R. ZAHN.

EMBROIDERY MACHINE.

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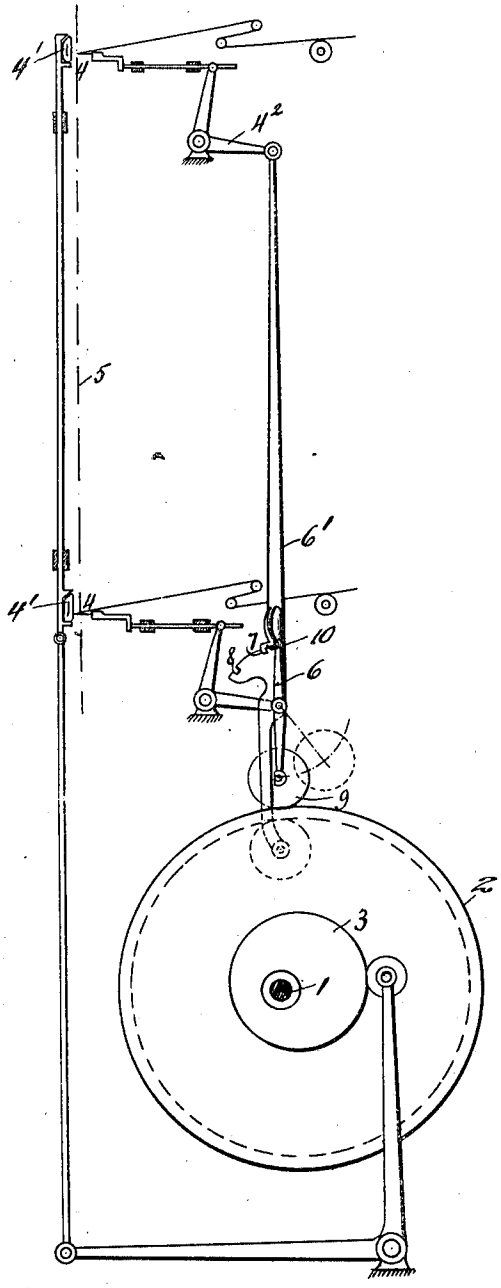
1,020,009. Patented Mar. 12, 1912.



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UNITED STATES PATENT OFFICE.

ROBERT ZAHN, OF PLAUEN, GERMANY.

EMBROIDERY-MACHINE.

1,020,009. Specification of Letters Patent. Patented Mar. 12, 1912.

Application filed February 7, 1911. Serial No. 607,141.

To all whom it may concern:

Be it known that I, ROBERT ZAHN, a subject of the King of Bavaria, residing at Plauen, Vogtland, in the Kingdom of Saxony, Germany, have invented certain new and useful Improvements in Embroidery-Machines, of which the following is a specification.

The present invention relates to embroidering machines and has for its object to provide means whereby without arresting the machine or reducing its speed to any extent, the stitch needles may be temporarily fixed outside of the design or embroidery frame in order to allow of the latter, while the machine is in operation, being given any number of movements without causing the needles to engage the design or embroidery frame and to prolong the time for carrying the thread from point to point of the design, and thus enable the production of stitches of any desired length. The continuance of the operation of the machine during such movements of the design surface or embroidery frame also facilitates the pulling out of the thread from the shuttles and over the thread guides and guards the threads against breaking and the design against becoming distorted.

To make my invention more clear, the same is diagrammatically illustrated in the accompanying drawing which shows a side view of the embroidery machine.

5 indicates the design surface or embroidery frame, 4 the stitch needles operating in front and 4′ the shuttles operating on the rear of the frame.

1 is the main shaft of the machine on which among other cams for the operation of the diverse working mechanism (not shown) is fixed the cam 2 for the operation of the stitch needles 4, and the cam 3 for the operation of the shuttles 4′. The cam 2 acts on a roller 9 rotatively borne in one of the arms of a double-armed lever 6. The latter is fulcrumed in a rod 6′, which through the medium of a bell-crank lever 4^2 transmits the movement received by the roller 9 from the cam 2 to the stitch needles 4. The rod 6′ is provided with a projecting part in which two notches 7 and 8 are formed. The other arm of the double-armed lever 6 is provided with a catch 10 capable of engaging any one of the two notches 7 and 8.

When the needles are to work through the design surface or embroidery frame, the position of the lever 6 is the one shown in the drawing, in which its catch is engaged in the notch 7, holding the roller 9 in contact with the cam surface 2. Yet when it is desired, during the operation of the machine, to temporarily cut out the operation of the needles and to fix the same outside of the design material or embroidery frame, the lever 6 is swung, so that its catch 10 engages with the other notch 8. Thereby the lower arm of the double-armed lever 6 is swung upward lifting the roller 9 from the surface of the cam, as indicated by dotted lines in the drawing, in which position the movement of the cam 2 will not influence the stitch needles. The adjustment of the lever 6 may be accomplished by any suitable mechanism. The effect of the temporary cutting out of the operation of the machine is that not only can the embroidery frame be safely moved into any desired position without danger of breaking the threads or distorting the design, but the stitches can be made of any desired length or the time for carrying the thread from point to point of the design may be prolonged to any desired extent.

Having thus described the nature of my invention, what I claim and desire to secure by Letters Patent is:

1. In an embroidering machine, the combination with the needle operating cam and the mechanism for transmitting movement from said cam to the needles, of a tiltable member interposed between said cam and mechanism, and an adjustable locking device for such tiltable member, whereby during the operation of the machine, the working of the needles may be stopped outside of the design.

2. In an embroidering machine, the combination with the needle operating cam and

the mechanism for transmitting movement from said cam to the needles, of a tiltable member interposed between said cam and mechanism, a notched member connected to said mechanism and a catch on the said tiltable member adapted to adjustably engage the said notched member, whereby during the operation of the machine, the working of the needles may be stopped outside of the design.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT ZAHN.

Witnesses:
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