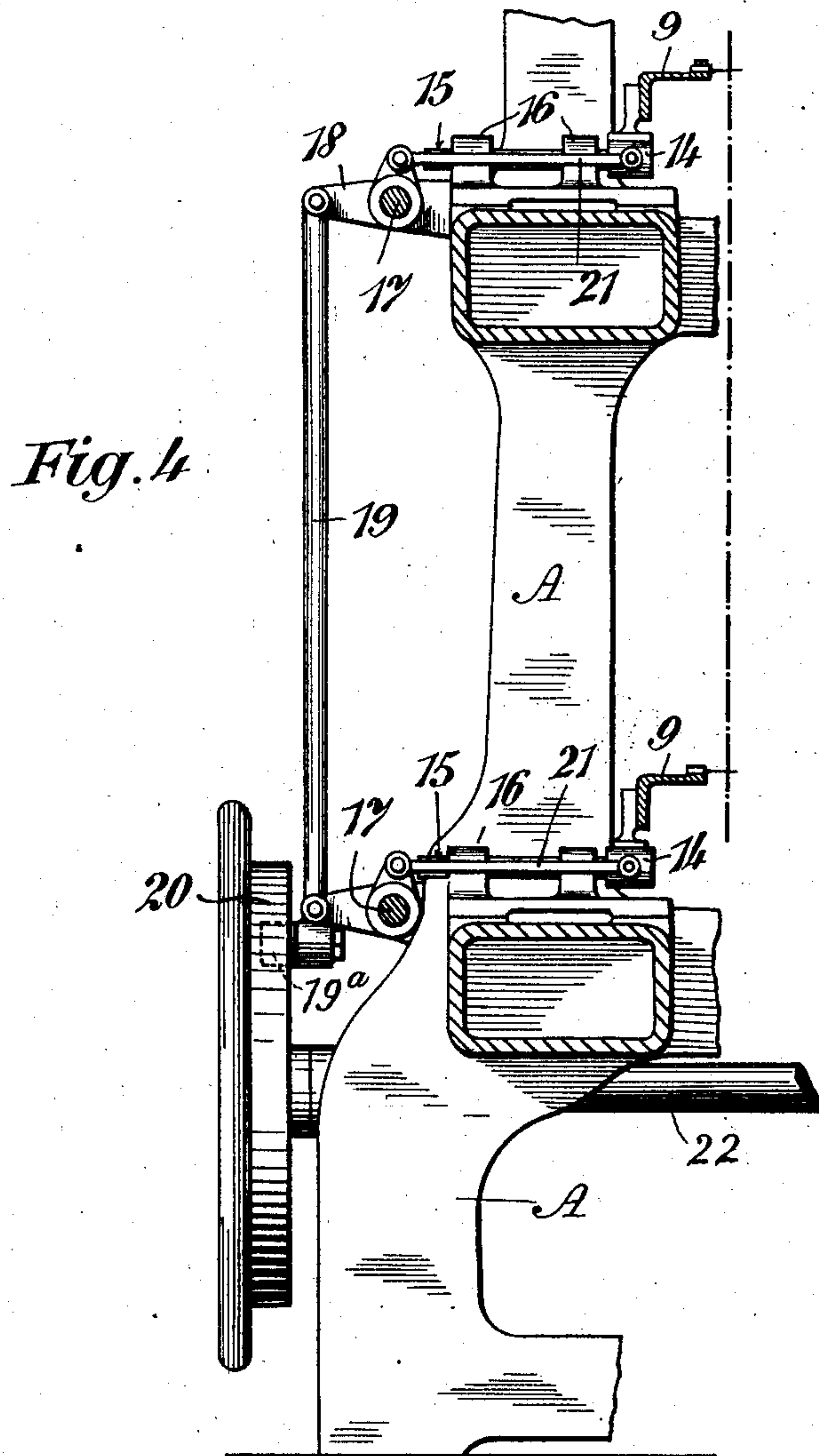


A. BOSSHARD.
EMBROIDERING MACHINE.
APPLICATION FILED JAN. 27, 1909.

997,365.

Patented July 11, 1911.

2 SHEETS—SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

ARNOLD BOSSHARD, OF ARBON, SWITZERLAND, ASSIGNOR TO AUGUST GREUTER, OF ARBON, SWITZERLAND.

EMBROIDERING-MACHINE.

