Jan. 15, 1946. E. G. McLELLAN ET AL 2,393,050

DEVICE FOR CIRCULAR SEWING

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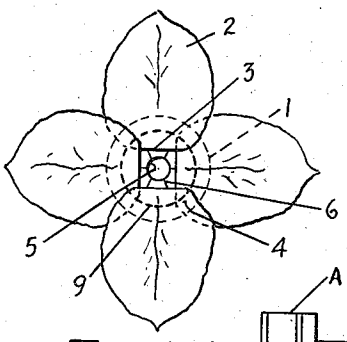


FIG. 1.

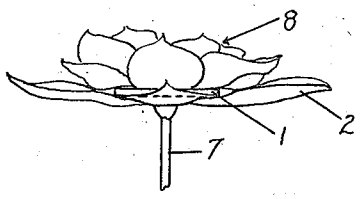


FIG. 2.

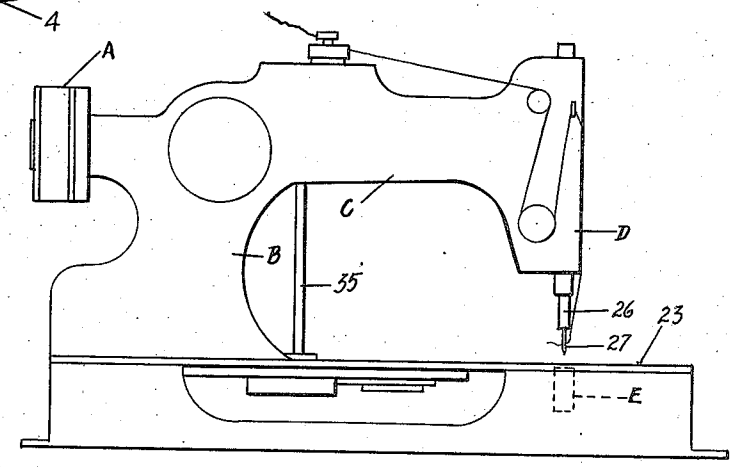


FIG. 3.

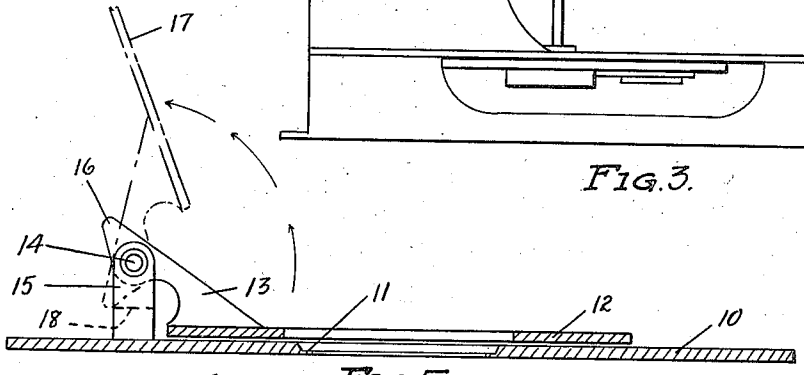


FIG. 5.

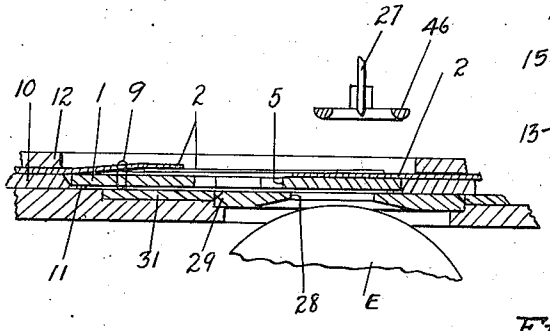


FIG. 10.

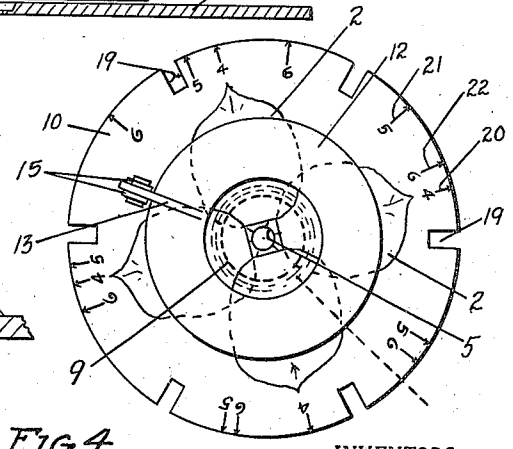


FIG. 4.

