

it is so
easy

instruction

book

PASSAP[®]

20



Dear PASSAP friend,

You are welcome to the large family of PASSAP knitters and we congratulate you to the choice of your new machine. PASSAP 20 is the ideal knitting machine for the housewife: Nice to look at, reasonable in price and easy to operate. You will be surprised how little you have to learn before being able to show your first pullover knitted on PASSAP.

The knitting of patterns will be a particular pleasure because the built-in Automatic Pattern Device of the PASSAP 20 is unrivalled. You do not always have to follow set patterns, you may also pursue your own ideas – and at any time the Automatic Pattern Device will help you to either knit, interrupt, or repeat again the pattern you

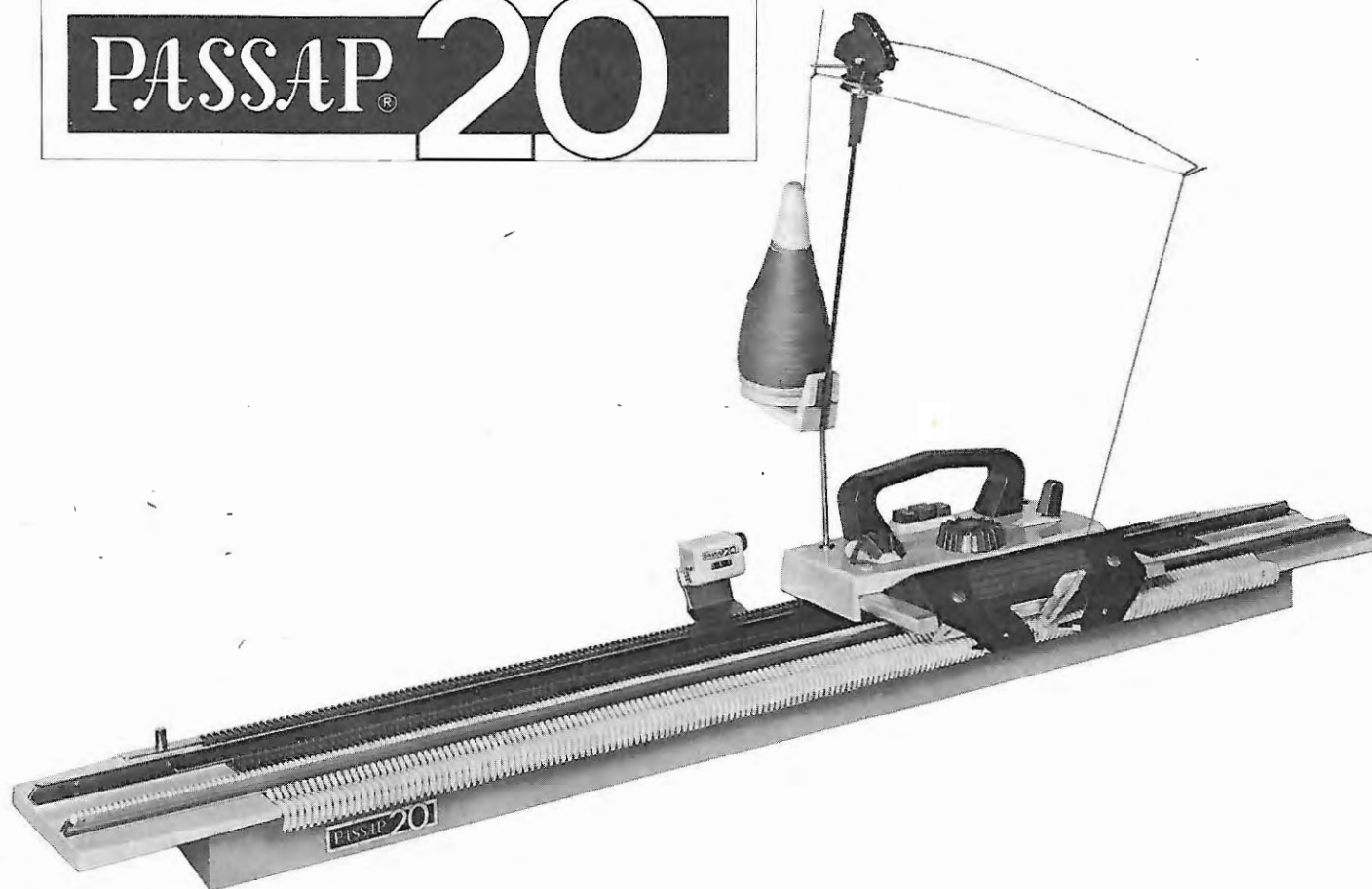
have chosen, depending on requirements. It is so easy, so simple . . .

But there is one thing of importance: Please follow step by step the instructions given hereafter. Each figure and paragraph has a very distinct purpose, and that is to teach you the easiest way of PASSAP knitting. If you will carefully follow this "Instruction Course", you will soon be an accomplished PASSAP artist.

And now – enjoy yourself! Wishing you many happy hours of successful knitting,

Yours PASSAP EXPORT

PASSAP[®] 20



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Pusher	Stocking stitch	Loop	Fairisle	Empty
without	N	—	—	GX
with	N	AX	BX	GX

Chapter one

Fig.1

The Diagram

stick onto lock, fig. 1

Remove insert
containing the
following accessories:

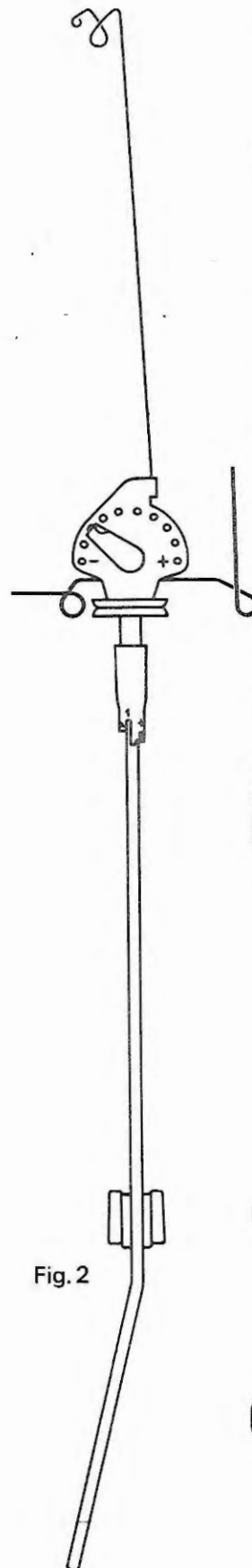


Fig.2

Yarn guide, fig. 2

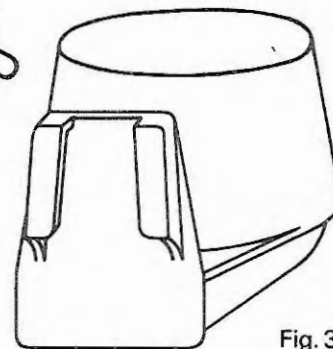
Unpacking your PASSAP 20 and putting it up

Every PASSAP machine is a Swiss precision product. The PASSAP 20 will reciprocate good treatment by many years of perfect functioning. Good treatment starts by carefully unpacking the machine.

It is advisable to keep the packing. You may need it again for dispatching the machine by mail or railway.

Now we will unwrap and at the same time become acquainted with name of each part.

You already removed the lid of the box. Now take the instruction book and check to make sure that you have all the parts illustrated hereafter.



Cone Holder, fig. 3

Fig.3

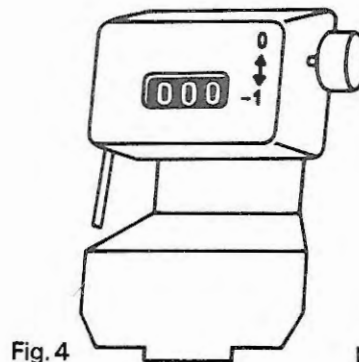


Fig.4

Row Counter, fig. 4

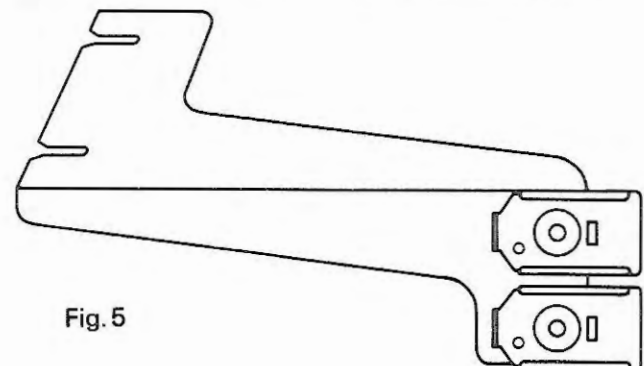


Fig.5

Eyelet Support, fig. 5

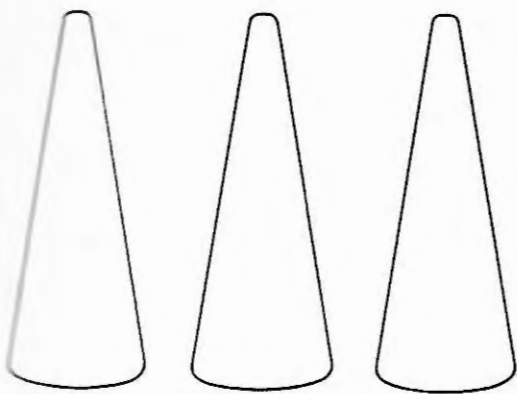


Fig. 6

Three Cones (cardboard bobbins), fig. 6

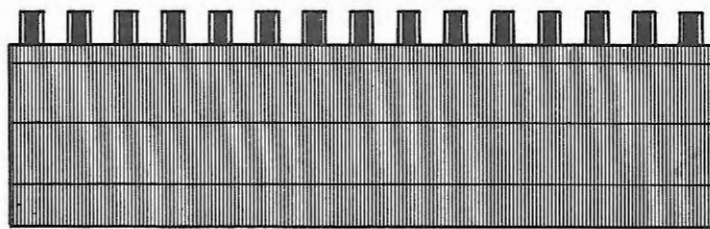


Fig. 9

Pattern Ruler, fig. 9

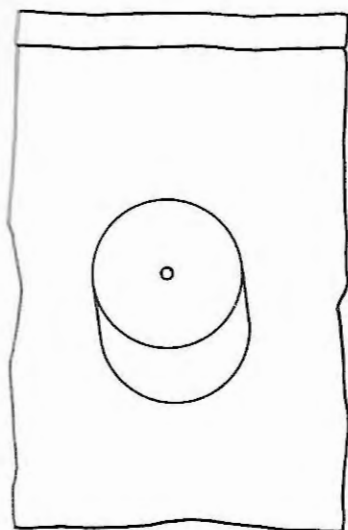


Fig. 7

Bag containing paraffin, fig. 7

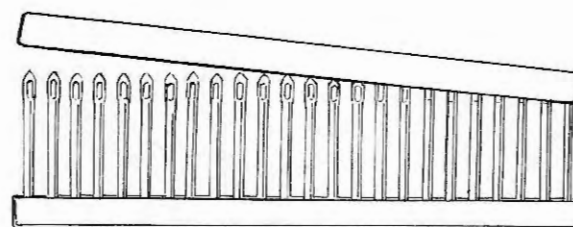


Fig. 10

Transfer Comb (decker comb), fig. 10

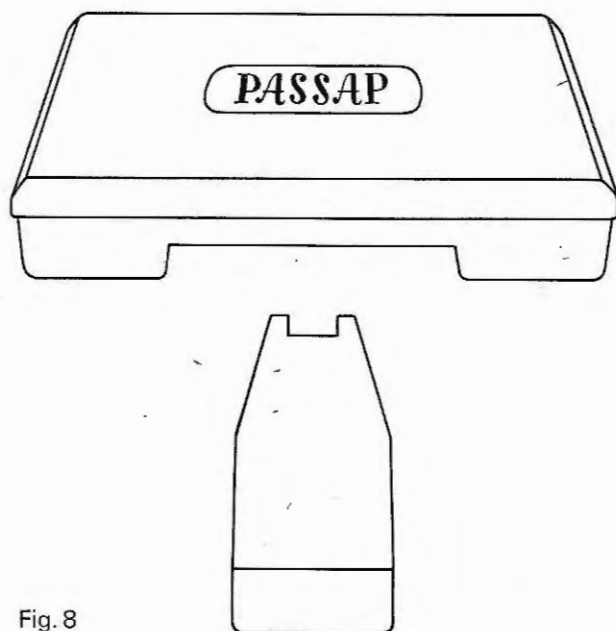


Fig. 8

**Plastic box and support, fig. 8,
containing:**

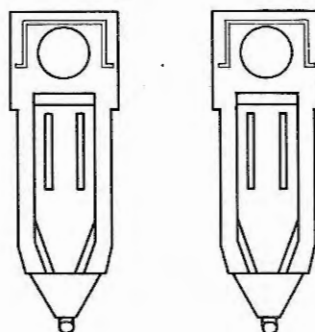


Fig. 11

Two feeding eyelets, fig. 11

Fig. 12

fig. 12



Fig. 13

Red Tool – 1 angled point, 1 decker, fig. 13

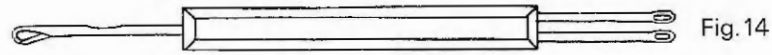


Fig. 14

Yellow Tool – 1 latch needle, double decker, fig. 14



Fig. 15

Black Tool –
1 needle pusher, triple decker, fig. 15



Fig. 16

Brush, fig. 16

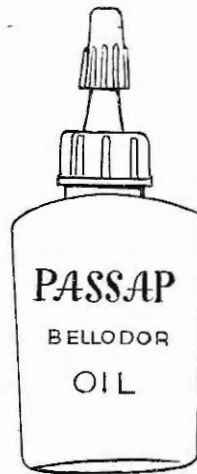


Fig. 17

Oil Bottle – containing
PASSAP-BELLODOR OIL, fig. 17

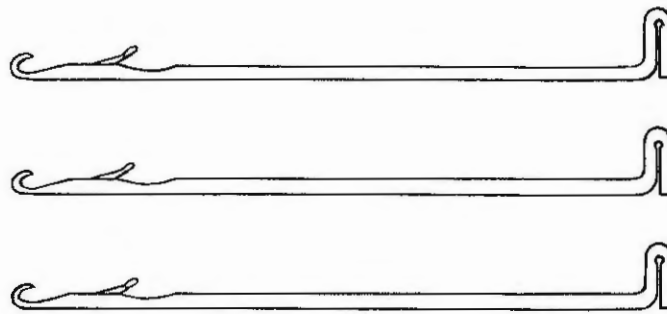


Fig. 18

Three Latch Needles – spares, fig. 18

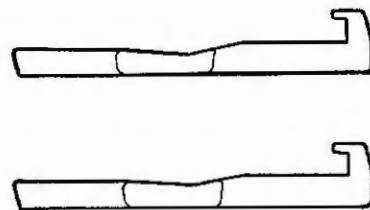


Fig. 19

Two Pushers – spares, fig. 19



Fig. 20

Three Sinkers – spares, fig. 20



Fig.12

Green Tool – 1 latch needle, 1 decker, fig. 12



Fig.13

Red Tool – 1 angled point, 1 decker, fig. 13

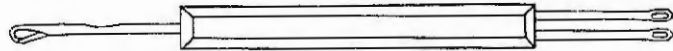


Fig.14

Yellow Tool – 1 latch needle, double decker, fig. 14



Fig.15

Black Tool –
1 needle pusher, triple decker, fig. 15



Fig.16

Brush, fig. 16

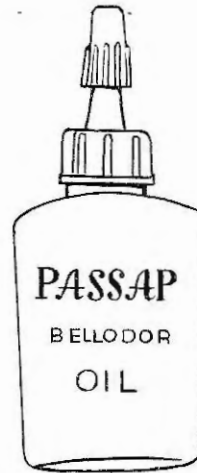


Fig.17

Oil Bottle – containing
PASSAP-BELLÒDOR OIL, fig. 17

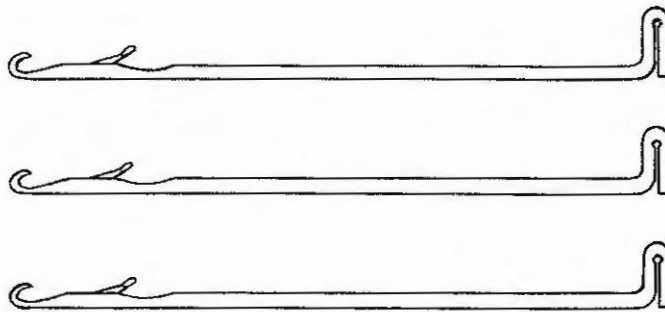


Fig. 18

Three Latch Needles – spares, fig. 18

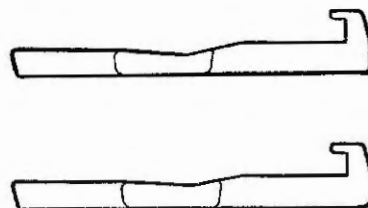


Fig. 19

Two Pushers – spares, fig. 19



Fig. 20

Three Sinkers – spares, fig. 20

Lift Machine out of the box

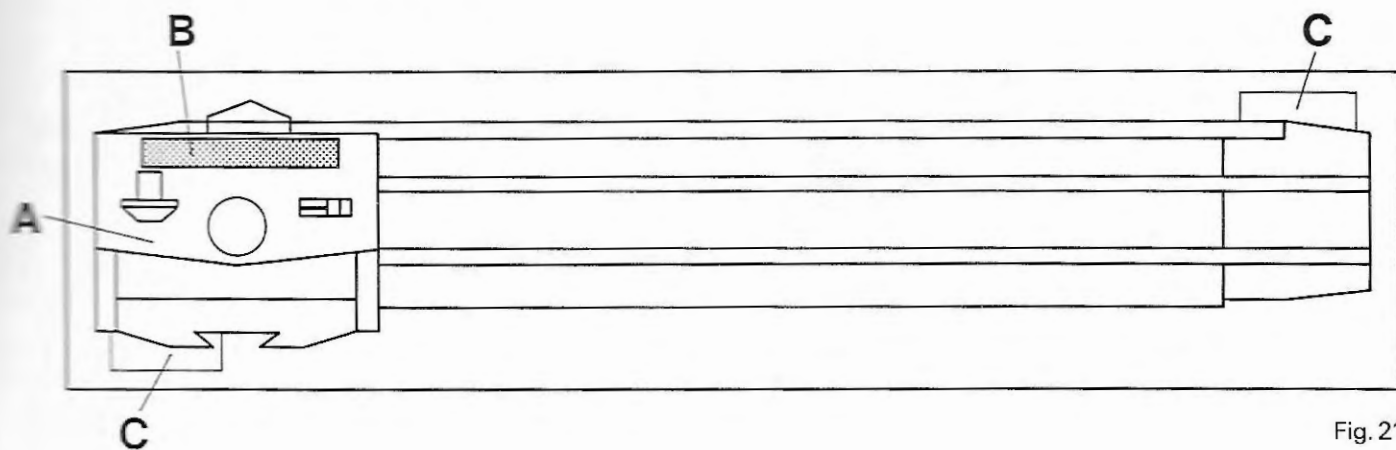


Fig. 21

The lock (A) is on your left. Seize it by its handle (B) and move it to the middle. Now lift the machine out of the box: **Not** by its handle (B), but by its body (C), at the righthand back end and lefthand front end where you find the corresponding recesses in the wall of the box. Fig. 21.

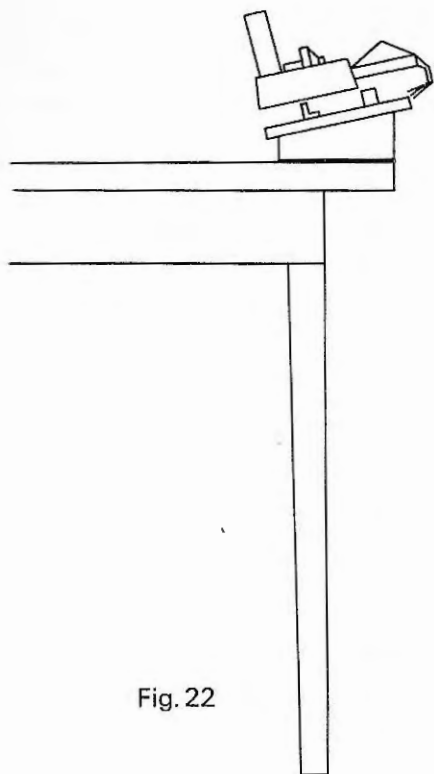


Fig. 22

When placing the machine on the table, watch that its front edge is flush with the table edge. Fig. 22.

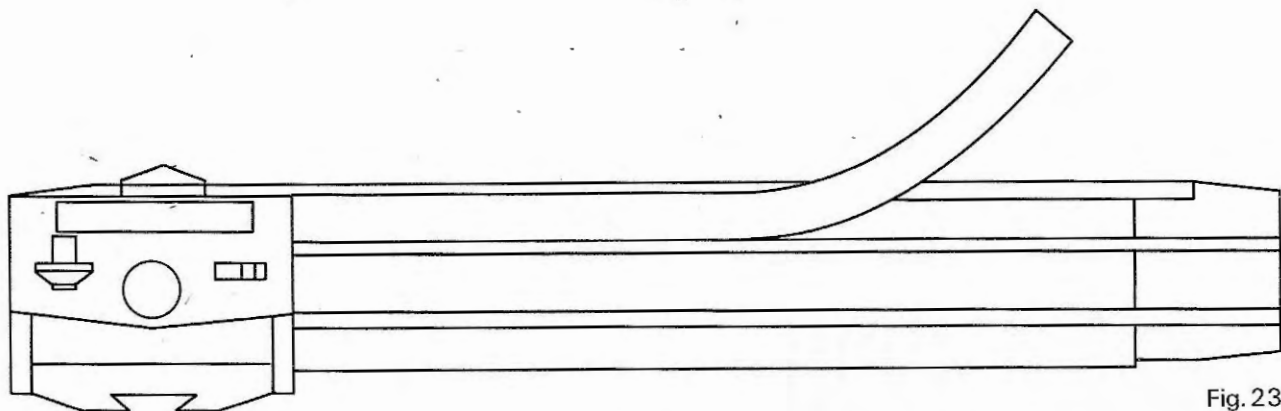


Fig. 23

Remove paper protection from pusher bed, fig. 23.

its point, fig. 24.

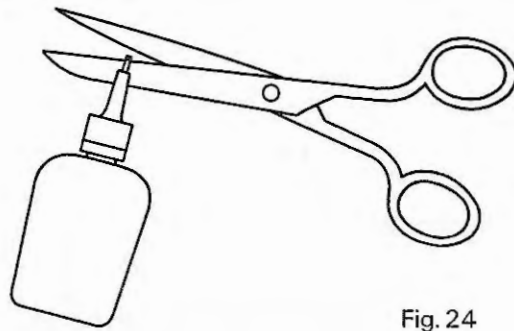


Fig. 24

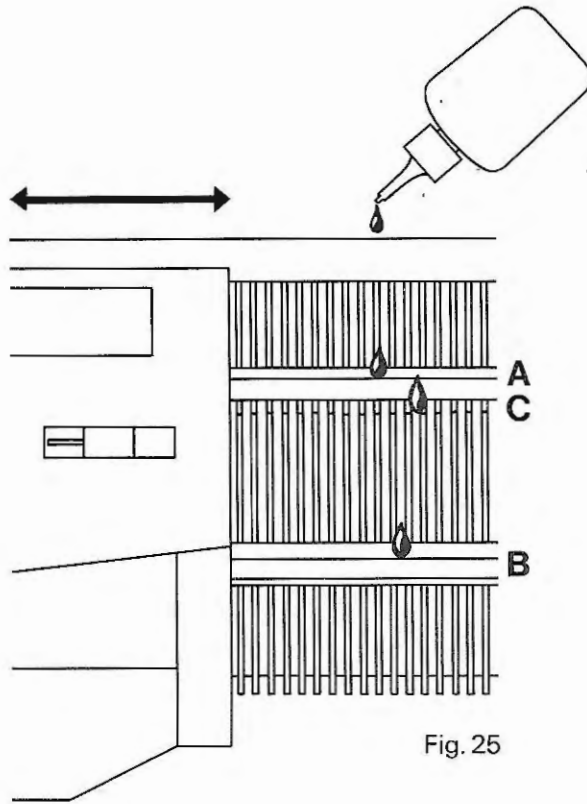


Fig. 25

Spread a few drops of oil on the lower (A) and upper (B) main rail as well as on the needle feet (C), fig. 25. Move the lock several times slowly from one side to the other, then leave it on the right.

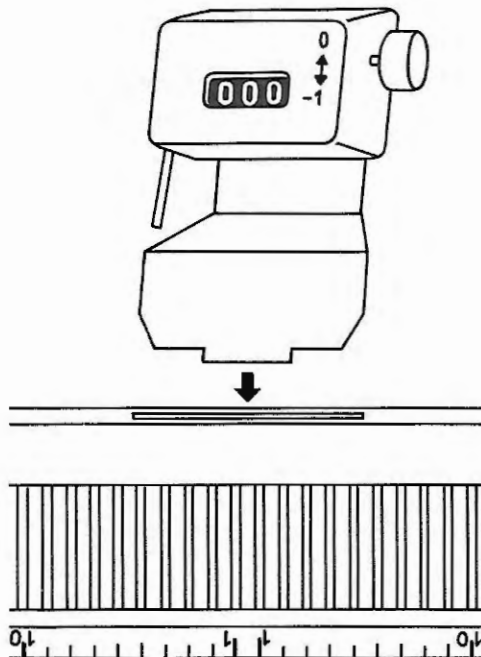
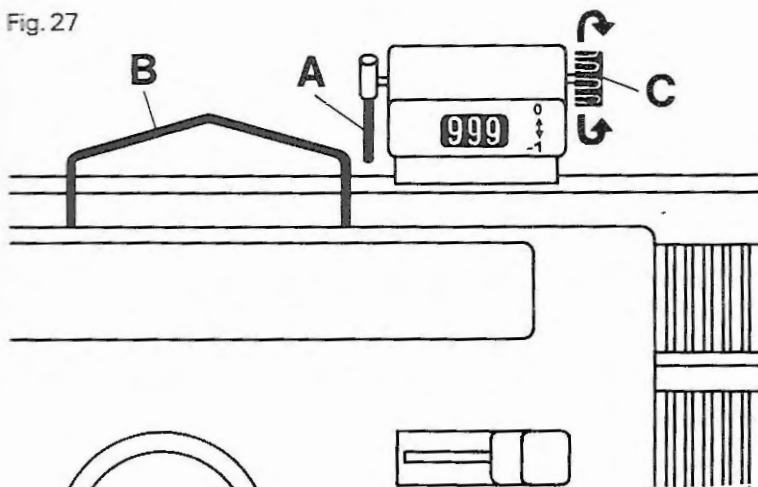


Fig. 26

Fit the Row Counter into centre slot at the back of the machine, fig. 26.

Fig. 27



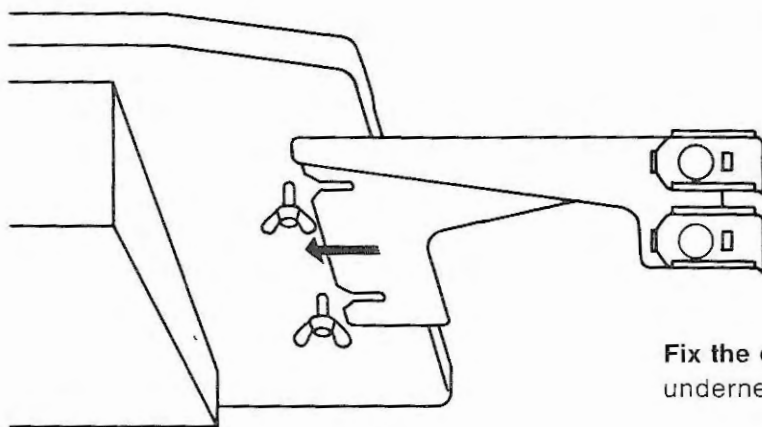
The row counter works with a three-way action, fig. 27; try them out:

To add numbers: Push trigger (A). When moving the lock from one side to the other, this is done automatically by the trip wire (B) pushing against the trigger (A).

To deduct numbers: Turn wheel (C) downwards, number by number, in direction "-1".

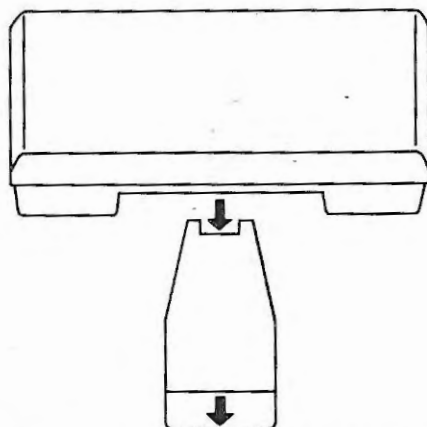
To set to 000: Turn wheel upwards in direction "0".

In the following instructions we are using the abbreviation "RC" for row counter.



Fix the eyelet support by means of the wing nuts underneath the right end plate. Fig. 28.

Fig. 28



Insert the plastic box with its support into the righthand slot at the back of the machine, fig. 29.

Fig. 29

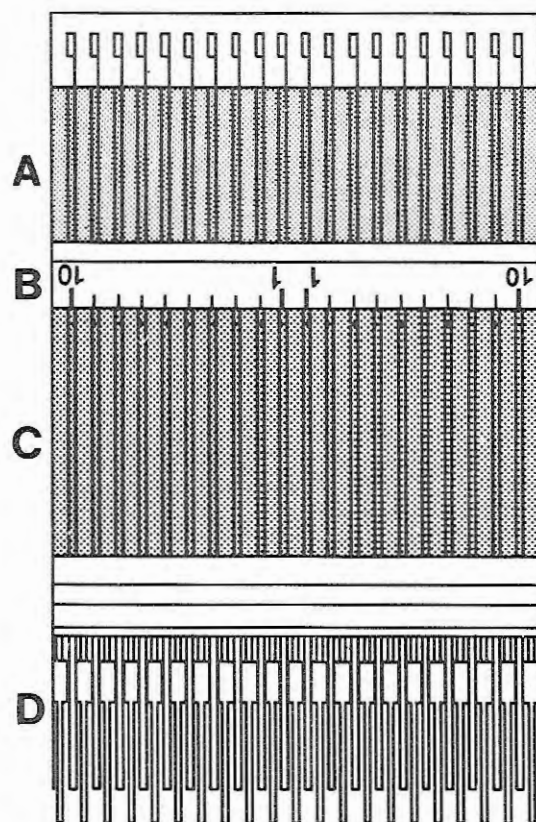


Fig. 30

A = **Pusher Bed with 179 pushers**

B = **Needle Scale**, for counting the needles. Starting from the centre, towards the right and left, each side is numbered from 1 to 90. PASSAP 20 has **no** zero needle, thus avoiding errors. For inst.: 10 to 1 and 1 to 10 really are 20 needles and not 21, as with some other knitting machines which have a zero needle.

C = **Needle Bed with 179 latch needles**

D = **Striking Comb with 180 sinkers moving up and down in it**

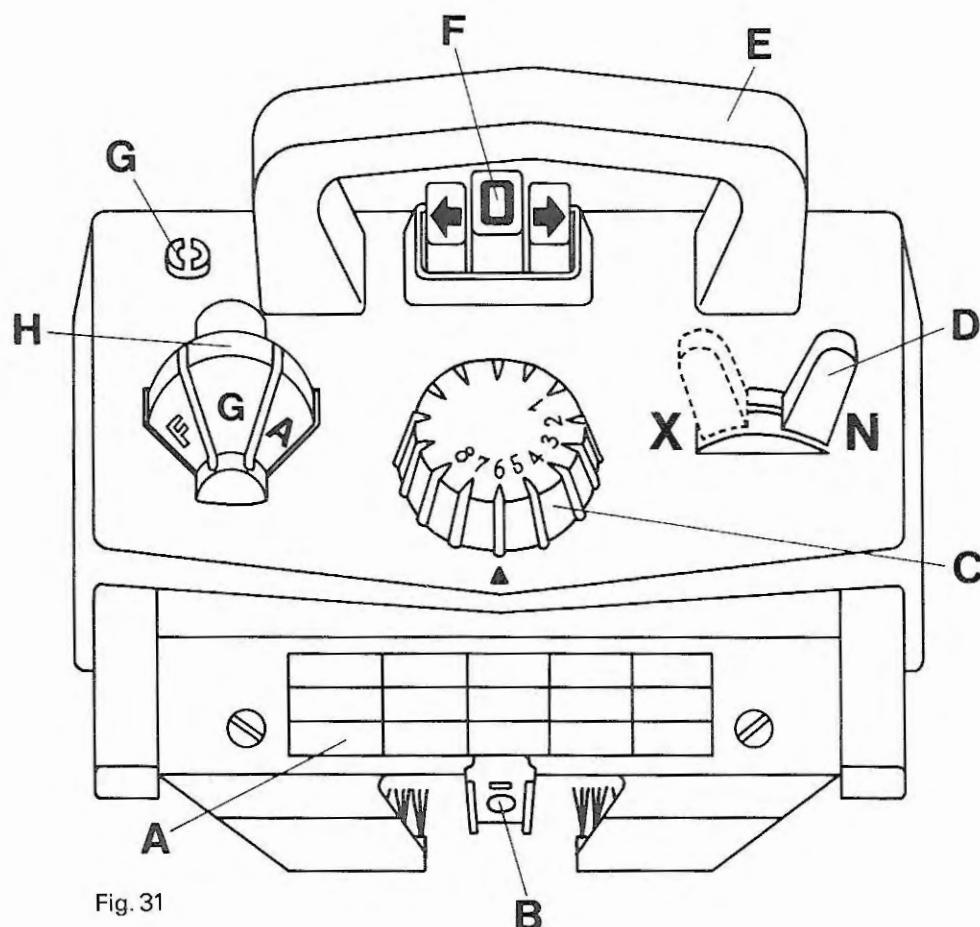


Fig. 31

We will now have a look at the Lock fig. 31

A = **Strippers.** Here you will now stick on the diagram. First remove contact paper.

