Aug. 15, 1933. J. KERR 1,922,441

STITCHING MACHINE

Filed Aug. 1, 1929 4 Sheets-Sheet 1

Fig. 1.

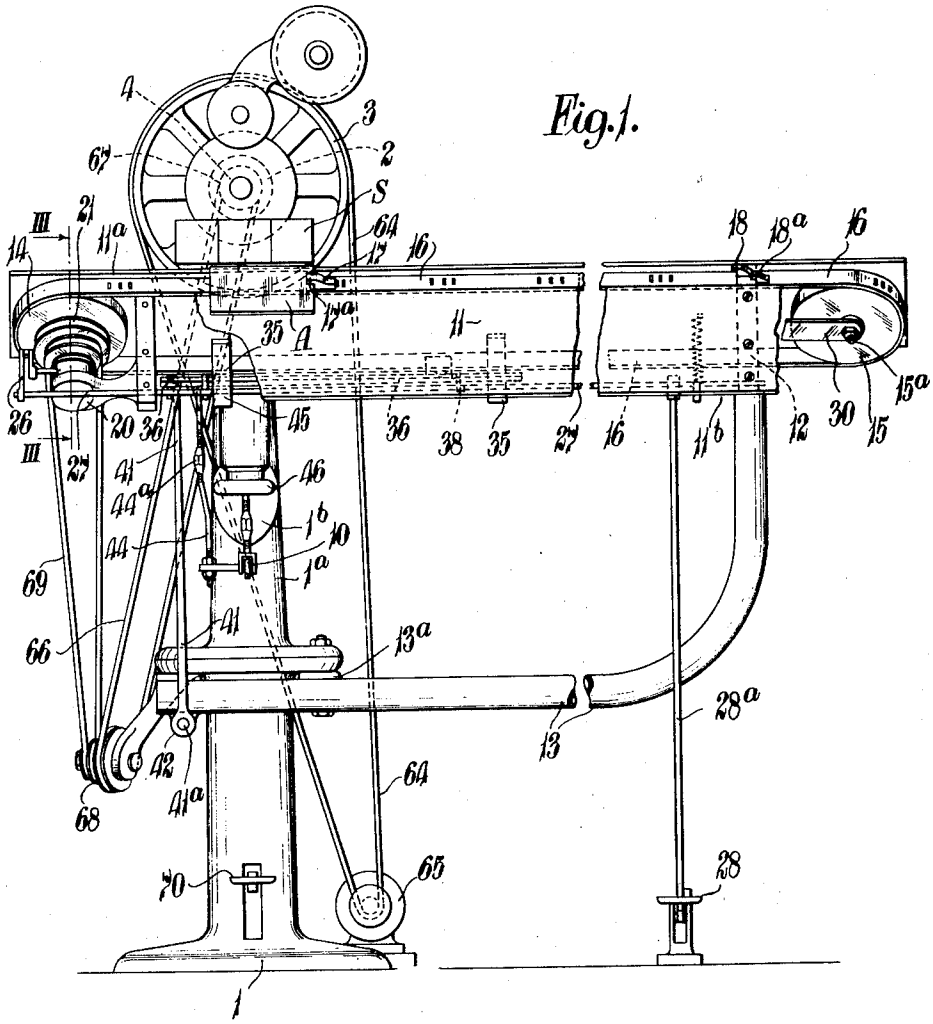


Fig. 7.

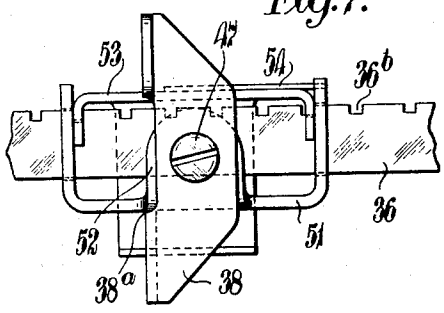
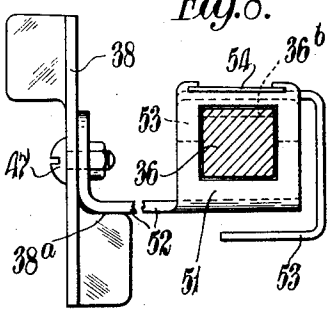


Fig. 8.



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Fig.2.