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DEVICE FOR CIRCULAR SEWING

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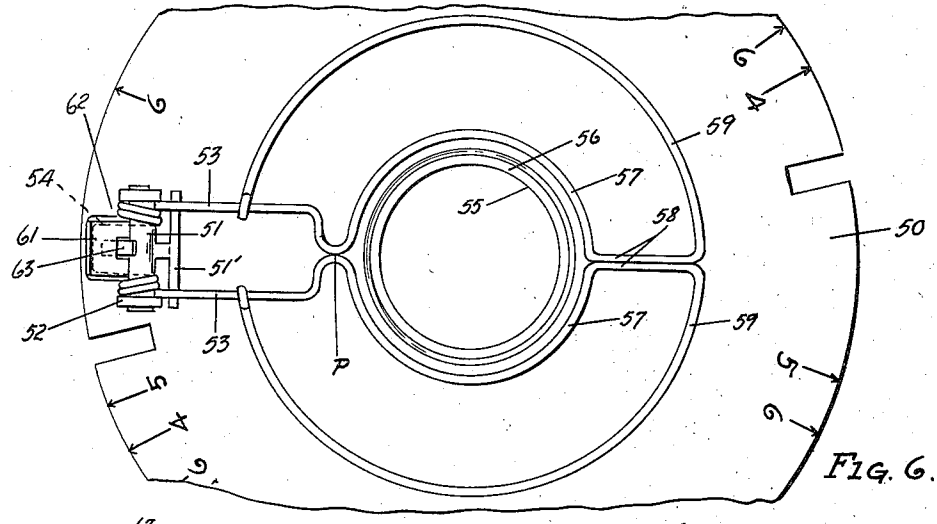


FIG. 6.

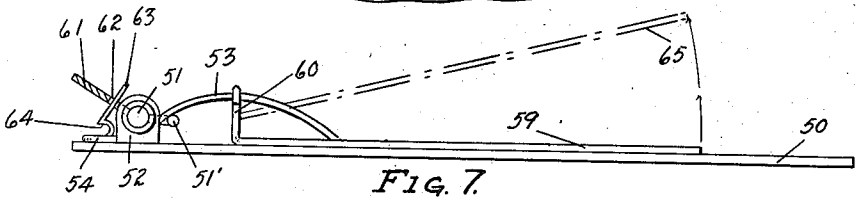


FIG. 7.

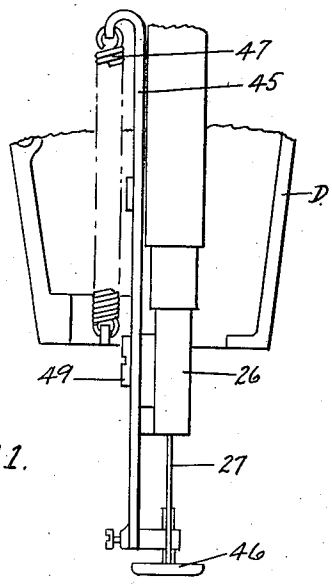


FIG. 11.

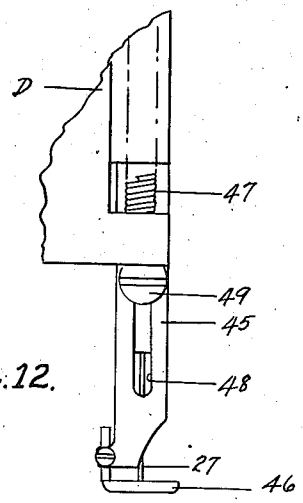


FIG. 12.

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DEVICE FOR CIRCULAR SEWING

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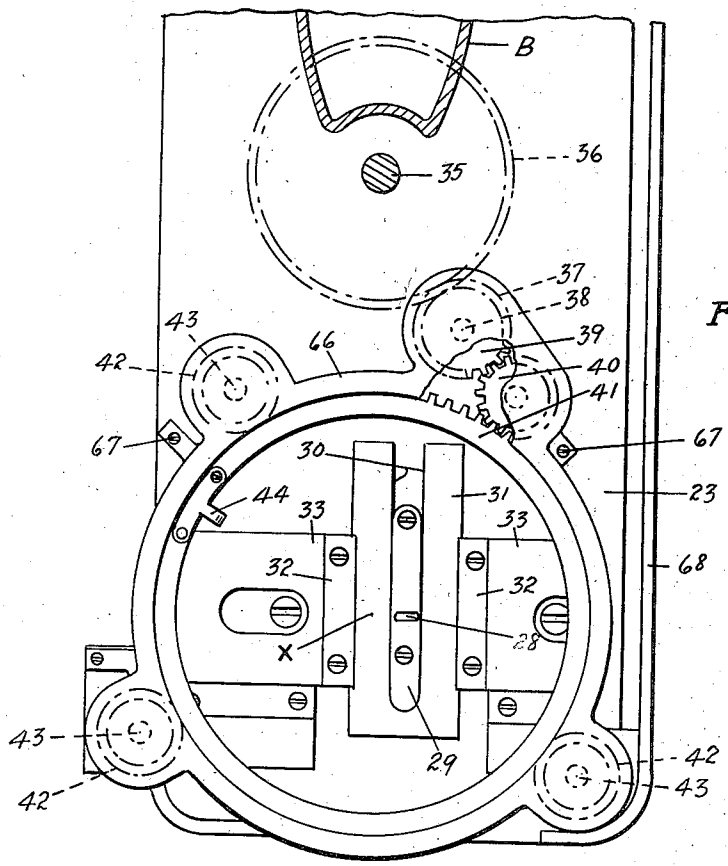


Fig. 8.

