J. BERGER, Jr.

FEEDING MECHANISM FOR SEWING MACHINES.

APPLICATION FILED JULY 20, 1915.

1,312,823.

Patented Aug. 12, 1919.

3 SHEETS—SHEET 1.

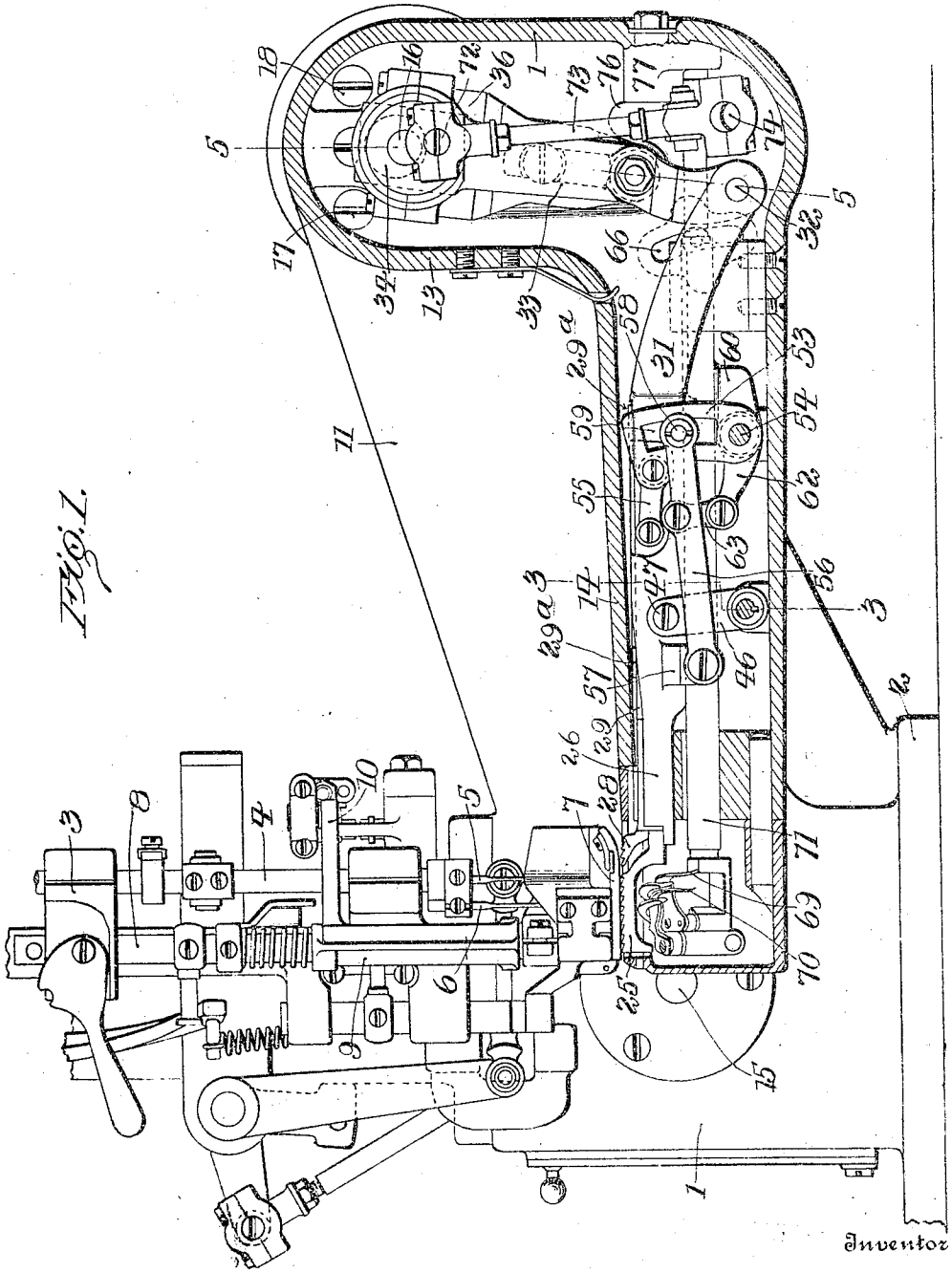

Fig. 1.

Witnesses

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3 SHEETS—SHEET 2.

Fig. 2.

