United States Patent [19]

St. Sauveur et al.

[11] **3,834,643**

[45] **Sept. 10, 1974**

[54] **COIL STOCK CRADLE**

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[73] Assignee: **Carl G. Peterson Co.,** Smithfield, R.I.

[22] Filed: **Sept. 17, 1971**

[21] Appl. No.: **181,392**

[52] **U.S. Cl.** **242/78.7,** 226/177, 226/187, 226/199, 242/71.9, 242/76

[51] **Int. Cl.** **B21c 47/22**

[58] **Field of Search** 242/78.7, 71.9, 68.7, 73, 242/78.8, 76, 55, 75, 78.6; 226/177, 179, 199, 187

[56] **References Cited**

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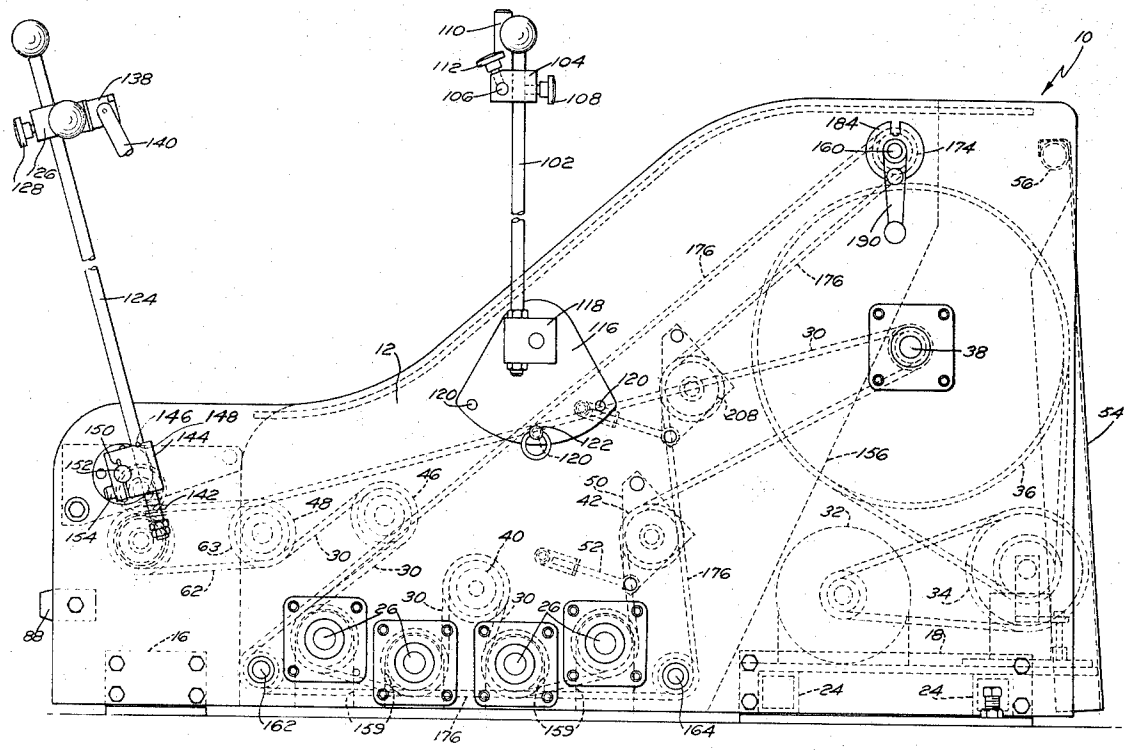
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Primary Examiner—John W. Huckert
Assistant Examiner—John M. Jillions
Attorney, Agent, or Firm—Salter & Michaelson

[57] **ABSTRACT**

A coil stock cradle comprising a plurality of support rolls upon which the coil stock rests, a pinch roll assembly through which the free end of the strip from the coil extends, feeler means positioned adjacent the path of the strip as the strip passes from the pinch roll assembly, whereby if a predetermined amount of slack ceases to exist in the uncoiled strip, the strip will engage the feeler means, which in turn energizes motor means for driving the support rolls and the pinch rolls to feed a further length of strip from the coil, the cradle further comprising adjustable guide plates for maintaining the coil properly positioned in the cadle, said plates being adjustable in or out as a unit or being individually adjustable in or out, all of said adjustments being controllable from either side of the apparatus. The cradle also comprises a support and guide assembly for properly supporting and guiding the strip as it passes to its intended use in a punch press or the like, said support and guide assembly and the aforesaid feeler means each being universally adjustable.

