the claims.

The invention is intended to provide a decorative ruching that can be rapidly made by machinery and bear the uniform appearance of machine-made articles, and at the same time, by the use of a multiplicity of narrow strips in bunches of filament, and weaving them while in rotary motion within loops of the strands in a double-twisted wire, is produced an interlockage of the ends of the strips and a regular divergent expansion of the filament from the common center of the bunch. (See Fig. 4.)

Parts of the machine used in the manufacture of this ruching or garland are shown in the drawings, and will be described in the specification to elucidate the construction and character of the product of said machine; but the machine is not part of the subject-matter of this application, but is (as far as concerns this invention) here disclaimed and reserved for the subject-matter of another application.

Referring to the drawings, in which similar letters of reference indicate like parts in all the figures, A represents the bunches of unexpanded filament of my decorative ruching as they lie on the cutting and forwarding table, and A′ the same or similar bunches after they have been taken up in the loops B′ of the twisted-wire strands $B^2$, the ends of said loops being brought together and united by the twisting of the two strands B B of the wire that are supplied from reels D D as the machine draws the wire from them for use. The said bunches are made from a number of sheets of tissue-paper or other suitable material, either of the same or of a variety of colors. (Sixteen sheets have been used by me; but I do not confine myself to that number, for a larger or less number may be used, at the discretion of the operator.) The sheets are placed on the cutting and forwarding table, where they are cut in narrow strips by the knives of the machine, (see Fig. 2,) and are passed on between guides E E.

C represents the expanded garland or ruching, in which the bunches of filament have, by the centrifugal force employed by rotary motion given to the wire that engages them, been made to assume a fluffy, feathery form, divergent from the common center of the bunch; and subsequently a succession of bunches are taken up by the wire and quickly rotated until the individual strips of which they are composed assume the feathery form shown in Figs. 1 and 4, and the ends of the strips interlock with each other and with those of the adjoining bunches, making a regular continuous roll of garland of a fluffy and feathery appearance. The narrow pieces of filament, as they are entirely separated by cutting from edge to edge and not connected by any tape or strip, but only by the wires at the center of the bunches, leave no open core or cavity unfilled by the filament, but readily respond (under the influence of their rotary movement) to the centrifugal force brought to bear on them from center to circumference with a far freer movement and more general interlocking of the pieces than could be attained when there is a flat side, from the fact of the strips in the latter case not being separate in the middle and being attached together by flat strips instead of central wires. The garland preferably next passes between a series of buffeters or

paddles operated by the machine, or is patted into a roll formed by hand-paddles, and is thus brought to a still more exact uniformity of outline; but the buffeting or paddling of the garland may be dispensed with without interfering with the essential features of the invention.

I am aware that layers or folds of paper have been cut on their edges, leaving a longitudinal uncut portion in the middle, for the manufacture of ruching; but such layers or folds have not been cut (as have mine) into separate filaments, and have not been twisted between wires or separated into bunches of strips, so that, especially as the middle is uncut, they are not divergent in all directions, and the simple side divergence cannot insure the same interlocking of the filament that secures my ruching (even when exposed to the wind in outdoor decorations) from opening out and having a disheveled and untidy appearance.

I am also aware that single strips of paper have been fastened between wires; but they have not been twisted in bunches composed of numerous narrow filaments and are not made, as are my bunches, of narrow strips under the influence of a rotary movement to thereby diverge from their common center and interlock among each other, for it neither has narrow strips of filament, nor does it fasten its filament in bunches or bring them under centrifugal force to assume a divergent interlocking position.

The sheets of tissue-paper or other material that are cut into filament may either be of any color or of a variety of colors, as may be desired; or, by the previous cutting of the multiple layers of the paper, bunches of different colors can be arranged on the forwarding-table with the best effect for contrast and shades of color, if it is desired to produce an artistic effect by such contrasts.

I prefer to cut my filament from sixteen-fold layers of paper or other suitable material; but I do not confine myself to that number of layers, for the number may be increased or diminished without departing from the essential features of the invention.

I prefer to cut the strips into about one-eighth of an inch width; but do not confine myself to that width, for it may be increased or diminished at the will of the operator.

I have also described the bunches of filament as secured together with wire; but, although I prefer wire for the purpose and it produces the best effect, yet twine may be used for the same purpose, when preferred.

The garland may be made of any suitable length.

The bunches of filament are preferably caught in the middle, as shown in Figs. 1 and 4; but they may be caught at the ends or any other part.

Instead of paper or fabric filaments, moss, evergreens, or any other suitable substance can be used in their place.

I claim as my invention—

1. In ruching for decorative purposes, groups of separated narrow strips or filaments, and a wire having loops into each of which a group of strips or filaments is inserted, the strips or filaments of the adjacent groups interlocking, substantially as set forth.

2. In ruching for decorative purposes, the combination of uniform separated narrow strips associated by layers in bunches, and a twisted wire having loops between the twists, in which loops the bunches are placed, said strips radiating in a divergent direction from their points of attachment, and the ends thereof interlocking with each other and with the adjoining bunches, substantially as and for the purpose set forth.

ERNST A. BOHM.

In presence of—
BENJN. A. KNIGHT,
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