

April 23, 1963

J. J. CAHILL
PLEATING MACHINE

3,086,685

Filed Oct. 16, 1961

3 Sheets-Sheet 1

FIG. 1.

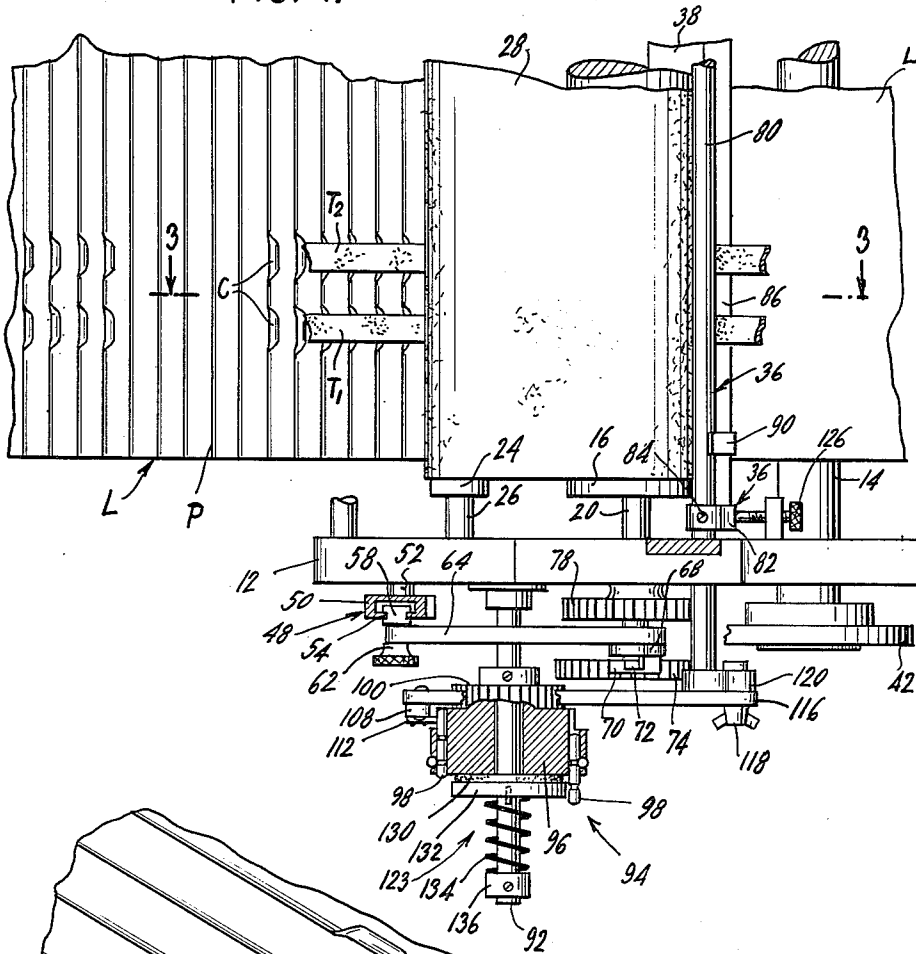
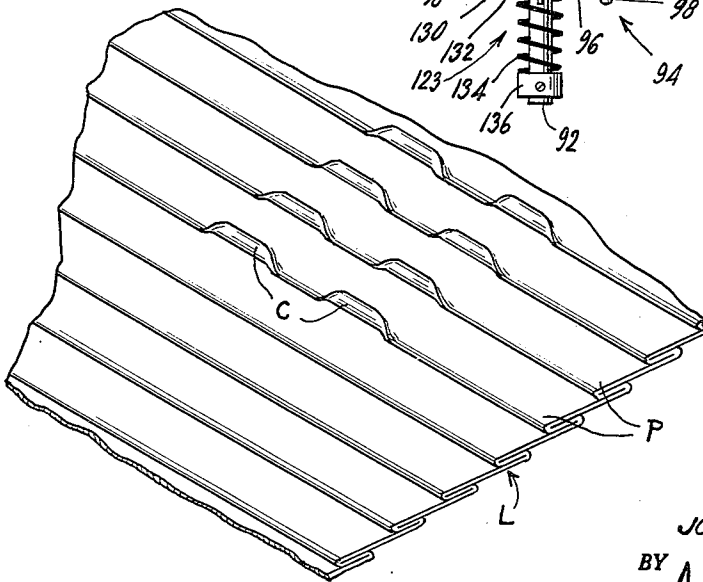


FIG. 6.