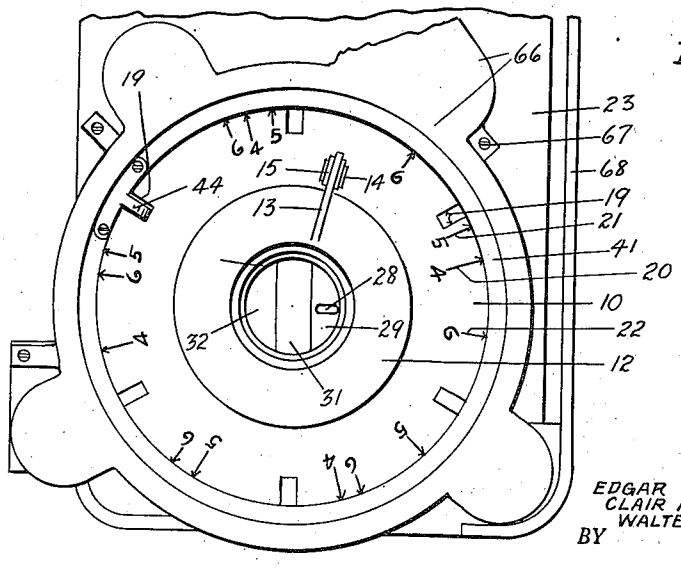


Fig. 9.

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UNITED STATES PATENT OFFICE

2,393,050

DEVICE FOR CIRCULAR SEWING

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Application June 22, 1942, Serial No. 447,904

9 Claims. (Cl. 112—2)

This invention relates to a device for circular sewing, and has for one of its objects a device adapted for use in a sewing machine for sewing material together in a circular path.

Another object is the provision of an attachment adapted to be installed on a conventional sewing machine, particularly of the type used for sewing button holes, and which attachment enables the sewing of material together along a circular path.

A still further object is a device in a sewing machine that provides means for quickly sewing radially arranged leaves to a semi-rigid or flexible disk-like collar, in which the leaves extend outwardly relative to the central axis of said collar, and which means sews the leaves to each other at the same time.

An additional object is the improved method of making an assembly of leaves in a pre-determined arrangement and which assembly is adapted to encircle the stem of a blossom and to provide a base against which the blossom is supported, and another object is an improved blossom, stem and leaf assembly formed by said method.

Other objects and advantages will appear in the specification and drawings annexed hereto.

In preparing individual blossoms for wearing, such as gardenia blossoms, it has been the practice to staple radially disposed leaves to a disk-like annular collar, and to then draw the stem of the blossoms through the central aperture of the collar so that the blossom overlies the base portions of the leaves connected to the collar. The stem itself is generally a wire secured to the short stem or calyx of the blossom.

The ordinary method of making the leaf arrangement is for the operator to successively staple each of the leaves to the collar with metal staples. This is a slow and relatively inaccurate procedure, since the leaves are relatively fragile and staples tend to tear or to bruise the leaves, and the leaves tend to shift their positions relative to each other, and to tear, upon manually positioning the collar on the stem and in drawing the blossom against the leaves. Also, the metal of the staples, unless plated or of expensive stainless material, tends to corrode or to rust and to form stains in the presence of moisture and air, even though this condition is of relatively short duration.

The invention hereinafter described more in detail, overcomes the foregoing objections. The leaves are quickly, accurately and securely fastened to the collar by stitching and the structure is such that the collar may be positioned between the blossom and the leaves carried by the collar so that the collar is substantially concealed, whereas heretofore, the leaves were between the blossom and the collar.

While the foregoing description is directed toward the use of this invention for sewing leaves to a collar, the invention is not restricted to this use, but covers various uses where it is desirable to sew along a circular path.

In the drawings, Fig. 1 is a plan view of plant leaves sewed to a disk-like collar by the machine.

Fig. 2 is a side elevational view of a blossom supported against leaves that are secured to a collar with the stem of the blossom extending through the central aperture of said collar and with the collar disposed between the leaves and the blossom.

Fig. 3 is a simplified side elevational view of a conventional button hole sewing machine to which our device for circular sewing is adapted to be attached, and from which view many of the elements for use in forming button holes are omitted.