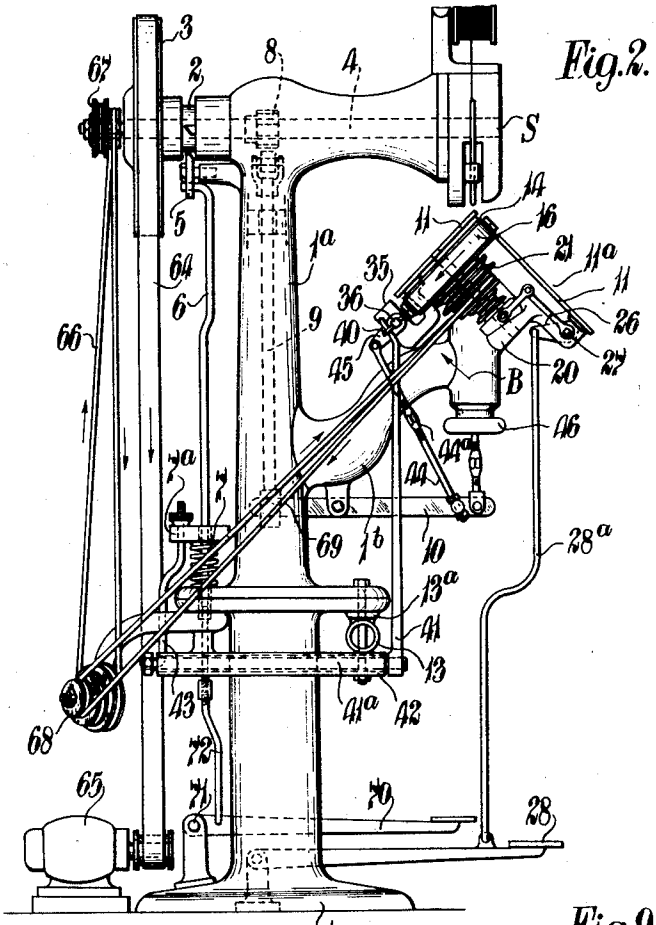


Fig.9.

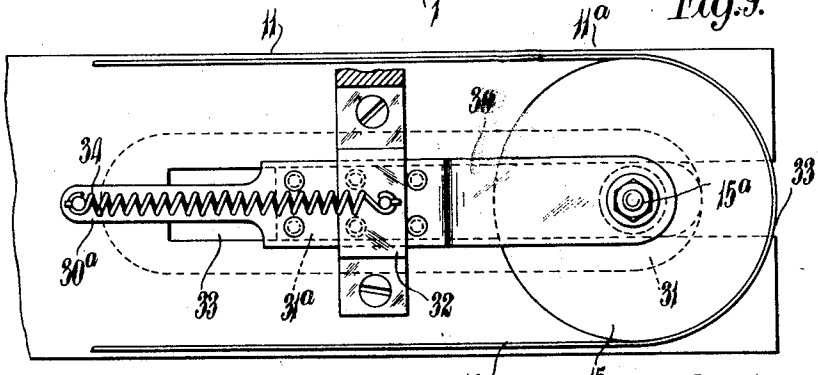
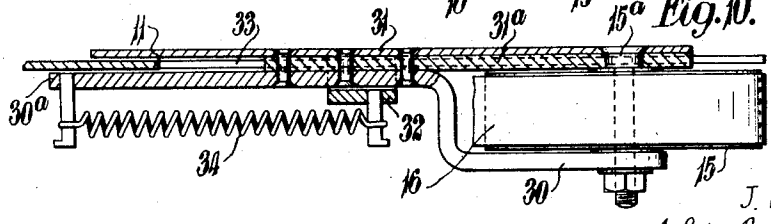


Fig.10.



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Fig. 3.

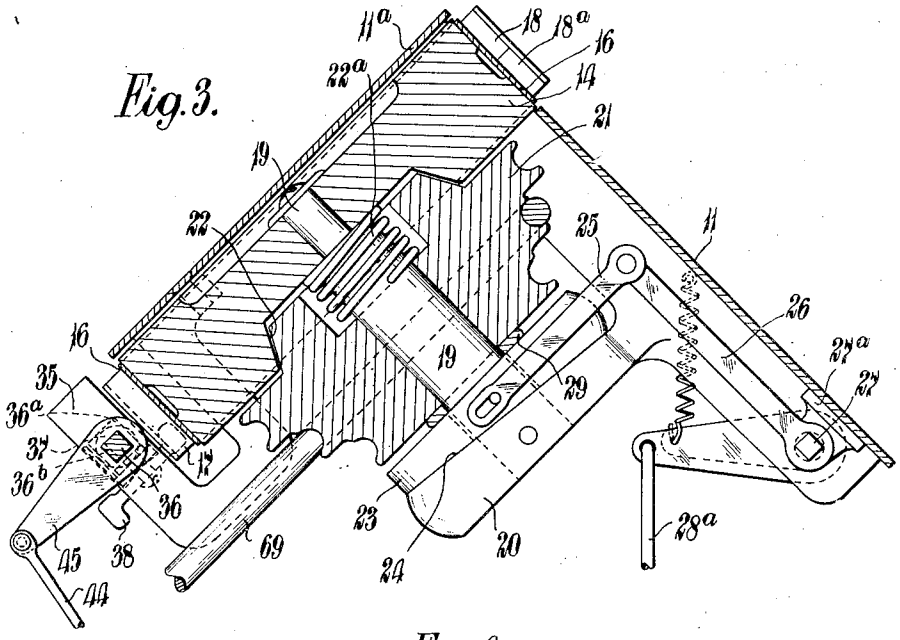


Fig. 4.

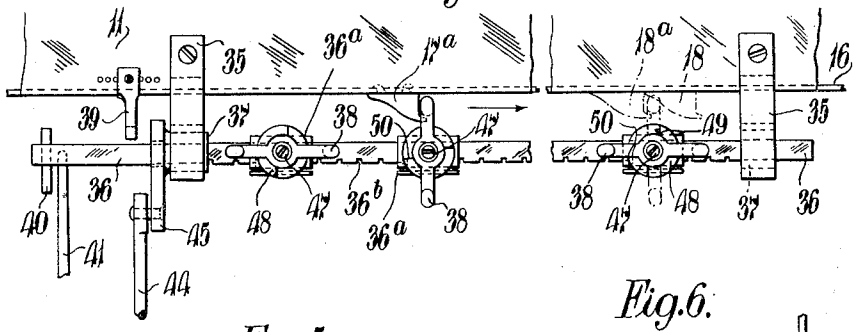


Fig. 5.

