

April 11, 1944.

R. L. SJOSTROM
SHEET TEARING DEVICE
Filed March 17, 1941

2,346,194

3 Sheets-Sheet 2

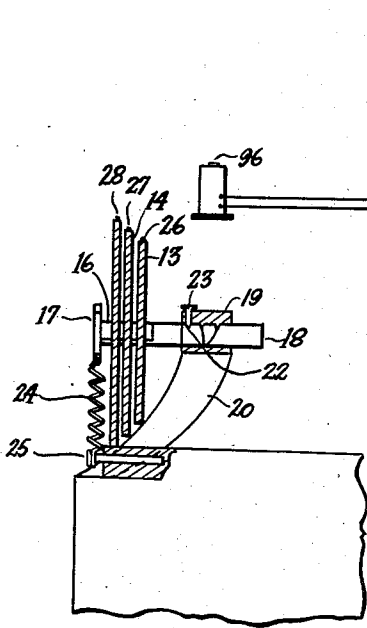


Fig. 4

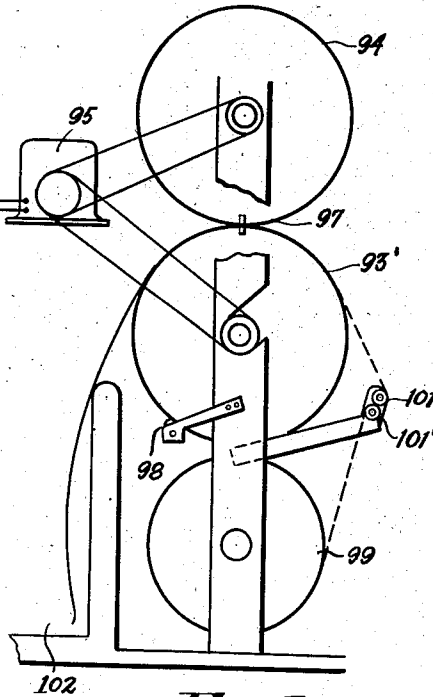


Fig. 5

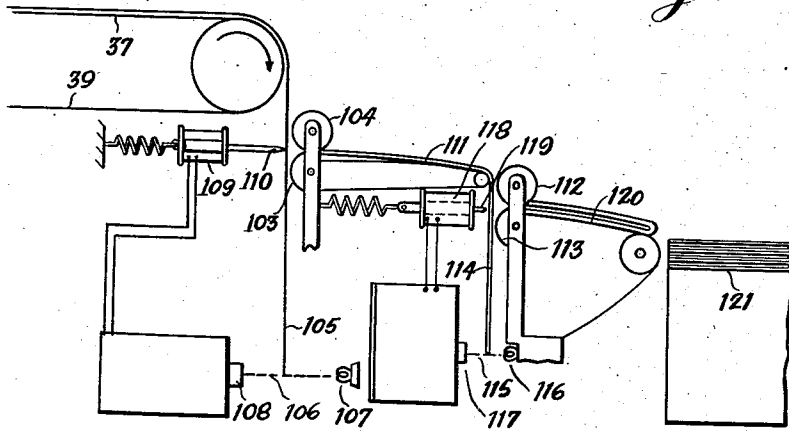


Fig. 5

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3 Sheets-Sheet 3

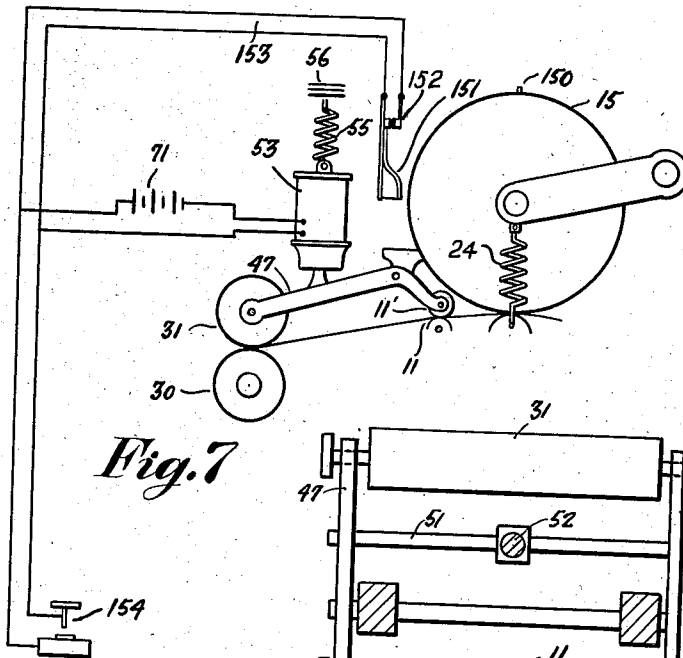


Fig. 7

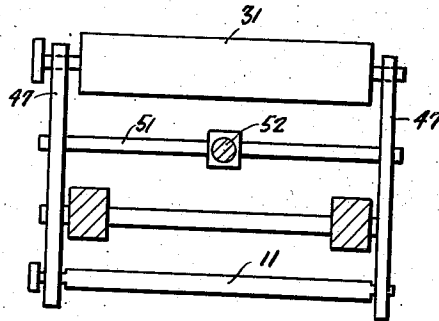


Fig. 6

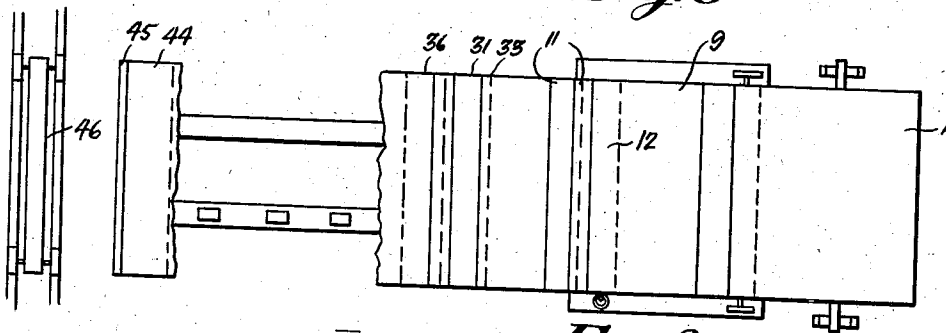


Fig. 2

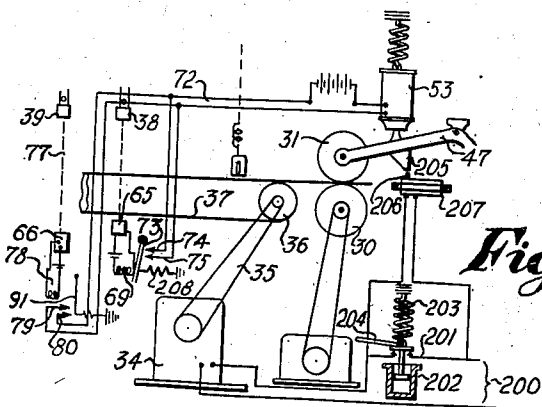


Fig. 8

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UNITED STATES PATENT OFFICE

2,346,194

SHEET TEARING DEVICE

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Application March 17, 1941, Serial No. 333,886

16 Claims. (Cl. 271—2.1)

The present invention relates to a device for facilitating the marking and cutting of rolled material principally fabrics and woven material and more particularly to the textile industry for cutting toweling, curtain material, sheets or the like.

The invention may be applied to goods that have repeated patterns or to uniform woven and fabricated materials. The apparatus may be used with a hand operated cutting knife, or the goods, if sheet goods may be notched and torn in the usual manner.

The invention applies particularly to woven materials such as towels, curtains and sheeting where it is necessary in order to insure that the cutting edge eventually is straight, to cut or tear along the weft thread and not straight across the material unless the weft threads of course happen to be straight. In towels or sheet materials, before the goods are washed and ironed, the weft threads frequently are not straight, so that if the material is cut transversely across its length, the edge, when it is finally finished and hemmed, might be anything but straight. It is evident therefore that the use of a large cutting knife cutting completely across the entire width of the material cannot be used if the best results are desired.

At the present time the chief obstacle in the way of rapid cutting is the difficulties of measurement of the goods to the exact length desired.

In systems heretofore used, the operator feeds the material either by sight or by actually walking to one end of the table to set the edge of the material to the measuring point, and then returns to the other end of the length that is to be cut. This obviously necessitates considerable walking on the part of the operator and makes the cutting process quite slow and tedious.

