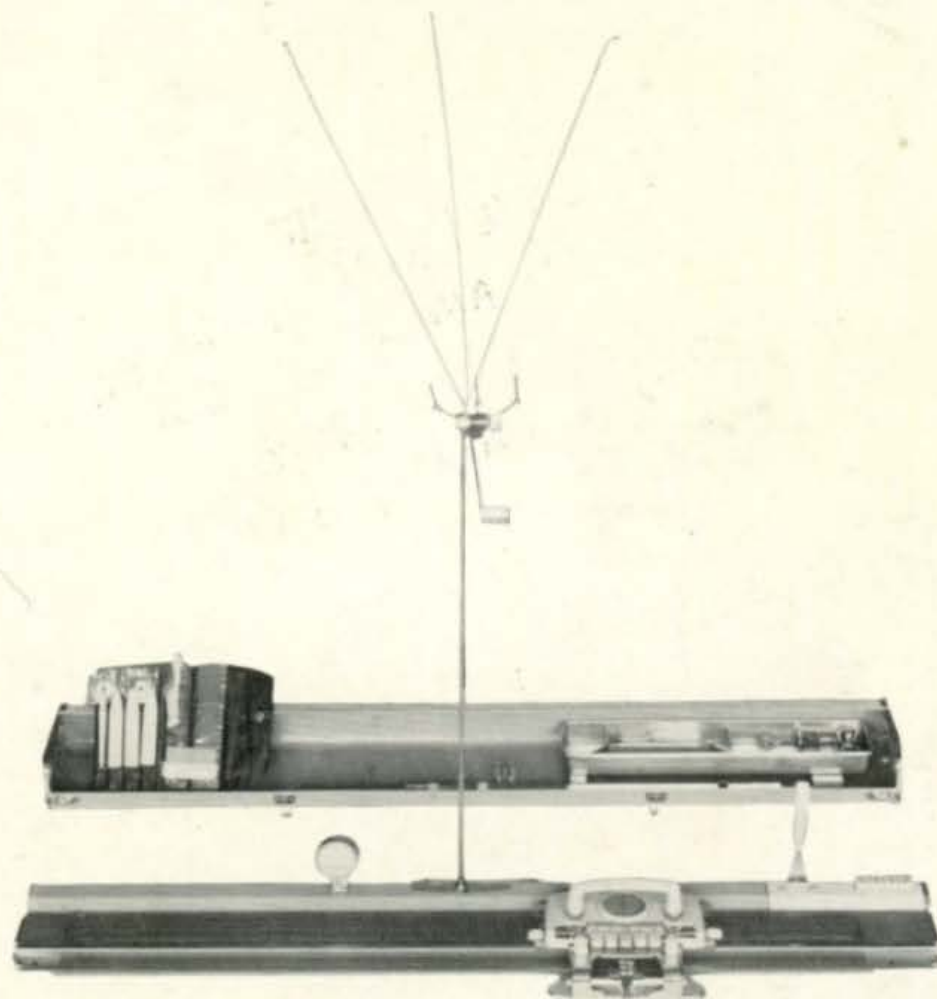


How to master your automatic home knitter



BROTHER-KNIT

MODEL KH531



BROTHER INDUSTRIES, LTD.

NAGOYA, JAPAN

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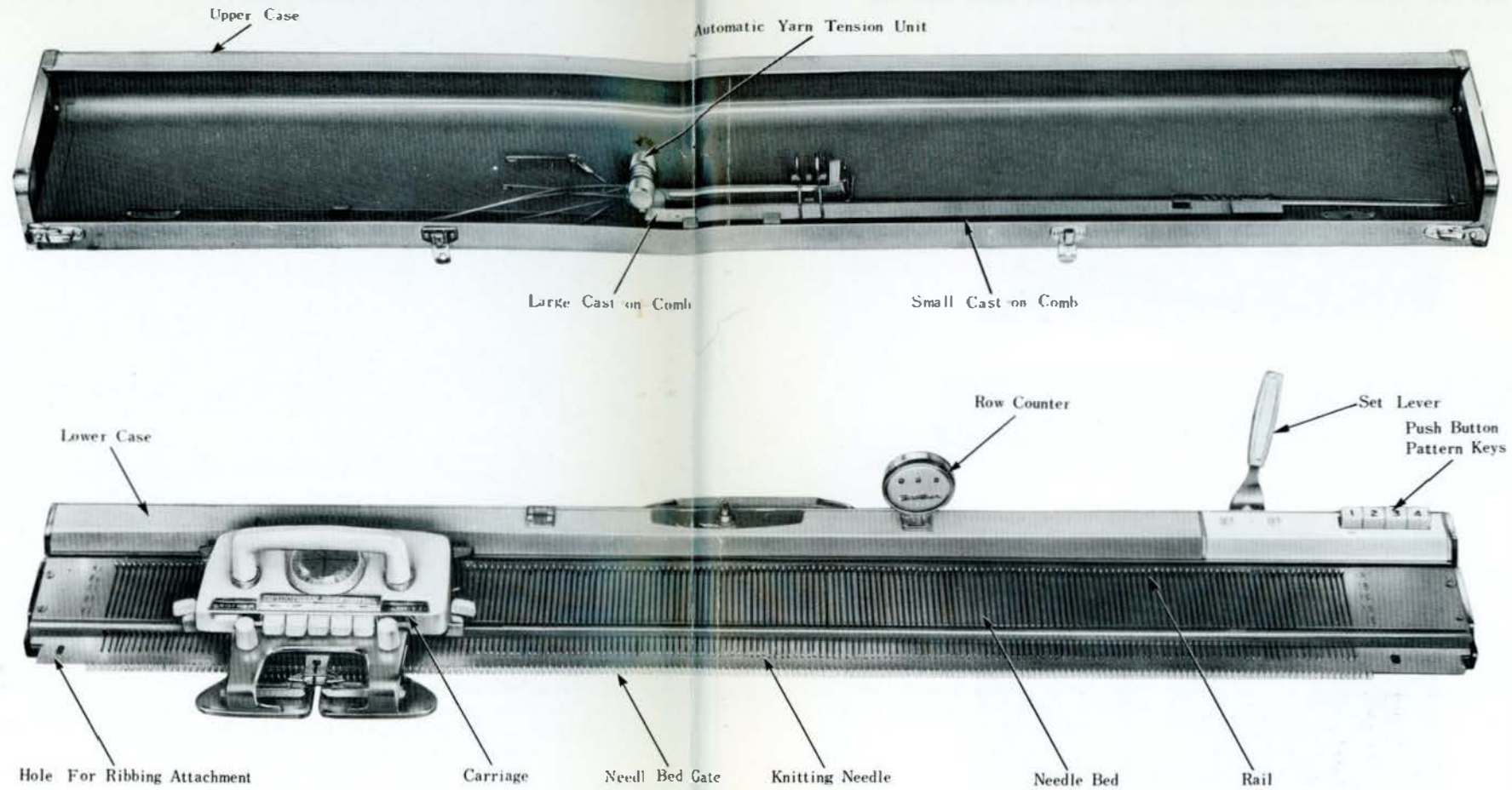
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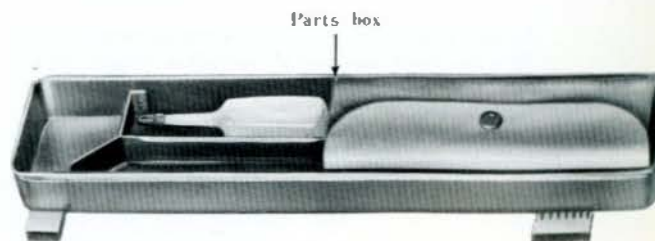
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DETAILED DESCRIPTION