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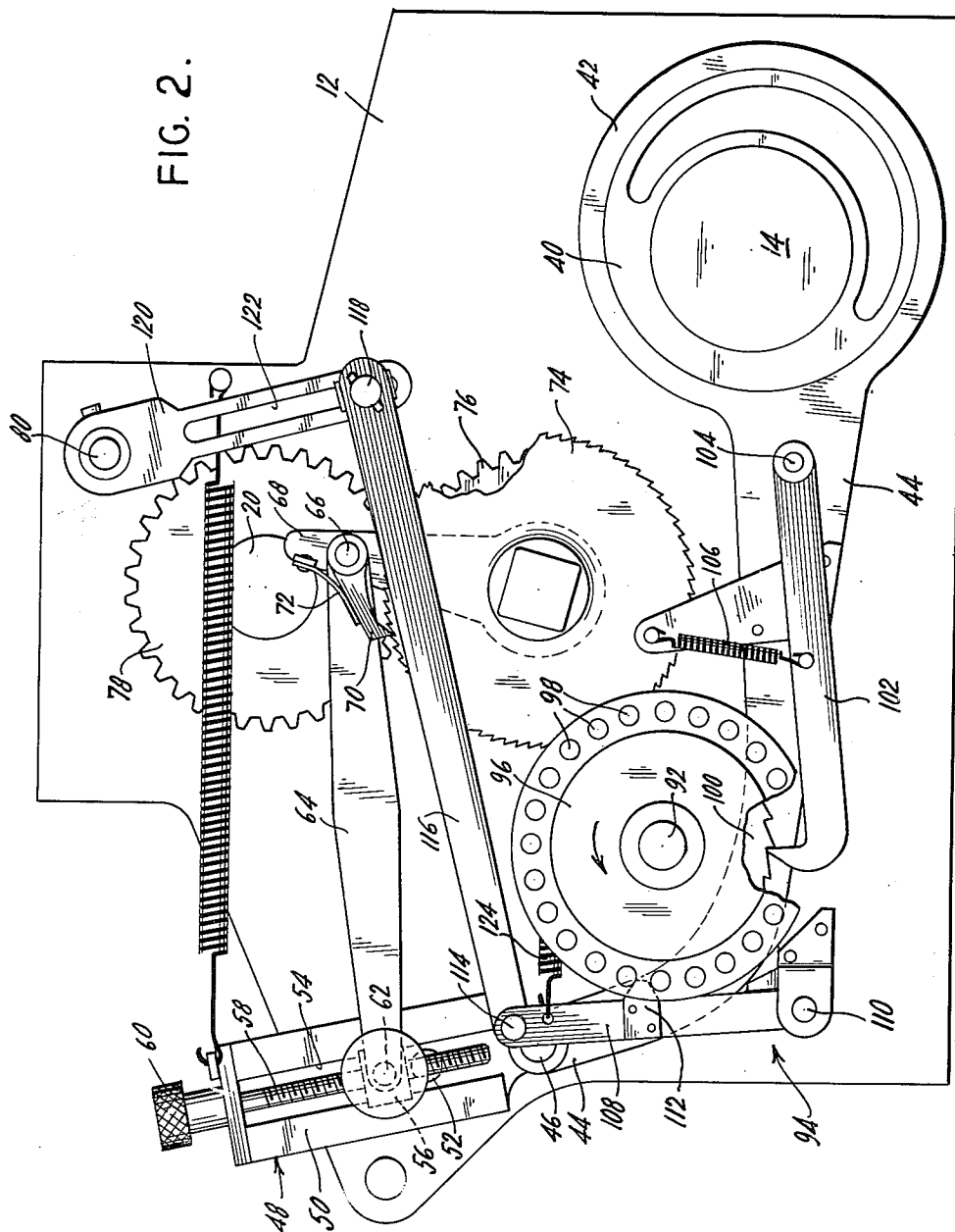
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3 Sheets-Sheet 2



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PLEATING MACHINE

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9 Claims. (Cl. 223—30)

The present invention relates generally to a machine for pleating textiles, and in particular to an improvement in such machines enabling the simultaneous formation of pleating and counterpleating in textiles and like materials.

A typical pleating machine of the type employed to form various arrangements and configurations of pleats in a sheet or length of material includes a pair of pleating or pressing rollers arranged one above the other through which the material is intermittently pulled along a feed path. In advance of the pleating rollers, there is provided a pair of pleating knives which are movable in timed relation to each other during successive pleating cycles to form the varying arrangements and configurations of pleats in the material or fabric. After being pleated, the pleated material is pulled through and passed the pleating or pressing rollers, after which the pleated material is removed from the machine and autoclaved to impart a permanent set to the pleating. Such conventional pleating machines usually incorporate mechanisms enabling the change over from one type of pleating to another and the creation of varying pleating patterns since pleating styles change from time to time. Such pleating machines must be versatile for otherwise they would become obsolete and/or stand idle for long periods of time. Nevertheless, there is constantly the need for creating new effects, configurations and patterns with available pleating machine such as to supply the fashion industry with new pleating effects.

