United States Patent [19]

Bourgeois

[11] **3,839,885**

[45] **Oct. 8, 1974**

[54] **MECHANISM FOR WINDING KNITTED FABRIC IN CIRCULAR KNITTING MACHINES AND FOR REMOVING ROLLS OF THE KNITTED FABRIC**

[75] Inventor: **Norbert Paul Bourgeois**, Troyes, France

[73] Assignee: **Etudes et Bonneterie S.A.**, Lausanne, Switzerland

[22] Filed: **Nov. 30, 1972**

[21] Appl. No.: **310,710**

[30] **Foreign Application Priority Data**

Nov. 30, 1971 Switzerland 17430/71

[52] **U.S. Cl.** **66/151**, 242/55.1

[51] **Int. Cl.** **D04b 15/88**

[58] **Field of Search** ..... 66/151, 147, 149.2; 242/55.1; 139/1 R, 304; 28/42

[56] **References Cited**

UNITED STATES PATENTS

2,714,404	8/1955	Cadorette et al.	139/304
2,751,768	6/1956	Lebocey	66/149 R

FOREIGN PATENTS OR APPLICATIONS

130,145	3/1959	U.S.S.R.	66/151
795,368	5/1958	Great Britain	66/151
480,469	12/1969	Switzerland	139/1 R

Primary Examiner—W. C. Reynolds
Assistant Examiner—A. M. Falik
Attorney, Agent, or Firm—Wenderoth, Lind & Ponack

[57] **ABSTRACT**

In a circular knitting machine the tube of knitted fabric produced is wound flat onto a rotatably driven shaft supported at its two ends by bearings. One of the bearings can be moved to free the end of the shaft, such one bearing forming part of a receiving drawer for a cut-off roll of fabric. Operation of a fabric cutting device unlocks the drawer which can be slid axially of the shaft to remove the fabric roll from the shaft and outside of the frame of the machine. Fabric gripping members on the shaft are arranged to windably engage and take up the free end of the knitted fabric, but allow the roll of fabric to slide axially along the shaft for removal.

