June 3, 1930. A. M. WENZEL 1,761,857

GAUGE FOR SEWING MACHINES

Filed Aug. 7, 1928

Fig. 1.

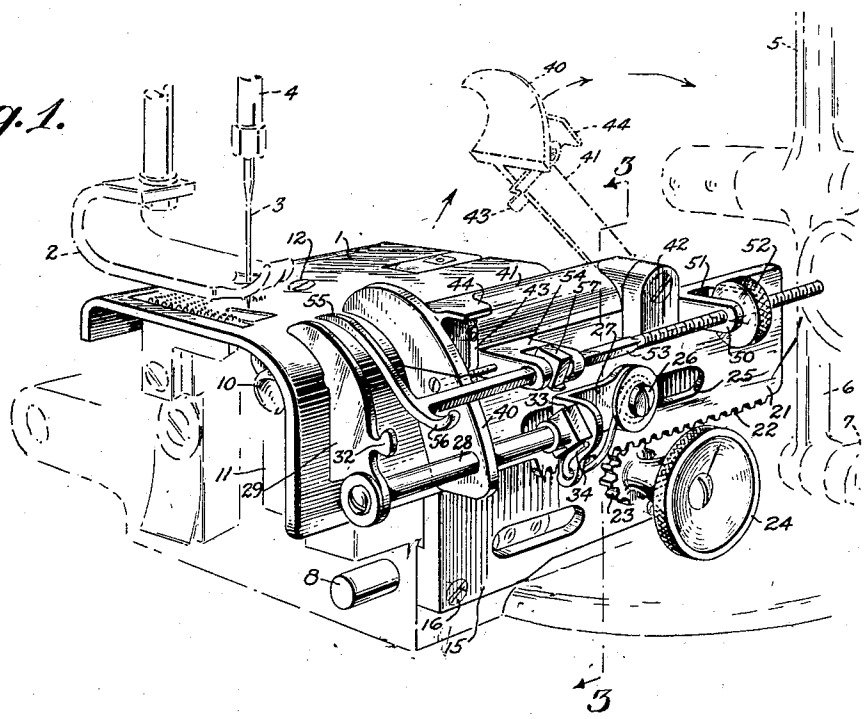


Fig. 2.

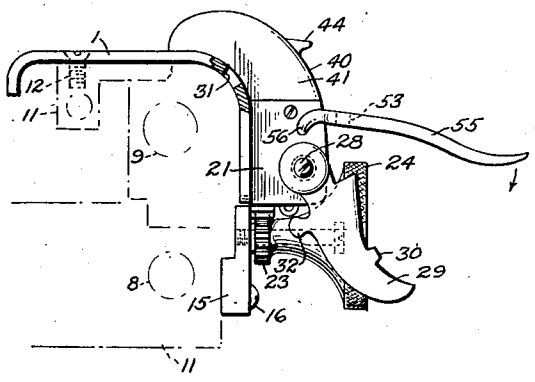
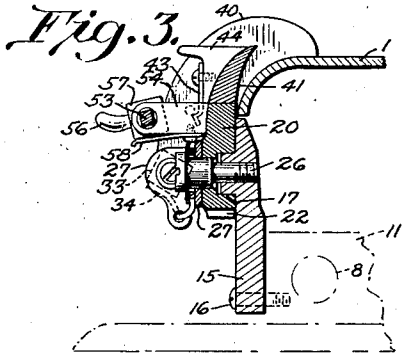


Fig. 3.



Inventor

A. M. Wenzel

By

Attorney

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UNITED STATES PATENT OFFICE

ANNA MADELINE WENZEL, OF BROOKLYN, NEW YORK

GAUGE FOR SEWING MACHINES

Application filed August 7, 1928. Serial No. 298,026.

This invention relates to gauges for sewing machines and has for its object to provide an adjustable gauge which is more simple in construction and efficient in use than those heretofore proposed.