In the present invention these difficulties and disadvantages are overcome and the operator remains at his cutting table while the materials are automatically or semi-automatically fed before him so that he may accurately cut or tear the material in front of him, which when torn or cut is thereafter carried away.

The apparatus is so constructed that the tearing or cutting may go on continually but not faster than the operator works, so that there is no difficulty of stock piling up in front of him, necessitating his keeping up a certain definite pace. The cutting according to the present invention may be done extremely accurately and may, if desired, combine both a means for measuring length and a marking means so that where the

material has no pattern to go by, a mark may be used to designate the point at which the material is to be cut or torn.

This provides a particular advantage in sheet tearing where sheets are usually made in accurate lengths of 90", 99" and 108" sheets. In the present case the apparatus advances the material to bring the marked point of the material on the cutting table and the operator then cuts the material or tears it following the weft thread across the material. When the sheet has been cut it is carried on by a conveyor and the sheeting is again advanced to position the next marked point on the cutting table.

For cutting purposes the apparatus provides a suspended cutting knife which the operator can guide across the material to follow the pattern or the weft line on which the cutting is to be done. If desired a sheet folding device may be used in combination with the cutting device, so that the sheets may be folded in double or quadruple layers on the folding table.

Further in the present system the material may be slightly advanced or retarded by feed or hand controls for the marking point. Again while measuring of lengths and control of operation is preferably done by the interruption of light beams or the uncovering of a light source, the measurement may be accomplished with the help of a timing mechanism in combination with the suspended cutting knife with the use of a marking roll or even without the use of the marking roll under certain conditions.

The operation and advantages of the invention over the prior art and the means and method for which it is carried out will be more readily understood from the specification below when taken in connection with the drawings illustrating an embodiment of the invention in which:

Figure 1 shows a schematic layout of the system.

Figure 2 shows a plan view of a portion of the system shown in Figure 1.

Figure 3 shows a modification of a detail of Figure 1.

Figure 4 shows a view substantially along the section line 4—4 of Figure 1.

Figure 5 shows a schematic detail of a folding device which may be used in the system.

Figure 6 shows a fragmentary detail in plane of portion of Figure 1 approximately on the line 6—6, and,

Figures 7 and 8 show a modification of a part of the arrangement of Figure 1.

In Figure 1, *i* indicates a roll of cloth or sheet-

ing which is made of a plurality of sections or lengths which are seamed together at their ends as indicated at 2. The complete roll is mounted on a roller or shaft 3 journaled in end supports 4 fastened or held by a base 5 in any suitable manner. The sheeting may be drawn from the roll by means of squeeze rollers 6 and 7 which may be operated by motor or by hand or in any other suitable manner, and if desired, a cloth meter may be used as indicated at 8 to record the number of yards drawn from the rolls so that if the total yardage on the roll is known, the remainder is readily obtainable. If desired the meter 8 may be set at the total yardage in the roll and run backwards so that at any instant it will show the number of yards remaining on the roll. By this means the operator can divide the remainder at the end of the roll in lengths so that the smallest remnant will be left.

The goods or sheeting 9 piles up more or less loosely in the scray 10, from which it is passed between the clamping rolls 11 and 11'. Prior to the clamping rolls in position of operation whose action will be described later, the goods may be marked in lengths. For this purpose at one side of the scray there is mounted a pad 12 extending the full width of the cloth if desired, with the marking wheels 13, 14 and 15 supported at one side as indicated in Figures 1 and 4.

As shown in Figure 4 the marking wheels 13, 14 and 15 are mounted for rotation on the shaft 16 held by the arm 17 which is pivoted at its other end by means of the shaft 18, Figure 4, in a bearing 19 of the upwardly extending bracket 20 supported from the base 21 of the scray. The shaft 18 may be provided with V shaped notches 22, 22, 22, in which the pin 23 passing through the bearing 19 may engage. This will make it possible to move the arm 17 outward into any one of three positions which provide sufficient clearance so that either the wheel 15, 14 or 13 may bear upon the edge of the pad 12. The marking wheels are held down in place on the marking pad 12 by means of the spring 24 which is fixed at one end to the arm 17 and at the other end to a pin 25 which may be adjusted in position laterally as viewed in Figure 4 corresponding to the position of the arm 17. The marking wheels 13, 14 and 15 have each a definite perimeter as for instance 90", 99" and 108" respectively, and each marking wheel is provided with a marking point 26, 27 and 28, which during every revolution may be inked by the ink roller 29 mounted on the bracket 20 so that it comes in contact at each revolution with the marking points 26, 27 and 28. For this purpose the ink roll may be adjusted in position if desired.