Fig. 4 is a plan view of one form of device adapted to be used in the machine of Fig. 3 for holding plant leaves against a collar and for supporting the leaves and collar during sewing of the leaves to the collar.

Fig. 5 is an enlarged, vertical sectional view through the device of Fig. 4 with the leaves and collar shown in Fig. 4 omitted therefrom.

Fig. 6 is an enlarged, fragmentary plan view of another form of device slightly different from that of Fig. 4 but for the same purpose.

Fig. 7 is a part sectional, part elevational view of the device of Fig. 6, as it appears from one edge.

Fig. 8 is a plan view of the portion of one end of the bed of the sewing machine of Fig. 3 that is under the needle with certain parts of our invention in position thereon, and which parts are for positioning and rotating the device of Fig. 4 or Fig. 6. Parts of the conventional machine of Fig. 3 are shown in section and portions of the housing on the bed are broken away for clarity of parts that would otherwise be concealed by the housing.

Fig. 9 is a plan view of the portion of the invention shown in Fig. 8 with the device of Fig. 4 shown in position, with the leaves and collar of Fig. 4 omitted.

Fig. 10 is an enlarged fragmentary sectional view of the central portion of the device shown in Fig. 9 with the leaves and collar indicated in section in position, and with the needle and foot surrounding the latter shown in raised position

over the leaves and collar. The foot is shown in section.

Fig. 11 is a part sectional, part elevational view of the needle holding portion of the sewing machine of Fig. 3, illustrating our special work engaging foot connected with the needle carriage or chuck.

Fig. 12 is an elevational view of the portion of the machine shown in Fig. 11 as said portion is seen from a point at right angles to the view of Fig. 11.

In detail, the product shown in Fig. 1 is the finished work accomplished by use of our invention in which an annular, disk-like collar 1 of cardboard or of composition material, or other material penetratable by a needle, supports the base ends of plant leaves 2 thereon in positions with their central veins extending radially relative to the axis of the collar. The base ends of the leaves are preferably cut straight across as at 3 at about right angles to their central veins, and the marginal portions of the leaves of adjacent pairs thereof preferably overlap each other at 4 where they also overlap the collar. The central aperture 5 in the collar, and radial slits 6 extend outwardly from the edges of said aperture so that the marginal portion of the collar around said aperture is free to yield when the stem 7 (Fig. 2) of the blossom 8 is drawn through the aperture. The edges defining aperture 5 thus tend to grip the stem when the collar and leaves are in the position shown in Fig. 2 so that the collar will not slip away from the blossom.

The collar and leaves are secured together by stitches 9 that extend along a circular line concentric with the axis of the collar, and it will be noted that the stitching extends across the overlapped marginal portions of adjacent leaves thus stitching the leaves to each other as well as to the collar.

As shown in Fig. 2, the collar 1 is positioned between leaves 2 and blossom 8, and is concealed by the blossom and leaves. In slipping the collar on stem 7, the stitching prevents the leaves from being torn from the collar should edges 3 of the leaves scrape along the stem. Also the leaves will not become displaced relative to each other or to the collar in handling, and the stitching tightly holds the leaves flat against the collar so their edges will not tend to curl away from the latter, and in viewing the assembly of Fig. 2 from below, the butt end portions of the leaves substantially cover the collar thus simulating the appearance of emanating from the stem itself. This product as described and illustrated is believed to be new, since in previous constructions, the collar has been disposed below the leaves to afford the necessary support, instead of being concealed, and whether above or below the leaves the staples have been unsightly and afford a precarious form of securement for the leaves at best.

The device for supporting the leaves and collar in position during the stitching operation is best shown in Figs. 4, 5, and comprises an annular disk 10, the outside diameter of which is such that its outer periphery is spaced a substantial distance outwardly of the outer ends of the leaves 2. The edge of the central opening in disk 10 is rabbeted from the upper side of the disk when the latter is in its normal horizontal position, thus providing an annular recess with a radially inwardly projecting lip 11 on which the peripheral portion of collar 1 is adapted to be supported (Fig. 5). This lip is as thin as possible so that the under surface of disk 1 is practically coplanar with the under surface of disk 10 (Fig. 10). This is to bring the collar relatively close to the bobbin of the machine and at the same time to adequately support the collar during sewing.

Over the disk 10 and coaxial therewith, is an annular hold-down element 12. The inside diameter of this element 12 is slightly greater than the inside diameter of the disk 10, and the outside diameter of said element is preferably such as to permit the outer ends of leaves 2 to project slightly outwardly thereof. An arm 13 is secured at one end to the upper side of element 12, and extends radially outwardly of said element to a point over the disk 10 where it is secured to the disk by a pivot 14 carried, between upstanding ears 15 that are secured to said disk. The said arm is formed adjacent said pivot with an extension 16 that functions as a stop and as a support for holding the element 12 in open, inclined position indicated in dotted line at 17 (Fig. 5) to enable the operator to arrange the collar 1 and leaves 2 on disk 10. This extension 16 is adapted to engage a ledge 18, or any other suitable stop, when element 12 is swung to open position 17.