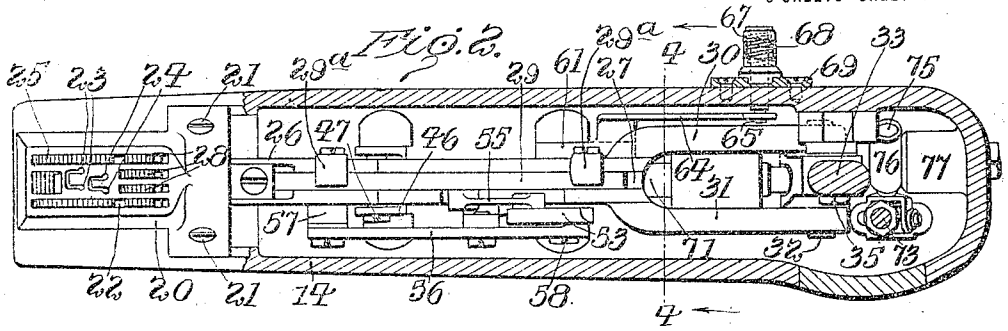


Fig. 3.

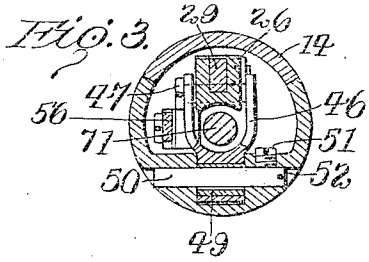


Fig. 4.

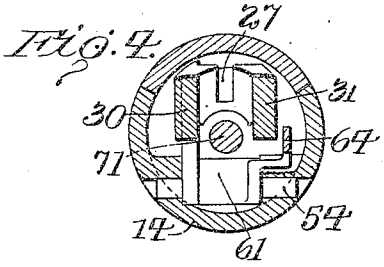


Fig. 5.

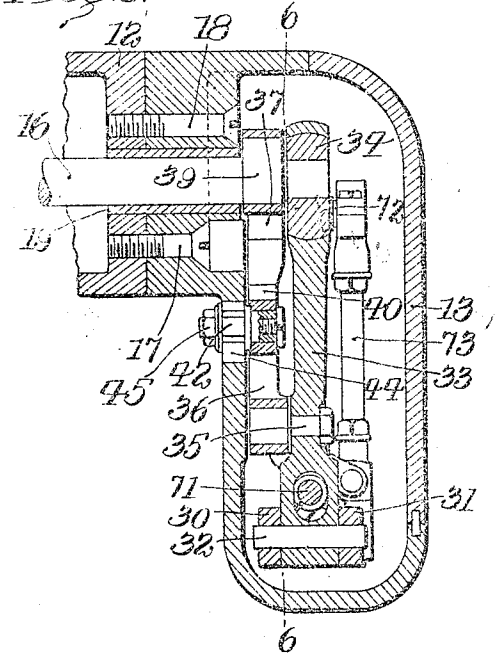
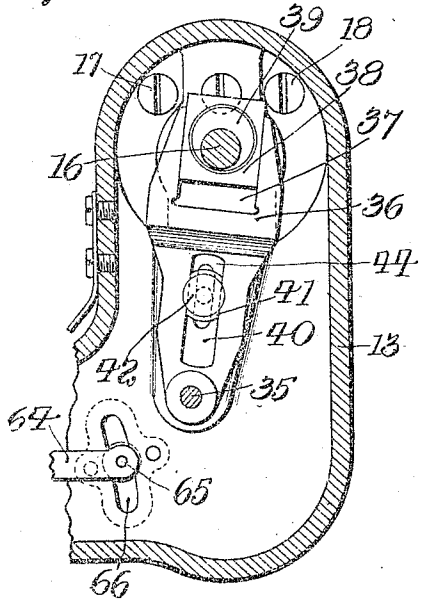


Fig. 6.



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FEEDING MECHANISM FOR SEWING MACHINES.

APPLICATION FILED JULY 20, 1915.

1,312,323.

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3 SHEETS—SHEET 3.

Fig. 7.

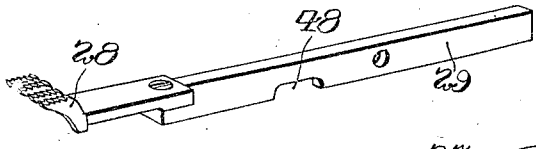


Fig. 8.

