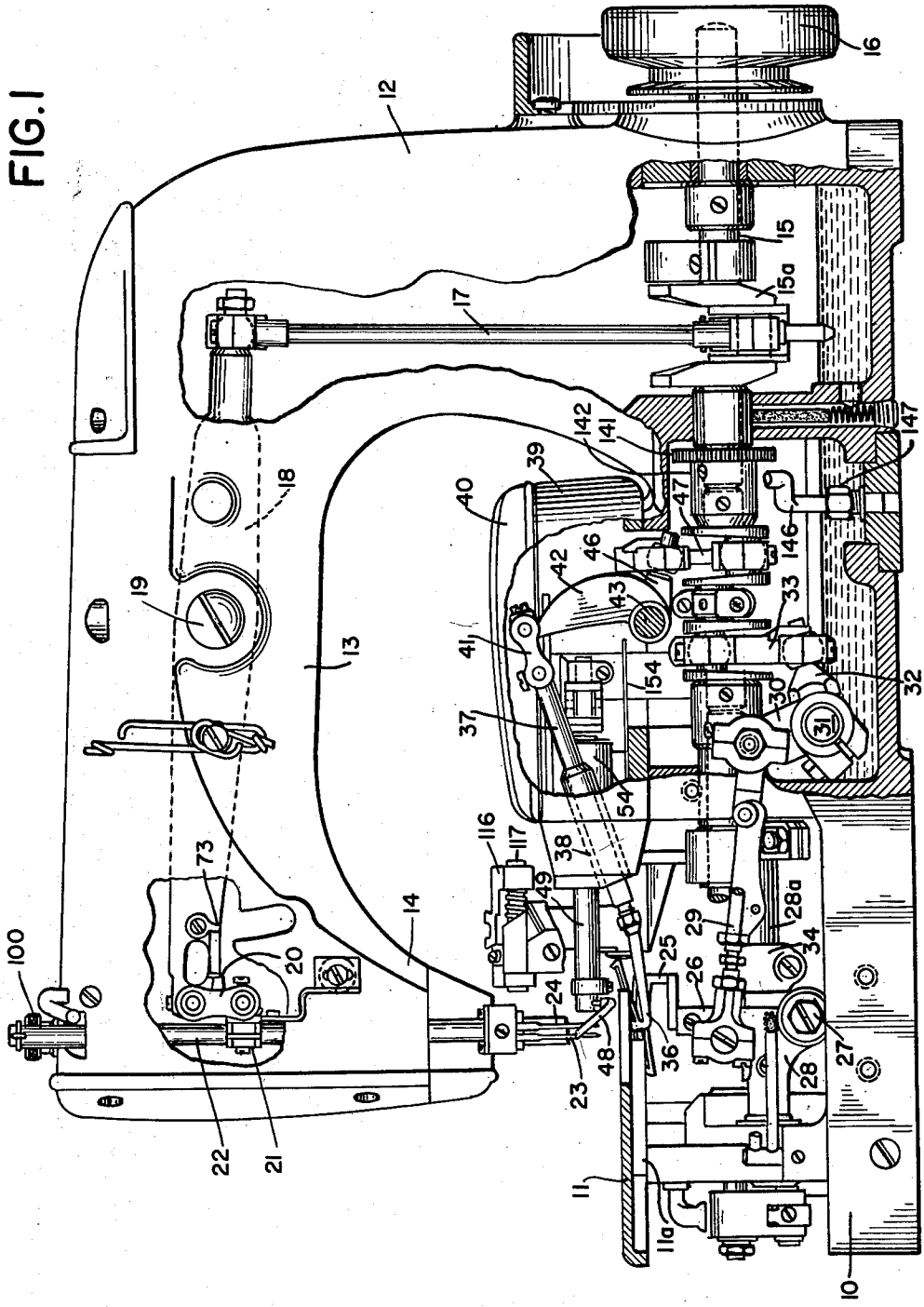
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SEWING MACHINES

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FIG. 1



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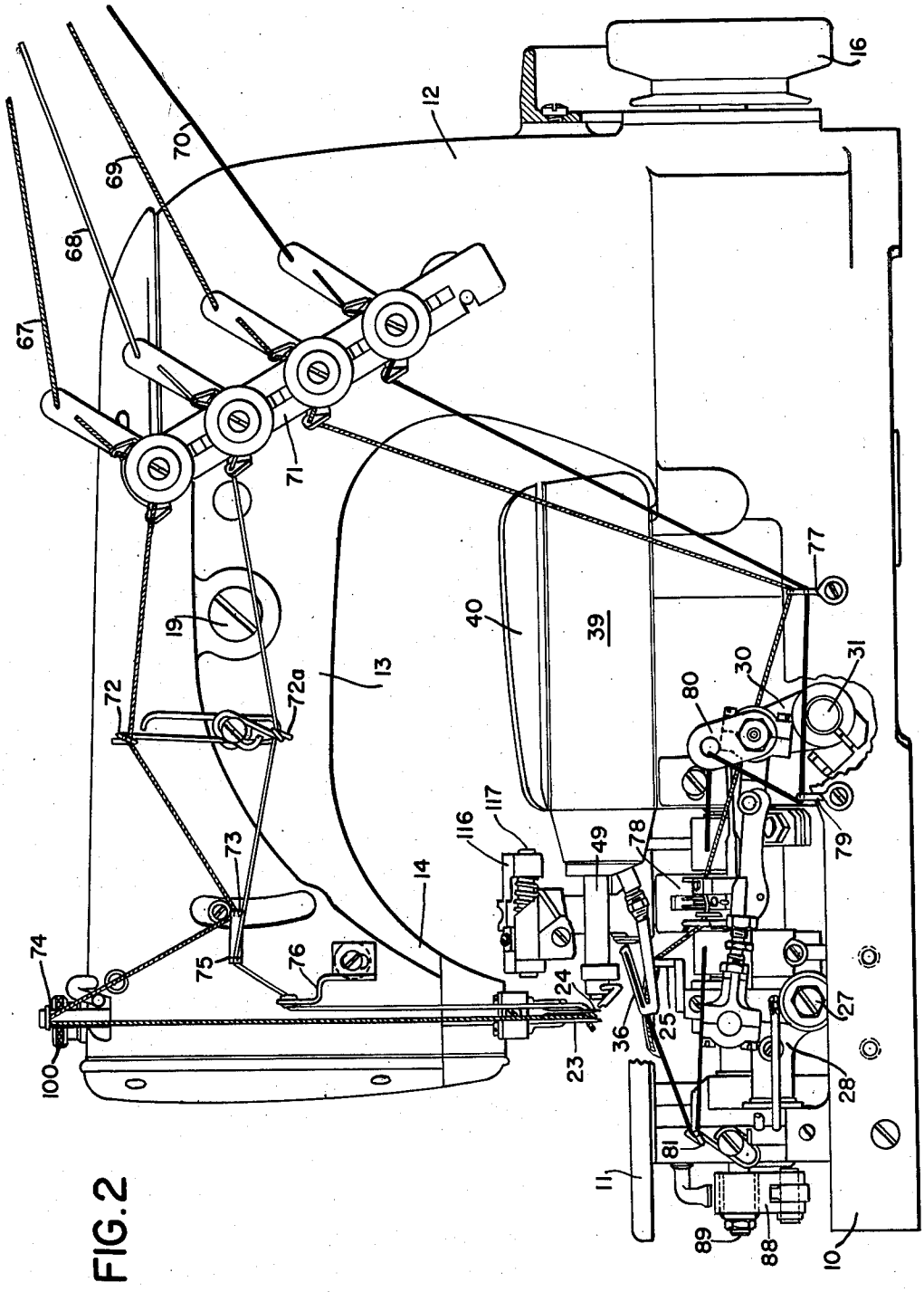


