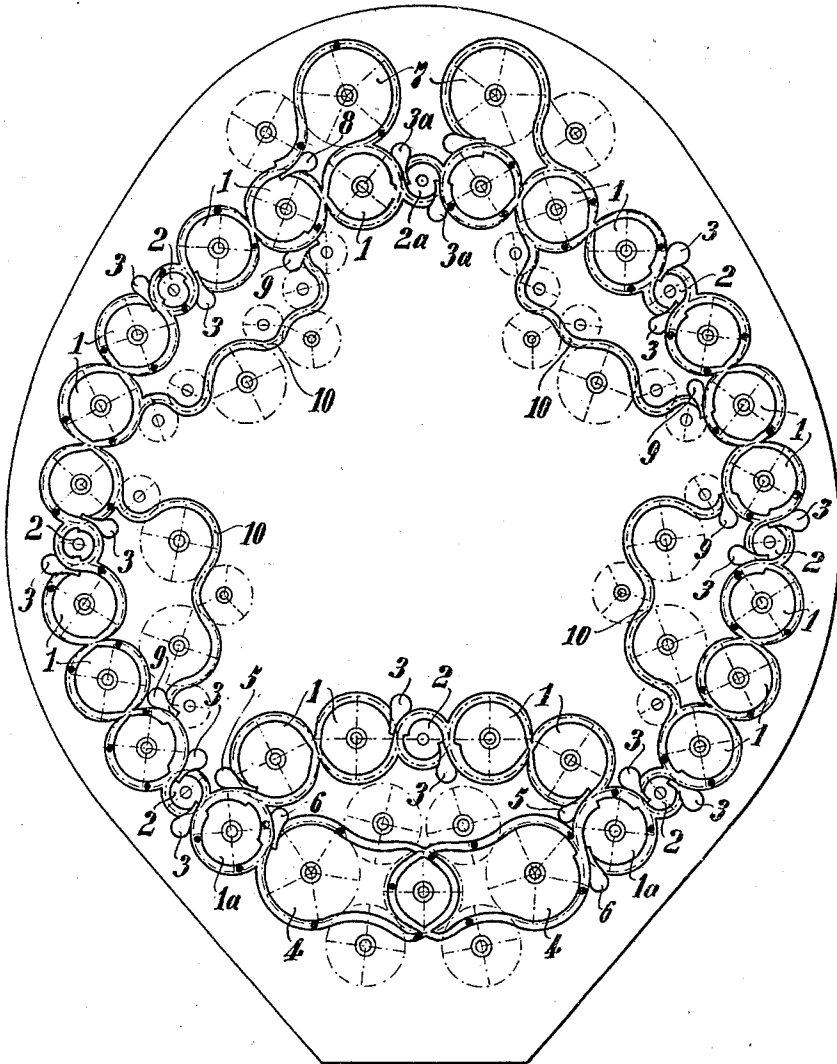


M. EBELING & J. HERZOG.
PLAITING AND BOBBIN MACHINE.
APPLICATION FILED AUG. 14, 1909.

957,317.

Patented May 10, 1910.



Witnesses:

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MORITZ EBELING AND JULIUS HERZOG, OF BARMEN, GERMANY.

PLAITING AND BOBBIN MACHINE.

957,317.

Specification of Letters Patent.

Patented May 10, 1910.

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To all whom it may concern:

Be it known that we, MORITZ EBELING and JULIUS HERZOG, citizens of the German Empire, residing at Barmen, in the Province of Rhenish Prussia and Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Plaiting and Bobbin Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The subject-matter of the present application is a plaiting and bobbin machine which, in contradistinction to previously known machines is so arranged that it enables the most various kinds of textures to be made, such as braid, string, lace, striped textures list and edging, without it being necessary to make any alterations whatever in the machine itself. Consequently, by means of this new machine goods can be produced in which the above-mentioned kinds of texture occur in any succession simultaneously, and at the same time the various strips can be made in various colors without the latter becoming confused. This new effect is attained partly by well known elements and partly by new elements being combined in such a special manner with one another in the case of the present machine that by suitably setting the switches, one can cause the bobbins to work just as desired in groups on partial tracks, to run over the entire track, or for the purpose of forming strips over only a part of the same, and at the same time also to follow different courses.