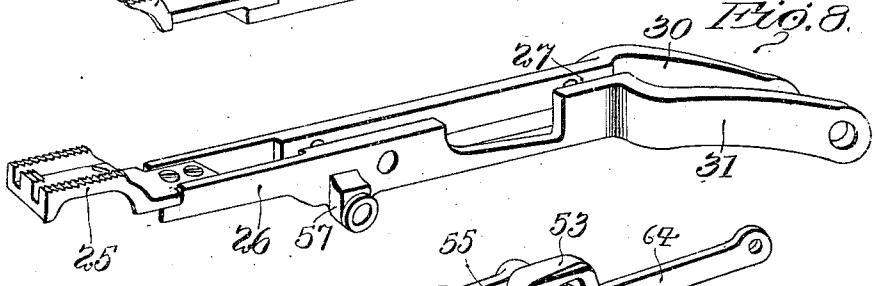


Fig. 9.

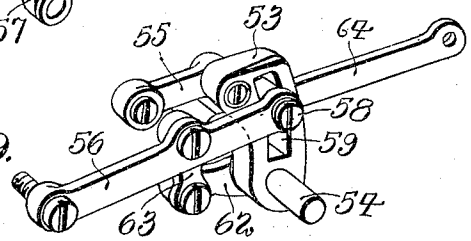


Fig. 10.

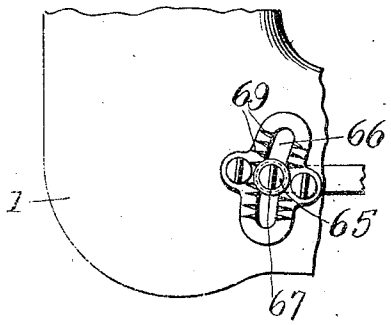


Fig. 12.

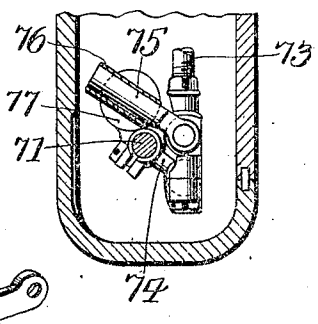
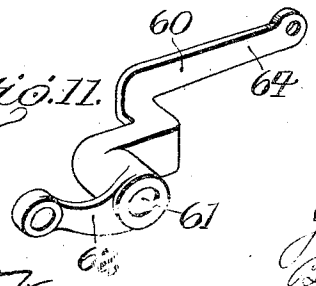


Fig. 11.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH BERGER, JR., OF UTICA, NEW YORK, ASSIGNOR TO UNION SPECIAL MACHINE COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FEEDING MECHANISM FOR SEWING-MACHINES.

1,312,823. Specification of Letters Patent. Patented Aug. 12, 1919.

Application filed July 20, 1915. Serial No. 40,892.

To all whom it may concern:

Be it known that I, JOSEPH BERGER, JR., a citizen of the United States, residing at Utica, in the county of Oneida, State of New York, have invented certain new and useful Improvements in Feeding Mechanism for Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the figures of reference marked thereon.

The invention relates to new and useful improvements in feeding mechanisms for sewing machines, and more particularly to a differential feeding mechanism.

An object of the invention is to provide a work support in the form of a cylindrical arm with a differential feeding mechanism consisting of a main feed bar having a main feed dog and an auxiliary feed bar having an auxiliary feed dog, wherein the auxiliary feed bar is operated from the main feed bar.

A further object of the invention is to provide a feeding mechanism of the above character with a hand-controlled lever extending outwardly from said work-supporting arm for adjusting the throw of the auxiliary feed dog.

A still further object of the invention is to provide a cylindrical work-supporting arm which is suspended, with a differential feeding mechanism consisting of a main feed bar having a main feed dog, and an auxiliary feed bar having an auxiliary feed dog, wherein the main feed bar is operated by devices extending through the suspending means, and the auxiliary feed bar is operated from a connection to the main feed bar in the work-supporting arm.

These and other objects will in part be obvious, and will in part be hereinafter more fully described.