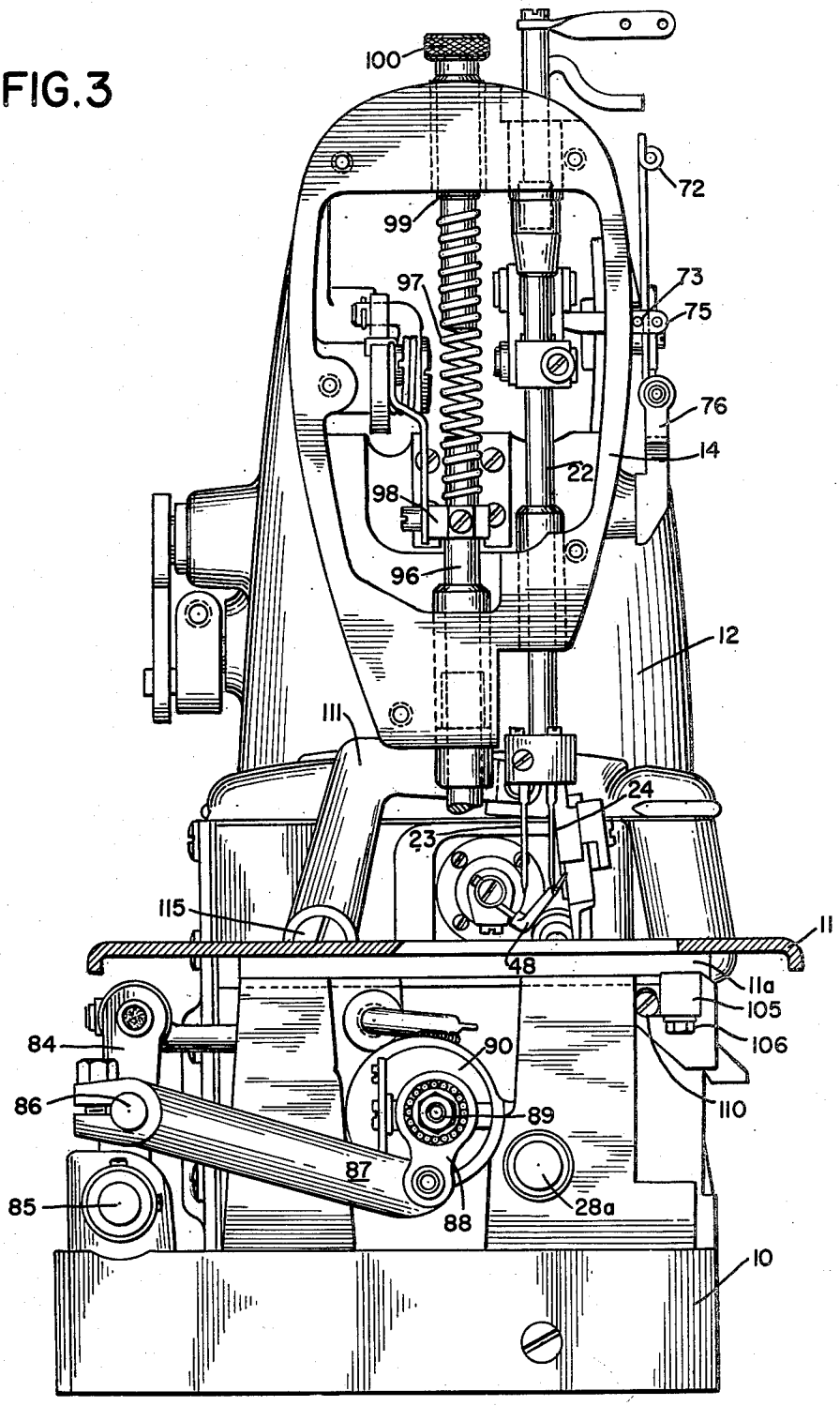
FIG. 2

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FIG.3



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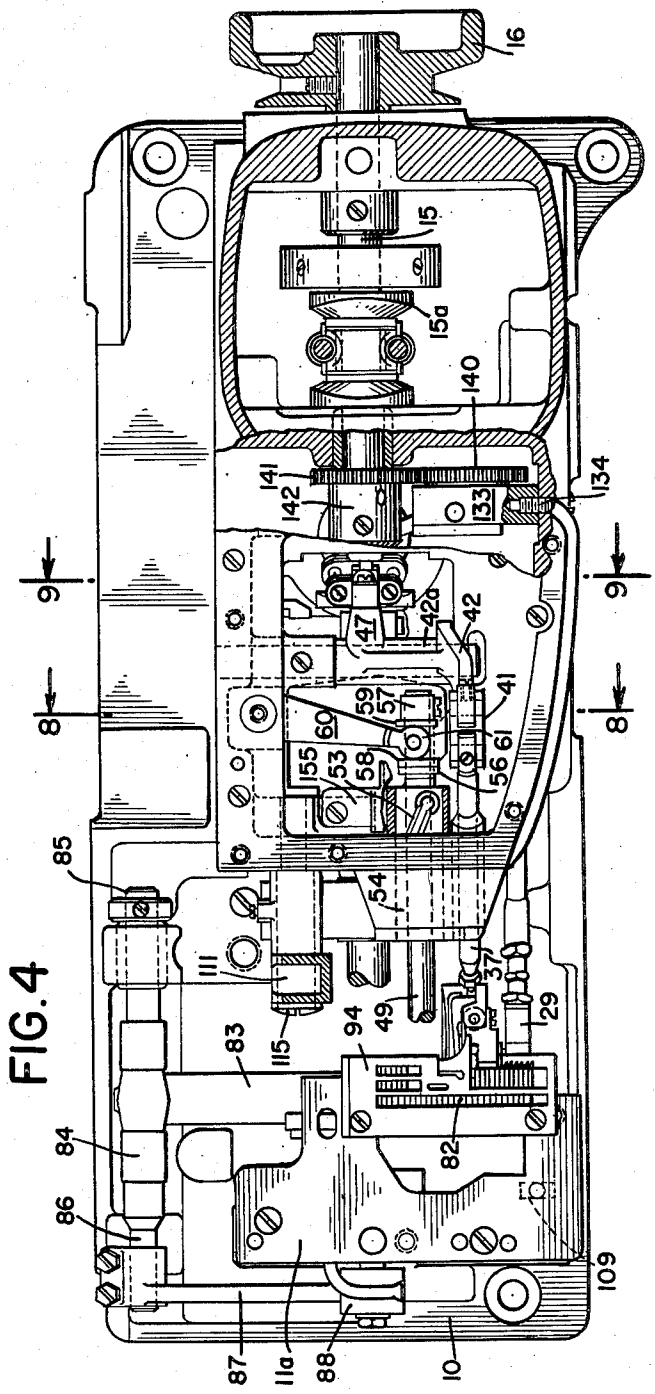


