Nov. 11, 1947. C. A. FOGLEMAN ET AL 2,430,633

WRAP STRIPE STOP MOTION

Filed March 3, 1947 5 Sheets-Sheet 1

Fig-1

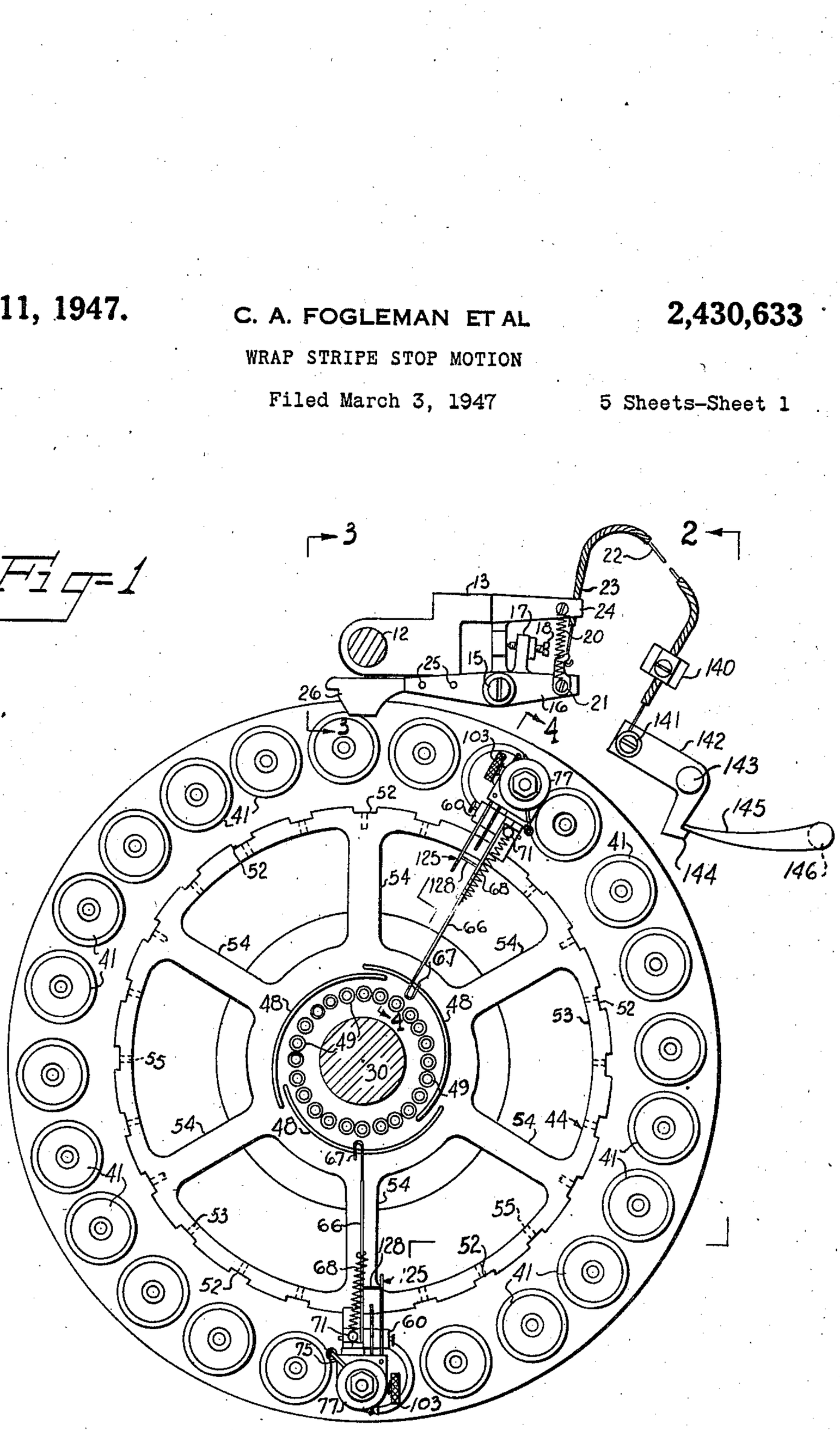
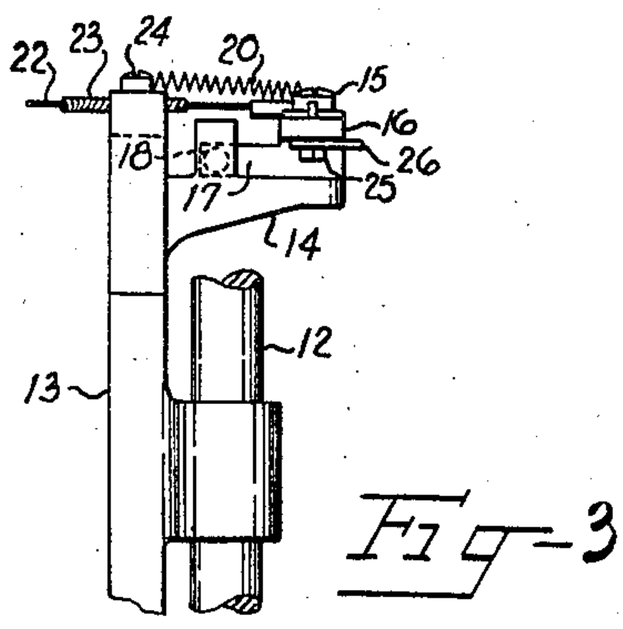