997,365.

Specification of Letters Patent.

Patented July 11, 1911.

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To all whom it may concern:

Be it known that I, ARNOLD BOSSHARD, a citizen of the Republic of Switzerland, residing at Rebenstrasse, Arbon, Switzerland, have invented certain 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 drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The subject of my invention is an embroidering machine having two rows of needles, lying parallel with each other, and of which each row can be moved into the position that has been vacated by the other.

One form of construction of my invention is illustrated by way of example in the accompanying drawing, in which—

Figure 1 is a vertical section on the line A—B of Fig. 2, and Fig. 2 a fragmental plan view of Fig. 1. Fig. 3 is a plan view of a portion of the needle-bars of an embroidering machine drawn to a smaller scale and Fig. 4 is an elevation partly in section of the mechanism for operating the needle-bar carrier.

1 and 2 are needle-bars lying partly upon each other, and having their needle-holders 3, 4 located in the same plane. The needle-bars each consist of a plurality of sections which are connected with each other. At suitable places lugs 5, 6 are secured to these sections. Into the lugs there are screwed pivots 13, which engage in circular holes in the arms of bent levers 7. The arms can thus alter their angle to the lugs 5, 6; they can not, however, shift relatively to each other, as would be the case were the apertures through which the pivots 13 pass elongated slots instead of round holes. Each lever 7 is provided with an operating handle 7^a by means of which it may be oscillated on a vertical pin 8. At the edge of the needle-bar carrier 9 on which the needle-bars lie, with capability of sliding, there is a ledge 10, whose flange fits into corresponding grooves 11, 12 in the needle-bars 1, 2. If the bent lever 7 is oscillated, the two needle-bars are moved simultaneously and each will occupy the position which the other has left. If, therefore, the needle-bars occupy

that position in which they are shown in Fig. 2, and if one of the bent levers 7 is oscillated in clockwise direction, the needle-bar 2 will slide out of the position of rest into the operative position, and at the same time the needle-bar 1 will change its operative position for its position of rest. The flange of the ledge 10 will now be received by the groove 11 of the needle-bar 2 and the needle-bar will thus be locked against vertical motion when in its operative position.

The needle-bar carrier 9 may be operated by any well known reciprocating mechanism said carrier being provided with a collar 14 (Fig. 1) adapted to be fixed on a reciprocable member as 15. As shown in Fig. 4 the member 15 is mounted in bearings 16 formed on a standard A. A reciprocating motion is imparted to said member 15 by means of an oscillatory bell-crank lever fulcrumed on a pivot-pin 17 on the standard A. One arm 18 of said lever is connected to a rod 19 to which a reciprocating motion is imparted by a wheel 20 provided with a cam-groove (not shown) which is engaged by a pin 19^a on the rod 19. The other arm of said bell-crank lever is connected to the sleeve 14 by a rod 21.

As shown in Fig. 4 two needle-bar carriers are connected with the bar 19 and operated from the wheel 21 which is driven by the main driving shaft 22.

The object of the present invention is to enable the under stitches for laying so-called reliefs in the production of special embroideries to be made with a stronger quality of yarn than the over-stitches which cover the under-stitches. By the employment of coarser yarn for the latter a smaller number of stitches is requisite for the production of the same thickness of relief as hitherto, than when a finer yarn is used, such as is employed for the over-stitches. Devices have, it is true, already been employed in embroidering machines for the purpose of substituting needles of one series for those of another series, but the needle-bar is not locked in its operative position.

Having now particularly described and ascertained the nature of the said invention and in what manner the same is to be performed, I declare that what I claim is:

1. In an embroidering machine, two parallel horizontally slidable needle-bars each having a longitudinal groove, needles

mounted in said bars in one and the same horizontal plane, means for sliding one bar into the position vacated by the other, and a carrier supporting said bars
5 having a ledge adapted to engage in said groove and lock the bar against vertical displacement.

2. In an embroidering machine, two parallel horizontally slidable needle-bars each
10 having a plurality of rearwardly extending lugs, a needle-bar carrier, oscillatory bent levers pivotally connected to the carrier, one

arm of each lever being pivoted to a lug of one needle-bar and the other arm to a lug of the other needle-bar, and needles mounted 15 in each bar in one and the same horizontal plane.

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

ARNOLD BOSSHARD.

Witnesses:

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