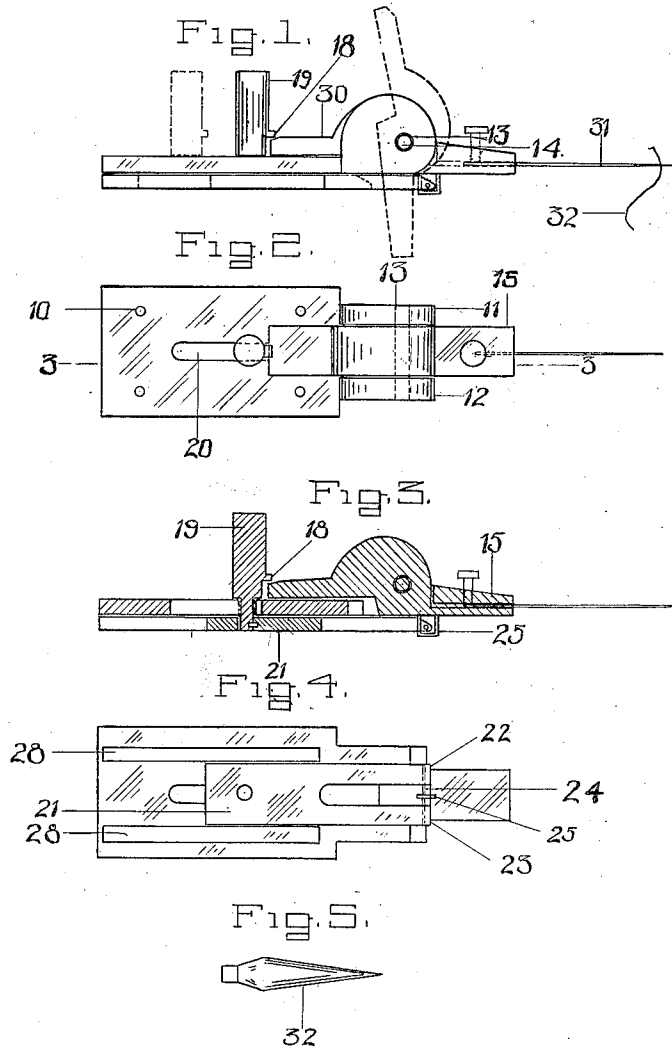


A. KELLER.
SHUTTLE EMBROIDERY MACHINE.
APPLICATION FILED DEC. 27, 1911.

1,057,557.

Patented Apr. 1, 1913.

2 SHEETS—SHEET 1.



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UNITED STATES PATENT OFFICE.

ANTON KELLER, OF NEW YORK, N. Y., ASSIGNOR TO IMPROVED SCHIFFLI MACHINE COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

SHUTTLE EMBROIDERY-MACHINE.

1,057,557.

Specification of Letters Patent.

Patented Apr. 1, 1913.

Application filed December 27, 1911. Serial No. 668,156.

To all whom it may concern:

Be it known that I, ANTON KELLER, a subject of the Emperor of Austria-Hungary, residing in New York, borough of the Bronx, county and State of New York, have invented certain new and useful Improvements in Shuttle Embroidery-Machines, of which the following is a specification.

This invention relates to improvements on shuttle embroidery machines, and has for its object to provide an improved device by means of which the needles and borers may be put out of action when not needed and reference is made to my contemporaneously pending application, Serial No. 677,895, filed February 16th, 1912, in which is clearly illustrated the manner in which the several needles and borers are supported in the machine, and which pending application illustrates in part an improvement upon the present case.

In the use of embroidery machines it very often happens that certain needles and certain borers are not needed for the particular pattern to be embroidered, and in that case it is usual to take the needles and borers out and when desired to be used, to replace the same. When, however, it is desired to use the needles and borers which have previously been removed for the purpose of making another pattern on such goods, it is necessary to replace the needles and borers and this necessitates the rethreading of such needles as well as the replacement of said needles and borers. The changing of borers during the operation is absolutely impossible. This replacing of the needles and borers causes a loss of a large amount of time and consequent expense. To overcome this, I produced my improved device which consists of means for deflecting the threaded needles so as to take it out of the path of the pattern to be embroidered and thereby make the said needle or borer inactive.