Fig-3



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WRAP STRIPE STOP MOTION

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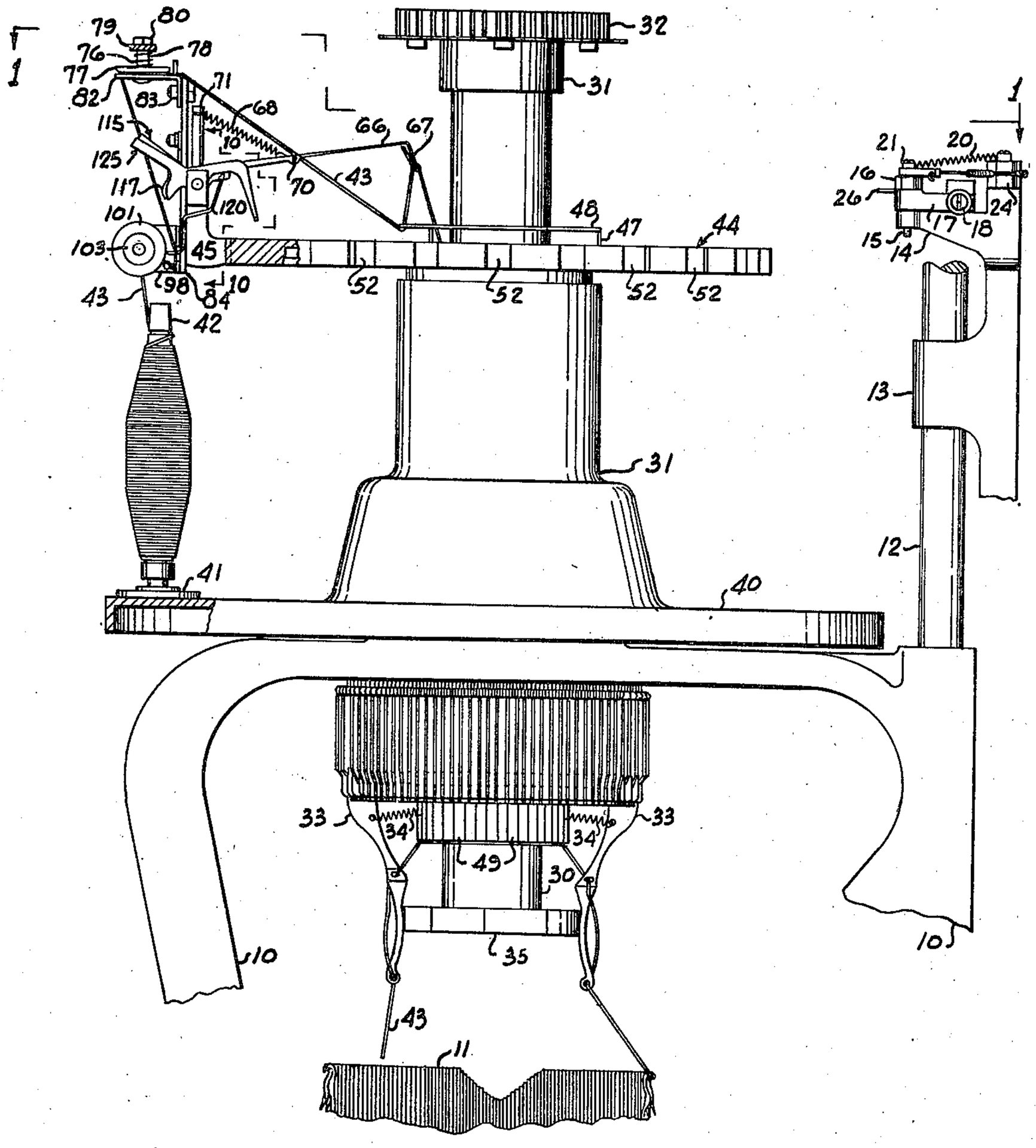

Fig. 2

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WRAP STRIPE STOP MOTION

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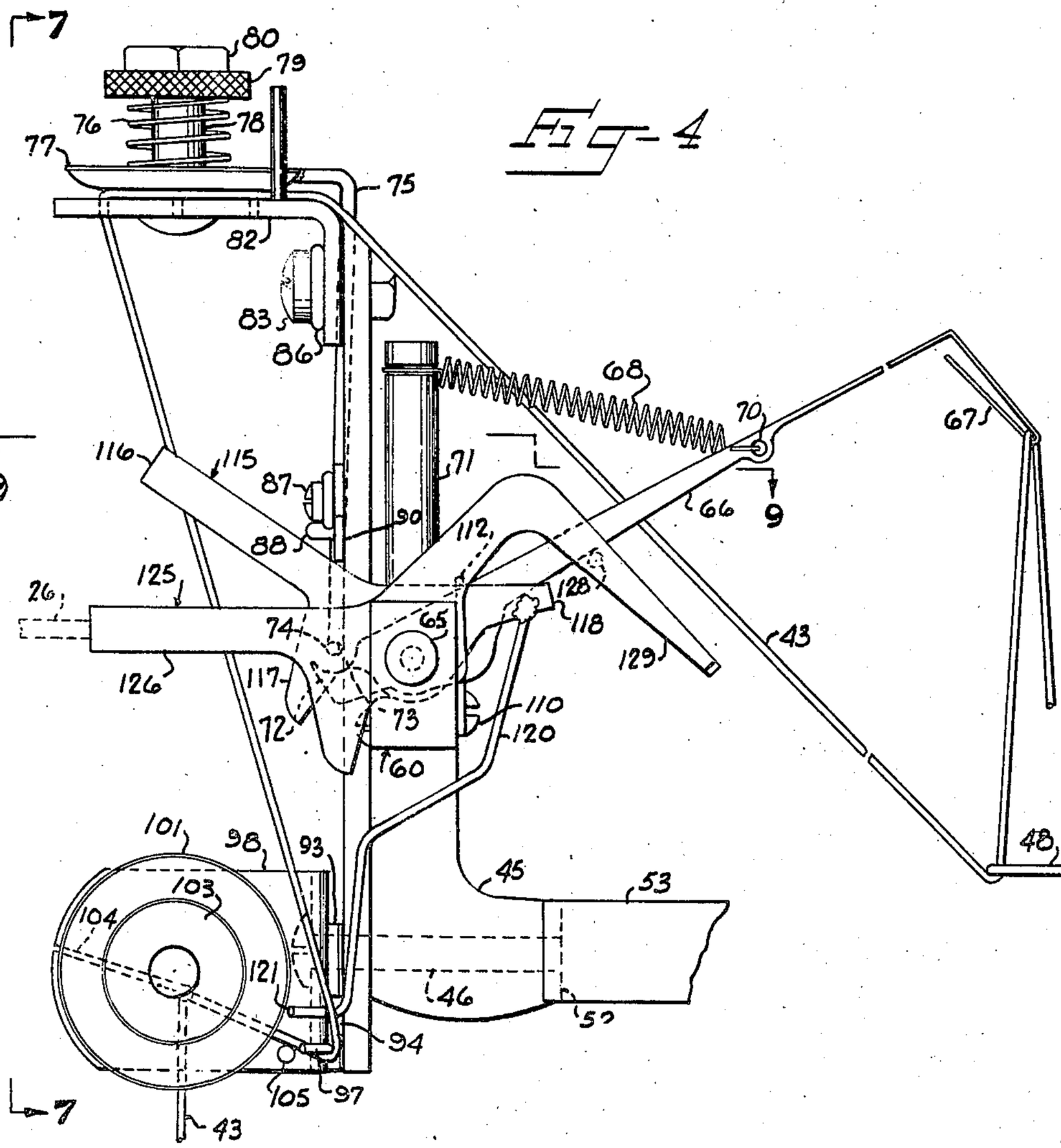
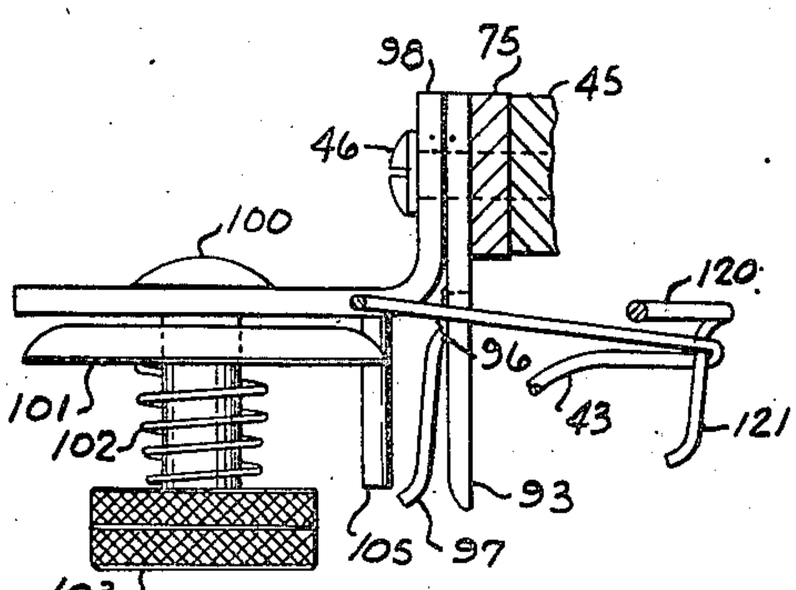