B = **Movable Socket for feeding eyelet.** Here you now insert a feeding eyelet.

C = **Stitch Size Regulator**

Adjustable sideways for quarter, half and full numbers.

High numbers: Large stitches

Low numbers: Small stitches

The numbers do **not** correspond with the numbers of handknitting needles.

PASSAP 20 has additional possibilities, i.e. 29 different stitch sizes. Set the regulator now at 6.

E = **Handle**

F = **Three keys for operating the pattern change – Second command for Automatic Pattern Device.** 1 arrowed key left – 1 zero key – 1 arrowed key right.

The use of the keys will be explained later.

G = **Hole for fixing the yarn guide.**

H = **Dial Selector for adjusting the required pattern – First command for Automatic Pattern Device.** The dial selector can be adjusted only if the N-X lever is set on N. It is set and ready for pattern knitting if the N-X lever is on X. The use of the dial selector will be explained later.

D = **N-X Lever.** Adjustable sideways.

N for normal knitting

X for patterns and free move

Move the N-X lever to the right on N

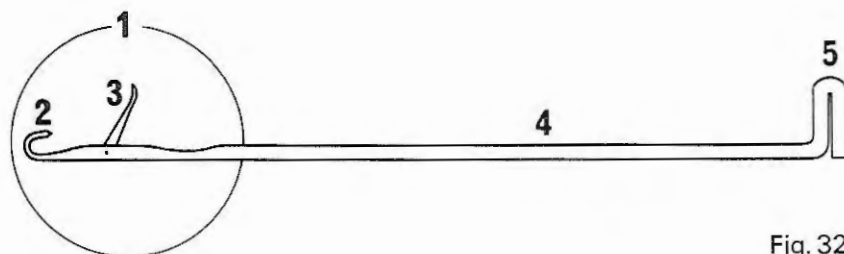


Fig. 32

1 = needle head, 2 = hook, 3 = movable latch,
4 = needle shaft, 5 = needle foot.

When you move the lock across the needles in Working Position, the latch needle forms a stitch according to fig. 34, as follows:

The latch needle has two basic positions, fig. 33

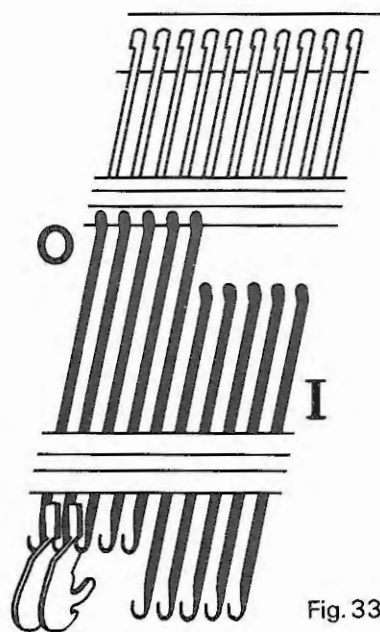


Fig. 33

0 = **Neutral Position.** Needle foot at lower rail.
Needle completely out of work.
1 = **Working Position.** Needle foot approx. 1
inch above the lower rail.

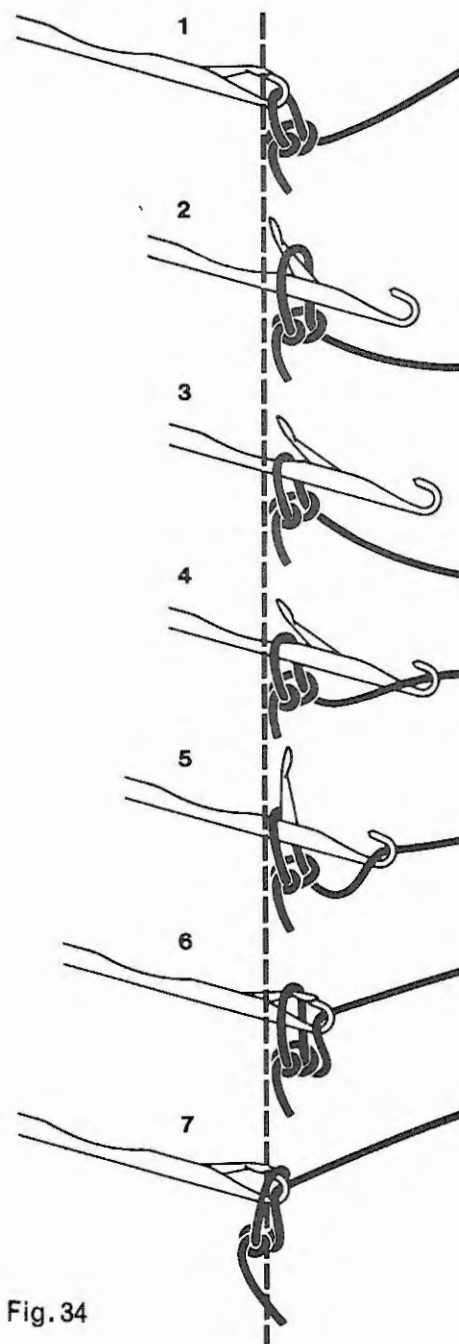
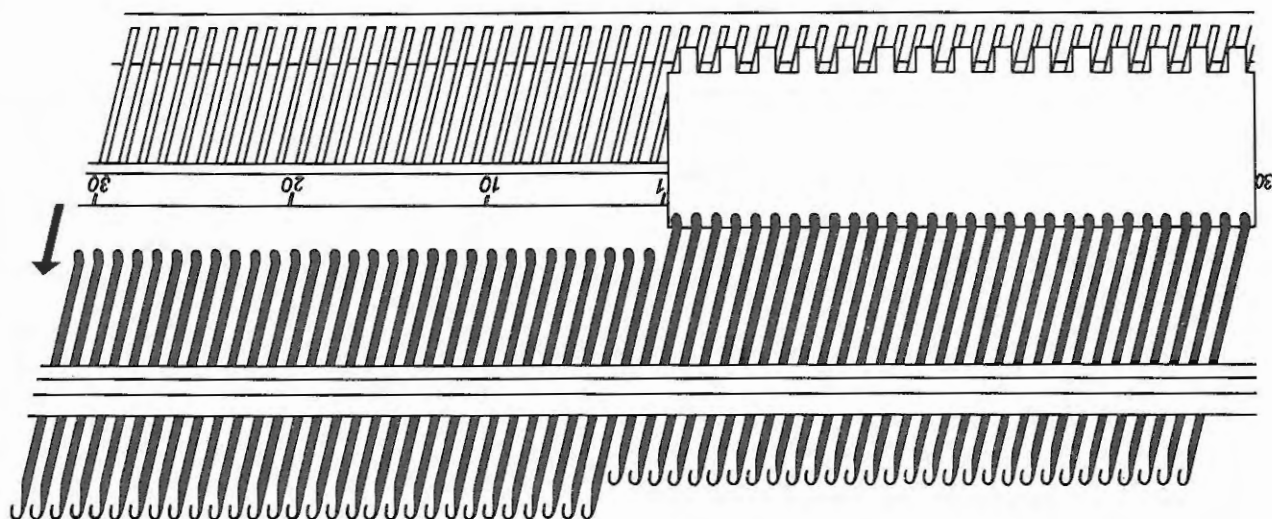
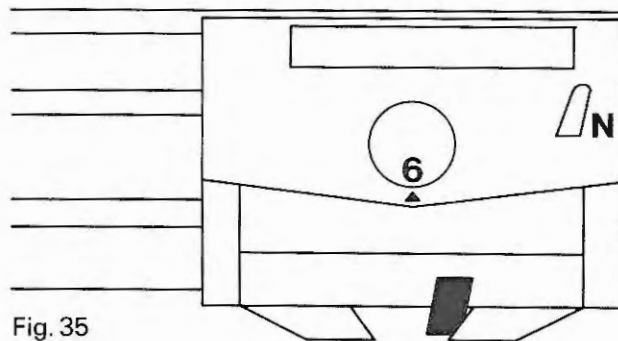


Fig. 34

**We will now practise the movement
of the lock with latch needles**

Starting position: Lock at right, N-X lever on N,
stitch size 6, feeding eyelet in the socket. Fig. 35



In the centre of the needle bed 60 needles will
now be pushed up approx. 1 inch. To that effect,
insert the pattern ruler (smooth edge) behind the
needle feet and push them up in two portions.
Fig. 36

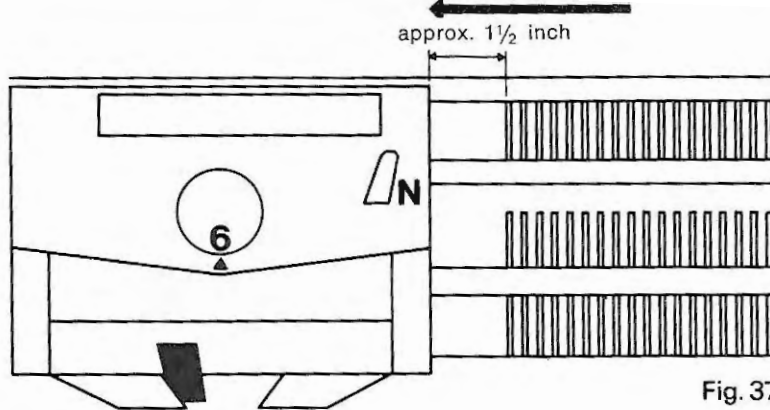


Fig. 37

Move the lock slowly to the left, across these needles, as far as approx. $1\frac{1}{2}$ inch left of the outermost needle (edge needle). Fig. 37

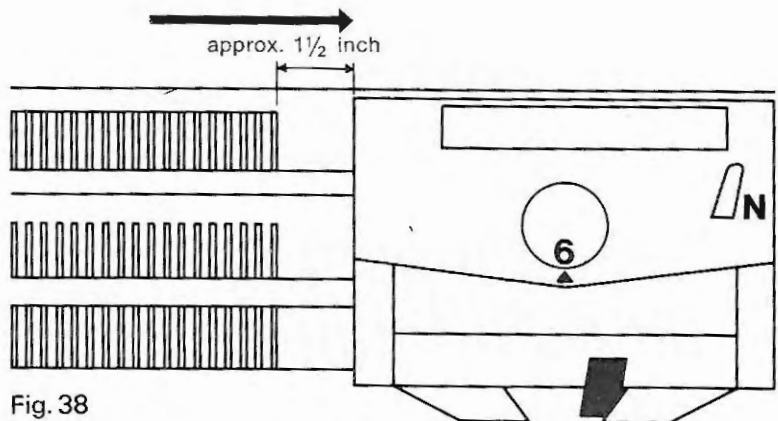


Fig. 38

Only now you may push the lock to the right again, as far as approx. $1\frac{1}{2}$ inch right of the right edge needle. Fig. 38

Repeat these movements of the lock and watch (in front, near the opening of the stripper) how the latch needles, one after the other, first are "pushed out" and then again withdrawn. At the same time, the sinkers move up and down in vertical direction.

Important: If you have started to move the lock, the movement must be finished before you may return the lock. Never return the lock in the middle of a row of needles!

Move lock slowly across empty needles.

Practise moving the lock until you have "the feel" how far you must move it across the needles in Working Position. Then leave the lock on the right and set row counter at 000.

Chapter two

Preparation for knitting

Winding: We recommend your choosing a light, 3-ply pullover wool.

Since most handknitting yarns are supplied either in balls or hanks, the yarn must be wound on cones before you can start to knit. To that effect, three cardboard bobbins were supplied with your PASSAP 20. If you do not yet own a cone winder, we suggest the purchase of a PASSAP cone winder. Well wound yarn gives a better knitting result!

While winding the yarn, you should wax it with paraffin for better and easier knitting.

Fasten cone winder at the table edge. Fig. 39

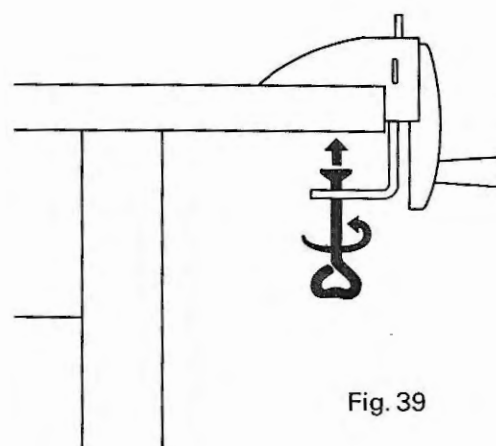


Fig. 39

Insert guiding eyelet and fix cone holder. Fig. 40

Put the ball on the floor (or hank on a hasp).

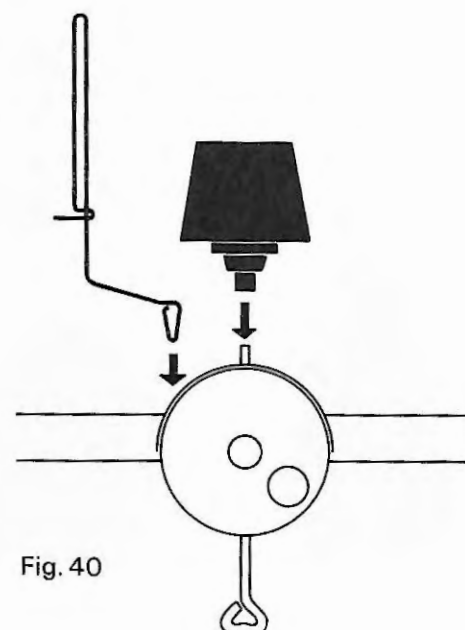


Fig. 40

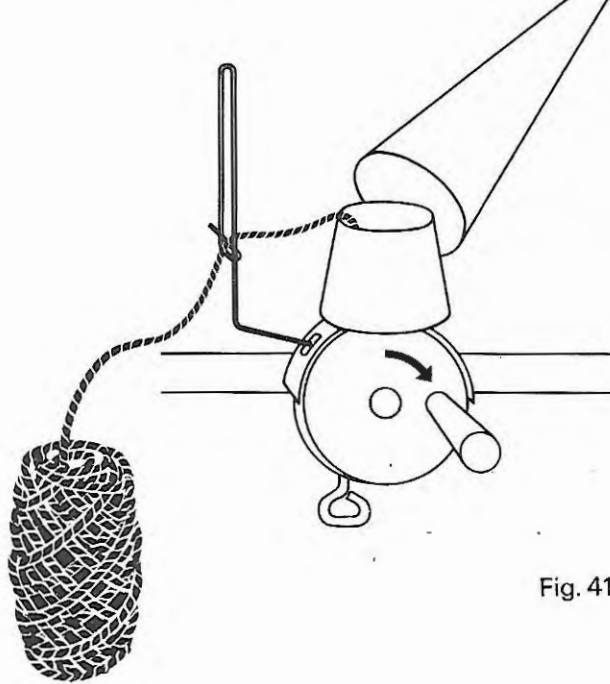


Fig. 41

Pull the end of the yarn from the inside of the ball, pass it through the large guiding eyelet and place it into the opening of the cone holder. Put cone on holder, fig. 41, thereby fastening the yarn end.

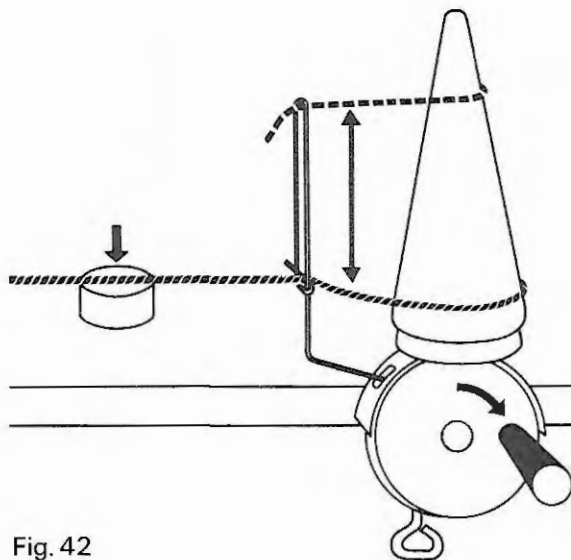


Fig. 42

Hold the yarn emanating from the ball with your left hand and let it glide over a piece of paraffin. Fig. 42

While your right hand is evenly turning the handle of the cone winder in direction of the arrow, your left hand holding the yarn should exercise light up and down movements to ensure an even winding of the cone. Such up and down movements are limited by the guiding eyelet. Fig. 42

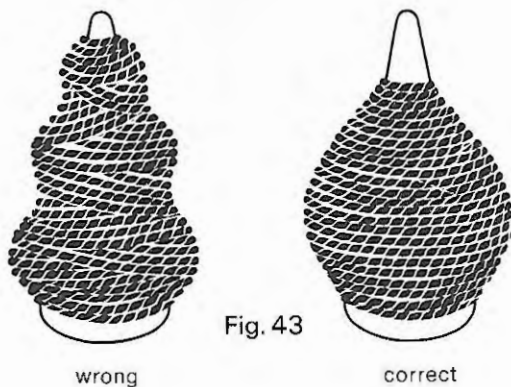
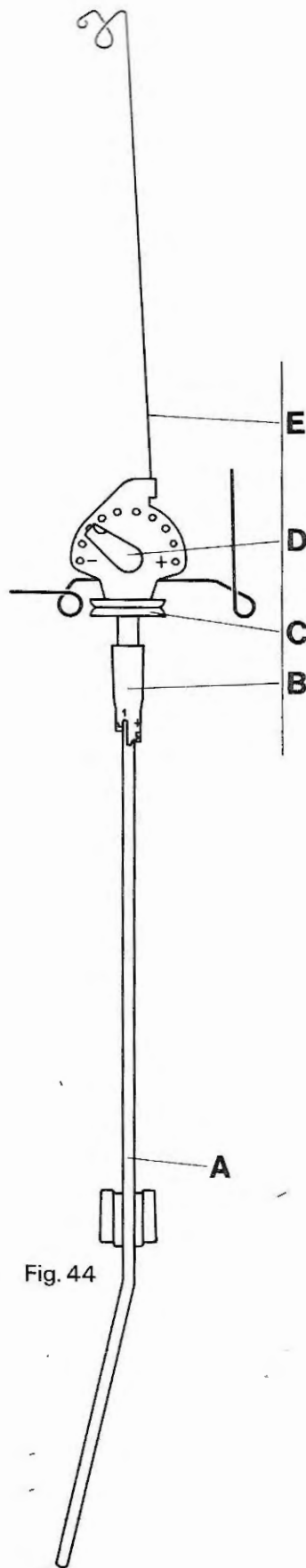


Fig. 43

When winding, the yarn should not be pulled too tightly and yet tight enough. Fig. 43

A cone can take approx. two ounces of medium or three ounces of fine wool.

The Yarn Guide, fig. 44



E = Tension arm with guiding eyelet

D = Lever for adjusting the tension arm

"+" = strong yarn pull

"-" = weak yarn pull

C = Tension discs with two guiding eyelets for the yarn

B = Tension regulator, to be adjusted by turning

"+" = the yarn is subject to heavy braking and runs tightly

"-" = the braking is weak and the yarn runs loosely

A = Mast with support for cone holder

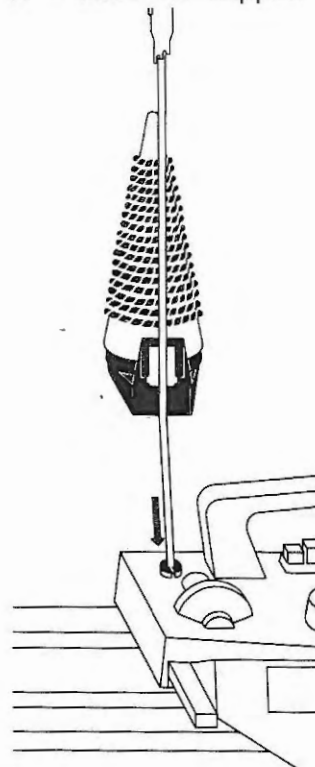


Fig. 45

Insert yarn guide into the socket on the left of the lock.

Fix the cone holder in the support on the mast and put on a cone full of yarn. Fig. 45

How to thread the yarn

Behind the mast pick up loose end of yarn from the bobbin with your right hand and take the rest of the yarn in your left.

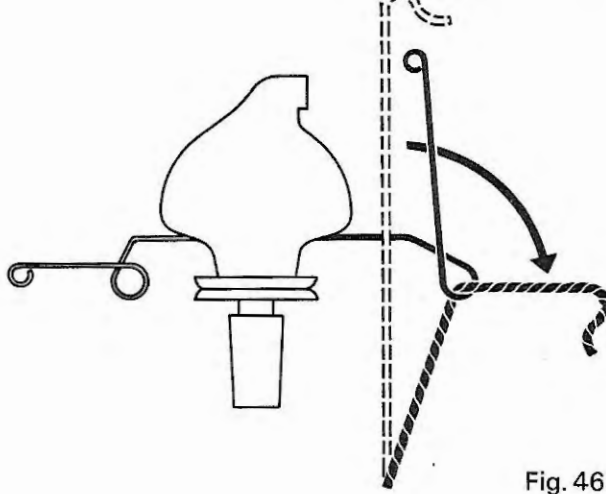


Fig. 46

Pass the end of the yarn – from below upwards and to the right downwards – through the back eyelet (near the tension disc). Fig. 46

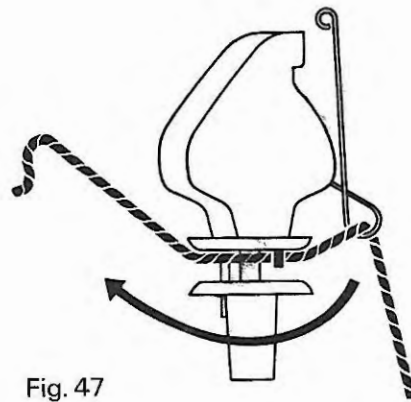


Fig. 47

Pass the end of the yarn between the tension discs, from the back on the right to the front. The yarn must run between the mast and the little peg so that it cannot escape. Fig. 47

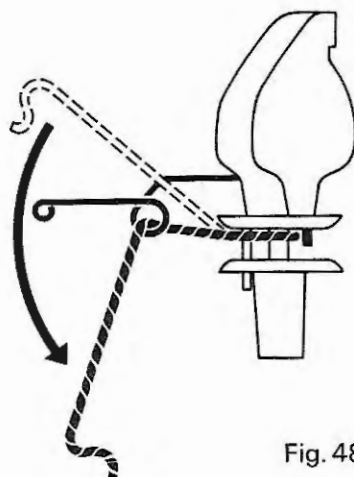


Fig. 48

Thread the end of the yarn from above and the left downwards into the front eyelet (near the tension disc). Fig. 48

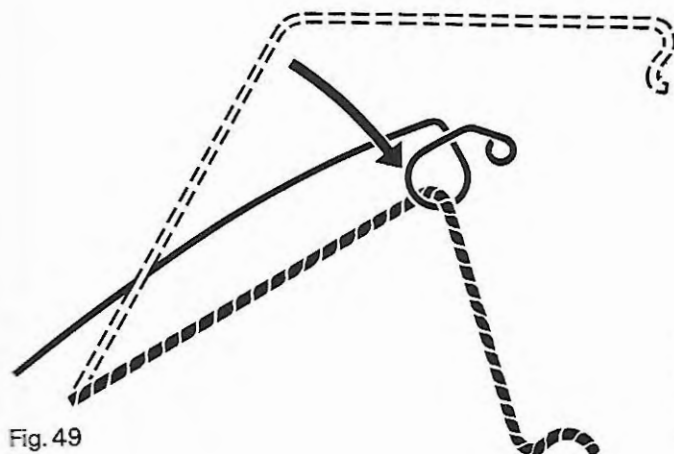


Fig. 49

With your left hand, bend the tension arm downwards and with your right hand, place the end of the yarn from the left into the eyelet on the tension arm. Fig. 49

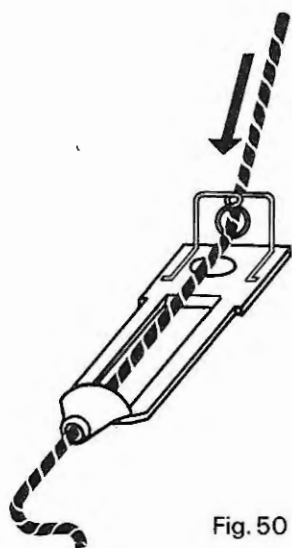


Fig. 50

Now thread the end of the yarn through the upper and lower eye into the feeding eyelet, fig. 50; underneath the feeding eyelet pull out approx. 20 inches of yarn.

Put feeding eyelet back into its socket on the lock.

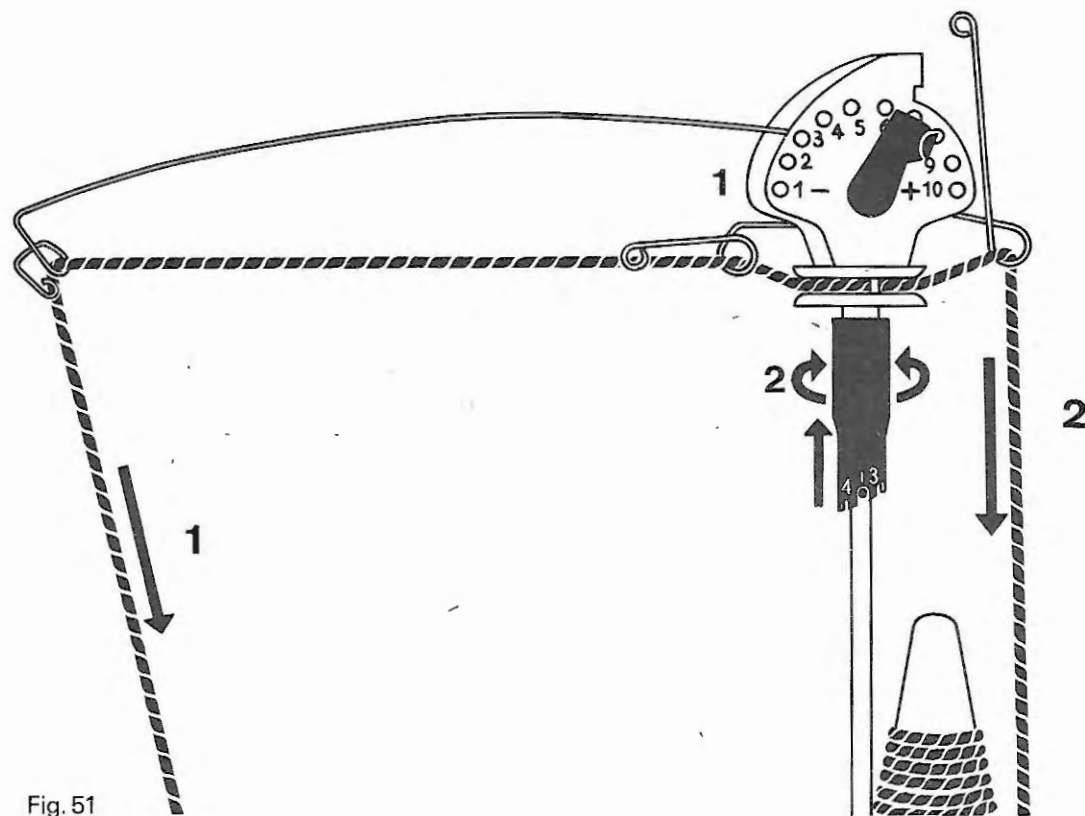


Fig. 51

**In the first place, adjust the tension arm,
Fig. 51/1:**

Holding the yarn with your left hand underneath the back eyelet, pick up yarn end from underneath the feeding eyelet with your right hand and pull it down until the tension arm is in horizontal position.

On the other hand, if the upward pull is too weak or if the tension arm even stops moving, turn the lever backwards in direction "+" and let it snap in at a higher number.

The tension arm has to move up freely, but may not jerk upwards.

For a 3-ply pullover wool, we suggest setting 7.

If the upward pull of the tension arm is too strong, lift lateral lever, turn it forward in direction "—" and let it snap in at a lower number.

You will find the correct adjustment by testing.

Now adjust the Tension Regulator, fig. 51/2:

Clamp the yarn in front, between feeding eyelet and socket.

2 Pull yarn down underneath the back eyelet in direction to the cone until the tension arm is in horizontal position.

If you now let the yarn go behind the mast and if the upward pull of the tension arm is very strong, the braking of the discs must be increased:

Lift tension regulator, turn it in direction "+" and set it at a higher number.

The adjustment is correct as soon as the tension arm moves freely and steadily from the horizontal position upwards.

If you let the yarn go and if the tension arm moves too slowly or not at all, decrease the braking of the discs:

Lift feeding eyelet to detach the yarn clamped in front of the lock. Insert feeding eyelet again. The yarn is loosely hanging down.

Lift tension regulator, turn it in direction "—" and set it at a lower number.

Directives for adjusting the yarn tension

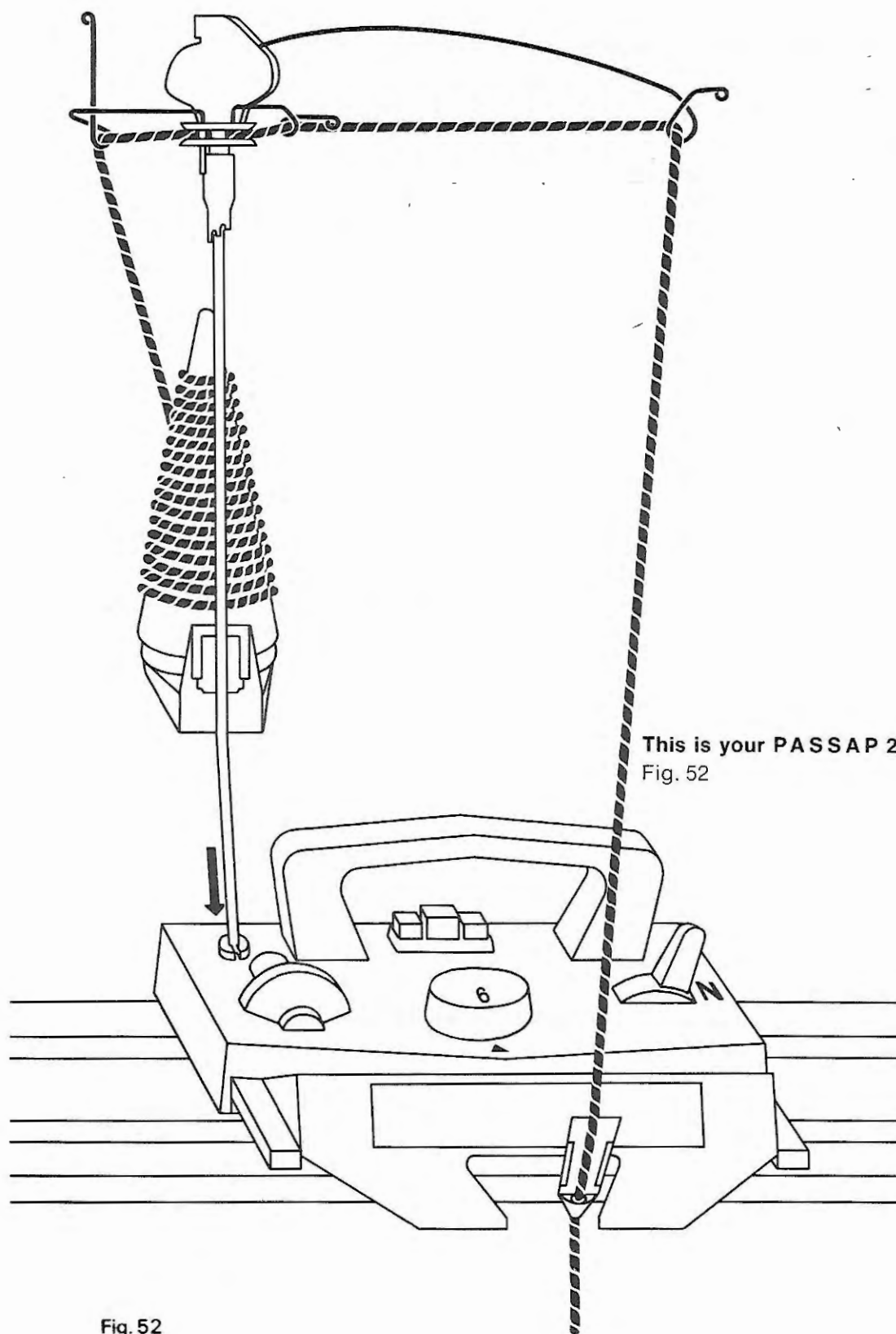
Heavy, unelastic wool = Tension arm at high number, tension regulator at low number

Fine, elastic wool = Tension arm at low number, tension regulator at high number

For a 3-ply pullover wool we suggest setting $3\frac{1}{2}$.