12 Claims, 10 Drawing Figures



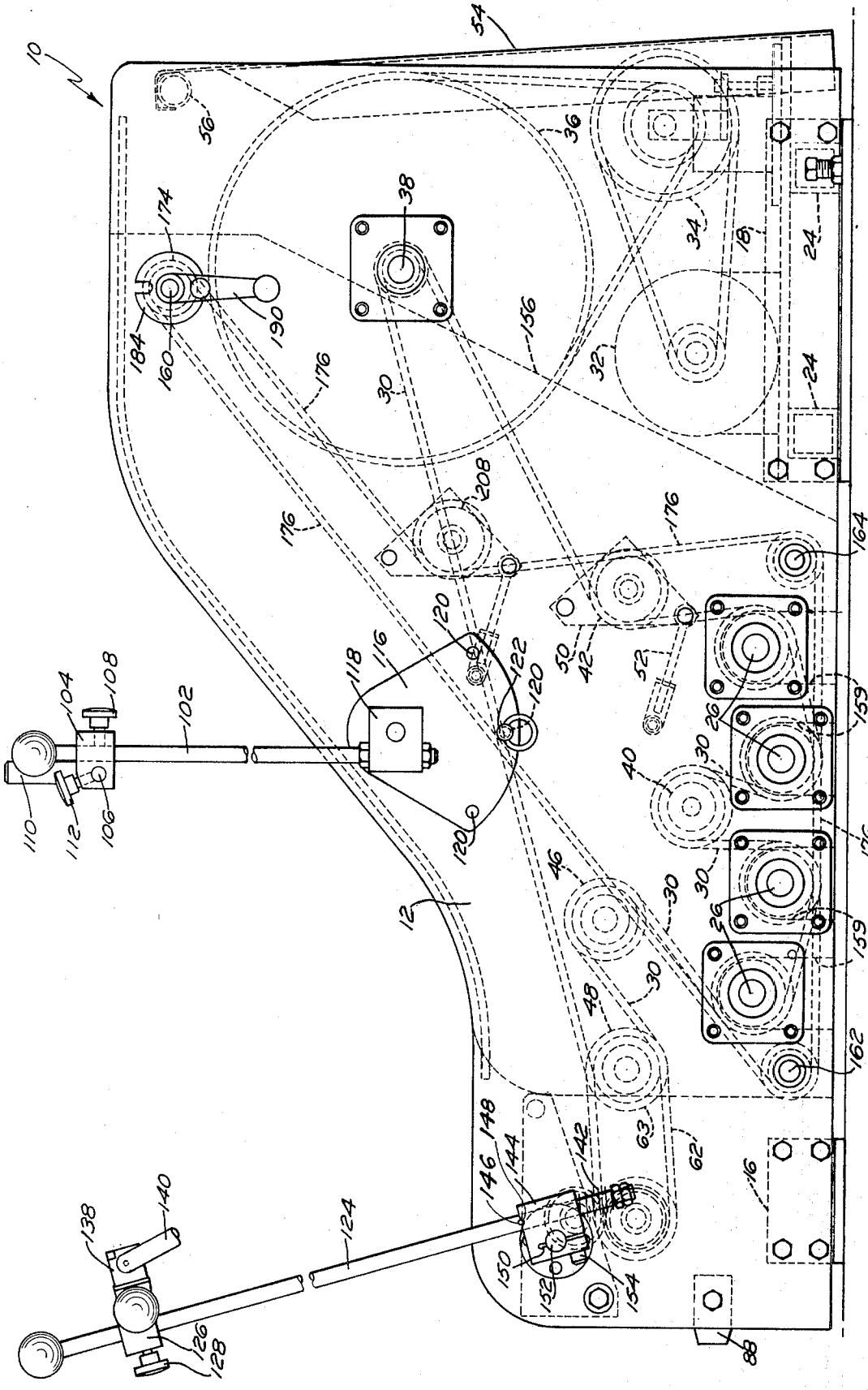

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FIG. 1

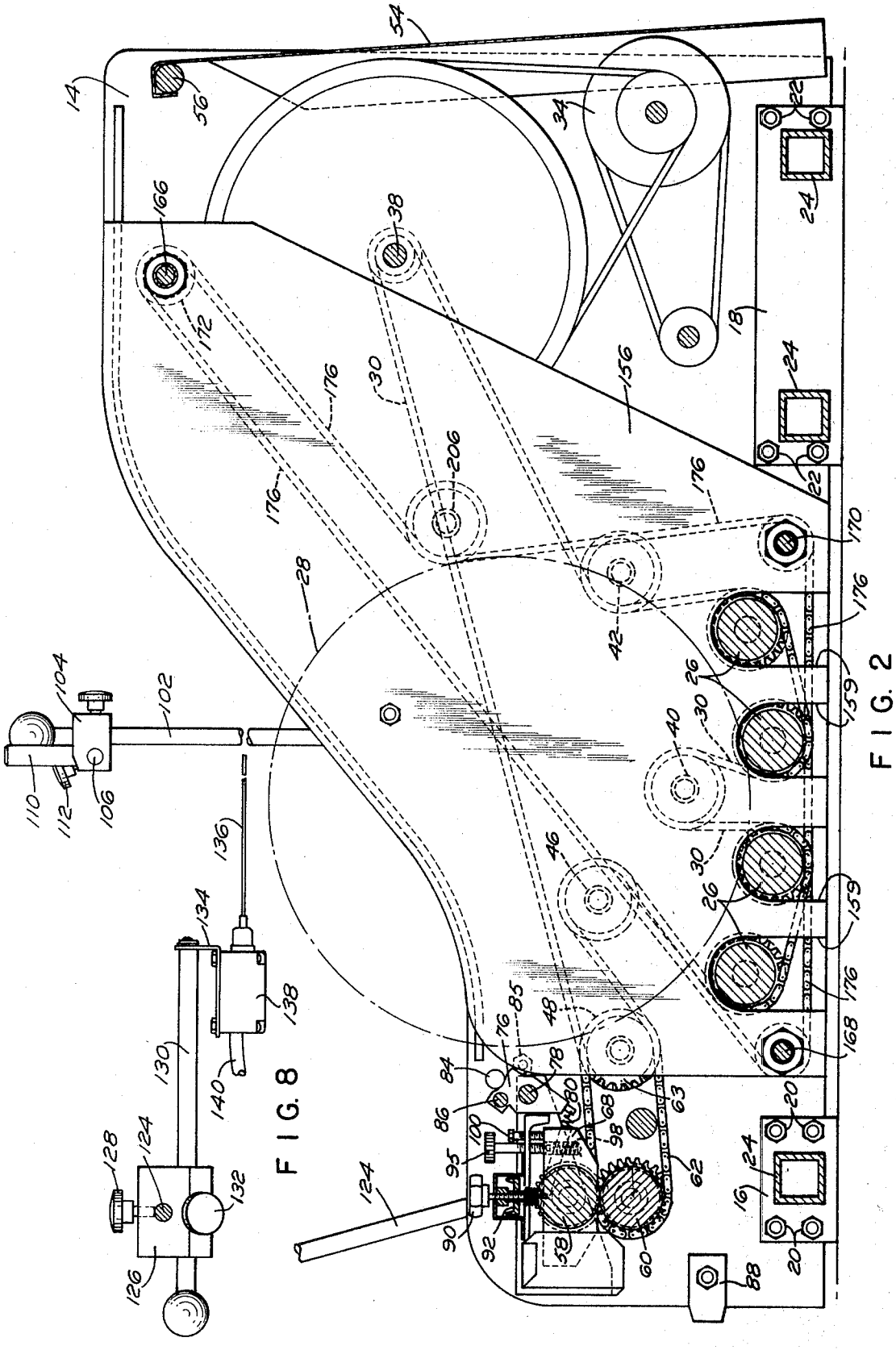


FIG. 2

FIG. 8

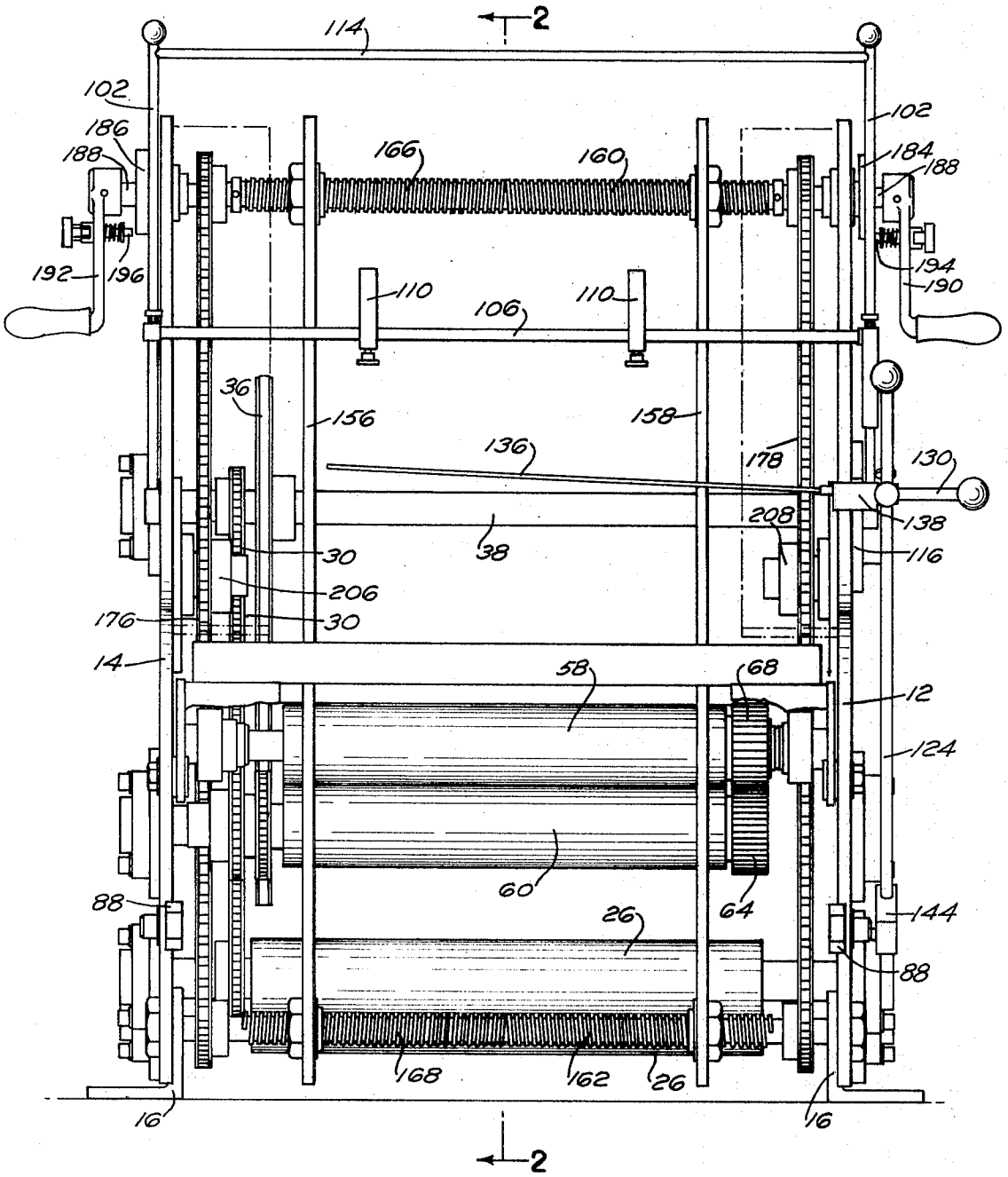