11 Claims, 13 Drawing Figures

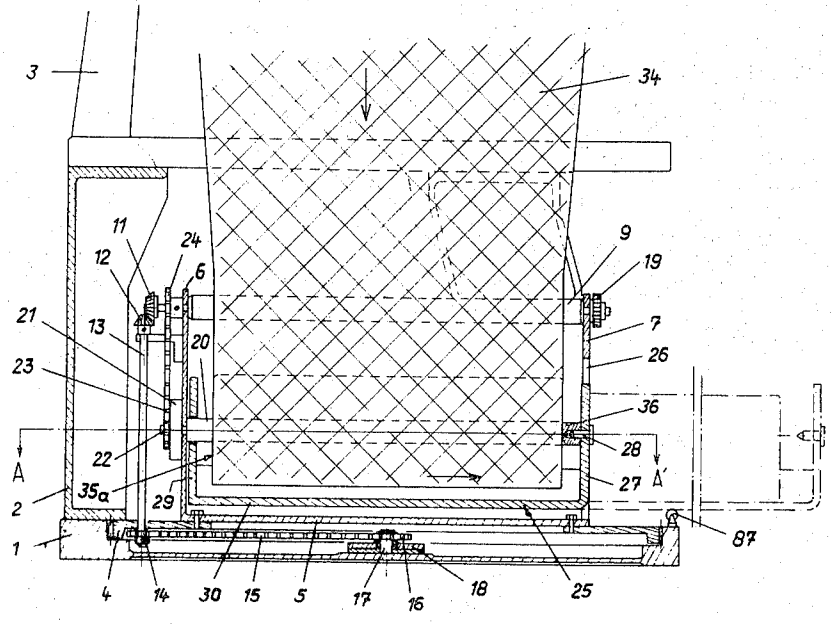


Fig. 1

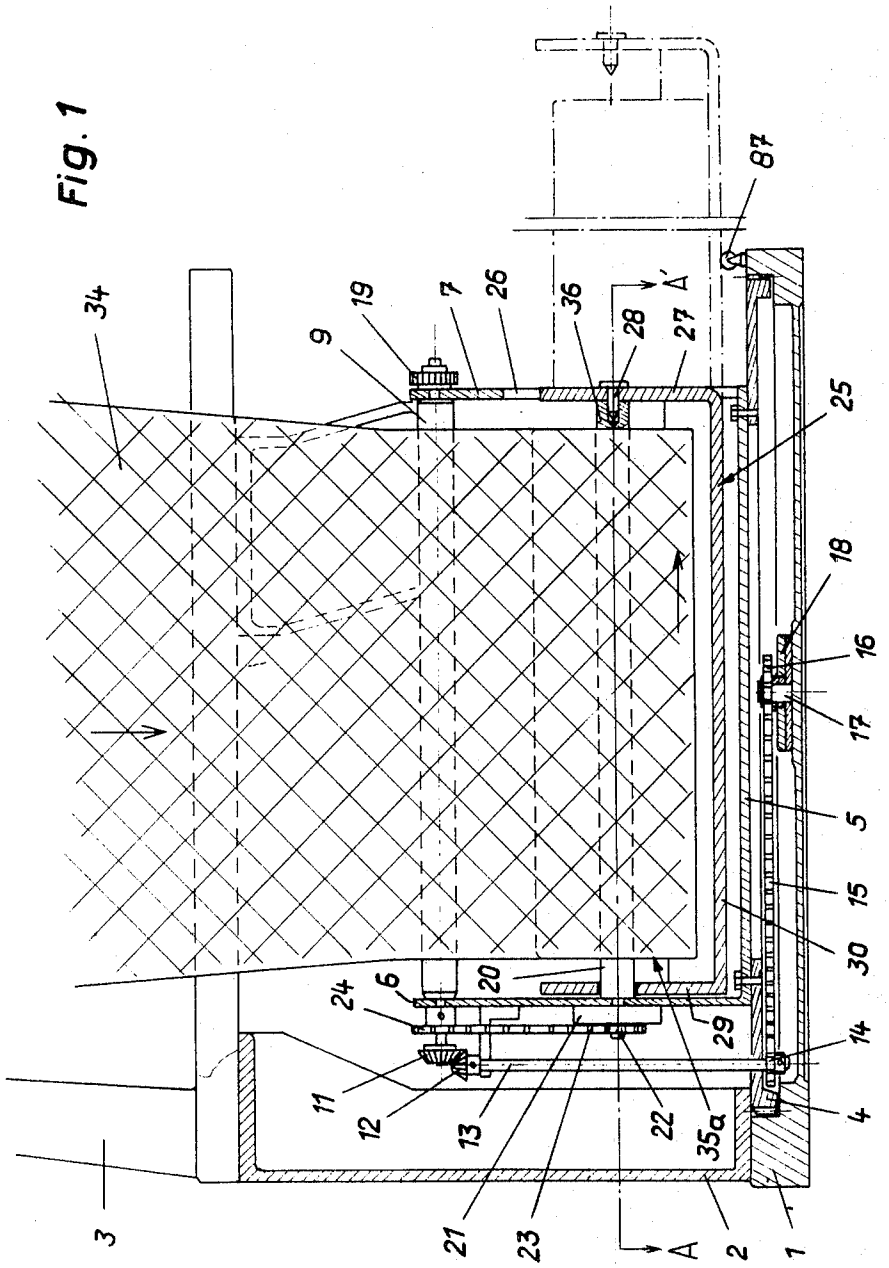

87
34
19
9
7
26
36
28
27
A'
25
18
16
17
5
15
30
20
24
6
29
14
4
11
12
13
22
35a
3
21
23
A
2
1