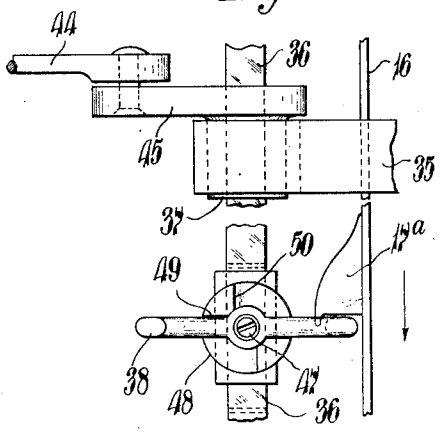
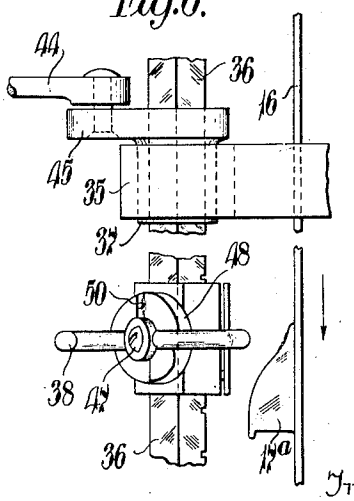


Fig. 6.



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STITCHING MACHINE

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Fig. 13.

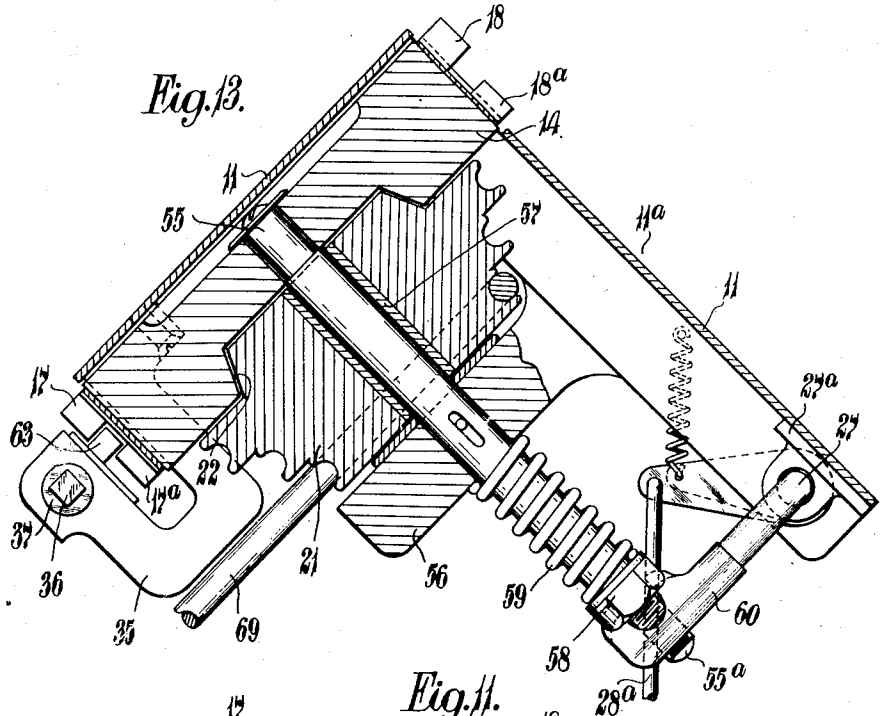


Fig. 11.

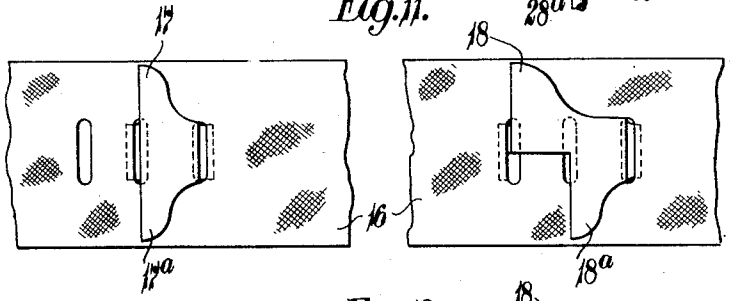


Fig. 12.

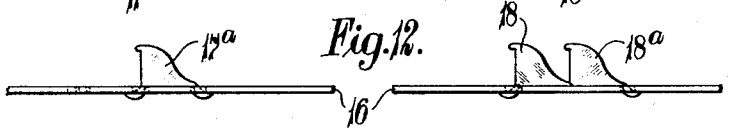


Fig. 14.