FIG. 4

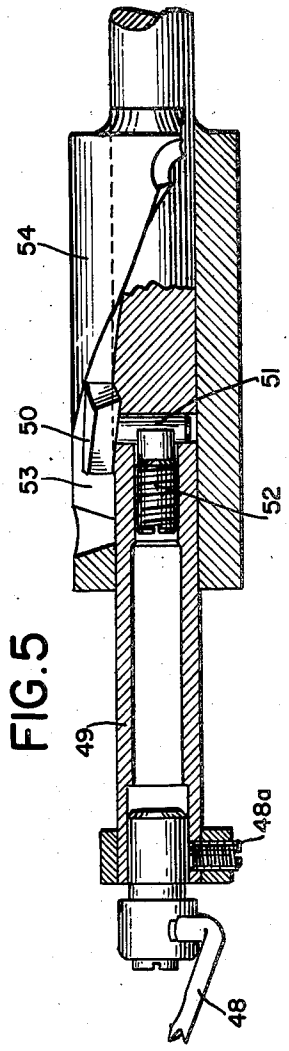


FIG. 5

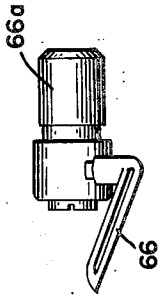


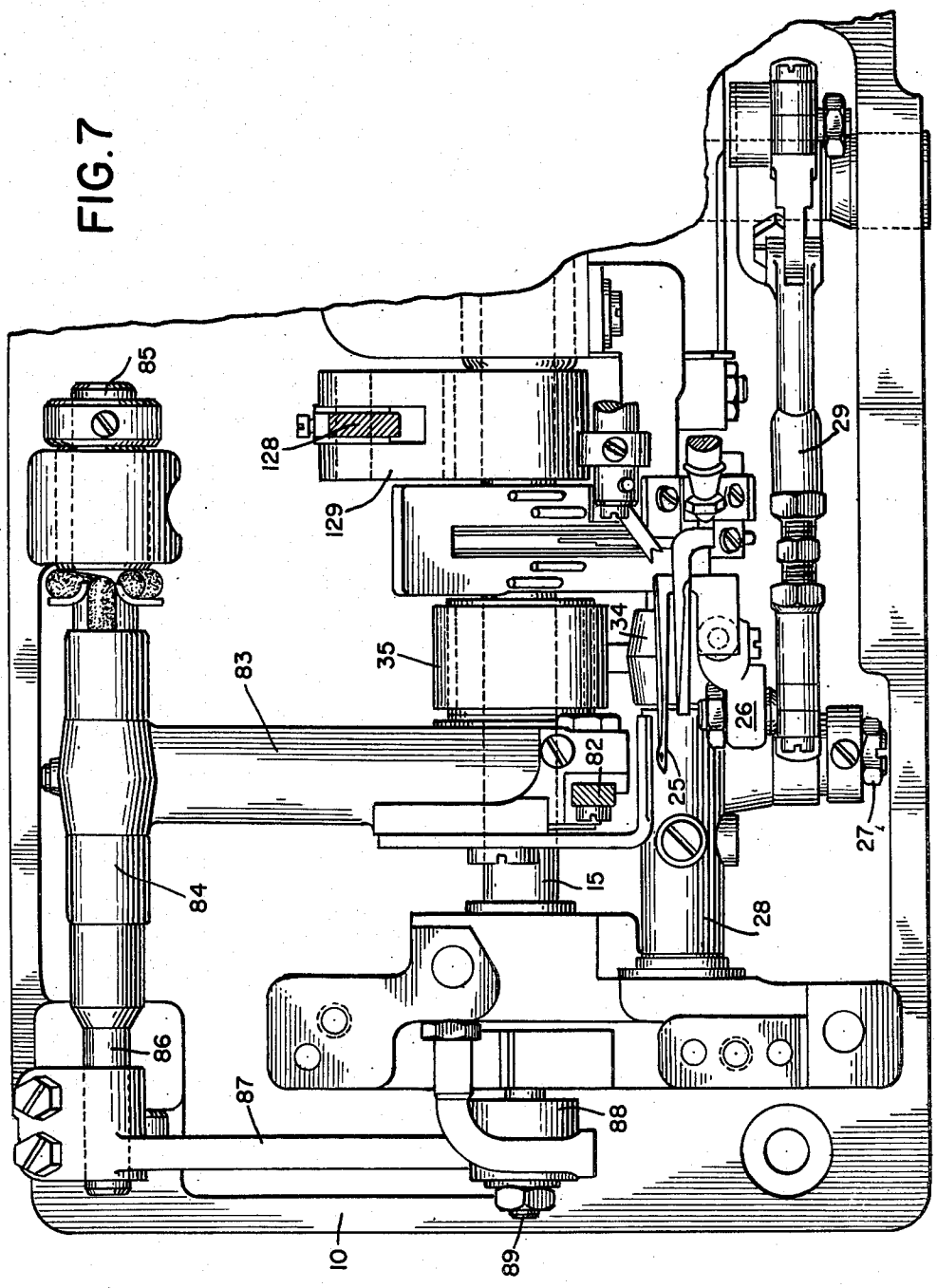
FIG. 6

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FIG. 7



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FIG.8

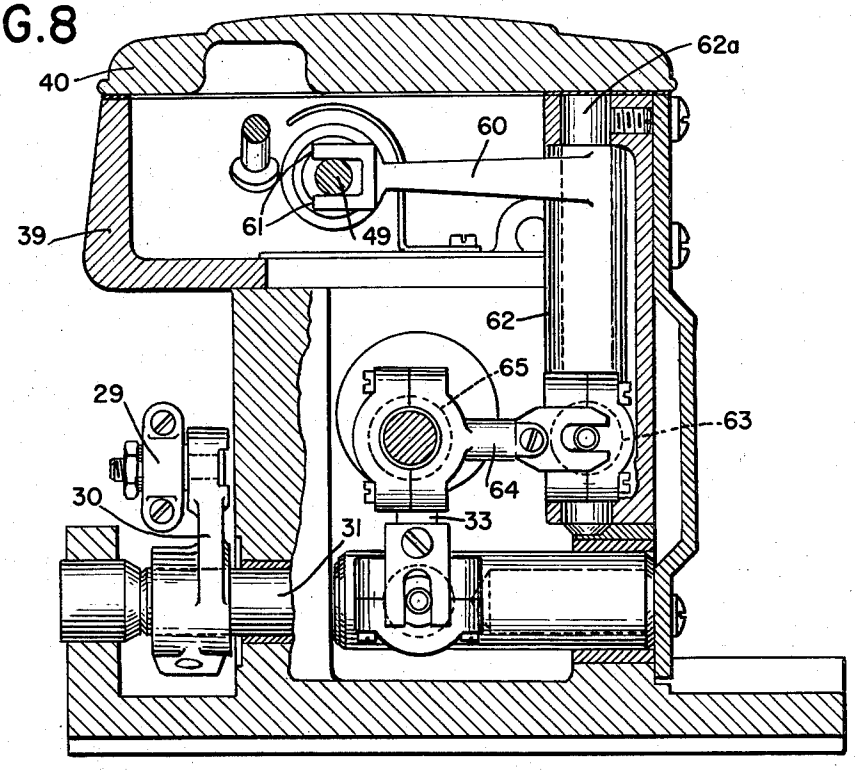
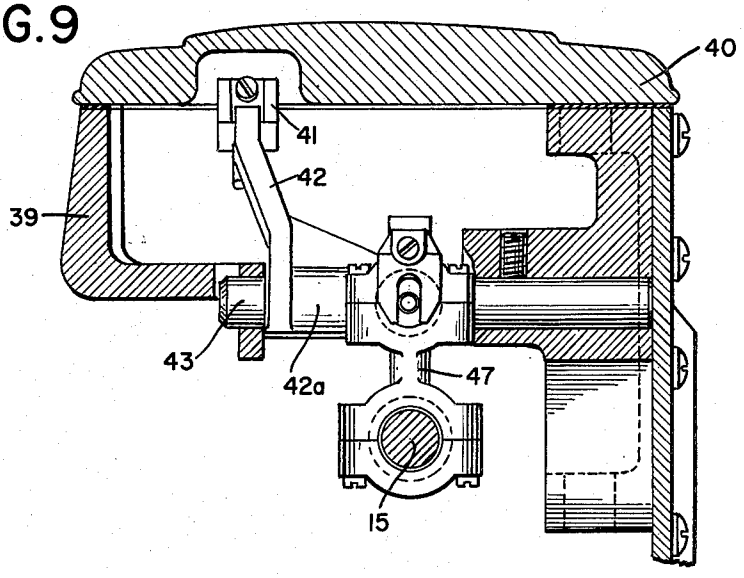