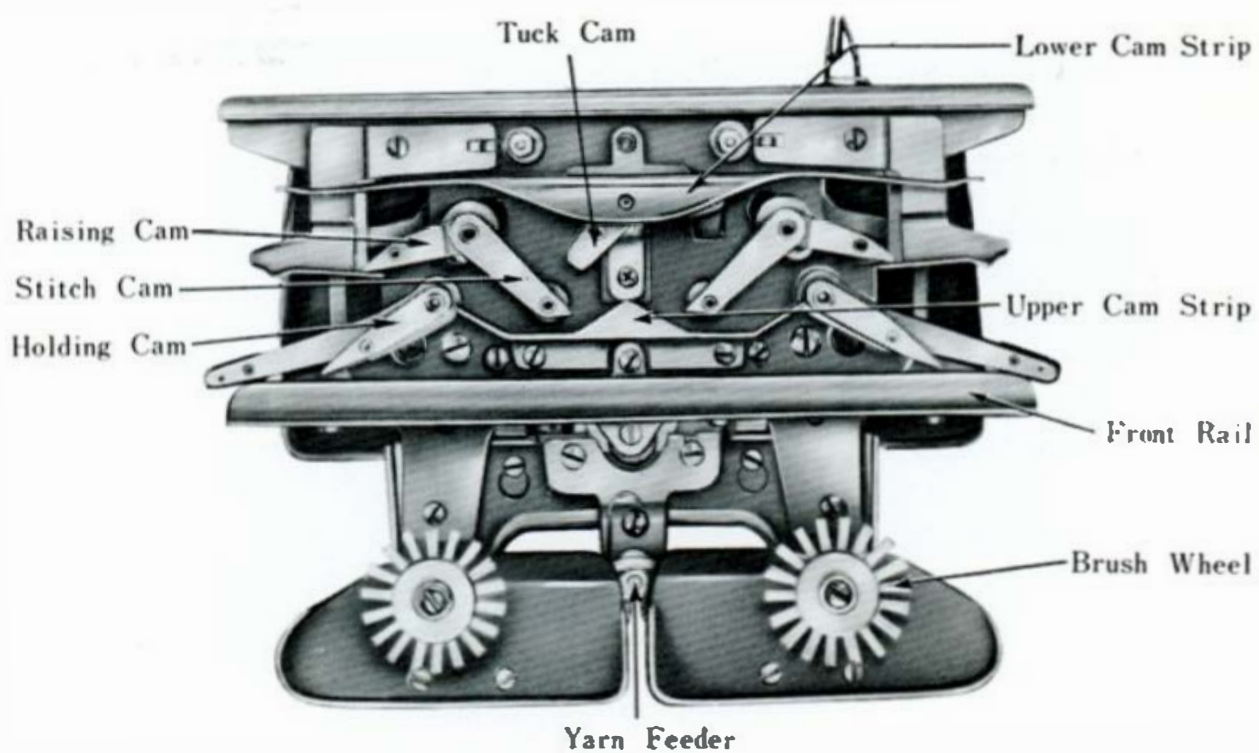
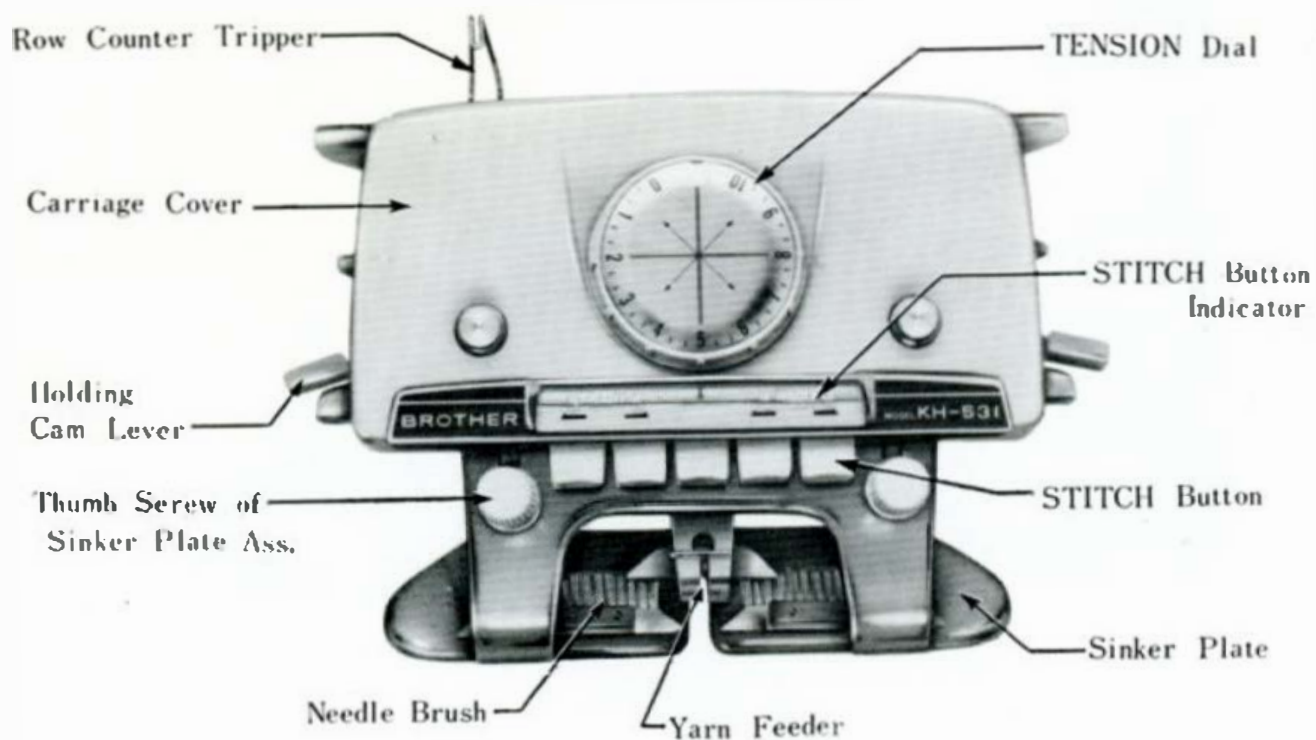
MACHINE