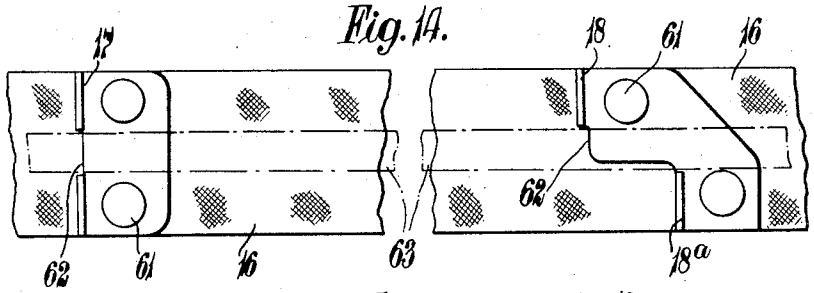


Fig. 15.



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Patented Aug. 15, 1933 1,922,441

UNITED STATES PATENT OFFICE

1,922,441

STITCHING MACHINE

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Application August 1, 1929, Serial No. 382,780, and in Great Britain September 26, 1928

19 Claims. (Cl. 1—7)

This invention relates to feed conveyor arrangements for use preferably in automatic signature stitching or like consolidating machines and has for its object to provide an arrangement enabling such machines to be greatly simplified both as regards construction and operation as compared with machines of the same type at present in use. The machine hereinafter described for illustrating the nature and advantages of this invention is of the kind which by preference is provided with a single stitcher head associated with means enabling multiple stitches to be applied and the stitches to be staggered in alternate signatures if desired. In most of the known machines the signatures are fed to the stitcher with the aid of an endless conveyor and on reaching the stitcher are set up in their requisite position by mechanism separate from said conveyor and after stitching are delivered again by separate mechanism such as an endless conveyor or some equivalent separate device. In contradistinction thereto the present invention consists in a conveyor arrangement which is self controlled so to say by being provided with signature feeding and feed controlling devices which are adapted during the travel of the conveyor by controlling its drive and stitcher actuating mechanism automatically to regulate all the above operations, i. e. the feed movements of the signatures to and in the stitcher mechanism, the accurate positioning and immobilization thereof during stitching and, on the completion of a stitching operation, also the removal and the delivery of the signatures if need be to any appropriate collector or stacking device. To this end the conveyor is associated with stitcher actuating gear operable by the controlling device on the conveyor during its travel whereby the latter on bringing a signature to the stitching position is automatically stopped causing at the same time the stitching operation to be performed and on the completion of a stitch to resume its travel and to continue its feed operations. In practice this is most conveniently realized by the provision on an endless feed conveyor of separate devices which in their relation are properly adjustable and in their travel are adapted in proper synchronism to perform the different functions above referred to.

The above characteristics and details as well as the performance of the invention will be more clearly understood from the description of the practical forms of the invention embodied in a stitcher feeder machine as shown by way of example in the accompanying drawings in which:

Fig. 1 is a front elevation of the feeding and stitching machine the end portions of the front plate of the feed table or saddle being shown broken away,

Fig. 2 an end view of the left hand table end of Fig. 1,

Fig. 3 an enlarged cross section taken on the line III—III of Fig. 1, showing the driving pulley for the conveyor, one form of clutch and the controlling slide of the stitcher actuating gear.

Fig. 4 shows on a similar scale the co-operation of said slide and its adjustable dogs with the controlling lugs of the conveyor, looking in the direction of arrow "B" of Fig. 2.

Figs. 5 and 6 are enlarged detail views of a dog in its normal and rocked position respectively;

Figs. 7 and 8 are enlarged detail views of a modified type of adjustable dog.

Fig. 9 is an enlarged under plan view of the right hand side of Fig. 1 showing one arrangement of the spring tensioning means for the right hand conveyor pulley wheel;

Fig. 10 a side view thereof, partly in section,

Fig. 11 a detail plan view of the lugs on the conveyor.

Fig. 12 a side elevation of the parts shown in Fig. 11.

Fig. 13 shows in section similar to Fig. 3 a modified form of conveyor clutch for the same, and

Figs. 14 and 15 are detail views similar to Figs. 11 and 12 of an alternative form of lug for use on the conveyor.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

Referring to Figs. 1 and 2, 1 is the base and 1^a the pedestal frame for mounting wire stitching mechanism which may be of any well known type, only those parts of the said and other mechanism being shown as appear necessary for the understanding of the invention. The stitching mechanism shown comprises a single stitcher head S associated with an automatic one-revolution clutch 2 of any appropriate design, which is adapted to form a drive connection between a constantly rotating pulley 3 and a drive shaft 4, which directly operates the stitcher head. The clutch 2 is controlled by a pivoted trip member 5 which is rocked by an arm 6 seated in

an upper mounting above the base 1 when actuated by a spring 7 which bears on a collar 7a secured to the arm 6. The spring 7 exerts pressure tending to force the trip member 5 upwards to cause the clutch 1 to be thrown out and normally to be held in inoperative position.

A cam 8 keyed to the drive shaft 4 is adapted, when the shaft 4 is driven, to operate an arm 9, and through the latter a clincher lever 10, which, in turn, actuates the clinchers proper (not shown) to effect the stitching in the usual manner. 11 is a stationary feed table of saddle shaped cross-section, similar to the usual table employed as a support for the signatures during stitching, but, in the present instance, preferably extending a considerable distance to one side of the stitching mechanism (see Fig. 1). The end 11a of the table adjacent the stitching mechanism is preferably adjustably supported in any known way on an extension 1b of the pedestal 1a so that the table may be moved to the correct position and set for flat or saddle stitching. The end 11b of the table 11, remote from the stitching mechanism, is similarly mounted on a member 12 which is supported by a laterally and upwardly extending arm 13. This arm is cast integral with a flange 13a which is mounted on and secured by bolts to the flanges between the base 1 and the pedestal 1a.