FIG.9



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FIG. 11

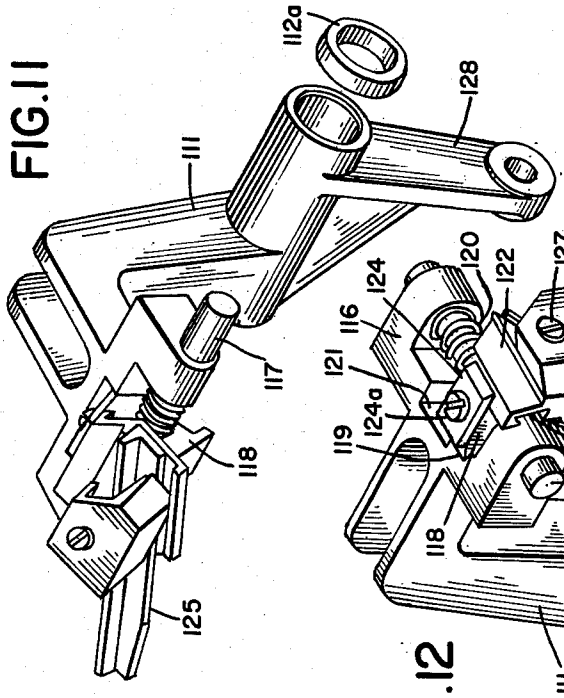
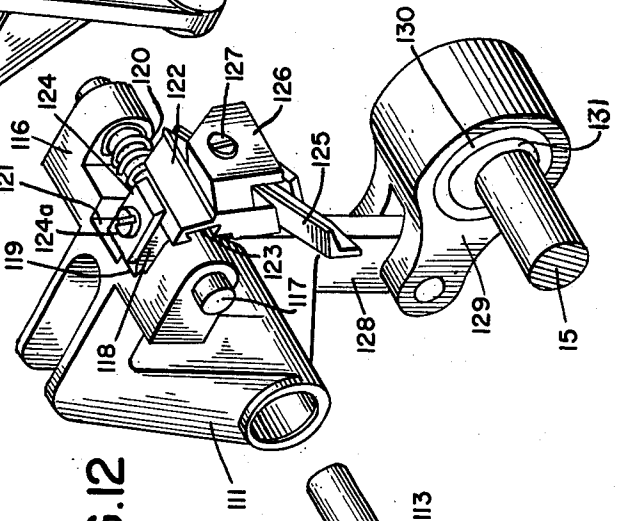


FIG. 12



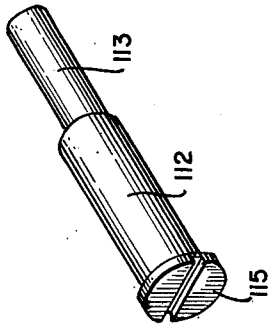


FIG. 10

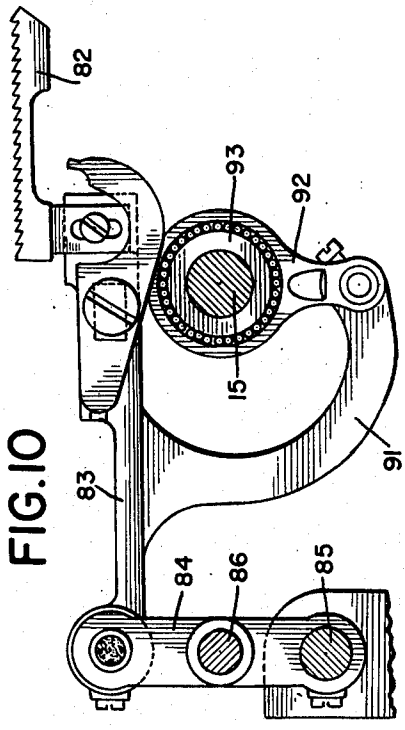
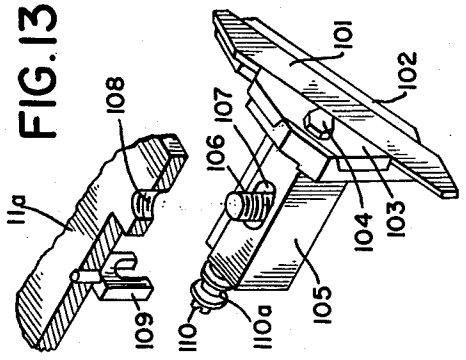


FIG. 13



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FIG. 15

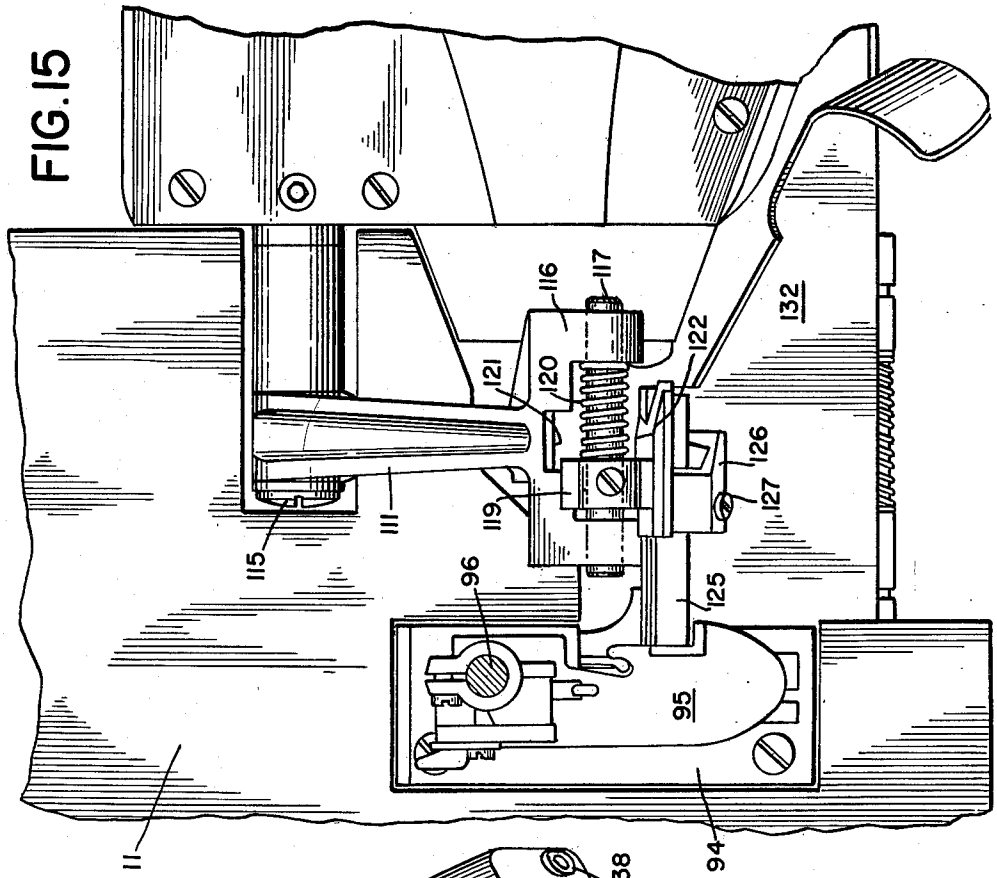
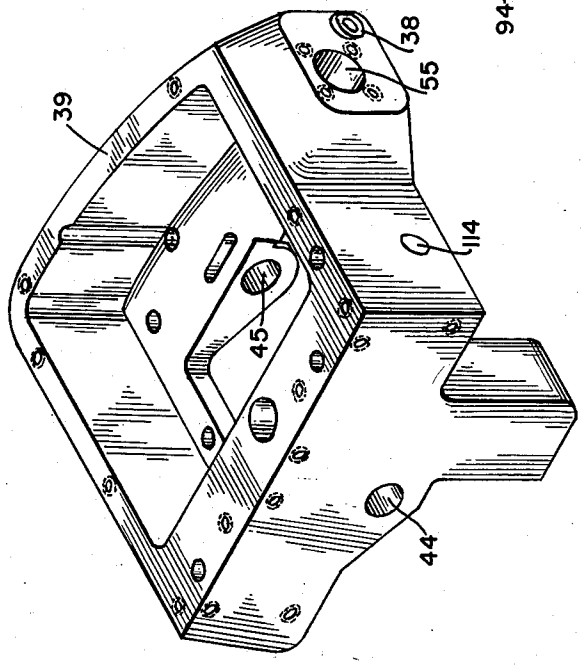