NEEDLE



CARRIGE



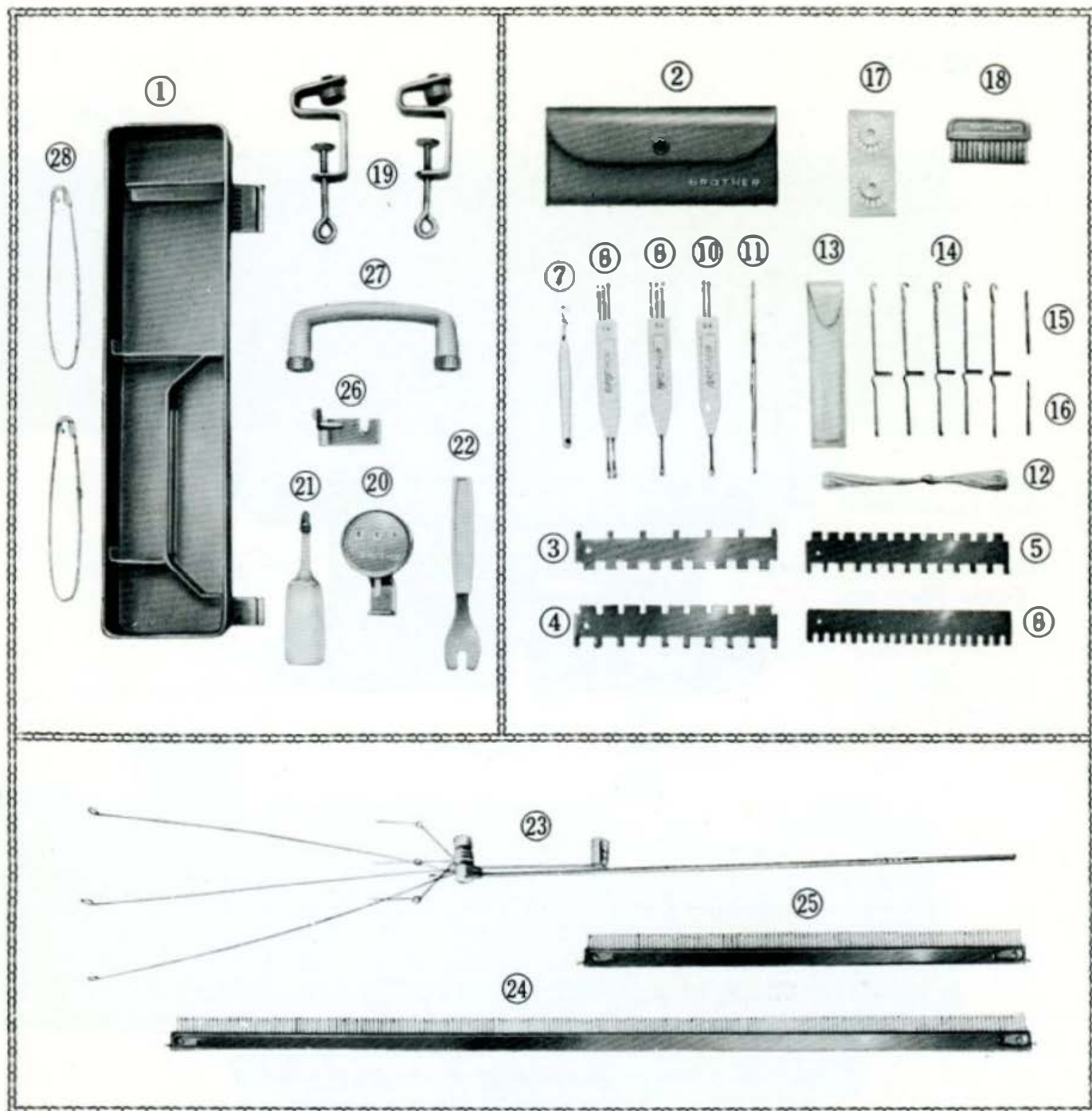


Fig. 1

- | | |
|-----------------------------------|---------------------------------|
| 1. Accessory box | 16. Tapestry needle, small |
| 2. Plastic kit | 17. Spare brush wheels |
| 3. 2/2, 1/5 needle pusher | 18. Hand brush |
| 4. 1/3, 3/1 needle pusher | 19. Table clamps |
| 5. 1/2, 2/1 needle pusher | 20. Row counter |
| 6. 1/1 needle pusher | 21. Plastic oil bottle |
| 7. Latch tool | 22. Set lever |
| 8. 2x3 transfer tool | 23. Automatic yarn tension unit |
| 9. 1x3 transfer tool | 24. Large cast-on comb |
| 10. 1x2 transfer tool | 25. Small cast-on comb |
| 11. Crotchet hook and work hook | 26. Carriage lock |
| 12. Cast-on thread | 27. Handle |
| 13. Plastic case for spare needle | 28. Stitch holders |
| 14. Spare needles | |
| 15. Tapestry needle, large | |