In the use of the marking roll, the operator simply adjusts the shaft 18 to bring the roll which he desired to use at the edge of the pad. Each revolution of the roll will make one mark and the wheels therefore must have the desired peripheral length so that the proper markings will be made.

The sheeting 9 after passing between clamping rolls 11 and 11' passes through the main feed rolls 30 and 31 which are driven by belting as indicated by the belts 32 and 33 from the driving source 34 which may be an electric motor with a gear reduction. This same motor or driving source may drive, by means of a belt 35, the conveyor belt pulley 36 over which the conveyor belt straps 37 run. The conveyor belt pulley 36 is driven more rapidly than the main feed rollers 30 and 31, so that the material after

being cut, as will be explained later, is carried off more rapidly than the next piece is fed by the feed rolls. The belts 37 which may be three or four in number, with a space between them through which the light beams from the lights 38, 39 and 40 act, as shown in Figure 2, pass under the cutting plate 40' over which is suspended the cutting knife 41 supported by a flexible support 42 from an overhead bracket 43. The conveyor belts 37, it will be noted, are endless belts and at the further end of the machine pass over an idler pulley 44 at which end the material is deposited by means of the air doffer mechanism including the air pipe 45 and the receiving carrier 46.

The feed roll 30 and the clamping roll 11 may be permanently mounted in position, but their engaging rolls 31 and 11' are journaled at opposite ends of the lever arms 50 pivoted by means of the shaft 48 in the supporting bracket 48.

The forward portions 47 of the lever supporting the ends of the roll 31 have a cross bar 51 pivoted in the lever arms in these portions. This cross bar 51 is connected to an upwardly extending rod 52 which acts as the core of the solenoid 53. The other end of the core 52 is provided with an eyelet 54 into which is hooked the spring 55 which is tensioned against the fixed support 56. From this construction it will be seen that when the solenoid 53 is deenergized, the spring 55 will act to raise the lever arms 50 in their forward portions 47, disengaging the rolls 30 and 31 and holding firmly together the rolls 11 and 11' at the opposite ends of the lever. When the roll 31 is pulled down by the action of the solenoid, the clamping rolls 30 and 31 will be disengaged and the material will be fed by rotation of the feed rolls 30 and 31. This motion of the lever arm 47 is very slight since it is only necessary to support the rolls 30 and 31 by a space equivalent to the thickness of the cloth. No substantial provision therefore need be made for the belt adjustment, but if desired the belts 33 may be provided with a spring element so as to maintain substantially the same driving tension in whatsoever position the roll may be.

As has been previously mentioned, there may be provided the three light beams, 38, 39 and 40 projected from over the conveyor table. Each of these may be adjusted on the support 57 by any suitable means as for instance a rack 58 and pinion gears 59, 60 and 61 which may be manually operated by means of hand wheels 62, 63 and 64 respectively to position the lights 38, 39 and 40 in the relatively desired position. In line with each of the lights 38, 39 and 40, are photo cells 65, 66 and 67. The photo cell 65 establishes the limit of the measuring end 68 of the cloth to be cut. The photo cell 66 as will be explained operates to raise the clamping roll 11' and the commencement of the feeding operation by bringing into engagement the roll 31 with the roll 30. The photo cell 67 controls the action of the air doffer to properly time the action of the air so that the material may be laid over on the carrier 46. Suitable mechanism for this purpose is described in Patent No. 2,151,136, issued to Samuel A. Moffitt of which the present applicant is the assignee.

When the material reaches the line of light from the light 38, the relay 69 is operated to break the current to the solenoid 53. For this purpose it may be assumed that the switch 70 is closed and that the circuit from the source of power 71 is completed over the cable 72 through the armature 73 and the switch contacts 74 and

75. The breaking of this circuit releases the core 52 which is drawn upward by means of the spring 55. This action separates the rolls 30 and 31 but brings together the clamping rolls 11 and 11'. The operator then runs the cutter 41 through the material at the point that has been marked, or if the marking rolls are not used, at the point in the pattern that is to be cut. The position of the light 38 and the photo cell 65 must of course be such that the length from the point 68 to the vicinity of the cutting knife over the cutting table has the desired length. Since it is difficult at times to stop the material within an inch of the same point each time, the combination of the length measure by the light with that of the marking roll has a distinct advantage, particularly where the cutting is done manually. In this case all that is necessary is that the light measuring means be such as to present the marking point from the pattern on the cutting table, so that the operator does not need to move from his cutting position.