Fig—4



Fig—6

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WRAP STRIPE STOP MOTION

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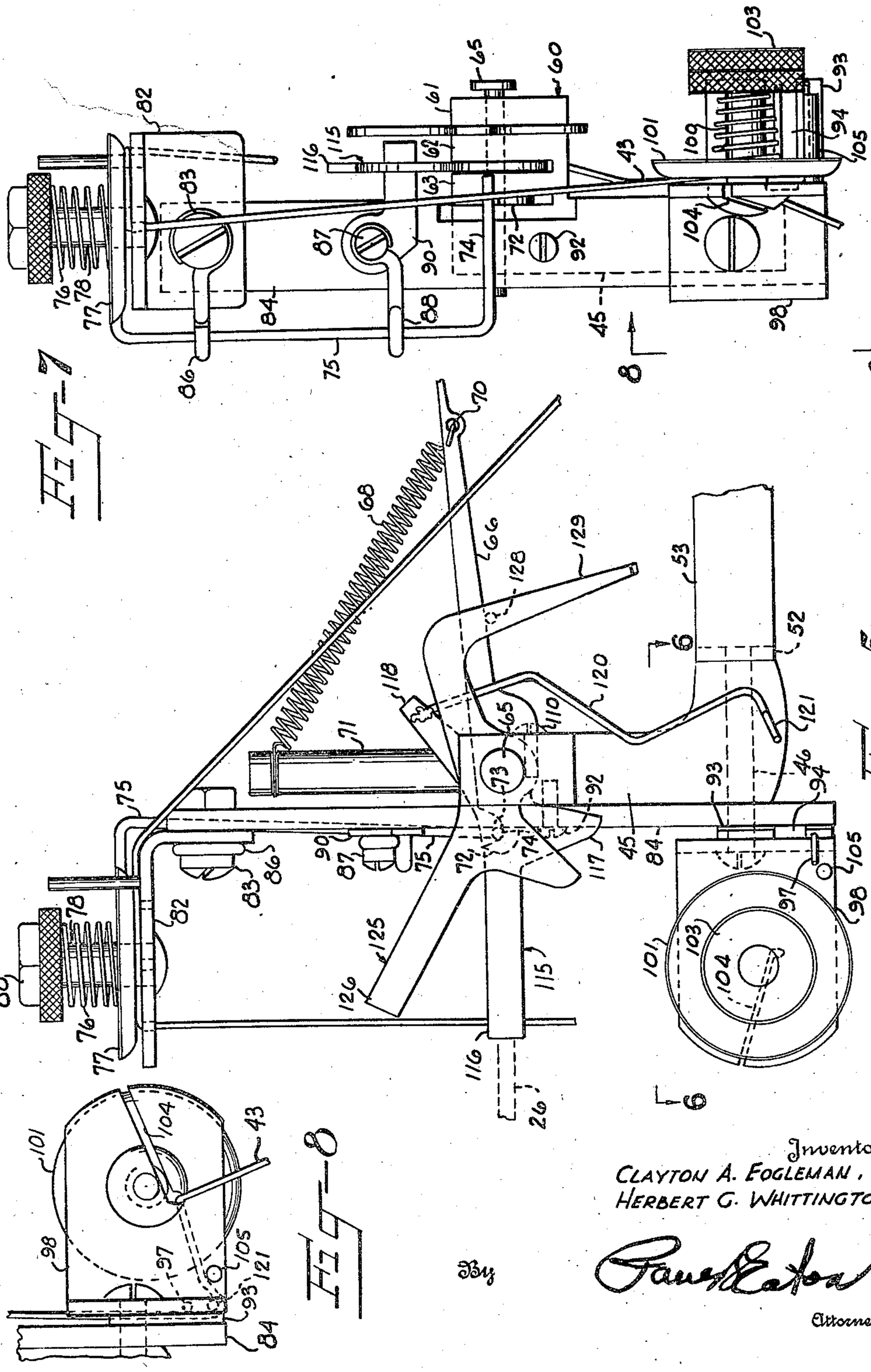

