Aug. 25, 1959 R. E. JOHNSON 2,900,938

ORNAMENTAL STITCH SEWING MACHINES

Filed Jan. 7, 1958 3 Sheets-Sheet 1

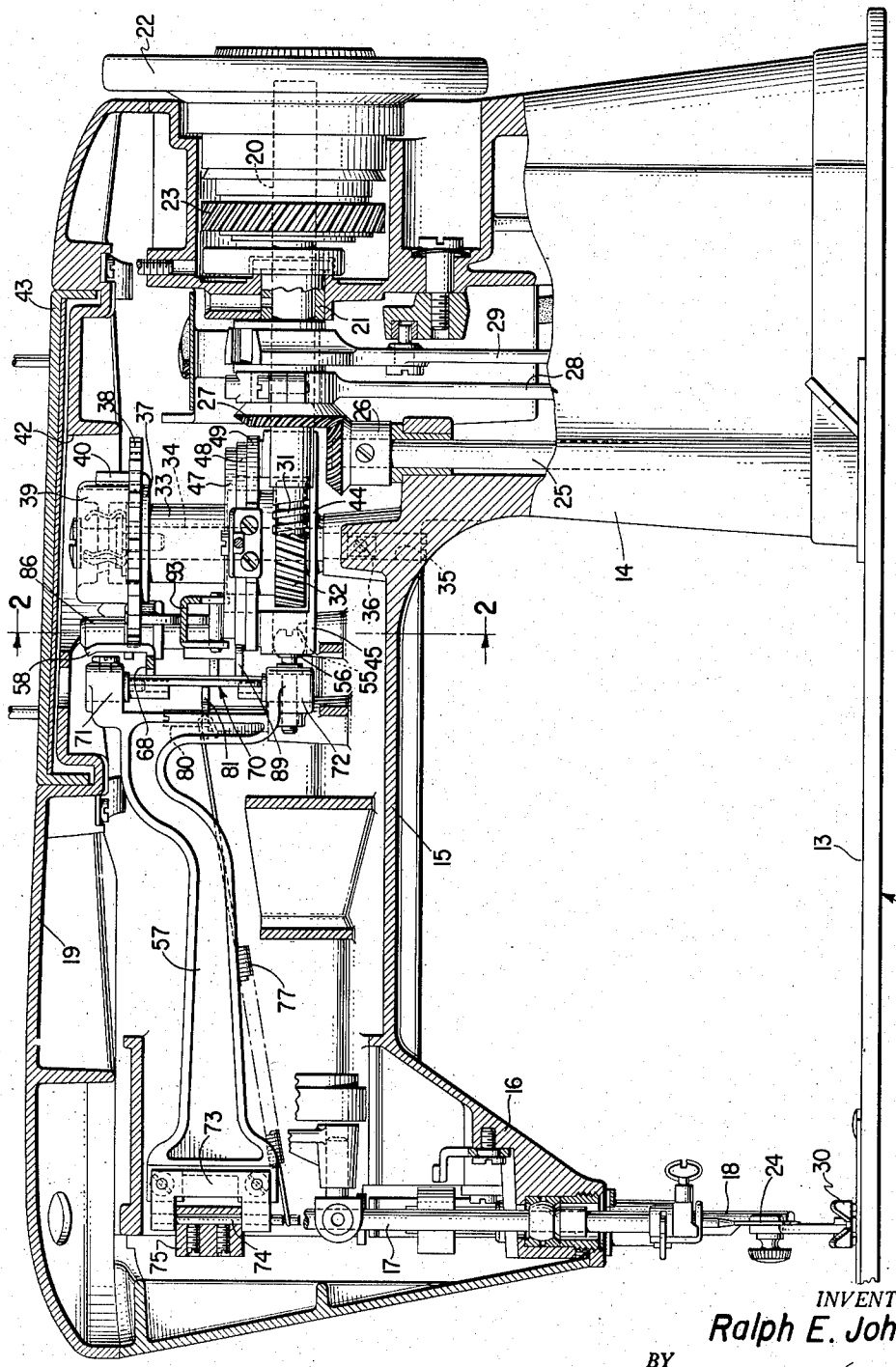

Fig. 1.

