No. 815,342. PATENTED MAR. 20, 1906.

B. FLEIGEL.

GUIDE FOR SEWING MACHINES.

APPLICATION FILED OCT. 31, 1904.

Fig. 3.

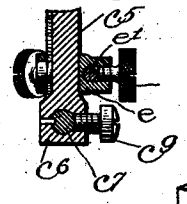


Fig. 1.

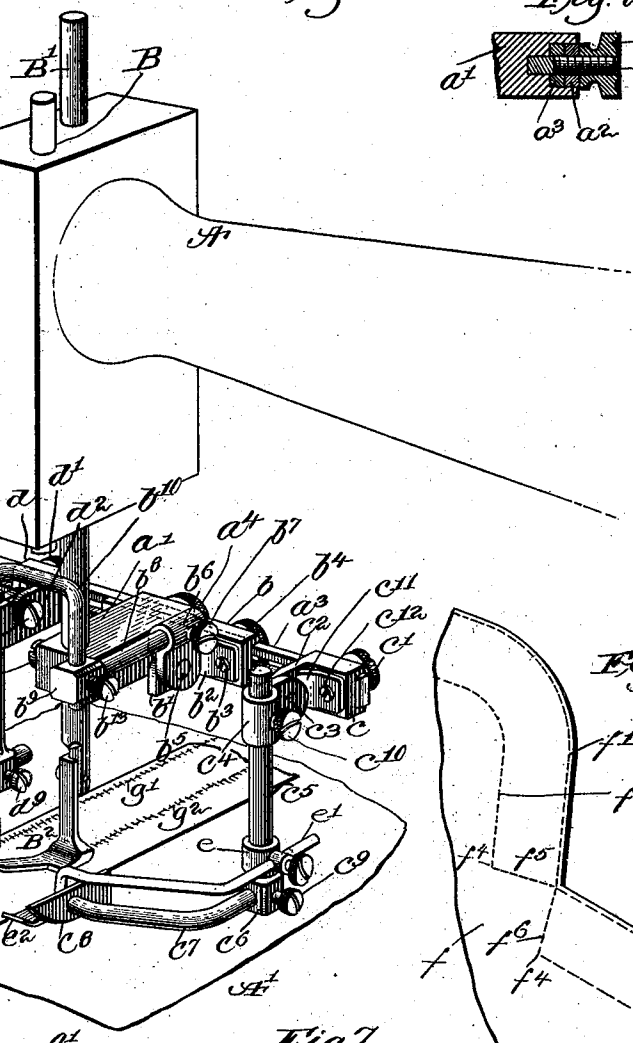


Fig. 2.



Fig. 4.

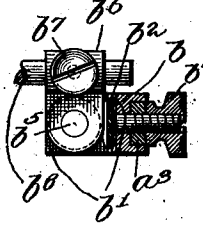


Fig. 6.

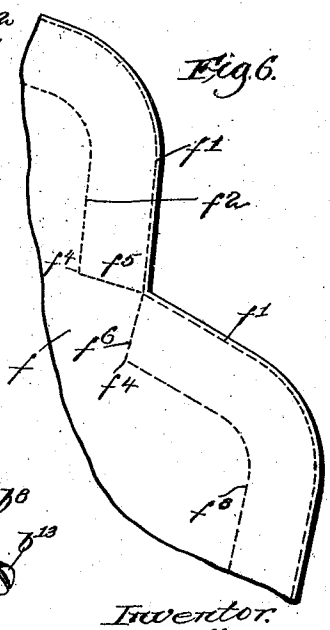


Fig. 5.

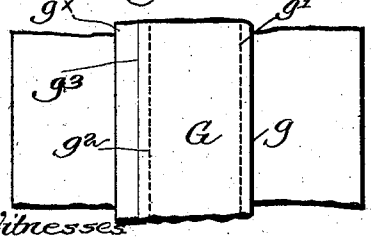
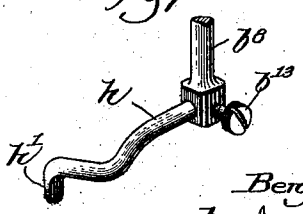


Fig. 7.



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# UNITED STATES PATENT OFFICE.

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## GUIDE FOR SEWING-MACHINES.

No. 815,342. Specification of Letters Patent. Patented March 20, 1906.