FIG. 7

FIG. 5

FIG. 8

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WRAP STRIPE STOP MOTION

Filed March 3, 1947 5 Sheets-Sheet 5

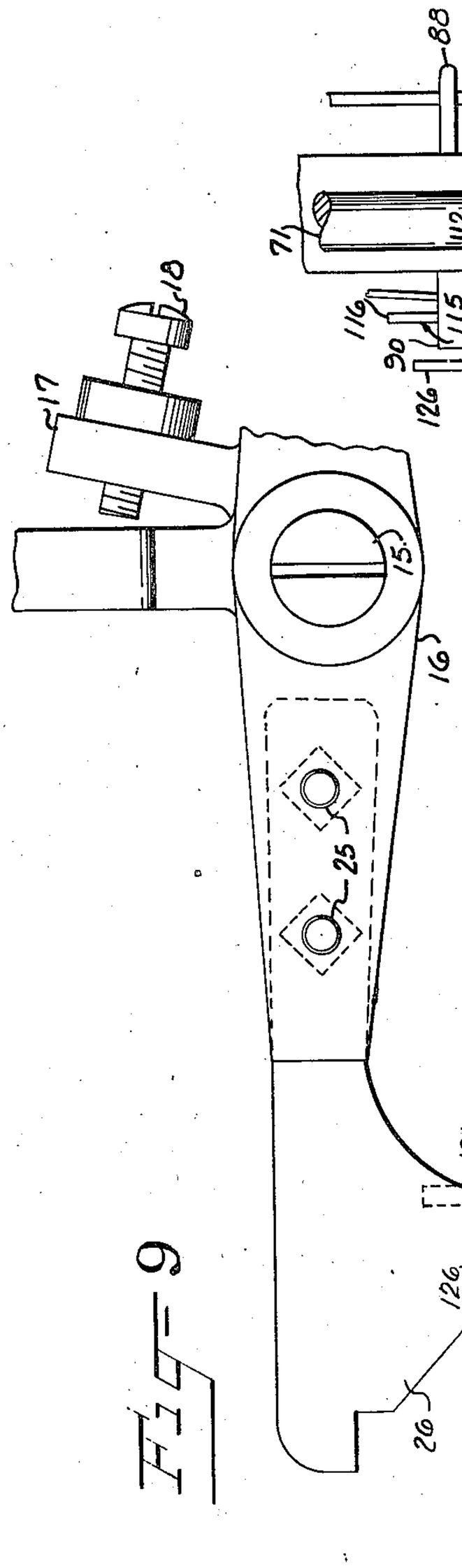

Fig-9

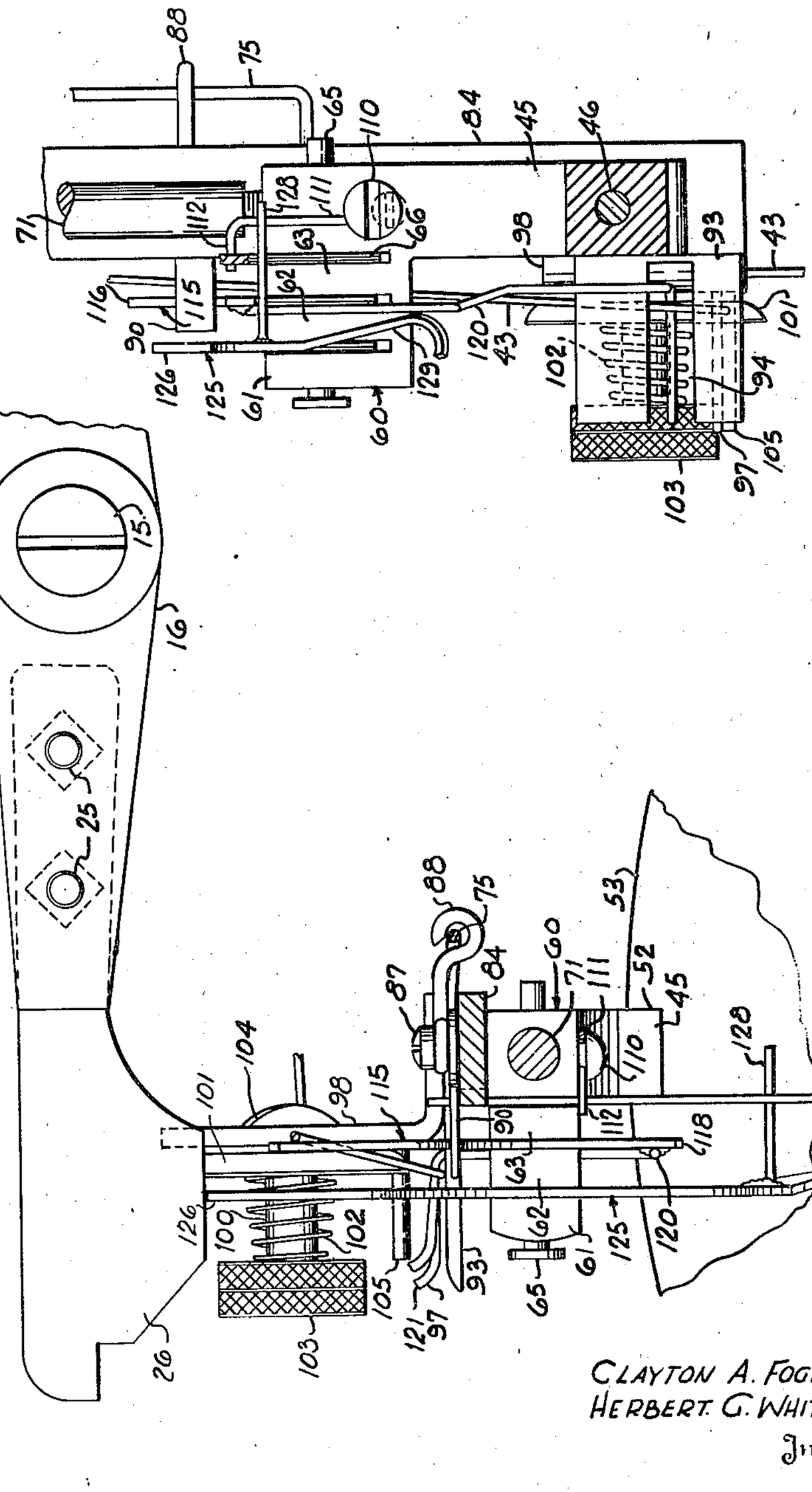

Fig-10

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Patented Nov. 11, 1947

2,430,633

UNITED STATES PATENT OFFICE

2,430,633

WRAP STRIPE STOP MOTION

Clayton A. Fogleman and Herbert G. Whittington, High Point, N. C.

Application March 3, 1947, Serial No. 731,912

9 Claims. (Cl. 66—158)

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This invention relates to a stop motion for circular knitting machines and more especially to the type of knitting machine known as the Scott & Williams ES or P & W variety.

In machines of this type, there is a rotating head having a plurality of radially movable wrap fingers which are adapted to move across the needle circle at predetermined times and wrap a thread around the needles for producing wrap stripes. This rotary head moves in timed relation to the needle circle and has means for mounting a plurality of packages of wrap yarn thereon, which wrap yarn extends from the packages of yarn upwardly through certain tensions and through certain spring tensioned take-up arms to the wrap fingers. These machines have heretofore been equipped with centrifugally operated means which normally project outwardly, and are held in elevated position by means of the tension in the unparted strands of yarn. There was a mechanism of this type associated with each wrap strand having a single tension means. In the event of a parting of the strand adjacent the needles or anywhere between the needles and the spring tension means, the spring tensioned arm was allowed to move upwardly, which in turn allowed a centrifugally operated member to swing outwardly and downwardly to horizontal position where it engaged a suitable member which operated the stop motion mechanism. However, there has been no means provided in a machine of this type for stopping the machine until a parted strand, which becomes parted immediately after leaving the yarn package, passes through the tension means to where the tension arm is allowed to move upwardly. This necessitates rethreading of the yarn after its ends have been tied together through the tension device and often times the yarn would pass off of the spring tension arm and down into the machine on its travel to the wrap fingers which required quite an amount of time to rethread the wrap yarn upwardly through the tube leading down to the wrap fingers and over the spring tensioned take-up arm and through the tension device and securing its end to the end of the yarn extending from the yarn package.