Fig. 2

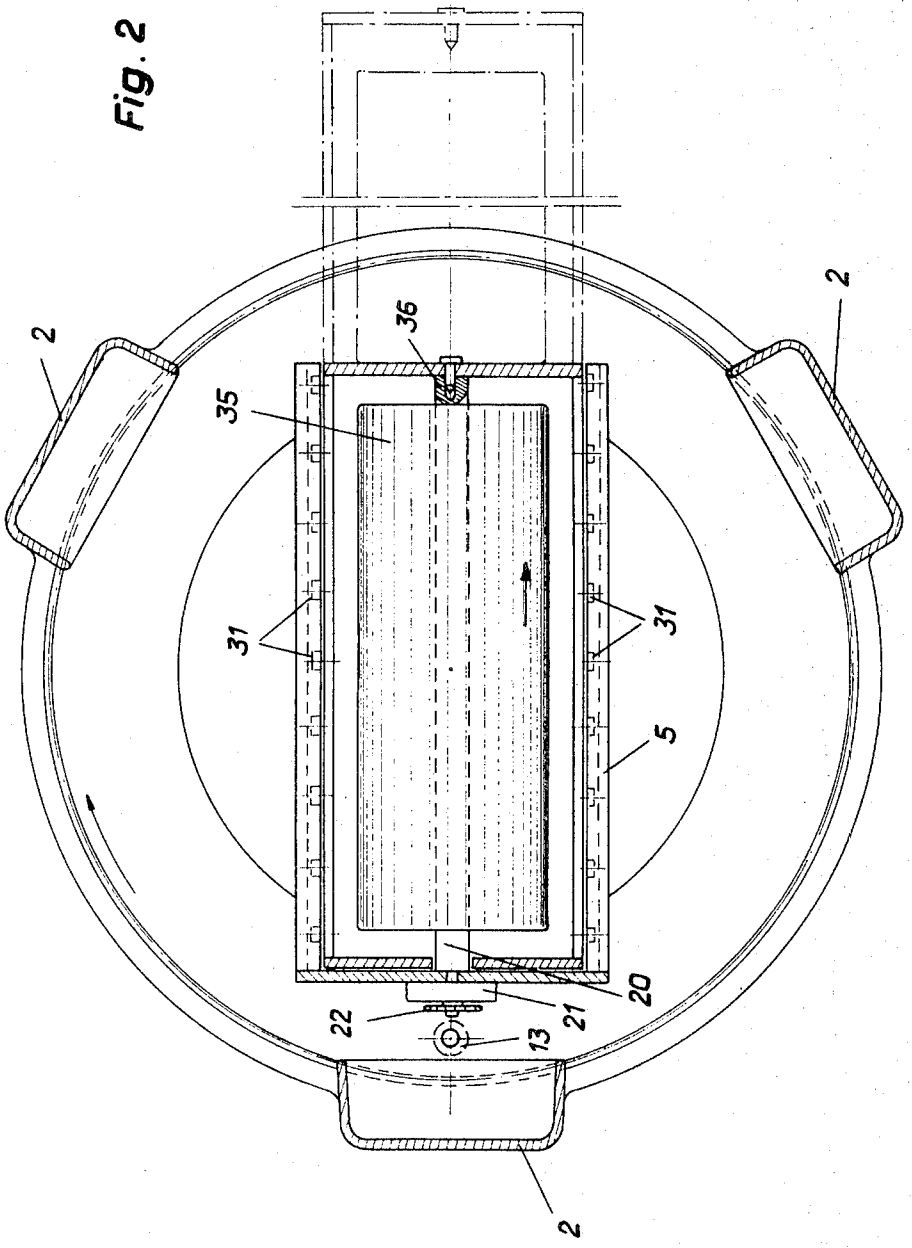


Fig. 3

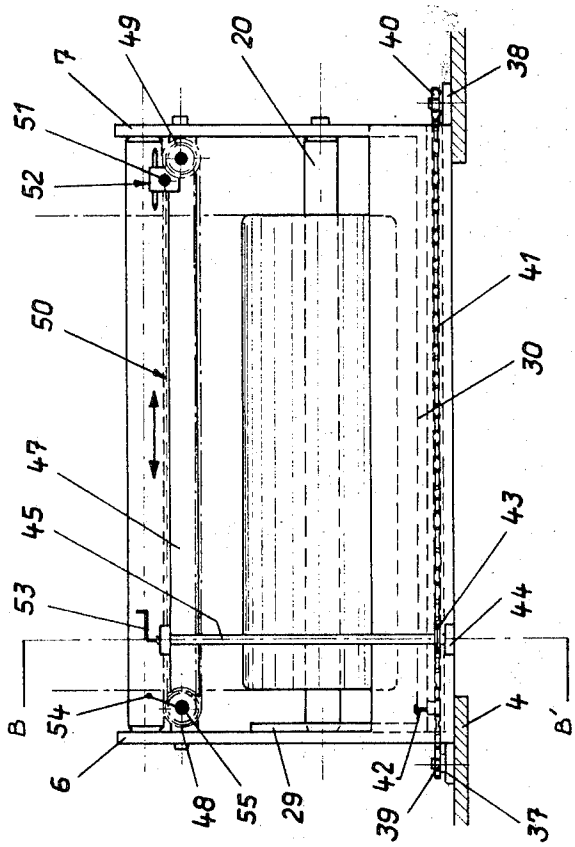

7
49
20
40
38
51
52
50
41
30
47
45
43
53
44
B
54
4
B'
6
48
55
29
42
39
37

Fig. 4

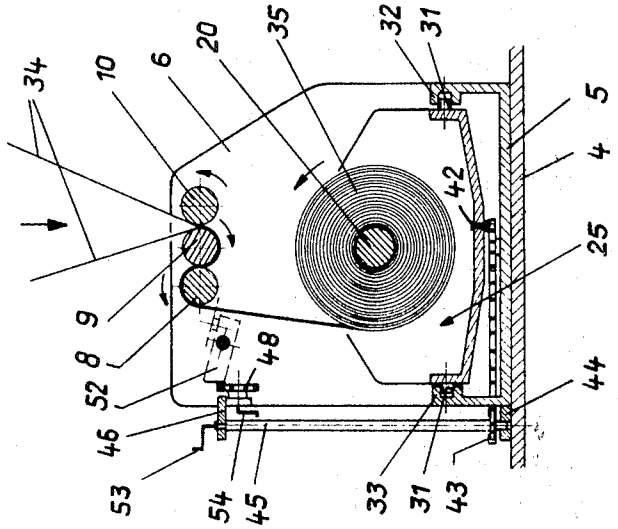

34
10
6
20
35
32
31
5
4
42
25
9
8
52
48
44
46
53
54
45
33
31
43

Fig. 5

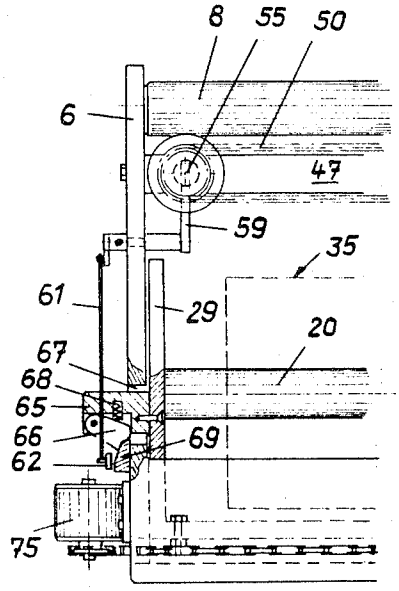


Fig. 6

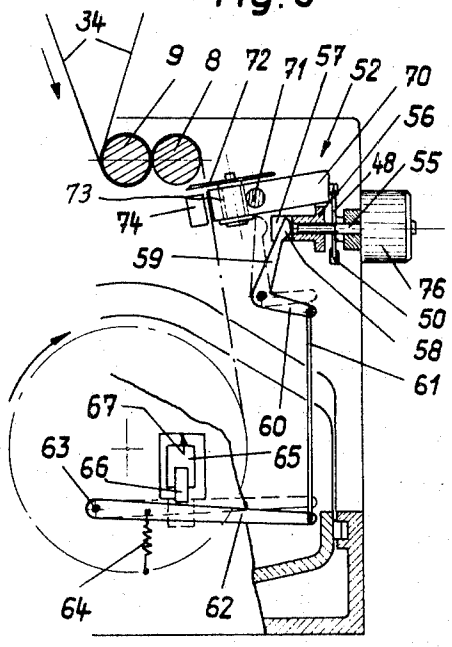
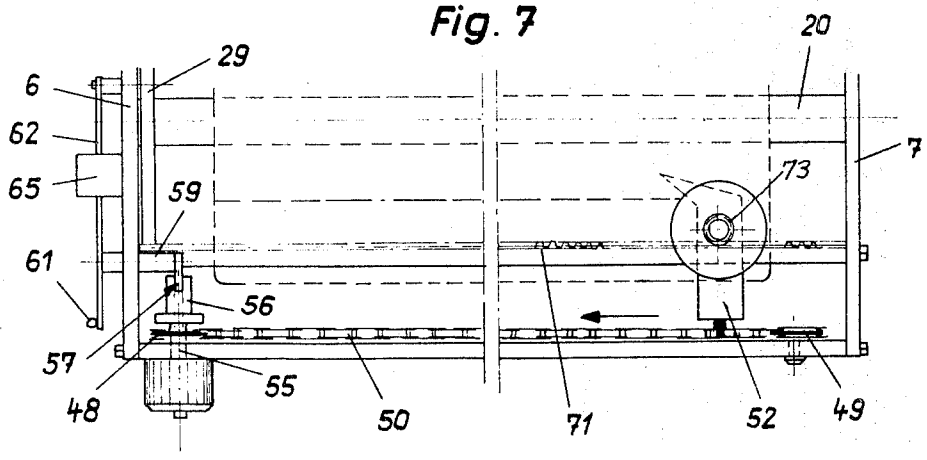