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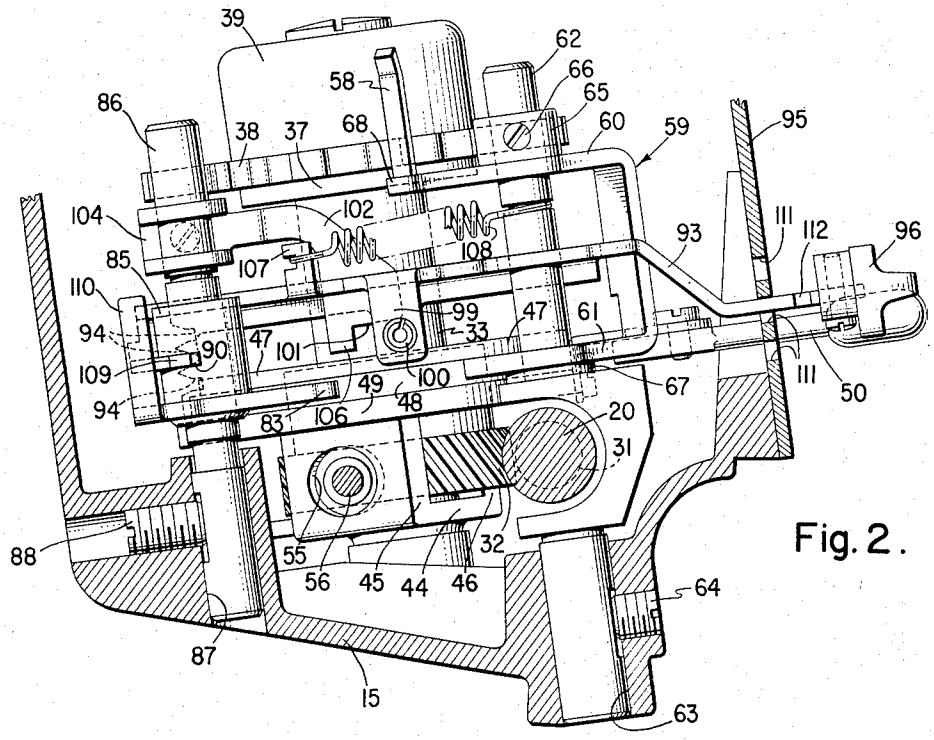

Fig. 2.

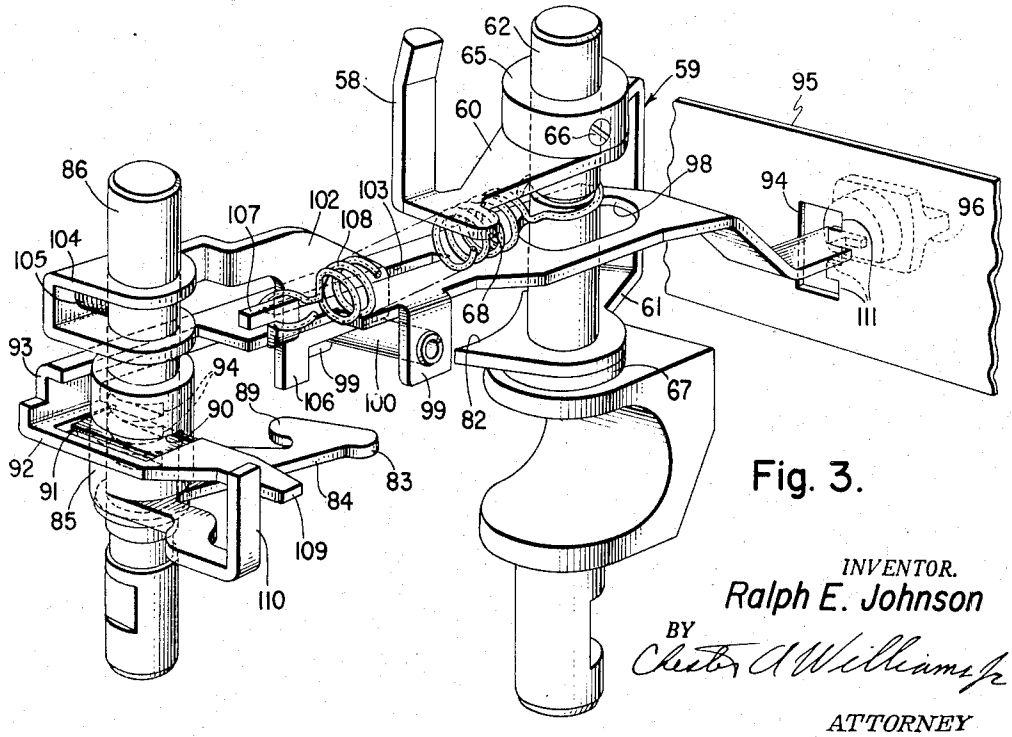

Fig. 3.