In copending application Serial No. 825,060 in the name of Mack Liebeskind, entitled "Pleating Apparatus and Method," which application is assigned to the assignee of the present invention, (now U.S. Patent No. 2,979,240 of April 11, 1961) there is disclosed an improved pleating machine which is essentially of conventional construction, yet is capable of providing a compound pleat including a main pleat extending across the transverse extent of the fabric and a counterpleat periodically interrupting the main pleat. In accordance with the teachings of said copending application, there is provided a supply means which supports a plurality of rows of tapes arranged in spaced side by side relation across the width of the material or fabric. Each of the tapes has an adhesive surface. The plural tapes are fed into the nip of the pleating rollers with the adhesive surfaces of the respective tapes in position to engage the pleats being formed in the length of material during successive pleating cycles. As the adhesive surfaces of the respective tapes come into contact with the material during pleating, a drag is exerted on the material such as to turn back portions of the pleats to form counterpleats at the respective location contacted by the tapes, each of a width determined by the width of the particular tape. By arranging the spacing of the tapes across the width of the material, and by varying the width of respective tapes, it is possible to form a variety of decorative pleating patterns. Such patterns will include the main pleats extending transversely of the length of the material and having cusps pointing substantially in a selected direction, and counterpleats of a lesser transverse extent. The counterpleats are arranged in rows along the length of material, with a counterpleat provided on each pleat at the location of the respective tape.

The present invention is concerned with imparting

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still greater versatility to a conventional pleating machine, and specifically contemplate the provision of improved apparatus enabling the formation of a wide variety of pleating patterns characterized by such pleating and counterpleating.

In accordance with the teachings of the present invention, there is provided a machine for simultaneously pleating and counterpleating a piece of material which comprises opposed pleating rollers arranged to engage the piece of material therebetween and to intermittently advance the same along a feed path. Pleating knives are arranged along the feed path and are driven through a pleating cycle in timed relation to the advance of the piece of material to form the piece into pleats including cusps pointing substantially in a selected direction and extending transversely to the selected direction and to the length of the piece of material. A supply means is adapted to receive and supply a length of flexible tape having an adhesive surface to the pleating mechanisms. The length of flexible tape is fed past the pleating knives and through the pleating rollers with the adhesive surface thereof arranged such that it adheres to longitudinally spaced segments of the cusps of successive pleats. This retards the cusp segments during successive pleating cycles for displacing the cusp segments relative to the remainder of the pleats to form the counterpleats interrupting the transverse extent of the pleats. A baffle is interposed between the pleating knives and the adhesive surface of the tape and is mounted for movement into a blocking position adjacent the nip of the pleating rollers in which blocking position the baffle prevents engagement of the adhesive surface of the tape with the pleat being formed. Actuating means including a settable control are provided to move the baffle into the blocking position during selected pleating cycles in accordance with the setting of the control whereby the formation of the counterpleats may be precluded during such selected pleating cycles. It will thus be appreciated that in any longitudinal row of counterpleats formed incident to the engagement of the adhesive surface of a tape with successive pleats being formed, there is provided in accordance with this invention a means for selectively disabling the normal counterpleating action. Thus in dependence upon the setting of the control, it is possible to selectively introduce counterpleats during the formation of successive pleats. This imparts still greater versatility to the improved method and apparatus of said copending application and enables the creation of a wide variety of pleating styles and configuration.

The above brief description, as well as further objects, features and advantages of the present invention will be more fully appreciated by reference to the following detailed description of a presently preferred, but nonetheless illustrative embodiment according to the present invention, wherein:

FIG. 1 is a plan view, with parts broken away and sectioned, showing a typical pleating machine embodying the improvement according to the present invention;

FIG. 2 is an elevational view of the machine shown in FIG. 1;

FIG. 3 is a sectional view taken substantially along the line 3—3 in FIG. 1 and looking in the direction of the arrows, with the baffle shown in the inoperative or retracted position wherein the counterpleats are formed incident to the action of the plural adhesive tapes and of the pleating mechanisms;

FIG. 4 is an enlarged fragmentary elevational view similar to FIG. 3 and showing in greater detail the spatial relationship between the baffles, the pleating rollers and the pleating knives during the formation of a counterpleat;

FIG. 5 is an enlarged fragmentary sectional view similar

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to FIG. 4 and showing the spatial relationship of the baffles, the pleating rollers and the pleating knives during blocking of the formation of a counterpleat in a prescribed pleating cycle; and,

FIG. 6 is a fragmentary perspective view of a typical length of material or fabric which has been pleated and counterpleated in accordance with the teachings of the present invention.