Fig. 7



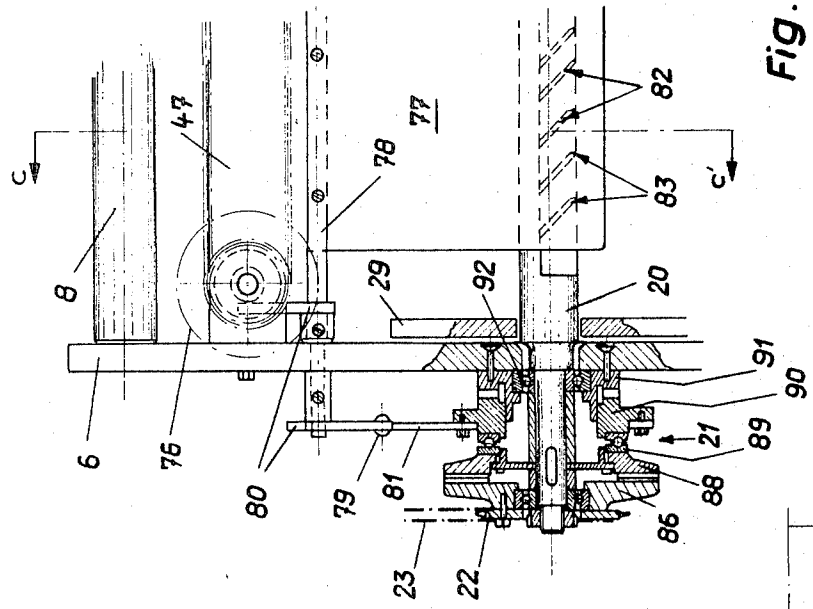


Fig. 8

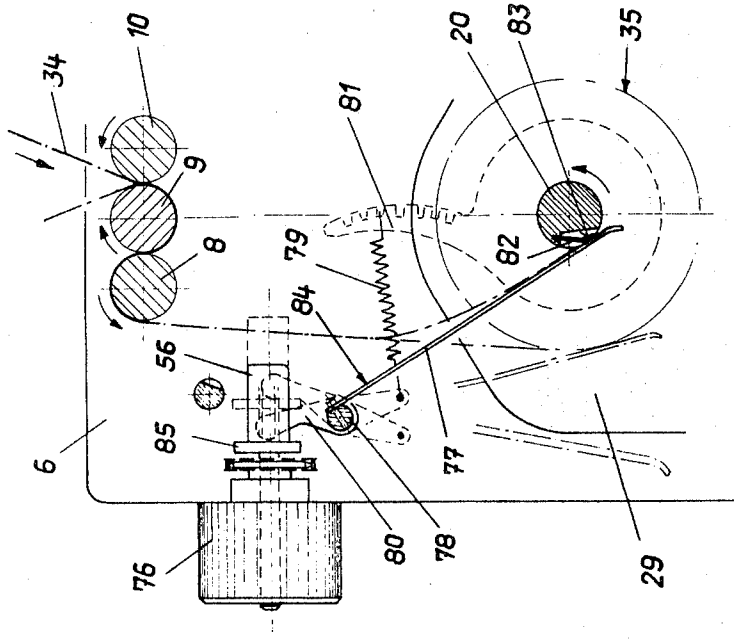


Fig. 9

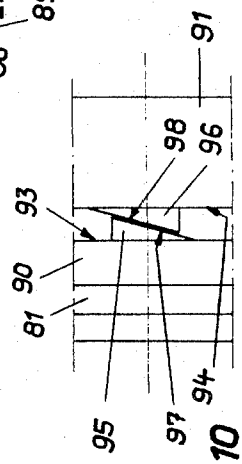
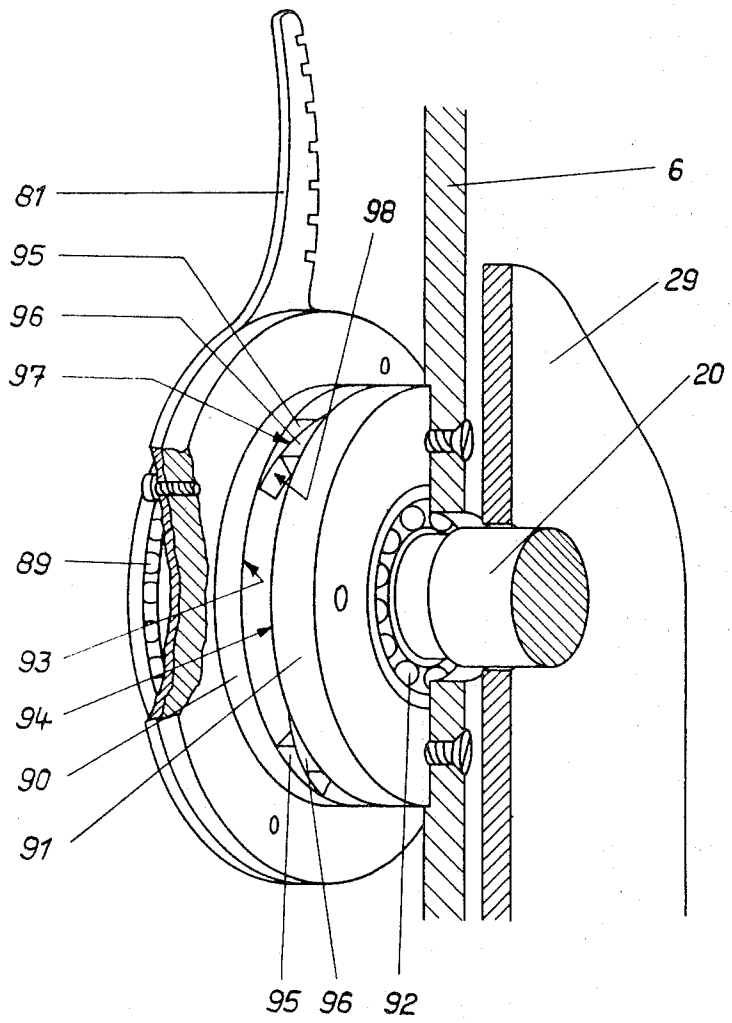