In the drawings which show by way of illustration one embodiment of the invention,—

Figure 1 is a view partly in end elevation and partly in vertical section, showing a sewing machine embodying my improvements;

Fig. 2 is a view partly in plan and partly in horizontal section of the work supporting arm and the depending arm which carries said work supporting arm;

Fig. 3 is a transverse sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 2;

Fig. 5 is a vertical sectional view through the depending arm and the end of the horizontal arm which carries the same, the section being taken on the line 5—5 of Fig. 1;

Fig. 6 is a sectional view on the line 6—6 of Fig. 5;

Fig. 7 is a detail perspective view of the auxiliary feed dog and the feed bar for supporting the same;

Fig. 8 is a detail in perspective of the main feed dog and the feed bar for supporting the same;

Fig. 9 is a detached detail in perspective of the mechanism for operating the auxiliary feed bar and for changing the throw of the same;

Fig. 10 is a detail showing in side elevation a section of the depending arm and the control for varying the throw of the auxiliary feed dog;

Fig. 11 is a perspective view of the shifting lever for controlling the throw of the auxiliary feed dog;

Fig. 12 is a detail partly in vertical section, showing the means for operating the looper.

The invention is particularly adapted to a sewing machine for stitching fabrics resulting in the formation of tubular articles, which sewing machine is provided with a cylindrical work supporting arm suspended from a horizontal arm, so that the material to be stitched may be fed underneath and along the sides of said work supporting arm from end to end thereof and the edges brought together on the top of said arm at the stitching point. I have, therefore, shown in the drawings this preferred form of machine to which my invention is applied.

Said machine consists of a supporting standard 1, carried by a base 2. Said supporting standard carries an overhanging arm, at the forward end of which is a supporting head 3. A needle bar 4 reciprocates in said supporting head and is provided with two sets of needles 5 and 6. The presser foot 7 is carried by a presser bar 8. Mounted on the presser bar 8 is a yoke 9, which

has an outwardly projecting arm 10, through which the yoke is oscillated. This yoke carries the movable trimming blade of a trimming mechanism operating upon the material in advance of the needles.

Projecting outwardly and upwardly from the standard 1 is a hollow arm 11. This hollow arm 11 carries a horizontal arm 12 which is substantially parallel with the overhanging arm of the machine and is raised above the plane of the supporting base 2, so that the operator may readily reach underneath said horizontal arm and guide the material along the work supporting arm. At the free end of the horizontal arm 12, there is a depending arm 13 and at the lower end of the depending arm 13 is the cylindrical work supporting arm proper 14. The main shaft 15 is mounted in suitable bearings in the standard 1. A rotating shaft 16 is mounted in the horizontal arm 12 and is positively rotated by suitable connecting means from the main shaft 15. The depending arm 13, as herein shown, is cast separate from the horizontal arm 12 and is bolted thereto by suitable bolts 17 and 18. The arms 12 and 13 are provided with suitable webs having a bearing bushing 19 for the shaft 16. The work supporting arm 14 carries a throat plate 20 which is secured to the work supporting arm by suitable screws 21. Said throat plate is formed with feed slots 22 and with needle openings 23 and 24. Projecting through the feed slots is a main feed dog 25, which is mounted on a feed bar 26. This main feed bar 26 is provided with a longitudinal recess or groove 27. Also extending through the feed slots 22 is an auxiliary feed dog 28. This auxiliary feed dog is mounted on a feed bar 29 which in turn is mounted in the recess or groove 27 in the main feed bar. The main feed bar is provided at its rear end with spaced arms 30 and 31. These spaced arms are secured by a pivot pin 32 to the lower end of a feed operating lever 33, which is located in the depending arm 13. The upper end of this lever coöperates with an eccentric 34 on the rotatable shaft 16. The lever 33 is attached to a pin 35, which is carried by the lower end of a second lever 36. This lever 36 is forked at its upper end as at 37, and said forked end engages a slide block 38, which in turn coöperates with an eccentric 39 on the shaft 16. The lever 36 is also provided with a longitudinal slot 40 in which is mounted a fulcrum block 41 carried by a vertically adjustable fulcrum pin 42. Said pin extends through a slot 44 in the side wall of the arm 13 and the pin may be adjusted in said slot and held in adjusted positions by a lock nut 45.

As the shaft 16 rotates the eccentric 34 will raise and lower the lever 33, the lever 36 sliding on its fulcrum block 41 and on the block 38 which coöperates with the eccentric 39. The rotation of the shaft 16, through the lever 36 will give an oscillation to the lower end of the lever 33. It will thus be apparent that the pin 32 which connects the lever 33 with the rear end of the main feed bar will have not only an up and down movement, but a sidewise movement and this gives to the main feed bar the usual four motion, so that the feed dog is carried into engagement with the material, is then moved to feed the material, and then disengaged from the material and returned for its next feeding stroke. By adjusting the pin 42, the throw of the lever 36 may be varied and this will vary the sidewise movement of the pin 32 and the feeding movement of the main feed dog.