SETTING UP THE KNITTER

1. Place your knitter on the edge of any firm and flat table, with the handle of carrying case away from you. (See Fig.2)

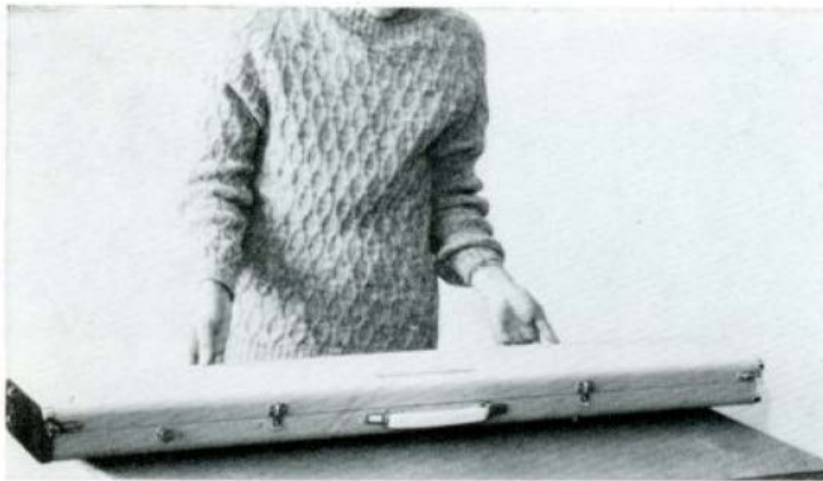


Fig. 2

2. Remove the upper case.
 - a. Release the catches on both sides of the handle. (See Fig.2)
 - b. Release the catches on the side covers, and open the side covers as far as they will go. (See Fig.3)

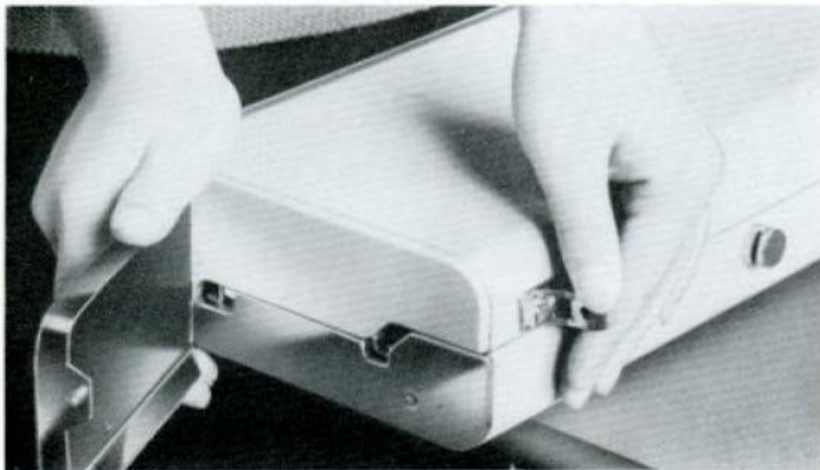


Fig. 3

- c. Lift the upper case about 1" and pull toward you. (See Fig.4)
This will release the upper case which should be placed on the table beyond the knitter, inside up.
 - d. The side covers of the upper case should be returned to their closed position and locked.
The upper case contains large cast-on comb, small cast-on comb, automatic yarn tension unit (See Fig.5)