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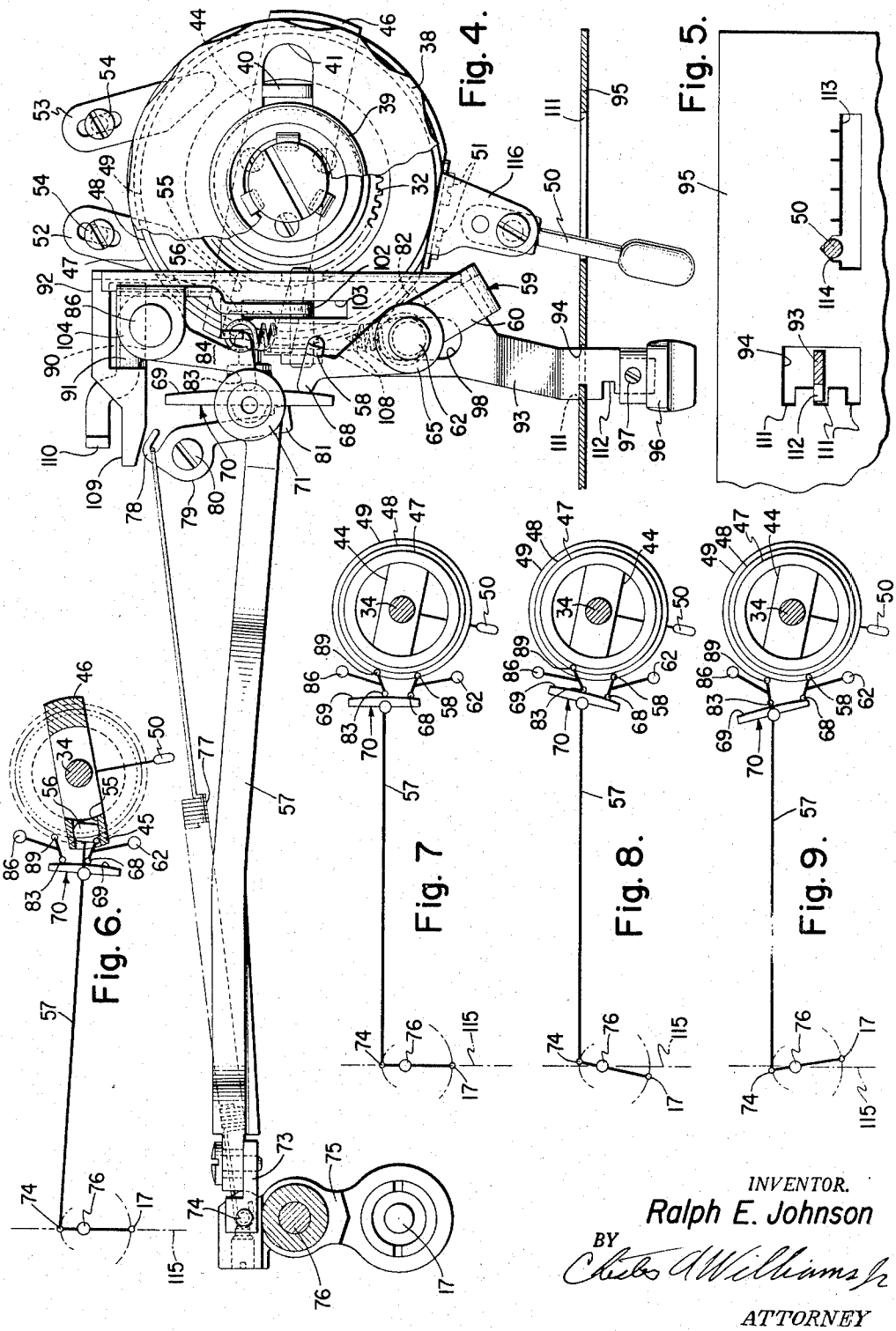

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7

Fig. 8.

Fig. 9.

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ORNAMENTAL STITCH SEWING MACHINES

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Application January 7, 1958, Serial No. 707,492

4 Claims. (Cl. 112—158)

This invention relates to improvements in ornamental stitch sewing machines and has for an object to provide such a machine with novel mechanism whereby the machine can be made to produce a large number of ornamental designs.

My United States Patent No. 2,862,468, granted December 2, 1958, of which the present application is a continuation-in-part, among other items, discloses a needle-vibrating mechanism including a stack of rotary cams adapted to actuate a pair of cam-followers which in turn function to vibrate the needle laterally of the direction of normal work feed.

A primary object of the present invention is to provide a mechanism generally similar to that shown in my above application but modified to the extent that it will be capable of efficiently functioning with a single replaceable cam.

A further object of the present invention is to provide a machine of the present type with conveniently controllable means for determining a neutral position of non-vibration of the needle at the center or at either side of the field of lateral throw of the needle, whereby the needle may be caused to vibrate laterally from zero to maximum across the center line of the field or entirely at either side of the center line.

With the above and other objects in view, the invention comprises the devices, combinations and arrangements of parts hereinafter described in connection with the accompanying drawings which illustrate a preferred embodiment of the invention from which the several features of the invention and the advantages obtained thereby will be readily understood by those skilled in the art.

In the drawings:

Fig. 1 represents a side elevational view in axial cross section of a sewing machine in which the present invention is embodied.

Fig. 2 represents, on an enlarged scale, a sectional view taken substantially along the line 2—2 of Fig. 1.

Fig. 3 represents, on an enlarged scale, a perspective view of a portion of the control mechanism disclosed in Figs. 1 and 2.

Fig. 4 represents, on an enlarged scale, a top plan view of a portion of the mechanism illustrated in Fig. 1.

Fig. 5 represents, on an enlarged scale, a portion of the indicia plate which is mounted on the forward face of the sewing machine and which cooperates with the control levers.

Figs. 6–9, inclusive, represent diagrammatic views illustrating various positions of the mechanism particularly disclosed in Fig. 4.