FIG. 14



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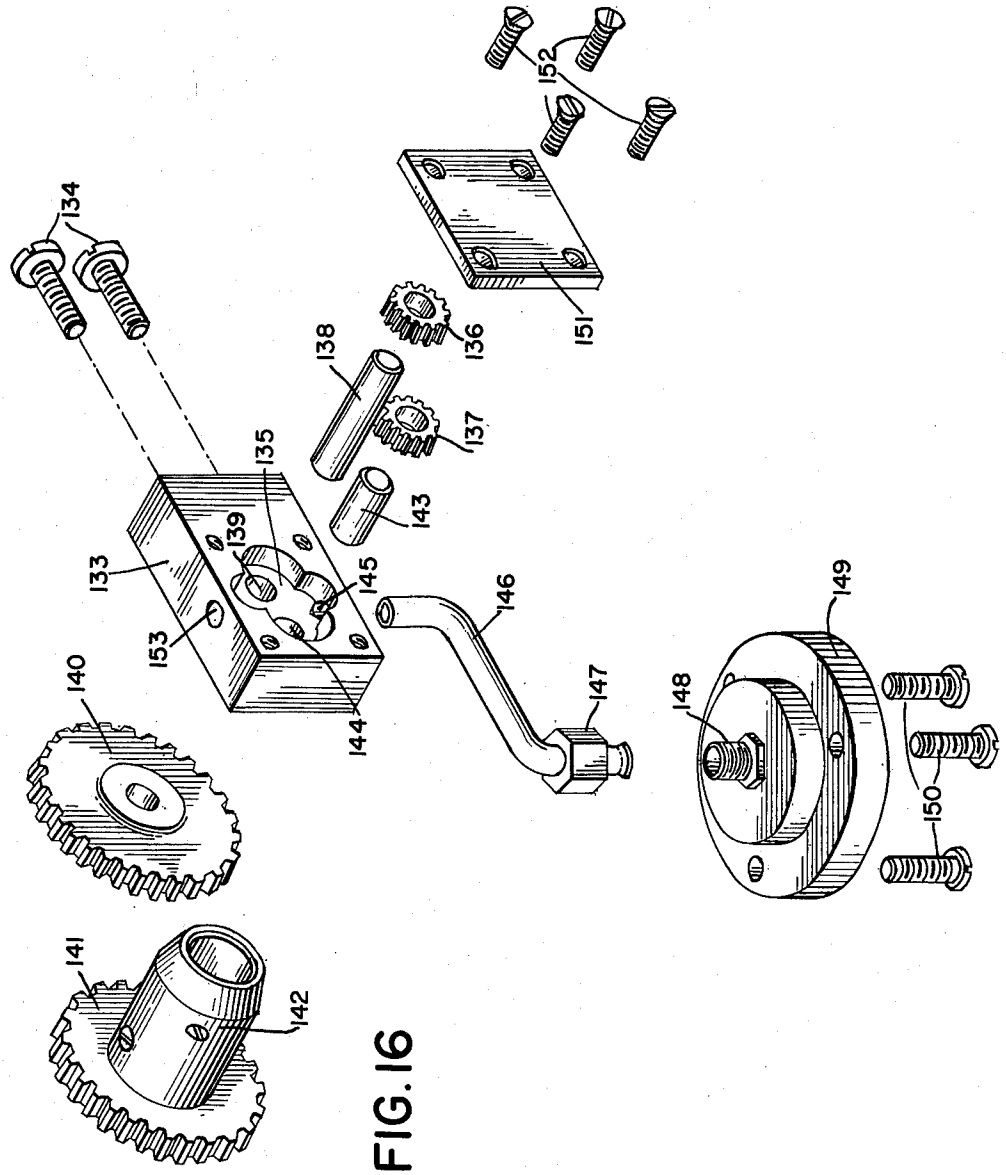


FIG. 16

United States Patent Office 2,973,732 Patented Mar. 7, 1961

2,973,732

SEWING MACHINES

Robert A. Hayes, Franklin Park, Ill., assignor to Union Special Machine Company, Chicago, Ill., a corporation of Illinois

Filed Oct. 2, 1957, Ser. No. 687,776

8 Claims. (Cl. 112—163)

This invention relates to improvements in sewing machines of the character adapted to produce a so-called safety stitch in work requiring strong seams. The safety stitch, it will be understood, results in the formation of a seam having one or more through and through lines of stitching spaced inwardly from the free edges of two superposed work sections and a line of overedge stitches, of either the two or three thread type, extending around the free edges of the work sections and serving to bind these together.

The through and through stitches made in accordance with the invention may be of any suitable type but are preferably of the two thread chain stitch type designated type 401 in the "Federal Specification for Stitches; Seams; and Stitching." Also the overedge stitching may be of any suitable type but preferably is of the 502, 503 or 504 type.

A primary purpose of the invention has been to provide a sewing machine which is capable of producing, in one operation, a safety stitch of the foregoing character and which is so constructed and arranged as to provide relatively short and compact driving connections from a main shaft to the overedge stitch forming devices.

In its preferred form the machine is provided with a main frame having a work supporting base, a vertical standard and an overhanging arm. An auxiliary frame or housing is secured to the top of the work supporting base and extends upwardly from the latter a minimal distance. This housing together with the major portion of the main frame provides an enclosure for most of the operating mechanism of the machine. A main rotary shaft is provided in the base and connections extend from this to all of the driven parts of the machine. The work feeding mechanism and the means for producing the overedge stitching is largely enclosed within the auxiliary housing. Direct and compact connections are provided from the main shaft in the base of the frame to the overedge stitch forming devices. Also simple and direct connections are provided from said shaft to a rock frame carrying a movable trimmer blade forming part of the mechanism for trimming the free edge of the work as it approaches the stitch forming point. Provision is also made for shifting the movable trimmer head into an inactive position, whenever desired, to facilitate threading of one or more of the loopers.

A special feature of the invention which contributes toward the attainment of the desired compactness of the overedge stitch-forming mechanism is the provision of a rock member arranged to be rocked about a vertical axis in imparting reciprocatory movement to one of the stitch forming devices. Adequate clearance in relation to other operating parts is thus made possible within a relatively low and substantially flat-topped auxiliary housing.