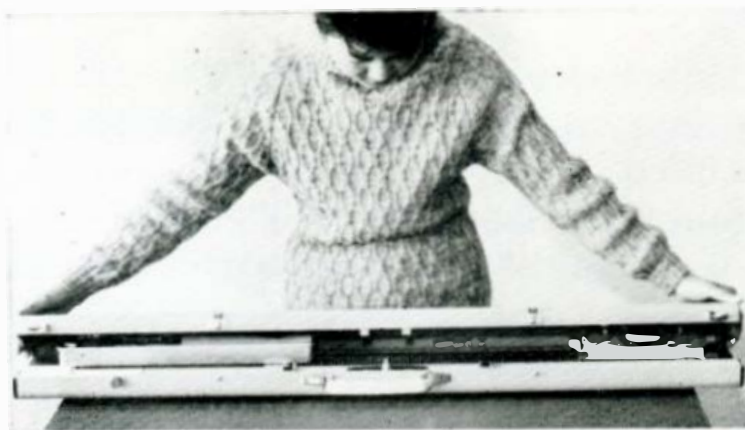


Fig. 4

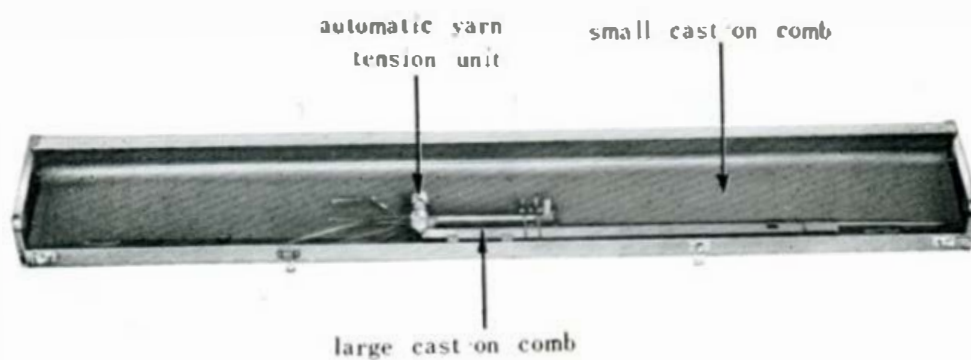


Fig. 5

3. Remove the accessory box.

On the needle bed, which is contained in the lower case, the carriage is on the left and the accessory box on the right. Lift the front of the accessory box and slide off towards the right. (See Fig. 6)

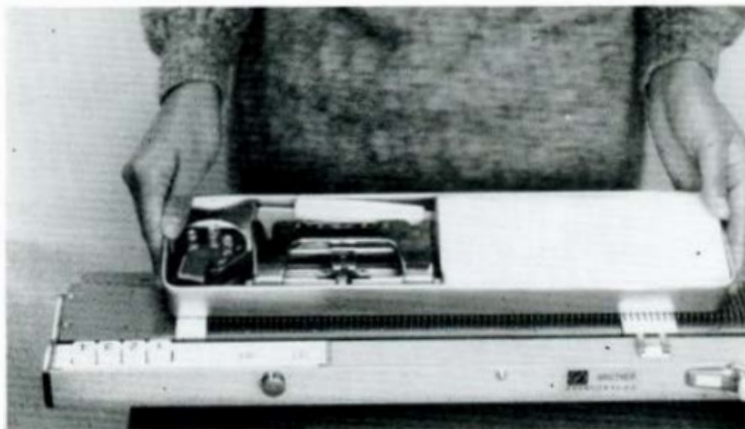


Fig. 6

4. Fasten the knitter to the table. (Figs. 7a & 7b)

Remove the table clamps from the accessory box. Raise the front of the knitter, insert the head of screw (B) into the aperture (C) Press upwards so that the head of screw (B) is in position (D) and fasten the knob (A). Fasten the knitter to the table by tightening table clamps. It is essential that boss (E) fits snugly into aperture (F). (See Fig. 7.)

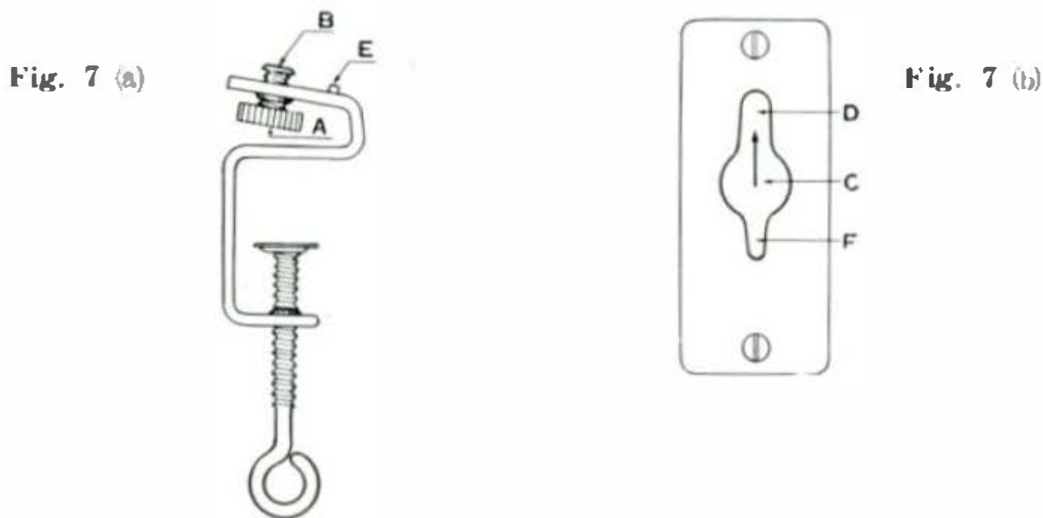


Fig. 7

5. Remove the carriage lock.

Loosen the plastic thumb screws of the carriage and remove the carriage lock. This will free the carriage, which can then be made to slide along or off the needle bed. (See Fig. 8)

As the carriage lock is required when repacking the knitter keep it in the accessory box while the knitter is in operation.

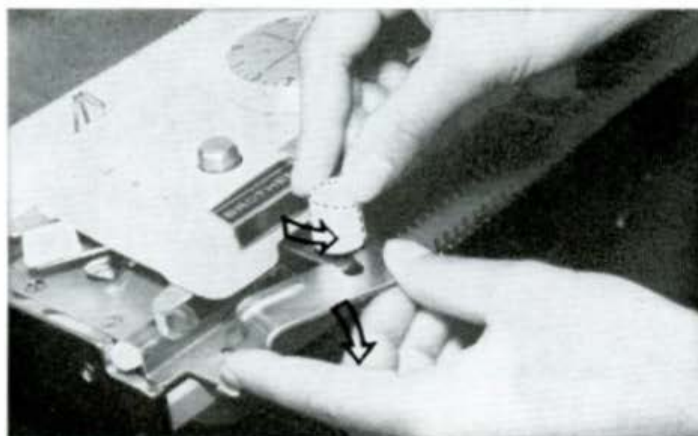


Fig. 8

7. Set the row counter

- a. Set the row counter into either of the brackets on the back of the needle bed. (See Fig. 12)



Fig. 12

- b. You can set the figures on the row counter to zero by turning screws clockwise as indicated by arrows over the 3 setting knobs on the back of the row counter. (See Fig. 13)

Turn knob A clockwise until figure is 0, then turn knob B clockwise to 0 and finally turn knob C clockwise to 0. Be sure to set the knobs in order indicated.