As illustrated in the drawings, the frame of the sewing machine in which the present invention is incorporated comprises a substantially rectangular-shaped base 12 forming at its upper side a work-supporting surface or bed-plate 13. Suitably secured upon the base 12 is a vertically disposed hollow standard 14 carrying an overhanging bracket-arm 15 terminating in a hollow head

16 in which is mounted a reciprocatory needle-bar 17 and a presser-bar 18. The upper part of the bracket-arm 15 is closed by a cover plate 19. The main driving shaft 20, disposed within and lengthwise of the overhanging bracket-arm 15, is journaled in suitable bearings such as bearing 21 (see Fig. 1) which are secured in the sewing machine frame forming a part of the bracket arm 15. The arm standard end of the shaft 20 is connected with a hand wheel 22 in a manner which is best disclosed in United States Patent No. 2,617,375, dated November 11, 1952.

Also secured to the main shaft 20 in a manner as is disclosed in the above noted patent is a gear 23. The main shaft 20 reciprocates the needle bar 10 carried in the head 9. A rotary loop-taker actuating shaft, not herein shown, is suitably journaled beneath the bed 12 and carries the usual type of loop-taker mechanism which cooperates in the formation of lock stitches with a needle 24 carried by the needle bar 17. The loop-taker, together with its shaft, is driven by the main shaft 20 through a vertical shaft 25 by way of bevel gears 26 and 27 (see Fig. 1), gear 26 being secured upon the upper end of the vertical shaft 25 while gear 27 is fast upon main shaft 20. Also disclosed in Fig. 1 are pitmans 28 and 29 which are actuated in a conventional manner by main shaft 20 for the purpose of driving a feed-dog (not shown) to the end that work material can be fed across the work-supporting platform 13 and beneath a presser foot 30 carried by the lower end of the presser-bar 18, all in a manner which is disclosed and described in my above noted Patent No. 2,862,468.

The arm standard 14 is especially designed to provide adequate space for housing sewing machine parts. Within the lower portion of the standard is provided a housing in which is mounted a vertically disposed electric motor (not herein shown) which, as best disclosed in the above noted Patent No. 2,617,375 is adapted to drive the main shaft 20 by way of the gear 23.

The machine, in accordance with the present invention, comprises a zigzag type of needle-bar 17 which is adapted, in addition to being reciprocated in a direction of its length, to be shifted periodically back and forth laterally of the direction of work feed to produce in cooperation with the rotary loop-taker zigzag stitches. The machine is provided with a removable cam which is rotated in synchronism with the movements of the needle-bar, a cam-follower adapted to track the cam, and means for transferring the movements of the cam-follower to the needle-bar mechanism for the purpose of moving it back and forth laterally of the direction of work feed. Also, the present machine is provided with operator-influenced means for determining a position of non-vibration of the needle at the center or at either side of the field of lateral throw of the needle, whereby the needle may be caused to vibrate laterally from zero to maximum across the center line of the field or entirely at either side of the field of vibration of the needle. Also, operator-influenced means are provided for varying at will the amplitude of lateral needle movement.

It is to be particularly understood that the single cam with which the present machine is equipped is adapted to be conveniently removed from the machine so that it may be replaced by a cam having a different shape to the end that a different pattern of ornamental stitches can be produced by the machine whenever the machine is provided with a new cam.

Referring particularly to Figs. 1, 2 and 4, the main rotary shaft 20 is provided intermediate its ends with a worm gear 31 which meshes with a gear wheel 32 formed integrally with a sleeve 33 rotatably mounted upon a vertically disposed cylindrical stud 34 whose lower portion is mounted within an aperture 35 formed in the

bracket-arm 15. A set screw 36 locks the member 34 in a fixed position. From this, it is to be understood that rotation of the main shaft 20 will, through the gears 31 and 32, rotate the sleeve 33 about the vertical stationary post 34. The sleeve 33 is provided with a shoulder 37 upon which rests the removable cam 38.

Formed as a part of the cam 38 is a handle 39 which facilitates the placing of the cam on and removal of the cam from its mounting furnished by the shoulder 37 of the sleeve 33, all in a manner which is best disclosed in my copending United States patent application Serial No. 636,023, filed June 24, 1957.

As may be best observed in Figs. 1 and 4, a finger 40 extends upwardly from the shoulder 37 and through an aperture 41 provided in the cam 38 in a manner such that the cam 38 will be rotated in synchronism with the sleeve 33 and the main shaft 20. To facilitate the insertion into and the removal from the machine of the cam 38 the bracket-arm 15 is provided with a cylindrical opening 42 through which an operator may readily grasp the handle 39 of the cam.

As may be best observed in Fig. 1, the opening 42 is normally adapted to be closed by means of a plate 43 pivoted to the upper portion of the machine arm 15 all in a manner as is disclosed in my copending patent application Serial No. 471,766.