Fig. 10

Fig. 11



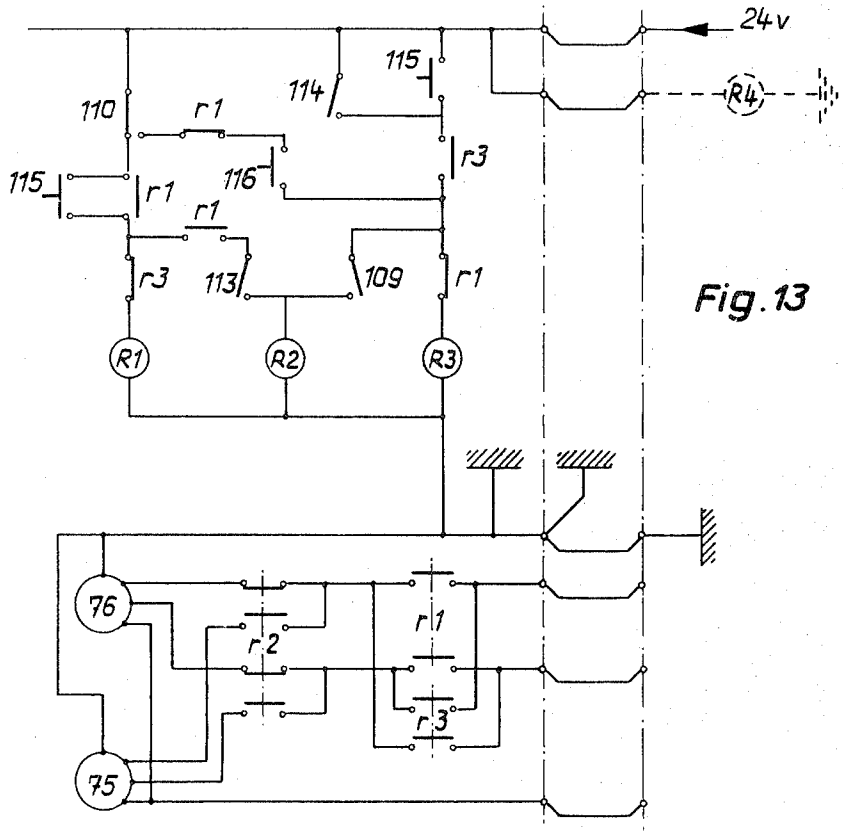

24v
115
114
110
r1
r3
115
r1
116
r1
r3
113
109
r1
R1
R2
R3
R4
76
r2
r1
r3
75

Fig. 13

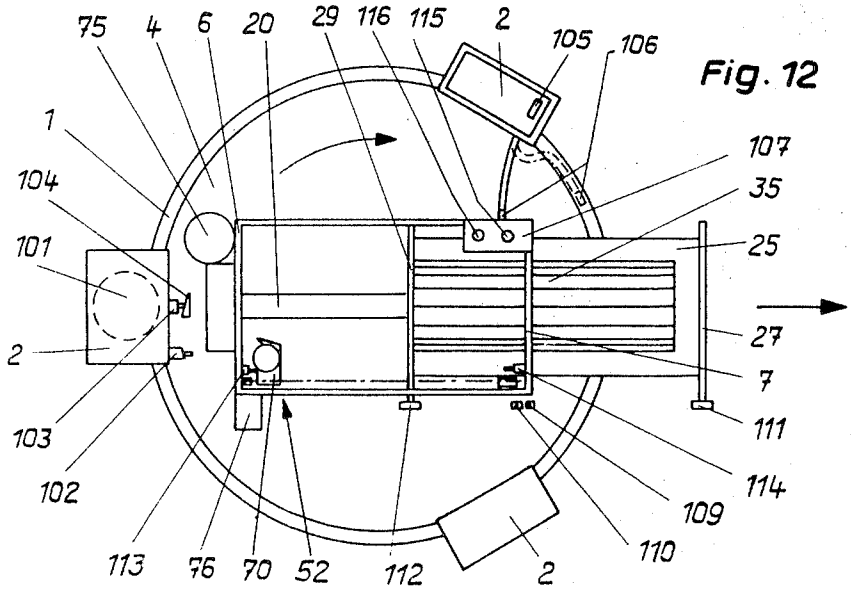

75
4
6
20
29
116
115
2
105
106
1
104
101
2
103
102
107
35
25
27
7
111
114
109
110
113
76
70
52
112
2

Fig. 12

MECHANISM FOR WINDING KNITTED FABRIC IN CIRCULAR KNITTING MACHINES AND FOR REMOVING ROLLS OF THE KNITTED FABRIC

BACKGROUND OF THE INVENTION

This invention concerns mechanisms for winding knitted fabric in circular knitting machines and for removing rolls of the knitted fabric.

It is known, on most circular knitting machines, to roll the tube of knitted fabric formed by the knitting members flat by means of a mechanism including a driven winding shaft the rotational speed of which is made dependent on variations in the diameter of the roll of knitted fabric.

This driven shaft, generally located below the conventional fabric draw off device, is supported at its ends by a support on which it is removably mounted. Each time that the roll of fabric reaches a certain diameter, the operator who has to remove it must, after having transversely cut the knitted fabric, free the winding shaft from its two end bearings so as to be able to lift the assembly out of the knitting machine frame.

The high production rates due to the increase in the number of knitting stations in present-day machines, and the required improvements in the expected service of such machines, require the provision of winding means having a large winding capacity.

It thus becomes difficult if not impossible for the operator to carry out the various removal operations single handed, and these operations prove to be particularly arduous since access into the knitting machine frame is not always easy, particularly in circular knitting machines with rotary needle-carrying beds in which the assembly of the fabric draw off and winding mechanism is also rotary which implies the provision about the base of the machine of multiple protective and safety elements, usually of a bulky nature.

To palliate this difficulty it has already been envisaged to make the ends of the winding shaft rest on two supports which are open at their upper parts, the assembly of the shaft and roll of fabric being vertically movable so that it can be removed from the-supports and fall into a receiving carriage which facilitates transfer thereof out of the knitting machine frame.

Although this expedient enables a reduction of the operator's efforts, certain manoeuvres still have to be carried out, notably cutting of the fabric and removal of the winding shaft which is firmly held at the centre of the roll and is not always easy to manually remove. Also, the use of such open supports is practically incompatible with a control of the rotation of the winding shaft, which can only be carried out by a tangential drive on the roll of fabric.

SUMMARY OF THE INVENTION

The present invention aims to remedy these drawbacks.

According to the invention, there is provided a mechanism for winding knitted fabric in a circular knitting machine and removing the wound knitted fabric from the knitting machine, in which knitted fabric formed by knitting members of the machine is wound flat on a rotary shaft rotated by driving means and supported at its ends by a support disposed inside a frame of the machine. The mechanism includes a fabric cutting device, means for gripping knitted fabric remaining on the machine, means for freeing one of the ends of the rotary shaft from its support, a mobile pushing member for exerting an axial push on a roll of knitted fabric on, the rotary shaft towards the free end of the shaft, means for operating the means for freeing the end of the rotary shaft and for controlling movement of the mobile pushing member to axially remove the roll of knitted fabric from the rotary shaft and enable its removal from the frame of the machine without a need for manual handling of the roll of fabric, and a mobile fabric guide cooperating with the rotary shaft on which the knitted fabric is wound.

BRIEF DESCRIPTION OF THE DRAWINGS

The accompanying schematic drawings show, by way of example, an embodiment of a mechanism according to the invention as well as different constructional details. In the drawings:

FIG. 1 is a view in axial cross-section of the lower part of a circular knitting machine with a rotary needle cylinder showing, in a simplified manner, a fabric winding and removal mechanism;

FIG. 2 is a plan view, partly in cross-section taken along line A–A′ of FIG. 1;

FIG. 3 is a simplified elevational view of the mechanism of FIGS. 1 and 2, showing various structural details including manual means for moving certain parts of the mechanism;

FIG. 4 is a cross-section taken along line B–B′ of FIG. 3;

FIGS. 5, 6 and 7 are partial views on an enlarged scale; respectively an elevational view, a side cross-section and a plan view; showing in detail other structural elements, including alternative means moving certain parts of the mechanism shown in FIGS. 1 to 4;

FIG. 8 is an enlarged scale elevational viwe of a part of the mechanism of FIGS. 1 to 4, showing other strucutral elements, and more particularly showing constructional details of a part of the mechanism controlling winding of the knitted fabric;

FIG. 9 is a cross-section taken along line C–C′ of FIG. 8;

FIG. 10 is a top plan view of a detail of one of the members of the control mechanism of FIG. 8;

FIG. 11 is a perspective view of the control mechanism;

FIG. 12 is a plan view showing control elements; and

FIG. 13 is a circuit diagram of the control elements of FIG. 12.