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FIG. 3

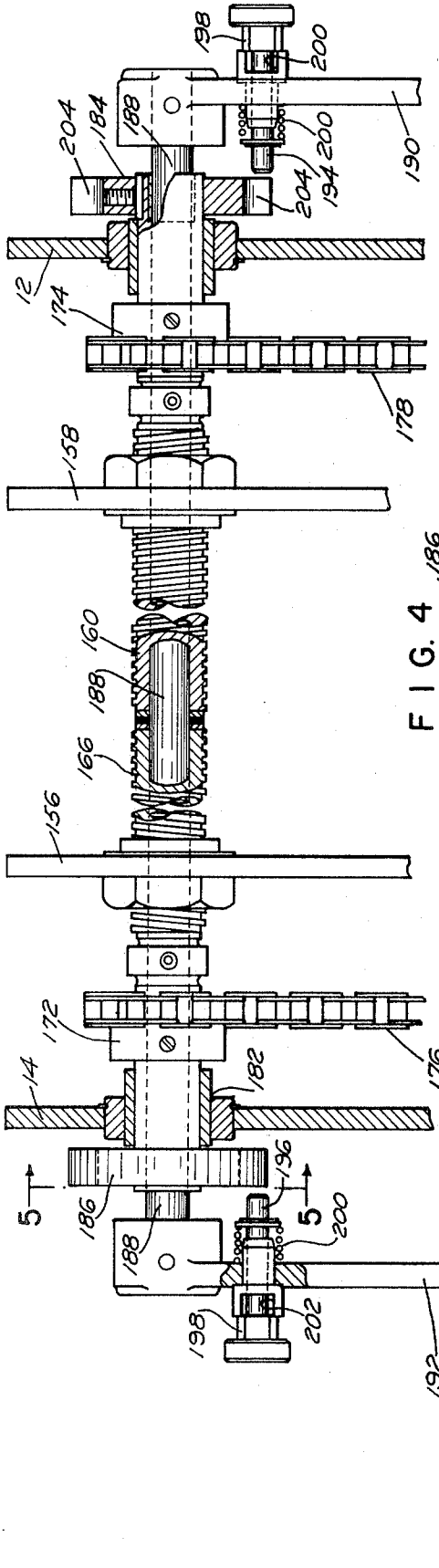


FIG. 4

FIG. 4a

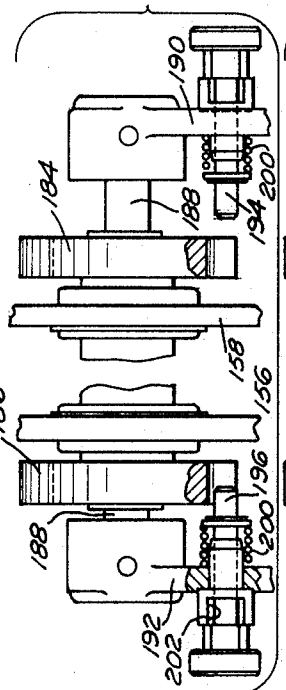
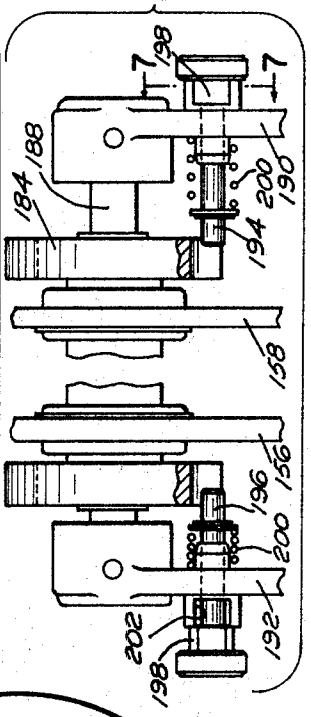