The main feed bar is supported by a swinging arm 46. Said arm is forked and is secured to the feed bar by a pivot pin 47, which extends through the forks and through the feed bar. The auxiliary feed bar 29 has a recess 48 in its lower face which gives space for this pivot pin without interfering with the endwise movement of said auxiliary feed bar. The arm 46 at its lower end is fulcrumed on an eccentric sleeve 49, which is keyed to a pin 50 mounted on the work supporting arm and held in adjusted positions by a set-screw 51. Said pin is provided with a slot 52 to facilitate the turning of the pin. By loosening the set-screw 51 the pin and the eccentric carried thereby may be rotated so as to raise or lower the pivot pin of the arm 46 and this raises or lowers the main feed bar and both feed dogs which are supported thereby. The arm 46 swings about its pivot point and serves to support the feed dogs, but said arm does not in any way regulate or control the movements of the feed dogs except to vary the reciprocating position of the same.

The auxiliary feed bar 29, as above noted, rests within the groove in the main feed bar and will be moved up and down therewith. Said feed bar, however, is moved endwise from a train of mechanism which is connected with the main feed bar. This train of mechanism consists of a rock arm 53 which is pivoted on a pin 54 journaled in suitable lugs in the horizontal work supporting arm 14. The upper end of this arm is connected by a link 55 to the auxiliary feed bar. Said rock arm 53 is also connected by a link 56 to a lug 57 on the main feed bar. Said link 56 is pivoted to a block at 58, which block is adapted to slide in a segmental slot 59 in the rock arm 53. By shifting the block in said segmental slot the throw of the link 56, which is the same as that of the main feed bar, will impart a varying throw to the rock arm 53 and the movement of the rock arm 53 will be directly imparted to the auxiliary feed bar through the link 55. As

a means for shifting this link 56, I have provided a controlling lever 60 which is shown in perspective in Fig. 11. Said controlling lever is formed with a sleeve 61, which is mounted on the supporting pin 54 for the rock arm 53, see Fig. 4, and with a forwardly projecting arm 62 which is pivoted to a link 63, which in turn is pivoted to the link 56. The rearwardly projecting arm 64 of the controlling lever 60 extends along the side of the work supporting arm and carries a pin 65 which projects through a segmental slot 66 in the side wall of the work supporting arm. Said pin at its outer end carries a hand piece 67. This hand piece has its inner face serrated and pressed by a spring 68 toward the work-supporting arm to engage a serrated locking plate 69 fixed on said side wall. The operator, by taking hold of the hand piece, may pull the same outwardly on the pin, compressing the spring, thus releasing the hand piece from the serrations in the plate 69, and may then shift the pin along the slot. This will oscillate the controlling lever and will vary the position of the link 56 which will vary the throw of the auxiliary feed dog. When the link 56 is at the upper end of the segmental slot 59, it is substantially the same distance from the fulcrum point of the rock arm 53 as the pivotal connection between the link 55 and said rock arm and therefore the movements imparted to the auxiliary feed dog will be substantially the same as the movements imparted to the main feed dog. When, however, this link 56 is shifted toward the fulcrum point of the rock arm, then the throw of the main feed dog will be multiplied and a longer throw will be imparted to the auxiliary feed dog. The auxiliary feed bar is held in the groove or recess in the main feed bar by plates 29^a, which are secured to the main feed bar and overlap the auxiliary feed bar. The auxiliary feed dog, as clearly shown in Fig. 1, is located in front of the needles and operates to feed the material in front of the needles a little faster than the main feed dog carries the material away from the needles and this permits a crowding in toward the foot of an elastic material and prevents undue stretching of the same.

From the above description, it will be apparent that I have provided a differential feeding mechanism in which the mechanism which imparts a differential throw to the auxiliary feed dog is located wholly within the work supporting arm and said mechanism is so proportioned and arranged that the work supporting arm may be relatively small. It will also be apparent that the work supporting arm is suspended by the depending arm 13, so that there is a free space underneath this work supporting arm and at each side thereof for guiding the material which is to be stitched. Said material is fed off from the end of the arm after it is stitched. This feeding mechanism receives all its movements from a single connection with an operating lever which extends through the suspending means for the work supporting arm. This permits the suspending arm for the work supporting arm to be of relatively small dimensions.