It is therefore an object of this invention to provide an additional centrifugally operated means associated with a modification of the first centrifugally operated means and normally held in elevated position by the tension of the strand between the two tension devices, and which upon a parting of the strand, as it is drawn from the wrap yarn package immediately after it passes

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through the first tension device, will relieve this second centrifugally operated means and allow it to swing downwardly and outwardly by centrifugal force into the path of one end of the conventional movable lever which will cause it to engage this lever and trip the stop motion mechanism long before the yarn has passed through the two tension devices and extended into the vertical tubes leading to the wrap fingers. This greatly facilitates the amount of time required to tie the broken strand together and resume operation of the machine.

Some of the objects of the invention having been stated, other objects will appear as the description proceeds, when taken in connection with the accompanying drawings, in which

Figure 1 is a top plan view partly in section and taken substantially along the line 1—1 in Figure 2;

Figure 2 is an elevation, partly in section and taken along the line 2—2 in Figure 1, but showing the lower portion of the figure in elevation with parts broken away;

Figure 3 is an elevation taken along the line 3—3 in Figure 1;

Figure 4 is an enlarged elevation of the upper left-hand corner of Figure 2;

Figure 5 is an elevation similar to Figure 4, but showing the parts in a different position;

Figure 6 is a sectional plan view taken along the line 6—6 in Figure 5;

Figure 7 is a view looking from the left-hand side of Figure 5;

Figure 8 is an elevation taken along the line 8—8 in Figure 7;

Figure 9 is a sectional plan view taken along the line 9—9 in Figure 4, but showing one of the pivoted members engaging the stop motion lever;

Figure 10 is a vertical sectional view taken along the line 10—10 in Figure 2.

Referring more specifically to the drawings, numeral 10 indicates a portion of the super structure frame mounted on a Scott & Williams ES or P and W machine, this machine not being shown except for a portion of the needles 11 disposed in the needle circle. This framework 10 has projecting upwardly therefrom a driven shaft 12 on which is mounted a bracket 13, said bracket having an inwardly projecting arm 14 on which is pivotally mounted as at 15 a lever 16. The shaft 12 drives, by means not shown, the cam shaft 30 and the housing 31 to be later described. This lever 16 has a projection 17 provided with a set screw 18 for limiting its swinging move-

ment in a counter-clockwise direction in Figure 1 under tension of a spring 20.

The lever 16 has secured thereto at one end thereof as at 21 a wire 22 which is encased within a coiled wire 23, the coiled wire 23 being clamped in position as at 24. Wire 22, as well as its encasing coiled wire 23, is broadly referred to as a Bowden wire and its other end of course has the coiled wire 23 clamped to the frame of the machine whereas the wire 22 is connected to a suitable latch which is conventional and which normally holds the belt shifting apparatus in a position to hold the belt on the tight pulley, but when unlatched by movement of the wire 22 allows the belt shifting apparatus to move the belt to the loose pulley to thereby stop the machine as will be later explained.

The longer end of the lever 16 has secured thereto by any suitable means such as screws 25 a cam plate 26 which is adapted to be engaged one at a time by a pair of centrifugally operated pivoted members which are normally held out of the path of the cam 26 by the tension in the yarn, and which will be presently explained.

Rotatably mounted in the upper portion of the framework 10 is a wrap stripe mechanism comprising a shaft 30 surrounded by a housing 31. The housing 31 is rotated by a pinion 32 from conventional mechanism of the machine, and the shaft 30 is driven by other conventional mechanisms of the machine, both driven by shaft 12.

The housing 31, near its lower end, has pivotally mounted therein a plurality of wrap fingers 33, each biased by a spring 34 to hold the wrap fingers in the position shown in Figure 2, but the lower end of the shaft 30 has mounted thereon a cam 35 which at times projects the wrap fingers 33 across the needle circle to wrap threads around selected needles during a knitting operation.

The housing 31 has integral therewith a lower table 40 having a plurality of yarn package holders 41 projecting upwardly therefrom on which a plurality of tubes or cops 42 is removably mounted and on which wrap yarn 43 is wound. The housing 31 also has mounted thereon an upper table 44, having a plurality of brackets 45 secured to the periphery of the table 44 by means of a screw 46. The upper surface of the table 44 has rising upwardly therefrom a plurality of posts 47 to the upper ends of which is secured an annular wire member 48. Within the confines of the wire member 48 and projecting downwardly vertically through the tables 44 and 40 and into close proximity to cam 35 is a plurality of tubes 49 through which the wrap yarns pass on their way to the wrap fingers 33.

The table 44 has a plurality of notches 52 in its periphery and this table 44 has a peripheral portion 53 in which the notches 52 appear. Suitable spokes 54 join the peripheral portion 53 to the main housing 31. In the bottom of each of the notches 52, a threaded hole 55 penetrates the peripheral portion 53 and in each of these threaded holes 55 a screw 46 is mounted which holds one of the tension and stop motion devices, to be presently described; there being one mounted in each of the notches 52, and only two of these tension and stop motion mechanisms are shown in Figure 1, but it is understood that one would be disposed in each of the notches 52.

Each of the tension and stop motion devices comprises a laterally projecting shoulder 60 extending from one side of the bracket 45 which

has three vertically disposed slots therein which are open at their upper ends, and these slots are defined by the three vertically disposed projections 61, 62 and 63. These slots between the projections 61, 62 and 63 and the main top portion of the bracket 45 are penetrated by a pivot pin 65, on which is pivotally mounted a tension take-up arm 66 having a hook 67 in its free inner end and having a tension spring 68 secured intermediate its ends as at 70, the other end of the tension spring being secured to the upper end of a spring perch 71, which rises upwardly from the upper end of the bracket 45 remote from the observer in Figure 5. This tension take-up arm 66 has an upwardly turned hooked portion 72 on its outer end, providing a cavity 73 in which the horizontally projected end 74 of an uprising link 75 normally rests due to compression spring 76 which presses against a tension disk 77 mounted for vertical sliding movement on a bolt 78 confined by a tension adjusting nut 79 and a lock nut 80. The upper end of member 75 projects horizontally and is welded to the periphery of tension disk 77.

The bolt 73 is secured in a horizontal leg of a bracket 82 whose vertical leg is penetrated by a bolt 83 and which bolt also penetrates a strap member 84, securing the bracket 82 to the upper end of the strap member 84. The screw 83 also confines a guide eye 86 and a screw 87 is also mounted in strap 84 and confines a guide 88 in which the member 75 has vertical sliding movement. The screw 87 also confines a stop member 90 which projects laterally in the opposite direction from guide eye 88 for limiting clockwise movement of pivoted member 115 in Figures 2, 4 and 5. The strap member 84 is also secured to bracket 45 by means of a screw 92.

Fitting against the lower exterior surface of the strap member 84 is a plate 93 having a slot 94 horizontally disposed therein and open at the end nearest the observer in Figure 5. Near the lower edge of plate 93 is welded as at 96 a guide wire 97. Fitting against the exterior surface of plate 93 is one leg of a right angle bracket 98 and said one leg of the bracket 98 as well as plate 93 and the lower end of strap 84 have coinciding holes through which the screw 46 passes to thus hold the parts in assembled position when the bracket 45 is secured in one of the notches 52.