Other objects, features and advantages of the invention will appear from the detailed description of an illustrative embodiment of the same which will now be given in conjunction with the accompanying drawings, in which:

Fig. 1 is a front elevational view of a machine embodying the invention, portions of the frame and of certain of the mechanism being broken away and shown in section for clarity of illustration;

Fig. 2 is a view similar to Fig. 1 but omits some of the details of the latter and adds a showing of the thread delivering and controlling mechanism;

Fig. 3 is an end elevational view of the machine, as seen from the left in Fig. 1, with the cover plate of the needle head removed;

Fig. 4 is a view largely in plan, but partially in section, showing the work supporting base of the main frame with the auxiliary housing applied thereto, a cover member for the housing being removed;

Fig. 5 is a detail view showing, partly in longitudinal section and partly in plan, a spreader element and its carrier, together with a bearing sleeve for the latter, forming part of the overedge stitching mechanism;

Fig. 6 is a plan view of a looper which may be substituted for the spreader of Fig. 5;

Fig. 7 is an enlarged view of that portion of the work supporting base of the machine which is at the left end thereof in Fig. 1, with the cloth plate removed;

Fig. 8 is a transverse vertical sectional view through the base portion and auxiliary housing of the machine taken along the line 8—8 of Fig. 4;

Fig. 9 is a transverse vertical sectional view through the base of the machine and the auxiliary housing, taken along the line 9—9 of Fig. 4;

Fig. 10 is a detail view, in transverse section through the base of the machine, showing in elevation the work feeding mechanism;

Fig. 11 is a perspective view of a movable work trimming assembly with the trimming blade shifted into inactive position;

Fig. 12 is a perspective view of the movable work trimming assembly, as seen from a different angle than is shown in Fig. 11, with the trimming blade in operative position;

Fig. 13 is an exploded perspective view of a stationary trimming blade and its mounting embodied in the machine;

Fig. 14 is a perspective view of the auxiliary housing of the machine;

Fig. 15 is a plan view of the base of the machine in the region of stitch formation and shows the edge trimming mechanism in relation thereto; and

Fig. 16 is an exploded perspective view of a lubricant pump and associated parts embodied in the machine.

The illustrative machine, in part, bears some similarity to that disclosed in the application of Albert M. Schweda et al., Serial No. 433,937, filed June 2, 1954, owned by applicant's assignee. Certain of the mechanism disclosed herein is similar to that disclosed in said pending application and reference may be had to the latter for further details as to the construction and operation of such mechanism.

Referring now to the drawings, the machine has a main frame comprising a base portion **10** carrying a cloth plate **11** at its top. A vertical standard **12** rises from the right end of the base portion of the frame and carries a horizontally extending, overhanging arm **13** terminating in a needle head **14** disposed above the cloth plate **11**. Extending longitudinally of the base of the frame is a main rotary drive shaft **15** which extends outwardly of the frame at its right end (Fig. 1) and carries a combined hand wheel and pulley **16** through which power may be supplied to the machine. Shaft **15** has a crank portion **15***a* surrounded by a strap at the lower end of a pitman **17** the upper end of which has a strap surrounding a ball pin extending outwardly from a needle lever **18** rockably mounted on a stud **19** extend-

ing transversely of the overhanging arm. At its left end the needle lever is connected by a link 20 with a block 21 clamped upon a needle bar 22 mounted for vertical reciprocation in the needle head. The lower end of the needle bar has a needle clamp which carries a pair of needles 23 and 24, these being spaced suitably from each other both in a direction longitudinally of the base and in a direction transversely of the base.

Needle 23 cooperates with a four-motion looper 25 in the base of the machine for the formation of two-thread chain stitches of the 401 type. Looper 25 is mounted on a carrier 26 which is rockable about the axis of a screw stud 27 carried by a sleeve-like member 28 secured to a rockshaft 28*a*. Rocking movements of the carrier 26 about the axis of the stud 27 are imparted by a pitman 29 pivotally connected at its left end with the carrier and at its right end with an arm 30 secured to a rockshaft 31. The latter, within the enclosed portion of the base of the frame, has secured thereto an arm 32 which is connected by a pitman 33 with a spherical crank element on the drive shaft 15. Through the connections described, loop seizing and loop shedding movements are imparted to the looper 25. Needle avoid movements are imparted to the latter by means of an arm 34 clamped upon the shaft 28*a* and pivotally connected at its rearward end with a pitman having a strap portion 35 (Fig. 7) cooperating with an eccentric carried by the drive shaft 15. By means of the foregoing mechanisms, the needle 23 and looper 25 are caused to produce two-thread chain stitches at a suitable distance inwardly of the free edge of work advanced along the cloth plate 11.

Cooperating with the needle 24 in the formation of a line of overedge stitching of the 503 type in an underlooper 36 arranged to a pass a loop of its own thread through the needle thread loop when the needle is starting its upward movement from its lowermost position. Looper 36 is carried by a reciprocatory rod 37 mounted for reciprocation in a bearing sleeve 38 extending through an opening in the left wall (Fig. 1) of an auxiliary housing 39. The latter is secured in any suitable way, as by screws or bolts, to the top of the base portion of the main frame of the machine and is provided with an opening in its bottom which is positioned above an opening in the top of the base portion of the main frame to provide communication between an enclosed portion of the latter and the interior of the auxiliary housing. Housing 39 is preferably provided with a removable top closure 40 which, when removed, provides access to parts within the housing. As best shown in Fig. 1, the looper rod 37 is inclined at a suitable angle to the horizontal and has its upper or inner end connected by means of a link 41 with an arm 42 of a member rockably mounted upon a fixed shaft or stud 43 carried by the auxiliary housing. Link 41 is pivotally connected at its opposite ends with the rod 37 and arm 42. Stud 43 is mounted in alined openings 44 and 45 (Fig. 14) provided in vertical walls of the housing 39. Arm 42, as best shown in Fig. 9, extends upwardly from a sleeve 42*a* rockable upon the stud 43. Another arm 46 projecting substantially horizontally from the sleeve 42*a* is connected by a pitman 47 with a spherical crank portion of the shaft 15. The connection at the upper end of pitman 47 with the arm 46 involves a ball pin projecting from the latter. It will be apparent that upon each revolution of the shaft 15 the looper rod 37, and hence the looper 36, will be reciprocated axially in a plane transverse to the line of stitch formation.

A spreader 48 (Fig. 1) carried by an oscillatory and reciprocatory, horizontally disposed rod 49 is adapted to engage the loop of thread carried by the looper 36 at a point toward the right of the free edge of the work and to carry this loop into the path of the needle 24 so that the latter may be passed through the loop as the needle descends. As shown in Fig. 5, the spreader 48 is inserted in a hollow portion of the rod 49 and is clamped thereon by a set screw 48*a*. At an intermediate point the rod 49 carries a block or key 50 which is of spiral configuration lengthwise and has inwardly sloping sides. This block has a downwardly extending stem passing through the rod 49 and is retained in set position by means of a set screw 52 the point of which preferably cooperates with a flattened surface provided on a cut-away portion of the stem 51. Block 50 has sliding engagement with a spiral slot or opening 53 extending through a bearing sleeve 54 which serves to support the rod 49 for reciprocatory movement therein. This bearing sleeve extends horizontally through an opening 55 in one wall of the housing 39 and it is retained in said opening against sliding or turning movement. At a point toward its inner end, with suitable clearance from the inner or right end of the sleeve 54, the rod 49 carries a collar 56 firmly secured thereto. At its extreme inner end the rod 49 carries another collar 57 which is also firmly secured thereto.

Washers 58 and 59 are arranged to cooperate wlith the opposed faces of the collars 56 and 57, respectively, and have their own opposed faces spaced to receive and cooperate with forked end portions 61 of an arm 60. The surfaces of the portions 61 of the arm which cooperate with the washers are of cylindrical configuration, as best shown in Fig. 4. Arm 60 projects laterally from a sleeve 62 mounted for oscillation about a fixed shaft 62*a* (Fig. 8) extending vertically and carried by the housing 39. At its lower end the sleeve 62 is provided with a horizontally and forwardly extending arm carrying a ball pin 63 which cooperates with a strap at one end of a pitman 64. The opposite end of this pitman has a strap cooperating with a spherical crank portion 65 of the drive shaft 15. It will be apparent that through the connections described each revolution of the shaft 15 will cause a complete oscillation of the sleeve 62 and a swinging movement of the arm 60 in a horizontal plane. Arm 60, in turn, will reciprocate the spreader rod 49 in the bearing sleeve 54. At the same time, due to the coaction of the block 50 with the spiral opening or slot 53, the rod 49 will be oscillated about its axis. The combined movements thus imparted to the rod 49 will carry the spreader 48 from the position in which it picks up the looper thread from looper 36 to the position in which the loop of this thread is in the path of the needle 24, and after the needle passes downwardly through the loop the spreader will then be returned to the position in which it may repeat this operation. In this way a two-thread overedge stitch of the 503 type is formed by the coaction of the needle 24, looper 36 and spreader 48.