DETAILED DESCRIPTION OF THE INVENTION

Referring to these Figures, the lower part of a frame of the circular knitting machine shown in FIGS. 1 and 2 comprises a base 1 on which are fixed three equidistant feet 2 adapted to support an upper part 3 of the frame which carries the rotary elements such as the needle cylinder adapted to carry out the knitting, and the stationary elements associated therewith as well as the superstructural assembly of the machine.

The base 1 also supports a toothed crown 4 driven in synchronization with the other rotary elements, the means for driving and controlling these different elements not being shown.

The fabric draw off and winding mechanism (FIGS. 1 to 4) is carried on a U-shaped support 5 rigidly fixed by its base onto the rotary crown 4, and having two ver-

tical side plates 6 and 7 whose upper parts form bearings for the respective ends of three fabric draw off rollers 8, 9, 10 disposed in the same plane, parallel to one another and diametrical of the rotary crown 4.

These three rollers 8, 9, 10 are rotatably driven upon rotation of the crown 4 by means of bevel pinion 11 mounted at the end of the central roller 9 and meshing with a second bevel pinion 12 integral with a vertical shaft 13 whose lower end carries a chainwheel 14 connected by a chain 15 to a second wheel 16 mounted about a pivot 17 of base 1. Regulation of the speed of driving can be carried out by means of a friction device 18 or by other appropriate means. This part of the mechanism which does not directly fall within the scope of the invention will not be further described in detail.

The drive of the two lateral rollers 8 and 10 takes place in the opposite direction of rotation to that of central roller 9, by means of a gear train 19 at the end opposite bevel pinion 11.

Below and spaced apart from the draw off rollers 8, 9, 10, the plate 6 of U-shaped support 5 serves as a bearing for one of the ends of a cylindrical shaft 20 for winding the knitted fabric, rotated by means of a friction device 21, the mobile part of the latter being driven by a chainwheel 22 connected by a chain 23 to a second chainwheel 24 keyed on the end of one of the draw off rollers.

A second support 25, also U-shaped, is movably mounted in relation to the support 5 along a direction parallel to the axis of shaft 20, and able to pass through an opening 26 provided in plate 7. On one of the cheeks 27 of this mobile support 25 is fixed a pivot 28 which serves as a bearing for an end of shaft 20, whilst the other cheek 29, located adjacent to plate 6 of support 5, includes a circular opening enabling it to slide axially on shaft 20.

The bottom 30 connecting the two cheeks 27 and 29 of support 25 is located below and spaced apart from the shaft 20 and has a dish-like transversal cross-section, the assembly of support 25 forming a drawer which can be moved by means of two series of rollers 31 rotatably mounted on the support 25 and moving along two lateral slideways 32, 33 of support 5 (FIG. 4).

As shown in FIG. 4, the tube of knitted fabric 34 formed by the knitting members of the machine is driven by passing between the three draw-off rollers 8, 9 and 10 and then rolled flat in the form of a roll 35 on the rotary shaft 20.

To carry out removal of the rolled fabric 35 it suffices, after having transversally cut the fabric 34, to slide out the drawer 25 thus freeing the end 36 of shaft 20 and axially moving the roll 35 of fabric therealong by a push exerted on its ends 35*a* by cheek 29.

As indicated in broken lines in FIGS. 1 and 2, as soon as the roll 35 of fabric is entirely removed from the shaft 20, it falls onto the bottom 30 of the receiving drawer 25; at this moment, the roll 35 is positioned away from the mechanism and practically outside the frame of the machine, so that it can easily be taken hold of.

On FIG. 1, a rotary roller 87 for supporting the drawer 25 during its movement is shown; this arrangemnt could alternatively be replaced by extensible slideways, not shown. j

FIGS. 3 and 4 additionally show one possible means for controlling movement of the sliding drawer 25 and one form of device for transversally cutting the fabric 34.

The base of support 5 is provided at its ends with protruding parts 37, 38 (FIG. 3) on which are mounted two chainwheels 39, 40 connected together by a chain 41 one link of which is attached to the bottom 30 of drawer 25 by means of a pin 42. Drive of the chain 41 takes place by means of a third wheel 43 mounted on a lateral shoulder 44 of support 5 and keyed to the lower end of a vertical shaft 45, held at its upper end by a shoulder 46 of a cross piece 47 connecting the upper parts of the two vertical plates 6 and 7.

At the ends of cross piece 47 are mounted two other chainwheels 48, 49 connected together by a chain 50 one link of which is attached by means of a pin 51 to a fabric cutting device 52 which will be described in detail further on.

By introducing schematically shown cranks 53,54 into respective recesses provided in the upper end of the vertical shaft 45 and in the shaft 55 of one of chainwheels 48 and rotating these cranks, it is possible to move, in either direction, both the sliding drawer 25 and the cutting device 52.

In FIGS. 5 to 7, a mode of automatic locking and unlocking the sliding drawer 25 on support 5 is more particularly shown.

On a threaded part of shaft 55 of chainwheel 48 controlling movement of the fabric cutting device 52 is disposed a nut 56 including a slot 57 in which is inserted an end 58 of a pivoted two-armed lever 59. The other end 60 of lever 59 is disposed on the other side of vertical plate 6 and controls, by means of a rod 61, the movement of a lever 62 which is pivotally mounted on a shaft 63 fixed on the other side of vertical plate 6 and is submitted to the action of a tension spring 64.

In a groove of a support 65 fixed on the outer face of cheek 29 of sliding drawer 25 is pivotally mounted a lock 66. Each time that the drawer 25 is placed in the position corresponding to winding of the fabric, i.e. the position shown in full lines in FIG. 1 in which pivot 28 serves as a bearing for the end of the rotary shaft 20, the support 65 passes through an opening 67 provided in the vertical plate 6 and the lock 66, urged by a compression spring 68, engages behind a fixed stop 69 integral with vertical plate 6. The support 65 is moreover disposed on the cheek 29 so that the lock 66 is placed in the path of movement of lever 62 which, under the action of spring 64, is normally held down and maintains the end 58 of lever 59 against the bottom of the slot 57 of nut 56, which prevents any rotation of the latter.