Lock at right, N-X lever on N, stitch size 6, yarn threaded, end of yarn hanging down loosely underneath the feeding eyelet, 60 needles in Working Position in the needle bed, row counter set at 000.

Instant automatic casting on with BX and pushers is described on page 41.



This is your PASSAP 20 ready for knitting.
Fig. 52

Fig. 52

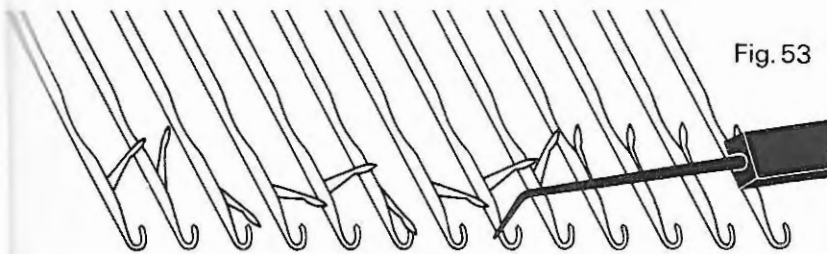


Fig. 53

You will now knit your first test square and while doing so, learn to

cast on – knit – turn up a hem – increase – decrease – unravel a row – cast off.

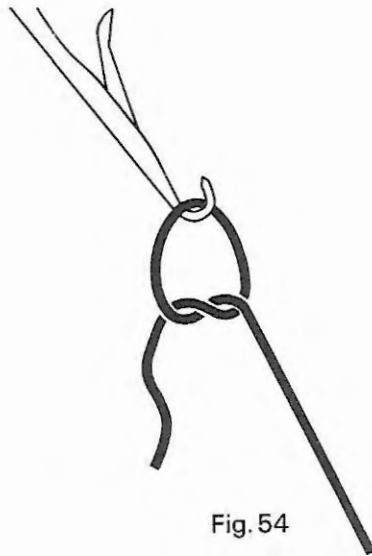


Fig. 54

Casting on:

Push up left edge needle until the needle head with the open latch is in front of the sinkers. If necessary, open the latch with the angled point of the red tool. Fig. 53

Tie the end of the yarn with a loose slip knot to the open hook of the needle, fig. 54, and move needle back into Working Position.

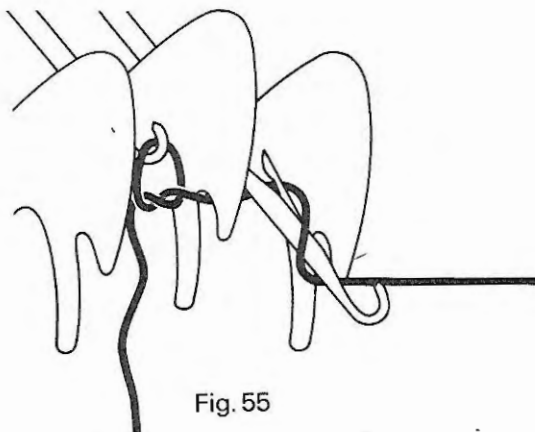


Fig. 55

Push up the next needle, pull yarn tightly to the right under the sinker nose and wind it around the needle hook in anticlockwise direction, fig. 55. Needle back into Working Position with the yarn still tightly pulled so that the sinker will be lifted slightly.

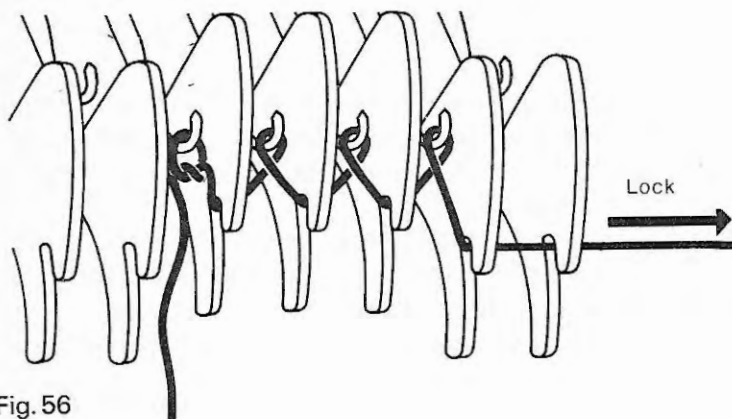


Fig. 56

In this way, wind the yarn successively around every following needle until it has been wound around all of the 60 needles. Fig. 56

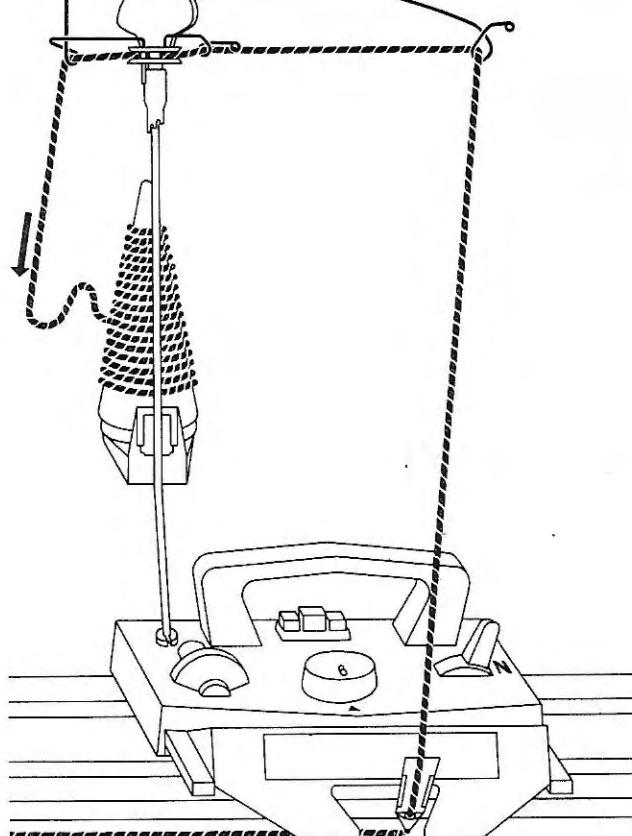


Fig. 57

Pull yarn tightly behind the mast to bring the tension arm into horizontal position. Fig. 57

1st Row

Move lock to the left – and let the yarn glide through the left hand behind the mast until it rolls off the cone in a straight line. Row counter indicates "1".

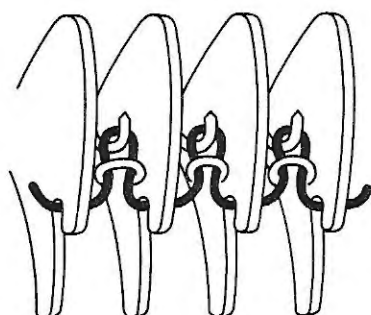


Fig. 58

Control: You just knitted a first row of stitches. Check to make sure whether a neatly formed stitch is hanging on every needle in Working Position. Fig. 58

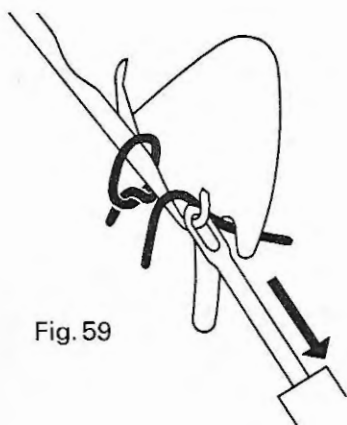


Fig. 59

First Aid

It may occur that the slip knot at the left edge needle remained unknitted because it was too tight. Correct this as follows:

Using the decker needle, pull edge needle towards you, fig. 59, until the slip knot slides on to the needle shaft behind the open latch while the yarn leading to the lock is lying in the open needle head. Fig. 60

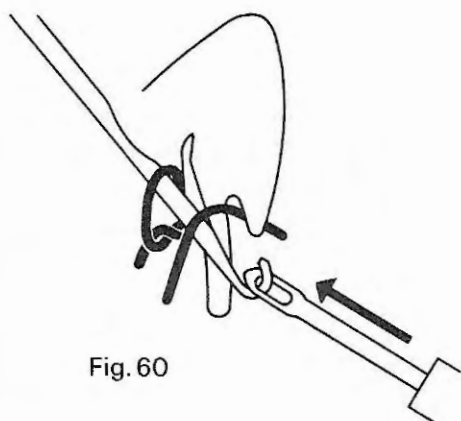


Fig. 60

With your left hand, hold yarn end underneath the needle while your right hand pushes the needle back into Work Position, fig. 60. Between the edge needle and the 2nd needle, the yarn must lie under the sinker nose.

If the whole casting on row was too tight, there is a possibility of some stitches not having been knitted. Correct this as follows:

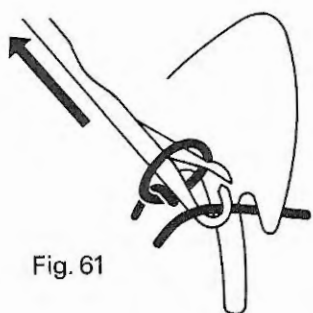


Fig. 61

Pull needle towards you until the cast on loop is lying behind the open latch with the unknitted yarn on the latch. Push needle back into Working Position, thus forming a stitch. Fig. 61. See also illustration showing formation of stitches fig. 34.

Pull yarn tightly behind the mast to bring the tension arm into horizontal position.

2nd Row

Move lock to the right – and let the yarn at first glide through the hand behind the mast. The row counter indicates "2".

3rd to 24th Row

If you now move the lock regularly from one side to the other, you no longer have to pull the yarn down behind the mast; at the end of each row, the tension arm will automatically take back the surplus yarn.

Knit until RC indicates 24. The lock is on the

Start on your right so that your left hand can easily fold and hold the knitting.

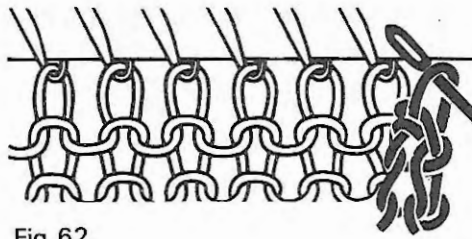


Fig. 62

Pass the decker of the green tool from the front through the cast on loop of the right end stitch and hook it into the corresponding (right) edge needle, lifting the latch. Pull the needle slightly towards you until the latch opens and the stitch hanging in the needle head slides **on** to the open latch (not behind it). Now tilt up green tool until the cast on loop joins the stitch in the needle head. Fig. 62

Pass the decker of the green tool through the next cast on loop and hang it onto the second needle.

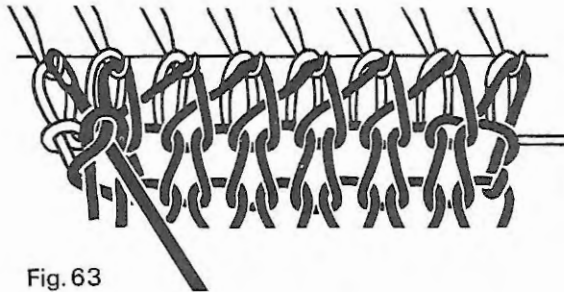


Fig. 63

Continue in this way until all cast on loops are hanging in the needle heads. Into the left edge needle you will hang the knot which you tied before casting on. Fig. 63

After completion of this operation, lift sinkers by pressing upon foot and align all stitches under the sinker noses. Release sinkers.

First Aid

N o t e : Holding the knitting tightly with your left hand facilitates the operation of hanging the loops on to the needle. The stitch in the needle head may n o t slide b e h i n d the open latch. If that should happen, you may retrieve it as follows:

Using the decker, pull needle towards you until loop and stitch are behind the latch. Fig. 64/1, 2

Push needle back until loop and stitch are on the decker. Fig. 64/3

Tilt up decker until latch slightly opens, fig. 64/4; then slide both loop and latch on to the needle head. Fig. 64/5

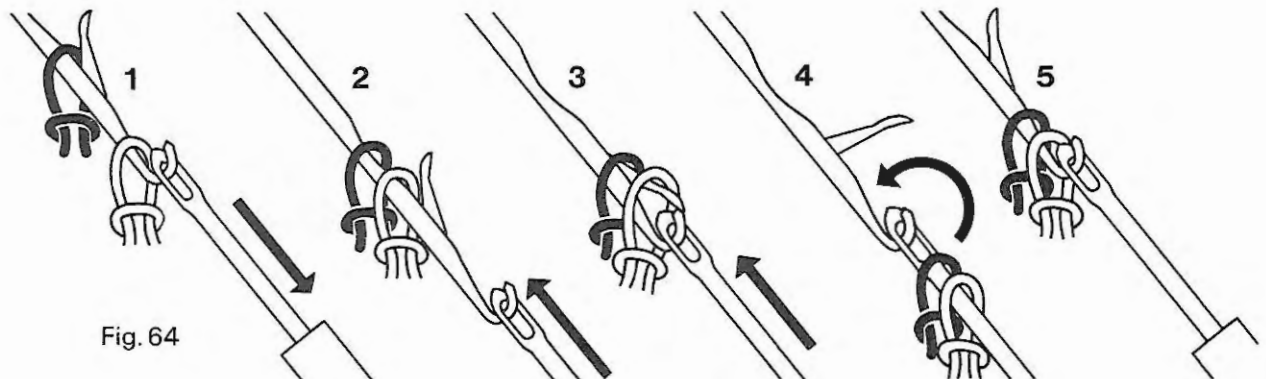


Fig. 64

Before you continue to knit, set RC at 000

Pull yarn tightly behind the mast and knit 20 rows.

RC 20.

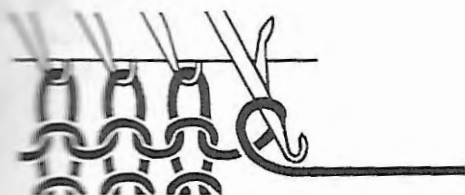


Fig. 65

Increasing 1 stitch each on right and left

Lock is at right. Next to the right edge needle bring an additional needle into Working Position and cast on 1 stitch. Fig. 65. Knit 1 row. RC 21.

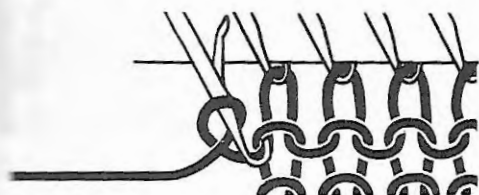


Fig. 66

Lock is at left. Next to the left edge needle, bring an additional needle into Working Position and cast on 1 stitch. Fig. 66. Knit one row. RC 22.

Continue to knit until RC indicates 30.

Repeat the increasing and continue to knit until RC indicates 40.

Increase 5 stitches each on right and left

Lock is at right. One after the other, push up 5 additional needles and wind the yarn around them in **anticlockwise** direction. (Same as when casting on.) Fig. 67. Pull yarn tightly behind the mast and knit 1 row. RC 41.

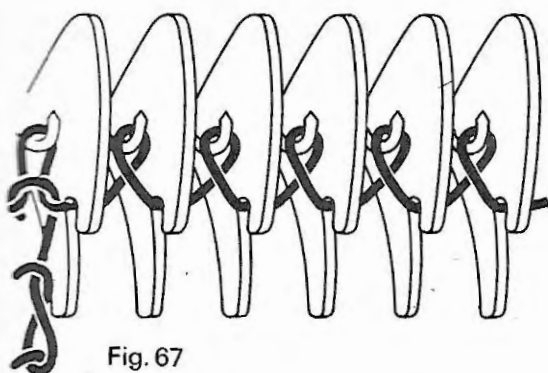


Fig. 67

Lock is at left. One after the other, push up 5 additional needles and wind the yarn around them in **clockwise** direction (same as when casting on, but in opposite direction), fig. 68. Pull yarn tightly behind the mast and knit 1 row. RC 42.

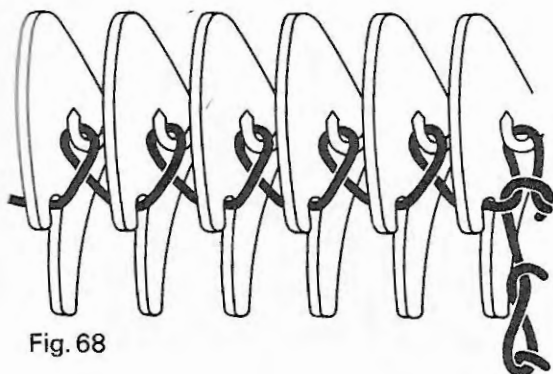


Fig. 68

Continue to knit until RC indicates 50.

Decreasing 1 stitch each on right and left, using the decker of the green tool

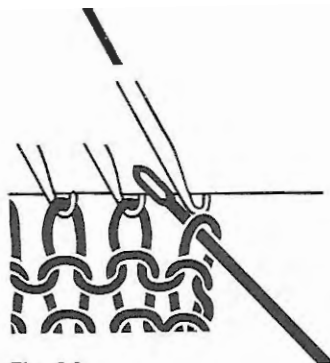


Fig. 69

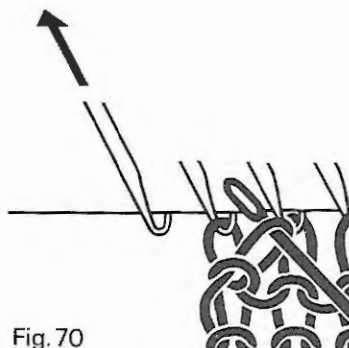


Fig. 70

Transfer the right end stitch to the adjacent needle on its left (put empty needle out of work). Fig. 69.

Then transfer the left end stitch to the adjacent needle on its right. Put empty needle out of work, fig. 70. You may thus decrease 1 stitch each on the right and left in one row.

Pull yarn tightly behind the mast and knit 10 rows. RC 60.

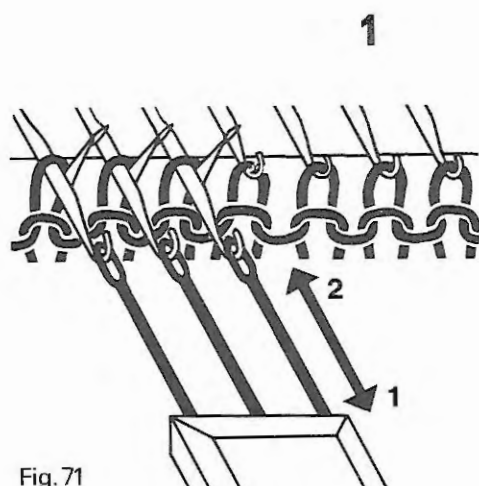


Fig. 71

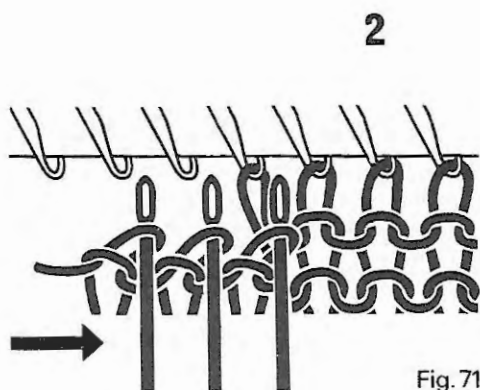


Fig. 71

Decrease once more in the same way with triple decker, fig. 71/1, 2, 3. Knit 10 rows. RC 70.

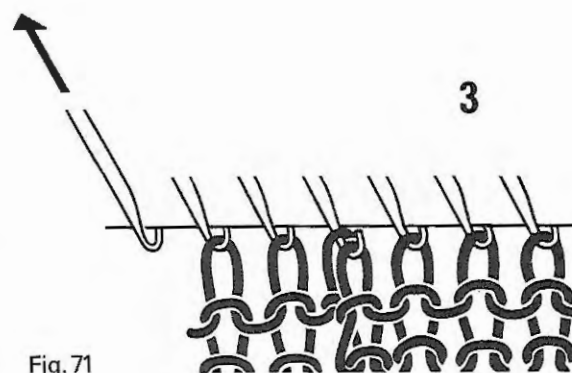


Fig. 71

1

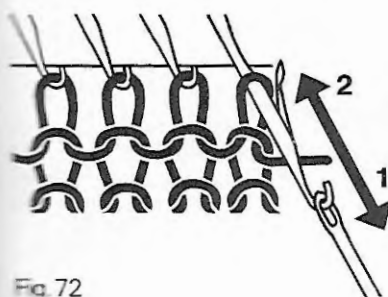


Fig. 72

2

Decreasing 4 stitches each on right and left

Lock at right. Using the decker of the green tool, lift off the right end stitch and hang it on the adjacent needle at its left. Fig. 72/1, 2

Pull needle forward until both stitches are hanging behind the open latch. Fig. 72/3

3

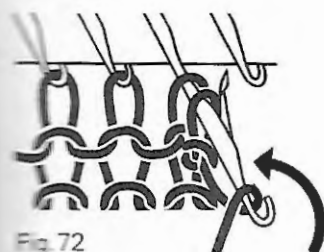


Fig. 72

4

Lay the yarn emanating from the lock from right to left over this needle. Fig. 72/3

Pull needle back into Working Position, causing both stitches to slide over the closing latch; the yarn is caught in the closed needle head and will form a new stitch. Fig. 72/4

5

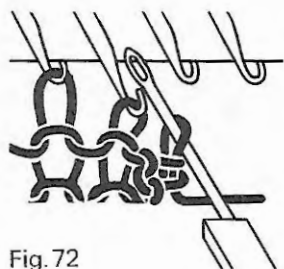


Fig. 72

Hang the new stitch on to the next needle. Fig. 72/5

Both stitches behind the open latch, needle forward.

Lay yarn over it from right to left and pull needle back into Working Position.

Continue working like this until 3 stitches have been decreased; there will now be 3 empty needles beside the needles in Working Position.

Now hang the last stitch obtained on the adjacent working needle without pulling the yarn through it. The 4 empty needles are pushed back into Neutral Position (needle feet at needle scale). Fig. 73

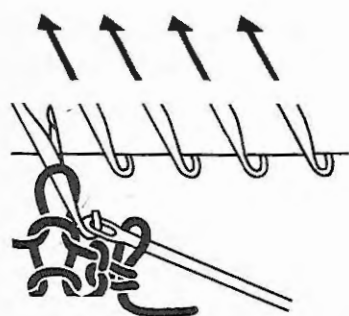


Fig. 73

The 4th stitch is merely hung on the needle without being crocheted, to achieve a smooth edge at the end of the decrease when knitting is continued (no hole).

Pull yarn tightly behind the mast and knit 1 row. RC 71.

Lock at left. Using the decker of the green tool, proceed as before, but from the left, thus transferring stitches to the right and laying yarn from left to right into the needle head.

Pull yarn tightly behind the mast and knit 1 row.
RC 72.

Advice: When crocheting end stitches, always pull knitting tightly underneath the needles so that the newly formed stitch will be long and the decreased edge smooth and elastic.

Decrease another 4 stitches on the right
as described above. Pull yarn tightly, knit 1 row,
RC 73.

Decrease another 4 stitches on the left
as described above. Pull yarn tightly, knit 1 row,
RC 74. Knit 6 rows. RC 80.

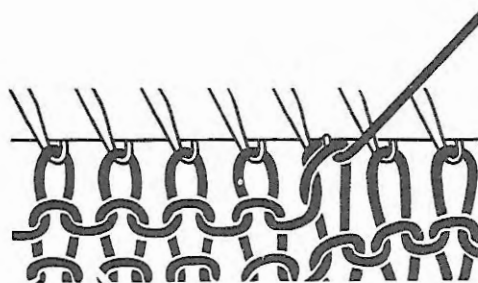


Fig. 74

Unravelling Rows

Lock at right. With your right hand, exercise a tight pull on the yarn emanating from the lock while your left hand holds the knitting downwards. With little jerks pull yarn gently, but firmly alternately upwards and downwards. By doing so, the sinkers also will move upwards and downwards.

The last row of stitches will thus become undone and the stitches of the last but one row will automatically slip back into the hooks of the latch needles. Fig. 74

Repeat this from the left. The left hand now holds the yarn while the right pulls the knitting downwards.

After "unravelling rows"

briefly lift the sinkers so that the stitches may slide underneath the sinker noses.

Turn RC back by 2 numbers, RC 78.

Pull yarn tightly and knit 10 rows. RC 88.

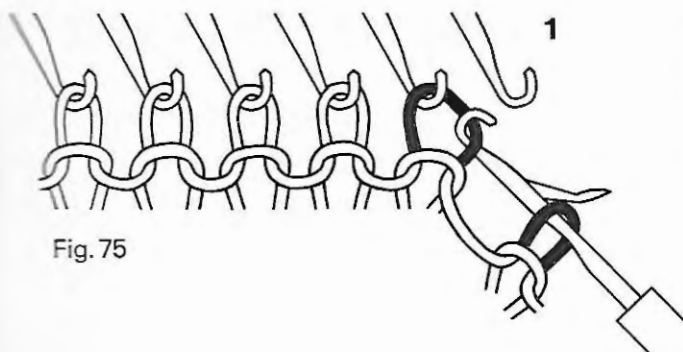


Fig. 75

Casting off all the stitches

Set stitch size at 8. Pull yarn tightly behind the mast.

Knit 1 row. RC 89. Lock is at left.

Because you knitted one row with stitch size 8, you obtained large stitches. These may now be cast off without yarn, using the latch needle of the green tool.

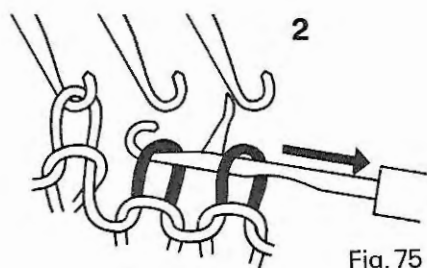


Fig. 75

Take edge stitch on latch needle and pull the knitting diagonally towards you so that the sinkers will release the next stitches.

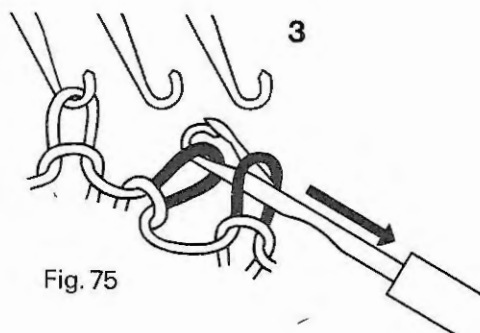


Fig. 75

Lift off next stitch with the latch needle and pass it through the edge stitch (always holding the knitting tightly). Fig. 75/1, 2, 3

Lift off the next stitch and pass it through the previous stitch.

Continue crocheting in this manner until all the stitches have been cast off.

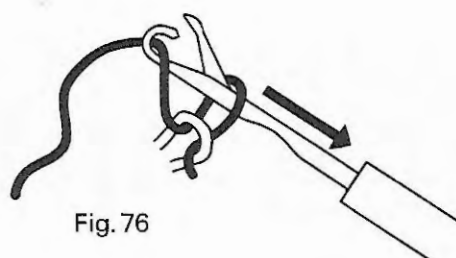


Fig. 76

Finally break off the yarn underneath the feeding eyelet and pass it through the last stitch obtained. Fig. 76

Let us have a look at it and recapitulate:

After casting on, you knitted 24 rows and turned up the hem.

You increased on both sides twice 1 stitch each and once 5 stitches each.

You decreased on both sides twice 1 stitch each and twice 4 stitches each.

You unravelled rows.

Finally you cast off all the stitches.

So you know now the basic points of stocking stitch knitting.



We will now get our PASSAP 20 ready for the next chapter.

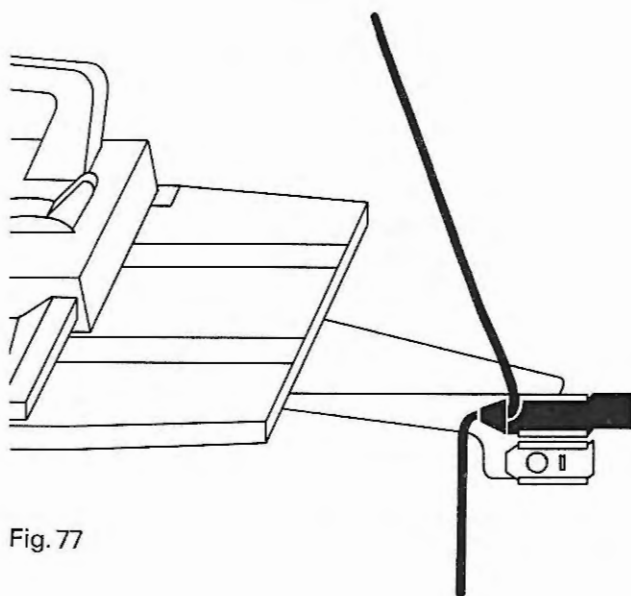


Fig. 77

Take feeding eyelet from the socket and insert it on the right in the **eyelet support**. Fig. 77

Move lock to the right.

Set stitch size back to 6.

In centre of needle bed push 60 latch needles into Working Position.

And now, on we go . . .

Chapter three

Let's have some theory first.

To begin with, a word about the pushers



Fig. 78

This is what a pusher looks like. Fig. 78:

1 = pusher shaft, 2 = pusher foot

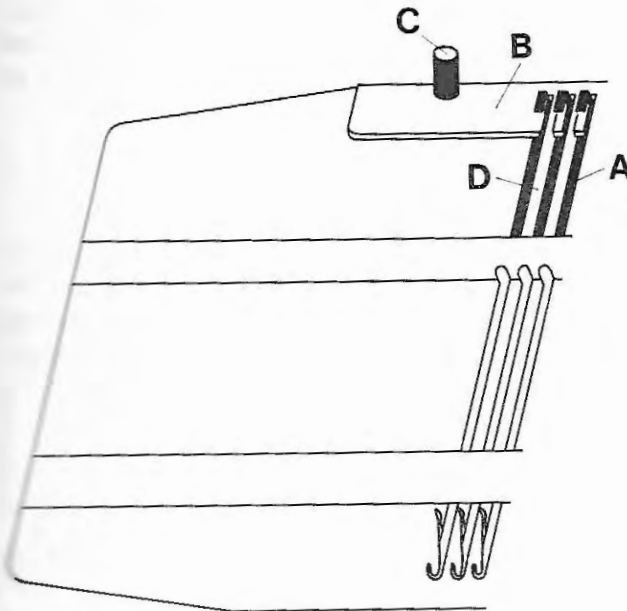


Fig. 79

There are 179 of these pushers in the pusher bed (A). In a way, each pusher is the extension of the latch needle lying in front of it in the needle bed. Fig. 79

Pushers are used only where latch needles are in Working Position. When a latch needle is in Neutral Position, its corresponding pusher also must be out of work.

In order to put a pusher into Working Position, the blocking rail (B) must be opened and, according to fig. 79 and 80, the pusher must be moved out of the rail as follows:

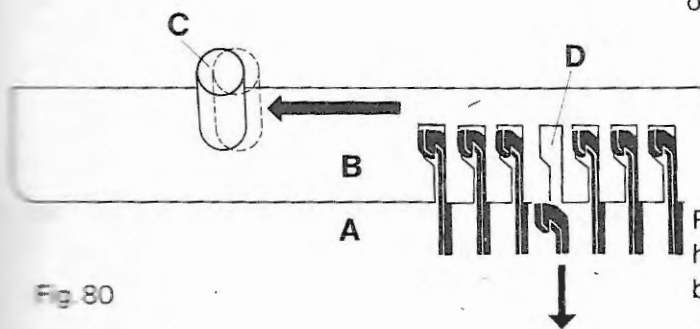
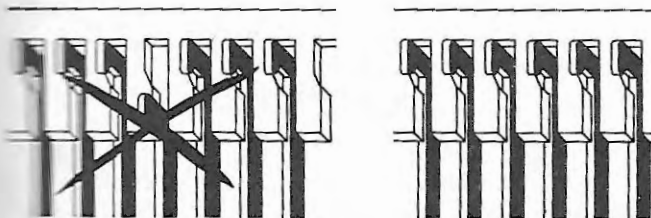


Fig. 80

Push button (C) of blocking rail (B) to the left and hold it, then advance the pusher and release the button so that the blocking rail will close again.



wrong

Fig. 81

correct

No pusher may be caught by a tooth of the blocking rail. The rail must spring back to its initial position when you release the button so that each tooth of the rail closes the corresponding pusher channel (D). Fig. 80 and 81

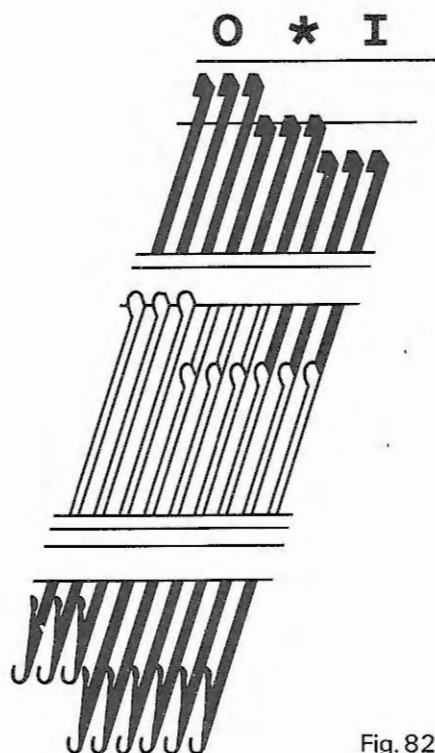


Fig. 82

O = Neutral Position. The pusher foot is within the blocking rail, pusher completely out of action (position of pushers when machine is leaving the factory).