Application filed October 31, 1904. Serial No. 230,628.

*To all whom it may concern:*

Be it known that I, BENJAMIN FLEIGEL, a citizen of the United States, and a resident of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Guides for Sewing-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object the production of a novel sewing-machine attachment, used chiefly as a guide for directing work being stitched. Heretofore it has been customary to control the movement of the edge of the work being stitched by means of a gage connected with the work-support of a sewing-machine, and this gage is made adjustable any distance from the needle in order to control the distance of the line of stitching from the edge of the article. In the manufacture of coats and garments in large numbers and in which each garment wants to be stitched just like the other where the gage is adjusted toward and from the needle by hand after each line of stitching is made it is very difficult for the operator to secure just the proper position for the gage, and so insure that a number of garments shall be stitched just the same.

The attachment herein to be described and claimed has been especially devised for use in shops where clothing is made in quantities, and the attachment contains a plurality of guides or edge-gages which are adjusted into just the proper position required to insure just the proper distance from the edge of the article of a line of stitching and then of another parallel line of stitching, and the gages being once set the operator having made one line of stitching has only to bring the other set gage into its operative relation to the needle and place the gage which was previously used in its inoperative position.

The attachment herein to be described has a plurality of guiding edges, and these edges may be located at one or both sides of the needle.

Figure 1 represents a portion of the head of a sewing-machine, with the presser-foot-carrying bar and my gages applied thereto, the drawing also showing part of the usual needle-bar. Fig. 2 is a longitudinal section of block $a'$, its screw, and the two slotted bars. Fig. 3 is a section of one of the heads, showing one of the splined shanks thereon. Fig. 4 shows the block $b$ in section. Fig. 5 shows some of the work that may be done with my attachment. Fig. 6 shows other work, and Fig. 7 shows a modified gage for leather work.

Referring to the drawings, A represents part of the usual overhanging arm of a sewing-machine, A′ part of the work-support, B the needle-bar, and B′ the usual bar carrying the presser-foot $B^2$. To the presser-foot bar I have connected by a suitable screw $a$ a block $a'$, herein represented as having at its rear end a horizontal groove in which are placed and overlapped the ends of two gage-sustaining bars $a^2$ $a^3$, each shown as slotted in the direction of its length, said bars being slidable one on the other, when desired, and being held in their adjusted positions by means of a clamping-nut $a^4$, which fits a screw $a^5$, fixed in the space at the end of the block $a'$. By turning the clamping-nut $a^4$ the bars referred to may be locked in any adjusted position. Each of these bars sustains one or more guides, which I will now describe, and constitutes a gage-support. The bar $a^3$ receives upon it a grooved block $b$, provided with a lug $b'$ and a locking device $b^2$, (shown as a spring held by a screw $b^3$,) and the block is held in its adjusted position on said bar by means of a clamping-nut $b^4$, engaging a screw-threaded stud extended outwardly from said block through the slot of the arm $a^3$, where it receives the clamping-nut $b^4$. The lug $b'$ receives a stud-screw $b^5$, that is fixed at its end to an ear extending from a socket-piece $b^6$, said socket-piece being revoluble with the screw in the lug $b'$, so that it may occupy either its inoperative position, as shown in Fig. 1 of the drawings, or may be lowered into its operative position, as will be described. The socket $b^6$ has a set-screw $b^7$, that engages the shank $b^8$, having at its opposite end a head $b^9$, bored for the reception of the shank $b^{10}$ of what I shall designate the "auxiliary" gage $b^{12}$, said shank being bent as represented and entering the hole in the head $b^9$, where it is held in adjusted position by means of the set-screw $b^{13}$. The bar $a^3$ also receives upon it a block $c$, having a threaded stud or post extended through the slot of the bar $a^3$, where said stud has applied to it a clamp-screw $c'$ to hold the block in any desired adjusted position. This block has an ear $c^2$, that receives a stud-screw $c^3$, that engages a threaded hole in the ear of a sleeve $c^4$, that receives a rod $c^5$, provided at its lower end