If desired, the spreader 48 may be replaced by a thread-carrying looper 66 (Fig. 6). The shank 66*a* of this may be inserted in the hollow end of the rod 49 and clamped by the screw 48*a* in the same manner as the spreader 48 is shown clamped in Fig. 5. When the looper is thus substituted, the machine is adapted to produce a three-thread overedge stitch of the 504 type. Thus, after looper 36 has passed a loop of its thread through the loop of needle thread carried by the needle 24, the looper 66 is adapted to pass a loop of its own thread through the loop of thread carried by looper 36 and by virtue of the combined reciprocatory and oscillatory movements of the looper 66, a loop of its thread will be carried up to a position in the path of the needle 24 for entry by the latter on its next down stroke.

In Fig. 2 there is shown the thread guiding and controlling means for a machine adapted to produce a line of 401 type stitches and a line of 503 type overedge stitches. The needle thread entering into the 401 stitches is indicated at 67 and that entering into the 503 type stitches is indicated at 68. The looper thread for the 401 stitches is indicated at 69 and that for the 503 stitches is indicated at 70. All of these threads, it will be understood, are delivered to the machine from suitable cones or spools, not shown. At the machine

they are first passed to and through a thread tensioning device 71 which may be of any suitable construction. Needle thread 67, after passing through the thread tensioning device, extends to a fixed guide 72 and then to a guide 73 which is mounted on the needle lever 18. From here the thread extends to a thread guide 74 at the top of the needle bar. It then extends downwardly to the eye of the needle 23. Needle thread 68, after passing through the thread tensioning device 71, is carried through a fixed guide 72*a* and then to a guide 75 carried by the needle lever 18. From this point the thread extends through an eyelet in a fixed guide 76 and then down to the eye of the needle 24. Looper thread 69, after passing through the thread tensioning device, goes through an eyelet in a fixed guide 77, then across a double disc rotary take-up 78 of conventional form and from here to the looper 25. Thread 70, after passing through the thread tensioning device, extends through a second eyelet in the fixed guide 77, then through an eyelet in a fixed guide 79 and thence upwardly through an opening in an arm 80 secured to the arm 30 which imparts loop seizing and shedding movements to the looper 25. From this point the thread 70 extends to a fixed guide 81 and from the latter to the looper 36. By the means described the desired take-up actions and tensions are applied to the several threads.

Referring now particularly to Figs. 3 and 10, the work feeding mechanism of the machine includes a feed dog 82 carried by a feed bar 83 pivotally mounted on a feed rocker 84. The latter is secured to a rock shaft 85 carried by the base portion of the frame of the machine on its rearward side. A stud 86 projecting laterally from the feed rocker 84, at a point intermediate the shaft 85 and the pivotal connection of the feed bar 83 with the rocker, has clamped thereon one end of an arm 87. The forward end of this arm is pivotally connected with a pitman 88 having a strap portion cooperating through a needle bearing with a crank pin 89 mounted for adjustment radially of a member 90 secured to the main drive shaft 15. As will be understood, variation in the feed stroke of the feed dog may be effected by varying the eccentricity of the crank pin 89 in relation to the axis of the drive shaft. Lifting and lowering movements are imparted to the feed dog by means of a downwardly extending arm 91 carried by the feed bar 83. The forward end of arm 91 is pivotally connected with the lower end of a pitman 92 having a strap portion which cooperates through a needle bearing with an eccentric 93 secured to the main drive shaft 15.

The feed dog 82 is given four-motion movements by the mechanism described above and in the course of such movement passes upwardly through suitable slots or openings in a throat plate 94 (Fig. 4) secured to a support 11*a* attached to the machine frame and located beneath the cloth plate 11. A presser foot 95 (Fig. 15) cooperates with the throat plate and the feed dog and serves to retain the work against the latter as the feed dog is given its work advancing movements. The presser foot is secured to the lower end of a presser bar 96 mounted for vertical movement in a bearing sleeve carried by the lower portion of the needle head of the machine, as shown in Fig. 3. A spring 97 urges the presser bar downwardly to retain the presser foot in cooperation with the throat plate or the work thereon as the feed dog imparts the feed action. Spring 97 coacts at its lower end with a block 98 secured to the presser bar and at its upper end with a shoulder 99 carried by a sleeve or stem having screw threaded engagement with the top of the needle head. This sleeve or stem may be turned by a knurled head 100 to vary the height of the shoulder 99 and thus the downward force imparted by the spring 97 to the presser bar.

As has been indicated, the machine is provided with edge trimming mechanism which serves to trim the free edges of the superposed layers of material just in advance of the point at which the overedge stitches are applied thereto. This mechanism is best shown in Figs. 11, 12, 13 and 15, but portions of it are shown in other views. It comprises a lower stationary blade 101 (Fig. 13) mounted in an inclined channel in a support 102. The height of the blade in relation to the cloth plate and its location from front to rear of the latter may be varied slightly by adjusting its position in the channel and it is secured in set position by a plate 103 and a screw 104. Support 102 has a laterally extending block portion 105 adapted to be secured to the throat plate support 11*a* of the machine by means of a screw 106. The latter extends through an elongated opening 107 in the block 105 to enable adjustment of the latter in a direction transverse to the line of stitch formation. This permits some variation in the location of the trimming blade 101 in a direction transverse to the line of stitching. Screw 106 cooperates with a screw threaded opening 108 in the throat plate support 11*a*. The latter has rigidly secured thereto a forked downwardly extending member 109 which cooperates with a grooved portion 110*a* of a screw element 110. When the clamping screw 106 is released slightly the screw element 110 may be turned and by virtue of its screw threaded engagement with the block 105 will serve to shift the latter to effect the adjustment mentioned.

The movable trimmer blade which cooperates with blade 101 in trimming the edge of the work is carried by a rock frame 111 which is rockably mounted on an enlarged portion 112 of a stud having a reduced portion 113 adapted to be inserted in an opening 114 (Fig. 14) in the housing 39. A set screw or the like may be provided to lock the stud in any set position. Portion 112 of the stud is disposed eccentrically of the axis of portion 113. Therefore, upon turning of the stud by the application of a screw driver to its head 115, the axis about which the frame 111 is rocked may be varied slightly. A washer 112*a* (Fig. 11) serves as a spacing and wear receiving element between the adjacent end of the rock frame 111 and the wall of the housing 39.

Frame 111 has a forwardly extending head 116 provided with laterally spaced bearing lugs. These are provided with alined openings to receive a rock shaft 117 to which is secured a block 118. The latter is fitted in the space between the bearing lugs of the head 116 and is provided with a slight rearward extension 119 providing a lip or shoulder adapted to rest on the top of the head when the parts are in operative position, as shown in Fig. 12. Block 118 and its supporting shaft 117 are normally urged into this position, toward the left in Fig. 12, by a spring 120. To enable the movable cutter and its supporting means to be rocked upwardly into the position shown in Fig. 11 to facilitate threading of one or more of the loopers provided in the machine, the head 116 is provided with a vertically disposed channel 121 of slightly greater width than the block 118 so that when the latter is shifted toward the right (Fig. 12) against the action of spring 120, the lip 119 of the block will be free of the top surface of the head 116 and may be swung downwardly into the channel 121. Secured to the block 118 is a blade carrying member 122 provided with an undercut channel 123 which cooperates with a projection of corresponding configuration on the forward face of the block 118. This enables the blade carrier to be adjusted along the forward face of the block 118 to correspond with any adjustment of the stationary blade 101 in a direction transverse to the line of stitch formation. A spring plate 124, secured by a screw 124*a* to the block 118, serves to lock the carrier 122 in any adjusted position on the block. When the carrier 122 is in operative position its rearward face engages the adjacent lug of the head 116 to hold the carrier in definite relation to said head. Carrier 122 is provided with an inclined channel for receiving a blade 125 adapted to be clamped in the channel in desired position by means of a block 126 and its retaining screw 127.