FIG. 4b



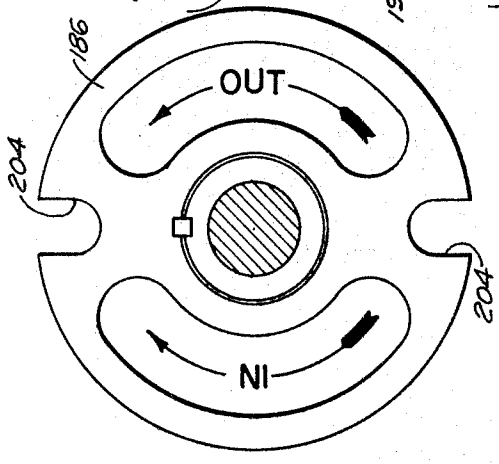


FIG. 5

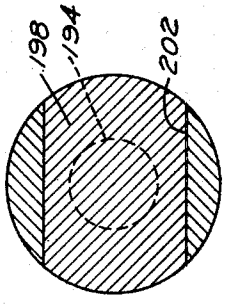


FIG. 7

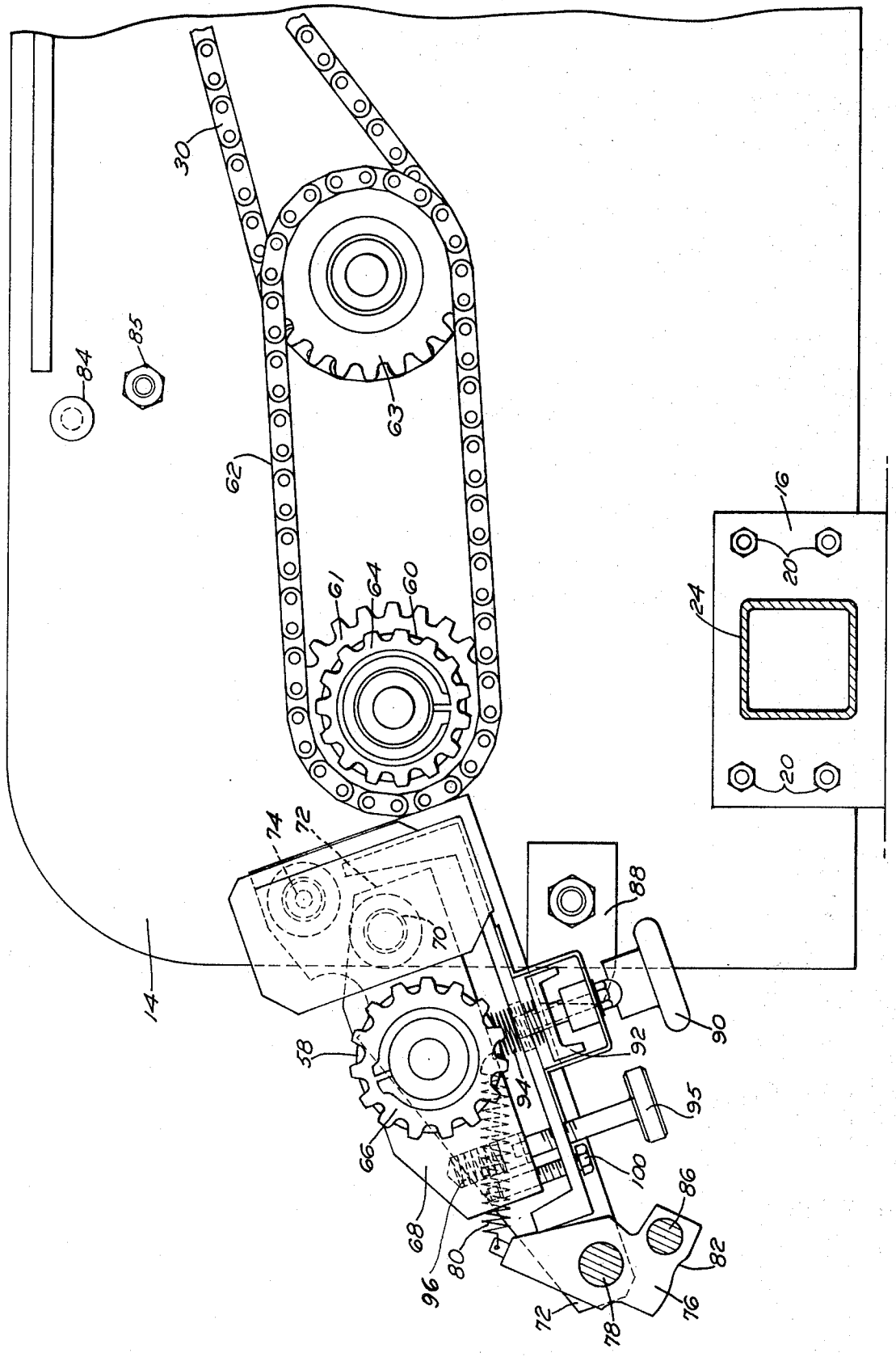

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FIG. 6

COIL STOCK CRADLE

BACKGROUND AND SUMMARY OF THE INVENTION

Coil stock cradles have long been used to feed strip material, such as various types of metal, from a coil to associated equipment, such as a punch press or the like, where a continuous operation is being performed on the strip. In such an arrangement, it is necessary that strip from the coil be continuously fed to the apparatus, but, at the same time, the uncoiling of the stock must be properly controlled. This is normally done by providing a cradle with a plurality of supporting rolls upon which the coil is positioned. The free end of the coil then passes through a pair of pinch rolls, and then a common practice is to loop the strip back in the direction from which it came and guide same to the punch press or other associated apparatus. In order to continuously maintain a proper loop in the coil, which in turn insures sufficient slack in the stock to permit the desired continuous feed to the punch press or the like, it is usual to provide feeler or sensing means adapted to be engaged by the strip when the loop diminishes a predetermined amount, the engagement of the feeler means in turn energizing the power means associated with the cradle, which in turn drive the support rolls and pinch rolls to withdraw more strip from the coil, thus once again providing a sufficient loop or slack in the strip. This operation is a continuous one, it being understood that the feeler means will continuously make and break the circuit which results in the repeated energization and deenergization of the power means. Apparatus of this general type is shown in the following United States patents: Weymouth U.S. Pat. No. 3,223,344 De La Motte U.S. Pat. Nos. 2,757,880 and 2,789,777; Rowe U.S. Pat. No. 2,692,737; and Miller U.S. Pat. No. 2,267,161.

Although cradles of this general type are well known in the prior art as evidenced, for example, by the above listed patents, there are certain shortcomings which have been found to exist in apparatus of this type heretofore known. For example, although it is well known to provide adjustable guide plates for properly positioning the coil stock on the support rolls in the cradle, the adjustment of these plates has never been sufficiently versatile. For example, there are times when it is desired to adjust both guide plates simultaneously; but then there are other times when it is desirable to adjust the position of one or the other of the guide plates per se. Furthermore, it is desirable that all of these adjustments be controllable from either side of the cradle.

It has further been found desirable to provide a pinch roll assembly that may be readily and quickly moved from its operative position to an inoperative position. Although the idea of swinging a pinch roll assembly to inoperative position is broadly shown in the prior art, as illustrated in the aforesaid Weymouth patent, for example, there is still a need for providing quick-release latching means that will securely maintain the pinch roll assembly in operative position but which nevertheless may be quickly actuated to release the pinch roll assembly if an immediate need to do so should arise, for safety reasons or otherwise. Also, with respect to the pinch roll assembly, it has been found to be highly desirable to provide means for adjusting the pressure between the pinch rolls when they are in operative position, which means possess the capability not only of

providing a straight-line adjustment of the pressure between the rolls, but also the capability of providing pressure adjustment at either of the ends of the pinch rolls.

Lastly, there has been found to be a need for providing greater and more universal adjustability of the feeler or sensing means and, also, universally adjustable support means for properly guiding the strip to the associated punch press or other apparatus.

It is therefore the object of our invention to provide a coil stock cradle which effectively fulfills all of the aforesaid needs.

Other objects, features and advantages of the invention will become apparent as the description thereof proceeds when considered in connection with the accompanying illustrative drawings.