With these and other objects in view the invention consists in the novel details of construction and combinations of parts as will be more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification in which like numerals designate like parts in all the views:

Fig. 1 is a perspective view illustrating the invention as applied to a sewing machine;

Fig. 2 is an end elevational view looking towards the sewing machine and illustrating some of the parts shown in Fig. 1 in turned down or inoperative position to permit ordinary sewing; and

Fig. 3 is a vertical sectional view taken as on the line 3—3 of Fig. 1 and looking in the direction of the arrows.

This invention is more particularly directed to gauges for use with sewing machines adapted to sew braid such as on hats and contemplates a gauge which is an improvement over that disclosed in my co-pending application Serial No. 240,812 filed Dec. 17, 1927, and entitled Adjustable gauges for sewing machines. One of the objects of this invention is to provide a construction the parts of which are readily turned out of operative positions when ordinary sewing is to be done by the machine thus giving more space for the work being sewed.

Another object of this invention is to provide a construction which is less cumbersome, has fewer parts, and permits greater adjustability with more ease than those heretofore proposed, while at the same time maintaining inherent strength and necessary rigidity to accomplish the results desired, as well as reducing the weight of the machine.

1 indicates the throat plate, 2 the foot, 3 the needle, and 4 the needle bar usually found in sewing machines of this type, while 5 is a lever adapted to oscillate the needle 3 from side to side to form diagonal or zig-zag stitching, said lever having a depending portion 6 connected as through a link 7 with the sliding rod 8 disposed below and in substantially the same vertical plane with the main driving shaft 9 of the machine. 10 is the thread looper carried in prolongation of and at the end of the main driving shaft 9 and adapted to rotate beneath the throat plate 1 which is secured to the frame 11 of the sewing machine as by the screw 12.

By disposing the sliding rod 8 in substantially the same vertical plane with the main drive shaft 9, the entire gauge mechanism can be mounted closer to the needle 3 than those heretofore proposed, and particularly that disclosed in my co-pending application.

The gauge mechanism comprises the vertically disposed supporting plate 15, secured as by the screws 16 to the bed plate of the machine, which is provided with the track 17 upon which slides the gauge unit generally indicated by the numeral 20. The unit 20 has a base portion 21 on the bottom edge of which are cut rack teeth 22 adapted to engage the teeth of a pinion 23 journalled in the frame of the sewing machine and provided with a knob 24 integral with the pinion for turning the same and thus causing the unit as a whole to slide on its track from left to right.

The base portion 21 is provided with a slotway 25 extending horizontally and through which freely passes a stud 26 rigidly threaded into the supporting plate 15. This stud 26 carries a bracket member 27 having an out-turned end serving as a journal for one end of a rod 28 the other end of which has rigidly formed therewith a fixed member 29 serving as an edge guide having a lug 30 adapted to rest in an aperture 31 formed therefor in the throat plate 1. One side of the edge guide 29 is curved to conform to the surface of the throat plate, and the opposite side or edge is provided with a finger piece 32 by which said edge guide may readily be turned downwardly about the center of the rod 28 as an axis as shown in Fig. 2 out of the way of any material upon which the usual stitching is desired. The rod 28 is provided with a squared portion

33 against the flat sides of which the end 34 of a spring contacts to hold the edge guide 29 in either operative or inoperative position, the other end of said spring being secured about the stud 26.

The gauge unit has an outstanding end portion or rib constituting the braid guide 40 which is adapted to closely and contactingly fit the curvature of the surface of the throat plate, but said braid guide as well as the gauge unit is divided to form an upper portion 41 which is hinged at one end to the lower portion 21 as at 42. The parts 21 and 41 are maintained in closed contacting relation by a spring clip 43, and the upper portion is provided with a thumb lift 44 by means of which it may be rotated readily about the hinge 42 as indicated in Fig. 1 so that no part of the braid guide will be above the horizontal plane of the top of the throat plate and in the way of material being sewed. The lower section of the braid guide is apertured to permit the edge guide rod 28 to pass therethrough and be supported thereby, said aperture providing a close sliding fit with said rod so as not to interfere with the sliding of the gauge unit as a whole on its supporting plate 15.