Coöperating with the needles 5 and 6 beneath the work support are two loopers 69 and 70, respectively, and these loopers are carried by a looper shaft 71 which is mounted in suitable bearings in the work supporting arm. This shaft extends between the arms 30 and 31 of the main feed bar into the lower end of the depending arm 13. Carried by the eccentric 34 is a crank pin 72. A link 73 is connected at the upper end to this crank pin and this link at its lower end is pivoted to an arm 74 carried by the looper shaft 71, see Fig. 12. The link adjacent its connection with the arm 74 is pivoted to a rod 75, which slides in a sleeve 76 and this sleeve is mounted in a suitable supporting bar 77, so that the sleeve may oscillate. Said rod 75 becomes a movable fulcrum for the link 73, so that as the crank pin 72 rotates, the lower end of the link 73 will have not only an up and down movement, but also a sidewise movement and this gives to the looper shaft an oscillating movement and an endwise movement which moves the loopers into the needle loops and thence laterally to avoid the needles, after which the loopers are retracted to shed the needle loops and are again brought to position for moving forward into the needle loops.

It is obvious that minor changes in the details of construction and arrangement of parts may be made without departing from the spirit of the invention as set forth in the appended claims.

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

1. The combination of a standard, an arm projecting outwardly from the standard, a depending arm carried by said projecting arm, a work supporting arm mounted at the lower end of said depending arm, a main feed bar in said work supporting arm, a feed dog carried by said feed bar, means connected to the rear end of said feed bar for moving the same endwise and for oscillating the same, an auxiliary bar located in said work supporting arm, a feed dog carried thereby and means disposed in said work supporting arm for reciprocating said auxiliary feed bar from said main feed bar.

2. The combination of a work-supporting arm, a main feed bar in said arm, a feed dog carried by said main feed bar, means connected to the rear end of said feed bar for moving the same endwise and for oscil-

lating the same, an auxiliary feed bar located in said work-supporting arm, a feed dog carried by said auxiliary feed bar, and devices connected to the main feed bar adjacent the forward end thereof for reciprocating said auxiliary feed bar.

3. The combination of a work-supporting arm, a main feed bar in said arm, a feed dog carried by said feed bar, means connected to the rear end of said feed bar for moving the same endwise and for oscillating the same, an auxiliary feed bar located in said work-supporting arm, a feed dog carried thereby, means for reciprocating said auxiliary feed bar from said main feed bar, said means including devices disposed within said work supporting arm whereby the throw of the auxiliary feed bar relative to the main feed bar may be varied at the will of the operator.

4. The combination of a cylindrical work supporting arm, a main feed bar extending from end to end thereof, a feed dog carried by said main feed bar, means connected to the rear end of said feed bar for moving the same endwise and for oscillating the same, an auxiliary feed bar supported on said main feed bar and oscillating therewith, and means for moving said auxiliary feed bar from the main feed bar, whereby a differential movement may be given thereto.

5. The combination of a cylindrical work supporting arm, a main feed bar extending from end to end thereof, a feed dog carried by said main feed bar, means connected to the rear end of said feed bar for moving the same endwise and for oscillating the same, an auxiliary feed bar supported on said main feed bar and oscillating therewith, means for moving said auxiliary feed bar from the main feed bar, whereby a differential movement may be given thereto, and hand controlled means for adjusting the throw of the auxiliary feed bar.

6. The combination of a main feed bar, a feed dog carried thereby, a supporting arm pivoted to said feed bar between its ends, means connected to the rear end of the feed bar for moving the same endwise on said arm and for oscillating said feed bar about its pivotal connection to said arm, an auxiliary feed bar mounted on said main feed bar and oscillating therewith, means for moving said auxiliary feed bar endwise on the main feed bar, whereby a differential movement may be given to said auxiliary feed bar, and means under the control of the operator for varying the throw of the auxiliary feed bar.

7. The combination of a main feed bar, a feed dog carried thereby, a supporting arm pivoted to said feed bar between its ends, means connected to the rear end of the feed bar for moving the same endwise on said arm and for oscillating said feed bar about its pivotal connection to said arm, an auxiliary feed bar mounted on said main feed bar and oscillating therewith, means for moving said auxiliary feed bar endwise on the main feed bar, whereby a differential movement may be given to said auxiliary feed bar, and means under the control of the operator for varying the throw of the auxiliary feed bar.