DESCRIPTION OF THE DRAWINGS

In the drawings which illustrate the best mode presently contemplated for carrying out the present invention:

FIG. 1 is a side elevational view of a coil stock cradle embodying our invention;

FIG. 2 is a section taken on line 2—2 of FIG. 3;

FIG. 3 is a front end view of our coil stock cradle;

FIG. 4 is a fragmentary front elevational view, partly in section, showing the means for adjusting the guide plates;

FIGS. 4*a* and 4*b* illustrate the components of FIG. 4 in different positions of adjustment;

FIG. 5 is an enlarged section taken on line 5—5 of FIG. 4;

FIG. 6 is a fragmentary elevational view showing the pinch roll assembly after it has been swung to inoperative position;

FIG. 7 is an enlarged section taken on line 7—7 of FIG. 4*b*; and

FIG. 8 is a detailed plan view of the feeler means assembly.

DESCRIPTION OF THE INVENTION

Referring to the drawings, there is shown generally at 10 a coil stock cradle comprising sidewalls 12 and 14 rigidly secured to each other in spaced parallel relation by means of aligned front angle members 16 and aligned rear angle members 18 secured to the inner surfaces of sidewalls 12 and 14 as at 20 and 22, respectively, said members 16 and 18 carrying laterally extending weldments 24. It will be understood that the angle members 16, 18 and the laterally extending weldments 24 function to rigidly maintain the sidewalls 12 and 14 in spaced parallel relation with respect to each other, this being of great importance since any twisting or canting of the sidewalls would result in comparable misdirection of the coil stock being withdrawn and fed.

Extending between the side walls 12 and 14, and suitable journaled therein, are a plurality of support rolls 26 which define with each other a generally arcuate configuration for receiving thereon the coil stock shown in broken lines in FIG. 2 at 28. The support rolls 26 are each provided with sprocket means which drivingly engage chain 30 which in turn is driven by motor 32 through speed reducing means 34, 36. More specifically, motor 32, through said reducing means, drives shaft 38 which in turn drives the chain 30 around the sprockets carried by rolls 26 and around idler means

40, 42, 46 and 48. As will be seen most clearly in FIG. 1, idler 42 is movably mounted in that it is carried by plate 50, the position of which may be adjusted by adjustment means 52 to maintain chain 30 under proper tension. It will be understood that when the motor 32 is energized to drive chain 30, the rolls 26 will be caused to rotate so as to impart unwinding rotation to the coil 28 mounted thereon, all in a well-known and conventional manner.

At its rear extremity, the cradle 10 may be provided with a rear curtain or wall 54 pivotally suspended from cross rod 56 which extends across the sidewalls 12 and 14 adjacent the rear upper corners of the latter.

PINCH ROLL ASSEMBLY

In order to insure the desired unwinding of coil 28 when motor 32 is energized, upper and lower pinch rolls 58, 60 extend across the forward end of sidewalls 12, 14. Lower roll 60 is provided with sprocket means 61 that drivingly receive chain 62 which in turn drivingly engages sprocket means 63 carried by roll 48. Thus, when the chain 30 is driven by motor 32, as aforedescribed, rotation is imparted to idler 48, which, through chain 62, drives lower pinch roll 60. Lower pinch roll 60, in turn, drives upper pinch roll 58 by means of gears 64, 66, affixed to rolls 60 and 58, respectively, as shown most clearly in FIG. 3. It will be understood that as coil 28 unwinds, the strip passes between rolls 58 and 60, whereupon a positive unwinding force is applied to the strip to insure proper unwinding thereof pursuant to actuation of motor 32.

In order to facilitate loading of the coil 28 in the cradle 10, and for safety reasons as well, means are provided for disengaging upper pinch roll 58 from lower pinch roll 60. To this end, upper pinch roll 58 is rotatably journaled at its opposite extremities in a pair of block members 68, each of which is pivotally connected as at 70 to bracket means 72 which in turn are pivotally mounted to the inner surfaces of side walls 12 and 14 as at 74, see FIG. 6. In FIG. 2, the bracket means 72, along with the upper pinch roll 58, is shown in its operative position with the pinch roll 58 in driving engagement with lower pinch roll 60 by means of nowmeshed gears 64, 66. Bracket means 72, at its opposite sides, carries a pair of latch members 76, each of which is pivotally mounted on a shaft 78 extending from one side of bracket means 72 to the other. The latches 76 are each spring loaded by means of spring 80, whereupon with the upper pinch roll assembly in the position illustrated in FIG. 2, detent groove 82 in each latch 76 resiliently engages roller trunion means 84 extending inwardly from the opposed inner surfaces of sidewalls 12, 14, while at the same time nuts 85 mounted on the inner surfaces of said walls act as limit stops. When so engaged, the latch members 76 releasably but securely maintain the upper pinch roll assembly in the operative position illustrated in FIG. 2. When it is desired to release the latches 76 and swing the upper pinch roll assembly from the operative position illustrated in FIG. 2 to the inoperative position illustrated in FIG. 6, it is simply necessary to manually engage cross shaft 86 that is secured to and extends between the spaced latches 76 and exert a counterclockwise moment about pivot shaft 78. This quickly releases the upper pinch roll assembly whereby it may be swung about pivot means 74 to the open or inoperative position illustrated in FIG. 6. Bracket means 88 may be provided at the forward edge of sidewalls 12 and 14 for receiving and limiting opening pivotal movement of the upper pinch roll assembly, as shown most clearly in FIG. 6.

In order to adjust the pressure between upper pinch roll 58 and lower pinch roll 60, a centrally positioned handle 90 is provided, which, when turned, causes laterally extending bar 92 to be forced downwardly, against the action of a pair of spaced springs 94, one of which engages the left-end block 68, while the other of which engages the right-end block 68. This resilient downward pressure against the blocks 68 causes said blocks to pivot downwardly about their pivotal mountings 70, carrying with them upper pinch roll 58, thus increasing the pressure between the latter and lower pinch roll 60 in equal measure throughout the length of said rolls. If, however, it becomes necessary for any reason to increase the pressure between upper pinch roll 58 and lower pinch roll 60 only at one end of said rolls, adjustment screws 95 are provided at opposite ends, one in engagement with the left-end block 68 and the other in engagement with the right-end block 68. By threading either of the screws 95 inwardly, resilient pressure is imparted to its respective block 68 by means of spring 96 mounted in a specially provided bore 98 in the block. Limit screws 100 may be provided for adjustably limiting the maximum desired spacing between upper pinch roll 58 and lower pinch roll 60 for a particular thickness of stock.

Although the upper pinch roll assembly is shown as being pivotally mounted for swinging movement between operative and inoperative position, it will be understood that it may in some cases be desirable to simply hook the upper pinch roll assembly to suitable shaft or trunion means associated with sidewalls 12, 14; whereupon when the latch means 76 are disengaged, the upper pinch roll assembly may simply be lifted away from the cradle 10 and physically removed therefrom, rather than pivoting to an inoperative position, as herein illustrated and described.