In the accompanying drawing, Figure 1 shows a side-view of my improved device with the needle holder in full lines in one position, and in dotted lines in the inactive position, Fig. 2 is a plan-view, Fig. 3 is a vertical longitudinal section, taken on line 3-3 of Fig. 2, Fig. 4 is a bottom-view, Fig. 5 is a perspective view of the borer and Fig. 6 is a perspective view illustrating the usual

reciprocatory bar carrying several of these attachments located side by side.

Similar letters of reference indicate corresponding parts throughout the several figures of the drawing.

In shuttle embroidery machines the sets of needles are located side by side throughout the entire length of the machine as are also the sets of borers, one set below the other, and each set carried by its reciprocating bar. The needles and borers are located at predetermined distances apart, say for instance an inch apart, and when it is desired to use the needles and borers say two inches apart each intermediate needle and borer has to, in machines as now constructed, be removed and if the needles and borers are to be used three inches apart each pair of intermediate needles and borers would have to be removed, which requires a great deal of time in removing these implements as well as a great deal of time in replacing them and rethreading all of the needles when it is again desired to use the needles and borers an inch apart, especially when it is remembered that machines of this character are about ten yards long, so that there would be close to two hundred needles in a machine of this length, when such needles are spaced an inch apart. This is also true of the borers. The present improvement enables the needles and borers to be readily deflected out of their working position or to be returned to their working position without the necessity of removing them, so that any desired number of needles and borers may be quickly manipulated into or out of their working position.

To each of the needle and borer bars is secured side by side a series of holders, one only of which is shown herein, as the others are duplicates thereof. Each of these holders carries a working implement, either a needle or a borer. In the present embodiment thereof, although the various details may be more or less changed without departing from the spirit or scope of this improvement, each needle or borer holder consists of a plate 10, which is secured to a reciprocating needle or borer bar of the embroidery machine by suitable means and this plate has two forwardly extending ears or flanges 11 and 12 having pivot holes

13 in which is located a pin or pivot 14 for supporting a deflector 15. The deflector is held in one position, see full lines Fig. 1, by means of a locking device or projection 18 carried by a movable thumb-piece or pin 19, the lower end of which moves in a slot 20 of the plate 10. The lower end of this pin 19 is secured to a sliding plate 21, the outer end of which is pivotally connected to the deflector and for this purpose the plate has forwardly extending parts 22 and 23 of substantially fork-shaped form, between the ends of which a pin 24 is located. This pin 24 pivotally connects the plate with the deflector by passing through a loop or U-shaped holder 25 secured to the bottom of the deflector 15. The plate 21 is movable in guideways 28, one at each side of such plate, and secured to the bottom of the plate 10. By moving the pin 19 from the position shown in full lines in Fig. 1 to the position shown in dotted lines in said Fig. 1 the locking projection 18 is moved away from the rear extension or projection 30 of the deflector 15 and the deflector is also moved from its full line position shown in Fig. 1 to its dotted line position in said figure. The forward or outer end of the deflector is so formed that it may carry a needle 31 through which will pass the usual thread 32 or it may carry a borer 33, see Fig. 5, which is usually threaded into the end of said deflector. By swinging the deflector into its dotted position, see Fig. 1, the needle or the borer, in other words the working implement carried thereby, is swung out of the plane of the embroidery surface, in other words, away from the work and is brought into an inactive position, while the thread remains in the needle. From the foregoing it will be understood that the same holder is used for the borers as well as for the needles, and that therefore both needle and borer may be deflected in the manner shown, and also quickly returned to their working position when desired. Thus in those patterns which do not require all of the needles or borers on the embroidery machines, those needles and borers not required may be made inactive by the tilting or swinging of the deflector.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

55 1. A shuttle embroidery machine having a series of working implements located in a horizontal plane side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a deflector carrying a work engaging implement and means connected therewith and shiftable in a plane transversely to the plane of movement of such deflector for moving it and thereby its implement out of or into its

working position independently of a companion implement, each of said shifting means being operative independently of a companion shifting means.