*** = Rest Position.** The pusher foot is out of the blocking rail and is resting on it. When a pusher is in Rest Position, the corresponding latch needle, in pattern knitting, either does not knit (see position BX of Dial Selector) or will receive loops (loop = unfinished stitch in needle head – see position AX of the Dial Selector).

I = Working Position: The pusher foot is out of the blocking rail, approx. $\frac{1}{2}$ inch from the rail. Only when the pusher is in Working Position, does the corresponding latch needle knit normally.

Pushers are used in those cases where for patterns or shaping, certain individual needles or certain needle groups must not knit or merely form loops. The pushers will then direct the movement of the latch needles.

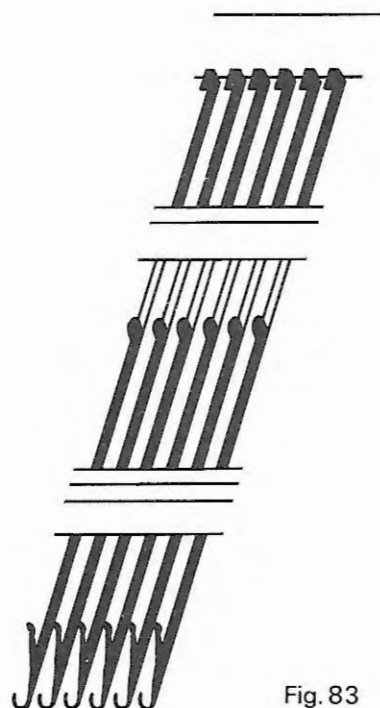


Fig. 83

Now move 60 pushers from Neutral Position (O) into Rest Position (*)

Lock at right. Push button of blocking rail to the left and hold it.

Move up, out of the blocking rail, the 60 pushers which correspond to the 60 latch needles in Working Position.

Release button, being careful that no pusher foot gets caught.

Arrange the pushers in Rest Position along the blocking rail. Fig. 83

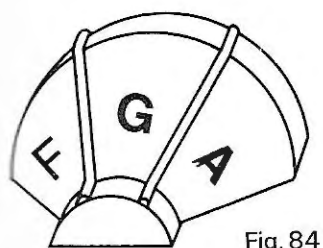


Fig. 84

A Word about the Automatic Pattern Device in connection with the pushers.

The automatic pattern device is commanded by:

The Dial Selector for adjusting the required stitch pattern, to be turned sideways, fig. 84,

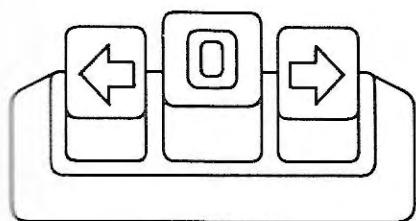


Fig. 85

and the three keys, fig. 85 (see also fig. 90)

The dial selector can only be adjusted if the N-X lever is set at N. Fig. 86.

It is locked when the N-X lever is set at X.

There are three different possible settings for the dial selector, AX, BX, GX, according to the diagram which you fixed on the stripper.

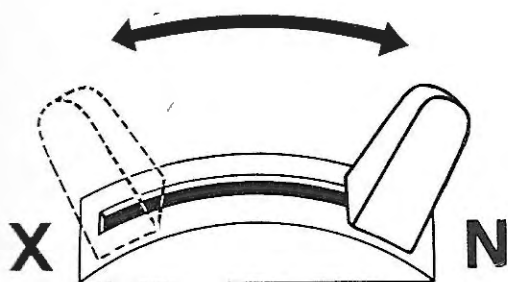
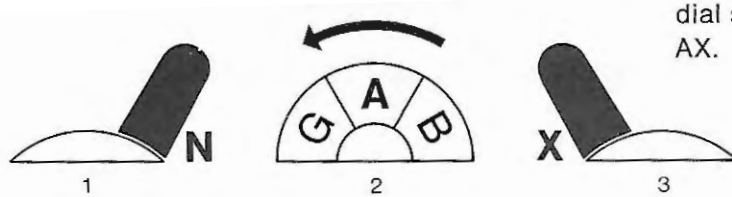


Fig. 86



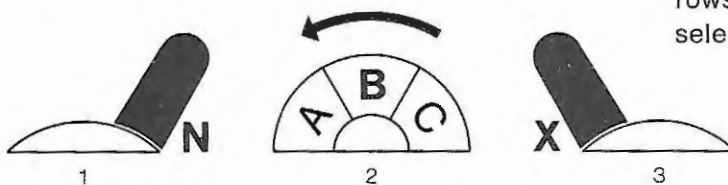
dial selector to A (2), N-X lever to X (3) = setting AX.

When pushers are in Rest Position and when the lock with dial selector at AX is moved across the needles in Working Position, the latch needles are pushed out to such an extent that they will seize the yarn from the feeding eyelet without, however, knitting stitches. The yarn remains unknitted as a "loop" in the needle head.

When pushers are in Working Position and when the lock with dial selector at AX is moved across the needles in Working Position, the pushers will direct the needles to knit complete stitches.

With lock set at AX, you can also knit without pushers. This setting will always form loops which can be knitted off by putting the lever to N. Needless to say that a latch needle can only hold a limited number of loops.

Fig. 88



BX for Fairisle Patterns and Graduations (short rows and heels), fig. 88. N-X lever to N (1), dial selector to B (2), N-X lever to X (3) = setting BX.

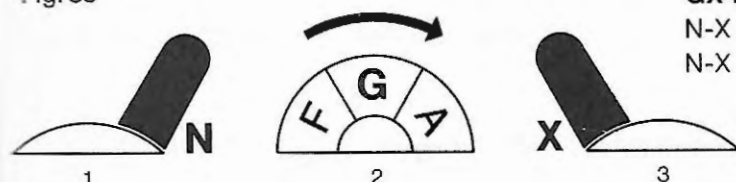
When pushers are in Rest Position and when the lock with dial selector at BX is moved across the needles in Working Position, the latch needles will not be pushed out; they do not move and do not knit.

When pushers are in Working Position and when the lock with dial selector at BX is moved across the needles in Working Position, the pushers will direct the needles to knit complete stitches.

With lock set at BX it is not possible to knit without pushers.

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Fig. 89



GX for Free Move. Fig. 89

N-X lever to N (1), dial selector to G (2),
N-X lever to X (3) = setting GX.

With setting GX, the lock is completely out of action.

The latch needles are not commanded and consequently, they do not move. They remain in whatever position they happen to be.

Setting GX results in complete free move. The lock can be set at GX at any time, even in the middle of a row. Very important in the event of a mishap, for inst. breaking of the yarn due to a knot, etc.

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Practise adjustment of the Dial Selector, but for the time being, without moving the lock.

The letters C (right of B) and F (left of G) have no function and cannot be set.

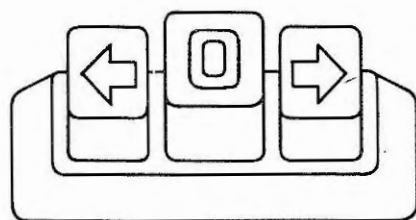


Fig. 90

Three keys for operating the pattern change.

Fig. 90:

1 left arrowed key – 1 zero key – 1 right arrowed key

Press down the arrowed key for operating the pattern change:

When knitting the next row, pushers having been in Working Position before, will go back to Rest Position,

and pushers having been in Rest Position before, will advance into Working Position.

By pressing down the zero key, the pattern change will be put out of action:

When knitting the next row, the pushers remain in their momentary position.

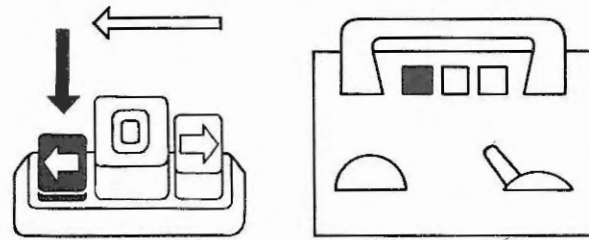


Fig. 91

When the **lock is on the right**: Press down **left arrowed key** if your pattern requires a change of the pusher position in the next row. Fig. 91

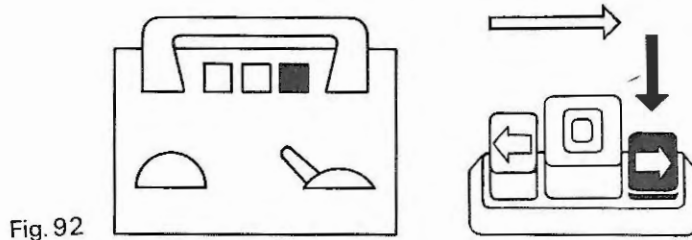


Fig. 92

When the **lock is on the left**: Press down **right arrowed key** if your pattern requires a change of the pusher position in the next row. Fig. 92

If **one** arrowed key is pressed down, the pushers change their position automatically in **every second row**.

Fig. 91 and 92.

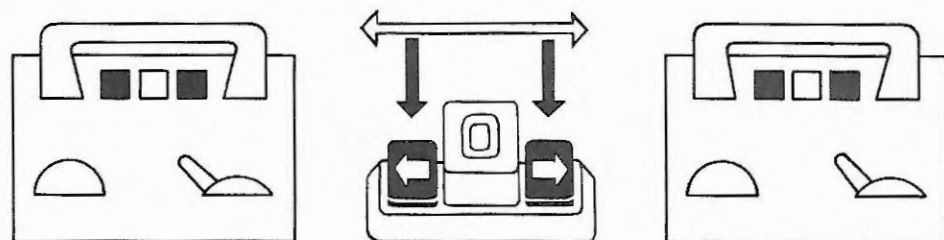


Fig. 93

If **both** arrowed keys are pressed down, the pushers change their position automatically in **every row**. Fig. 93

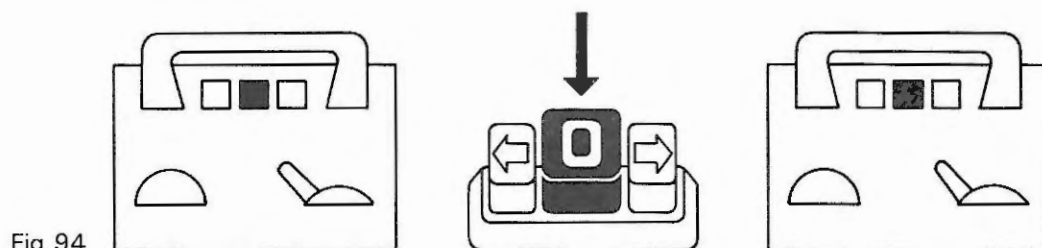


Fig. 94

Release of pattern change by pressing down zero key: As soon as you press the zero key, you release pressed down arrowed keys, fig. 94, thereby

cancelling the pattern change so that the pushers will not change their position in the next row.

Practical examples for the coordination of Dial Selector and keys when using pushers.

In order to make you familiar with the different adjustments, we are practising by moving the lock without yarn and feeding eyelet.

Starting position: Lock at right, feeding eyelet on the side of machine, in the eyelet support. 60 latch needles are in Working Position and the corresponding 60 pushers in Rest Position.

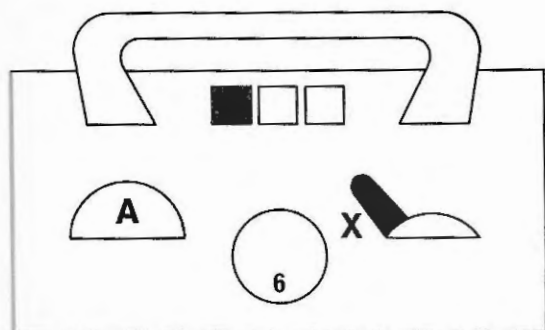


Fig. 95

1st example Set dial selector at AX – press down left arrowed key. Fig. 95

- 1st row: Lock to the left – whereby the pushers advance into Working Position.
- 2nd row: Lock to the right – the pushers remain in Working Position.
- 3rd row: Lock to the left – the pushers go back into Rest Position.
- 4th row: Lock to the right – the pushers remain in Rest Position.

Repeat these 4 rows, watching the pushers. If **one** arrowed key is pressed down (in our example the left key), the pushers change their position after every 2nd row.

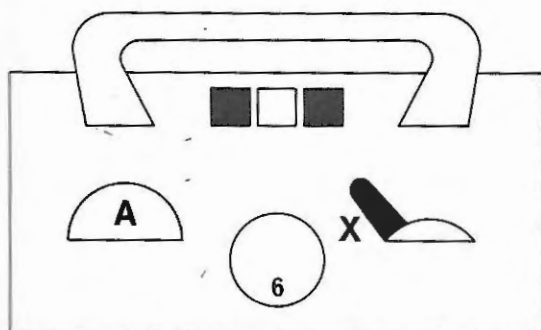


Fig. 96

2nd example Leave dial selector at AX – press down both arrowed keys. Fig. 96

- 1st row: Lock to the left – the pushers advance into Working Position.
- 2nd row: Lock to the right – the pushers go back into Rest Position.

Repeat these 2 rows. You will note that when **both** arrowed keys are pressed down, the pushers change their position in every row.

miliar with the operations of the lock and their coordination with needles and pushers.

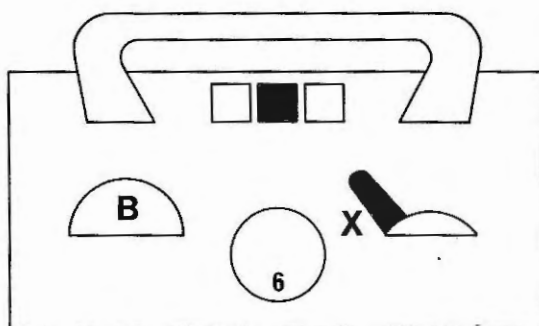


Fig. 97

3rd example Set dial selector at BX – press down zero key, thus releasing both arrowed keys, fig. 97.

On the left, move 30 pushers into Rest Position, on the right, advance 30 pushers into Working Position.

Move the lock several times from one side to the other.

Watch pushers and needles: 30 pushers and 30 needles are working on the right only. On the left, pushers remain in Rest Position and the needles do not work.

Now press down left arrowed key and move lock to the left. The pushers on the right go back into Rest Position and the pushers on the left advance into Working Position.

Now press down zero key – releasing the left arrowed key.

Move lock several times from one side to the other.

Watch pushers and needles: 30 pushers and 30 needles are working on the left only. On the right, the pushers remain in Rest Position and the needles do not work.

The setting BX and zero key is used with stocking stitch if the work has to be divided for knitting first one half and then the other half – for inst. neck opening.

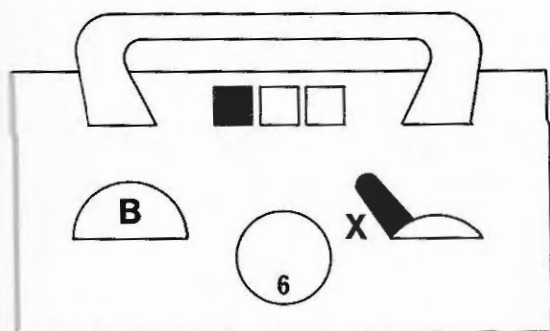


Fig. 98

The setting BX and arrowed key is used for fair-isle patterns, a detailed description of which will be given later.

4th example Leave dial selector at BX – press down left arrowed key. Fig. 98

With 1 : 1 side of the pattern ruler arrange pushers in 1 : 1 division: First, with the straight edge of the pattern ruler, advance all the 60 pushers into Working Position

then, using 1 : 1 side, move back into Rest Position every 2nd pusher so that pushers 1, 3, 5, etc. are in Working Position and pushers 2, 4, 6, etc. in Rest Position (same as for latch needles in fig. 100).

- 1st row: Lock to the left – pushers have changed: Pushers 1, 3, 5, etc. are in Rest Position and pushers 2, 4, 6, etc. are in Working Position.
- 2nd row: Lock to the right – the pushers remain in their position.
- 3rd row: Lock to the left – the pushers change their position.
- 4th row: Lock to the right – the pushers remain in their position.

Instant automatic casting on with BX and pushers.

Advanced PASSAP-knitters, who know about the use of the dial selector, the keys and the pushers may well learn now the instant automatic casting on:

Lock at right, on BX, both arrowed keys pressed down.

Wool threaded in garn-guide and feeding eyelet.

Stitch size at 6, tension discs at $3\frac{1}{2}$, tension arm at 7 (according to wool)

60 needles in Working-Position

60 pushers in 1 : 1 division (behind the 60 needles) i. e.: 1 pusher in Working-Position — 1 pusher in Rest-Position etc.

Knit 2 rows, i. e. pass the lock first to the left, then to the right.

Press zero-key and set N-X lever at N.

Continue knitting.



And again we will get our PASSAP 20 ready for the next chapter:

All the pushers back into the blocking rail

60 latch needles into Working Position

Lock at right, N-X lever to N

Press down zero key

Row counter to 000

And on we go to the second test square ...

Chapter Four

You will now knit your second test square and while doing so, learn to

make a 1 : 1 hem – two AX patterns – a BX pattern – cable pattern and crocheting stitches – make a V-neck.

Starting Position: Lock at right, lever to N, stitch size $4\frac{1}{2}$ (if a welt is knitted with every 2nd needle only, the stitch size has to be set 1– $1\frac{1}{2}$ numbers lower than when knitting with all the needles), 60 needles in Working Position, RC 000. Fig. 99

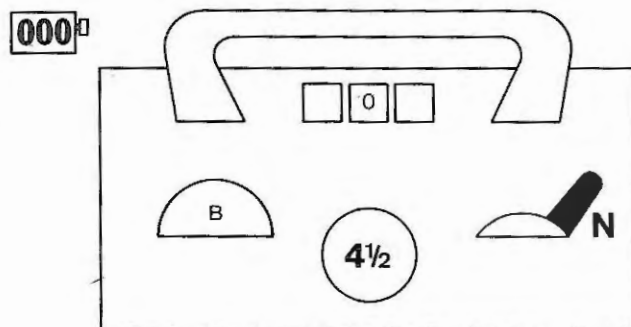


Fig. 99

Please make sure of cone holding enough yarn; otherwise you will first have to wind yarn for a full bobbin.

Thread the yarn, feeding eyelet in eyelet socket on the lock, about 20 inches of the end of yarn hanging down underneath the feeding eyelet.

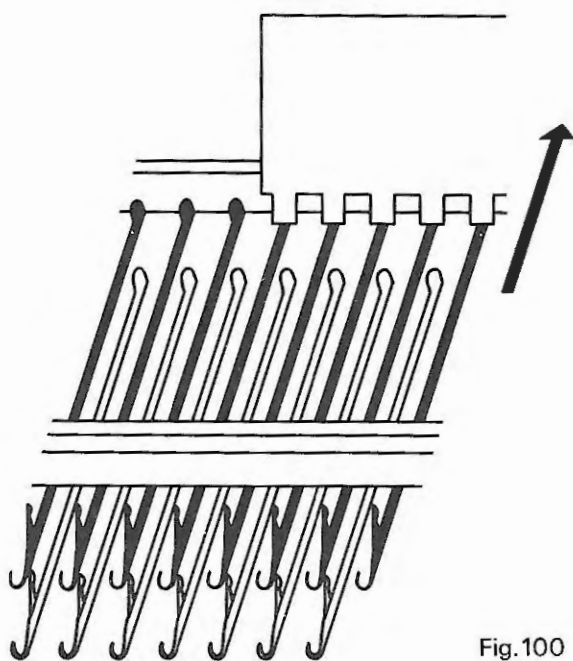


Fig. 100

Using the pattern ruler (1 : 1 side), push back into Neutral Position every 2nd needle. Fig. 100

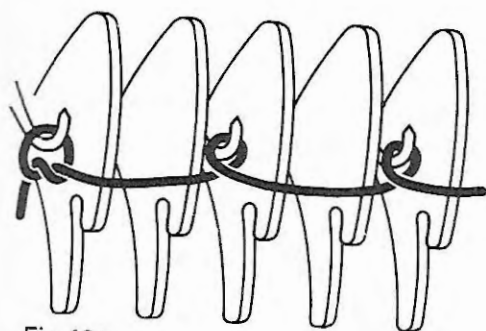


Fig. 101

Cast on 30 stitches in such a way that the thread between the needles is lying **in front of** the sinkers. Place yarn rather tightly. Fig. 101

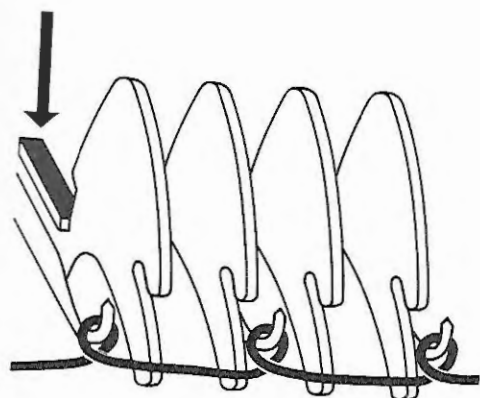
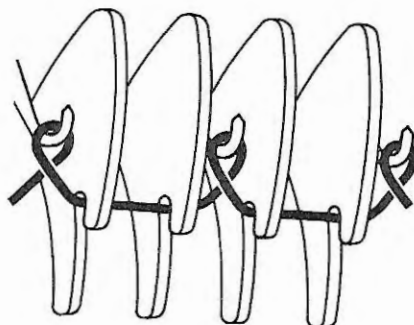


Fig. 102

When casting on is completed, lift sinkers by pressing down their back end so that the yarn will slide underneath the sinker noses, fig. 102 left. Release sinkers, fig. 102 right.



Pull yarn tightly behind the mast and move lock to the left. RC 1.

Make sure of left edge needle being correctly knitted off. If not, correct it.

To be continued on page 46.

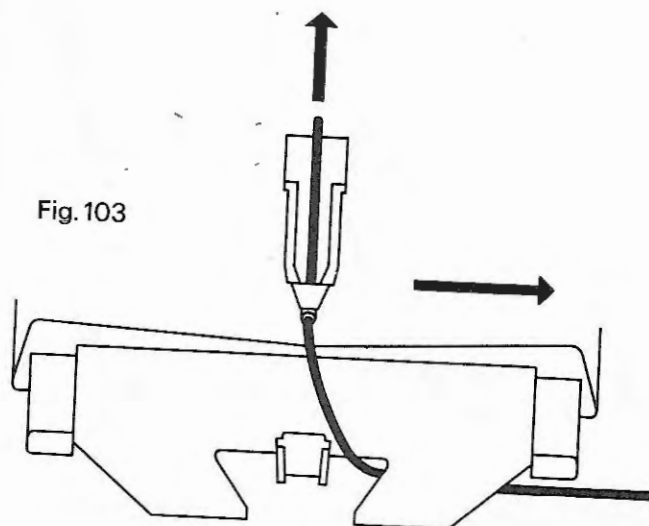


Fig. 103

First Aid

1. If you did not obtain a neat row of stitches, this can only be due to the fact that when casting on, you did not wind the yarn tightly enough around the needles. Take feeding eyelet from the socket, fig. 103, and move lock to the right, without knitting, thus dropping off the faulty casting on. Feeding eyelet into socket and cast on again

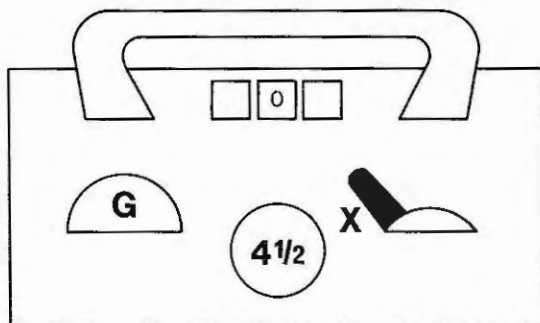


Fig. 104

2. In case your casting on was so loose that the yarn got caught by the needles and the lock jams:

Take feeding eyelet from the socket, fig. 103, set lock at GX (free move), fig. 104, and try to push it carefully in the direction in which it moves most easily.

Then arrange needles by hand in Working Position, possibly cutting off knotted yarn.

Lever to N and lock to the other side, thus dropping off the faulty casting on.

Now lock to the right. Insert feeding eyelet in its socket and cast on again.

1

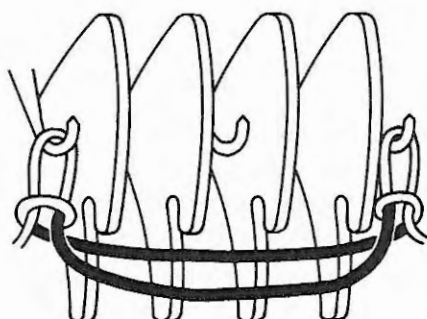


Fig. 105

First Aid

3. It also may occur that some needles did not form a stitch in the first row.

Reason: Casting on was irregular.

Such an unknitted stitch can be corrected as follows:

There are two threads underneath the empty needle, fig. 105/1

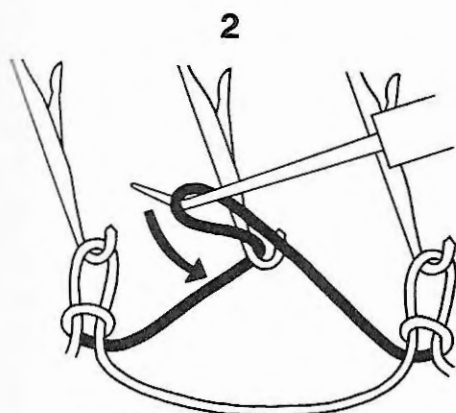


Fig. 105

With the angled point of the red tool and with a twist, place the upper thread into the needle head, fig. 105/2, and behind the open latch.

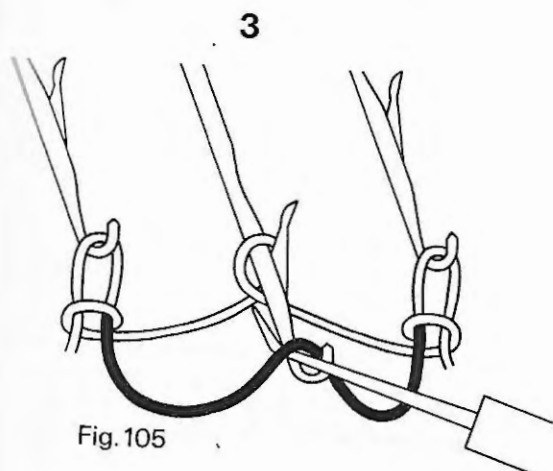


Fig. 105

Place the second thread into the needle head, without twisting it. Fig. 105/3

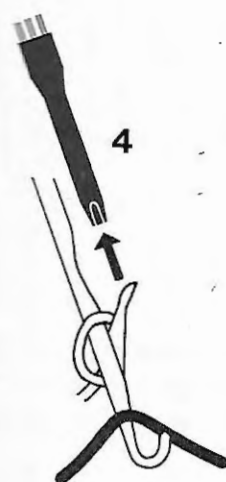
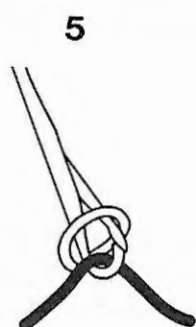


Fig. 105



Pull needle back by its foot, fig. 105/4 (using the needle pusher of the black tool).

The twisted thread will thus slide forwards over the closed needle head while the straight thread will form the new stitch. Fig. 105/5, 6

on and the 1st row, continue to knit until RC 30.

Turn up the hem and continue thereafter in stocking stitch.

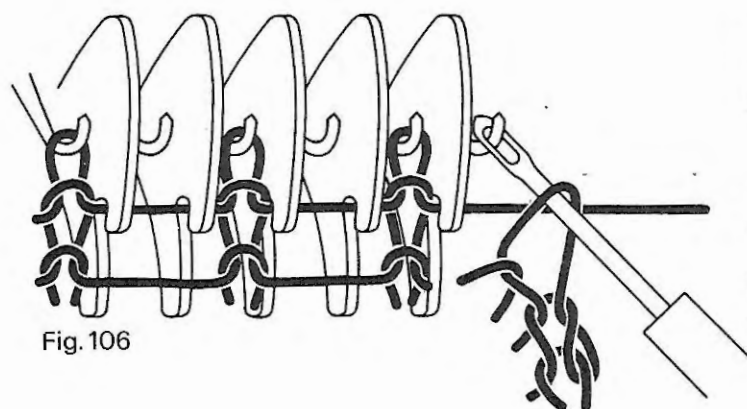


Fig. 106

To begin with, put into Working Position all the empty needles formerly pushed back into Neutral Position; you now again have a total of 60 needles.

Start on your right and with your left hand hold the knitting tightly.

First hang the edge loop of the end stitch onto the empty needle on the extreme right. Fig. 106

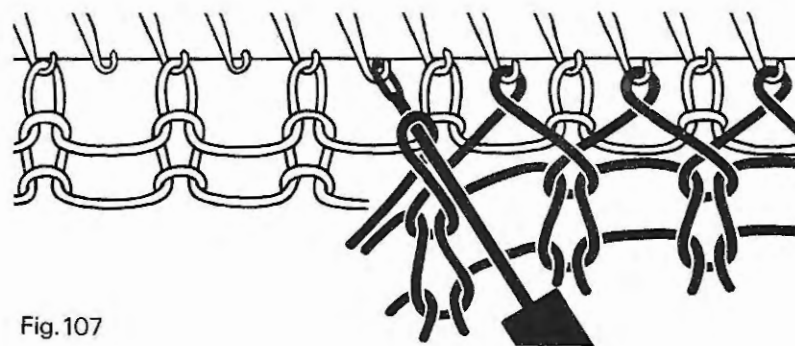


Fig. 107

Then, one after the other, hang the connecting links between stitches with a twist on the empty needles. (By twisting the links you can avoid holes between hem and the continuation of your knitting in stocking stitch.) Fig. 107

Lift sinkers briefly by pressing down their back end so that the connecting threads placed on the needles will slide underneath the sinker noses. Stitch size to 6. RC 000.

Pull yarn tightly and knit 20 rows. RC 20.

The Pattern Diagram

Before you are going to knit the first stitch patterns, we wish to explain the pattern diagrams which you will find hereafter.

In order to show the arrangement of needles and pushers in a clear and simple manner, each position is denoted with a symbol.

The diagram corresponds to the setting on the machine, such as you see it while working on it, the fat horizontal line representing the front edge of the machine.

Directly above that line, vertical lines and dots mark latch needles and pushers in different positions, as shown in fig. 108, signifying the following:

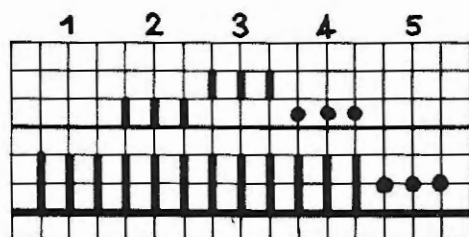


Fig. 108

- 1 = Latch needles in Working Position*
- 2 = Pushers in Working Position*
- 3 = Pushers in Rest Position*
- 4 = Pushers in Neutral Position (within blocking rail)*
- 5 = Latch needles in Neutral Position*

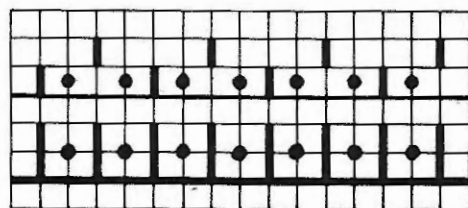


Fig. 109

Example of a pattern diagram, fig. 109

- = 1 pusher in Working Position — 1 pusher in Neutral Position — 1 pusher in Rest Position — 1 pusher in Neutral Position*
- = 1 latch needle in Working Position — 1 latch needle in Neutral Position*

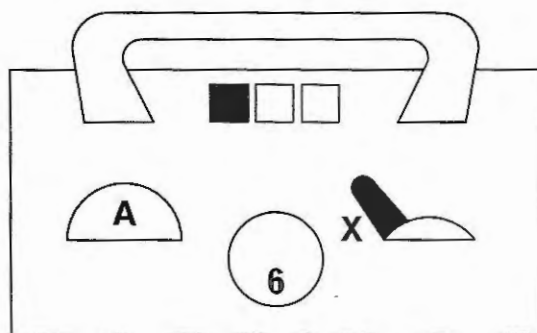
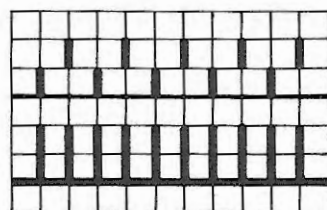


Fig. 110

Move 60 pushers out of the blocking rail and arrange them in 1:1 division behind the needle feet: 1 pusher in Working Position, 1 pusher in Rest Position, etc.