The peripheral portion of disk 10 is formed with a plurality of equally spaced notches 19 extending uniform distances inwardly of the periphery of the disk but terminating at their inner closed ends at points outwardly of the outer ends of leaves 2.

Also, the upper side of the disk 10 is provided with four equally spaced, radially extending, indicating lines 20 which may be inscribed on the upper surface of the disk. These lines are identified on the disk by the numerals "4" and provide marks to facilitate the uniform arranging of four leaves 2 on the disk 10. Also, five equally spaced radial lines 21 are inscribed on the disk which are identified on the disk by numerals "5," and six equally spaced lines 22 identified by numerals "6" are also provided so the operator may correctly position five or six leaves on disk 10 in radially extending positions relative to the central aperture of collar 1 when the latter is supported on lip 11 of disk 10. Of course, any desired number and arrangement of indicating marks may be used, and any indicia may be used for enabling an operator to properly arrange the leaves on collar 1 and on disk 10.

In the operation of arranging the leaves, the operator merely swings the element 12 to the open position indicated at 17 in Fig. 5. If a collar and leaves sewed thereto are on the disk 10, they are first removed and a loose collar is positioned on lip 11 in the central aperture in disk 10. The leaves 2 are then quickly positioned with their base ends overlying the collar, as indicated in Fig. 1, and then element 12 is swung back to its position coaxial with the disk 10. The weight of the element 12 alone will ordinarily be sufficient to hold the leaves and collar in place and the assembly is now ready for slipping into place on the sewing machine for stitching the leaves to the collar.

Inasmuch as the conventional power driven elements in a standard button hole sewing machine are employed by us, only those elements in such machine will be shown and designated as are essential to the practice of my invention. Such standard machines include a drive pulley A (Fig. 3) for the needle, and for an automatic lifting device for the needle and its carriage after

sewing for a predetermined distance. Automatic control means in these machines functions to stop the machine after the predetermined amount of sewing has been done, all being driven through conventional connections with the pulley shaft.

Fig. 3 is a simplified showing of a standard button hole sewing machine in which there is a frame that includes a horizontal bed 23 having an upright hollow standard B (indicated in section in Fig. 8 at the upper edge of the figure). This standard carries a laterally projecting hollow arm C (Fig. 3) in which are power driven elements that actuate the vertically reciprocating needle carriage. At the outer end of said laterally projecting arm is a housing D (Figs. 3, 11, 12) that supports the needle carriage or chuck 26 for vertical reciprocation for sewing, and the needle 27 that is secured to said carriage is positioned to reciprocate through opening 28 in a member 29 (Fig. 8). This member 29 is secured in a slot 30 in a flat plate 31, which plate 31 is removably secured in position by strips 32. The strips 32 are disposed along opposite edges of plate 31 and between adjacent ends of spaced plates 33, which plates 33 are secured to the bed 23. The upper surfaces of plates 29, 32, 33 are coplanar and below plate 29 is the bobbin housing E (Figs. 3, 10) that cooperates with the needle 27 for forming stitching in material above the opening 28 and over plate 29.

Insofar as our invention is concerned, the member 29, plate 31, strips 32 and plates 33 might be formed integral with the bed itself. The several plates and strips are identified merely because these are standard parts in a standard machine and so long as there is some means adapted to support thereon for rotation a plate such as disk 10 in the desired position relative to the needle, that is sufficient. Of course in the conventional machine cover plates cover most of the plates and strips described above, and which cover plates are omitted by us.

Within the conventional sewing machine of the type to which the present invention is applied are the usual control and actuating elements to coordinate the reciprocation of the needle for stitching with the bobbin and other parts of the machine, one of which parts is a vertical shaft 35 that rotatably extends through the bed 23. To this shaft, and below bed 23, is secured a gear 36 (Fig. 8) and which gear is in mesh with a gear 37 on a shaft 38. The shaft 35 and gear 36 are connected with the prime mover of the sewing machine for intermittent rotation thereof in one direction between reciprocal movement of the needle through material to be sewed. This operation of shaft 35 and gear 36 are common in button hole sewing machines, therefore, the showing of the shaft and gear 36 together with the description of its manner of operation without showing the other conventional parts will simplify the examination and will avoid unnecessarily complicating the case.

The shaft 38 rotatably extends through the bed 23 and carries a gear 39 above said bed. This gear 39 meshes with a small gear 40 which latter gear is in mesh with a horizontal, relatively large, diameter ring gear 41 that is above bed 23 and which gear is slidable on plates 33. Several idler gears 42 are on the machine frame and are respectively rotatable on shafts 43 carried by said frame, are positioned at spaced points around gear 41 to secure the ring gear 41 for rotation of the latter about its central axis that extends through point X on bed 23. The axis X is offset a predetermined distance to one side of the path in which needle 27 reciprocates.