Referring now specifically to the drawings, there is shown a pleating machine which has been modified to enable the formation of a length of material L into a pleated configuration including pleats P and counterpleats C. The pleating machine, which is generally of conventional construction will be described in detail insofar as it is necessary for an understanding of the present invention, further details of the machine being generally understood by those skilled in the art and shown in numerous prior art patents. Specifically, the pleating machine 10 includes a frame 12 having journaled thereon a transversely extending main drive shaft 14. The main drive shaft 14 is effective via coupling mechanisms to be described to intermittently index upper and lower pleating or pressing rollers 16, 18 which are rotatably mounted on upper and lower roller shaft 20, 22 journaled on the frame 12 of the machine (see FIG. 3).

Disposed forwardly of the upper pleating roller 16 in the direction of material feed is an idler roller 24 which is rotatably mounted on an idler roller shaft 26 appropriately journaled on the machine frame 12. Trained about the upper pleating roller 16 and the idler roller 24 is an endless conveyor belt 28, as of felt or the like, which is effective in conjunction with the upper and lower pleating rollers 16, 18 to advance the length of material L along a prescribed feed path through the machine, such path being generally indicated by the arrows in FIGS. 3 to 5 inclusive.

Disposed along the feed path rearwardly of and/or in advance of the pleating rollers 16, 18 is a pair of pleating knives 30, 32 which are movable through a pleating cycle in timed relation to the intermittent indexing of the pleating rollers 16, 18 to engage the length of material L and form the same into successive pleats P. The pleats have cusps and extend transversely of the length of material L and are longitudinally spaced in accordance with the setting of the mechanisms associated with the pleating knives 30, 32. The formation of the pleats P, which is generally understood, may be best appreciated by making progressive reference to FIGS. 3 to 5 inclusive wherein it is seen that the pleating knives 30, 32 grip the material L at a location spaced from the nip of the pleating roller 16, 18 at which location (see FIG. 3) the material L is trapped. By an appropriate movement of the pleating knives 30, 32 in relation to the pleating rollers 16, 18 successive pleats are formed.

In accordance with the teachings of said copending application, a supply shaft 34 (see FIG. 3) is mounted on the machine frame 12 at a location spaced above the upper pleating roller 16, the supply shaft 34 receives spaced rows of adhesive tapes which are disposed in spaced side by side relation in accordance with the location desired for the counterpleats C. Each of the tapes is of a width selected in accordance with the desired width for the corresponding counterpleat. In this illustrative embodiment, the supply shaft is provided with two rolls of adhesive tape, designated by the reference numeral T1 and T2, which will provide longitudinally extending rows of counterpleats C at their corresponding transverse locations (see FIGS. 1 and 6). Each of the tapes (i.e. T1, FIG. 3) is fed about the upper pleating roller 16 and through the nips of the roller 16, 18, with the adhesive surfaces, being outermost and in position to engage the adjacent upper surface of the length of material L during the formation of successive pleats (see FIG. 4). It will be appreciated the showing of two spaced side by side tapes T1, T2 each of substantially the same width is mere-

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ly illustrative and that larger numbers of tapes of the same or varying widths may be introduced across the transverse extent of the length of material L in accordance with the desired array for the counterpleats C.