Journaled in the opposite ends of the table are pulleys 14, 15. Adapted to run over these pulleys is an endless belt shaped conveyor 16 so that it travels flush with the surface of the sloping front plate of the table 11 near the apex thereof. The belt is fitted, in a manner permitting of adjustment, with detachable sets of signature or pamphlet engaging lugs 17, 18, and drive and stitcher controlling lugs 17a, 18a (Figs. 11, 12, 14 and 15). The belt pulley 14 is journaled on a stud 19 carried by a bracket 20 (Fig. 3) suitably secured to the underside of the table 11. On the stud 19 is also journaled a stepped sheave 21, which has a clutch connection 22 with the pulley 14. A spring 22a disposed on the stud 19 tends to disengage the clutch and any suitable device, such as a turnable collar 23, having an inclined face, is provided to move the sheave axially and thus force the sheave 21 into driving engagement with the pulley 14. The inclined face on the collar 23 co-operates with a similar face 24 on the bracket 20 and the collar is rotated by means of a link 25 suitably connected therewith and an arm 26 connected to a spindle 27. The latter is suitably journaled in brackets 27a (Figs. 1, 2, 3 and 13) carried by the table and extends lengthwise of the latter to any convenient point for connection to a foot pedal 28 through rod 28a. Between the collar 23 and the sheave 21 (Fig. 3) is disposed a thrust collar 29. Any tendency of the sheave 21 to rotate the collar 23 will tend to tighten the clutch engagement. An alternative form of conveyor clutch is shown in Fig. 13. Here the belt pulley 14 is journaled on a stud 55 carried by a bracket 56 suitably secured to the underside of the table 11. Journaled on the stud 55 but so as to turn freely on an interposed sleeve 57 is as before a stepped sheave 21 which has a clutch connection 22 with the pulley 14. The outer end 55a of the stud 55 is threaded and by means of a washer and nut 58 a coil spring 59 is retained on the stud 55 abutting the bracket 56. The action of the spring tends to hold the pulley 14 and sheave 21 in engagement, but a slotted member 60 rigidly fixed to the spindle 27 is so arranged as to normally press against the nut 58 and hold the driving pulley out of engagement. Upon the pedal 28 being depressed, however, the member 60 draws away from the nut and allows the clutch to engage.

The other belt pulley 15 is journaled on a stud 15a carried in a slidable bracket 30 and backing plate 31 (Figs. 9, 10). An intermediate plate 31a is riveted between the bracket 30 and the backing plate 31 fitting into a slot 33 cut in the back plate of the table and forming a guide for the slidable bracket 30. This bracket passes under a bridge piece 32 and has an extension 30a which serves to hold one end of a tension spring 34 the other end of which is fixed to the bridge piece 32, thus holding the belt 16 in flexible tension.

Positioned at the bottom of the sloping back plate of the table 11 and supported by U shaped brackets 35 screwed to the back plate is a rod shaped slide 36 preferably square in cross section (Figs. 1, 2, 3, 4 and 13). This slide is fitted in cylindrical bushings 37 journaled in the brackets 35 thus enabling it also to rotate in these brackets. Adjustably carried on the rod 36 by means of sleeves 36a adapted to engage notches 36b in the rod are engaging members or dogs 38 (Figs. 4, 5, 6, 7 and 8). When a lug 17a or 18a on the travelling belt conveyor 16 engages a dog 38 the rod 36 is axially displaced in the direction of travel of the conveyor until it is stopped when the conveyor belt, while in engagement with said dog through one of its lugs, is temporarily arrested. This stoppage is preferably effected by means of a rigid abutment which may be one of the brackets 35 but in the example shown is formed by a finger shaped piece 39 arranged on the inner face of the table 11 so as to extend into the path of a pin 40 on the outer end of the rod 36 and adjustable to enable the moment at which said axial movement is stopped to be predetermined. During said axial movement of the rod 36 the projecting pin 40 at the end thereof also actuates an arm 41 (Figs. 1 and 4). This arm is secured to one end of a crank spindle 41a which is rotatably carried in a bearing 42 secured to the pedestal frame above the base 1. Attached to the other end of the crank spindle 41a is an arm 43 (Fig. 1) secured to the collar 7a on the arm 6 by means of a milled edge nut. When the arm 41 is rocked it causes the other arm 43 to overcome the pressure of the spring 7 and by pulling down the arm 6 to throw the clutch 2 in and thus to operate the stitcher. Attached to the clincher lever 10 is an arm 44 which is connected to the rod 36 by a crank arm 45 which is fitted on the rod 36 so as to enable the latter to slide therein but to rotate therewith. Upon the completion of the stitching operation the clincher lever 10 in actuating the arm 44 causes the crank 45 to rock the rod 36 and thereby to throw the dogs 38 out of engagement with the lugs 17a, 18a then operative. Immediately the rod 36 is thus liberated it is returned axially to its initial position by the counter force of the spring 7 reacting on the pin 40 through the arm 41. The arm 44 is in two sections having threaded ends connected by a threaded collar 44a whereby it may be adjusted to suit the adjustment of the table which is effected by the handwheel 46.