STRIP SUPPORT AND GUIDE ASSEMBLY

After the strip from coil 28 passes through the pinch rolls 58, 60, it loops backwardly toward the rear of the cradle 10, passing thereover to approach the punch press or whatever associated equipment is receiving the stock. In order to properly guide and support the strip, a pair of vertically extending posts 102 extend upwardly from opposite sidewalls 12 and 14. Slidably mounted on each of the posts 102 are blocks 104 having a bar 106 extending therebetween. Set screws 108 are adapted to secure the blocks 104 at any desired vertical position on the posts 102, whereupon the height of cross bar 106 may readily be adjusted. Pivotally and slidably mounted on the cross bar 106 are a pair of separate upstanding posts 110, each of which is pivotally mounted on the bar 106 and is adapted to be secured in its position of desired angular and lateral adjustment by set screws 112. At their upper extremities, posts 102 are provided with a fixed cross bar 114 which not only has a guiding function, as will hereinafter be described, but which also helps support and rigidize the posts 102.

The posts 102 are each secured at their lower ends to a bracket 116 pivotally attached to its respective side wall as at 118. The lower end of bracket 116 is provided with a series of spaced apertures 120, while the sidewalls 12 and 14 are each provided with a single ap-

erture adapted to align with any one of the apertures **120.** Once so aligned, a pin member **122** is inserted through the aligned apertures to maintain bracket **116** and hence post **102** in its desired position of adjustment. For example, in FIG. **1,** the center aperture **120** is aligned with the aperture in sidewall **12,** and hence the post **102** extends substantially straight upwardly. By removing pin **122,** however, and pivoting bracket **116** in a counterclockwise direction about pivot **118** so that forward aperture **120** aligns with the aperture in sidewall **12,** it will be seen that the posts **102** will then extend in an angularly forward direction. Conversely, if the rear aperture **120** is brought into alignment with the aperture in sidewall **12,** then the posts **102** will extend in a rearwardly angular direction. This adjustment, plus the vertical adjustability of cross-bar **106,** in combination with the pivotal and lateral adjustability of upstanding post **110,** permit a complete range of adjustment of the guide and support means so that the strip may be properly guided and supported for whatever equipment it is being fed to. In this connection, it will be understood that the strip passes over cross bar **106** between the upstanding posts **110,** the latter being adjusted laterally along cross bar **106** so as to snugly but freely receive the strip therebetween. The fixed cross bar **114** located at the top of the post **102** may also function to limit upward movement of the strip while it is passing through the guide and support assembly.

FEELER MEANS ASSEMBLY

In the event that the loop of strip extending between pinch rolls **58, 60** and the above described guide and support means does not remain sufficiently slack, feeler means are provided for sensing undesirable diminishing of the loop and for energizing the motor **32** to cause further unwinding of the coil **28** to once again provide the desired loop or slack. More specifically, pivotally mounted to one of the sidewalls **12** or **14** is an upwardly extending post **124** having slidably mounted thereon a block **126,** the vertical position of which may be adjusted by set screw **128.** Slidably extending through the block **126** in a lateral direction toward the opposite sidewall of cradle **10** is a rod **130,** the lateral position of which may be adjustably secured by set screw **132.** At its inner extremity, by a suitable bracket **134,** rod **130** carries feeler member **136** operatively associated with switch **138.** It will be understood that when the feeler **136** is engaged by the diminishing loop of the strip, said engagement actuates switch **138,** which through suitable and conventional wiring **140,** energizes motor **32.**

As previously stated, the post **124** is pivotally mounted to one of the sidewalls **12** or **14,** and, specifically, the post **124** is spring urged by means of spring **142** so as to be releasably locked to block **144.** As will be seen most clearly in FIG. **1,** the post **124** carries a pin **146** which is spring urged by means of spring **142** into notch **148** formed on the upper edge of block **144.** The block **144** is provided with a slot **150** which receives trunion **152** therein; whereupon when locking screw **154** is loosened, slot **152** opens up sufficiently to permit block **144** and post **124** which is releasably locked thereto to pivot about trunion **152** until the desired angular position of post **124** is reached. The screw **154** is then tightened to securely maintain the post **124** is its adjusted angular position. If, however, it is desired to quickly swing the post **124** to a completely inoperative position, such as during loading of the cradle, it is simply necessary to pull upwardly on the post **124** against the action of spring **142** so as to disengage pin **146** from notch **148,** whereupon the rod is free to be swung as much as desired in either direction.

It will be understood that the feeler **136** is positioned within the loop of the stock extending between the pinch rolls **58, 60** and the guide and support means **102** et seq., the lateral adjustability of rod **130** permitting the feeler **136** to properly align with the strip, and the height adjustability of rod **130** on post **124** in combination with the pivotal adjustability of the latter permitting the feeler **136** to be precisely located so as to energize motor **32** when any desired predetermined amount of slack ceases to exist in the strip. As previously stated, energization of motor **32** will once again cause unwinding of coil **28** so as to provide the desired slack, at which point the motor will once again automatically go off, this on and off operation of the motor repeating continuously as the feeler is engaged and disengaged by the stock.

ADJUSTABLE GUIDE PLATE ASSEMBLY

In order to properly guide and support the coil **28** when the latter is positioned on support rolls **26,** a pair of spaced guide plates **156, 158** are provided, said plates being mounted inwardly of said sidewalls **12** and **14** in substantially parallel disposition thereto and being cut away as at **159** to clear the rolls **26.** Noting FIGS. **1** through **3,** it will be seen that plate **158** is threadedly carried by a plurality of right-hand threaded shafts **160, 162** and **164,** while plate **156** is likewise threadedly mounted on a plurality of left-hand threaded shafts **166, 168** and **170.** As will be seen, shafts **160** and **166** are in axial alignment with each other, as are shafts **162, 168** and shafts **164, 170.** Thus, if all of these threaded shafts are simultaneously rotated, the plates **156, 158** will simultaneously move inwardly or outwardly with respect to each other, depending upon the direction of rotation. On the other hand, if only the right-hand threaded shafts **160, 162** and **164** are rotated, then only plate **158** will move inwardly or outwardly, depending on the direction of rotation; while, conversely, if only left-handed threaded shafts **166, 168** and **170** are rotated, then only plate **156** will be caused to move inwardly or outwardly. A significant feature of the present invention is the provision of control means which selectively permit all of the threaded shafts to be moved simultaneously, or, if desired, only the left-hand threaded shafts move simultaneously, or, ir desired, only the right-hand threaded shafts move simultaneously. Furthermore, as will hereinafter become apparent, the control means are designed so as to be operable from either side of the cradle **10.**