In accordance with the present invention, and with continued reference to FIGS. 3 to 5 inclusive, there is provided a baffle assembly 36 including baffle plates 38 which correspond in number, location and width to the number of tapes which are employed to form the counterpleats C. In this illustrative embodiment, there are two baffle plates 38 at transverse locations corresponding to that of the tapes T1, T2. The baffle assembly 36 is movably mounted and controlled such that the baffle plates, fingers or blades 38 may be moved from the inoperative or retracted position shown in FIG. 4 to the operative or blocking position shown in FIG. 5. When the baffle plates 38 are in the inoperative position shown in FIG. 4, the pleat P being formed is exposed to the action and drag of the adhesive surface S1 of the tape T1 and the counterpleat C is formed in the corresponding pleating cycle. When the baffle plate 38 is in the operative or blocking position shown in FIG. 5, the adhesive surface S1 of the tape T1 is precluded from coming into contact with the length of material L during the formation of the pleat in the corresponding pleating cycle and accordingly the formation of the counterpleat C is effectively precluded. It will thus be appreciated that by the selective movement of the baffle plate, finger or blade 38 of the baffle assembly 36 into the blocking or operative position of FIG. 5, it is possible in the corresponding longitudinal row of counterpleats to preclude the formation of a counterpleat and thereby leave the pleat P in its initial formation, without interruption. For example, in the illustrative length of pleated material shown in FIG. 1, counterpleats C were formed in the rows corresponding to the tapes T1, T2 for the first four pleats illustrated. Accordingly the baffle plates 38 were in the inoperative position shown in FIG. 4 during the corresponding pleating cycles. The next five pleats P are not provided with counterpleats in the rows corresponding to the tapes T1, T2. Accordingly, the baffle plates 38 were in the operative or blocking position shown in FIG. 5 during the corresponding five pleating cycles. And finally, for the next six pleats P there are provided counterpleats C which indicates that the baffle plates 38 were withdrawn to the retracted or inoperative position shown in FIG. 4 during the corresponding pleating cycles. It will be appreciated that in the illustrative showing of the length of material of fabric in FIG. 1, the tapes T1, T2 have been partially broken away to disclose the underlying counterpleating formed incident to the action of the tapes during the corresponding pleating cycles.

Reference will now be made to FIGS. 1 to 5 inclusive for a detailed description of the mechanisms for intermittently indexing the pleating rollers 16, 18 and for selectively moving the baffle assembly 36 between the inoperative and operative positions illustrated in FIGS. 4 and 5. Referring first to FIG. 2, the coupling mechanisms which periodically index or advance the upper and lower pleating roller 16, 18 under control of the main drive shaft 14, will be described. Keyed or otherwise secured to the main drive shaft 14 is an eccentric 40 about which is journaled a follower sleeve 42 having a follower rod 44. The follower rod 44 projects towards the left in FIG. 2 and is reciprocated under the control of the eccentric 40 on the main drive shaft 14. The follower rod 44 has a pivotal connection 46 to an adjustable roller-indexing control 48 which includes a control head 50 pivotally mounted on the frame 12 at a pivotal mount 52. The control head 50 is formed with a longitudinally extending guideway 54 which has slidably mounted thereon a follower block 56. The follower block 56 is adjustable along the guideway 54 through the provision of a lead screw 58 which extends there through and is ad-

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justable by a knurled adjustment knob 60. As is generally understood, the position of the follower block 56 in relation to the pivotal mount 52 will determine the leverage ratio between the driving arm intermediate the pivotal mount 52 and the pivotal connection 46 and the driven arm intermediate the pivotal mount 52 and the adjustable follower block 56 and the indexing stroke which will be imparted to the upper and lower pleating rollers 16, 18. The follower block 56 has a pivotal connection 62 to a coupling link 64 which in turn has a pivotal connection 66 to a pawl-mounting arm 68 journaled on the lower roller shaft 22. The pawl mounting arm 68 carries a pawl 70 which is pivoted on the pivotal connection or pin 66 and is biased by a leaf spring 72 into engagement with a roller indexing ratchet 74 appropriately connected to the lower roller shaft 22. The lower roller shaft 22 carries a lower coupling gear 76 which is in meshing engagement with an upper coupling gear 78 connected to the upper roller shaft 20. Accordingly, in response to reciprocation of the follower rod 44, motion will be imparted via the adjustable indexing control 48 and the coupling link 64 to the driving pawl 70. This will move the indexing ratchet 74 which via the gearing 76, 78 achieves the intermittent drive of the upper and lower pleating rollers and the appropriate advance of the length of material L therethrough. This described coupling mechanism is merely illustrative of the many types which may be provided for achieving the desired movements of the upper and lower pleating roller 16, 18.

As seen in FIGS. 1 to 3 inclusive, the baffle assembly 36 includes a baffle mounting shaft 80 which extends from side to side of the machine and is appropriately journaled on the frame 12 at a location spaced above the upper roller shaft 20. Suspended from the baffle mounting shaft 80 at opposite sides of the machine are baffle mounting arms 82 which are secured to the mounting shaft 80 by appropriate lock bolts or set screws 84. Adjacent its lower end, the baffle mounting arms carry the baffle plate, blade or finger 38 which is secured to a pivot block 86 pivotally mounted on a shaft 88 fixed to the arm 82. One or more leaf springs 90 are rigidly attached to the pivot block 86 at its lower end and bears against the baffle mounting shaft 80 at its upper end. This biases the baffle plate 38 in the counterclockwise direction with respect to the pivotal pin 88 such that the baffle plate 38 will tend to bear against the adjacent periphery of the upper pleating roller 16 along its transverse extent. Other mounting arrangements are within the contemplation of the present invention and will be suitable for mounting the baffle plate or plates 38 for movement between the inoperative and operative position shown in FIGS. 4 and 5 respectively.