2. An attachment for a shuttle embroidery machine, comprising a swinging deflector carrying a work engaging implement, and sliding means located adjacent thereto and connected therewith and shiftable in a plane transversely to the plane of movement of such deflector and toward and from the work for moving the deflector and thereby its implement out of or into its working position.

3. In a shuttle embroidery machine, a plate, a plate movable therein, a deflector pivoted to the first plate, means connecting the deflector with the movable part, a pin holding the deflector in one position, and means connecting the pin with the movable plate whereby the deflector is released and moved into inactive position.

4. A shuttle embroidery machine having a series of working implements located in a horizontal plane side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a shiftable member carrying a work engaging implement and sliding means connected therewith for moving it and thereby its implement out of or into its working position independently of a companion implement, each of said sliding means being operative independently of a companion sliding means.

5. A shuttle embroidery machine having a series of working implements located side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a swinging member carrying a work engaging implement and sliding means connected therewith for swinging said member and thereby its implement into or out of its working position.

6. A shuttle embroidery machine having a series of working implements located side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a swinging deflector carrying a work engaging implement and sliding means having a hinge connection therewith for swinging the deflector and thereby its implement into or out of its working position independently of a companion implement.

7. A shuttle embroidery machine having a series of working implements located in a horizontal plane side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a deflector carrying a work engaging implement, means connected therewith and shiftable trans-

versely to the plane of movement of such deflector for moving the deflector and thereby its implement into or out of its working position independently of a companion implement, and means for locking the deflector in its implement working position.

8. A shuttle embroidery machine having a series of working implements located side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a swinging deflector carrying a work engaging implement and means connected therewith and shiftable in a plane transversely to the plane of movement of such deflector for swinging the deflector and thereby its implement out of or into its working position independently of a companion implement, said means also carrying means for locking the deflector in its implement working position.

9. A shuttle embroidery machine having a series of working implements located in a horizontal plane side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a deflector carrying a work engaging implement, sliding means connected therewith for moving the deflector and thereby its implement out of or into its working position independently of a companion implement, and means for locking the deflector in its implement working position.

10. A shuttle embroidery machine having a series of working implements located side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a swinging deflector carrying a work engaging implement and means having a hinge connection therewith for moving the deflector and thereby its implement into and out of its working position independently of a companion implement, said means having means for engaging and locking the deflector in its implement working position.

11. An attachment for shuttle embroidery machines comprising a support having a slot and a guideway, a pivoted deflector having a pair of projections, one adapted to carry a working implement, a pin working in said slot and having a projection adapted to engage one of said projections of the deflector

thereby to lock it in its working position, a sliding plate in said guideway and connected to said pin and to said deflector.

12. A shuttle embroidery machine having a series of working implements located side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a support having a slot, a member sliding in said slot, and a member adapted to carry a working implement connected with said first member whereby the working implement may be shifted from or into its working position by said sliding member independently of a companion implement.

13. A shuttle embroidery machine having a series of working implements located side by side and each having means for shifting it independently of a companion implement into or out of its working position and comprising a support having a slot, a member sliding in said slot, a member adapted to carry a working implement connected with said first member whereby the working implement may be shifted from or into its working position, and means for locking said implement in its working position.

14. An attachment for shuttle embroidery machines comprising a shiftable working implement, a slotted supporting member, a member shiftable relatively to said slotted member and connected with said implement, means connected with said shiftable member and projecting through said slot for shifting said implement into or out of its working position, and means carried by said means and cooperating with a part of the attachment for locking the implement in its working position.

15. An attachment for shuttle embroidery machines comprising a swinging deflector carrying at one end a work engaging implement, and sliding means shiftable toward and from the opposite end of the deflector, said sliding means carrying a catch for engaging said opposite end thereby to lock the deflector and thereby its implement in its working position.

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

ANTON KEILER.

Witnesses:

JOHN MURTAGH,
H. GOEPEL.