After the material has been cut by the cutter 41, it is then free from the roll and is rapidly carried away by the conveyor belts 37. In order that the material may feed straight, a smoothing roll 76 may be provided which will keep the material in a straight position on the conveyor belt.

When the forward edge 68 of the material intercepts the light beam 77 between the light 39 and the photo cell 66, the relay 78 becomes energized which again closes the circuit through the power source 71 to the solenoid 53 by making contact between the contact 79 and 80 to the armature 81 of the relay thereby completing the circuit across the leads of the cable 72. This completion of the circuit to the solenoid 53 forces the rolls 31 and 30 together simultaneously releasing the rolls 11 and 11' so that the material to the right of the cutting knife as viewed in Figure 1, again is fed over the cutting table. As the conveyor belt 37 is moving the cut material faster than the new material is being fed, the light beam 82 between the light 38 and the photo cell 65 will be restored before the new material has reached the line of this light. The line of light between the source 38 and the photo cell 65 will in fact be restored when the cut end of the material has passed beyond the line 82. When this occurs the armature 73 will be released completing the circuit across the leads of the cable 72 and permitting the undisturbed feeding of the material after the cut material has passed beyond the line 77.

It will be noted in the arrangement shown in Figure 1 that the line of light 77 is restored subsequent to the restoration of the line of light 82 to the cell 65, both of which events occur prior to the interception by the newly fed material of the line 82. The operator then need merely to cut the material in the right place after which it will be carried off and the roll will again be fed at a certain timed moment later when the forward end of the cut material has intercepted the line of light 77.

In the operation of the apparatus, the system may be set so that the operator can practically continually in uniform motion move the cutting knife across the material, for no sooner has the material been cut and the knife drawn back, than a new strip is already in place to be cut.

If by any chance the operator needs to advance or retract the material a slight amount, this is cared for by means of the foot switches 83 and 84, the foot switch 83 being used to advance the

material slightly, while the foot switch 84 may be used to retract the material slightly. When the operator steps on the foot switch 83, he completes the circuit to the cable leads 72 thereby drawing together the feed rolls 30 and 31 and feeding the material since the rolls 30 and 31 are preferably kept in constant motion. In this operation the operator does not hold his foot on the foot switch 83, but merely gives it a single punch or press for a moment. The material may thereby be advanced an inch or two or more if desired, depending of course upon the length of the time the contact is made.

In order to pull the material back a slight amount, the clamping rolls 11 and 11' may be driven through the belts 85 and 86 respectively from the pulley 87 driven by the shaft of the motor 88. This motor is operated by means of the foot switch 84 operating the motor through the motor switch 89. When the material is at rest and not being fed, the feed rolls 30 and 31 are separated and the clamping rolls 11 and 11' are gripped together which normally stops the feeding of the material, so that when these rolls 11 and 11' are driven in the right direction through the operation of the motor 88, the goods will be drawn back depending upon how long the rolls operate. If therefore the marking does not come in a convenient place for cutting, or if the operator has advanced the material too far by pressing the foot switch 83, the material may be retracted into its desired position.

In addition to these means the feeding may be done by means of the timing mechanism 90', in which case the photo cells 65 and 66 are left out of the circuit. The timing mechanism 90' may be provided with three interval lengths as indicated by the numbers 90, 99 and 108 and with three switches 91, 92 and 93, each corresponding to one of the lengths respectively. By closing on one of these switches, the rolls are held down for a time interval so that the feeding of the material will be of the desired length. That is if 91 is closed, 90'' lengths will be fed by the rollers; whereas if the other switches are operated, the other lengths will be fed. The timing mechanism for different lengths may be used depending upon the lengths of the materials to be cut.

In place of the marking arrangement in Figure 1, the marking may be done before the material has entered the scray. In this case see Figure 3 the marking roll 93' may also cooperate with the roll 94 by feeding the material into the scray both rolls being driven by the motor 95 operated by the hand switch 96. In such a case the operator will press the hand switch to feed the desired amount of material into the scray, which simultaneously will be marked by the marking pointer 97 which may be inked from the inking roll 98. The material may be fed from the roll 99 over the guide rolls 101' and 101 between the marking roll 93 and the roll 94 into the scray 102.