The number of dogs 38 employed at any one time will determine the number of stitches in each booklet. Each dog is secured by a screw 47

(Figs. 4, 5, 6) on the lower end of a nipple 48 so that the dog may be swung, on loosening the screw, to engage either the faces 49 or 50 of two projections on the underside of the nipple. The faces 49 are adapted to retain the dog in its operative position and the faces 50 retain the dog in its inoperative position. An alternative form of dog is shown in Figs. 7, 8, where a yoke-shaped member 51 is formed to slidably fit on the rod 36. An extension piece 52 serves to support the dog 38 which in this case is formed of a winged member as shown and fastened to its carrier again by means of a screw 47. When swung into the operative position the lower member 38^a abuts the under part of the extension 52 and upon tightening the screw 47 the dog is rigidly held in position. A second yoke member 53 shaped to fit over the rod 36 and to drop into the retaining notches 36^b thereof extends downward and is bent inwardly to form a thumb press. A leaf spring 54 fitting in a slot at the top of the member 52 exerts a downward pressure upon the member 53 and retains it in the notches selected. It will be appreciated that an upward pressure applied upon the lower part of the member 53 will overcome the effect of the spring, lift the upper part of the member 53 from its retaining notches 36^b and leave the dog free to be displaced on the rod for adjustment.

In practice half the number of dog engaging lugs in use will have booklet engaging lugs in alignment therewith as shown at 17, 17^a and the other half of dog engaging lugs alternating therewith on the belt 16 will be provided with booklet engaging lugs 18 which are out of alignment, transversely of the belt 16, with the dog engaging lugs 18^a. As a consequence of this arrangement during each run of the belt alternate signatures will have their stitches positioned in staggered relationship in the booklets. This staggered relation of the stitches in a pile of booklets will reduce considerably the thickness of the pile at the stitched portions thereof and will facilitate the counting of the booklets in a pile.

In the alternative form illustrated in Figs. 14, 15, the lugs 17, 17^a and 18, 18^a which are shown secured to the belt in the required positions by rivets 61, a space 62 is left between the lugs 17 and 17^a and the lugs 18 and 18^a. Attached to the inner faces of the rear portion of the brackets 35 is a guide bar 63 (Fig. 13). As the lugs 17^a, 18^a of this type travel round to engage the dogs 38 the guide bar 63 passes through the spaces 62, thus keeping the lugs guided during their travel and ensuring accurate engagement with the dogs 38, which, in this case, would by preference be those shown in Figs. 7 and 8. Where the lugs 17, 17^a, 18, 18^a as shown in this case, are permanently secured to their conveyor special straddling pieces or riders can be attached to them for masking and changing their operative faces to enable the position and nature of consecutive stitches to be varied if desired.

The pulley 3 is driven by a belt 64 from any suitable source, such as a motor 65, which is secured to the same foundation as the base of the machine. A belt 66 drives from a stepped sheave 67 fast on the pulley 3 a stepped sheave 68 and the latter sheave in turn drives the sheave 21 by means of a belt 69. A pedal 70 pivoted at 71 and detachably connected to the clutch operating arm 6 by means of a pitman 72 is fitted to the base to provide a means for operating the stitching mechanism at will for the purpose say of stitching irregular sized signatures or for flat stitching or testing the stitcher head as the case may be. For flat stitching the machine shown could be readily adapted by tipping the requisite face of the table 11 to a horizontal position, disconnecting the belt 69 and trip arm 41, and operating from the pedal 70 or if a separate drive is available establishing the requisite connections.

Assuming it is desired to place two stitches in each booklet, the mode of operation would be as follows: In accordance with the position of the consecutive feed lugs 17, 18 on the conveyor, which are first adjusted according to the size of signatures to be dealt with, two of the dogs 38 on the slide 36 are manually set to their operative positions on their respective carriers and the latter are positioned on the notches in the rod 36 to space the stitches as desired in the booklets. The abutment 39 is correspondingly adjusted to predetermine the time for arresting the axial displacement of the rod 36. The operator then depresses the foot pedal 28 actuating the clutch gear 23 to drive the conveyor belt 16 upon which the lugs 17, 18 have as stated been appropriately spaced to convey the booklets about to be stitched. As a booklet A fed forward by one of the lugs 17 or 18 in passing under the stitcher head 5 has reached the position for the first stitch a lug 17^a or 18^a as the case may be on the under portion of the belt engages the first one of the two dogs 38 (Fig. 4) and axially moves both said dog and the rod 36. During this movement the pin 40 engages the crank arm 41 and rocks it thus throwing the driving clutch 2 in and bringing the stitcher into action to produce the first stitch. At this moment the axial movement of the rod 36 is stopped by the pin 40 striking the stop 39 in its path thus arresting the travel of the conveyor belt. During this standstill of the rod 36 and as long as the lug 17^a or 18^a is held in engagement with the dog 38 the conveyor belt 16 remains arrested, being caused to slip on its pulleys 14, 15 thus holding the first booklet stationary and in correct position under the stitcher head during the stitching. The elastic arrangement of the spring tensioned pulley 15 (Figs. 9, 10) allows the belt to slip without undue strain or damage to any part of the machine.