Set lock at AX and press down left arrowed key.
Fig. 110

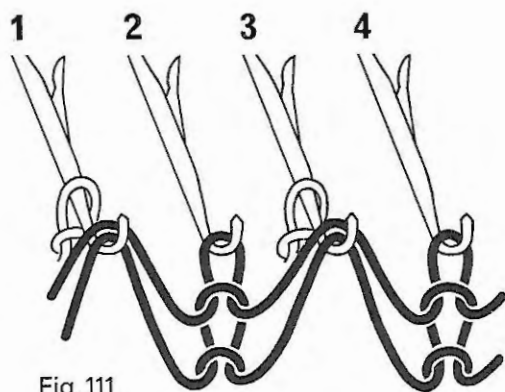


Fig. 111

Pull yarn tightly behind the mast and knit 2 rows.
RC 22.

Control: If you now lift the sinkers, you will note that only every 2nd needle was knitting normally while the heads of the other needles hold two "loops" in addition to the stitch. Fig. 111

Knit another 2 rows. RC 24.

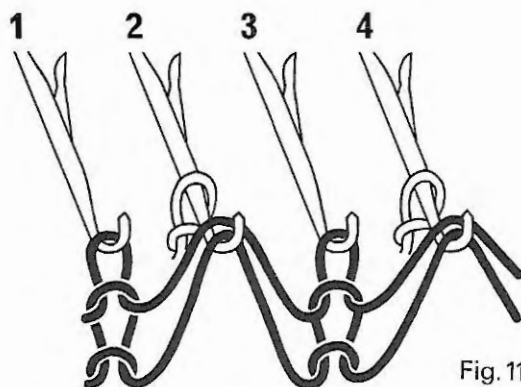


Fig. 112

Control: You will note that those needles which formerly held loops, now knitted normally and that instead the other needles received loops. Fig. 112

Continue to knit until RC 40.

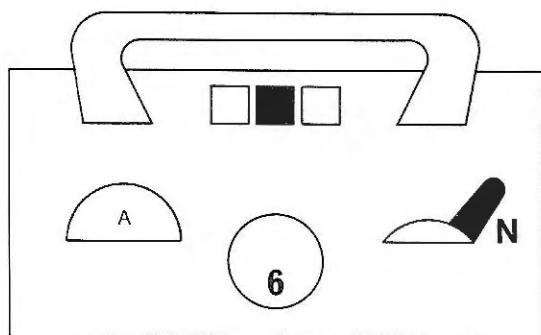


Fig. 113

Lever to N, press down zero key and knit 10 rows in stocking stitch without pattern. RC 50. Fig. 113

**The second AX pattern –
Open work pattern**

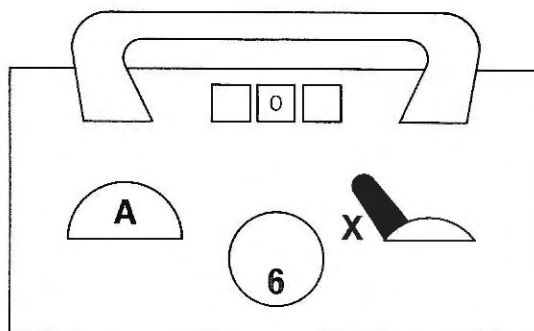
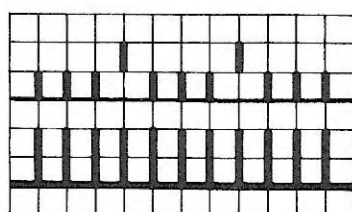


Fig. 114

Pushers in 3 : 1 division, i.e. advance every 2nd pusher from Rest Position into Working Position (3 pushers in Working Position, 1 pusher in Rest Position). Fig. 114

Lever to X, knit 2 rows, RC 52.

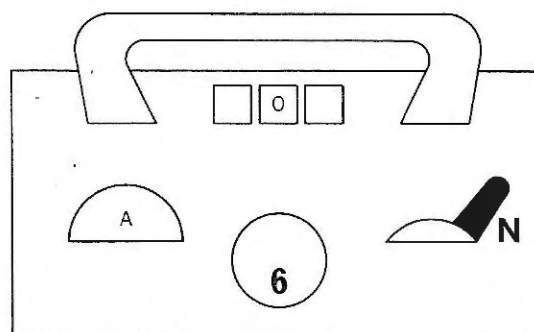


Fig. 115

Lever to N, knit 2 rows, RC 54, Fig. 115

Repeat these 4 rows until RC 70.

With lever at N, knit 10 more rows. RC 80.

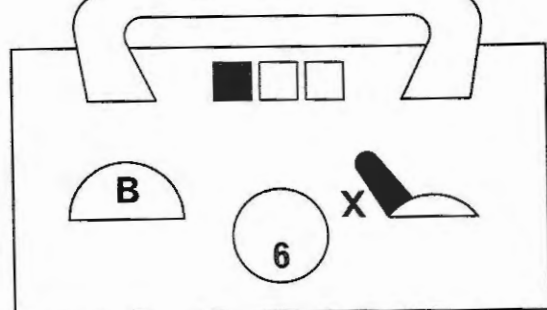
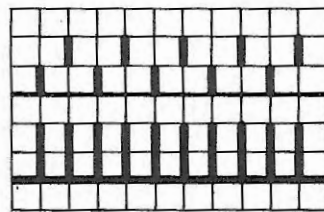


Fig. 116

Pushers in 1 : 1 division, i.e. move the middle one of the three pushers back into Rest Position. (1 pusher in Working Position, 1 pusher in Rest Position.) Fig. 116

Lock at BX, press down left arrowed key.

Knit 20 rows. RC 100.

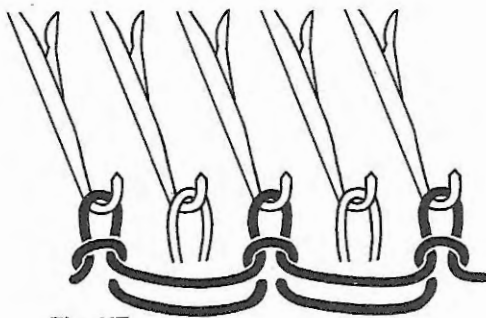


Fig. 117

Control: If you now lift the sinkers, you will note that only every 2nd needle was knitting normally while the other needles hold a stitch in the needle head and two unknitted horizontal links underneath the needles.

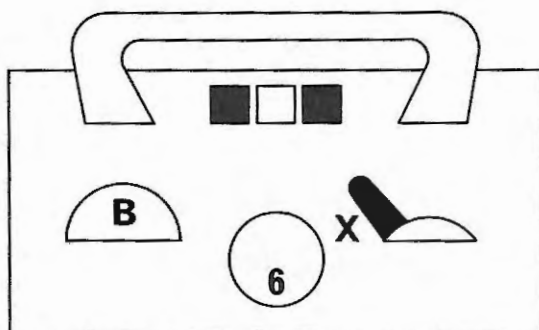


Fig. 118

A variation of this woven pattern

will be obtained with the same pusher arrangement by pressing down both arrowed keys.

When patterns are completed, pushers in Rest Position, lever to N, press down zero key (see fig. 113) and knit approx. 10 rows. RC to 000.

Crocheting Stitches

1. For framing cable patterns, stitches must be picked up on the purl side (facing you).

First set stitch size half a number higher and knit cable pattern as follows

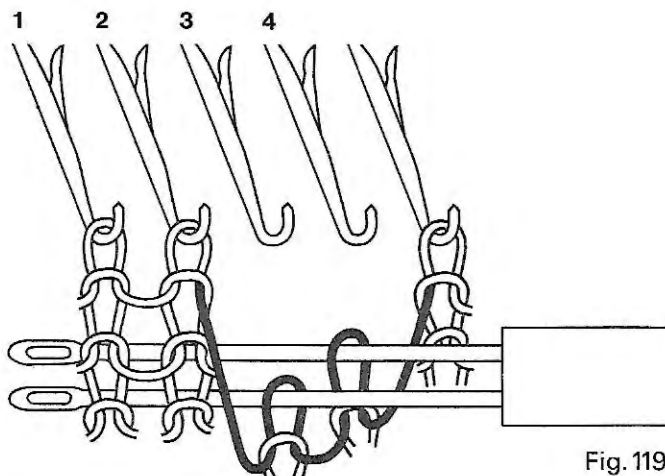


Fig. 119

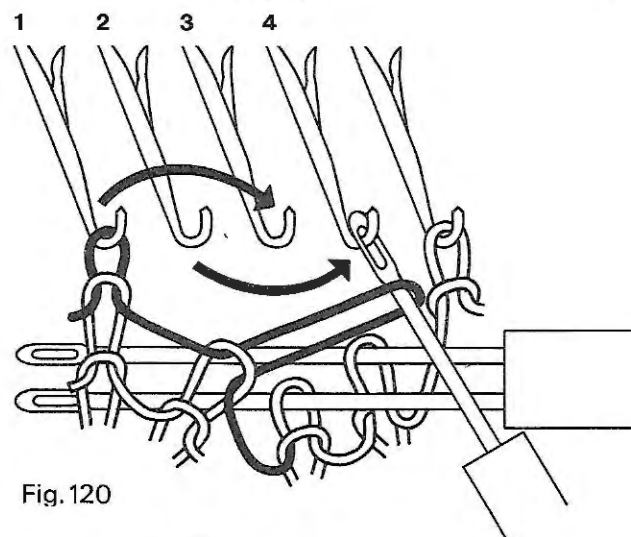


Fig. 120

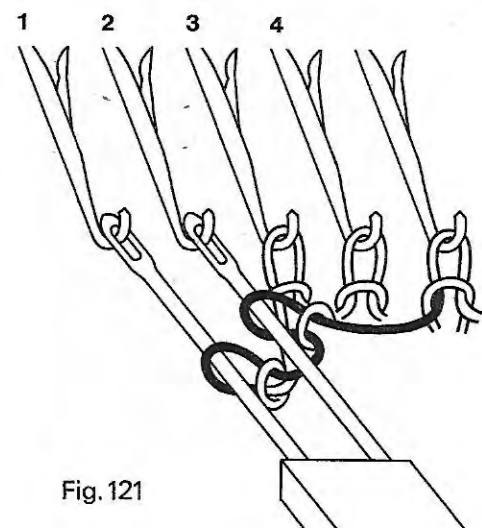
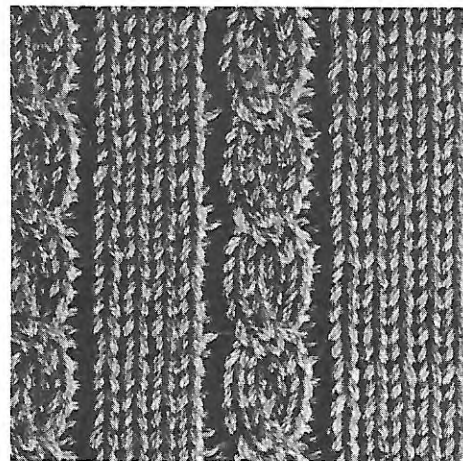


Fig. 121



Knit 6 rows with N and all the needles

Take stitches 3 and 4 on double decker and insert decker into the knitting below the needles. Fig. 119

Take stitch 2 on single decker, lift sinkers (pressure on feet) and hang stitch 2 towards the right on the empty needle 4. Fig. 120

Take stitch 1 on single decker and hang it on the empty needle 3. Fig. 120

Now hang the stitches from double decker on the empty needles 1 and 2, fig. 121, possibly aiding with the angled point of the red tool.

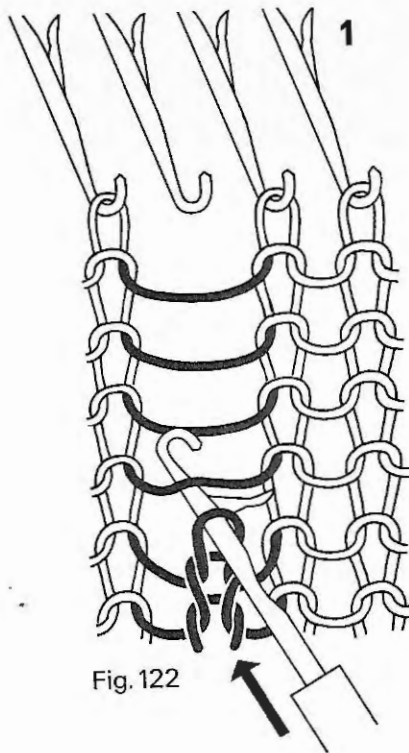
Leave out 6 stitches and repeat the cable.

Check to make sure whether all the crossed stitches are correctly lying underneath the sinker noses.

Knit 6 rows with N. Repeat the cables.

Knit 6 rows. RC 18.

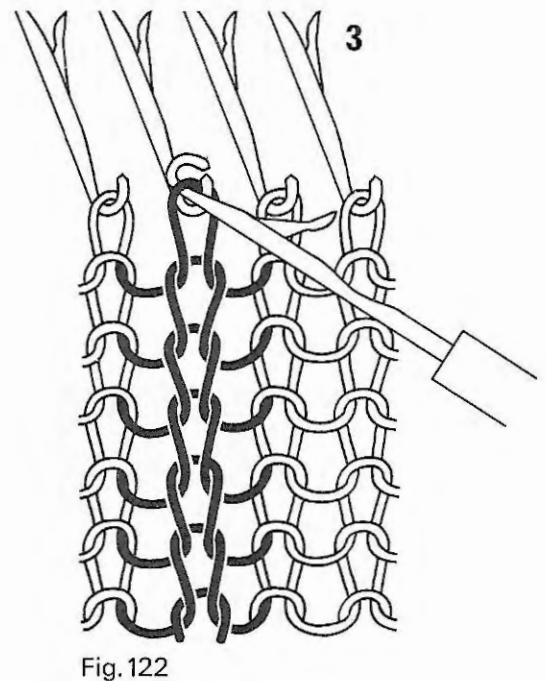
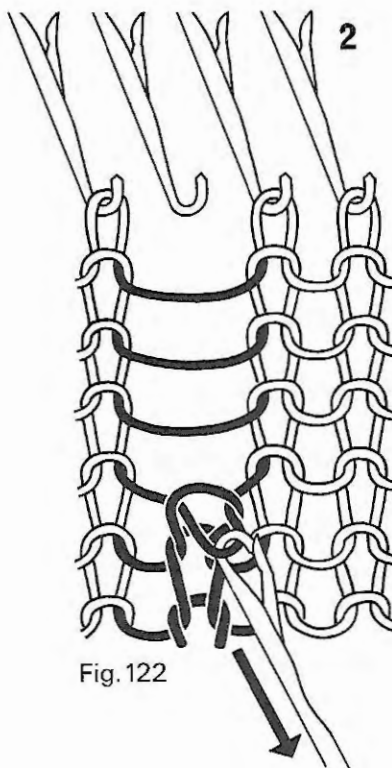
Crocheting stitches on both sides of the cables
In your proper knitting, the stitches will be
picked up shortly before casting off.



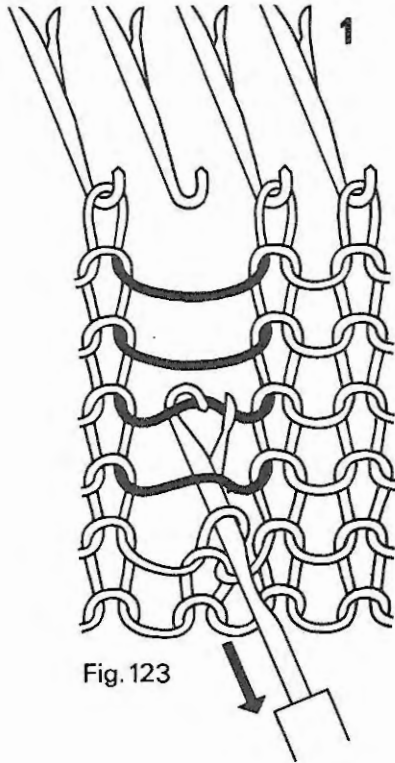
Lift off the stitch to the right of the 4th cable
needle and drop it down to the beginning of
the cable pattern. Fig. 122/1

Then pick it up as a plain stitch on your side
(purl side) of the knitting, using the latch
needle of the green tool. Fig. 122/2, 3

Now crochet in like manner the stitch on the
left of the 1st cable needle.



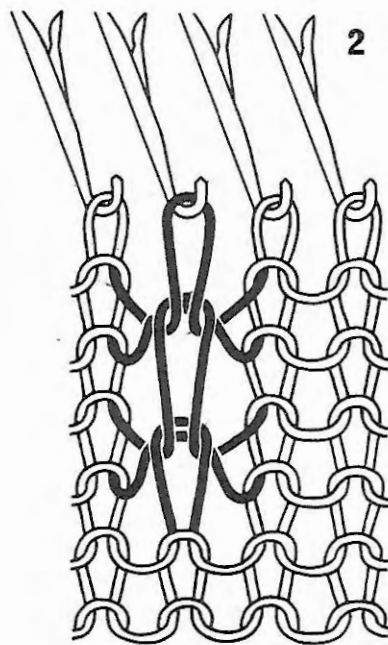
2. Crocheting a stitch as pearl stitch on the purl side (facing you)



Knit approx. 10 rows

Lift stitch off the needle and drop it.

Then pick it up from the front with the latch needle of the green tool, always skipping one thread. Fig. 123/1, 2



Knit 10 rows on N.

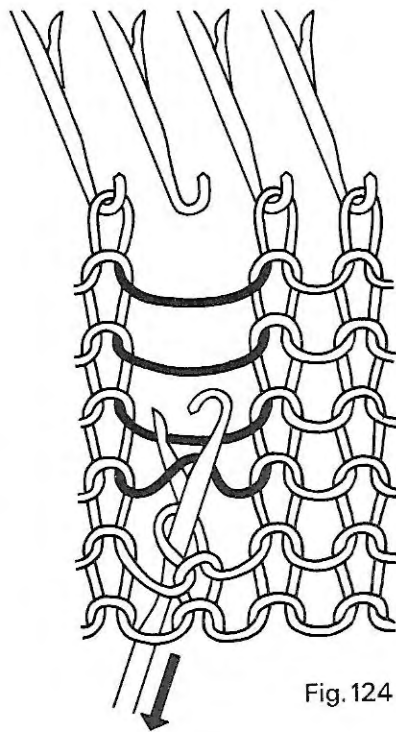


Fig. 124

Pick up on plain side, from the back, seizing **each individual** thread. Fig. 124

Neck opening knitted with BX and pushers – to be applied for stocking stitch and BX patterns only.

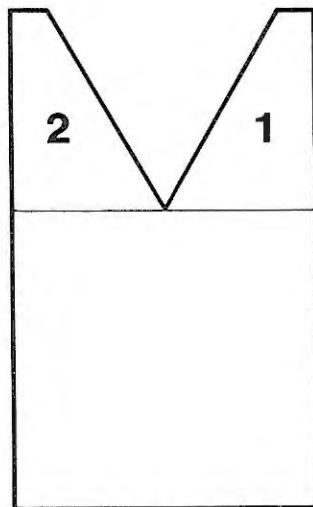


Fig. 125

Here the test square is divided and you knit first the right side (1) and then the left side (2), using pushers and Automatic Pattern Device. Fig. 125

Neck, Right Side (1)

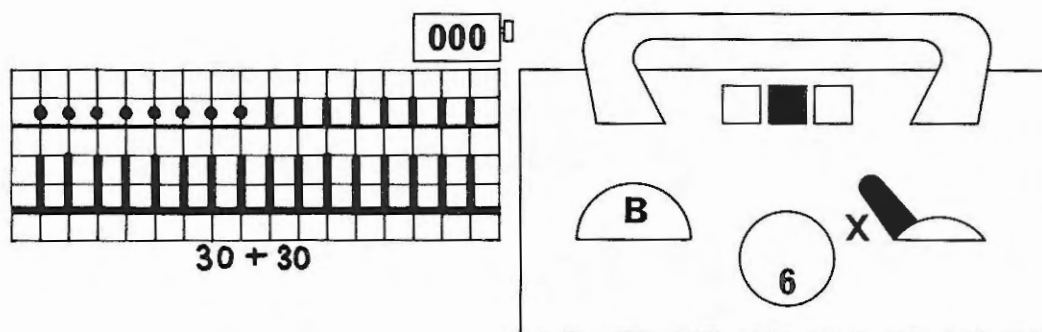


Fig. 126

At the left, 30 pushers back into Neutral Position (inside blocking rail) – at the right, 30 pushers in Working Position. Lock on the right, at BX, press down zero key, RC at 000. Fig. 126

Knit 1 row, RC 1.

Control: You will note that only the 30 needles on the right were knitting and that the yarn is leading from needle 1 (at right) to the lock on the left.

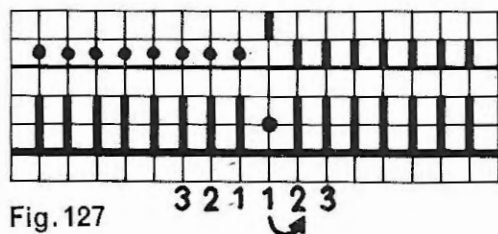


Fig. 127

For neckline decreasing

Using the decker of the green tool, hang the stitch of needle 1 (at right) on needle 2 (at right) and push needle 1 (at right) back into Neutral Position, thereby moving the respective pusher into Rest Position. Fig. 127

Knit 2 rows. RC 3.

Lock at left. From now on, decrease consecutively in the same way: Hang 1 stitch to the right, empty needle in Neutral Position, pusher in Rest Position, knit 2 rows.

When RC is at 40 with 10 needles left in Working Position and lock at right, cast off stitches according to fig. 72 and 76.

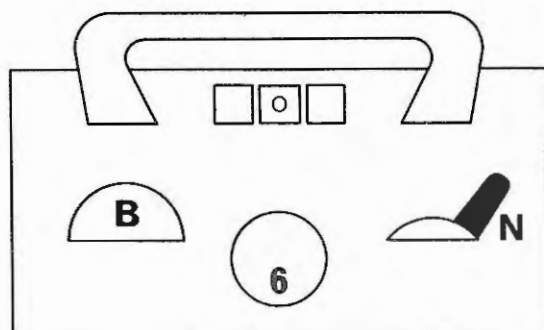


Fig. 128

All the pushers back into Neutral Position (blocking rail). Move lock to the left across the remaining 30 needles. Lever at N, RC at 000. Fig. 128

Neck, Left Side (2)
work without pushers

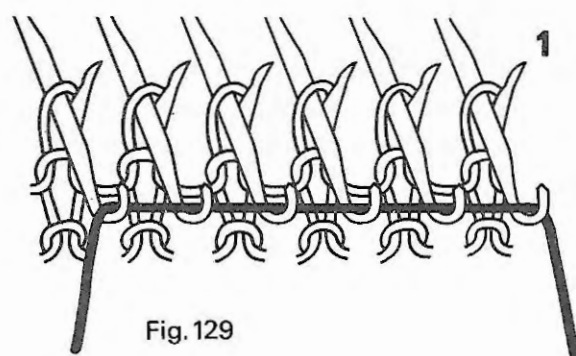
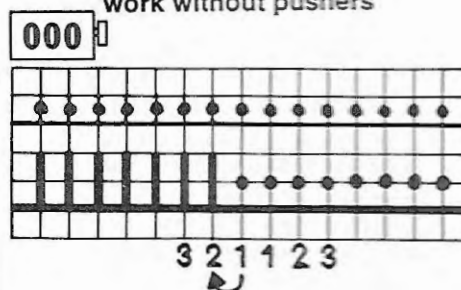


Fig. 129

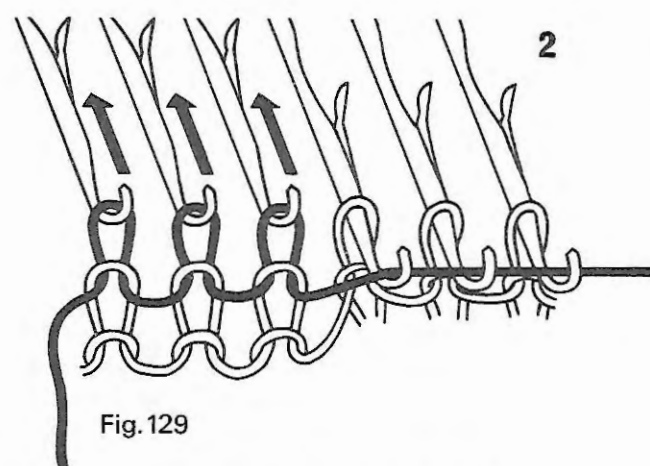


Fig. 129

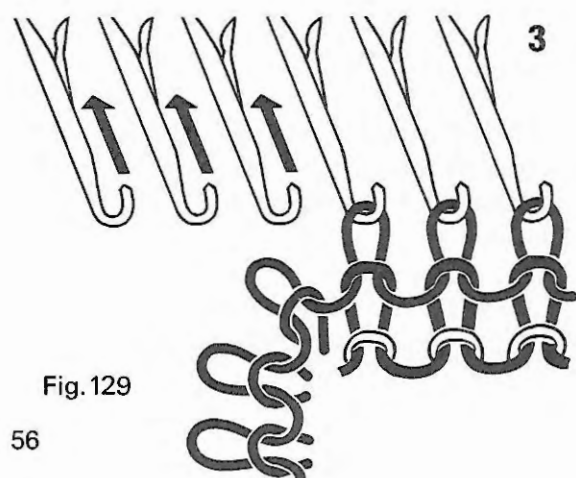


Fig. 129

Neckline with AX patterns

Since with lock setting AX, the latch needles will always receive loops, the stitches for the left shoulder cannot remain on the machine while you knit the right half. They must be taken from the machine as follows:

Using contrast yarn, knit by hand 1 row with the stitches of the left shoulder, fig. 129/1, 2, individually pulling back every needle.

Knit a 2nd row in the same way, pulling the stitches into lengthy loops.

Take stitches off the latch needles. Empty needles back into Neutral Position. Fig. 129/3

Knit right shoulder.

Hang the stitches of the left half back on the needles and unravel the 2 rows in contrast yarn.

Then knit left shoulder to correspond with the right half (with reversed shaping).

The use of the Transfer or Decker Comb

On principle, the transfer comb is used for transferring stitches (increasing or decreasing) like any other decker needle.

However, you may also use it for taking stitches from the machine in case there being 24 or less:

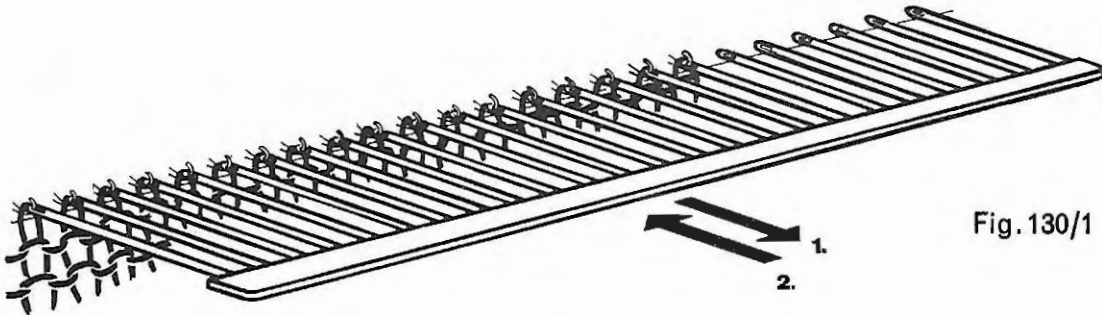


Fig. 130/1

Remove lid from transfer comb.

Hang the comb into the needles and, by pushing back and forth, transfer the stitches onto the decker comb, fig. 130/1.

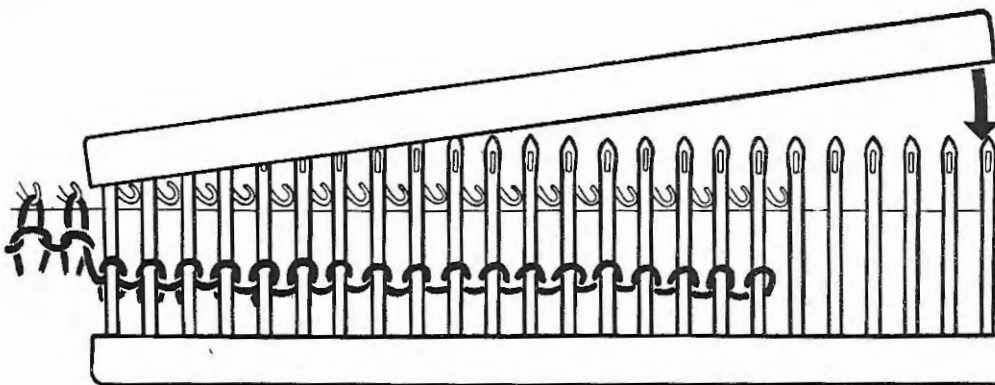


Fig. 130/2

Close decker comb by putting the lid back on it, fig. 130/2, and drop it in front of your knitting while continuing to knit with remaining stitches.

As soon as you again want to work with the stitches lifted off, open the decker comb and put the stitches back on the needles (first opening the latches!).



With the technical knowledge you gained up to now, we will pass on to the next chapter, showing how to knit a sweater.

Before, however, you will get your PASSAP 20 ready again:

Needles in Neutral Position

Feeding eyelet into the eyelet support

Row Counter at 000

To begin with, an explanation
of the diagram

Child's Sweater for approx. 4 years of age

The diagram for the sweater shows:

Fig. I half back

Fig. II half front

Fig. III half sleeve

Where in half widths the middle line is dotted and shows arrows on the left, the other half is worked to correspond, all in one operation, i.e. in the same row you increase and decrease on the left same as on the right.

Where in half widths there is a solid middle line on the left, the other half is worked to correspond, but separate.

Thus, for the neck opening you first knit the right half (D1) and then the left half (D2) with reversed shapings (raglan decreasing on the left, neckline on the right).

The numbers of stitches are always indicated for the full width — also in the event of arrows.

Abbreviations

st(s)	=	stitch(es)
StS	=	stitch size
nd(s)	=	needle(s)
R(s)	=	row(s)
RC	=	row counter
decr.	=	decrease
incr.	=	increase
c.on	=	cast on
k	=	knit

Size: Bust width measured under the arms plus $2\frac{1}{2}" = 24\frac{1}{2}"$.

Material: Approx. 8 oz. of fine 3-ply botany wool.

Stitch size: For hem 5, stocking stitch 6, tension regulator 5, tension arm 7.

Pattern stitch: Stocking stitch, raglan decreases with triple decker (black tool). Lock at N.

Test square: 100 sts = $13\frac{1}{2}"$,
100 Rs = $7\frac{3}{4}"$.

Fig. I Back: A = For hem StS 5, c.on 98 sts in centre of needle bed and k 40 Rs. Turn up hem. RC to 000.

B = StS 6, k 92 Rs.

C = decr. at both ends for raglan: first 2 sts on the right, k 1 R, then 2 sts on the left, k 1 R. Thereafter, whenever lock is at right, thus in every 2nd row, decr. at both ends 1 st each, using triple decker. When only 22 sts remain on the needles, cast off.

Fig. II Front: A and B same as back. C = same as raglan on back until (RC 104) 84 sts remain. RC 000.

D1 = Start neck, first right shoulder. For the 42 nds working on the right, move pushers out of blocking rail into Working Position. Lock at BX.

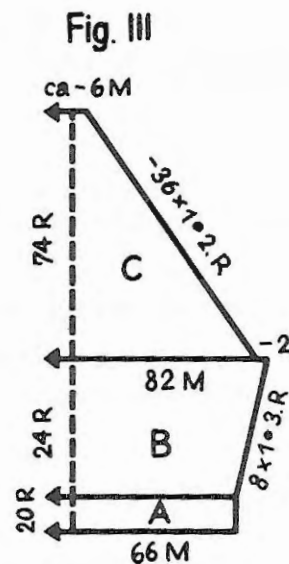
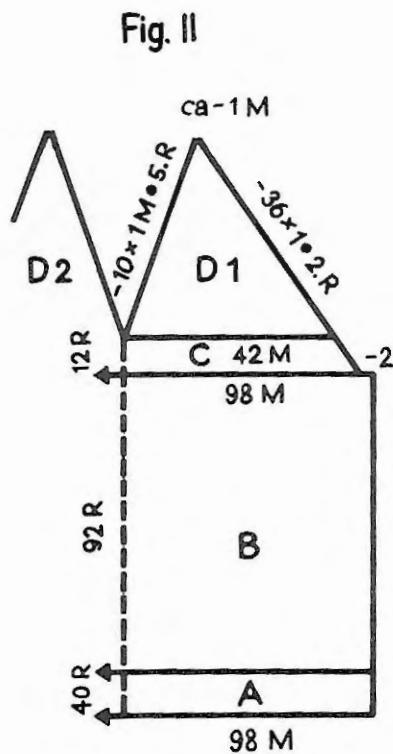
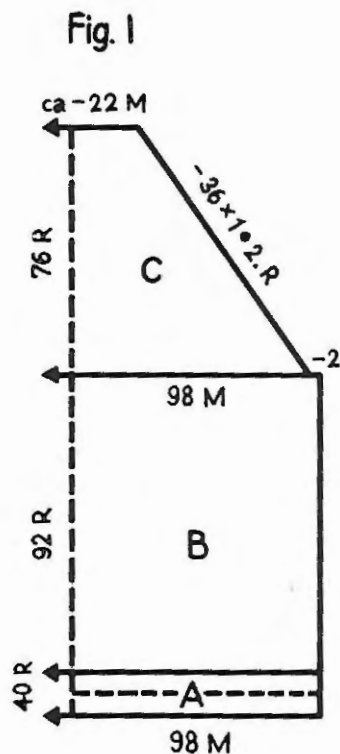


Fig.131

In the middle, using single decker, hang the 1st st (at right) onto the 2nd st (at right). Simultaneously, decr. for raglan at right edge, using triple decker.