Reference will now be made to FIGS. 1 and 2 for a detailed description of the mechanisms which are operable under control of the main drive shaft 14 to periodically rock the baffle mounting shaft 80 and move the respective baffle plates 38 into and out of the blocking positions. Projecting outwardly of the machine frame 12 (see FIG. 1) is a fixed dial shaft 92 on which is journaled the control dial body 96 of a settable baffle control 94 which will determine the timing and sequence of the movement of the baffle assembly 38 into and out of the blocking position. At spaced location about its circumference, the control dial body 96 is provided with plural bores arranged along a circular path. The bores receive corresponding control pins 98 which may be set by the machine operator to establish a prescribed pattern for the formation of the counterpleats C. Specifically, and as seen best in FIG. 1, the control pin 98 may be moved between engaging and disengaging positions, the pin at the right in FIG. 1 being shown in a disengaging position and the pin at the left being shown in the engaging position. When the control pins 98 are set in the engaging positions, and in response to indexing of con-

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trol dial body 96, motion will be imparted during the corresponding pleating cycle to the baffle assembly 36 to move the same from the inoperative position of FIG. 4 into the operative or blocking position of FIG. 5.

The control dial body 96 is indexed from the main drive shaft 14 by the provision of a control-indexing ratchet 100 which is secured thereto at the inner side thereof and is engaged and indexed by a control-indexing pawl 102 having a pawl pivot 104 on the follower rod 44. The control indexing pawl 102 is biased into engagement with the control indexing cam 100 by an appropriate biasing spring 106 which is connected between the pivoted pawl 102 and the follower rod 44. Motion is selectively imparted to the baffle-mounting shaft 80 from the settable baffle control 94, and in response to indexing thereof, by the provision of a follower arm 108 which has a pivotal mount 110 on the machine frame and is provided with a follower cam 112 which is disposed along the path of travel of the inner ends of successive control pins 98 when disposed in the engaging position (see the pin at the left in FIG. 1 in position to engage the cam follower 112). The follower arm 108 has a pivotal connection 114 to one end of a coupling link 116, the other end of which is connected at an adjustable pivotal connection 118 to an actuating arm 120 connected to the baffle mounting shaft 80. The adjustable pivotal connection 118 may be moved to any desired location along the stroke-adjusting slot 122 to vary the effective lever arm of the actuating arm 120 for the baffle-mounting shaft 80. The follower cam 112 is biased inwardly and into the path of successive control pins 98 when set in their engaging positions by the provision of a spring 124 which is secured at one end to the follower arm 108 in the clockwise direction about its pivotal mount 110. The effect of the spring 124 is imparted via the coupling link 116 and the actuating arm 122 to the baffle-mounting shaft 80 and adjusts the baffle plate or blade 38 into the inoperative or retracted position illustrated in FIGS. 3 and 4. In addition, it may be desirable to provide an adjustable stop 126 (see FIG. 3) which further aids in establishing the retracted position for the baffle assembly 36.

In view of the fact that settable control 94 operates at relatively high speed, it may be necessary or desirable to preclude overrunning thereof. Accordingly an adjustable friction brake 128 of generally known construction engages the control dial body 96. The adjustable friction brake 128 includes a friction disc 130 in engagement with the adjacent outer face of the dial body 96, a brake plate 132 keyed to the dial shaft 92 and bearing against the friction disc 130, a coil spring 134 engaged about the dial shaft and bearing against the brake plate 132, and an adjustable collar 136 which may be secured to the dial shaft in various adjusted positions to determine the tension exerted by the coil spring 134 on the brake plate 132 and on the friction disc 130.

In order to facilitate a more thorough understanding of the present invention, a typical sequence of operations will now be described.

For the purpose of this description it will be presumed that the machine is at the portion of the cycle where the follower rod 44 is about to move to the right in FIG. 2 which in turn via the control indexing pawl 102 and the indexing ratchet 100 turns the control dial body 96 in the counterclockwise direction about the fixed dial shaft 92. When this occurs two conditions may be presented to the follower cam 112, depending upon the setting of the control pin 98 of the settable control 94. If a control pin is in position overlying and engaging the follower cam 112, the indexing of the control dial body 96 will cause the follower arm 108 to turn in the counterclockwise direction about its pivotal mount 110. This in turn imparts a pulling force to the coupling link 116 to the left in FIG. 2 which will tend to rock the actu-