As may be best observed in Figs. 1 and 2 there is rotatably mounted about the post 34 and beneath the gear wheel 32 a web 44 of a needle bight-selector having upstanding elements 45 and 46 which support three stepped concentric discs 47, 48 and 49. Projecting from a peripheral portion thereof is a needle bight-selector arm 50 which is secured thereto by means of screws 51—51. It is to be understood that the arm 50 provides an operator-influenced means whereby the web 44 with its arms 45 and 46 and discs 47, 48 and 49 may be shifted about the upstanding post 34.

As may be best disclosed in Fig. 4 the interior portion of the bracket arm 15 is provided with a pair of stop arms 52 and 53 of which each is adjustably secured to the bracket arm by means of a screw 54. The arms 52 and 53 cooperate with the web 44 so as to limit the rotary motion of the web and its actuating member 50.

Referring particularly to Figs. 1, 2, 4 and 6, the needle bight-selector web 44 is provided in its upstanding portion 45 with a radially disposed cylindrical guide aperture 55 which is adapted to receive, for purposes hereinafter described, a spherical guide head 56 carried by a pitman member 57.

Cooperating with the rotary cam 38 is a cam follower 58 carried upon a substantially C-shaped member 59 having vertically spaced arms 60 and 61 which are appropriately apertured so as to receive a vertical post 62 upon which the member 59 is pivoted. As is best disclosed in Fig. 2, the lower end of the post 62 is mounted within an aperture 63 formed within the frame 15 and is fixed within such aperture by means of a set screw 64. A collar 65 is rigidly secured to the post 62 by means of a set screw 66 and functions to retain the cam follower member 58 with its C-shaped portion 59 in proper vertical alignment upon a shoulder 67 provided upon the post 62.

The outer portion of the cam-following arm 60 is provided with a member 68 adapted to engage the substantially vertically disposed face 69 of a motion-integrating plate which is generally designated by the numeral 70. As is best shown in Fig. 1 the plate 70 is pivotally mounted about a vertical axis between jaws 71 and 72 of a substantially C-shaped portion of the right-hand end of the pitman 57.

Referring to Figs. 1 and 4, the left-hand end of the pitman 57 is provided with a C-shaped block 73 pivotally mounted, by way of a vertical pin 74, upon a needle-bar gate 75 which in turn is pivotally mounted about a post 76 of the presser-bar mechanism, all in a manner which is best disclosed in my above noted copending application Serial No. 471,766.

Still referring to Figs. 1 and 4, the pitman 57 is adapted to be spring biased at all times in a right-hand direction by means of a coil spring 77 which has its one end wrapped about the distal end of the pivot pin 74 while its other end is anchored to an arm 78 of a member 79 pivotally mounted upon a vertical pin 80 anchored to the frame 15. The pivot arm 79 is provided with another arm portion 81 which is adapted to engage the rear face of the motion integrating plate 70 so as to bias the plate, together with the pitman 57, toward the cam follower 58 thereby to force the follower into engagement with the cam 38. From this it is to be understood that rotation of the cam 38 will pivot the cam follower 58 about its post 62 and that the member 68, bearing against the plate 69, will shift the latter element in a left-hand direction as viewed in Fig. 4.

Referring to Figs. 3 and 4, the arm 61 of the cam-following assembly 59 is provided with a curved face 82 disposed opposite the disc 48 in a manner such as normally to clear the face 48 but such that the opposite end portions of the curve 82 will alternatively abut against the face 48 thereby to provide stop elements to prevent the cam follower 58 from shifting in either direction beyond a predetermined position. This is particularly important when the cam 38 is removed from the sleeve 33 for if such an abutment member were not provided the cam follower 58 and the pitman 57 would shift in a right-hand direction as viewed in Fig. 4, to a degree that the needle 24 would not be aligned with the throat-plate aperture (not herein shown) with the result that the needle could strike the throat-plate.

Referring to Figs. 3 and 4 it is to be understood that the coil spring 77 will normally bias the pitman 57 in a right-hand direction to the end that the motion-integrating plate 70 will not only engage the member 68 but will also engage a projecting portion 83 of an arm 84 integrally formed with a sleeve 85 rotatably and slidably mounted on a vertical post 86. As may be observed from Fig. 2 the lower portion of the post 86 is received within an aperture 87 formed in the frame 15 and is secured within the aperture by means of a set screw 88. The arm 84 is formed with a projecting portion 89 adapted to engage a selected one of the three disc elements 47, 48 or 49. It is to be understood that by positioning the element 89 against a selected one of these discs the motion-integrating plate 70 will effectively fulcrum about the member 68 under the action of the spring 77 with the result that the pitman will be shifted in the direction of its length and the needle-bar 17 and the needle 24 will shift laterally of the direction of work feed.