It is manifest, of course, that the gears 42 may be rollers engageable with a cylindrical periphery on gear 41 insofar as their function is concerned.

The gear 41 carries a lug 44 at a point thereabout, and which lug 44 projects radially inwardly of the gear 41 and is adapted to fit into any one of the notches 19 on the annular disk 10. The outside diameter of disk 10 is such that it will fairly closely fit within the ring gear 41. From this it will be seen that while disk 10 is removable from within gear 41, it is adapted to move with gear 41, when the latter is revolved. Of course, when disk 10 is within gear 41 the hold-down element is above said disk.

Disk 10 is adapted to be supported horizontal on plates 33 for sliding thereon during revolution of the gear 41, and member 29 will support the disk adjacent the opening 28 in said member. This opening 28 is adjacent one edge of the central opening in disk 10 as is best indicated in Figs. 9, 10.

Referring to Figs. 11, 12, it is seen that the needle 27 projects downwardly from the chuck 26. The conventional needle actuating elements in arm C and housing D are arranged to cooperate with shaft 35 in a manner to effect rotation of shaft 35, and consequently gear 41 and disk 10, a predetermined distance between the withdrawal of the needle from opening 28 and its subsequent movement into said opening. Thus the work being sewed together, such as the leaves 2 and collar 1 that are carried on disk 10, will be stationary when the needle extends therethrough but such work will be revolved about axis X when the needle is clear of the work.

Secured to the chuck or carriage 26 is a vertical strip 45. This strip carries a laterally offset, horizontally disposed foot 46 in the form of a ring at its lower end, through which ring the needle 27 reciprocates. This ring 46 is a substitute for the normal presser foot of the machine. The function of foot 46 is to press against the work being sewed while the needle reciprocates through the work, but which foot is lifted from the work when the disk 10 is revolved, and a spring 47 connected between the upper end of strip 45 and a part of the housing 25 yieldably holds the foot 46 on such work during said movement of the needle through the work.

Strip 45 is formed with a vertical slot 48 and a bolt 49 extends through said slot into a portion of the needle carriage. This bolt has an enlarged head on its outer end that slidably engages a side of strips 45 to hold the latter in slidable engagement with the carriage 26, and the bolt is slidable in slot 48.

The ring 46 has a rounded lower surface that is adapted to engage the material to be sewed, such as leaves 2, and when the carriage 26 moves upwardly away from such material, the bolt 49 engages the upper end of slot 48 thus lifting the strip 45 together with ring 46 away from the leaves. When the needle 27 again moves downwardly, the ring 46 also moves down and is held against the material to be sewed by spring 47 as the needle continues through the material and back again to complete a stitch.

In the operation of sewing leaves 2 to a collar 1, the operator takes one of the disks 10 and lifts the hold-down element to position 17 (Fig. 5). A collar 1 is then positioned on the lip 11 around the central opening in disk 10. If four

leaves are to be sewed to the collar, the operator arranges four of the leaves 2 with their butt ends on collar 1 as indicated in Fig. 1, with their veins in alignment with lines 20 as indicated in Fig. 4. If five or six leaves are to be used, then the veins of the leaves are aligned with the equally spaced lines 21 or 22 as the case may be. After this, the hold-down element 12 is positioned to hold the leaves against collar 1 and disk 10, the disk 10 carrying the properly arranged leaves is slipped into ring gear 41 with the lug 44 of the latter in any one of the notches 19. The sewing machine is then put into operation and since the disk 10 and leaves held thereon are rotated about axis X, which is offset relative to needle 27, the stitching will be along a circular path having a radius of a length determined by the distance between axis X and the path in which the needle reciprocates.

Upon completion of the circular line of stitching, the needle will be automatically lifted clear of the leaves and collar 1 and the machine will be automatically stopped until another set of leaves is positioned for stitching to a collar.

In Figs. 6 and 7 is shown a modified form of device for supporting the collar 1 and leaves 2, and which device mainly differs from that of Figs. 3, 4 in the hold-down element. The annular disk 50 (corresponding to disk 10) is provided on its upper side with a short shaft 51 rotatable at its ends in spaced bearings 52. A spring wire is bent on itself to provide a pair of parallel runs 53 each of which extends in one or more turns around shaft 51 and the closed end 54 of runs 53 rests against disk 50 adjacent shaft 51 at the side of the latter opposite runs 53, thus forming a torsion spring around shaft 51 in which the runs 53 tend to be forced toward disk 50. These runs 53 extend to about the central circular opening 55 in disk 50, the edge of which opening has a lip 56 corresponding to lip 11 of disk 10, and then the runs are connected together at point P. From point P said runs extend around opening 55, as at 57 concentric with the opening 55 to the side of opening 55 opposite point P where they are joined together by spot welding or brazing, and they then extend outwardly a predetermined distance in a pair of parallel adjoining runs as at 58. These runs 58 extend at their outer ends oppositely outwardly in a circular path as at 59, concentric with opening 55, and when they reach points below runs 53 they are extended upwardly as at 60 (Fig. 7) and are connected to runs 53. Thus, instead of a hold-down element such as the element 12 of Figs. 4, 5, I provide a spring hold-down element that is adapted to be yieldably held against leaves 2, when the latter are positioned on disk 50. It is highly important that whatever hold-down device is used, its pressure on the leaves must not be sufficient to bruise the latter.