It is important to understand that aligned shafts **162, 168** and **164, 170** actually constitute separate shafts which are separately rotatable even though each shaft is aligned with its corresponding oppositely threaded shaft. The same is true of upper aligned shafts **160, 166;** however, these shafts are different in that they are of hollow construction. As will be seen most clearly in FIG. **4,** each of the shafts **160** and **164** has secured thereto, outwardly of its respective guide plate, sprocket means **172, 174** about which drivingly extend chains **176, 178,** respectively. The shafts **160, 166** then pass through and are suitably journaled in their respec-

tive sidewalls **12** and **14**, as at **180, 182**, and outwardly of their respective sidewalls the shafts **160** and **166** each have secured thereto identical clutch means **184, 186.** Extending through the hollow shafts **160, 166** is an elongated rod **188**, the length of said rod being such that it extends outwardly of the clutch members **184, 186** a substantial distance. Secured to the opposite outer ends of rod **188** are identical handle means **190, 192**, said handle means being adapted to be gripped to impart manual rotation to rod or shaft **188** from either end thereof. Since the shaft **188** freely extends through hollow shafts **160, 166**, it will be understood that rotation of shaft **188** will normally have no effect on shafts **160, 166.** However, each of said handles **190, 192** is provided with a spring loaded plunger **194, 196**, respectively, said plungers being movable between an outward position with relation to its respective handle, as illustrated in FIG. **4**, and an inward position with respect thereto, as illustrated on the right side of FIG. *4b*. Specifically, the pins **194, 196** each have an elongated eccentric portion **198** which maintain the pins outwardly disposed, as illustrated in FIG. **4**, against the action of springs **200.** As will be seen in FIGS. **4** and **7**, a fixed seat **202** is provided in handles **190, 192.** the cross dimension of which is not sufficient to permit the portions **198** to move therein, unless the pins are twisted so as to align the elongated portions **198** with the elongate seats **202**, as illustrated in FIG. **7.** Once so aligned, the springs **200** cause the pins to move inwardly, as illustrated at the right end of FIG. *4b*.

With both of the pins or plungers **194, 196** maintained in their outermost position, as illustrated in FIG. **4**, and with shaft **188** centrally positioned, it will be seen that neither pin extends inwardly far enough to engage within one of the notches **204** in the clutch members **184, 186.** Thus, with the pins or plungers **194, 196** retracted, and with shaft **188** laterally shifted so as to extend outwardly from clutch members **184, 186** substantially the same distance, all as illustrated in FIG. **4**, it will be seen that rotation of either handle **190** or **192** will have no effect on the hollow shafts **160, 166.** However, without touching the pins **194, 196** the shaft **188** may be laterally shifted to assume the position illustrated in FIG. *4a* wherein pin **196** has now moved within one of the notches **204** of clutch member **186.** Now it will be seen that rotation of handle **190** or **192** will impart corresponding rotation of clutch member **186** which in turn is affixed to hollow shaft **166**, thereby causing rotation of the latter. This rotation causes the guide plate **156**, due to its threaded engagement with shaft **166**, to move inwardly or outwardly, depending upon the direction of rotation of handle **190** or **192.** It should be noted that this lateral shifting of shaft **188** may be accomplished from either side of the cradle, and hence the aforesaid movement of guide plate **156** may likewise be controlled from either side of the apparatus. Of course, if it is desired to adjust or move guide plate **158** and not guide plate **156**, then shaft **188** would be shifted in the opposite direction, i.e., so that pin **194** engages in notch **204** of clutch member **184**, while at the same time pin **196** will move away from its corresponding clutch notch.

If it is desired to impart simultaneous inward or outward movement to plates **156** and **158**, either one of the pins **196, 198** is rotated to assume the position of FIG. **7**, wherein the elongated portion **198** aligns with the elongated seat **202** to permit spring **200** to pull the pin inwardly. With either one of pins **196** or **198** in said inner position, the spacing between the inner ends of the pins is now such that proper lateral shifting of shaft **188** will result in both pins engaging within their adjacent clutch member notches, as illustrated in FIG. *4b*. In this position, rotation of either handle **190** or **192** will impart corresponding rotation to both clutch members **184** and **186**, whereby both hollow shafts **160** and **166** will likewise rotate. Depending upon the direction of rotation, the plates **156** and **158** will simultaneously move inwardly or outwardly with respect to each other.

Sprocket chain **176** extends around sprockets associated with shafts **168** and **170**, while the sprocket chain **178** extends around sprockets associated with the shafts **162, 164.** Thus, rotation of hollow shaft **160** imparts simultaneous rotation to shafts **162** and **164**, while rotation of hollow shaft **166** imparts simultaneous rotation to shafts **168, 170.** Chains **176, 178** extend over idlers **206, 208**, respectively, which idlers are each adjustable mounted to maintain proper tension on the chains **176, 178**, similar to the aforesaid adjustable mounting of idler **42.**

As hereinbefore stated, the adjustability of the plates **156, 158** either as a unit, or individually, and the capability of controlling said adjustability from either side of the cradle **10** have proven to be highly advantageous features of the present invention, since it no longer is necessary that the coil **28** be centrally positioned between sidewalls **12** and **14** for the cradle to effectively function, since no matter what the relative lateral position of the coil **28** may be, the guide plates **156, 158** may easily and quickly be brought into close proximity to opposite side edges of the coil.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and rearrangements of the parts may be made without departing from the spirit and scope of the underlying inventive concept and that the same is not limited to the particular forms herein shown and described except insofar as indicated by the scope of the appended claims.

What is claimed is:

1. In a coil stock cradle comprising a housing having a pair of upstanding spaced sidewalls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock therebetween, the improvement comprising means at each side of said housing selectively operable for adjusting said plates inwardly or outwardly as a unit, or for adjusting either of said plates individually, said adjusting means comprising first actuating means mounted at one side of said housing and second actuating means mounted at the opposite side of said housing, clutch means associated with each of said guide plates, coupling means carried by each of said actuating means, said actuating means being shiftable between a first position wherein one of said coupling means engages one of said clutch means to permit movement of one of said plates individually and a second position wherein the other of said coupling means engages the other of said clutch means to permit movement of the

other of said plates individually, and means for separately moving both of said coupling means, whereby movement of either coupling means permits said actuating means to be shifted to a third position wherein both coupling means simultaneously engage both clutch means to permit movement of both plates as a unit.

2. In a coil stock cradle comprising a housing having a pair of upstanding spaced side walls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock therebetween, the improvement comprising means selectively operable for adjusting said plates inwardly or outwardly as a unit, or for adjusting either of said plates individually, said last-mentioned means comprising a pair of axially aligned, separately rotatable hollow shafts extending across said side walls, one of said shafts having a left-hand threaded portion and the other having a right-hand threaded portion, each of said portions threadedly receiving and mounting one of said guide plates, a clutch member secured to each of said shafts, an elongated rod freely extending through said shafts and having handle means at opposite ends thereof located outside of said side walls, and coupling means associated with said rod at opposite ends thereof selectively movable between a first position wherein neither clutch member is engaged whereupon rotation of said rod effects no movement of said plates, a second position wherein both clutch members are simultaneously engaged whereupon rotation of said rod causes simultaneous inward or outward movement of said plates, and third and fourth positions wherein one or the other of said clutch means are engaged whereupon rotation of said rod causes movement of the corresponding plate only.