Fig. 13

8. Assemble the carriage

- a. Remove the sinker plate assembly from the accessory box. Loosen the plastic thumb screws of carriage, insert the sinker plate assembly as far as it will go and fasten the thumb screws securely. (See Fig. 14)

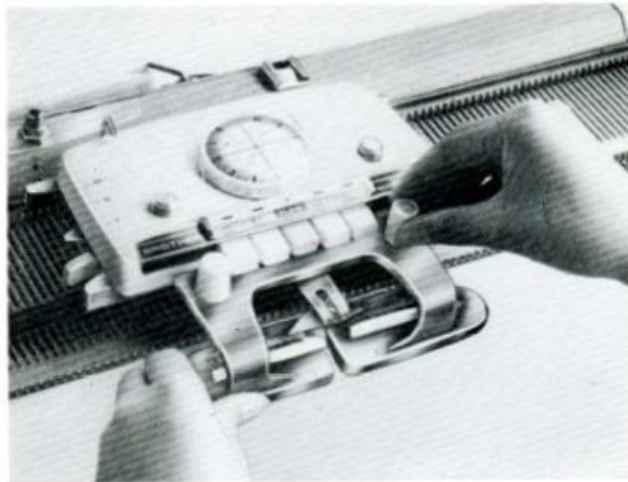


Fig. 14

- b. Remove the handle from the accessory box and fasten to the two threaded studs on carriage. (See Fig. 15). Both sides should be screwed down at the same time to avoid stripping the thread.

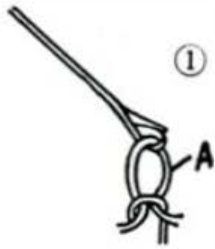


Fig. 15

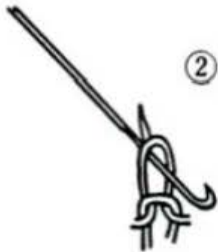
SELECTION OF NEEDLES

They are numbered in red in front of the needle bed, the center is "0". There are 200 needles from 0 to 100 to the left and similarly numbered to the right. For further convenience, the rivets at the back of the needle grooves are spaced 10 needles apart.

HOW A STITCH IS FORMED



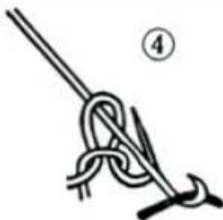
1. The needle is in knitting position and stitch A is hanging from the needle hook.



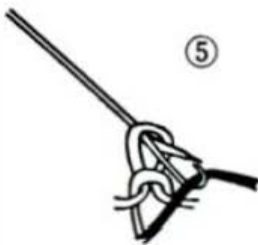
2. The cams of the carriage push the needle forward and stitch A slips back past the latch onto the stem of the needle.



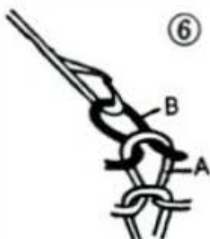
3. With the needle in the forward position, and the latch open, the yarn feeder on the carriage places yarn in the hook to form stitch B.



4. As the needle is returned to normal position by the cams in the carriage, the stitch A closes the latch as it slips over the new stitch B and off the needle.



5. Stitch B is now locked in the hook of the needle until the needle begins the forward movement again.



6. The needle has completed its return movement. It has pulled the loop B through the stitch A, thus making a completely new stitch. This is now hanging from the needle hook.

NEEDLE POSITIONS IN THE NEEDLE BED

There are five needle positions in the needle groove. (See Fig. 16)
Positions are indicated on each side of needle bed

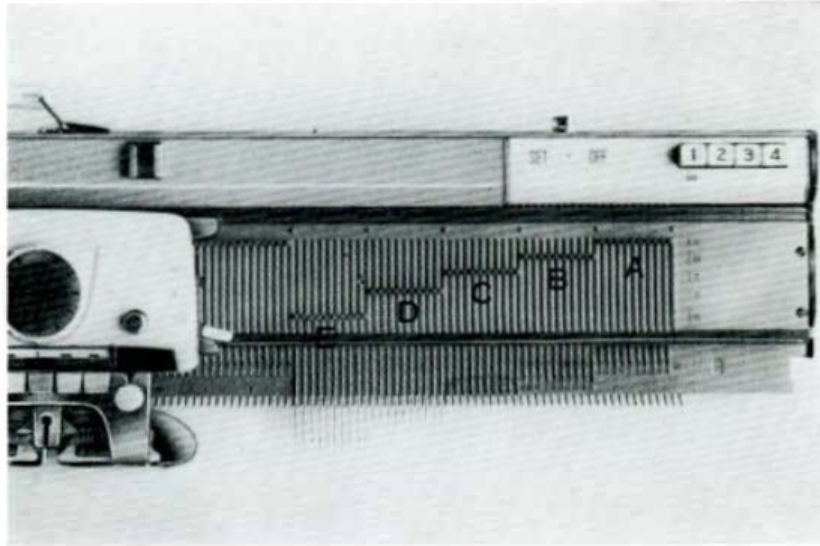


Fig. 16

- A: Resting or non-knitting position (all the way back to base of needle bed)
- B: Knitting or working position (needles raised about half an inch from base of needle bed)
- C: Two color or Fair Isle patterns also short row shaping, such as. circular skirts, heel of socks, yokes, pockets.

NOTES:

1. Needle position A (Out of Action) is not referred to in the Tabulation as no movement of the carriage will affect the needles.
2. To obtain needle position C raise the needle to E and then return it to C so that the stitch rides on top of the **closed latch** (This position is **only** used in special patterning, shaping, increasing, decreasing, circular knitting, all "short row" knitting.
N.B.—If the wool rides on top of the **open latch** the needle is in an extended "B" position and the needle movement will then be as for a B position needle.
3. **STATIONARY** needles remain in normal knitting position and do not pick up any additional stitches. **HOLDING** needles remain fully extended and **can** pick up additional stitches. Neither of these will move until the knitting (or the holding) cams are appropriately adjusted.

