V. KOBLER.

EMBROIDERING MACHINE.

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1,190,911.

Patented July 11, 1916.

Fig. 4

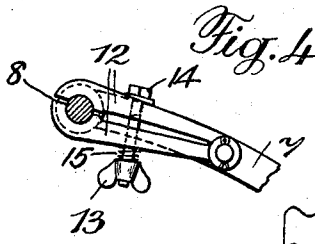


Fig. 1

Witnesses:

E. W. Taylor

Worthington Campbell

Fig. 2

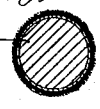
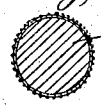


Fig. 3



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UNITED STATES PATENT OFFICE.

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EMBROIDERING-MACHINE.

Specification of Letters Patent. **Patented July 11, 1916.**

1,190,911.

Application filed March 25, 1914. Serial No. 827,015.

To all whom it may concern:

Be it known that I, VICTOR KOBLER, a citizen of the Republic of Switzerland, residing at Rorschach, Switzerland, have invented new and useful Improvements in Embroidering-Machines; and I 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, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to those devices which, in shuttle embroidering machines, are employed for the purpose of reeling or winding the fabric which is to be embroidered.

Heretofore it has been proposed to place in an embroidering machine, on the embroidery or needle side, a brake or friction roller over which the fabric is drawn as it is wound or reeled on the roller carried by the fabric frame of the machine for the purpose of giving the fabric the desired tension and so avoiding wrinkles, and a guard rail for the row of needles, the arrangement being such that when the fabric is reeled on the fabric roller it runs first, from the embroidery side of the machine, over the brake or friction roller and thence over the guard rail, from which it passes to the fabric roller. This old arrangement has these disadvantages, namely, that the entire front side of the machine is not kept free and unobstructed and that the guard rail must be removed before embroidering is begun.

The special purpose in view in the present case is to obviate the disadvantages which are incident to the employment of the arrangement just referred to and in accordance with the invention the brake or friction rollers are arranged at the back or shuttle side of the machine and above the guides for the shuttles, one for each story of the machine, so that, when the fabric is reeled on the lower fabric roller of each pair in the machine, it is guided in such a way that it does not touch the shuttle races, does not obstruct the front of the machine, and reaches the fabric roller, in the fabric frame, properly stretched and without wrinkles, without requiring the fabric roller to be removed from the frame. The brake or friction rollers are conveniently mounted on pivoted arms so that the rollers can be readily turned back out of the way before embroidering begins.

One convenient embodiment of the invention is shown, by way of illustration, in the accompanying drawing in which—

Figure 1 is a view in vertical section of an embroidering machine which is equipped with fabric rolling devices in accordance with this invention, those parts of the machine of which illustration is not necessary to the understanding of the invention being omitted and the tops of the side frames being broken off. Figs. 2, 3 and 4 are detail views of parts of the improved mechanism to be referred to.

The embroidering machine, except so far as the present invention is concerned, may be constructed in any usual or desired manner. It is shown in the drawing as having, as usual, at least two stories. It is provided with the usual supporting rails or bars 1 1 at the front or needle side of the machine, one above another, and with the usual supporting rails or bars 2 2 at the rear or shuttle side of the machine. The fabric frame 3, on which the fabric to be embroidered is stretched while it is being embroidered, is provided with pairs of fabric rollers, 4 and 5, one pair for each story of the machine. The fabric frame may be supported, during the operation of embroidering, by means of rods 6, one of which is indicated by broken lines in Fig. 1, such rods being removed during the reeling of the fabric on the fabric rollers 5.

On each of the rear members or rails 2 of the machine are pivoted arms 7 which carry a brake or friction roller 8, such as the usual emery covered roller, the arms 7 and roller 8 of the upper story of the machine being shown in Fig. 1 as swung forward into the position which they occupy during the reeling on of the fabric, while the arms 7 and roller 8 of the lower story are shown as swung back, out of the way, into the position which they occupy when embroidering is proceeding. Loosely supported by each rail 2 is a board or support 9 which supports the fabric during the reeling operation so that it may be conveniently drawn over the friction roller. As soon as the fabric has been secured to the fabric roller, it is

allowed to hang over the edge of the board or support, as indicated in Fig. 1. It will be observed that the arms 7 are of such length that when the roller 8 is supported thereby in position for the reeling operation, the fabric 11 does not touch the shuttle races 10 as it passes to the fabric roller 5.

Each guide roller 8, which is a friction roller, being preferably the usual emery covered roller, is mounted to rotate in the arms 7 and in order that the tensioning action of the roller 8 upon the fabric, while it is being reeled on the fabric roller 5 may be regulated, there are provided means for exerting a braking action on the roller. Such means may be of any suitable character. As shown in Fig. 4 they may consist of two braking arms 12, pivotally mounted on the adjacent arm 7 and held in frictional engagement with the shaft of the roller 8 by a wing-nut 13 and bolt 14, a spring 15 being preferably interposed between the wing-nut 13 and the adjacent brake member so as to permit the yielding action.

When fabric is to be reeled or wound on the fabric rollers 5, or either of them, the supporting rods 6 are removed and the fabric is laid from the rear over the brake or friction roller 8, is carried downward to the corresponding fabric roller 5 and is secured thereto, the brake or friction roller 8 having been swung forward into the position shown in the upper part of Fig. 1. The roller 5 is then rotated, as usual, to wind or reel the fabric thereon, the dragging action of the roller 8, under the influence of the brake, creating the necessary tension and preventing the wrinkling and slipping of the fabric.

The brake or friction roller may be an ordinary emery covered roller, as indicated in Fig. 2, or it may have a roughened sheet metal covering as indicated at 16 in Fig. 3, or be otherwise provided with the necessary roughened surface.

I claim as my invention:—

1. In an embroidering machine, the combination of a fabric frame, needles, supports for the needles at one side of the fabric frame, shuttle races, supports for the shuttle races at the other side of the fabric frame, a fabric roller, a roller for guiding the fabric to be reeled, and pivoted arms arranged on the shuttle side of the fabric frame carrying the guide roller, whereby the guide roller may be turned back away from the fabric frame and the needle supports when embroidering.

2. In an embroidering machine, the combination of a fabric frame, needles, supports for the needles at one side of the fabric frame, shuttle races, supports for the shuttle races at the other side of the fabric frame, a fabric roller, a brake roller for guiding the fabric to be reeled, pivoted arms carrying said brake roller and pivoted on the shuttle side of the fabric frame, whereby the brake roller may be turned back away from the needle supports and the fabric frame when embroidering, and an adjustable means for exerting a brake action on the brake roller.

3. In an embroidering machine, the combination of a main frame, a fabric frame, needles, supports for the needles at one side of the fabric frame, shuttle races, supports for the shuttle races at the other side of the fabric frame, a fabric roller mounted on the fabric frame, a roughened roller for guiding the fabric to be reeled, and arms pivoted on the shuttle side of the main frame and supporting the roughened roller.

4. In an embroidering machine, the combination of a main frame, a fabric frame, needles, supports for the needles at one side of the fabric frame, shuttle races, supports for the shuttle races at the other side of the fabric frame, a fabric roller mounted on the fabric frame, a roughened roller for guiding the fabric to be reeled, arms pivoted on the shuttle side of the main frame and supporting the roughened roller, and adjustable means for exerting a brake action on the roughened roller.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

VICTOR KOBLER.

Witnesses:
JACOB KÜNZLER,
RANDALL ATKINSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."