3. In the cradle of claim 2, said coupling means comprising a pair of pins adapted to make driving engagement with said clutch members, one of said pins carried by each of said handle means and extending inwardly toward the adjacent clutch member, each of said pins being movable relative to its handle means between an inner and an outer position, said rod being longer than the combined lengths of said shafts, whereby said rod and handle means may be shifted laterally with respect to said shafts, the spacing between the inner ends of said pins when both of the latter are in their outer position being such that said rod may be laterally shifted to selectively assume any of the aforesaid first, third or fourth positions, while when either one of said pins is in its inner position, said rod may be laterally shifted to assume the aforesaid second position.

4. In the cradle of claim 1, the combination further comprising feeler means carried by said housing and extending across the path of the stock being unwound from said cradle, said feeler means being positioned so as to be engaged by the unwound stock when a predetermined amount of slack ceases to exist in the latter, switch means connected to said feeler means and actuated thereby when the latter is engaged by the stock to energize said uncoiling means, said means permitting ready vertical and horizontal adjustment of said feeler means.

5. In a coil stock cradle comprising a housing having a pair of upstanding spaced sidewalls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock therebetween, the improvement comprising means selectively operable for adjusting said plates inwardly or outwardly as a unit, or for adjusting either of said plates individually, the combination further comprising feeler means carried by said housing and extending across the path of the stock being unwound from said cradle, said feeler means being positioned so as to be engaged by the unwound stock when a predetermined amount of slack ceases to exist in the latter, switch means connected to said feeler means and actuated thereby when the latter is engaged by the stock to energize said uncoiling means, and means permitting ready vertical and horizontal adjustment of said feeler means, said last-mentioned means comprising a first post extending vertically from one of the walls of said housing, a block slidably mounted on said first post, a second post slidably mounted in said block and extending laterally of said housing, said feeler and switch means being mounted on the inner end of said second post, the position of said first post being pivotally adjustable in a plane parallel to the plane of said sidewalls.

6. In the cradle of claim 5, the mounting of said first post comprising a quick-release latch operable to release said first post for swinging movement to a position where said feeler means is removed from the path of said stock.

7. In a coil stock cradle comprising a housing having a pair of upstanding spaced sidewalls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock therebetween, the improvement comprising means selectively operable for adjusting said plates inwardly or outwardly as a unit, or for adjusting either of said plates individually, the combination further comprising a support assembly for guiding and supporting the stock as it is unwound from the cradle, said support assembly comprising a pair of aligned rods extending vertically upward from opposite sides of said housing, a fixed bar connected to and extending across said rods adjacent the upper ends of the latter, a second bar extending across said rods and vertically adjustable with respect thereto, and a pair of separate upstanding posts mounted on said second bar, said stock being adapted to pass over said second bar between said posts, said posts being slidably and pivotally adjustable on said second bar, said entire assembly being pivotally adjustable with respect to said housing.

8. In a coil stock cradle comprising a housing having a pair of upstanding spaced sidewalls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock

therebetween, the improvement comprising means selectively operable for adjusting said plates inwardly or outwardly as a unit, or for adjusting either of said plates individually, the combination further comprising feeler means carried by said housing and extending across the path of the stock being unwound from said cradle, said feeler means being positioned so as to be engaged by the unwound stock when a predetermined amount of slack ceases to exist in the latter, switch means connected to said feeler means and actuated thereby when the latter is engaged by the stock to energize said uncoiling means, and means permitting ready vertical and horizontal adjustment of said feeler means, the combination further comprising a support assembly for guiding and supporting the stock after it passes said feeler means, said support assembly comprising a pair of aligned rods extending vertically upward from opposite sides of said housing, a fixed bar connected to and extending across said rods adjacent the upper ends of the latter, a second bar extending across said rods and vertically adjustable with respect thereto, and a pair of separate upstanding posts mounted on said second bar, said stock being adapted to pass over said second bar between said posts, said posts being slidably and pivotally adjustable on said second bar, said entire assembly being pivotally adjustable with respect to said housing.

9. In a coil cradle comprising a housing having a pair of upstanding spaced sidewalls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock therebetween, means for adjusting the spacing between said plates, and feeler means carried by said housing and extending across the path of the stock being unwound from said cradle, said feeler means being positioned so as to be engaged by the unwould stock when a predetermined amount of slack ceases to exist in the latter switch means connected to said feeler means and actuated thereby when the latter is engaged by the stock to energize said uncoiling means, and means permitting ready vertical and horizontal adjustment of said feeler means, said last-mentioned means comprising a first post extending vertically from one of said walls of said housing, a block slidably mounted on said first post, a second post slidably mounted in said block and extending laterally of said housing, said feeler and switch means being mounted on the inner end of said second post, the position of said first post being pivotally adjustable in a plane parallel to the plane of said sidewalls.

10. In the cradle of claim **9,** the mounting of said first post comprising a quick-release latch operable to release said first post for swinging movement to a position where said feeler means is removed from the path of said stock.

11. In a coil stock cradle comprising a housing having a pair of upstanding spaced sidewalls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock therebetween, means for adjusting the spacing between said plates and a support assembly for guiding and supporting the stock as it is unwound from the cradle, said support assembly comprising a pair of aligned rods extending vertically upward from opposite sides of said housing, a fixed bar connected to and extending across said rods adjacent the upper ends of the latter, a second bar extending across said rods and vertically adjustable with respect thereto, and a pair of separate upstanding posts mounted on said second bar, said stock being adapted to pass over said second bar between said posts, said posts being slidably and pivotally adjustable on said second bar, said entire assembly being pivotally adjustable with respect to said housing.

12. In a coil stock cradle comprising a housing having a pair of upstanding spaced sidewalls, a plurality of support rolls rotatably mounted between said walls adjacent the lower ends thereof for supporting coil stock, means carried by said housing for uncoiling said stock to feed same from the cradle, a pair of spaced guide plates mounted between said walls in substantially parallel disposition thereto for receiving said coil stock therebetween, means for adjusting the spacing between said plates, upper and lower pinch rolls extending between said sidewalls, the free end of said stock passing between said pinch rolls, said upper pinch roll forming a part of a separate assembly mounted on said housing for movement between an operative and an inoperative position, quick-release latch means releasably maintaining said assembly in said operative position, and means for adjusting the pressure between said pinch rolls when said assembly is in operative position, said means comprising a center adjustment for evenly adjusting the pressure between said rolls throughout their length, and right- and left-end adjustments selectively operable to adjust the pressure between said rolls at either end, feeler means carried by said housing and extending across the path of the stock being unwound from said cradle, said feeler means being positioned so as to be engaged by the unwound stock when a predetermined amount of slack ceases to exist in the latter, switch means connected to said feeler means and actuated thereby when the latter is engaged by the stock to energize said uncoiling means, and means permitting ready vertical and horizontal adjustment of said feeler means, and a support assembly for guiding and supporting the stock as it is unwound from the cradle, said support assembly comprising a pair of aligned rods extending vertically upward from opposite sides of said housing, a fixed bar connected to and extending across said rods adjacent the upper ends of the latter, a second bar extending across said rods and vertically adjustable with respect thereto, and a pair of separate upstanding posts mounted on said second bar, said stock being adapted to pass over said second bar between said posts, said posts being slidably and pivotally adjustable on said second bar, said entire assembly being pivotally adjustable with respect to said housing.

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