The outwardly projecting leg of the bracket 98 has secured therein a bolt 100 on which is slidably mounted a tension disc 101, normally pressed toward the outwardly projecting leg of bracket 98 by a compression spring 102 and confined in position by an adjustable nut 103 threaded on the free end of the bolt 100.

The outwardly projecting leg of bracket 96 has an open ended slot 104, as will be observed in Figures 5, 7 and 8, through which the strand 43 of the wrap yarn may be passed for quickly threading the yarn through this tension mechanism. This outwardly projecting leg of bracket 98 has a pin 105 projecting toward the observer in Figure 5 which assists in guiding the strand as will clearly appear in Figure 4.

Threadably imbedded in the side of the bracket 45 nearest the housing 31 is a screw 110 which has rising upwardly therefrom a wire 111 which projects toward the observer as at 112 in Figure 4 (also see Fig. 10), to limit the upward movement of the free end of yarn tension take-up arm 66.

Pivotally mounted on the pivot pin 65 between

the projections 62 and 63 is a centrifugally operated member broadly designated by reference character 115. This member has an outwardly projecting arm 116 and a downwardly projecting lip 117 which is adapted to arrest counter-clockwise movement of the member 115 in Figure 4 when the leg 116 is moved by centrifugal action to horizontal position by reason of the fact that projection 117 will engage the lower end of the slots in the projecting shoulder 60. The member 115 has a shorter leg 118 to which is secured as by welding, the upper end of a wire 120 which projects downwardly and then outwardly and has a horizontally projecting portion 121 which projects toward the observer in Figure 4, this horizontal portion 121 being adapted to pass through the slot 94 and to have the yarn 43 pass between the portion 121 and the upper and lower legs of the plate 93. This will tend to hold the arm 116 in the upraised position as shown in Figure 4 as long as tension is present in the yarn 43 while passing between portion 121 and the plate 93.

Also pivotally mounted on pivot pin 65 and between upwardly projecting portions 61 and 62 is another centrifugal responsive member broadly designated by reference character 125. This member 125 has an outwardly and upwardly projecting portion 126 which is normally held in elevated position as shown in Figure 5 when there is proper tension on the strand of yarn 43 while it is passing through the hook 67 of the tension or take-up arm 66. This position is a result of the yarn tension arm 66 engaging the upper side of a pin 128 in the downwardly and inwardly projecting leg 129 of the member 125.

The lever 16, when moved by one of the members 115 or 125, moves the wire 22 to release a conventional latch to allow stoppage of the machine, such as by shifting the belt from the tight pulley to the loose pulley on a knitting machine's main drive shaft. This wire 21 extends down to the framework of the machine and the coiled wire 23 is clamped in a fixed fitting 140, and the wire 22 is secured as at 141 to one end of a bell crank lever 142 provided on the bed plate of the machine as at 143 and has a hook 144 on its other end for holding an arm 145 secured on the upper end of a shaft 146, which is biased normally to move in a counter-clockwise manner in Figure 1 so that when arm 145 is released, the belt will be shifted from the tight pulley to the loose pulley by means such as shown in the patent to Ruth, No. 2,389,688 of November 27, 1945.

Method of operation

During a knitting operation, as previously explained, the casing 31 along with the wrap fingers 33 are rotating at the same number of revolutions per minute as the needle circle. The wrap yarns which are engaged by certain selected needles pass upwardly through the eyes in the wrap fingers 33 and through the tubes 49 and over the hooks 67 and hold the take-up arms 66 in approximately the position shown in Figure 5. This causes the arm 66 to engage the pin 128 in leg 129 of centrifugal responsive member 115 and holds its leg 116 in elevated position as shown in Figure 4 so that as the table 44 rotates these legs 116 will not engage the cam 26 of the stop motion lever 16. In the event the wrap yarn parts at any point between the needle circle and the tension disc 77, this will allow the tension take-up arm 66 to move upwardly to the position shown in Figure 4 and this will allow the member 125 to assume the position shown in Figure 4 so that

its leg 126 will be in horizontal position as shown in Figure 4, and this will engage the cam 26 and operate the stop motion mechanism of the machine. Now the wrap yarns during operation are also passing between the portion 121 of arm 120 which is secured to the leg 118 of member 115 and this holds the leg 116 in elevated position, as shown in Figure 4. In case of a parting of the yarn anywhere between the wrap yarn supply 43 disposed on the cop 42 and the tension disc 77, this will thus cause this yarn to pass from between the portion 121 and the plate 93 or slacken at this point and will allow centrifugal force to move the centrifugal member 115 to the position shown in Figure 5 and thus the leg 116 will be in horizontal position and when it moves around to the cam 26, will engage this cam and operate the stop motion mechanism.

It is therefore seen that there are two cooperating stop motions, one which operates to stop the machine in case of a failure of tension in the yarn between the upper tension disc 77 and the needle circle and the other stop motion which will operate when there is a lessening of the tension in the yarn of a predetermined amount anywhere between the tension disc 77 and the tension disc 101.

In the drawings and specification there has been set forth a preferred embodiment of the invention, and although specific terms are employed, they are used in a generic and descriptive sense only, and not for purposes of limitation, the scope of the invention being defined in the claims.

We claim:

1. In a knitting machine having a wrap stripe attachment disposed thereabove and having wrap fingers, said wrap stripe attachment comprising a vertically disposed housing having a support for a plurality of packages of wrap yarn and having another support thereabove, a plurality of stop motion devices mounted on the second support, the wrap stripe attachment being adapted to be rotated in timed relation to the circle of needles of the knitting machine, said knitting machine having a pivoted lever thereon provided with a connection to a conventional stop motion mechanism, spring means for holding one end of the lever in a position adjacent the path of travel of the second support, each of said stop motion devices comprising a tension take-up lever through which the yarn passes on its way from the package to the needles of the machine, tension means normally urging the free end of the tension take-up lever upwardly, a centrifugally responsive member pivoted in the stop motion device and having a laterally projecting portion adapted to be engaged by the tension take-up lever, said centrifugally operated means having an outwardly projecting arm, proper tension on the yarn serving to cause the tension take-up lever to engage the laterally projecting portion on the centrifugal responsive member to hold its outwardly projecting arm in raised position above the end of said pivoted lever associated with the stop motion mechanism, a second centrifugally responsive member pivoted in said stop motion device and having a downwardly projecting leg and an upwardly and outwardly projecting leg, the wrap yarn on its way from the package engaging the downwardly projecting leg to hold the outwardly and upwardly projecting leg of the second centrifugally responsive member in elevated position, a tension means disposed adjacent the lower end of the downwardly project-

ing leg on the second centrifugally responsive means and through which the yarn passes after leaving the yarn packages, the yarn being adapted to be hooked over the lower end of the downwardly projecting portion of the second centrifugally responsive member and extended upwardly, a second tension means disposed above the centrifugally responsive members and through which the yarn is passed before it is passed through the free end of the tension take-up lever, parting of the yarn between the yarn package and the second-named tension means serving to release the downwardly projecting leg of the second centrifugally responsive member to allow its outwardly projecting leg to engage one end of said lever to actuate the stop motion mechanism of the knitting machine, and parting of the strand of yarn between the wrap fingers and the second tension means allowing the tension take-up lever to move upwardly to thereby allow the first centrifugally responsive member to pivot to cause its outwardly projecting arm to be disposed in the path of the lever associated with said stop motion mechanism.