In the drawing one form of the new machine is illustrated diagrammatically by way of example.

In the case of the new machine the plates forming the track are arranged in groups, and in the example illustrated each group contains three round plates 1. Between these groups of plates 1 an intermediate plate 2 with switches 3 is arranged, which latter permit a bobbin to be retained on the same group of plates or to be transferred on to the neighboring groups. The drivers of the outer plates of each group are so arranged that here a return of the bobbins is impossible without the occurrence of a collision between the bobbins. For example, the drivers of these plates may, for this purpose, be fitted with long and short

wings. As is evident each group of plates consequently forms a track section on which bobbins can travel alone. The ends of the track are likewise connected together by an intermediate plate 2^a having switches 3^a. In the example two plates 4 in the form of extended horse-shoes are connected in the middle of the track between the end plates 1^a of two neighboring track-sections, the tracks of which plates 4 cross one another but do not pass into one another. Switches 5 and 6 enable the bobbins to be transferred from the plates 1^a on to these horse-shoe shaped junction-tracks. This arrangement may of course be provided at several places on the machines. At the ends of the track horse-shoe shaped turn-plates 7 are provided, switches 8 permitting the transference of the bobbins on to these tracks for the formation of eyes. Finally, the section-tracks formed by the various groups of plates are connected by side-tracks 10 situated within the track, which side tracks are so formed in the example that they do not twist the threads but only permit the transference of bobbins from one section-track on to the one or the other of the neighboring ones. By means of switches 9 these side tracks can be closed or opened according to requirement. These side tracks are so arranged that the bobbins on two such neighboring tracks move in opposite directions.

If an ordinary braid is to be manufactured on this machine, the bobbins are allowed to move in uninterrupted succession over the plates 1 and 2, only the switches 3^a of the intermediate plate 2^a being so set that the bobbins must turn around at the ends of the track. If, on the contrary, the bobbins are allowed to proceed over the intermediate plate 2^a then an ordinary string texture is obtained. In order to produce lace textures, the various groups of plates are utilized as partial tracks, the bobbins by the switches 3 being suitably moved and being caused to work for a time only on these partial tracks or to pass over from one partial track to another. The setting of the switches is of course effected by means of a jacquard mechanism in correspondence with the design desired at the time. If it be desired to form textures having differently colored strips arranged side by side, that is, striped textures, the above-mentioned horse-shoe shaped junction-tracks 4 which cross

one another are employed. In the case of the shown form of the machine, in which these junction-tracks 4 are present at only one place, it is obvious that only textures 5 having two differently colored strips can be produced. The junction-tracks 4 then divide the track into two halves, the bobbins situated on the right half turning back on the one of these junction-tracks 4 after the 10 switches 5, 6 have been suitably set and the bobbins on the left half turning around on the other of said junction-tracks. During this turning around motion, however, the bobbins of the one half of the machine cross 15 those of the other half, so that the connection of the two portions of the texture is effected without the colors becoming confused. If the junction-tracks 4 are arranged at several places along the track, 20 textures can of course be produced having more differently colored strips. In the manufacture of such striped textures special bobbins may be allowed to travel on the plates 1, 2 not employed for the ground 25 texture, which bobbins cross on the plates 1^a with those of the ground texture so that special ornamental textures can be formed on the ground texture. Finally, the utilization of the side-tracks 10 permits of the pro- 30 duction of figures similar to embroidering

patterns as well as of edging effects on the ground texture.

What we claim as our invention and desire to secure by Letters Patent is:

1. In a plaiting and bobbin machine, the 35 combination of the plates arranged in various groups, intermediate plates interconnecting said groups and provided with switches, side tracks also interconnecting said groups and provided with switches, turn- 40 plates at the ends of the series of groups, and plates (4) having an extended horse-shoe shape and having crossing tracks and switches.

2. In combination in a plaiting and bob- 45 bin machine, plates arranged in groups, plates provided with switches arranged between said groups and connecting the same, turn plates at the ends of the series of said groups and plates having an extended horse- 50 shoe shape so arranged that their respective tracks interlock.

In testimony whereof, we have signed our names to this specification in the presence of two subscribing witnesses.

MORITZ EBELING. [L. S.]

JULIUS HERZOG. [L. S.]

Witnesses:

OTTO KÖNIG,

WILLY KLEIN.