From the above it will be appreciated that as the cam 38 rotates about its vertical post 34 the cam-follower 58 will pivot about the post 62 to the end that it will function to rock the motion-integrating plate 70 about the normally stationary abutment member 83 to the end that the pitman 57 will shift back and forth and consequently shift the needle 24 laterally of the direction of work feed in a manner which is perhaps best shown in my copending application Serial No. 471,766. With the portion 89 of the abutment member 83 positioned against the middle disc 48, the needle is normally caused by the cam 38 to vibrate laterally from zero to maximum across a center line drawn in the direction of feed and aligned with the center of the throat-plate aperture. With the abutment member 83 positioned against the upper disc 47, the pitman 57 will shift slightly to the right so that the needle would be normally positioned at one side of the normal center line. Likewise, when the abutment member 83 is positioned against the lower disc 49 the pitman 57 will shift in a left-hand direction so that the needle will be shifted to the other side of its center line. In this way the arm 84 acts as a field selector for the needle.

The arm 84, together with its sleeve 85, is adapted to be shifted up and down along the associated post 86 so that the abutment member 89 may be brought into engagement with a respective one of the discs 47, 48 and 49 for the purpose of providing the proper field of vibration for the needle. Referring particularly to Fig. 3, the sleeve 85 is provided with a slot 90 which is adapted to receive a knife-like bar 91 carried by a platform 92 formed at one end portion of a lever 93.

It is to be particularly observed that the upright post 86 upon which the sleeve 85 is mounted is provided with three vertically spaced slots 94—94 arranged so that whenever the knife 91 is engaged within one of the slots the abutment member 89 of the arm 84 engages an adjacent one of the three discs 47, 48 and 49. Thus, if the lever 93 is first shifted in a left-hand direction as viewed in Fig. 2 the knife will be withdrawn from one of the slots 94 and thereafter the lever 93 may be shifted upwardly or downwardly so that the knife will engage a different slot to the end that the abutment member 89 may engage a predetermined one of the discs 47, 48 or 49. As is illustrated in Fig. 2, the knife 91 is received within the middle of the three slots 94 and in this position the abutment member 89 engages the middle disc 48, and, therefore, it is clear that if the lever 93 is shifted upwardly a notch the abutment member will engage the upper disc 47 or on the other hand, if the knife 91 is shifted downwardly a notch the abutment member 89 will then engage the lower disc 49.

Referring to Fig. 3, the lever 93 extends substantially crosswise of the sewing machine bracket arm 15 and its right-hand end portion extends through an aperture 94 provided in an indicia plate 95 so as to extend outside the confines of the machine frame. The indicia plate 95 is appropriately secured to the exposed face of the sewing machine frame 15. Referring to Figs. 1, 2 and 3 the distal end portion of the lever 93 is provided with a finger piece 96 secured thereto by means of a set screw 97. In order to straddle the vertical post 62 the lever 93 is formed with a central aperture 98. An intermediate portion of the lever 93 is provided with depending arms 99—99 carrying a pivot member 100, which is adapted to be slidingly received within a slot 101 formed between the upper surface of the disc 47 and the lower portion of a member 102. The member 102 extends downwardly through a slot 103 provided lengthwise of the lever 93 and has its upper end formed as a C-shaped member 104 which embraces the post 86 and is rigidly secured thereto by means of a set screw 105. From this it is to be understood that the member 102 in cooperation with the disc 47 functions to confine the movements of the pivot member 100 so as to insure that the lever 93 will reciprocate back and forth in a substantially straight path. It will be observed that the member 102 has a depending element 106 which functions to arrest the movement of the pivot member 100 and consequently the lever 93 in a left-hand direction as viewed in Fig. 3.

Projecting upwardly from the lever 93 is a finger 107 to which is anchored one end of a coil spring 108 whose other end is anchored to the post 62 thereby to bias the lever 93 in a right hand direction as viewed in Fig. 3 with the result that the knife 91 is adapted forcibly to engage a selected one of the slots 94—94 provided within the upright post 86. Thus, it is to be understood that the lever handle 96 can be grasped by an operator and be sequentially pushed inwardly so as to withdraw the knife 91 from one of the slots 94 and thereafter be moved either upwardly or downwardly so as to position the blade 91 opposite either the upper or the lower slot 94. Thereafter the handle 96 may be released whereupon the knife 91 under the impetus of the spring 108 will forcibly engage either the upper or the lower of the slots 94—94.

With the discs 47, 48 and 49 projecting outwardly as they do, it is necessary to withdraw the abutment member 89 from engagement with the discs before it may be safely shifted lengthwise of the post 86. Means for accomplishing this function take the form of a finger 109 extending outwardly from the platform member 92 of the lever 93, which finger is adapted to engage a second finger 110 integrally formed with the sleeve 85 so that whenever the lever 93 is shifted in a left-hand direction as viewed in Fig. 3 the arm 109 will engage the arm 110 and pivot it together with its sleeve 85 and the abutment member 89 to the end that the latter element will be withdrawn from engagement with any one of the discs 47, 48 and 49. Thereafter, when the lever 93 is oscillated about its pivot member 100 the abutment member 89 will remain out of engagement with the discs until such time that the lever 93 is again shifted in a right-hand direction under the force of the spring 108 whereupon the abutment member 89 will be permitted to engage a selected one of these discs 47, 48 and 49.