As the cam 8 on the shaft 4 comes into action to operate the clincher lever 10 through the rod 9 to clinch the stitch in the booklet the clincher lever 10 in thus being raised operates the arm 44 and the crank 45 on the slide 36 thereby imparting a turning movement to the rod 36 and rocking the dog 38 clear of the impeded lug 17^a or 18^a (Figs. 5, 6) thus liberating the slide 36 for its return movement and at the same time freeing the conveyor belt to continue its travel until the next lug 17^a or 18^a in its turn encounters the second dog 38 on the rod 36 when the whole operation above described is repeated in producing the second stitch in the booklet. On the liberation of the slide 36 at the completion of a stitch the clincher springs force the lever 10 back to its normal position and the latter through the arm 44 rocks the rod 36 and the dogs 38 thereon back to their operative position while the spring 7 as already described re-asserts its pressure, throws the clutch 2 and the stitcher out of gear and returns the slide rod 36 axially to its initial position. It will be readily understood that as the

dog engaging lugs 17^a are positioned ahead of the similar lugs 18^a relatively to their signature engaging lugs 17, 18, the signatures engaged by the lugs 18 will come to rest slightly ahead of of those engaged by the lugs 17 so that the stitches in alternate booklets will be in staggered relationship. It will be obvious also that the use of these lugs in the manner described and their arrangement on the conveyor itself will enable ready variations to be effected both in the number and nature of stitches at will.

What I claim is:

1. The combination with stitching mechanism including means for the operation thereof, of a single belt conveyor for feeding the articles to be stitched, adjustable controlling lugs arranged on said conveyor for controlling said feed and the operation of the stitcher, a sliding mechanism for the actuation of the stitcher operating means, and dogs longitudinally and pivotally adjustable on said sliding mechanism operable during the travel of the conveyor by engaging said lugs.

2. The combination with stitching mechanism including means for the operation thereof, of a single belt conveyor for feeding the articles to be stitched, feed lugs on said conveyor for engaging said articles during their feed, an actuating mechanism for the stitcher operating means, dogs pivotally adjustable on said actuating mechanism and controlling lugs integral with said feed lugs on said conveyor for controlling the operation of the stitcher and the feed of the articles by engagement with said dogs in relation to the position of said lugs on the conveyor during the travel thereof.

3. The combination with stitching mechanism including means for the operation thereof, of a conveyor for feeding the articles to be stitched, controlling lugs on said conveyor for controlling said feed, an actuating mechanism for the stitcher operating means comprising a longitudinal sliding member actuating the stitcher operating means, and dogs pivotally adjustable on said slide and in and out of operative position thereon for engagement with said controlling lugs to operate the stitcher at predetermined points of the travel of the conveyor by a displacement of said slide substantially as set forth.

4. The combination with stitching mechanism including means for the operation thereof, of a conveyor for feeding the articles to be stitched, controlling means adjustable on said conveyor for controlling said feed, an actuating mechanism comprising a sliding member, a connection between said sliding member and the stitcher operating means operable by said controlling means on the conveyor to operate the stitcher by displacement of said slide in one direction, a connection between the stitcher and said slide operable from the stitcher operating means to release said engagement, and means tending to move said slide in the opposite direction substantially as set forth.

5. The combination with stitching mechanism including means for the operation thereof, of a conveyor for feeding the articles to be stitched, controlling lugs on said conveyor for controlling said feed, actuating mechanism for the stitcher operating means comprising a slide longitudinally movable by engagement with said controlling lugs, and rotatable for disengagement therefrom, adjustable means for arresting said longitudinal movement at a predetermined point, and a connection controlled from the stitcher operating means for rotating said slide substantially as set forth.

6. The combination with stitching mechanism including means for the operation thereof, of a conveyor for feeding the articles to be stitched, feed lugs adjustable on said conveyor, controlling lugs adjustable on said conveyor for controlling the feed by said feed lugs, actuating mechanism for the stitcher operating means comprising a slide longitudinally movable by engagement with said controlling lugs and rotatable for disengagement therefrom, adjustable means for arresting said longitudinal movement at a predetermined point, a connection controlled from the stitcher operating means for rotating said slide at said predetermined point to release said engagement, and means for resetting said slide and restoring it to initial position substantially as set forth.

7. The combination with stitching mechanism including means for controlling the operation thereof, of conveying means including a set of lugs for engaging articles to be stitched to present them successively to the stitching mechanism, and another set of lugs having a number thereof in alinement with a corresponding number of the first mentioned lugs and a number out of alinement transversely of the conveyor means with the remainder of the first mentioned lugs; and means for actuating the controlling means operable by the second mentioned lugs whereby the stitches in a certain number of articles will be positioned in staggered relationship to the stitches in a certain number of succeeding articles.