PREPARING THE TENSION UNIT

1. Place an evenly wound ball of yarn into a box or basket just below the yarn feeds on the table.

It is important that the yarn feeds freely as any pull or interference of the yarn affects the smooth even motion of the carriage, resulting in uneven stitches at the edges of the knitting.

2. How to use the automatic yarn tension unit.

The automatic yarn tension unit is a specially designed device to ensure an even feed on the yarn while knitting, and, consequently, an even size of stitch.

The tension assembly is made so that 3 different yarns can be threaded onto it for multi-color pattern knitting. Each different yarn should be threaded through separate eyelets, discs and guides as provided for on the tension assembly.

The yarn is threaded through eyelet (1) and led through and under guide (2) and up and over between the tension discs (3), thence through guide (4) of the extended arm of the tension unit and finally through the eyelet (5) at the end of the take-up spring and into the yarn feeder in the center of carriage. (See Fig. 17, 19)

When knitting, care must be taken not to move the carriage too far beyond the last needle. If you do there will be insufficient tension in the take-up spring and a loose loop will form in the yarn between the feeder and the first needle when the carriage is on the return movement.

It is, therefore, necessary to keep an eye on the yarn at the end of each stroke, and, if necessary, to clear any loops that may form.

Another possible fault of too long a movement is the tendency of the yarn to catch in the gate pegs of the needle bed, or the wheels and brushes. The spiral wire is a holder on the tension assembly upright rod which is used to hold the yarn while mounting the cast on comb,

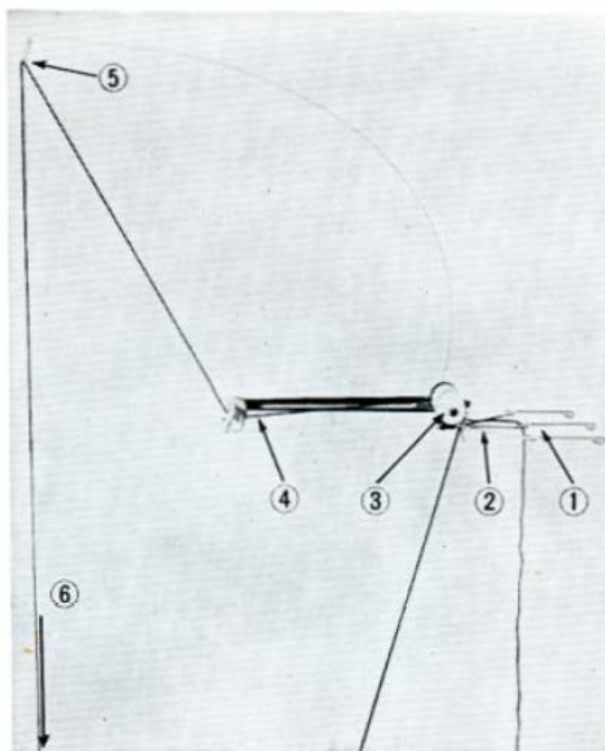


Fig. 17



Fig. 18

holding yarns not in use while doing multi-color knitting, etc., which prevents yarn from getting in the way or having it pulled out of the yarn feeder by the tension of the take-up spring. (See Fig. 18)

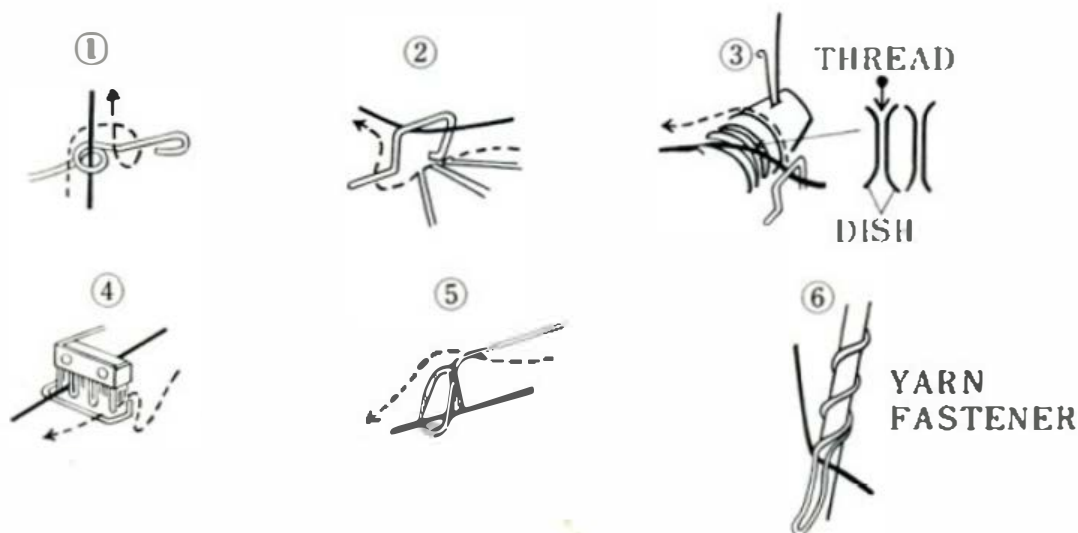
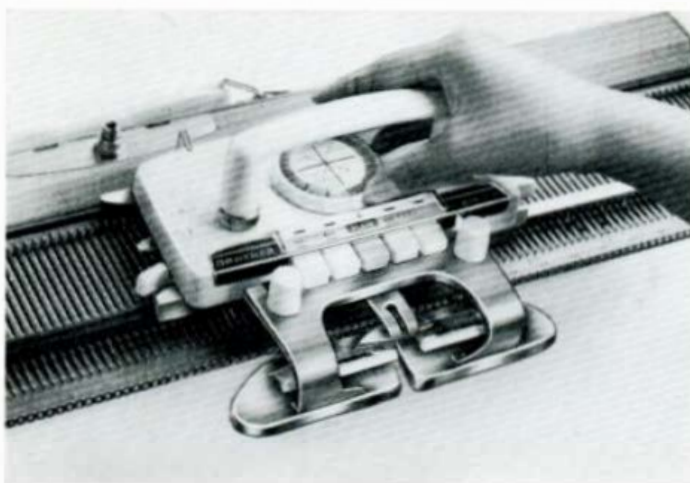