ating arm 120 in the clockwise direction. This movement will cause the baffle plates 38 of the baffle assembly 36 to move from the inoperative or retracted position of FIG. 4 into the operative or blocking position of FIG. 5. Accordingly in the corresponding pleating cycle or period which follows, there will be no formation of the counterpleat. If however, the setting of the next control pin 98 is such that the follower cam 112 is not engaged and the follower arm 108 is not turned in the clockwise direction about its pivotal mount 110, there will be no corresponding motion imparted to the actuating arm 120 via the coupling link 116 and the baffle plates 38 will remain in the inoperative or retracted position shown in FIGS. 3 and 4 and a counterpleat will be formed on the pleat during the corresponding pleating cycle. Concurrently and in response to the movement of the follower rod 44 to the right in FIG. 2, the arm of the adjustable indexing control 48 intermediate the pivot 52 and the pivotal connection 46 will swing in the counter-clockwise direction. This moves the coupling link 64 toward the left in FIG. 2 and via the pawl 70 and the roller-indexing ratchet 74 will cause the necessary indexing movement of the upper and lower pleating rollers 16, 18.

Thus there are provided adjustments for selectively controlling the occurrence of the counterpleats, which in conjunction with the general controls for the formation of the pleats (of known construction) provides for a wide variety and latitude in pleating patterns and configurations which may be achieved in accordance with the present invention. Such patterns and configurations are generally characterized by the occurrence of pleats and counterpleats, with the counterpleats being grouped in accordance with the setting of the controls provided according to the present invention. By the simple expedient of adjusting the controls and/or the width, position and number of tapes and the corresponding baffles, it is possible to style a wide variety of pleating patterns. The present invention may be practiced on virtually any commercially available pleating machine, by the simple expedient of attaching the tape supply and the selective baffling means and its settable control. Thus pleating machines which might otherwise stand idle, may be easily converted over for operation in accordance with the present invention.

A latitude of modification, change and substitution is intended in the foregoing disclosure and in some instances some features of the invention will be employed without a corresponding use of the other features. Accordingly it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the invention herein.

What I claim is:

1. In a machine for simultaneously pleating and counterpleating material including means having pleating knives for forming said material into pleats, supply means adapted to receive and feed a supply of adhesive tape past said pleating knives for engagement with said material during pleating thereof such that said tape adhesively engages a portion of said pleats to thereby form counterpleats directed oppositely to said pleats, the improvement comprising baffle means, and means for periodically moving said baffle means from an inoperative position wherein said tape is permitted to engage said material to an operative position wherein said tape is blocked from engaging said material.

2. In a machine for simultaneously pleating and counterpleating material including means having pleating knives for forming said material into pleats, supply means adapted to receive and feed a supply of adhesive tape past said pleating knives for engagement with said material during pleating thereof such that said tape adhesively engages a portion of said pleats to thereby form counterpleats directed oppositely to said pleats, the im-

provement comprising baffle means, means mounting said baffle means for movement from an inoperative position wherein said tape is permitted to engage said material to an operative position wherein said tape is blocked from engaging said material, and means operable to selectively move said baffle means into and out of said operative position in timed relation to the operation of said pleating knives.

3. In a machine for simultaneously pleating and counterpleating material including means having pleating knives for forming said material into pleats having cusps, supply means adapted to receive and feed a supply of adhesive tape past said pleating knives, and rollers for guiding said tape into engagement with said material during pleating thereof such that said tape adhesively engages a portion of said cusps to create a drag thereon and thereby form counterpleats directed oppositely to said pleats, the improvement comprising baffle means, means mounting said baffle means for pivotal movement from an inoperative position wherein said tape is permitted to engage said material to an operative position wherein said tape is blocked from engaging said material, and a control operable to selectively move said baffle means into and out of said operative position in timed relation to the operation of said pleating knives.

4. A machine according to claim 3 wherein said control includes manually settable means which may be set by a machine operator to establish a pattern for the formation of said counterpleats.

5. In a machine for simultaneously pleating and counterpleating a piece of material, opposed pleating rollers arranged to engage said piece therebetween and driven to intermittently advance said piece, pleating knives driven through a pleating cycle during intervals between successive advances of said piece and cooperating with said pleating rollers at a pleating station to form said piece into pleats including cusps pointing substantially in a selected direction and extending transversely to said selected direction, supply means adapted to receive and supply a length of flexible tape having an adhesive surface past said pleating knives and through said pleating rollers, said tape being arranged such that said adhesive surface adheres to segments of said cusps at said pleating station whereby to retard said cusp segments during said pleating cycle for displacing said cusp segments relative to the remainder of said cusps to form counterpleats interrupting the transverse extent of said cusps, a baffle, and means operatively connected to and mounting said baffle for movement into a blocking position at said pleating station for precluding adherence of said adhesive surface to said cusp segments.