8. The combination of a work supporting arm, a main feed bar located in said work supporting arm and extending from end to end thereof, a main feed dog carried by said main feed bar, an arm pivoted to the work supporting arm at its lower end and extending substantially vertically and having a pivoted connection at its upper end with the main feed bar, means connected to the rear end of the main feed bar for moving the same endwise on the pivotal support of the arm and for oscillating said main feed bar about its pivotal connection to the arm, an auxiliary feed bar located within said work supporting arm, a rock arm, means for oscillating said rock arm from the main feed bar, and adjustable means for connecting the auxiliary feed bar of said rock arm for reciprocating said auxiliary feed bar.

9. The combination of a work supporting arm, a main feed bar located in said work supporting arm and extending from end to end thereof, a main feed dog carried by said main feed bar, an arm pivoted to the work supporting arm at its lower end and extending substantially vertically and having a pivoted connection at its upper end with the main feed bar, means connected to the rear end of the main feed bar for moving the same endwise on the pivotal support of the arm and for oscillating said main feed bar about its pivotal connection to the arm, an auxiliary feed bar located within said work supporting arm, a rock arm, means for oscillating said rock arm from the main feed bar, and adjustable means for connecting the auxiliary feed bar of said rock arm for reciprocating said auxiliary feed bar, said auxiliary feed bar being mounted in the main feed bar and oscillating therewith.

10. The combination of a work supporting arm, a main feed bar located in said working supporting arm and extending from end to end thereof, a main feed dog carried by said main feed bar, an arm pivoted to the work supporting arm at its lower end and extending substantially vertically and having a pivoted connection at its upper end with the main feed bar, means connected to the rear end of the main feed bar for moving the same endwise on the pivotal support of the arm and for oscillating said main feed bar about its pivotal connection to the arm, an auxiliary feed bar located within said work supporting arm, a rock arm, means for oscillating said rock arm from the main feed bar, adjustable means

for connecting the auxiliary feed bar of said rock arm for reciprocating said auxiliary feed bar, said auxiliary feed bar being mounted in the main feed bar and oscillating therewith, and means controlled by the operator for shifting the connection between the rock arm and the main feed bar for varying the throw of the auxiliary feed bar.

11. The combination of a work supporting arm, a main feed bar extending lengthwise of said arm and having a groove in its upper face, a feed dog carried by said main feed bar, an auxiliary feed bar located in the groove of the main feed bar, means for retaining the auxiliary feed bar in said groove, means for moving said main feed bar endwise, means for simultaneously raising and lowering said main feed bar and auxiliary feed bar to cause the feed dogs to engage and disengage the material, and positively connected devices actuated by the main feed bar for imparting a positive differential feeding movement to the auxiliary feed bar.

12. The combination of a work supporting arm, a main feed bar located in said work supporting arm and extending lengthwise thereof, a feed dog carried thereby, an auxiliary feed bar supported by said main feed bar, a feed dog carried by the auxiliary feed bar, means for moving said main feed bar endwise and for raising and lowering the end thereof carrying the feed dogs, a rock arm pivoted to the work supporting arm, a link connecting said rock arm to the auxiliary feed bar, and a second link having an adjustable connection with the rock arm and pivoted to said main feed bar.

13. The combination of a work supporting arm, a main feed bar located in said work supporting arm and extending lengthwise thereof, a feed dog carried thereby, an auxiliary feed bar supported by said main feed bar, a feed dog carried by the auxiliary feed bar, means for moving said main feed bar endwise and for raising and lowering the end thereof carrying the feed dogs, a rock arm pivoted to the work supporting arm, a link connecting said rock arm to the auxiliary feed bar, a second link having an adjustable connection with the rock arm and pivoted to said main feed bar, a controlling lever connected to said adjustable link, a hand piece connected to the controlling lever for shifting the same, and means for locking the said hand piece in an adjusted position.

14. The combination of a standard, an overhanging arm carried by the standard, a needle bar reciprocating in said overhanging arm, needles carried by said needle bar, an arm projecting outwardly and upwardly from said standard, a depending arm carried by said projecting arm, a work supporting arm mounted at the lower end of said depending arm and having its free end extending underneath the free end of the overhanging arm, a main feed dog in said work supporting arm, a feed bar carrying the same and extending from end to end of said arm, devices located in said depending arm and connected to the rear end of said feed bar for oscillating and for moving said feed bar endwise, a pivoted arm in the work supporting arm for supporting said main feed bar, an auxiliary feed bar in said work supporting arm, and means operated from said main feed bar for imparting a differential movement to said auxiliary feed bar.