The position of the fabric cutting device 52 on chain 50 as well as the pitch of nut 56 and of the threaded part of shaft 55 are such that each time the device 52 carries out a transversal cut of the fabric 34 in the direction of the arrow (FIG. 7), at the end of the path the axial displacement of nut 56 due to rotation of shaft 55 lifts up lever 62 and the lock 66 by an amount sufficient to unlock the drawer 25.

After having removed a roll 35 of fabric by moving the drawer 25, it suffices to return the drawer 25 and the fabric cutting device 52 to their initial positions, and the drawer 25 will once more lock automatically.

The fabric cutting device 52 (FIGS. 5 and 6) comprises a driving support 70 connected to the control chain 50 and slidably mounted parallel to the winding shaft 20 on a rack 71. The cutting member proper is formed by a sharp edged disc 72 rotating with a pinion 73 meshing with the rack 71, the fabric 34 being guided towards the disc 72 by an inclined plane 74 provided on the support 70 and carrying out the function of a fixed knife.

FIGS. 5 to 7 also show a variation of the means for moving the drawer 25 and the fabric cutting device 52, the chain 41 which drives the drawer 25 and the chain 50 which drives the fabric cutting device 52 being respectively driven by reversible electric motors 75, 76.

The supply of the driving motor 75 of drawer 75 of drawer 25 is controlled from the cutting device 52 and, to allow the removal of a roll of knitted fabric, avoiding any risk of error of manipulation, the current supply to the two motors 75 and 76 can be effected only when the winding mechanism is oriented to allow the drawer 25 to be displaced outwards of the knitting machine, as shown in FIG. 2. In this position the drawer 25 can slide between two legs 2 of the fixed frame, contact means being provided on the frame to cut off the current supply of the main driving motor(s) of the knitting machine when auxiliary motors 75 and 76 are supplied with current.

A preferred embodiment containing the above-mentioned features is shown in FIGS. 12 and 13.

FIG. 12 illustrates schematically the main elements shown in FIG. 2; in this figure the same reference characters are used as in FIG. 2 for the same components.

The main driving motor 101 of the knitting machine is supported by one of the three legs 2 at the base of which are disposed two switches 102 and 103 respectively provided for controlling the slowing of the speed of the frame, either by restricting the speed of motor 101, or by switching a low speed auxiliary motor (not shown), and to stop the motor(s) thus stopping the knitting machine. The successive actuating of the two switches 102 and 103 is effected by means of a cam 104 disposed on the rotating toothed crown 4 which supports the mechanism, so that drawer 25 can be displaced between the other two legs 2 of the frame. The circuit of switches 102, 103 is controlled by a third switch 105 which is also fixed to a leg 2 of the frame and can be controlled by the user. SWitch 103 is also provided to supply current through a relay, a plug 106 connectable manually to a casing 107 disposed on the winding mechanism and provide, as described hereunder, to control the current supply of the two driving motors 75, 76 respectively of the drawer 25 and of the knitted fabric cutting device 52.

Two microswitches 109, 110 are fixed on the rotating crown and are disposed on the path of cams 111, 112 fixed to the cheeks 27, 29. Said microswitches correspond respectively to the start and the end of the displacement of the drawer 25, whereas two other microswitches 113, 114 are fixed inside the side plates 6, 7 and determine when contacting the driving support member 70, the end and the start of the stroke of the cutting device 52. The casing 107 comprises three relays R_1, R_2, R_3 which can be actuated by two control buttons 115, 116 corresponding respectively to the pulling out of the drawer 25 and its return to the initial position. Electrical connections between motors 75, 76 to these various elements are shown in FIG. 13 where the knitting machine is in action, before the removal of the roll of knitted fabric.

To control the automatic removal of a roll of knitted fabric out of the frame, the user first actuates switches 102, 103, and cam 104 stops the knitting machine as it passes, and the winding mechanism is in the position shown in FIG. 12. The user connects plug 106 to the casing 107, said plug receiving current only when the mechanism is in this position.

FIG. 13 shows that in addition to the four pins provided for the supply of the current to motors 75, 76, two other pins are provided respectively for supplying the low voltage current of the relays R_1, R_2, R_3 through the microswitches controlled by buttons 115, 116. Such two other pins are provided for closing the excitation circuit of a relay R_4 disposed in the supply circuit of the main motor 101, so as to prevent any current to the latter when switch 106 is connected to the casing. Relay R_4 is a part of the general current supply circuit of the knitting machine (not shown).

By pushing button 115, the relay R_1 is excited, the contacts r_1 are released and said relay R_1 supply current to the motor 76 of the cutting device 52. The latter, when it moves transversally, connects microswitches 114, 113 respectively at the start and the end of its displacement. Switching on of the microswitch 113 excites relay R_2 which controls an assembly of contacts r_2 for controlling the current of motors 75, 76, and the motor 75, which in turn receives a current, drives the drawer 25, while the roll of knitted fabric slides axially on the winding shaft 20, as shown in FiG. 12.

The position of microswitches 109, 110, respectively for the start and the end of the displacement of the drawer 25, is modified during the latter's displacement by the action of corresponding cams 111, 111. Microswitch 110 releases relays R_1, R_2 which act upon contacts r_1, r_2, associated therewith. The cut off of current supply to motor 75 follows, and consequently the drawer 25 is stopped, whereas the assembly of contacts r_2 return to their initial position.

In this position of the drawer 25, the user may proceed with the removal of the knitted fabric roll, and to control the return of the drawer he only has to push button 116. The result of this last operation is the excitement of relays R_3, R_2, contacts r_3 reversing two of the phases of the three phases current, and the next switching of the assembly of contacts r_3 providing the supply of current to motor 75 only to control the displacement in the reverse direction of drawer 25. The latter stops only when cam 111 actuates the microswitch 109 to release relay R_2 and thus stop the current to motor 75, supplying said current to motor 76 which will bring back the cutting device 52 to its original position. The action of support 70 on microswitch 114 thus, at the end of the displacement, releases relay R_3 which by actuating contacts r_3, stops the current to the two motors 75, 76.

When the user disconnects plug 106, relay R_4 is released and thus current can be supplied to the main motor 101 for controlling the operation of the knitting machine and the manufacture of a new roll of knitted fabric.

FIGS. 8 and 9 show the means for controlling winding of the knitted fabric.

A flap 77 extending across the width of the wound fabric 34 is fixed on a pivotal shaft 78 supported at its ends by the plates 6 and 7 of the main support 5. A traction spring 79 held, on the one hand, on an end of a two armed lever 80 fixed on an extension of shaft 78 and, on the other hand, connected to a lever 81 of the friction device 21 tends to constantly apply the lower part of flap 77 towards the winding shaft 20.