A flat, finger engageable arm 61 is connected with shaft 51 and extends outwardly and upwardly from the side of the shaft opposite runs 53, which arm has an opening 62 therein.

Opening 62 is adjacent shaft 51 and a spring catch 63 extends through said opening, said catch being secured at one end to disk 50, and having a hook 64 formed thereon to engage the arm 61 adjacent opening 62 when arm 61 is pressed downwardly to lift the annular hold-down portions 57, 59, by bar 51' carried on shaft 51.

In operation, the arm 61 is pressed down by the thumb until hook 64 engages the upper side of the same, and thus the hold-down portions 57, 59 are elevated to the position 65 indicated in dotted line in Fig. 7. After a collar 1 is placed on lip 56 and leaves 2 are arranged in the desired position on said collar and on plate 50, the operator merely releases the hook 64 from holding engagement with arm 61, thus permitting the hold-down portions 57, 59 to engage the leaves and to hold the leaves in place by spring tension due to the turns of the wire around shaft 51. The plate 50 and leaves thereon, including the collar held on lip 56, may be then positioned within ring gear 41 for sewing of the leaves to the collar.

The gears 39, 40, 41 and 42 are preferably covered by a housing 66 which may be removably held in position by screws 67 that extend into bed 23 or into any convenient part of the frame of the machine.

In the claims where the frame of the machine is mentioned, it is to be understood that this includes any suitable stationary part of the machine, such as the bed or any rigid or relatively rigid portion carrying operating parts, and the bed itself may be solid or of skeleton form suitable for holding or carrying the desired operating elements. As already stated, the various parts I have described for accomplishing the desired results when considered as a unit may be an attachment for an existing conventional sewing machine, of the type described. Of course, a complete machine suitable merely for circular sewing, and employing my attachment as a part thereof may be made since in the conventional button hole sewing machines a considerable number of the parts necessary for the sewing of buttons holes are not required and are removed.

The essential features in any conventional power machine are a power driven element that is coordinated with the needle actuating drive means and presser foot to move when the needle is clear of the work thus providing a means for rotating the work supporting member about an axis that is offset relative to the path in which the needle travels. In practically all machines some power actuating means of this kind is used. We are aware of the existence of machines that are bodily moved in a circle to sew in a circular path, but these machines are obviously not suitable for our use.

The particular machine to which we have adapted our device as illustrated herein is commonly known to the trade as a "machine for making straight button holes," since in such machines the control elements for automatically starting and finishing a predetermined length of stitching is standard and is more convenient than where the operator must watch the work after the stitching has commenced and then manually stop the machine and raise the needle and presser foot. Also in the standard machine of the above designated type, all means for regulating the type and tension of stitches is incorporated. We make no claim to any of these features apart from our invention as described herein.

Having described our invention, we claim:

1. A device for use in sewing plant leaves to a disk-like collar comprising; a substantially annular disk provided with a radially inwardly projecting lip around its central aperture adapted to support such collar within said aperture extending radially inwardly from the edges thereof; means on said disk for securing plant leaves against one side thereof with their butt ends

projecting over said opening and over such collar when said lip supports such collar in said opening; means for revolvably supporting said disk on the bed of a sewing machine substantially coplanar therewith and with the central aperture of said disk in the path of the sewing machine needle and with the central axis of said disk offset to one side of said path; and means for revolving said disk about its said axis when the latter is so supported for revolution about its axis.

2. In a construction as defined in claim 1, the said means for revolving said disk including a ring concentric with said disk and releasably connected therewith for rotation of said ring and said disk upon revolution of said ring and power driven gear means connected with said ring for rotating the latter.

3. In a sewing machine of the character described having a power driven needle longitudinally reciprocable in a vertical path, a pair of concentric horizontally disposed annular clamping members eccentrically positioned relative to said path and for reciprocation of said needle through their central openings, said members being adapted to hold leaves therebetween in a horizontal plane extending radially from the central axis of said members, means for releasably securing said members in said leaf holding position, means for supporting said members for revolution together about their common axis and securing said members from lateral movement during said revolution, and means for so revolving said members whereby said needle will sew along a circular line across the radially inner ends of leaves adapted to be held between said members, said means for supporting said members comprising a power driven horizontally disposed carriage revolvable about an axis that is coaxial with the axes of said members, said members being free from securement to said carriage for freely lifting therefrom, and cooperating guide means respectively provided on said carriage and on one of said members for maintaining said carriage and said members in coaxial relationship and for securing them together for revolution as a unit about their common axis.