From now on, at right, decr. for raglan same as on back, i.e. in every 2nd R, but simultaneously, on the left and using triple decker, decr. for neck 1 st in the 5th, 10th, 15th, etc. row (thus on the left in every 5th R).

When only 6 sts remain on the needles, decr. at both ends with single decker. Cast off the last 2 sts, break off yarn and pull it through.

D2 = With lock at N (without pushers) k left shoulder to correspond, neckline on the right (in the middle, hang st to the left and decr. for raglan on the left edge, hanging sts to the right).

Fig. III Sleeve: A = c.on 66 sts, k 20 Rs, turn up hem, RC to 000.

B = Incr. 1 st at both ends in the 1st R and in every 3rd R until RC 24 and 82 sts.

C = Decr. for raglan same as on back. Cast off the last 6 sts.

To make up:

Pin out back and front one upon the other, cover with damp cloth and press lightly. Sleeves alike. Sew up side seams and shoulders, set in sleeves.

Neck band:

Crochet 6-12 rows of firm sts around neck of finished sweater, possibly using contrasting colour.

Chapter six

We will now show you certain operations which you may find useful in the course of your knitting career:

Let's start with your third test square,

Hem with picot edge – buttonholes – heel – graduations – and finally a baby sock.

Preparation of your PASSAP 20

All the pushers inside the blocking rail
All the needles in Neutral Position
Lock at right, on N
To make sure, press down zero key
Insert a full bobbin
Thread the yarn
Feeding eyelet in its socket
RC at 000

Hem with picot edge

StS 5, 30 needles in Working Position. Fig. 132

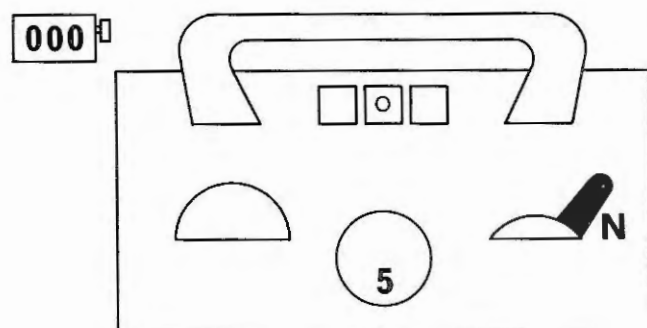


Fig. 132

Take threaded feeding eyelet briefly from its socket and move the lock from one side to the other to open the latches. Reinsert feeding eyelet.

Cast on 30 sts and k 15 Rs. Lock at left.

For picot edge, work one open work row:

Starting on your left, transfer stitches 2, 4, 6, 8, etc. onto needles 3, 5, 7, 9, etc. Fig. 133. Leave empty nds in Working Position.

Continue knitting until RC 31. Lock at left.

Turn up the hem, k 1 R, RC 32.

RC to 000 and StS to 6, k 20 Rs, RC 20.

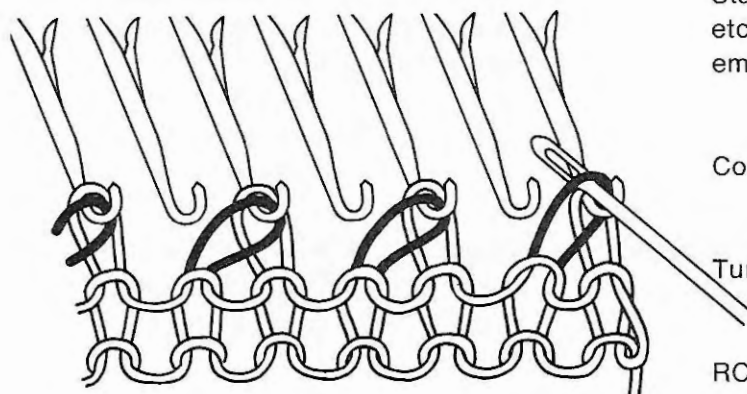


Fig. 133

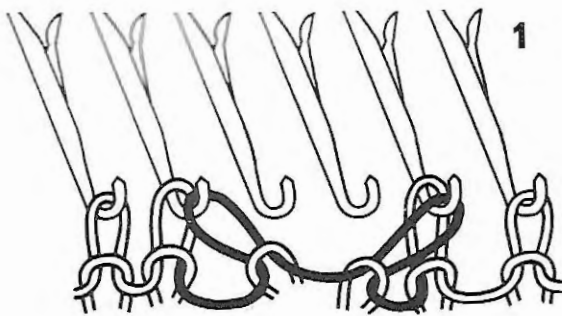


Fig. 134

Small Buttonhole

Of two neighbouring stitches, transfer one to the left and the other to the right. Leave empty nds in Working Position, fig. 134/1, k 1 R. RC 21.

In place of the buttonhole you will find loops in the empty nds.

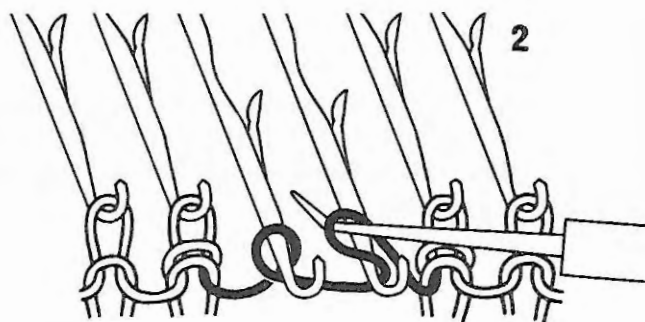


Fig. 134

Using the single decker, place the loops with a twist on the nds. Fig. 134/2

Continue knitting until RC 30.

First Aid

All sorts of things may happen to a beginner. Thus it may occur that you run out of yarn in the midst of your work. Therefore, watch the cone!

However, in case you forgot about it and a part of the stitches dropped due to lack of yarn when moving the lock, this may be repaired as follows:

1. Write down number of RC! Lock to GX, move it to the right and set it back to N.

2. Place each dropped stitch into the corresponding needle head, one or a few rows below the top one.

3. If a stitch dropped down several rows, pick it up with latch needle of green tool, pursuant to chapter 4, fig. 124.

4. When all the stitches are on their needles, unravel over the whole width of the knitting as many rows as necessary for all the stitches hanging faultlessly on their needles. For unravelling rows, see chapter 2, fig. 74.

5. Reset RC by deducting the number of unravelled rows. Now you may put on a full bobbin, thread the yarn and, starting it from the edge, continue to knit. Your knitting will not betray the little mischief.

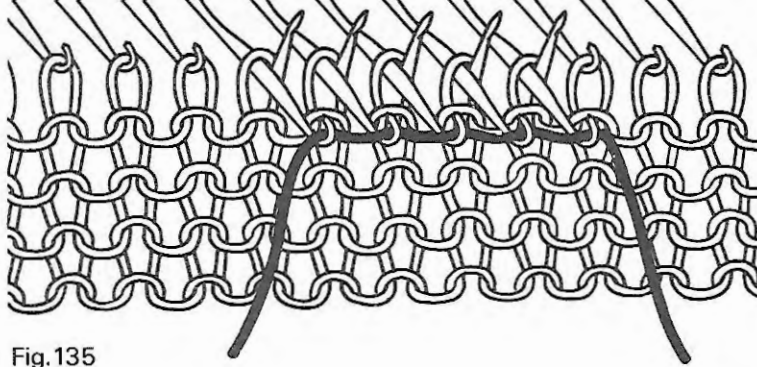


Fig. 135

Advance the respective 5 needles of the buttonhole until sts slide behind the open latches. Fig. 135

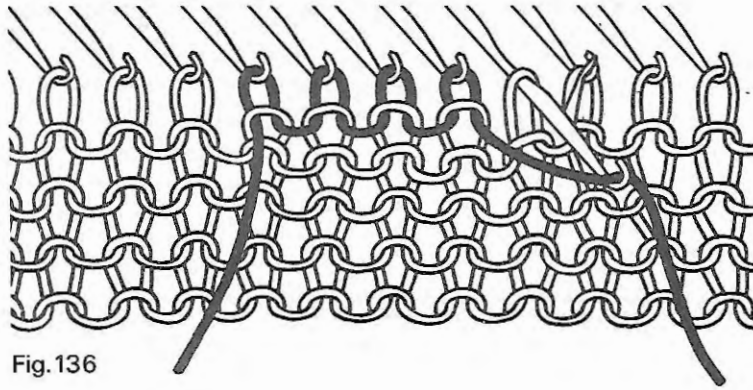


Fig. 136

Place an oddment of yarn of contrasting colour into the needle heads and successively pull needles back into Working Position. Fig. 135, 136. Continue knitting.

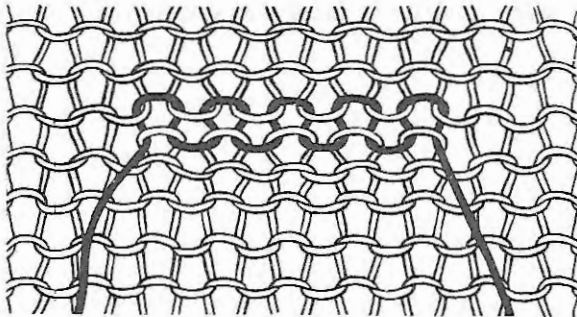


Fig. 137

In place of the buttonhole, you now have contrast yarn. Fig. 137

When knitting is completed, remove this yarn, thus producing open stitches. Pick up the open stitches with a darning needle and double thread, fig. 138, and finish off with buttonhole stitch, fig. 139.

Continue knitting until RC 40.

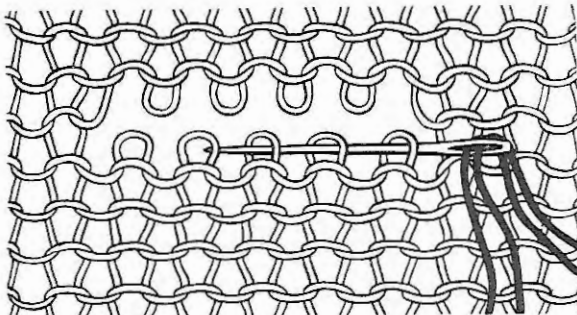


Fig. 138

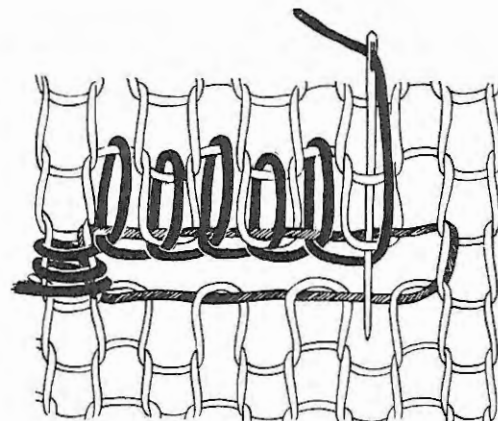


Fig. 139

We knit a heel – with pushers

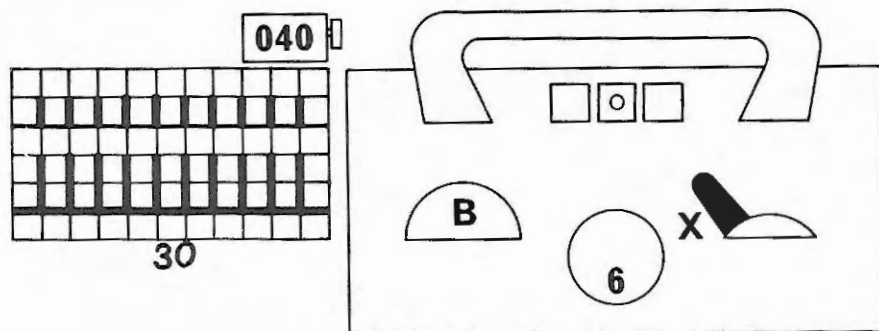
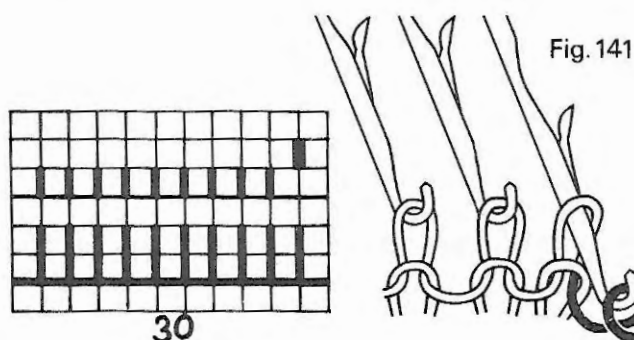


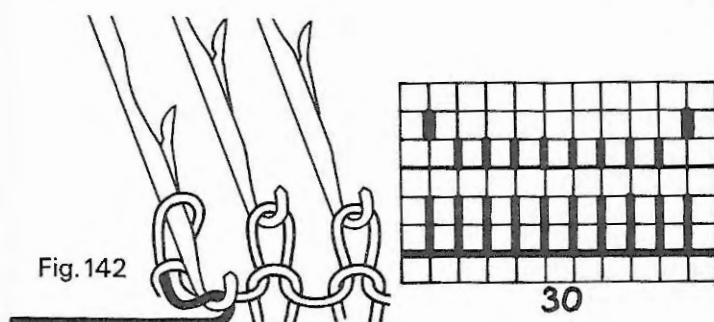
Fig. 140

Corresponding to the 30 needles in operation, move 30 pushers out of the blocking rail and arrange them in Working Position. Lock at right, on BX, StS 6. Fig. 140



Decreasing for heel. Wind yarn around the edge needle on the right (anticlockwise), needle into Working Position, the corresponding pusher into Rest Position, fig. 141,

k 1 R. RC 41.



Wind yarn around the edge needle on the left (clockwise), needle into Working Position, corresponding pusher into Rest Position, fig. 142,

k 1 R. RC 42.

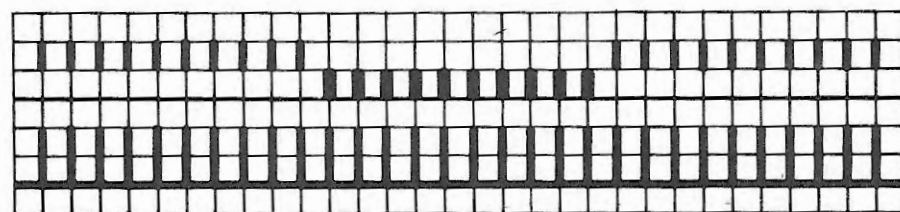


Fig. 143

Continue in this way until there are only 10 pushers left in Working Position in the centre. Fig. 143.

For a heel, as a rule, a third of the pushers are left in operation. RC 60.

Increasing for heel. Lock at right. Pusher of the right (inner) edge needle into Working Position, k 1 R. RC 61.

Lock at left. Pusher of the left (inner) edge needle into Working Position, k 1 R. RC 62.

Continue in this way until all the pushers are back in Working Position. RC 80. k 10 Rs RC 90. RC to 000.

Applicable: For knitted in bust darts, seats of pants, flared skirt knitted lengthwise, caps, etc.

Starting Position always: Lock at right, on BX.
30 needles and 30 pushers in Working Position.

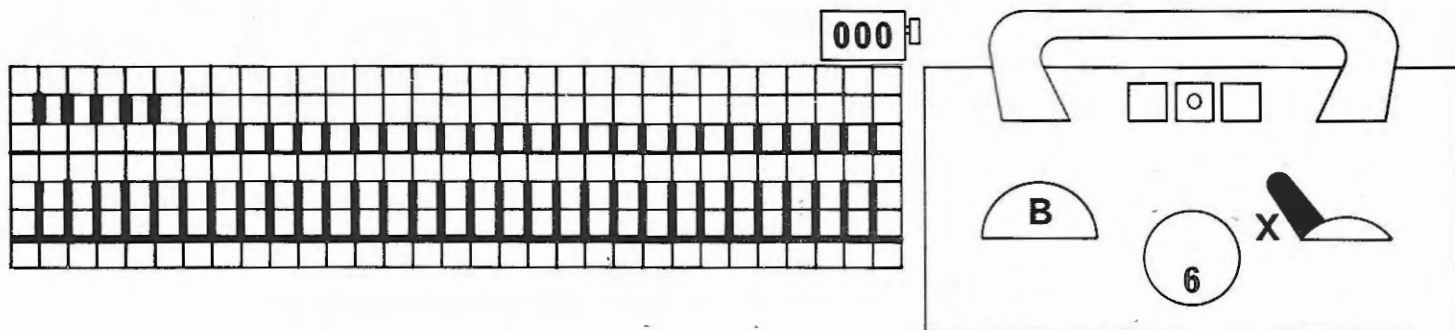


Fig. 144

At left, 5 pushers in Rest Position, fig. 144, k 1 R.
RC 1.

Wind yarn around 5th needle (from the left), k 1 R.
RC 2.

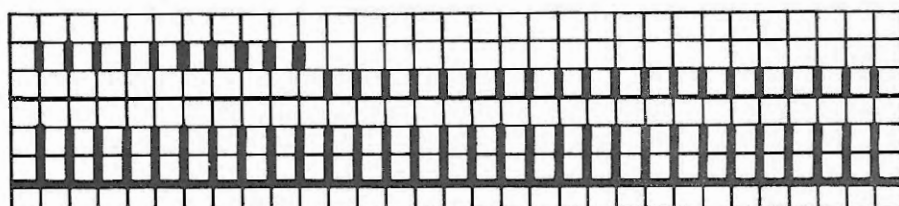


Fig. 145

At left, another 5 pushers in Rest Position, fig. 145, k 1 R. RC 3.

Wind yarn around 10th needle (from the left).
k 1 R. RC 4.

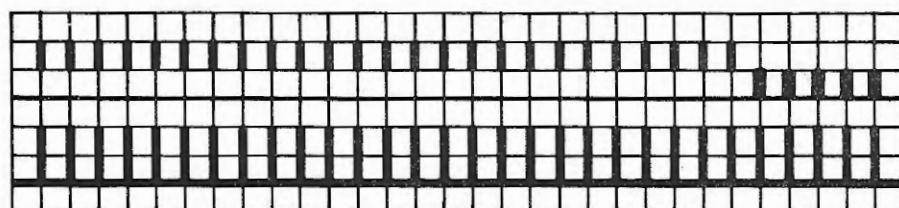


Fig. 146

Continue in this way until, at right only, 5 pushers remain in Working Position, fig. 146. RC 10.

The simple graduation is thus completed. Now lock to N and continue knitting 10 Rs in stocking stitch. RC to 000.

Double Graduation – first decrease gradually, then increase gradually

First knit the simple graduation just described. RC 10.

Then increase gradually as follows:

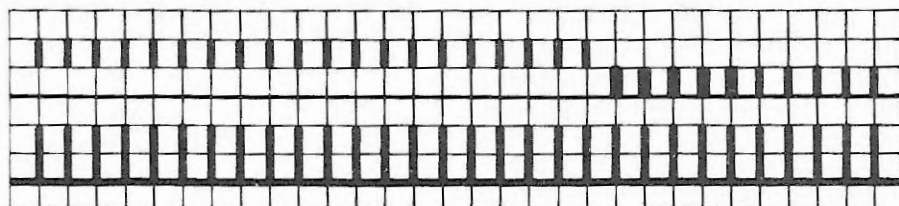


Fig. 147

At left, next to the pushers in operation, again advance into Working Position the 5 inner pushers. Fig. 147, k 2 Rs. RC 12.

Advance into Working Position the next 5 pushers, k 2 Rs. RC 14.

Continue in this way until all the pushers are back in Working Position, RC 20.

Lock to N and continue knitting approx. 10 Rs in stocking stitch. RC to 000.

A variant: You obtain a very pretty variation of the double graduation by knitting a few rows of stocking stitch with all the needles between decreasing and increasing. To that effect, a contrasting colour may be used, which is done as follows:

Knit simple graduation, RC 10.

All the pushers in Working Position and k 10 Rs. RC 20. (Possibly contrasting colour)

All the pushers, excepting the 5 pushers on the right, into Rest Position.

Knit the other part of the double graduation by gradually increasing 5 times. RC 30.

Lock to N and continue knitting approx. 10 Rs in stocking stitch. RC to 000.

You can do this in two different ways:

Either from the edge inward – or from the middle outwards.

Starting position: Lock at right, on BX.

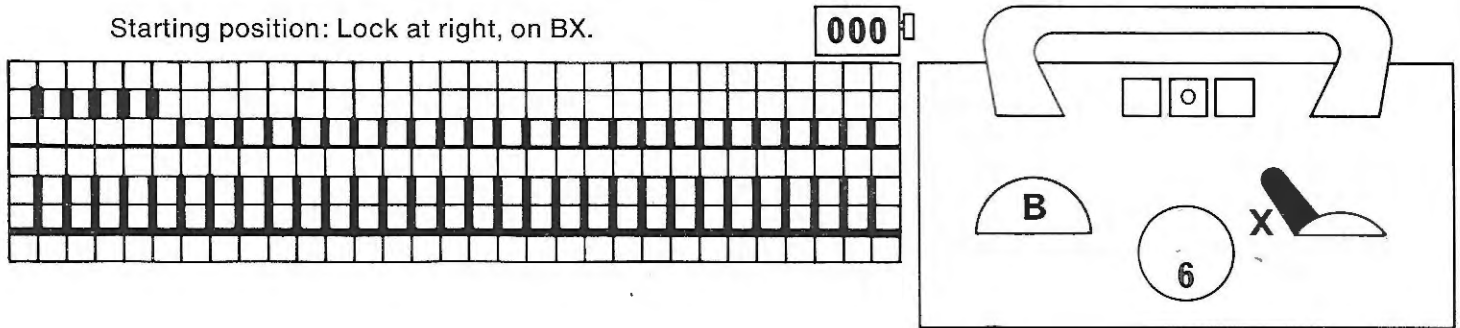


Fig. 148

On the left, 5 pushers into Rest Position, fig. 148, k 1 R. RC 1.

Wind yarn around the 5th needle on the left.

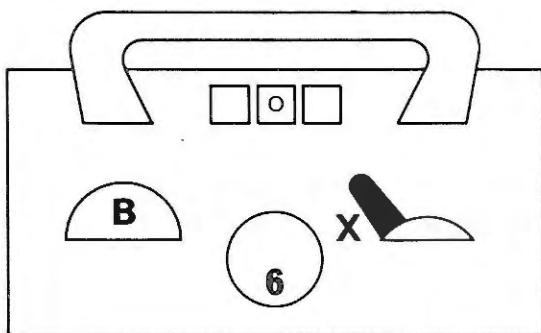
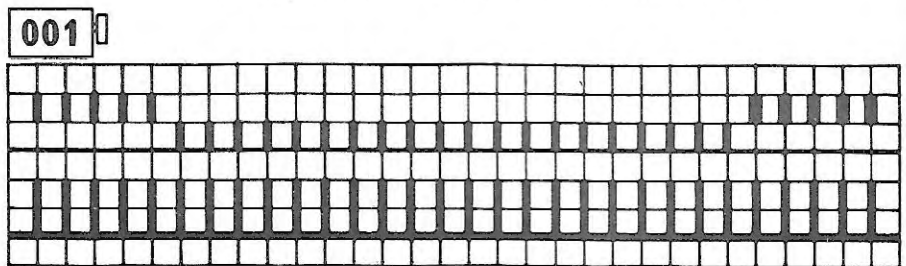


Fig. 149



On the right, 5 pushers into Rest Position, fig. 149, k 1 R. RC 2.

Wind yarn around the 5th needle on the right.

On the left, 5 pushers into Rest Position, k 1 R. RC 3.

Wind yarn around the 10th needle on the left.

On the right, 5 pushers into Rest Position, k 1 R. RC 4.

Wind yarn around the 10th needle on the right.

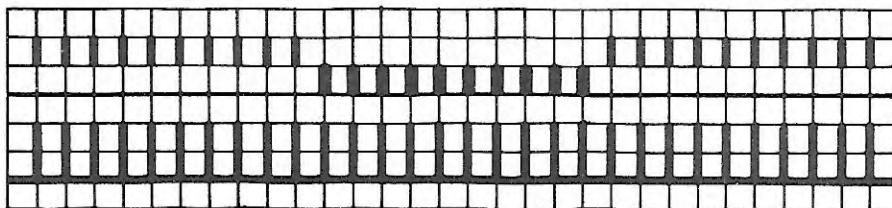


Fig. 150

In the centre, 10 pushers remain in Working Position. Fig. 150

At the left of these 10 pushers, advance the inner 5 pushers into Working Position, k 1 R. RC 5.

At the right of the pushers in operation, advance the inner 5 pushers into Working Position, k 1 R. RC 6.

At the left, 5 pushers into Working Position, k 1 R. RC 7.

At the right, 5 pushers into Working Position, k 1 R. RC 8.

Knit approx. 10 Rs. Lock at right. RC to 000.

From the middle outwards

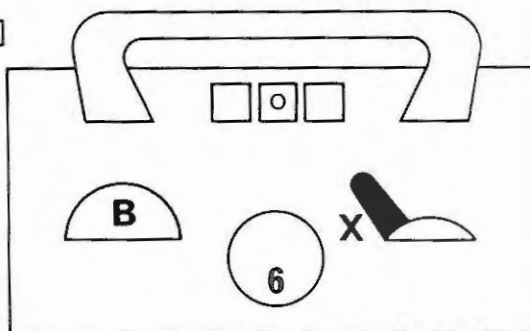
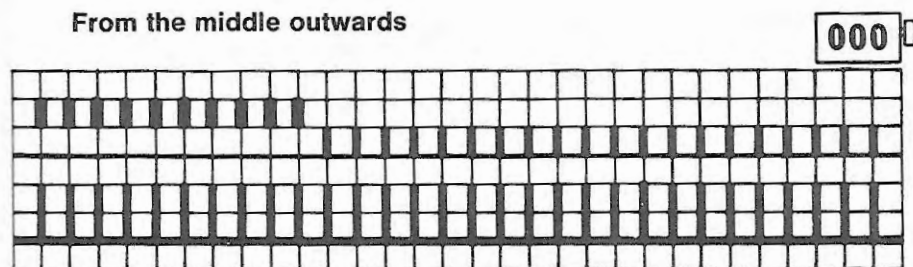


Fig. 151

On the left, 10 pushers into Rest Position, fig. 151, k 1 R. RC 1.

Wind yarn around the 10th needle on the left.

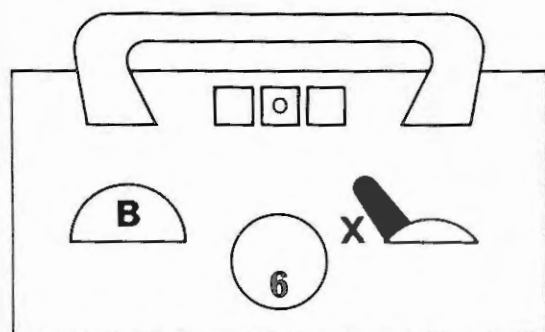
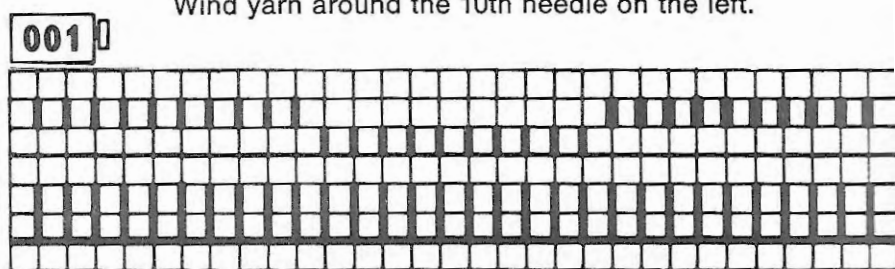
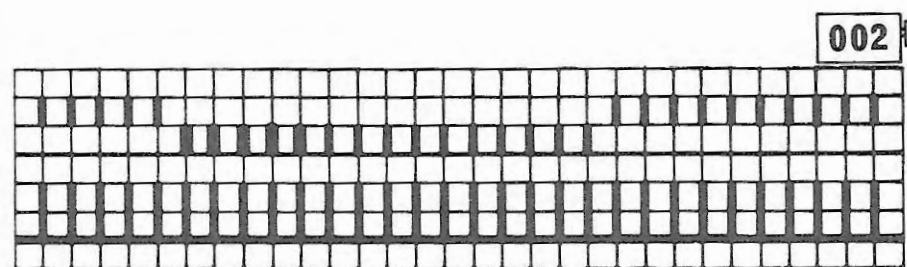


Fig. 152



On the right, 10 pushers into Rest Position, fig. 152, k 1 R. RC 2.

Wind yarn around the 10th needle on the right.



On the left, 5 inner pushers into Working Position, fig. 153, k 1 R. RC 3.

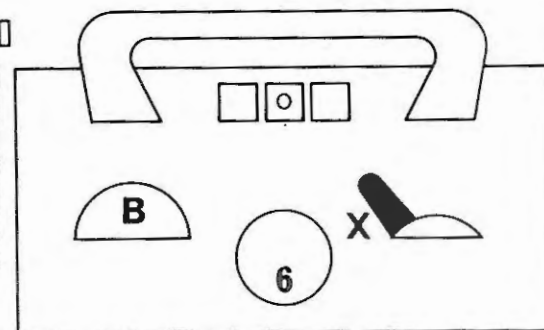


Fig. 153

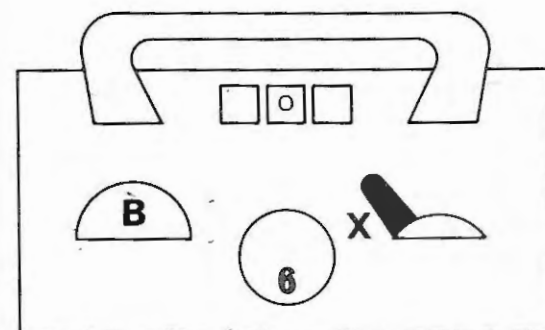
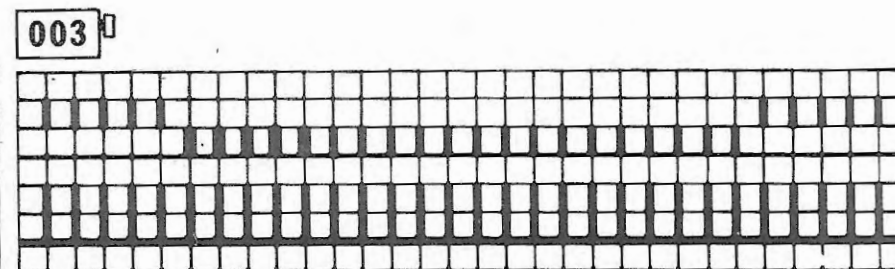


Fig. 154



On the right, 5 inner pushers into Working Position, fig. 154, k 1 R. RC 4.

On the left, 5 pushers into Working Position, k 1 R. RC 5.

On the right, 5 pushers into Working Position, k 1 R. RC 6.

Knit a few rows, then drop test square (taking feeding eyelet from socket and moving lock slowly from one side to the other).

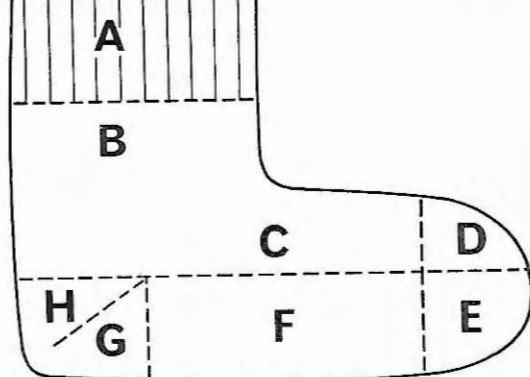


Fig. 155

Baby Sock, fig. 155 and 156

Stitch size: 6, tension arm 7, yarn brake 5.

Material: For one pair approx. 1 oz. of fine 3-ply wool.

Stitch size: 6, tension regulator 5, tension arm 7.

Test square: 100 sts = $13\frac{1}{2}$ ", 100 Rs. = $7\frac{3}{4}$ "

For a little sock like this, a test square of 10 sts = $1\frac{1}{4}$ " and 10 Rs, = $\frac{3}{4}$ " is sufficient, especially if you can compare it with an old sock.

A = Hem, for inst. with picot edge. C. on 40 sts, k 14 Rs, open work row for picot edge, k 15 Rs, turn up the hem, k 1 R.

B = Leg, 16 Rs in stocking stitch.

C = Instep: On the left, knit off 10 sts with contrast yarn (see fig. 129); drop these sts by advancing and pushing needles back into Neutral Position. k 1 R, then knit off 10 sts on the right with contrast yarn. k 27 Rs with 20 sts.