In Figure 7 a further method of using the marking roll is shown.

The marking roll 15 may be provided with a projecting finger 150 alongside of the marking point. This finger may be provided in such relation to the cam 151 that as it comes around and pushes the cam 151 outward, the electrical contact between the contacts of the switch 152 will be broken, thus opening the line 153 and breaking the circuit to the solenoid 53. This

will permit the spring 55 to retract the arm 47 of the lever separating the feed rollers 30 and 31 and bringing together the clamping rolls 11 and 11', thus stopping the feeding of the material and stopping the movement of the marking wheel and maintaining thereby an opening circuit to the solenoid. When the cutting is completed on the marking point, the operator presses the foot switch 154 thus energizing the solenoid and commencing the feeding of the cloth and the rotation of the projecting finger 150 beyond the point of the cam 151. The operator needs only to press the switch 154 for a short time, just long enough so as to allow the finger 150 to clear the cam 151 so that the contacts across the line at 53, namely the switch 152 may again be closed. The foot is therefore removed and the cycle is again repeated when the finger 150 comes around to the point of the cam. For varying cutting lengths if necessary, the cutting table 40 shown in connection with Figure 1 may be adjusted to the desired position over the conveyor belt so that one of the marking points will fall on this cutting table. It will be seen that the cutting may occur at such a point that one marking may intervene between the marking roll and the cutting plate, or if convenient the cutting may be done with no marking places intervening on the sheet material.

In the cutting of large bed sheets, it is often desired that the sheets be folded both ways. In the arrangement which has already been described, when sheets are being cut they are fed already folded, the folds being lengthwise of the feed. Even in this form however, they are difficult to handle so that it is desirable to have them folded transversely in two folds. Therefore in place of the air doffer arrangement at the end of the system, the arrangement shown in Figure 5 may be used. In this arrangement as the sheets come off the conveyor belts 37 that drop down before a pair of stationary folding rollers 103 and 104 until the sheet 105 intercepts a beam of light 106 between the light source 107 and the photo cell 108. When this occurs a solenoid 109 is operated to force the sheet between the folding rolls 103 and 104. When this occurs the sheet 105 immediately is drawn up and the folding knife 110 is released whereupon it springs back to its normal position. After the sheet passes through the folding rolls 103, it is fed over the sloping table 111 before a second group of folding rolls 112 and 113 and when the sheet in the position indicated in 114 intercepts the beam of light 115 between the light source 116 and the photo call 117, the solenoid 118 is operated, whereupon the folding knife 119 forces the already folded sheet between the second folding rolls 112 and 113. As explained before, when the sheet is drawn up from its position so that the light beam is restored, the folding knife springs back into position while the sheet is fed in its double folded form, over the table 120 on to the table 121.

In the modification shown in Figure 8, the cutting plate or table is omitted and the conveyor belt is stopped while the sheet is being severed. This is accomplished in the following manner. The motor 34 driving the conveyor 37 through the roll 36, as in Figure 1, is supplied with power by the lines 200 in one side of which is a switch 201, which when closed, remains closed only for a given time. This may be accomplished by a dash pot 202 and spring 203, 75

or in any other suitable manner, as is commonly known in the art. The switch 201 is manually closed by the handle 204 and starts the motor 34 which moves the belt 37. This is done by the operator after the goods have been severed from the main piece and while the feed rolls 30 and 31 are apart and the clamping rolls 11 and 11' are together. The moving of the belt 37 carries off the cut piece, which intercepts the beam 77 and causes the armature 91 to operate to supply power to the solenoid 53 over the lines 72 and force the upper feed roller 31 downwards. A detent 205 on the lever 47, as the lever is forced downwards, hits the button 206 of the switch 207 and provides thereafter, while the lever is down, a continuous supply of current to the motor by taking over the duties of the switch 201 which thereafter releases. The solenoid 53 as explained above remains energized while the beam 77 is intercepted, but as in the operation of Figure 1, the solenoid 53 continues to remain energized after the end of the material has passed the beam 77 because in the meantime the beam 82 is no longer interrupted and as a result the armature 73 is pulled back by the spring 208 thus continuing the supply of power over the lines 72 to the solenoid 53.