4. In a sewing machine of the character described having a power driven needle longitudinally reciprocable in a vertical path, a pair of concentric horizontally disposed annular clamping members eccentrically positioned relative to said path and for reciprocation of said needle through their central openings, said members being adapted to hold leaves therebetween in a horizontal plane extending radially from the central axis of said members, means for releasably securing said members in said leaf holding position, means for supporting said members for revolution together about their common axis and securing said members from lateral movement during said revolution, and means for so revolving said members whereby said needle will sew along a circular line across the radially inner ends of leaves adapted to be held between said members, hinge means securing said clamping members together at one of their sides for swinging to and from leaf holding position, and the said means for supporting said members comprising a power driven horizontally disposed annular carriage coaxial with said members and revolvable about its axis, said members including their said hinge means being free from securement to said carriage for lifting therefrom as a unit.

5. In a sewing machine of the character described having a rigid frame that includes a horizontal bed and an arm thereover supporting a needle for vertical reciprocation across the plane of the upper surface of said bed during sewing, a carriage rotatably supported on said frame and below said needle for rotation about an axis parallel with the path of said needle during its reciprocation but offset to one side of such path, a work holder removably supported on said carriage by gravity and free for lifting therefrom but connected thereto for rotation therewith, means for so connecting said work holder and carriage, said work holder being adapted to hold work to be sewed in a position extending across the path of travel of said needle for sewing by the latter.

6. In a sewing machine of the character described having a rigid frame that includes a horizontal bed and an arm thereover supporting a needle for vertical reciprocation across the plane of the upper surface of said bed during sewing, a carriage rotatably supported on said frame and below said needle for rotation about an axis parallel with the path of said needle during its reciprocation but offset to one side of such path, a work holder removably supported on said carriage by gravity for lifting freely therefrom and connected thereto for rotation therewith, means for so connecting said work holder and carriage, said work holder being adapted to hold work to be sewed in a position extending across the path of travel of said needle for sewing by the latter, said carriage including an annular gear that is coaxial with its axis of rotation, and a power driven gear in mesh with said annular gear for revolving the latter.

7. In a sewing machine of the character described having a rigid frame that includes a horizontal bed and an arm thereover supporting a needle for vertical reciprocation across the plane of the upper surface of said bed during sewing, a carriage rotatably supported on said frame and below said needle for rotation about an axis parallel with the path of said needle during its reciprocation but offset to one side of such path, a work holder removably supported on said carriage by gravity for lifting freely therefrom and connected thereto for rotation therewith, means for so connecting said work holder and carriage, said work holder being adapted to hold work to be sewed in a position extending across the path of travel of said needle for sewing by the latter, said carriage and said work holder being formed with complementary interengaging elements for securing said work holder on said carriage in a predetermined position, and said work holder comprising a flat annular disk adapted to support thereon the work to be sewed in a position extending across the central opening of said disk, said carriage being arranged and adapted to hold said disk horizontally thereon.

8. A device for securing plant leaves to a disk-like collar, comprising a horizontal disk having a central unobstructed opening of a sufficient size to enable the projection of the butt end portions of plant leaves over said opening from all sides thereof to spaced relation of their terminating butt ends adjacent the central axis of such opening, said disk being adapted to support such leaves horizontal and coplanar on the upper side thereof, means for positioning a disk-like collar on said disk coaxial with said opening and in a position against said butt end portions when such portions are supported on said disk

clamping means carried by said disk for clamping such collar against said butt end portions when said collar and said leaves are positioned on said disk as described, said clamping means being wholly disposed within the confines of the peripheral outline of said disk and means also wholly secured within the confines of the peripheral outline of said disk for securing said clamping means to said disk.

9. A device for securing plant leaves to a disk-like collar, comprising a horizontal disk having a central unobstructed opening of a sufficient size to enable the projection of the butt end portions of plant leaves over said opening from all sides thereof to spaced relation of their terminating butt ends adjacent the central axis of such opening, said disk being adapted to support such leaves horizontal and coplanar on the upper side thereof, means for positioning a disk-like collar on said disk coaxial with said opening and in a position against said butt end portions when such portions are supported on said disk clamping means carried by said disk for clamping such collar against said butt end portions when said collar and said leaves are positioned on said disk as described, said disk and said clamping means being annular and coaxial and the means for positioning said collar being a recess formed in the upper side of the marginal portion of said disk around said opening for receiving the outer marginal portion of such disk-like collar.

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