with a head $c^6$, that receives the shank $c^7$ of what I shall designate the "main" guide $c^8$. The shank $c^7$ is held in said head in adjusted position by the set-screw $c^9$, and the rod $c^5$ is held in its adjusted position by the set-screw $c^{10}$. The main gage $c^8$ is represented as lowered in its operative position, and is there held by means of the locking device $c^{11}$, (a spring,) held in position by a screw $c^{12}$. The bar $a^2$ likewise receives, as shown, a block $d$, having a threaded post or stud extended through the slot in the bar, the stud receiving a clamp-screw $d'$, by which to adjust the block at the desired distance from the needle-bar and retain it there. The block $d$ has a lug $d^2$, that receives a stud-screw $d^3$, one end of which is threaded into an ear of a socket $d^4$, that receives a rod $d^5$, provided at its lower end with a head $d^6$, bored to receive the shank $d^7$ of a secondary gage $d^8$, said shank being held in adjusted position by means of a set-screw $d^9$ and the rod $d^5$ by a set-screw $d^{10}$. Each of the rods and shanks will be grooved longitudinally to receive suitable keys or splines (see Fig. 3) to prevent them turning either in the heads or the sockets referred to, one of said splines being represented in the socket $c^6$. The rod $c^5$ is also surrounded by a collar $e$, that receives the shank $e'$ of an auxiliary presser $e^2$, that may be adjusted to act upon the top of the work, the edge of which is traveling along the main gage $c^8$. The collar may be adjusted on the rod $c^5$ to adapt the under side of the auxiliary presser to the thickness of the goods being stitched.

The needle-bar and its needle (not shown) are and may be as usual, and in connection with the needle and needle-bar will be employed usual coöperative stitch-forming mechanism. (Not necessary to be herein shown.)

Referring to Fig. 6, let it be supposed that $f$ represents part of a coat with the edge of the material inturned and to be provided near its edge with a line of stitching $f'$ and that the stitching $f'$ being done it is desired to make a second line of stitching $f^2$ and that the distance shown between the two lines of stitching may be preserved throughout the coat to be stitched and any other coats of the like character, it is only necessary to adjust the main and auxiliary gages on the bar $a^3$ so that said auxiliary gage will be located at just the proper distance from the line of action of the needle to make the line of stitches $f'$ and that the main gage shall be adjusted upon said bar at just the proper distance from the line of action of the needle to position the work that the second line of stitching $f^2$ may be made parallel therewith. In doing this work the main gage $c^8$ will be turned upwardly from the position Fig. 1 into its inoperative position, and the auxiliary gage $b^{12}$ will be turned down from its inoperative position, as shown by full lines in Fig. 1, into its operative position, so that the edge of the coat $f$ will contact with said guide $b^{12}$. With the guide $b^{12}$ in this position the line of stitching $f'$ will be made by the needle close to the edge of the coat, and said line of stitching having been completed the auxiliary gage $b^{12}$ will be moved from its supposed operative position into its inoperative position, as shown in Fig. 1, and the main gage $c^8$ will be lowered from its supposed inoperative position into its operative position, now shown in Fig. 1, and the edge previously stitched while in contact with the gage $b^{12}$ will run against the gage $c^8$ and the needle will stitch the line of stitching $f^2$. When the main gage is operative and the stitching arrives at, for instance, a corner, as at $f^4$, where the short line of stitches $f^5$ is to be made in the work to substantially meet the stitching $f'$, the gage then in use will be thrown into its inoperative position for a period of time long enough to enable the short line of stitches $f^5$ to be stitched, and the stitching meeting the line of stitches $f'$ the material will be turned around on the needle, and the short line of stitching $f^6$ will be made of a length equal to the line of stitching $f^5$, and then the main gage $c^8$ will be again lowered and the stitching continued, as at $f^8$, which forms a part of the line of stitching $f^2$ before referred to.

It will be obvious that if the material of a coat was laid so that its faces were in contact and a line of stitching should be run along the edges of the material to unite the same the said material might then be turned right-side out and be stitched, either with the one line of stitching $f'$, using gage $b^{12}$, or the line of stitching $f'$ might be omitted and the line of stitching $f^2$, $f^5$, $f^6$, and $f^8$ might be put in by the gage $c^8$ referred to.

During the operation of the main gage herein shown as located farthest from the line of action of the needle the auxiliary presser-foot will act on the upper side of the material and keep the work down properly on the work-support, the main presser-foot $B^2$ acting to hold the work down at the point where it is being stitched.