At the upper portion of the base member 21 and near the right hand end thereof there is provided an extending bracket 50 provided with a slot 51 to confiningly receive a knurled nut 52 threaded on the rod 53 extending horizontally through said bracket 50 to and through another bracket 54 disposed near the left hand end of said base member 21. The rod 53 is of a length sufficient to extend beyond the braid guide 40 and has integrally formed at the end thereof a pressure arm 55 having associated therewith a thumb piece 56 as will be clear from the drawings. That is to say, the rod 53 which is preferably of square cross section is threaded at one end to pass through the nut 52 held by the arms of the bracket 50 so that when said nut is turned the rod 53 will be moved axially to vary the position of the pressure arm 55 between the edge guide 29 and the braid guide 40. To secure the necessary pressure between the pressure arm 55 and the work passing over the throat plate 1, the rod 53 is provided with a nut 57 having a square aperture to slidingly but rotatably engage said rod, said nut being disposed thereon between the branches of the bracket 54 and adapted to have its flat sides engaged by a leaf spring 58 carried by said bracket. By means of the thumb piece 56 the pressure arm and the rod 53 may be rotated quickly and readily to bring said pressure arm down into inoperative position as indicated in Fig. 2 out of the way of flat material upon which stitching is desired.

It thus results that by this invention there is provided a fixed edge guide 29, a braid guide 40 which may be moved toward or from said edge guide by means of the rack 32 and pinion 33, and that between the edge guide and the braid guide there is disposed a pressure arm 55 which may be made to assume any desired position therebetween, and which may be moved readily out of operative position when desired. The edge guide 29 may also be readily moved out of its operative position and the upper portions of the braid guide swung about in a vertical plane likewise into an inoperative position. The pressure arm is readily and rapidly adjusted to a desired position by means of a thumb nut 52 and all of the parts are disposed in vertical planes relatively close to the main drive shaft so that no unnecessary space is taken up by the gauge mechanism to handicap the feed of material to the needle 3.

It is obvious that those skilled in the art may vary the details of construction as well as arrangements of parts without departing from the spirit of the invention and it is therefore desired not to be limited to the foregoing disclosure except as may be demanded by the claims.

What is claimed is:—

1. A gauge device for sewing machines comprising a support secured to said machine; a gauge unit horizontally movable over said support; an edge guide provided with means for positively securing the same against horizontal displacement; a divided braid guide the lower portion fixed with respect to said unit but the upper portion movable with respect thereto in a vertical plane; brackets carried by said unit; a squared shaft passing through said brackets and provided with threads at one end engaging a nut confined by one of said brackets; a pressure arm integral with said shaft and adapted to occupy the space between said edge guide and said braid guide; and spring controlled means for securing said edge guide and pressure arm in operative and inoperative positions.

2. A gauge device for sewing machines, provided wth a throat plate, comprising a support secured to said machine; a gauge unit horizontally movable over said support; an edge guide provided with dual means for positively securing the same against horizontal displacement one of said means passing through said throat plate; a divided braid guide the lower portion fixed with respect to said unit but the upper portion movable with respect thereto in a vertical plane; brackets carried by said unit; a squared shaft passing through said brackets and provided with threads at one end engaging a nut confined by one of said brackets; a pressure arm integral with said shaft and adapted to occupy the space between said edge guide and said braid guide; and spring controlled means

for securing said edge guide and pressure arm in operative and inoperative positions.

3. A gauge device for sewing machines provided with a throat plate having an opening in its work face said device comprising a support secured to said machine; a gauge unit horizontally movable over said support; an edge guide provided with means for positively securing the same against horizontal displacement said means engaging the throat plate opening; a divided braid guide the lower portion apertured to supportingly receive a portion of said edge guide and fixed with respect to said unit but the upper portion movable with respect thereto in a vertical plane; brackets carried by said unit; a squared shaft passing through said brackets and provided with threads at one end engaging a nut confined by one of said brackets; a pressure arm integral with said shaft and adapted to occupy the space between said edge guide and said braid guide; and spring controlled means for securing said edge guide and pressure arm in operative and inoperative positions.

In testimony whereof I affix my signature.

ANNA MADELINE WENZEL.