2. In a knitting machine having a circle of of needles and having a wrap strap mechanism disposed thereabove and adapted to rotate in timed rotation to the circle of needles, said wrap stripe mechanism comprising a rotary housing provided with wrap fingers and a lower support for supporting a plurality of packages of yarn and an upper support for supporting a plurality of stop motion mechanism, said machine also having stop motion mechanism for stopping the same and comprising a lever pivoted intermediate its ends and having means secured to one end thereof for actuating the stop motion mechanism for the machine and having its other end biased to project outwardly toward the wrap stripe mechanism, a plurality of stop motion devices secured to the periphery of the second support and through which the yarn is adapted to pass from the yarn packages mounted on the first support on its travel to the needles, each of said stop motion devices comprising the bracket secured to the periphery of the second support, a tension arm pivoted at one end in said bracket and extending inwardly toward said housing, and having a hooked portion at its free end through which the yarn is adapted to be passed on its travel to the needles, a member pivoted in said bracket and having an outwardly and upwardly projecting arm extending therefrom and also having an inwardly projecting arm, said inwardly projecting arm having a laterally projection portion adapted to pass beneath the tension arm whereby proper tension on the yarn will hold the outwardly and upwardly projecting portion in elevated position, a second member pivoted in said bracket and having an outwardly and upwardly projecting arm and having an inwardly and downwardly projecting arm, said bracket having a laterally projecting portion provided with a slot through which the downwardly projecting portion of the second pivoted member is adapted to pass, a tension device secured adjacent said slot and through which the yarn is adapted to pass on its way from a yarn package to the needles, said bracket also having mounted thereon a second tension device through which the yarn is adapted to pass on its way to the needles after passing through the first tension device, the yarn also being adapted to pass between said slot and the laterally projecting end of the downwardly projecting portion to hold the second pivoted member in elevated position,

a decrease in tension in the yarn between the yarn package and said slot allowing the downwardly projecting portion to swing through said slot and to allow the outwardly and upwardly projecting portion of the second pivoted member to swing downwardly and outwardly to where it will engage said lever associated with the stop motion mechanism of the machine to move the same to stop the machine, lessening of tension on the yarn between the second tension means and the needles serving to allow the take-up arm to move upwardly to thus release the first-mentioned pivoted member to allow its outwardly and upwardly projecting arm to swing downwardly and outwardly to engage said lever associated with the stop motion mechanism of the machine to stop the machine.

3. In a knitting machine having needles and a rotary wrap stripe attachment disposed thereabove and adapted to rotate in timed relation to the needles of the machine, said wrap stripe attachment having means for supporting a plurality of wrap yarn packages, said wrap stripe attachment also having a second support disposed above the first supporting means, a plurality of stop motion devices secured on the periphery of the second support, each stop motion device having a pair of spaced tension means through which the yarn is adapted to pass on its travel from the packages to the needles, said stop motion means also having a pair of pivoted members, a lever fixedly mounted on the machine and adapted to be engaged by said members to swing the same to actuate conventional stop motion mechanism of the machine, means associated with each of the pivoted members for holding the same in a given position while proper tension is present in the yarn in its travel from the packages to the needles, lessening of tension on the yarn between the two tension means serving to allow one of the pivoted members to move to a position to engage said lever to stop the machine and lessening of tension of the yarn between the second tension means and the needles serving to allow the other pivoted member to move to a position to engage the lever associated with the stop motion mechanism to stop the machine.

4. In a circular knitting machine having a circle of needles and having a wrap stripe mechanism associated therewith and disposed above the circle of needles, said wrap stripe mechanism and the needles being adapted to be driven in timed relation to each other, said wrap stripe mechanism having a plurality of wrap fingers for wrapping yarn around the needles, said wrap stripe mechanism comprising a housing having a lower support thereon for supporting a plurality of packages of wrap yarn and having an upper support thereon for supporting a stop motion device for each strand of yarn passing to the wrap fingers, said machine also having means for stopping the same comprising a lever pivoted intermediate its ends and having one end connected to conventional stop motion mechanism of the machine, each of said stop motion devices comprising a bracket secured to the periphery of the second support, a pair of members pivoted on said bracket and having outwardly and upwardly extending arm and each having an inwardly extending arm, a yarn take-up lever pivotally secured at one end on said bracket and having means on its other end through which the yarn passes on its way to the needles, said lever being biased to have its free end moved upwardly to impart tension to the yarn, the first of said pivoted members having a

laterally projecting portion extending beneath the take-up lever whereby the tension in the yarn will hold the outwardly and upwardly projecting portion of the first pivoted member in elevated position, the second of said pivoted members having a downwardly projecting portion secured to its inwardly projecting portion and being bent laterally, a plate member extending laterally from said bracket and having a slot therethrough through which the laterally projecting portion of the downwardly projecting portion is adapted to pass, said plate member having affixed thereto a tension device through which the yarn passes from the yarn packages between said laterally projecting portion and said slot to thus hold the pivoted member associated therewith in elevated position, a second tension member secured on said bracket above the first tension member and through which the yarn is adapted to pass on its way to the needles, a decrease in tension in the yarn between the package from whence it is drawn and the second tension member serving to allow the laterally projecting portion of the downwardly projecting portion on the first arm to move through said slot to allow its outwardly and upwardly projecting portion to swing downwardly and outwardly to a point where it will engage the free end of said lever associated with the stop motion mechanism to stop the machine, the other of said pivoted members being allowed to have its outwardly and upwardly projecting portion swing downwardly when a decrease in the tension of the yarn occurs between the second tension means and the wrap yarn fingers so as to allow its outwardly and upwardly projecting portion to swing into the path of said lever associated with the stop motion mechanism to stop the machine.