8. The combination with stitching mechanism including means for controlling the operation thereof, of means for conveying an article to be stitched to its stitching position; a slidable and rockable rod provided with a dog adapted to be engaged by the conveying means to move the rod a predetermined distance, the conveying means being adapted to be stopped temporarily to position an article for stitching when the rod reaches its limit of travel; means operable by the rod for actuating the controlling means to cause the operation of the stitching mechanism when each article comes to rest in its position for being stitched; and means operable by the stitching mechanism as it completes the stitch to rock the rod to move the dog out of engagement with the conveying means.

9. The combination with stitching mechanism including means for controlling the operation thereof, of means for conveying an article to be stitched to its stitching position; a slidable and rockable rod provided with a plurality of dogs adapted to be engaged seriatim by the conveying means to move the rod; means for limiting the sliding movement of the rod and thus temporarily stopping the conveying means to position an article for stitching; means operable by the rod for actuating the controlling means to cause the operation of the stitching mechanism when each article comes to rest in a position for being stitched; means tending to return the rod to its initial position; and means operable by the stitching mechanism as it completes each stitch to rock the rod to disengage the dog from the conveying means.

10. The combination with stitching mechanism including a lever for controlling the operation thereof, of means for conveying an article to be stitched to the stitching mechanism; a

rockable slide adapted to be moved longitudinally by the conveying means; means for limiting the movement of the slide and thus stopping temporarily the conveying means to position an article for stitching; means tending to return the slide to its initial position; an arm carried by the slide; a bell crank having one arm thereof engaged by the slide arm; a link connecting the other arm of the bell crank with the lever whereby the latter will be actuated when each article comes to rest in its position for being stitched; and means operable by the stitching mechanism as it clinches each stitch to rock the slide to disengage it from the conveying means.

11. The combination with stitching mechanism including means for controlling the operation thereof, of conveying means including a set of lugs for engaging articles to be stitched to present them successively to the stitching mechanism, and another set of lugs; and means for actuating the controlling means operable by the second mentioned lugs, the distances between adjacent lugs in the second set being varied to stagger the position of the stitches in different articles.

12. The combination with stitching mechanism including means for controlling the location of each stitch, of conveying means having lugs engaging articles to be stitched to present each article to the stitching mechanism in a plurality of positions; and means associated with said lugs for actuating the controlling means for each individual stitch inserted in each article, the said means for actuating the controlling means being arranged relative to the said lugs to vary the position of the stitches in different articles relative to the edges thereof engaged by the lugs while maintaining a constant spacing of the stitches in each article.

13. The combination of stitching mechanism including means for controlling the location of each stitch; a conveyor for feeding articles to be stitched; a slide mechanism movable longitudinally of the direction of motion of the conveyor; and means including provisions on the conveyor adapted to engage the slide mechanism to control the feed and actuate the said controlling means, the said provisions being so spaced relative to one another that the position of the stitches in successive articles will be varied.

14. The combination of a stitching machine including a stitcher device, means for operating said stitcher device, a conveyor for feeding the articles to be stitched, means on said conveyor for engaging said articles during their feed, comprising lugs having two faces, certain faces of certain pairs being offset longitudinally of the conveyor for controlling said feed and the actuation of the stitcher operating means during the travel of said conveyor to stagger the stitches in relation to the position of the articles engaged by said engaging means on said conveyor.

15. The combination of a stitching machine including a stitcher device, means for operating said stitcher device, a conveyor for feeding the articles to be stitched, means for actuating the stitcher operating means including a sliding member movable longitudinally of the direction of motion of the conveyor, dogs adjustably mounted on said sliding member, and means carried by the conveyor for directly engaging the dogs seriatim during the travel of said conveyor to control the location of each stitch, the said controlling means being arranged to stagger the relative position of the stitches inserted in successive articles.

16. The combination of a stitching machine including a stitcher device; means for operating said stitcher device; a conveyor for feeding the articles to be stitched; means including a positively driven carrier pulley for driving the conveyor; provisions adjustable on the surface of the conveyor; means including a slide member operable by the provisions for controlling said feed, and the actuation of the stitcher operating means during the travel of said conveyor and stop means for limiting the movement of the slide member to hold the conveyor against movement by its positively driven carrier pulley.

17. The combination of a stitching machine including a stitcher device; means for the operation of said stitcher device; a single belt conveyor for feeding the articles to be stitched; and means including provisions adjustable on the surface of said conveyor for engaging said articles, such means being adapted to control the feed of said articles and the actuation of the stitcher operating means during the travel of said conveyor by direct engagement with a sliding member having its movement parallel to the direction of travel of the conveyor.

18. The combination with stitching mechanism including means for the operation thereof of a single belt conveyor for feeding the articles to be stitched, feed lugs adjustable on said conveyor for engaging said articles, controlling lugs integral with said feed lugs and positioned to operate at the same distance from the face of the feed belt, longitudinally sliding mechanism for actuating the stitcher operating means, and dogs adjustable on the sliding mechanism for controlling the operation of the stitcher during the travel of the conveyor in relation to the feed lugs thereof by engagement with said controlling lugs substantially as set forth.

19. A stitcher feeder machine provided with a stitcher device; means for operating said stitcher device; an endless conveyor carrying feed lugs and feed controlling and stitcher operating lugs; a longitudinally movable slide adapted to control the stitcher operating mechanism; and members pivotally and longitudinally adjustable on the slide for co-operation with the last mentioned lugs.

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