In order to lock the lever 93 in one of its three positions of vertical adjustment the indicia-carrying plate 95 is provided with three slots 111—111 which communicate with the aperture 94. Also, the right-hand end portion, as viewed in Fig. 3, of the lever 93 is provided with a notch 112. From this it is to be understood that whenever the lever 93 is pushed inwardly toward the sewing machine frame the lever notch 112 will permit the lever to be shifted upwardly or downwardly so that the right-hand end portion of the lever may be placed within either the upper or the lower slot 111 whereupon whenever the lever 93 is released it will be shifted outwardly by the spring 108 so as effectively to lock the right-hand end portion of the lever in a selected one of the three slots 111—111.

Still referring to Fig. 3, the field selector lever 50 extends through a slot 113 provided in the indicia plate 95, which slot has an inverted V-shaped portion 114 representing the normal or home position of the lever 50. A leaf spring 116 provided with the arm 50 normally biases the arm upwardly so that whenever the arm is in its extreme left-hand position as viewed in Fig. 5 it will be maintained in such position by the slot 114. Indicia may be marked upon the plate 95 so as to indicate the various possible positions of the lever 93 and the arm 50.

As mentioned hereinabove, the right-hand end portion of the pitman 57 is provided with a ball 56 guided within an aperture 55 formed in the member 44. The member 44 is adapted normally to remain in a stationary position and thus it is to be understood that when the pitman 57 is shifted back and forth due to the rotation of the cam 38, the ball 56 will shift back and forth in a straight line. However, whenever the operator shifts the handle 50 within the slot 113 the right-hand end portion of the pitman will be shifted transversely of the sewing machine frame 15 and the motion-integrating plate 70 will be shifted laterally of the members 68 and 83.

Referring particularly to Fig. 4 it is to be understood that as the cam 38 rotates the cam follower 68 will pivot about the post 62 and force the motion-integrating plate 70 to fulcrum about the normally stationary abutment 83 thereby causing the left-hand end of the pitman 57 to shift back and forth to the end that the needle will vibrate laterally of the direction of work feed. It is manifest that as the handle 50 is shifted about its stationary post 34 the position of the motion-integrating plate 70 will vary relative to the cam-follower 68 and the abutment member 83 to the degree that the pattern of lateral needle motion will vary. In the present mechanism the handle 50 is adapted either to increase or decrease the amplitude of lateral needle vibration as produced by the cam 38. With the handle 50 in the extreme left-hand position as illustrated in Figs. 4 and 5, the amplitude of lateral needle motion will be at a minimum while as the arm 50 is shifted in a right-hand

direction the amplitude will tend to increase until it is at a maximum when the handle **50** is at its extreme right-hand position.

Fig. 6 diagrammatically illustrates the present needle vibrating mechanism adjusted to cause a maximum amplitude of needle vibration. It is to be observed that the arm **50** is at its extreme right-hand position which effectively places the center portion of the motion-integrating plate adjacent the cam follower element **68** so that the pitman **57** substantially receives the full benefit of the back and forth motion of the member **68** and the abutment member **83** merely functions as a stationary fulcrum for the motion-integrating plate **70**. In this diagram the abutment member **83** is illustrated as engaging the middle disc **48**. Thus, the needle is in its center setting.

Fig. 7 illustrates the mechanism positioned to cause a minimum amplitude of needle vibration about the center needle position. For example, the arm **50** is at its extreme left-hand position so that the motion-integrating plate **70** has its center portion positioned directly upon the abutment member **83** such that as the cam follower **58** shifts back and forth the plate **70** will merely pivot about its trunnions and therefore not effectively shift the pitman **57** back and forth. Also, the abutment member **83** is positioned upon the center disc **48** and, therefore, the needle is at its so-called center setting.

Fig. 8 illustrates the mechanism set to cause a minimum amplitude of needle vibration at one side of the center setting. More specifically, the handle **50** is at its extreme left-hand position as it was in Fig. 7 so that the center of the motion-integrating plate **70** is disposed directly in alignment with the member **83** to the end that the motions of the cam follower will merely pivot the plate about its trunnions without shifting the pitman **57** back and forth. Also, the abutment member **83** is positioned against the periphery of the upper disc **47** so that the pitman member **57** is disposed in an extreme right-hand direction such that the needle will be positioned at one side of the center line.

Fig. 9 illustrates the mechanism adjusted to cause a minimum amplitude of needle vibration at that side of the center setting opposite to that illustrated in Fig. 8. More specifically, the handle member **50** is again disposed in its extreme left-hand position to the end that no back and forth motion will be imparted to the pitman **57**. Furthermore, the abutment member **83** is disposed against the lower disc **49** such that the pitman **57** is shifted in its extreme left-hand position thereby placing the needle at that side of the center line opposite to that illustrated in Fig. 8.

From the above it is to be appreciated that as adjusted in the manner shown in Fig. 6 the sewing machine will perform straightaway stitching only in the event that the cam **38** is provided with a periphery concentric with the center of the post **34**. However, if the cam is of the type illustrated in Fig. 4, having the usual hills and dales, therein, the machine will perform zigzag stitching with the center of the stitches being represented by the normal needle centerline **115**.