My main and auxiliary gage referred to may be employed for stitching parallel seams at the same side of the needle-bar in any class of work in which it is desired to make parallel seams, and by adjusting the main and auxiliary gages and the blocks containing them longitudinally of the arm $a^3$ it will be seen that any desired space between one and the next line of stitching may be insured accurately and may be repeated as many times as desired on, say, a number of coats or other articles being made and each coat be just like the other.

Stitching on coats, &c., what is called a "raw-edge strap" G (see Fig. 5) would call into employment the secondary gage $d^8$, used,

say, in connection with the auxiliary gage $c^8$ in the following manner: Suppose the raw edge $g$ is to be retained and to effect this the auxiliary gage $b^{12}$ will be turned from its inoperative position, Fig. 1, into its operative position and the raw edge will be guided by said gage and the line of stitching $g'$ will be made in the strap. Now to make the second line of stitches $g^2$ at the desired distance from the line $g'$ the work to which the strap is being attached will be turned end for end and put under the presser-foot, as shown in Fig. 1, and the line of stitching $g'$ just made will be brought to the left-hand side of the main presser-foot $B^2$, and with the secondary gage $d^8$ in its operative position, as shown, the operator with his eye on the secondary gage and the line of stitching $g'$ may guide the material by said line of stitching, and during this time the second line of stitching $g^2$ will be made parallel with the first line of stitching $g'$ and at the desired distance therefrom, and thereafter the extra width of material $g^\times$ at the outside of the line of stitching $g^2$ will be cut off. In practice it is not found practicable to cut a raw-edge strap of just the width desired and sew it artistically on a garment. Hence it is essential that but one raw edge run against the gage in making the first line of stitching and that during the second line of stitching the opposite raw edge be not used as a guide.

It will be understood from the foregoing that my attachment may be used for a great variety of stitching such as required in the manufacture of clothing and that the gages used are disconnected from the work-support and are so sustained above the work-support that any gage once adjusted at the proper distance from the needle on the line of stitching may be moved instantly from its inoperative into its operative position, and vice versa, according to the requirements of the work, and this facility of readily bringing into operative position a gage disconnected from the work-support (a gage that has been previously set according to the work to be done) saves a very great amount of time of the operator and also insures for the garment being stitched greater accuracy, and consequently greater value in the garment.

It is obvious that the attachment described may be used for guiding any material used in the manufacture of clothing or for any other purpose where it is desired to insure parallel seams, and the attachment may be used, among other things, for quilting.

In stitching leather in the manufacture of shoes or for stitching parts of leather to clothing in the manufacture of suspenders and other articles the gage used has to be shortened practically to a point as represented in Fig. 7, wherein I have shown a gage $h$, that may be substituted for the gages $b^{12}$ or $c^8$, the end $h'$ of this gage running against the edge of the overlying piece of leather and being so short as to permit the work to be turned on short corners or angles, the acting end of the gage entering the usual side notches of the presser-foot.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A sewing-machine attachment comprising a gage-support located above the work-support and provided at one side of the line of action of the needle with a pivoted sleeve, a rod extended through said sleeve made adjustable vertically therein, means to confine said rod in its adjusted position, a gage having its shank inserted through a hole in said rod, and means coacting with the shank of the gage to provide for its adjustment in said rod.

2. A sewing-machine attachment comprising a gage-support located above the work-support and provided at one side of the line of action of the needle with a plurality of pivoted sleeves, a plurality of gages having their shanks extended through said sleeves and vertically adjustable therein, the shank of one of said gages having thereon an adjustable block and an auxiliary presser-foot having its shank adjustably mounted in said block.

3. In a sewing-machine gage, a block adapted to be carried by a presser-bar, a plurality of supports adjustably connected with said block and extending in opposite direction therefrom, a block adjustably connected with each of said supports, each block having jointed thereto a guide, either or both of which may be readily moved from their inoperative into their operative positions, and vice versa.

4. A sewing-machine gage comprising a gage-support located above the work-support and provided with a plurality of adjustable sleeves, each sleeve having pivotally connected therewith an arm, each arm having adjustably connected with it a gage so that said gage may be adjusted in said arm to be adapted to thickness of material to pass under the gage, either of said gages being adapted to be turned down from its inoperative into its operative position, and means to retain said gages in either their operative or inoperative positions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN FLEIGEL

Witnesses:
GEO. W. GREGORY,
MARGARET A. DUNN.