D and E: Toe. Knit with pushers and lock at BX, same as a heel, decrease until 4 pushers remain in centre, then increase again. – The black triangles on the diagram indicate that you are gradually decreasing and increasing.

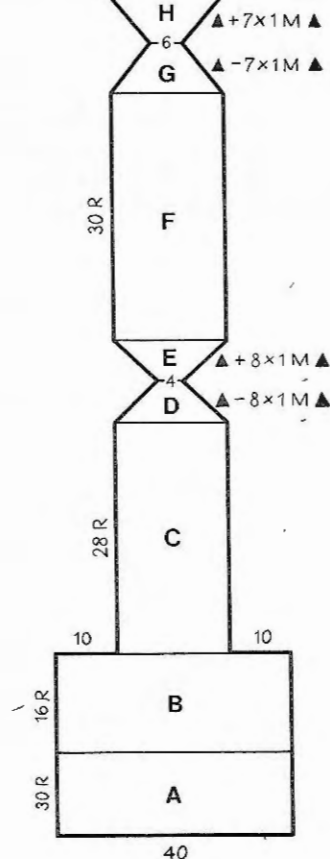


Fig. 156

F = Sole: 30 Rs in stocking stitch.

G and H: Heel. Knit with pushers and lock at BX. Decrease until 6 pushers remain working in centre.

Remove feeding eyelet with yarn from socket and insert it in the eyelet support. Into socket, insert new feeding eyelet with contrast yarn. k 2 Rs, holding the yarn above the feeding eyelet. Take feeding eyelet from socket and break off the yarn; move lock from one side to the other without knitting, thus dropping off your knitting.

To make up (see also page 78): With graft stitch join the 20 sts of the heel to the twice 10 sts of the leg, unravelling contrast yarn. With mattress stitch close hem and leg edges, leaving an opening at the hem to insert the elastic. Along both edges sew instep to sole. Pass an elastic through the hem.

Chapter seven

Sundry

How to take your measurements?

The simplest thing would be to put a well fitting sweater on a piece of wrapping paper and to draw its outline. Then you would only have to fill in the corresponding lines and inches. But a worn sweater is always a little out of shape and if you take it as a model, your new sweater might become too large. For a good result it is worth while making a new paper pattern, and for this we are going to give you a few hints.

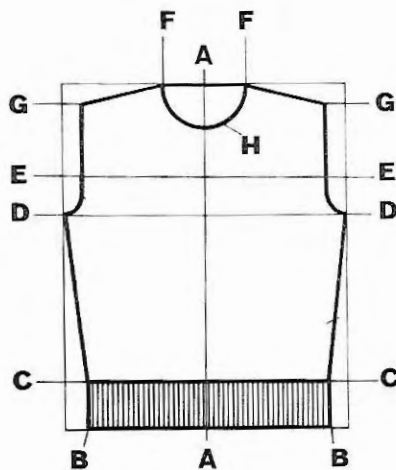


Fig. 157

Cut the wrapping paper to the largest measurements, i.e. as long as line A—A and as wide as line D—D.

Now measure one line after the other in the order indicated on the right and fill in each line with the corresponding inches.

Shaping

The most beautiful knitting looks like nothing if it is not made to measure and made up properly. The PASSAP 20 – if correctly adjusted – will always produce perfect pieces of fabric. It is your job to shape and make up this fabric into a perfect garment. We know that many a good knitter has failed here and therefore, we would like to assist you to do this job well.

Three things are essential for perfect shaping: correct measurements, a very generous test square and the correct calculation of the numbers of stitches and rows. Obviously, you do not get off without some calculating.

Basic pattern with set-in sleeve

Back and front. Fig. 157

- A — A = back length with welt
- B — B = half waist line (approx. 1" to 2" less than bust width D—D)
- B — C = height of welt
- C — D = side length without welt
- D — D = half bust width beneath armhole
- E — E = back width
- F — F = $\frac{1}{3}$ of back width for neck
- F — G = shoulder width, slightly slanting
- D — G = height of armhole, same as height of sleeve head
- A — H = neck depth, approx. 2" to 3"

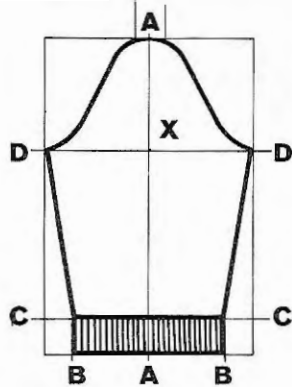


Fig. 158

Long sleeve Fig. 158

A — A = outer arm length with welt (measured with outstretched arm)

B — B = wrist width

B — C = height of welt

C — D = inner arm length without welt

D — D = upper arm width beneath armhole

E — E = width of sleeve head, approx. 2" to 3"

A — X = height of sleeve head: outer arm length minus inner arm length with welt

All these patterns are only basic patterns which can be altered according to taste and fashion. For a casual sweater knit the waist welt as wide as the bust measurement, for a sweater fitting round the hips knit the side seam longer, for a sweater with deep set-in sleeves lengthen shoulder line and knit sleeve shorter, etc.

Cut the wrapping paper to the largest measurements, i.e. as long as line A—A and as wide as line D—D. Now measure each line in the order indicated above and fill it in with the corresponding inches.

Copy basic pattern!

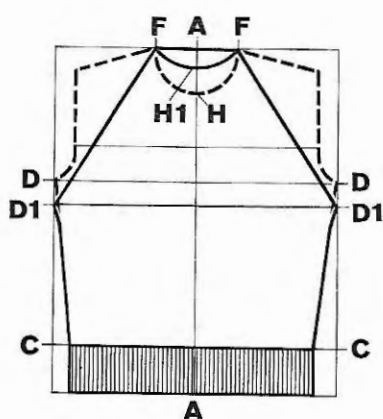


Fig. 159

Deviations of the basic pattern

Raglan pattern with short sleeve. Fig. 159

Back and front

D — D1 = slope 1 to 1½"

D1 — F = Raglan line, same as sleeve length
D1 — E1

D1 — C = new side length without welt

D1 — D1 = bust width

A — H1 = shorten neck depth to approx. 2" only

Copy basic pattern!

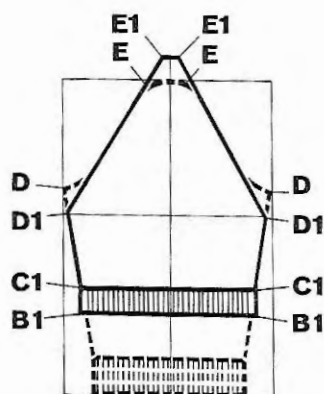


Fig.160

Short raglan sleeve. Fig. 160

- D — D1 = slope 1 to 1½"
- D1 — D1 = upper sleeve width
- D1 — C1 = new inner sleeve length without welt
- C1 — C1 = lower sleeve width
- B1 — B1 = welt edge
- D1 — E1 = lengthen raglan line from E to E1 to obtain same length as D1—F on back and front.
- E1 — E1 = width of sleeve top (approx. 6 stitches)

Copy basic pattern, taking a larger piece of wrapping paper.

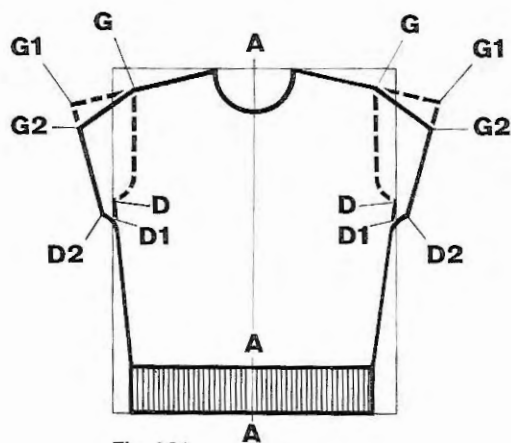


Fig.161

Dolman pattern with short sleeves. Fig. 161

- G — G1 = extend shoulder line by the desired arm length
- D — D1 = slope 1 to 1½"
- G1 — D2 = line for lower sleeve width (vertical to line G—G1)
- D1 — D2 = connecting line
- G1 — G2 = slope 1 to 1½"
- G — G2 = extended shoulder line with welt
- G2 — D2 = half lower sleeve width

Copy basic pattern, taking a larger piece of wrapping paper.

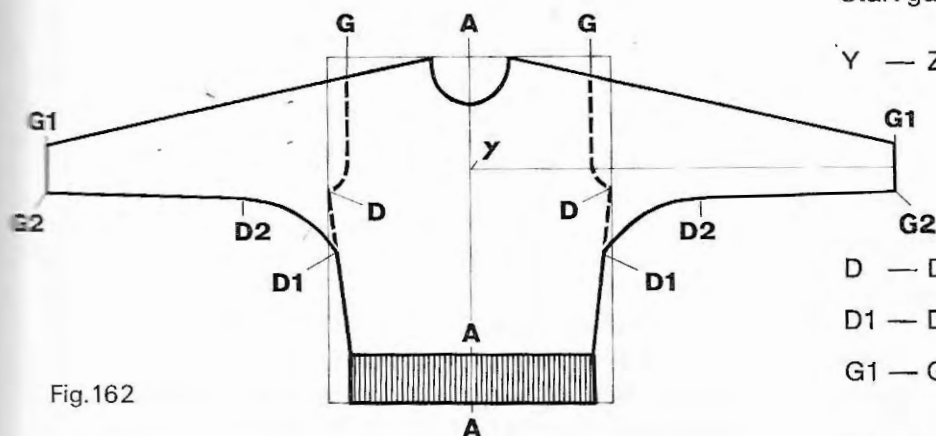


Fig.162

Dolman pattern with long sleeves. Fig. 162

Start garment from the sleeve welt.

- Y — Z = length from middle of back to and including lower arm welt (measured with outstretched arm)
- G—G1 = extend shoulder line by desired arm length
- D — D1 = slope 2½ to 3½"
- D1 — D2 = curve outside by approx. 4"
- G1 — G2 = parallel to line A—A, lower sleeve width
- G2 — D2 = connect lines

the required number of stitches and rows

Before starting any garment, it is essential that you make a generous test square. This is no waste of wool as you can unravel it later on once your garment is finished and use the yarn again for collar, seams, etc.

Why you should knit a test square

1. To test your wool and stitch pattern.
2. To test the texture (stitch size) of the knitting.
3. To calculate the required number of stitches and rows.

The number of rows and stitches required for a garment varies according to wool, wool tension and adjustment of the stitch size.

If you want your garment to fit really well, you should always calculate the required number of stitches and rows according to your wool and the setting of your machine. For that purpose, the PASSAP chart is proving an excellent help.

That's what makes PASSAP knitting such a wonderful pleasure: you may knit as you like according to your own individual taste.

How to knit a test square

The larger your test square, the more precise your calculation of the number of rows and stitches, the better will be the fit of your garment. In order to avoid the time-consuming counting of stitches where mistakes easily may occur, just knit a square of 100 stitches and 100 rows.

i.e. if certain needles remain in Neutral Position (thick wool, 1:1 division, 3:1 division, etc.), a square of 50 stitches and 100 rows will be suffi-

cient. In this case, all you need is to multiply by 2 the inches corresponding to 50 stitches and proceed as explained below.

Only the needles in Working Position will be counted.

First, by testing, find the right stitch size and wool tension, after which you should not alter the adjustment of your machine.

With contrast wool cast on 100 stitches (or 50), knit a few rows, set row counter to 000. Now thread the wool you are going to use for your garment and knit until row counter reads 100.*

As soon as the row counter indicates 100, thread in contrast wool, knit a few rows and drop test square. Stretch square according to pattern lengthwise and crosswise until it shows the required texture. Then, without pressing, let it rest on a table.

** With normal knitting, 100 rows indicated by the row counter are 100 rows actually knitted. With patterns it may be less. In order to avoid any doubt, we only consider the number of rows indicated by the row counter.*

The PASSAP Chart will do all the calculating for you.

On pages 74 and 75 you will find 2 charts, application of which will now be explained to you.

Horizontally: Measurements in inches of your test square.

Across the top you will find the measurements of your square of 100 stitches and 100 rows; range from 4" to 20" split up in two charts.

Vertically: Required measurements in inches for your garment.

From top to bottom, on the left and right, you will find the number of inches measured for your garment. These numbers range from $\frac{1}{2}$ " to 40" on each chart.

Example:

The 100 stitches of your square measure, say, 10". For your garment, however, you need a width of, say, 8". Look in the horizontal column under 10" and in the vertical column under 8". Where both columns meet, you find the number 80, i.e. you have to cast on 80 stitches.

In the same way you find on the chart the desired number of rows.

Numbers for measurements which you do not find on the chart, you may obtain by simple addition:

Example:

Square: 100 stitches = 10"

Required width $7\frac{1}{2}$ "

Note on your paper pattern next to the appropriate measurements in inches each number of stitches and rows you have found on your PASSAP chart.

$7 \text{ " } = 70 \text{ stitches}$
 $\frac{1}{2} \text{ " } = 5 \text{ stitches}$

 $7\frac{1}{2} \text{ " } = 75 \text{ stitches}$

PASSAP chart of a 100 stitches or 100 rows test square from 4" to 12"

Required length of knitting (inches)	Inches equivalent to 100 stitches or 100 rows																	Required length of knitting (inches)
	4	4½	5	5½	6	6½	7	7½	8	8½	9	9½	10	10½	11	11½	12	
½	12-13	11	10	9	8-9	7-8	7	6-7	6-7	5-6	5-6	5-6	5	4-5	4-5	4-5	4	½
1	25	22	20	18	17	15	14	13	12	11	11	10	10	10	9	9	8	1
2	50	44	40	36	33	31	28	27	25	24	22	21	20	19	18	17	16	2
3	75	67	60	55	50	46	43	40	38	35	33	31	30	29	27	26	25	3
4	100	89	80	73	67	62	57	53	50	47	44	42	40	38	36	35	33	4
5	125	111	100	91	83	77	71	66	63	59	55	53	50	48	45	43	41	5
6	150	133	120	109	100	92	86	80	75	71	66	63	60	57	55	52	50	6
7	175	156	140	127	117	108	100	93	86	82	78	74	70	67	64	61	58	7
8	200	178	160	145	132	123	114	107	100	94	89	84	80	76	73	70	67	8
9	225	200	180	164	150	138	128	120	113	106	100	95	90	86	82	78	75	9
10	250	222	200	181	167	153	142	133	125	118	111	105	100	95	91	87	83	10
20					333	307	285	266	250	235	222	210	200	190	182	173	166	20
30										353	333	315	300	285	273	261	250	30
40																348	333	40

PASSAP chart of a 100 stitches or 100 rows test square from 12½" to 20"

Required length of knitting (inches)	Inches equivalent to 100 stitches or 100 rows															Required length of knitting (inches)	
	12½	13	13½	14	14½	15	15½	16	16½	17	17½	18	18½	19	19½		20
½	4	3-4	3-4	3-4	3-4	3	3	3	3	2-3	2-3	2-3	2-3	2-3	2-3	2-3	½
1	8	8	7	7	7	6-7	6-7	6	6	6	6	6	5	5	5	5	1
2	16	15	15	14	13	13	12	12	12	12	11	11	10	10	10	10	2
3	24	23	22	21	20	20	19	18	18	18	17	17	16	16	15	15	3
4	32	31	30	28	27	26	26	25	24	24	23	22	22	21	20	20	4
5	40	38	37	35	34	33	32	31	30	29	28	28	27	26	25	25	5
6	48	46	44	43	41	40	39	37	36	35	34	33	32	31	30	30	6
7	56	54	52	50	48	47	45	44	42	41	40	39	37	37	35	35	7
8	64	62	59	57	55	53	52	50	48	47	46	44	43	42	41	40	8
9	72	70	66	64	62	60	58	56	54	53	51	50	49	47	46	45	9
10	80	77	74	71	69	67	64	62	60	59	57	56	54	53	51	50	10
20	160	154	148	142	138	133	129	125	121	118	114	111	108	105	102	100	20
30	240	231	222	214	206	200	193	186	181	176	171	167	162	158	154	150	30
40	320	308	296	286	276	266	258	250	242	235	229	222	216	210	205	200	40

In order to see where to increase or to decrease, you look at the figures which you have written down on your paper pattern.

Example: For the waist welt you need 140 stitches, for the bust width you need 160 stitches, i. e. 20 stitches more, the side seam has a height of 150 rows.

Over 150 rows you have to increase a total of 20 stitches, i. e. at both ends 1 stitch 10 times. These 10 increasings should be evenly distributed over the 150 rows.

Divide 150 rows by 10 (increasings) and you get the number 15.

$$150 : 10 = 15$$

Therefore, at intervals of 15 rows each, you have to increase 10 times at both ends.

In order to knit a few rows straight before beginning and after ending the increases, make the first increase both ends of the 5th row, the last both ends of the 140th row. Note this on your paper pattern along the side line:

Increase at both ends 1 stitch in the 5th and in every following 15th row 10 times. In the same way calculate for decreasing.

Increase both ends of the	5th row
	20th row
	35th row
	50th row
	65th row
	80th row
	95th row
	110th row
	125th row
	140th row

Having filled in all the numbers for rows and stitches on your paper pattern, you are ready for care-free knitting: your garment will be well fitting and much admired.

How to give your garment a nice finish

How to wash your woollies

If you follow the golden rules given below, your PASSAP knitted garments will always look fresh and lovely – just like new:

1. Use mild soap flakes or liquids only, never detergents.
2. Use lukewarm water only, approx. 75° F.
3. Never rub, always squeeze.
4. Rinse thoroughly, first in lukewarm water, then in cold water, adding a dash of vinegar to the last clear water, which will brighten up the colours.
5. Squeeze immediately and well, between two Turkish towels, until the wool is almost dry.
6. For drying spread out in shape on a light, clean towel and cover with a thin cloth. Avoid sun or central heating.
7. Only when dry, press as described on the right.

Some hints for blocking and pressing

Pin out to size each knitted part on a folded blanket covered with a clean white cloth, putting stainless pins close to each other into the border stitches.

Then cover with a damp cloth and press lightly. "Pressing" does not mean that you should press heavily with the iron; rather let it "hover" over the damp cloth.

Any knitwear, even stocking stitch, may only be pressed **lightly** with a hot iron.

Two pieces of the same shape can be blocked and pressed together before being made up. Put right side to right side, pin out to size, cover with damp cloth and press.

Raised patterns – welts and the like must **never** be pressed. Pin out to size, cover with a damp cloth and leave it until cloth and wool are dry.

What is the use of perfect knitting if it is not properly made up? Below we give you three examples of a nice even seam:

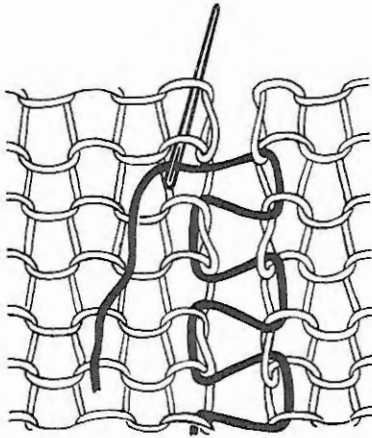


Fig. 163

The flat seam. Fig. 163

With a darning needle sew on the purl side.

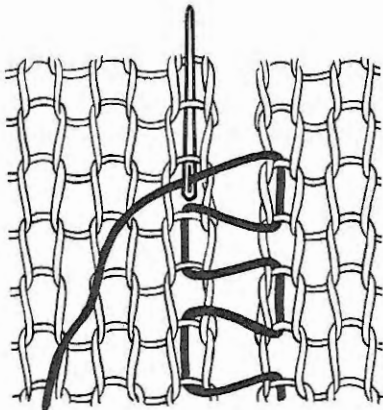


Fig. 164

The Mattress Stitch. Fig. 164

Very suitable for inconspicuous side seams. Sew on the plain side.

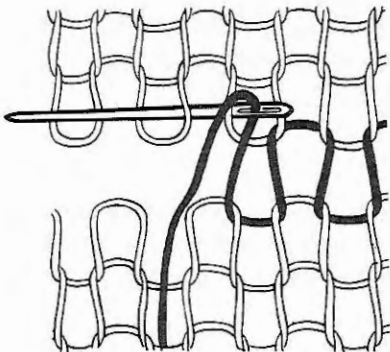


Fig. 165

The Graft Stitch. Fig. 165

Form the missing row of stitches on the plain side.

Chapter eight

Now you already have a good knowledge of PASSAP knitting. Nevertheless, before you start knitting the following stitch patterns, we would advise you to thoroughly study again Chapter 3 since the use of pushers, dial selector, and keys is important in pattern knitting. The explanation for using the Pattern Diagram will be found in Chapter 4, fig. 108 and 109.

Patterns with PASSAP 20

Change of colour — feeding eyelet for multicolour and fairisle patterns

The basic colour is mostly threaded in the yarn guide and the respective feeding eyelet in its socket on the lock. Each contrast colour is fed through another feeding eyelet which is placed in the eyelet support (on the right of the bed). The bobbins with the contrast colours are best put on the floor to your right.

Colour change: Remove feeding eyelet which has been in use, from the socket (on lock) and place it in the eyelet support (on the right). The yarn must run along the needle bed underneath the sinkers lest it will get entangled with the next colour.

When knitting with three colours (possibly already with two colours) it is easier to place the cones for all the colours on the floor to your right, renouncing to the use of the yarn guide.

First remove feeding eyelet with the next colour from eyelet support (at right), then take eyelet which has been in use, out of socket on lock and place it in eyelet support.

Explanation and Abbreviations

Starting position always lock at right, thus after the casting on row, always knit one more row without pattern.

st(s) = stitch(es), nd(s) = needle(s), col = colour, L = left, r = right, R(s) = row(s), RC = row counter, C = centre stitch (centre needle), ser = series.

As soon as the pushers have been arranged for the next pattern row (which becomes superfluous with automatic patterns because pushers change automatically), place the feeding eyelet with the next colour into the socket (on lock). Now pull the yarn tightly and watch that it runs at the right of the edge needle, first **underneath the first approx. 6 sinkers noses and then in front of** the sinkers to the feeding eyelet.

If the yarn is not threaded in the yarn guide, but comes from the cone on the floor, it must slide with slight braking through your left hand, above the eyelet socket while the right hand is moving the lock.

1. The square in the pattern diagram

(see Pattern Diagram, Chapter 4, fig. 108 and 109)

1 square = 1 stitch, i.e. in width 1 square corresponds to 1 stitch.

1 square = 2 rows, i.e. in height 1 square corresponds to 2 knitted rows.

For these 2 rows you have to move the lock 4 times, twice for the needles and pushers of the trimming colour and twice for the needles and pushers of the basic colour; the row counter thus indicates 4.

Therefore: 1 square = 1 st and 2 Rs = RC 4.

Normally, only 2 colours are required for 1 row of squares. If exceptionally 3 colours are desired in a row of squares, 1 square in height corresponds to 2 knitted rows and RC 6. For each colour the pushers have to be rearranged and, on principle, you always knit in the same sequence of colours, namely:

2 Rs first trimming colour
2 Rs second trimming colour
2 Rs basic colour

When calculating a garment, we recommend to fill in the number indicated by the row counter.

2. Here's how to knit fairisle

Prepare lock, needles, and pushers according to basic principle on fairisle knitting. Feeding eyelet with basic colour in socket on lock, the other feeding eyelets in the eyelet support, each of them fed with its proper colour. Each time before starting a new row of squares (=ser), place into Rest Position the pushers for the design of the **next trimming colour**, then knit according to basic principle. Pushers change automatically.

3. Basic principle on fairisle knitting

BX ←

1st ser: place pushers in Rest Position for design of the first square row.
2 Rs trimming colour
2 Rs basic colour = RC 4

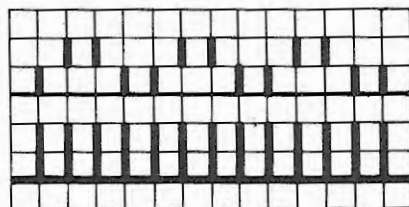
2nd ser: place pushers in Rest Position for design of the next square row.
2 Rs trimming colour
2 Rs basic colour = RC 8

3rd ser: and so forth

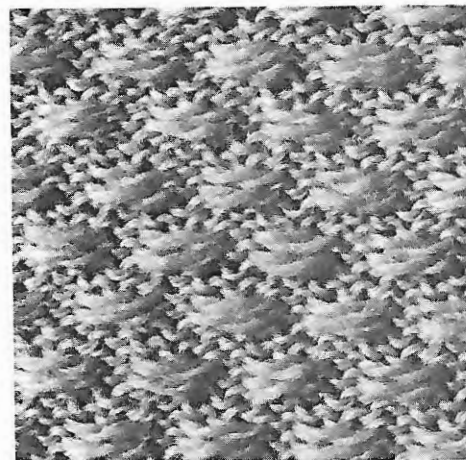
Abbreviations

← = press left arrowed key
→ = press right arrowed key
↔ = press both arrowed keys
○ = press zero key

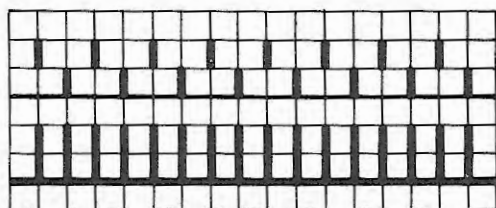
Pattern 1



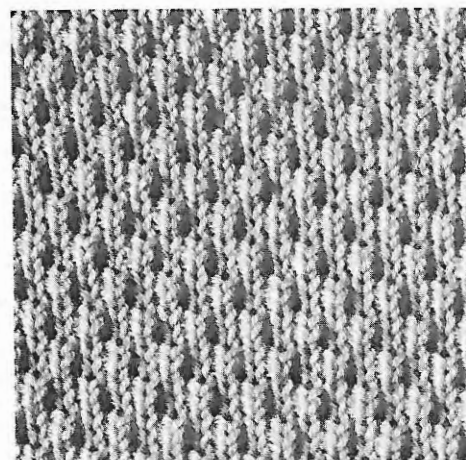
2 Rs BX ←
2 Rs N ○



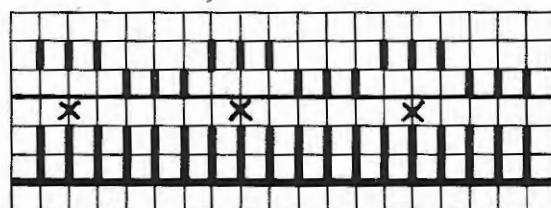
Pattern 2



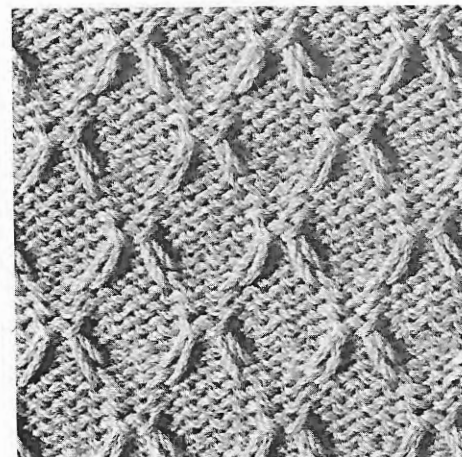
2 Rs AX ←
2 Rs N ○



Pattern 3

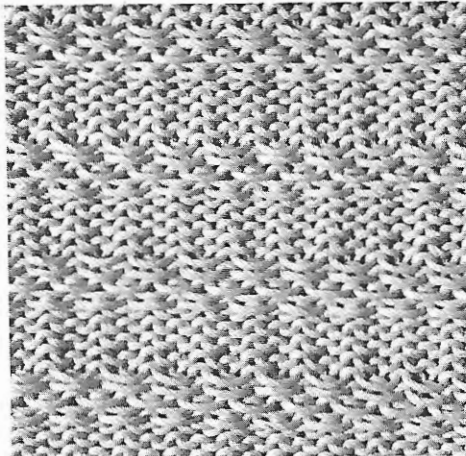
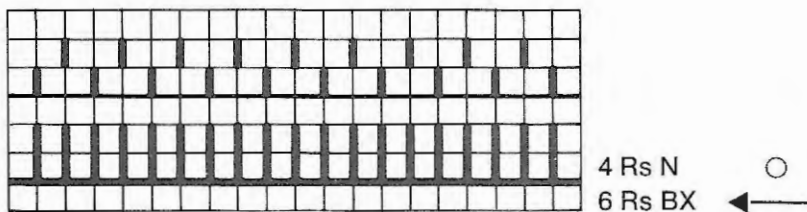


2 Rs N
1 R BX ←
1 R N ○
1 R BX
3 Rs N

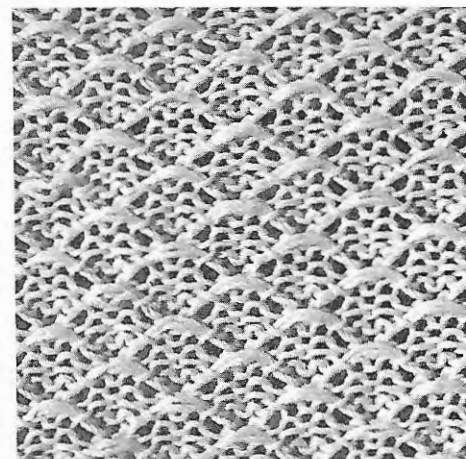
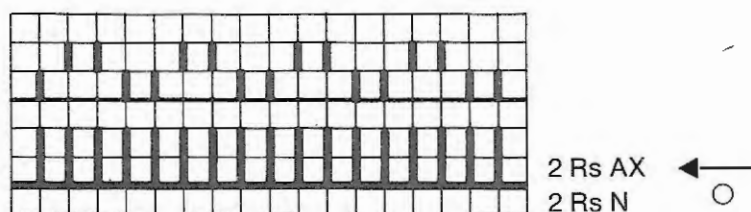


Hang cross threads onto nds X
Repeat, alternating pattern.

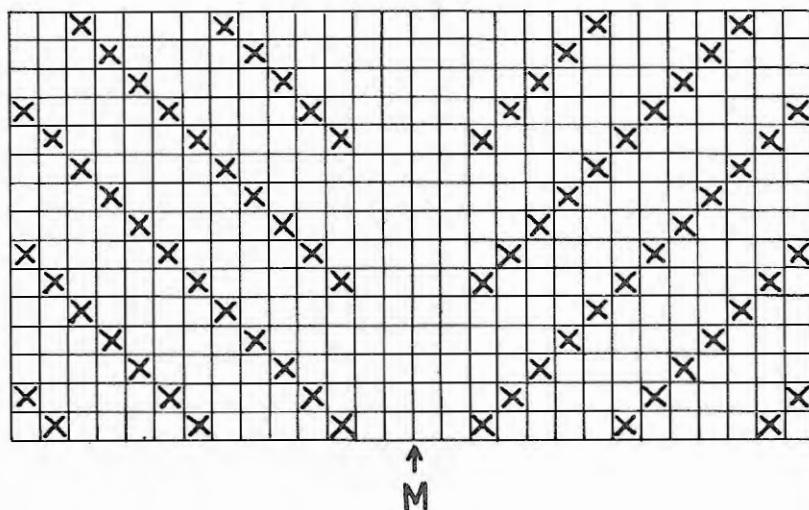
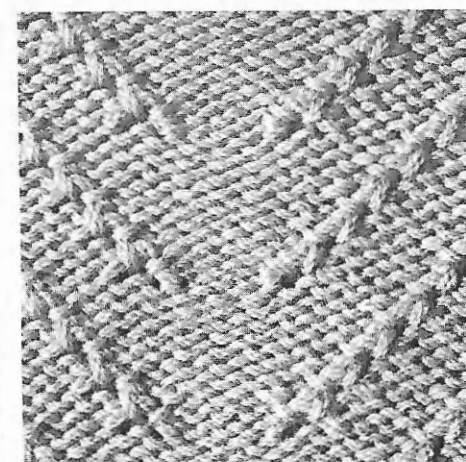
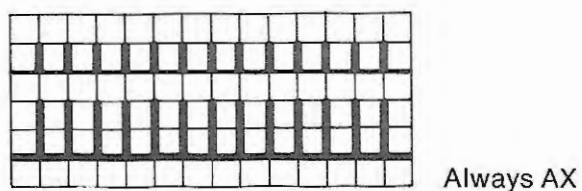
Pattern 4



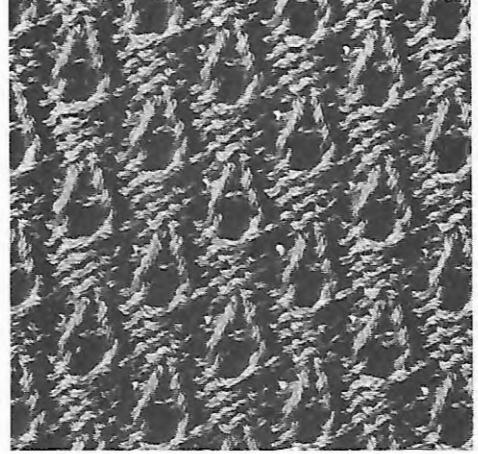
Pattern 5



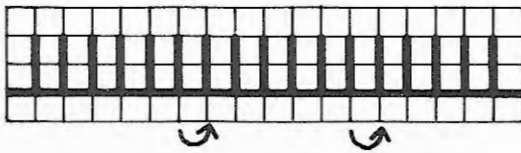
Pattern 6



Knit pattern according to diagram
X = pusher in Rest Position, all the other pushers in Working Position, k 2 Rs
M = middle, start from here arranging pushers



1st Series



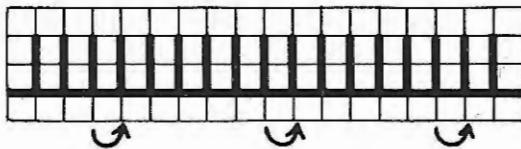
4 Rs N

**** Continuously hang the 6th st on the 7th nd – the 7th nd counting as 1st again.

4 Rs N

Drop the sts above the holes and pick them up as plain stitches.