Along a longitudinal channel of shaft 20 are mounted several grippers 82 having pointed ends 83 directed in the direction of rotation of the shaft. After removal of a roll 35 of fabric and as soon as the knitting machine starts up again, the edge of the fabric 34 previously cut by the cutting device 52 slides over the inner face 84 of flap 77 and is then engaged and driven by the grippers 82 which enable winding of the fabric onto shaft 20.

As indicated in FIG. 8, the grippers 82 are also inclined in relation to the longitudinal direction of shaft 20 in a manner such that their pointed ends 83 are oriented in the direction of movement of the drawer 25 during removal, thus enabling the roll of fabric 35 to slide over shaft 20 at the moment of removal. This result could alternatively be obtained by pivotally mounting the grippers 82 on the rotary shaft 20 in a manner such that these grippers can pivot in the direction of axial movement of a roll 35 of fabric when a push is exerted thereon by the roll 35 of fabric during removal.

The second end of two armed lever 80 is also adapted to come into contact with a shoulder 85 of the nut 56 controlling unlocking of the drawer 25. As indicated in broken lines in the left of FIG. 9, this arrangement enables the flap 77 to be moved out of the path of cheek 29 of drawer 25 as soon as the fabric 34 has been cut by the device 52.

The friction device 21 controlling rotation of the shaft 20 from the fabric draw off rollers is shown in detail in FIG. 8.

The wheel 22 driven by chain 23 is fixed on driving plate 86 freely turning on the end of shaft 20 by means of a ball bearing, whilst an adjustable driven assembly 88 is keyed on the shaft 20. Adjustment thereof takes place, via a ball joint 89, from an axial movement of a rotating sleeve 90 centred on a shouldered part of a bearing 91 fixed on the vertical plate 6 and supporting the end of shaft 20 by means of a ball bearing 92.

The facing faces 93, 94 of rotating sleeve 90 and bearing 91 include protruding parts 95, 96 respectively, as shown on the partial plan view of FIG. 10, and which have inclined complementary surfaces 97, 98. Lever 81 connected, as previously described, by a spring 79 to the end of pivoting lever 80, is fixed on a shoulder of sleeve 90. As the fabric 34 winds onto the shaft 20, the diameter of the roll 35 increases and causes the flap 77 to pivot. The tension of spring 79 thus increases and as a result the two inclined surfaces 97, 98 slide over one another, which causes a slight axial movement of sleeve 90 which, via the ball joint 89, increases the pressure exerted by the assembly 88 on the driving plate 86. This arrangement insures a constant tension on the fabric as it is wound and while the inertia of the fabric roll 35 increases due to an increase in diameter thereof.

The described mechanism notably facilitates the work of the operator who is no longer required to manually act on the knitted fabric, either to ensure its winding or its removal from the knitting machine frame.

What is claimed is:

1. A mechanism for winding knitted fabric in a circular knitting machine and removing the wound knitted fabric from the knitting machine, in which knitted fabric is wound flat on a rotary shaft rotated by driving means and supported at its ends by a support disposed inside of the frame of the machine:

wherein said support comprises at least one movable part forming bearing means for supporting one of the ends of said rotary shaft with said bearing means being releasably mounted with respect to one shaft end for freeing said end when said movable part is displaced; and

wherein said mechanism further comprises a fabric cutting device;

means for gripping the knitted fabric remaining on the machine after a cutting operation by said cutting device;

a movable pushing member for exerting an axial push on a roll of knitted fabric on said rotary shaft towards said bearing means;

means for driving said pushing member to axially remove said roll of knitted fabric from said rotary shaft when said one end of said rotary shaft is freed and for removing said fabric roll from said knitting machine without manual handling of said fabric roll; and

a mobile fabric guide cooperating with said rotary shaft on which the knitted fabric is wound.

2. A mechanism according to claim 1, in which said movable part of said support and said movable pushing member are interconnected by at least one joining element and operated by said driving means, the assembly of said movable part, said movable pushing member and said joining element being movable parallel to the axis of said rotary shaft.

3. A mechanism according to claim 2, in which at least one part of said joining element is disposed below said roll of knitted fabric when on said rotary shaft, said at least one part of said joining element having a concave transversal cross-section for receiving said roll when removed from said rotary shaft.

4. A mechanism according to claim 2, further comprising means for moving said cutting device parallel to said axis of said rotary shaft, a stop, locking means cooperating with said stop for locking said assembly on said support in a position in which said rotary shaft is held by its ends to allow the winding of knitted fabric thereon, and means controlled by said means for moving said cutting device for acting on said locking means to free said assembly after said cutting device has transversally cut the knitted fabric.

5. A mechanism according to claim 2, further comprising means for manually moving said cutting device parallel to said axis of said shaft, and means for manually moving said assembly.

6. A mechanism according to claim 2, further comprising a first reversible electric motor for moving said cutting device parallel to said axis of said shaft, and a second electric motor for moving said assembly.

7. A mechanism according to claim 6, which is mounted for rotation with the principal rotary members of said knitting machine, and further comprising a principal motor for driving said principal rotary members of said knitting machine, and means disposed on a stationary part of said knitting machine for actuating said first and second motors, said actuating means in-

cluding means for switching off said principal motor when said first and second motors are both switched on.

8. A mechanism according to claim 1, in which said rotary shaft is disposed in a lower part of said knitting machine below the knitting members thereof, said fabric gripping means including a series of gripping members disposed along at least a part of the length of said rotary shaft, said gripping members having pointed ends directed in relation to the direction of rotation of said rotary shaft so as to windably engage with a free end of the knitted fabric, and further comprising means for elastically urging said mobile fabric guide towards said rotary shaft, and guide forming means for directing the said free end of said knitted fabric to be wound towards said rotary shaft so as to engage with said gripping members.

9. A mechanism according to claim 8, in which said rotary shaft has a channel in which said gripping members are disposed inclined in relation to said axis of said rotary shaft with said pointed ends thereof oriented in the direction of axial movement of said roll of fabric.

10. A mechanism according to claim 8, in which said gripping members are pivotally mounted on said rotary shaft and are pivotable in the direction of axial movement of said roll of fabric when said roll is axially pushed.

11. A mechanism according to claim 8, further comprising a friction device disposed between said rotary shaft and said means for driving said rotary shaft, and means for adjusting said friction device as a function of movement of said mobile fabric guide.

* * * * *