Rocking of the frame **111** is effected through a downward extension **128** of the latter which is pivotally connected with the rearward end of a pitman **129**. This pitman has a strap portion at its forward end surrounding a needle bearing cage **130** which in turn surrounds and cooperates with an eccentric **131** carried by the main drive shaft **15**. Thus on each revolution of the shaft **15** the frame **111** will be given a complete oscillation to carry the movable blade **125** downwardly and upwardly in relation to the stationary blade **101**. Spring **120** serves to urge the end of the blade **125** yieldingly against the stationary blade **101** to maintain the blades in proper cutting relation. As shown in Fig. 15, a downwardly inclined chip guard **132** is preferably provided on the base of the main frame of the machine to receive the chips or strips trimmed from the edge of the work and discharge these forwardly and downwardly.

The machine is preferably provided with means for effecting automatic lubrication of the various relatively sliding or moving surfaces requiring lubrication to minimize wear. For this purpose a lubricant reservoir is provided in the base portion of the main frame of the machine, including that part beneath the vertical standard and that part beneath the auxiliary housing **39**. The parts within the enclosed portion of the frame are lubricated by mist created through the action of various parts of the mechanism on the body of lubricant maintained in the reservoir mentioned. Parts outside of the enclosed portion of the frame are lubricated through tubing and wicking. In use, the machine is preferably placed on an oil pan which serves to collect lubricant which may drip from the parts receiving lubrication, particularly those outside of the enclosed portion of the frame. Means are provided in the machine for picking up the collected lubricant from the pan and returning it to the reservoir. This means is best illustrated in Fig. 16, but is partly shown in Figs. 1 and 4. It comprises a pump housing **133** in the form of a block which is secured by screws **134** to the front wall of that portion of the base of the frame which is beneath the housing **39**. Block **133** is provided with a cavity **135** of the configuration shown in Fig. 16. In this cavity there is mounted a pair of gears **136** and **137** which act as a pump. Gear **136** is carried by a shaft **138** which extends through an opening **139** in the rear wall of the cavity and has secured thereto, adjacent the rear face of the block, a gear **140**. The latter meshes with a gear **141** carried by a sleeve **142** which is secured to the main drive shaft **15**. This sleeve, as best shown in Fig. 1, may serve also to couple, in axial alinement, two portions of the shaft **15**. It will be understood that this shaft is divided into several sections to facilitate assembly in the frame. Gear **136** is thus driven from the shaft **15** through the connections described. In turn it drives the gear **137** mounted on a short shaft **143** which is retained in an opening **144** in the rear wall of the block **133**. Preferably the gear **137** is free to turn in relation to the shaft **143**. Lubricant is delivered to the pump chamber through an opening **145** in the bottom of the block **133**, this opening communicating with a tube **146** the opposite end of which is connected by a nut **147** with the threaded upper end of a tube or pipe **148** extending through an opening in a closure disc **149**. The latter fits into an opening through the bottom of the reservoir described above and is secured to the base of the frame by a plurality of screws **150**. The opening through the disc **149** communicates with the oil pan (not shown) mentioned above. The pump housing is closed on its forward side by a plate **151** secured to the block **133** by means of screws **152**. Oil picked up by the gears **136**, **137** through the tube **146** and openings **145** will be discharged from the pump chamber through an opening **153** in the top of the block **133** and thus delivered into the reservoir.

Oil guards are preferably provided in the reservoir for preventing discharge of lubricant collected from the mist in the enclosed housing through various openings, such as those in the bearing sleeves **38** and **54** in which the looper rods **37** and **49** are reciprocated. One such guard is shown at **154** in Fig. 1. Another such guard is shown at **155** in Fig. 4.

While an illustrative machine embodying the invention has been disclosed in considerable detail, it will be understood that various changes may be made in the construction and arrangement of various parts without departing from the principles and scope of the invention as defined by the appended claims.

What is claimed is:

1. In a sewing machine having means for producing a line of through and through stitches in a plurality of work sections adjacent a free edge thereof and means for simultaneously producing a separate line of stitching over the edge of said work sections, the combination which comprises a main frame having a base provided with a horizontally disposed work supporting surface, an auxiliary housing mounted on said base and communicating therewith, a rotary drive shaft in said base, a plurality of axially reciprocatory shafts mounted in said housing, each disposed at least partially above said work supporting surface and carrying a stitch forming element, and connections from said drive shaft to said reciprocatory shafts for axially reciprocating the latter, said connections comprising a rock member arranged for rocking movement about a vertical axis for reciprocating one of said reciprocatory shafts.

2. In a sewing machine of the character set forth in claim 1, said rock member having an arm extending substantially horizontally therefrom and arranged to cooperate with said one of said reciprocatory shafts for reciprocating the same.

3. In a sewing machine of the character set forth in claim 2, means on said one of said reciprocatory shafts providing spaced radially extending shoulders thereon, said horizontally extending arm having vertically disposed cylindrical surfaces arranged to cooperate with said radially extending shoulders for positively shifting said shaft in opposite directions.

4. In a sewing machine of the character set forth in claim 1, said rock member being mounted for oscillation in said auxiliary housing, and direct connections from said rotary shaft to said rock member for oscillating the latter about its vertical axis.

5. In a sewing machine of the character set forth in claim 1, said auxiliary housing and a portion of the base of the main frame forming a substantially lubricant-tight enclosure, and said rock member being disposed within said enclosure partially within said portion of the base and partially within said housing.

6. In a sewing machine of the character set forth in claim 5, said enclosure being arranged to retain lubricant at a desired level, a gear pump within said enclosure mounted on said portion of the base of the main frame, said pump having an inlet extending through the bottom of said enclosure and an outlet above the lubricant level therein and serving to introduce lubricant into said enclosure from a point below said portion of the base of the main frame.

7. In a sewing machine having means for producing a line of through and through stitches in a plurality of work sections adjacent a free edge thereof and means for simultaneously producing a separate line of stitching over the edge of said work sections, the combination which comprises a main frame having a base provided with a horizontally disposed work supporting surface, an auxiliary housing mounted on said base and communicating therewith, portions of said housing extending below said work supporting surface, a rotary drive shaft in said base, a plurality of axially reciprocatory shafts mounted in said housing, each disposed at least partially above said work supporting surface and carrying a stitch forming element, and connections from said drive shaft

to said reciprocatory shafts for axially reciprocating the latter, said connections comprising a plurality of rock members, one for each of said reciprocatory shafts, said rock members being mounted in said auxiliary housing and each being journaled at least in part below said work supporting surface.

8. In a sewing machine of the character set forth in claim 7 an edge trimming mechanism for said work sections comprising a stationary blade and a rock frame carrying a movable blade in the region between said auxiliary housing and the line of stitch formation, connections from said drive shaft to said rock frame for rocking the latter and causing said movable blade to cooperate with said stationary blade and trim the edges of the work sections, said movable blade carrying rock frame having a disengageable connection with said movable cutting blade whereby the latter may be shifted into an inoperative position and away from said stitch forming elements carried by said reciprocatory shafts.

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