15. The combination of a standard, an overhanging arm carried by the standard, a needle bar reciprocating in said overhanging arm, needles carried by said needle bar, an arm projecting outwardly and upwardly from said standard, a depending arm carried by said projecting arm, a work supporting arm mounted at the lower end of said depending arm and having its free end extending underneath the free end of the overhanging arm, a main feed dog in said work supporting arm, a feed bar carrying the same and extending from end to end of said arm, devices located in said depending arm and connected to the rear end of said feed bar for oscillating and for moving said feed bar endwise, a pivoted arm in the work supporting arm for supporting said main feed bar, an auxiliary feed bar supported by said main feed bar, a feed dog carried by said auxiliary feed bar, and means for moving said auxiliary feed bar on said main feed bar and giving a differential feeding movement thereto.

16. The combination of a standard, an overhanging arm carried by the standard, a needle bar reciprocating in said overhanging arm, an arm projecting outwardly from said standard, a depending arm carried by said projecting arm, a work-supporting arm mounted at the lower end of said depending arm and having its free end extending underneath the free end of the overhanging arm, a feeding mechanism located in said work-supporting arm and including a main feed dog and an auxiliary feed dog, means for giving said main feed dog feeding movements, means disposed in said work supporting arm for giving said auxiliary feed dog feeding movements, and devices for controlling the movements of the auxiliary feed dog, said devices including a lever, and means for operating said lever.

17. The combination of a standard, an overhanging arm carried by the standard, a needle bar reciprocating in said overhanging arm, an arm projecting outwardly from said standard, a depending arm carried by said projecting arm, a work-supporting arm mounted at the lower end of said depending

arm and having its free end extending underneath the free end of the overhanging arm, a feeding mechanism located in said work-supporting arm and including a main feed dog and an auxiliary feed dog, means for giving said main feed dog feeding movements, means disposed within said work supporting arm for giving said auxiliary feed dog feeding movements, devices for controlling the movements of the auxiliary feed dog, said devices including a lever, a hand piece connected to the outer end of said lever, and means coöperating with the hand piece for holding the lever in adjusted positions.

18. The combination of a standard, a horizontal arm supported by the standard, a vertical arm at the free end of said horizontal arm and depending therefrom, a work-supporting arm carried at the lower end of said depending arm and extending in a direction substantially at right angles to the horizontal arm, a feeding mechanism including a main feed bar located in said work-supporting arm, a feed dog carried thereby, a rotating shaft mounted in said horizontal arm, devices operated by said rotating shaft for moving said main feed bar back and forth and for raising and lowering the feed dog, an auxiliary feed bar mounted in said work-supporting arm, a feed dog carried by said auxiliary feed bar, and means connected to said main feed bar and located in said work-supporting arm for operating said auxiliary feed bar.

19. The combination of a standard, a horizontal arm supported by the standard, a vertical arm at the free end of said horizontal arm and depending therefrom, a work-supporting arm carried at the lower end of said depending arm and extending in a direction substantially at right angles to the horizontal arm, a feeding mechanism including a main feed bar located in said work-supporting arm, a feed dog carried thereby, a rotating shaft mounted in said horizontal arm, devices operated by said rotating shaft for moving said main feed bar back and forth and for raising and lowering the feed dog, an auxiliary feed bar mounted in said work-supporting arm, a feed dog carried by said auxiliary feed bar, and means connected to said main feed bar and located in said work-supporting arm for operating said auxiliary feed bar, said last named means including devices whereby the stroke of the auxiliary feed bar may be varied.

20. The combination of a standard, a horizontal arm supported by the standard, a vertical arm at the free end of said horizontal arm and depending therefrom, a work-supporting arm carried at the lower end of said depending arm and extending in a direction substantially at right angles to the horizontal arm, a feeding mechanism including a main feed bar located in said work-supporting arm, a feed dog carried thereby, a rotating shaft mounted in said horizontal arm, devices operated by said rotating shaft for moving said main feed bar back and forth and for raising and lowering the feed dog, an auxiliary feed bar mounted in said work-supporting arm, a feed dog carried by said auxiliary feed bar, means connected to said main feed bar and located in said work-supporting arm for operating said auxiliary feed bar, a lever for varying the stroke of the auxiliary feed dog, and a hand piece attached to said lever and located underneath the horizontal arm on the side wall of the depending arm.

In testimony whereof, I affix my signature, in the presence of two witnesses.

JOSEPH BERGER, JR.

Witnesses:
L. D. McCORMAC,
EARL C. CLARK.