6. In a machine for simultaneously pleating and counterpleating a piece of material, opposed pleating rollers arranged to engage said piece therebetween and driven to intermittently advance said piece, pleating knives driven through a pleating cycle during intervals between successive advances of said piece and cooperating with said pleating rollers at a pleating station to form said piece into pleats including cusps pointing substantially in a selected direction and extending transversely to said selected direction, supply means adapted to receive and supply a length of flexible tape having an adhesive surface past said pleating knives and through said pleating rollers, said tape being arranged such that said adhesive surface adheres to segments of said cusps at said pleating station whereby to retard said cusp segments during said pleating cycle for displacing said cusp segments relative to the remainder of said cusps to form counterpleats interrupting the transverse extent of said cusps, a baffle, means operatively connected to and mounting said baffle for movement into a blocking position at said pleating station for precluding adherence of said adhesive surface to said cusp segments, and means for moving said baffle into said blocking position during selected pleating cycles to thereby preclude the formation of said counterpleats during said selected

pleating cycles, said last named means including a control dial, means for indexing said control dial during successive pleating cycles, control pins movable mounted on said control dial and movable between engaging and disengaging positions, and means operable under the control of successive control pins in said engaging position for moving said baffle into said blocking position.

7. In a machine for simultaneously pleating and counterpleating a piece of material, opposed pleating rollers arranged to engage said piece therebetween and driven to intermittently advance said piece, pleating knives driven through a pleating cycle during intervals between successive advances of said piece and cooperating with said pleating rollers at a pleating station to form said piece into pleats including cusps pointing substantially in a selected direction and extending transversely to said selected direction, supply means adapted to receive and supply plural lengths of flexible tape having adhesive surfaces past said pleating knives and through said pleating rollers, said tapes being spaced apart and arranged such that said adhesive surfaces adhere to segments of said cusps at said pleating station whereby to retard said cusp segments during said pleating cycle for displacing said cusp segments relative to the remainder of said cusps to form counterpleats interrupting the transverse extent of said cusps, plural baffles, means operatively connected to and mounting said baffles for movement into blocking positions at said pleating station for precluding adherence of said adhesive surfaces to said cusp segments and means for concurrently moving said baffles into said blocking positions during selected pleating cycles to thereby preclude the formation of said counterpleats during said selected pleating cycles.

8. In a machine for pleating a length of material including a support, a pair of pleating rollers arranged one above the other, means including pleating knives arranged along a feed path directed toward said pleating rollers and cooperating therewith to pleat said length of material during a pleating cycle, a main drive, means operatively connected to said main drive and to said pleating rollers for intermittently indexing said pleating rollers to advance said length of material along said feed path and through said pleating rollers in timed relation to successive pleating cycles, supply means adapted to receive a supply of tape having an adhesive surface which tape is normally fed about one of said pleating rollers and along said feed path such that said adhesive surface engages pleats formed

during successive pleating cycles to thereby form counterpleats, a baffle interposed between said pleating knives and said one pleating roller, means operatively connected to and mounting said baffle for movement into a blocking position at the nip of said pleating rollers in which said baffle prevents engagement of said adhesive surface with a pleat being formed, and actuating means operatively connected to said main drive and to said baffle for moving said baffle into said blocking position during selected pleating cycles whereby the formation of said counterpleats may be precluded during said selected pleating cycles.

9. In a machine for pleating a length of material including a support, a pair of pleating rollers arranged one above the other, means including pleating knives arranged along a feed path directed toward said pleating rollers and cooperating therewith to pleat said length of material during a pleating cycle, a main drive, means operatively connected to said main drive and to said pleating rollers for intermittently indexing said pleating rollers to advance said length of material along said feed path and through said pleating rollers in timed relation to successive pleating cycles, supply means adapted to receive a supply of tapes having adhesive surfaces which tapes are normally fed about one of said pleating rollers in spaced side by side relation and along said feed path such that said adhesive surfaces engage spaced transverse portions of pleats formed during successive pleating cycles to thereby form counterpleats, a plurality of spaced side by side baffles corresponding in number and location to said tapes and interposed between said pleating knives and said one pleating roller, means operatively connected to and mounting said baffles for movement into blocking positions at the nip of said pleating rollers in which said baffles prevent engagement of said adhesive surfaces with a pleat being formed, actuating means including a settable control operatively connected to said main drive and to said baffles for moving said baffles into said blocking positions during selected pleating cycles in accordance with the setting of said control whereby the formation of said counterpleats may be precluded during said selected pleating cycles.

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