2nd Series



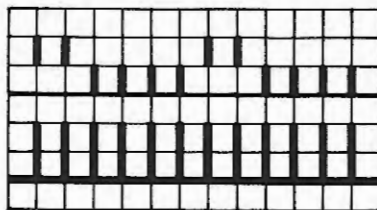
Hang the 3rd st on the 4th nd and then continuously the 6th st on the 7th nd.

4 Rs N

Crochet the sts above the holes.

Repeat from ****

Pattern 10

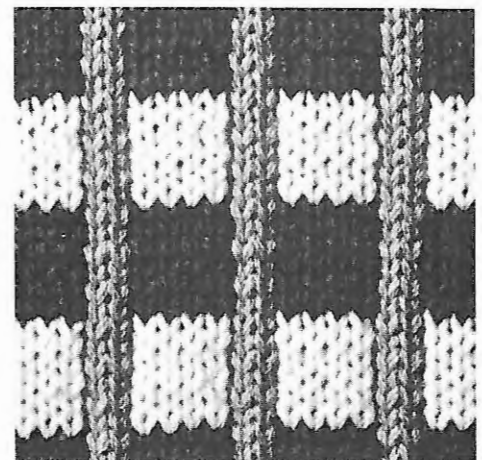


BX ←

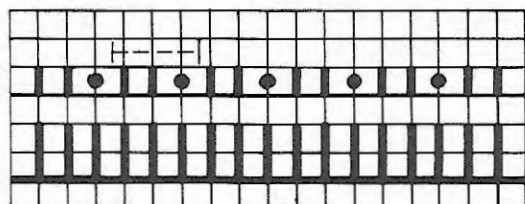
3 times: 2 Rs col 1, 2 Rs col 2

3 times: 2 Rs col 1, 2 Rs col 3

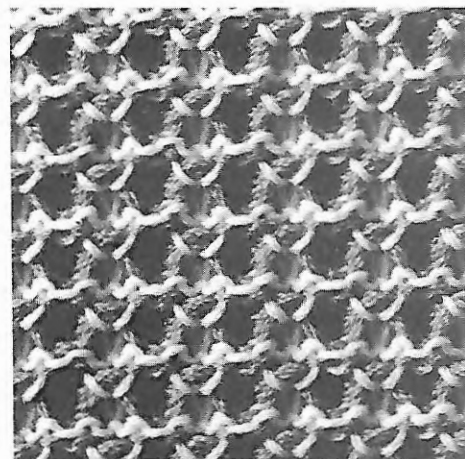
Repeat



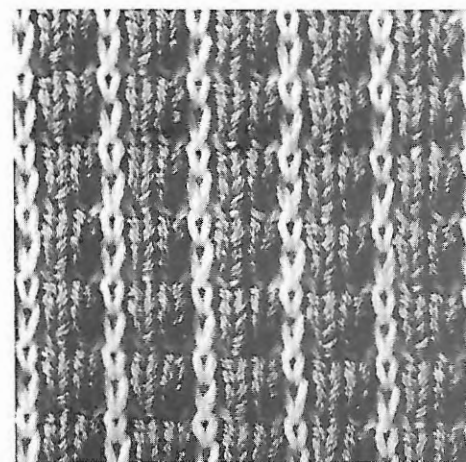
Pattern 11



4 Rs AX col 1
4 RS N col 2
Repeat



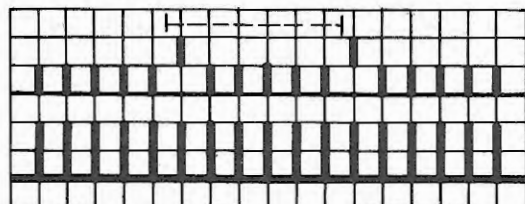
Purl side



Plain side

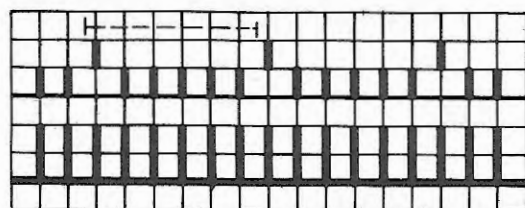
Pattern 12

1st Series



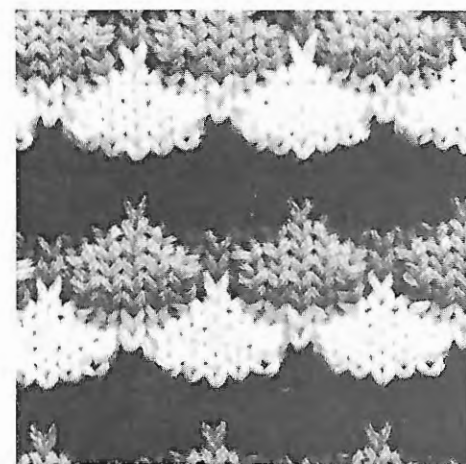
4 Rs AX
2 Rs N

2nd Series

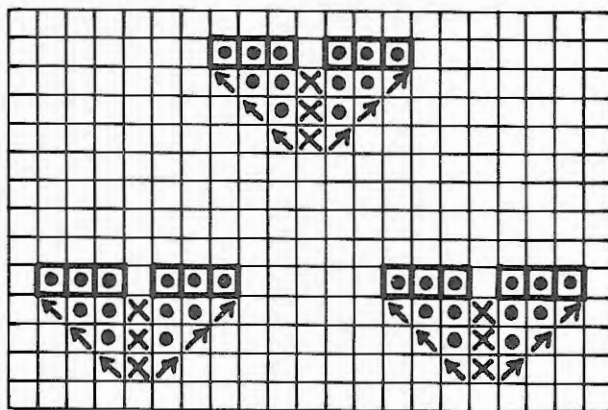


4 Rs AX
2 Rs N

Repeat these two series continuously. Sequence of colours for each series:



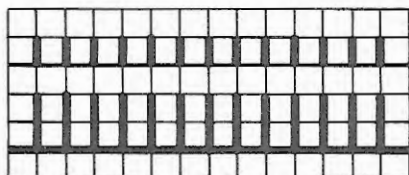
1st ser. col 1
2nd ser. col 2
1st ser. col 3
2nd ser. col 1
1st ser. col 2
2nd ser. col 3



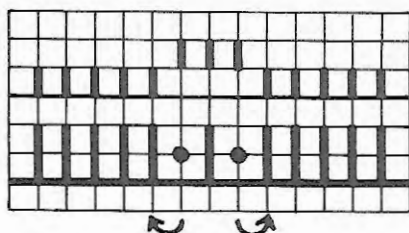
- ✕ = Pusher of this needle in Rest Position
- ↗ = Hang st to the right, empty nd in Neutral Position, pusher in Rest Position
- ↖ = Hang st to the left, empty nd in Neutral Position, pusher in Rest Position
- = nd out of work (Neutral Position), pushers in Rest Position
- ◻ = nds and pushers in Working Position, k 1 R and hang the loops with a twist on the formerly empty needles.

Empty square = needles and pushers in Working Position.

Starting Position

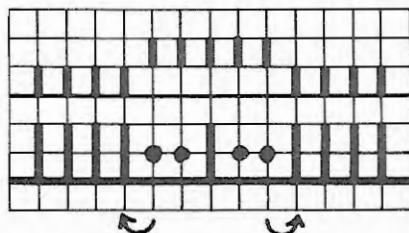


1st Series



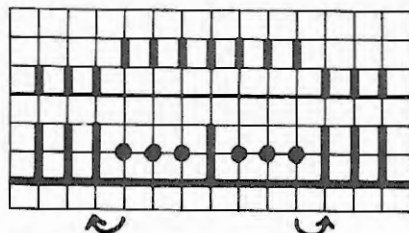
2 Rs AX

2nd Series



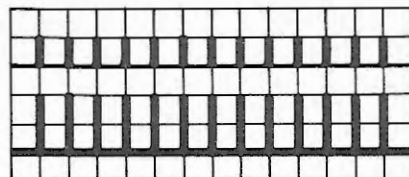
2 Rs AX

3rd Series



1 R AX – lock at left

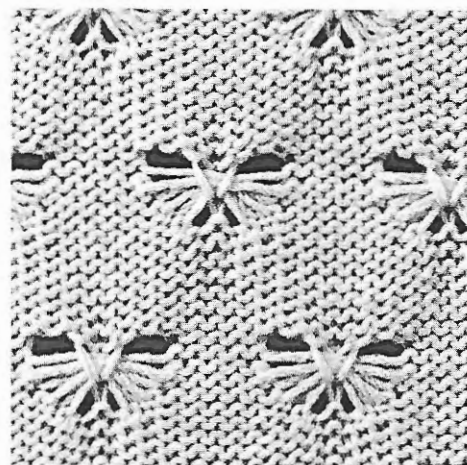
4th Series



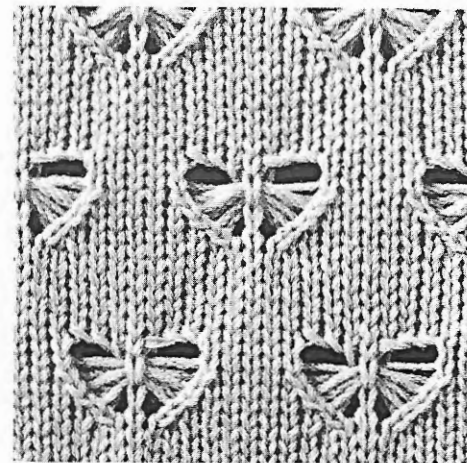
Hang the loops with a twist on the formerly empty needles.

All the pushers in Working Position, k 1 R AX.

k 20 Rs, with AX and all the pushers in Working Position, then repeat, alternating pattern.

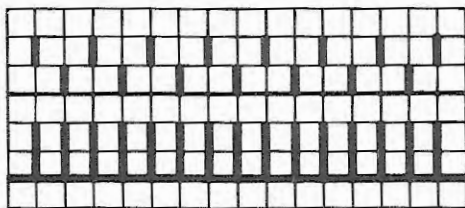


Purl side



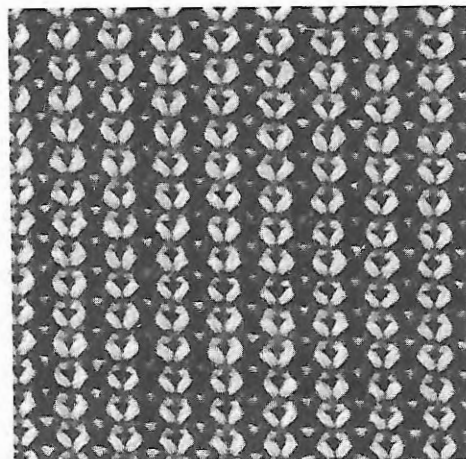
Plain side

Pattern 14 Two-coloured Rib



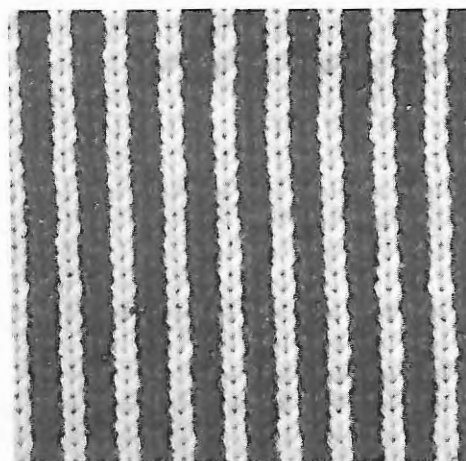
AX ←

k 2 Rs with col 1
k 2 Rs with col 2



Purl side

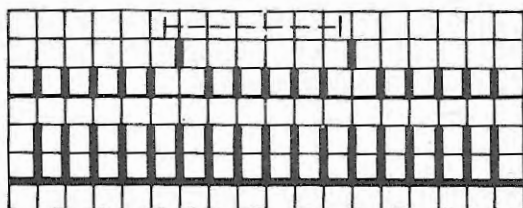
Repeat



Plain side

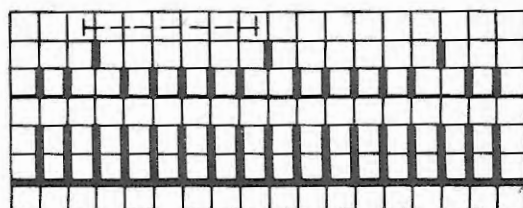
Pattern 15

1st Series



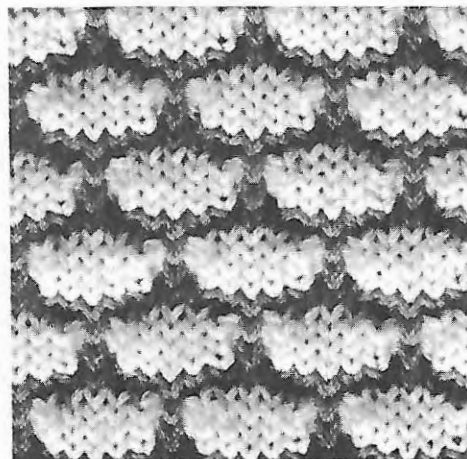
4 Rs AX col 1
2 Rs N col 2

2nd Series

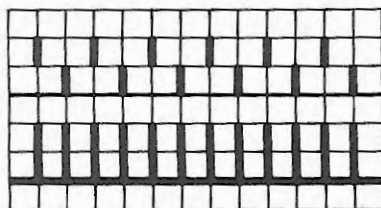


4 Rs AX col 1
2 Rs N col 2

Repeat

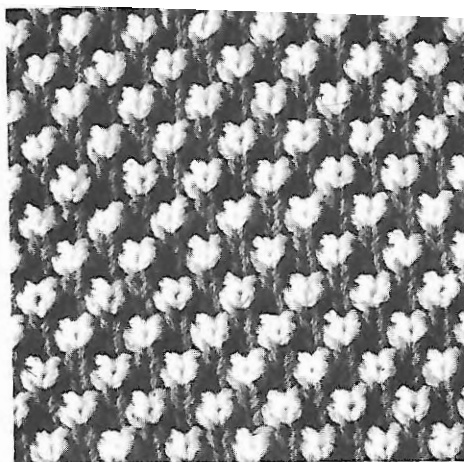


Either side can be used



2 Rs N ○ col 1
2 Rs AX ← col 2

Repeat



Fairisle Patterns — also called Norwegian Patterns

Patterns 17 and 18, following hereafter, are real fairisle patterns where the change of colour takes place after two rows each.

The pushers will be set according to pattern diagram where the trimming colour is shown either as a dot or a cross while the basic colour appears as an empty square.

Each row of squares corresponds to a certain arrangement of the pushers, i.e. a series.

It is advisable to first advance all the pushers into Working Position, thereafter moving the pushers for the trimming colour into Rest Position. Since in fairisle knitting, the lock always is at BX ←, pushers change automatically at the beginning of the row of squares, the pushers for the trimming colour thus advancing into Working Position.

A row of squares will then always be knitted as follows:

2 Rs trimming colour, 2 Rs basic colour = RC 4.

Sometimes two rows of squares are alike. You may then leave the arrangement of pushers as it is and knit as follows:

Twice: 2 Rs trimming colour, 2 Rs basic colour = RC 8.

In respect of pattern 17 we are showing, in addition to the pattern diagram, also the pusher arrangements for the different series.

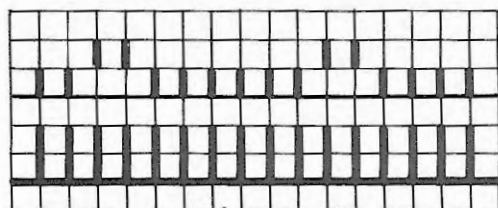
With pattern 18 we leave it to you to set the pushers according to the pattern diagram.

Incidentally, it will be easy for you to create your own fairisle pattern: On a sheet of paper with squares, draw whatever design you like providing 1 square in width each for 1 stitch and 1 square in height each for 2 rows.

You are thus independent of printed designs and may draft your own personal patterns.

Pattern 17 Two-coloured "Hen-Track" Fairisle pattern

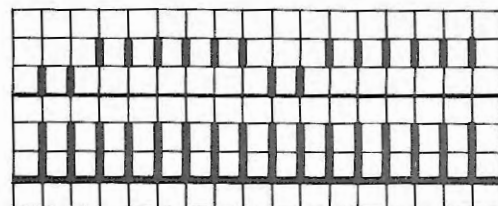
1st Series



BX ←

twice: 2 Rs col 1, 2 Rs col 2,
RC 8

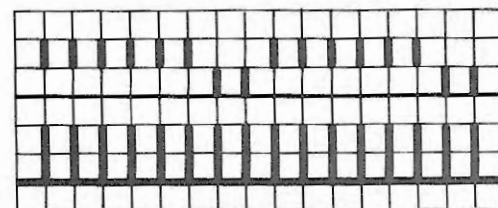
2nd Series



BX ←

twice: 2 Rs col 1, 2 Rs col 2,
RC 16

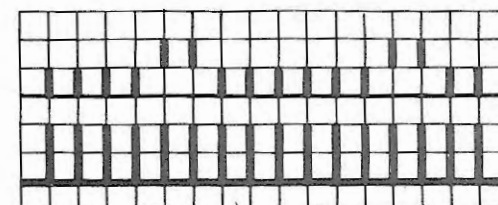
3rd Series



BX ←

twice: 2 Rs col 1, 2 Rs col 2,
RC 24

4th Series



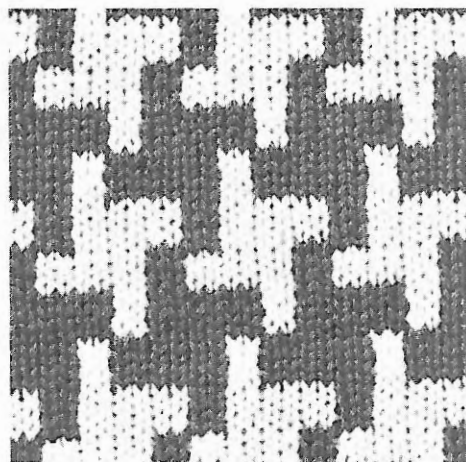
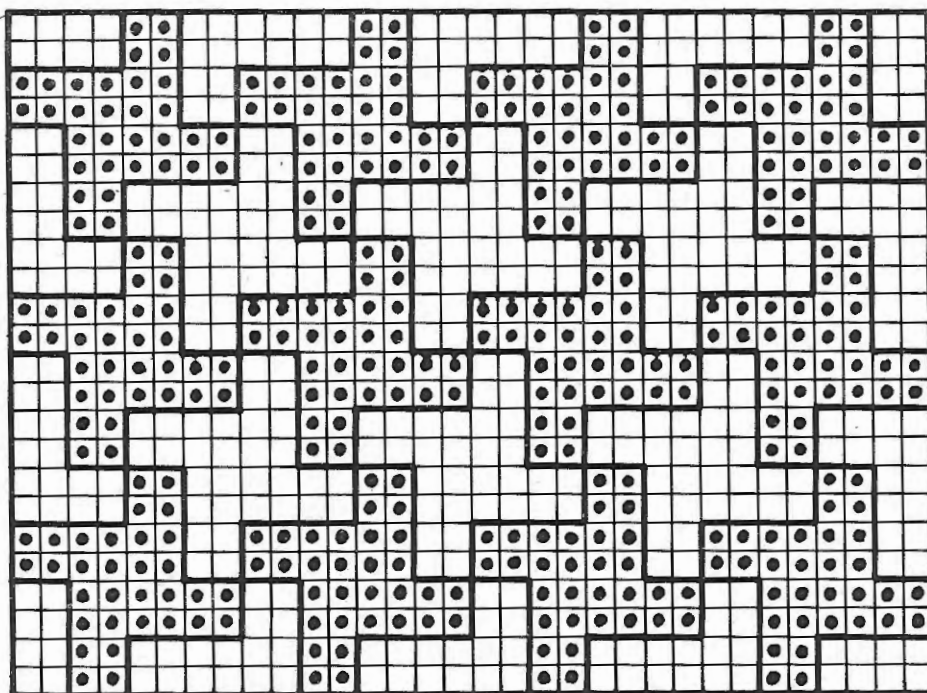
BX ←

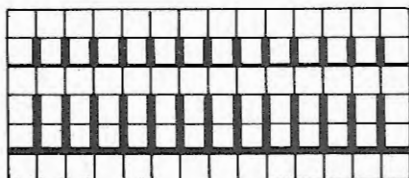
twice: 2 Rs col 1, 2 Rs col 2,
RC 32

Repeat

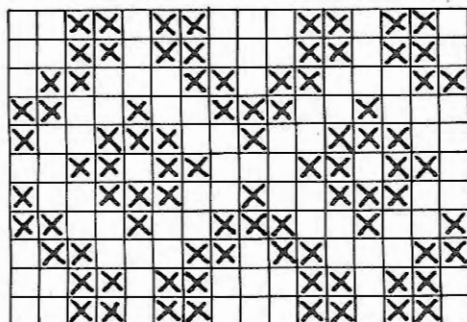
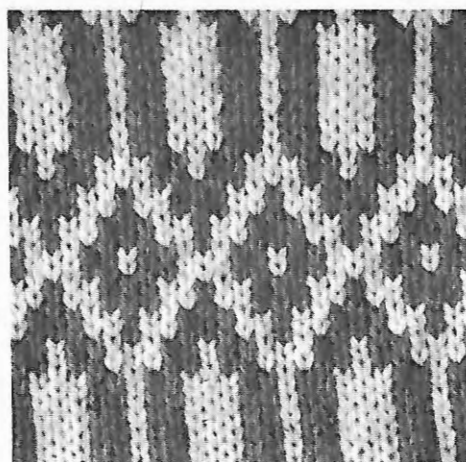
In the diagram which will be read
from the bottom upwards, the pat-
tern looks as follows:

= col 1
empty square = col 2
1 square = 1 st = 2 Rs = RC 4.
M = middle, start setting from here





BX ←



X = col 1, empty square = col 2

For each row of squares
2 Rs col 1, 2 Rs col 2, RC 4

Chapter nine

Technical Hints

How to change a latch needle

Damaged latch needles can easily be replaced. On principle, you only have to watch that:

When pulling out a needle, the needle head is closed

When inserting a needle, the needle head is open

Below the upper rail there is a "needle rail" which holds the needles in place. Looking at the needle bed from the side, you can see it lying in the side plate.

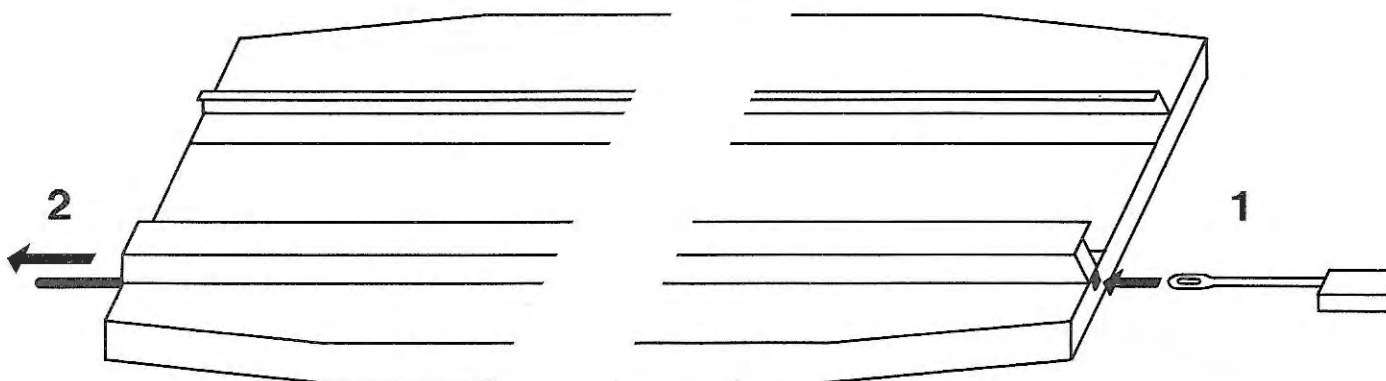


Fig. 166

First, on one side of the bed, push needle rail slightly inward, fig. 166/1, until it comes out on the other side, fig. 166/2.

Pull out the needle rail as far as is necessary to be able to lift the damaged latch needle by its head.

Removing a needle: If the latch is only slightly distorted, close needle head. If the latch is badly damaged, break off the whole needle head by means of a pair of pincers.

Hold needle by its foot and pull it out backwards. Fig. 167 left

Inserting a needle: Open latch. Hold needle by its foot and insert it from behind underneath the upper rail. Fig. 167 right

Finally push back needle rail. Do not hold it at its very end, but approx. 8" from the side plate, moving on successively, to prevent it from getting bent.

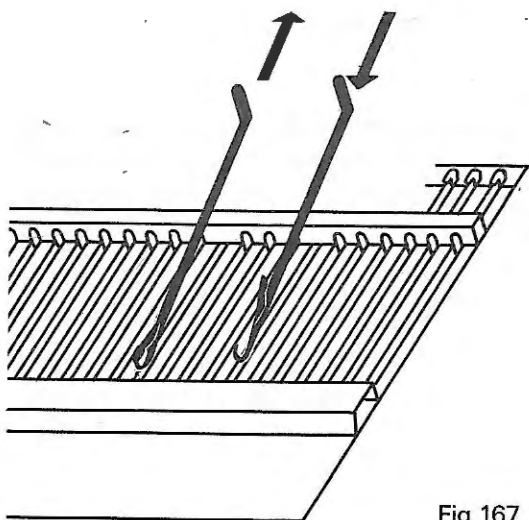


Fig. 167

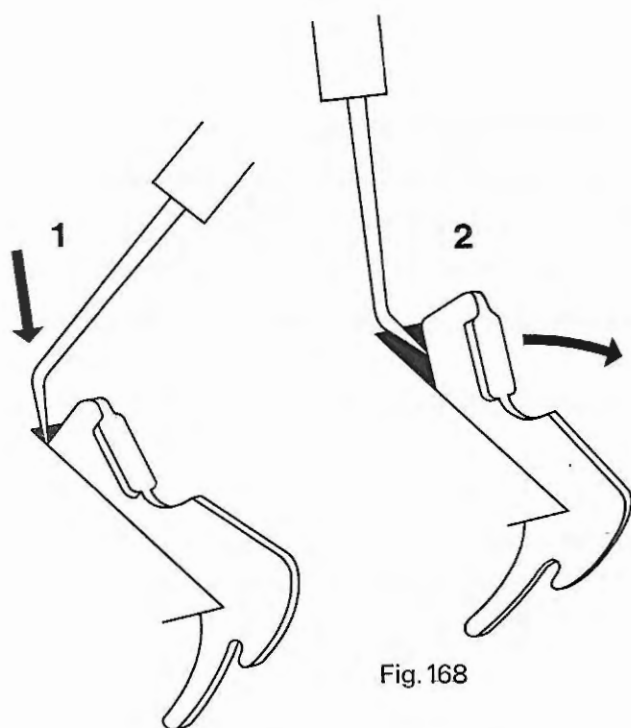


Fig. 168

Removing a sinker: Insert angled point of red tool (pointing forwards) behind the sinker foot, fig. 168/1. Press angled point forwards thereby causing the sinker to come out. Fig. 168/2

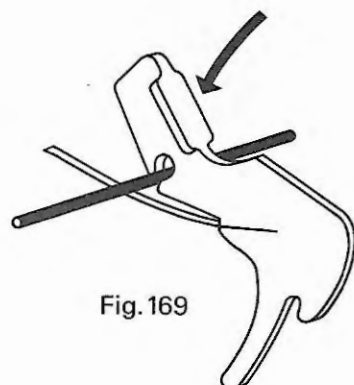


Fig. 169

Inserting a sinker: Insert sinker spring, from the front, underneath the shaft in the striking comb until the groove of the sinker is above the shaft. Fig. 169

Press down the sinker foot, fig. 169 (arrow), thereby causing the sinker to click into position.

Faults in pattern changing – change pusher

Basic rule: When you knit, always move completely across the knitting so that each latch needle and each pusher may return to its correct position for the next row.

With the automatic pattern change, faults can only occur if a pusher slides out of its correct position and changes out of turn.

When you notice that a pusher has too much play and changes out of turn, you may take it out and bend it slightly thereby causing a better braking of the pusher.

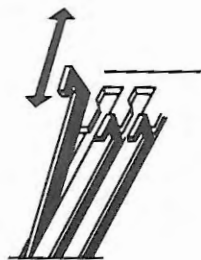


Fig. 170

Removing a pusher

Outside of blocking rail, hold pusher by its foot and pull it out. Fig. 170

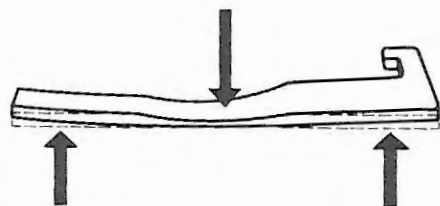


Fig. 171

Bending a pusher

Bend the shaft until it is slightly curved. Fig. 171

Inserting a pusher

Hold foot and insert the pusher into its channel. Fig. 170

You will notice that the pusher now finds lateral resistance in its channel and no longer slides backwards out of Working Position, all by itself.

If you find that the braking of the pusher is excessive, you may slightly straighten it again.

Faulty Edge Stitches

Reason

Lock has been moved too far beyond the knitting

Yarn tension too loose

Correction

Pull yarn tightly behind the mast

Readjust: Turn tension regulator towards "+" and move lever towards "—"

Stitches are not knitted off

Stitch size too small

Defective

Reset to higher number

Change needle

Dropped stitches

This can happen if the stitch size is set too large. However, since the PASSAP 20 knits without weights, the damage is not great, for the stitch does not run down (unless you pull the knitting) and on the next row a new stitch will be formed.

If you notice at once that a stitch is beside or below its needle, simple hang it back into the needle head.

If you notice it later, leave the stitch alone and when your knitting is finished, catch it with a small stitch on the reverse of the work.

How to clean and oil your PASSAP 20

Clean and oil the machine only after having removed the knitting.

A machine not in use should never be left uncovered and should always be protected against dust.

Cleaning

Every time a garment is finished or daily if the machine is in permanent use, proceed as follows:

1. Carefully remove lock and turn it upside down.
2. With a soft, dry cloth wipe off all surplus oil or oil which has become black, from the lock and needle bed.
3. With a dry brush remove remaining dust from the needle bed and the interior of the lock.
4. Polish inside rails of needle bed with a cloth. Dust and oil remainings may cause heavy movement of the lock.

Occasionally, and should the machine appear to be unduly stiff in operation, additional cleaning should be carried out as follows:

How to proceed

At home. Clean lock parts and lock guides as well as needles and pushers in the needle channels with a brush and then rub slightly with cloth, moistened with cleaning solution.

At the workshop. Rinse lock guides and cams with brush and cleaning solution, thereafter rub parts with cloth moistened with cleaning solution.

Remove needles and pushers from bed and rinse in cleaning solution. Then rub them with cloth, dipped in cleaning solution.

Rub rails with dry cloth and then clean with brush dipped in cleaning solution.

Clean needle channels with moistened brush. With dry brush remove dust from striking comb and sinkers.

Then clean with dry brush. Rub machine with dry cloth.

Reinsert needles and pushers.

Means

Our latest tests have shown that the machines can best be cleaned with pure petroleum (scentless), which is available in drugstores and does not harm the machine parts. We recommend adding PASSAP Bellodor oil to the pure petroleum so that the machine parts are simultaneously oiled and will not dry out. Moreover, the addition of PASSAP Bellodor oil affords a certain protection against rust of all the parts cleaned. Observe ratio of components: 1 pint of pure petroleum to 1 fluid ounce of PASSAP Bellodor oil.

Special note: Never use benzine (petrol) or any similar liquid which might harm the plastic material. Don't rub over the letters on lock and front plate with wet cloth or brush.

1. Lock

Spread 3 to 4 drops of PASSAP Bellodor oil on and around each of the guiding rails. Oil lock parts where the needles slide, with brush or oily cloth.

2. Guide Rails

Put 2 to 3 drops of PASSAP Bellodor oil on middle part of each guide rail.

3. Needles and Pushers

With brush or an oily cloth, lightly rub needle and pusher feet.

Special note: Only use PASSAP Bellodor oil. Other qualities of oil may contain ingredients which could harm the machine.

For further hints see «First Aid»

Chapter 2, fig. 59–61: Edge stitch remained unknitted (page 25)

Chapter 2, fig. 64: Stitch behind latch (page 26)

Chapter 4, fig. 103–105: Lock jamming—faults in casting on row (pages 43–45)

Chapter 6: Insert new cone—hang on groups of stitches (page 61)