When the feed roller 31 is forced down, the material again feeds and the conveyor which has started up just before the feeding begins, carries the newly fed material towards the beam 82. When the newly fed material reaches the beam 82, the solenoid 53 becomes deenergized and the lever 47 flies up releasing the switch button 206, thus stopping the motor 34. The operator then serves the piece from the roll of material and presses the switch 204 which starts again the conveyor motor, carries away the cut piece and brings the right uncut length before the operator.

Various other methods of operation and use of the apparatus in the system above described will readily follow from the utility of the mechanism and practically all forms of materials where accurate cutting is desired, either according to a pattern or according to the weave may be obtained in the means and method described in the present application.

Without further describing my invention, I claim:

1. A sheet-handling system for use in cutting long sheets of material in desired lengths comprising, in combination, a sheet-feeding means, a conveyor belt table having a fixed plate, fixed over a portion of the conveyor belt over which said sheet material is fed by the feeding means and the conveyor belt, and means for stopping the said feeding means whereby the cutting of said sheets may be accomplished over said fixed plate.

2. A sheet-handling system for use in cutting long sheets of material in desired lengths comprising, in combination, a sheet-feeding means, a conveyor belt table having a plate fixed transversely across said table over said belt over which said sheet material is fed by said feeding means and the conveyor belt, means for stopping the said feeding means, means controlled by the position of the material as it advances ahead of said plate for operating said stopping means, whereby the severing of said material from its long sheet may be made on said plate, and means controlled by the further advance of the material beyond the position of the first control

means for releasing said stopping means whereby said material is again fed.

3. A sheet-handling system for use in cutting long sheets of material in desired lengths comprising, in combination, a sheet-feeding means, a conveyor belt table having a fixed plate, fixed over a portion of the conveyor belt over which said sheet material is fed by the feeding means and the conveyor belt, means for stopping the said feeding means, means operated independently of said feeding means for cutting said material on said fixed plate, means for marking said long sheets in predetermined lengths prior to the cutting and means for controlling the operation of the stopping means also prior to the cutting whereby the marked places stop on said plate.

4. A sheet-handling system for use in cutting long sheets of material in desired lengths comprising, in combination, a sheet-feeding means, a conveyor belt table having a plate fixed transversely across said table over said belt over which said sheet material is fed by said feeding means and the conveyor belt, means for stopping the said feeding means, means controlled by the position of the advance end of the severed sheet of material as it advances ahead of said plate for operating said stopping means comprising a light source and photoelectric cell placed transversely across the longitudinal travel of said sheet and electric means operated thereby for controlling the operation of said stopping means when said light source is interrupted, means for severing said material from its long sheet, and a second photoelectric control means also operating transversely across the longitudinal travel of said sheet beyond said first means for releasing said stopping means whereby said material is again-fed.

5. A sheet-handling system for use in cutting long sheets of material in desired lengths comprising, in combination, a sheet-feeding means, a conveyor belt table having a plate fixed transversely across said table over said belt over which said sheet material is fed by said feeding means and the conveyor belt, means for stopping the said feeding means, means controlled by the position of the material as it advances ahead of said plate for operating said stopping means, means for severing said material from its long sheet, means controlled by the further advanced end of a sheet of the material beyond the position of the first control means for releasing said stopping means whereby said material is again fed, and means operated by the severed piece travelling over said conveyor belt for depositing said piece over a reel.

6. A sheet-handling system for use in cutting long sheets of material in desired lengths, comprising, in combination, a sheet-feeding means, a conveyor belt table having a fixed plate, fixed over a portion of the conveyor belt over which said sheet material is fed by the feeding means and the conveyor belt, means for stopping the said feeding means and means manually operated for permitting the operation or stopping the operation of said feeding means to advance the material a small amount, whereby said material may be cut on said fixed plate.

7. A sheet-handling system for use in cutting long sheets of material in desired lengths, comprising, in combination, a sheet-feeding means, a conveyor belt table having a fixed plate, fixed over a portion of the conveyor belt over which said sheet material is fed by the feeding means

and the conveyor belt, means for stopping the said feeding means, means manually operated for causing the advance or retreat of the material a small amount, whereby said material may be cut on said fixed plate.