In Figs. 7, 8 and 9, however, with the motion-integrating plate **70** being disposed directly in line with the member **83** the machine will perform straightaway stitches no matter what type of cam is carried upon the post **34**. This is for the reason that the plate **70** will merely be shifted by the cam idly about its trunnions without moving the pitman member **57**. Thus, in Fig. 7 the machine is adjusted such that it will perform merely straight line stitches along the normal centerline **115**. In Fig. 8 the machine is adjusted so that straightaway stitching will occur with the stitches being disposed at one side of the center line **115**, while in Fig. 9 the machine will again perform straightaway stitching with the stitches being at the other side of the normal centerline **115**.

Having thus set forth the nature of the invention, what I claim herein is:

1. A control mechanism for an ornamental stitch sewing machine having a hollow frame and a member in said frame to be controlled by said mechanism, comprising, a post fixed within said frame and provided with a plurality of transverse slots, an elongated lever disposed within said frame transversely of the longitudinal axis of the post with a handle carried on its one end and extending outside the confines of said frame and a bar carried on its other end for engagement in a selected one of the post slots, a spring connecting said frame and said lever and biasing said lever endwise of itself whereby said bar will be maintained within a selected one of said post slots, means carried by said frame and an intermediate portion of said lever enabling said lever to be manually shifted lengthwise of itself and to be oscillated about an axis disposed transversely of the lever whereby the bar may be shifted into engagement with any one of the post slots, means connecting the bar-carrying end of the lever with the member to be controlled whereby the member may be actuated in response to shifting of the bar from one slot to another, and means carried by the frame for releasably locking the handle-carrying end of the lever in a selected one of a plurality of predetermined positions.

2. A control mechanism for an ornamental stitch sewing machine having a hollow frame and a member in said frame to be controlled by said mechanism, comprising, a post fixed within said frame and provided with a plurality of transverse slots therein, an elongated lever disposed within said frame transversely of the longitudinal axis of the post with a handle carried on its one end and extending outside the confines of said frame and a bar carried on its other end for engagement in a selected one of the post slots, a spring connecting said frame and said lever and biasing said lever endwise of itself whereby said bar will be maintained within a selected one of said post slots, a pin carried crosswise of and on an intermediate portion of said lever, means carried by the frame and formed with a slot therein for receiving the lever pin and enabling said lever to be manually shifted lengthwise of itself and to be oscillated about an axis disposed transversely of the lever whereby the bar may be shifted into engagement with any one of the post slots, means connecting the bar-carrying end of the lever with the member to be controlled whereby the member may be actuated in response to shifting of the bar frame from one slot to another, and means carried by the frame for releasably locking the handle-carrying end of the lever in a selected one of a plurality of predetermined positions.

3. A control mechanism for an ornamental stitch sewing machine having a hollow frame and a member in said frame to be controlled by said mechanism, comprising, a post fixed within said frame and provided with a plurality of transverse slots, an elongated lever disposed within said frame crosswise of the post with a handle carried on its one end and extending outside the confines of said frame and a bar carried on its other end for engagement in a selected one of the post slots, a spring connecting said frame and said lever endwise of itself whereby said bar will be maintained within a selected one of said post slots, a pin carried crosswise of and on an intermediate portion of said lever, means carried by the frame and formed with a slot elongated lengthwise of said lever and receiving therein the lever pin whereby said lever can be manually shifted lengthwise of itself and oscillated about an axis disposed transversely of the lever whereby the bar may be shifted into and out of engagement with any one of the post slots, means connecting the bar-carrying end of the lever with the member to be controlled whereby the member may be actuated in response to shifting of the bar from one slot to another, and means carried by the frame for releasably locking the handle-carrying end of the lever in a selected one of a plurality

of predetermined positions of angular adjustment about its transverse axis.

4. A control mechanism for an ornamental stitch sewing machine having a hollow frame and a member in said frame to be controlled by said mechanism, comprising, a post fixed within said frame and provided with a plurality of transverse slots, said member being carried by and mounted for sliding movements lengthwise of and pivotal movements about said post, an elongated lever disposed within said frame transversely of the longitudinal axis of the post with a handle carried on its one end and extending outside the confines of said frame and a bar carried on its other end for engagement in a selected one of the post slots, a spring connecting said frame and said lever and biasing said lever endwise of itself whereby said bar will be maintained within a selected one of said post slots, means carried by said frame and an intermediate portion of said lever enabling said lever to be manually shifted lengthwise of itself and to be oscillated about an axis disposed transversely of the lever whereby the bar may be shifted into engagement with any one of the post slots, means connecting the bar-carrying end of the lever with the member to be controlled whereby the member will be pivoted about and shifted lengthwise of the post in response to the endwise and oscillatory movements of the lever, and means carried by the frame for releasably locking the handle-carrying end of the lever in a selected one of a plurality of predetermined positions.

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