5. In a knitting machine having a rotary circle of needles and a wrap stripe attachment disposed thereabove, and having wrap fingers adapted to rotate in timed relation to the needles and to move across the needle circle to wrap yarns around selected needles, said wrap stripe attachment comprising a housing having a lower support and an upper support, said machine having a conventional stop motion mechanism and a lever pivoted intermediate its ends and having one end connected to the stop motion mechanism of the machine, said wrap stripe attachment having means for supporting a plurality of yarn packages and also having means for supporting a plurality of stop motion devices disposed above the support for the yarn packages, each stop motion device comprising a pair of tension devices through which the yarn passes on its way to the needles, a take-up or tension arm pivoted at one end of said bracket and having a portion on its free end through which the yarn passes from the second tension device to the needles, first and second pivoted members pivoted in said bracket and each having an outwardly and upwardly projecting portion adapted to engage the free end of said lever associated with the stop motion mechanism when occupying a horizontal position, the first of said pivoted members having a laterally projecting portion adapted to project beneath the tension arm so that proper tension on the yarn between the second tension device and the needles will hold its outwardly and upwardly projecting arm in raised position, the second of said pivoted members having an upwardly projecting arm and an inwardly projecting arm, a laterally projecting plate mounted on said bracket and having a slot extending horizontally therethrough, the second pivoted member having a downwardly projecting wire with a horizontally disposed portion adapted to pass through said slot, the wrap yarn adapted to be led from a package through the first tension device and between said horizontally projecting portion and said slot and upwardly through the second tension device and then through the means on the free end of the tension arm to hold both pivoted members in elevated position, lessening of tension on the arm between the yarn package and the second tension device allowing the horizontally projecting portion of said wire to pass through said slot to allow the second pivoted member to swing on its pivot to where its outwardly projecting arm will engage the lever associated with the stop motion mechanism to stop the machine and lessening of tension on the yarn between the second tension device and the needles serving to allow the free end of the tension arm to move upwardly to allow the pivoted member associated therewith to move on its pivot to cause its outwardly and upwardly projecting arm to assume a horizontal position to where it will engage said lever associated with the stop motion mechanism to stop the machine.

6. In a circular knitting machine having a circular series of needles and having a wrap stripe attachment disposed thereabove and having a plurality of wrap yarn fingers associated therewith and adapted to rotate in timed relation to the needles, said machine having a conventional stop motion mechanism and a lever pivoted intermediate its ends and having one end connected to means for operating the conventional stop motion mechanism, means for supporting a plurality of wrap yarn packages on the wrap stripe attachment, a plurality of stop motion devices secured on the wrap stripe attachment and through which the wrap yarn from a package is adapted to be passed on its way to the needles, each stop motion device comprising first and second spaced tension devices through which the yarn is passed, a pair of members pivoted in the stop motion device and each having an outwardly projecting arm and an inwardly projecting arm, means mounted on one pivoted member for engaging the yarn for holding its outwardly projecting portion in elevated position so that it will not engage said lever associated with the stop motion mechanism, the other of said pivoted members having means associated therewith whereby the tension of the yarn will hold its outwardly projecting portion in elevated position, parting of a strand of yarn between the yarn package and the second tension device serving to allow one pivoted member to move on its pivot to cause its outwardly projecting arm to engage said lever and a parting of a strand of yarn between the second tension device and the needles serving to allow the other pivoted member to move on its pivot to cause its outwardly projecting arm to engage said lever associated with the stop motion mechanism for stopping the machine.

7. In a circular knitting machine having a circle of needles and a wrap stripe mechanism disposed thereabove and adapted to rotate in timed relation to the needles, said knitting machine having a conventional stop motion mechanism for stopping the machine comprising a lever pivoted intermediate its ends and having a connection at one end to the stop motion mechanism and having its other end provided with a cam surface, said wrap stripe attachment having a support for a plurality of packages of wrap

yarn and having a second support for supporting a plurality of stop motion devices, each stop motion device comprising first and second tension devices disposed in spaced relation to each other and through which the wrap yarn passes on its way from the packages to the needles, a pair of members pivoted in said stop motion device, and each having an outwardly projecting arm, a tension arm through which the yarn is passed on its way from the second tension device to the needles, means on one of the pivoted members for holding its outwardly projecting arm in elevated position under proper tension of the yarn and means associated with the other pivoted member and engaged by the yarn on its travel from the first tension device to the second device for holding its outwardly projecting arm in elevated position, lessening of tension on the yarn between a yarn package and the second tension device allowing the second pivoted member to move on its pivot to where its outwardly projecting arm will engage the cam on said lever to operate the stop motion mechanism and lessening of tension on the yarn between the second tension device and the needles allowing the second pivoted member to swing on its pivot to cause its outwardly projecting arm to engage the cam on said lever associated with the stop motion mechanism for stopping the machine.

8. In a circular knitting machine having a circle of needles and a wrap stripe attachment for feeding wrap yarns to the needles, said wrap stripe attachment comprising a housing mounted for rotation on a vertical axis above the needles and having wrap fingers with means for moving the wrap fingers across the needle circle to wrap yarns around the needles, said wrap stripe attachment comprising a housing mounted for rotation on a vertical axis and having a supporting table thereon for supporting a plurality of yarn packages, said housing also having another table disposed above the first-named table and having a plurality of stop motion devices mounted around its periphery, there being a stop motion device for each strand, said knitting machine also having a conventional stop motion mechanism and a lever for actuating the stop motion mechanism, each of the said stop motion devices having a pair of pivoted members therein having outwardly projecting portions for engaging said lever to stop the machine, each of said devices having a tension arm through which the yarn is passed, said stop motion device having a pair of tension devices disposed one above and the other below the two pivoted members, means on one of the pivoted members engageable by the tension arm for holding its outer end in elevated position

when normal tension is applied to the yarn, means on the other pivoted member engageable by the yarn for holding its outwardly projecting portion in elevated position, parting of the strand between the two tension devices causing the second pivoted member to move to where its outwardly extending arm will engage the lever to actuate the stop motion mechanism and parting of the yarn between the second tension device and the needles allowing the tension arm to move upwardly to allow the first-mentioned pivoted member to swing on its pivot to where its outwardly extending portion will engage said lever to stop the machine.

9. In a knitting machine having a rotary wrap stripe mechanism, a plurality of stop motion devices mounted on the wrap stripe mechanism, a lever pivotally mounted on the machine and adapted to be swung by portions of a stop motion device upon loss of tension in a strand to stop the machine, each stop motion device comprising a pair of spaced tension devices, a pair of pivoted members having outwardly projecting arms and disposed between the two tension devices, a tension arm associated with one of the pivoted members and engaging a portion of one of the pivoted members to hold its outwardly projecting arm in raised position to cause it to miss said lever during rotation, the other of said pivoted members having an outwardly projecting arm adapted to engage the said lever when in horizontal position and having an arm on its other end adapted to be engaged by the strand of yarn passing between the first and second tension devices to hold its outwardly extending arm in elevated position, lessening of tension on the strand after it passes the second tension device allowing the movement of the tension arm to in turn allow centrifugal action of the rotating wrap stripe attachment to move the outwardly extending arm of the first pivoted member into the path of said lever and lessening of tension on the yarn between the first and second tension members allowing the second pivoted member to swing on its pivot to where its outwardly extending arm will engage said lever to stop the machine.

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