8. In a sheet-handling system for use in cutting long sheets of material in desired lengths, a sheet-feeding means comprising a pair of squeeze-feed rollers, a pair of clamping elements, lever means having one said clamping elements mounted at one end and one said feed rollers mounted at the other end, and means for moving said lever means to feed or stop the feeding of said material.

9. In a sheet-handling system for use in cutting long sheets of material in desired lengths, in combination, a conveyor belt table having a cutting plate fixed transversely across the same, a sheet-feeding means for feeding said material onto said conveyor belt having a pair of squeeze-feed rollers, a pair of clamping elements, lever means having one of said clamping elements mounted at one end and one of said feed rollers mounted at the other end, photoelectric means adapted to be operated by the material travelling across a chosen point on the conveyor belt table, and means operated thereby for moving said lever means to feed or stop the feeding of said material.

10. In a sheet-handling system for use in cutting long sheets of material in desired lengths, in combination, a conveyor belt table having a cutting plate fixed transversely across the same, a sheet-feeding means for feeding said material onto said conveyor belt having a pair of squeeze-feed rollers, a pair of clamping elements, lever means having one of said clamping elements mounted at one end and one of said feed rollers mounted at the other end, photoelectric means adapted to be operated by the material travelling across a chosen point on the conveyor belt table, means operated thereby for moving said lever means to feed or stop the feeding of said material, and additional means manually operated also to move said lever means to feed or stop the feeding of said material.

11. In a sheet-handling system for use in cutting long sheets of material in desired lengths, in combination, a conveyor belt table having a cutting plate fixed transversely across the same, a sheet-feeding means for feeding said material onto said conveyor belt having a pair of squeeze-feed rollers, a pair of clamping rollers, lever means having one of said clamping rollers mounted at one end and one of said feed rollers mounted at the other end, photoelectric means adapted to be operated by the material travelling across a chosen point on the conveyor belt table, means operated thereby for moving said lever means to feed or stop the feeding of said material, and means for rotating said clamping rollers to draw the material backwards.

12. In a sheet-handling system for use in cutting long sheets of material in desired lengths, in combination, a conveyor belt table having a cutting plate fixed transversely across the same, a sheet-feeding means for feeding said material onto said conveyor belt having a pair of squeeze-feed rollers, a pair of clamping rollers, lever means having one of said clamping rollers mounted at one end and one of said feed rollers mounted at the other end, photoelectric means adapted to be operated by the material travelling across a chosen point on the conveyor belt table, means operated thereby for moving said lever means to

feed or stop the feeding of said material, means for rotating said clamping rollers to draw the material backwards, and means for marking said material in desired lengths prior to the arrival of the material on said cutting plate.

13. In a sheet-handling system for use in cutting long sheets of material in desired lengths, in combination, a conveyor belt table having a cutting plate fixed transversely across the same, sheet-feeding means for feeding said material to said table, a stopping means operatively associated with said feeding means, a first photoelectric means operative by the approach of the advance end of said material for operating said stopping means and a second photoelectric means operative by the approach of said material after it is severed for releasing the stopping means.

14. A sheet handling system for use in cutting rolls of material in piece lengths, comprising in combination means for feeding the material from the roll, a conveyor belt positioned to receive the material so fed and continue its feeding, means controlled and operated by the position of the material on the conveyor belt for stopping said feeding means, and means independent of said last means operable by the position of the material on said conveyor belt for starting the operation of said feeding means.

15. A sheet handling system for use in cutting rolls of material in piece lengths, comprising in

combination, means for feeding the material from the roll, a conveyor belt positioned to receive the material so fed, means for moving said conveyor belt at a faster rate than said feeding means, means controlled and operated by the position of the end of the material severed and moving freely on the conveyor belt for stopping said feeding means and said conveyor belt, means for starting said conveyor belt and means operable by the position of the material on said conveyor belt for starting the operation of said feeding means.

16. A sheet handling system for use in cutting rolls of material in piece lengths, comprising in combination, means for feeding the material from the roll, a conveyor belt positioned to receive the material so fed, means for moving said conveyor belt at a faster rate than said feeding means, means controlled and operated by the position of the material on the conveyor belt for stopping said feeding means and said conveyor belt, means manually operable for a limited time, for starting said conveyor belt, means operable by the position of the severed end of said material on said conveyor belt for starting the operation of said feeding means and maintaining the operation of said conveyor belt, the means for maintaining the operation of said conveyor belt including in part the means for stopping the operation of said conveyor belt.

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