Fig. 19

PREPARING THE CARRIAGE

- A. Thread yarn into the key-hole shaped slits of the yarn feeder by holding yarn taut with both hands, pull back into slit until you hear a click of the yarn holder spring. When removing the yarn, pull yarn down and over the yarn holder spring.
- B. Pull enough yarn down from automatic take up spring to extend about 8 inches below carriage.
- D. Push center selector button for plain knitting. This button releases the others if any have previously been used for patterning.
- E. Place carriage a few needles beyond the needles to be used.
- F. Hold handle at the extreme end and a direct push from side to side is advisable, so no downward pressure is used.
- G. To set the tension turn dial until tension number is above red indicator.
- H. Raise the Holding Cam Levers to position (1).

The carriage may be at either side of the needle bed, clear of the needles to be knitted.



Setting the
Tension Dial.

Fig. 20

TENSIONS:

Tension in knitting denotes the size of the stitch. The TENSION DIAL which is graduated from 0 to 10 and subdivided into thirds controls the stitch size on the KH 531 knitter.

The figure 0 denotes the tightest tension, i. e. the smallest stitch, and the 10 the loosest or largest stitch.

As the tension at which a garment is knitted depends not only on personal taste but also on the type of garment required and the thickness of the yarn used no list of recommended tensions is given. Yarns vary in their make up, so that 3-ply wools from different manufacturers will vary in thickness. For these reasons it is recommended that before any type of wool is used a tension "swatch" be knitted from which to make your choice of stitch size. (See page 17)

Approximate tensions for the most popular yarns.

Type of Yarn	Tension No.
Cashmere.....	3
Baby yarns	3
Fingering yarns.....	5-6
Sport and Sock yarns.....	6-7
Pompadour	6-7
Worsted (use alternate needles)	8-10
4 ply yarns.....	8-10
Dress yarns (Boucle, Velveteen, etc.)	7-8
Crochet Thread	2-3
Mohair (alternate needles)	10
Angora (alternate needles)	8-10

Note: For correct size, a test swatch should be knitted,
Always knit ribbing 2 points tighter than given gauge.

To determine the tension (gauge or stitch size)

When knitting either the two-needle or modern knitting machine way, your tension or gauge determines the tightness or looseness of the stitches and thus the actual size of the knitted garment. Your finger tip controlled tension dial on the knitter permits an amazingly wide range of tension variation. The larger the number set on the dial, the looser will be the resulting tension.

- a. Determine the proper gauge by making a swatch. Knit a small test piece on about 30 needles, working sets of 30 rows, each set in a different tension. Knit a single row of a different color between tension changes for easy identification. Block (press) the swatch before measuring for correctness. (See Fig.21)
- b. Count the number of stitches per inch across, and the number of rows down per inch. (See Fig.22). Based on this mathematical approach, it soon becomes a simple matter to create your own garments on your knitter, with the assurance that the size will be correct. It is recommended that a small test swatch be made before starting each garment to prove correctness of gauge.

stitch counting

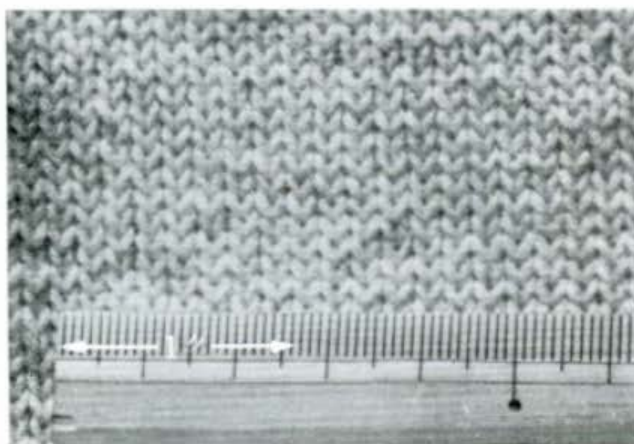


Fig. 21

row counting

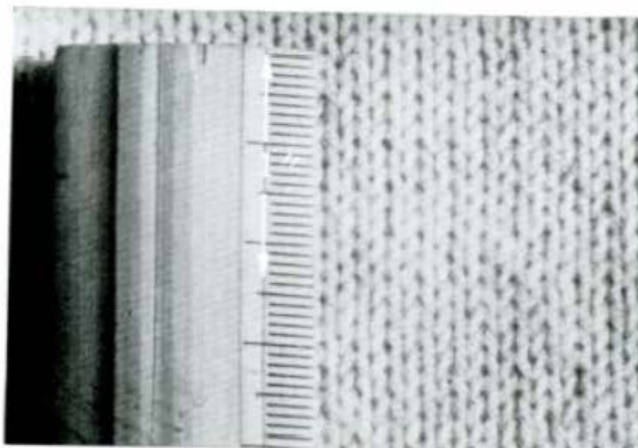


Fig. 22

CASTING ON

You are now to knit, as the carriage moves over the needles it forms the basic stockinette stitch. When using the hand knit method, one row of knit and 1 row of purl produces the same results. Each time the carriage is pushed across one row is knitted.

There are 2 methods for casting on stitches-

The cast on comb should be use for both, the open edge and finished edge. To hand comb (see Fig. 23) select the large cast on comb for full width or close to full width knitting or the small comb for 100 stitches or less.

The comb should be as wide or wider than the number of needles brought to knitting position.

The open edge method is often preferred if one wishes to join a border on the sleeves, neck opening, or waist, also practical as a time saver when making gauge test swatches.

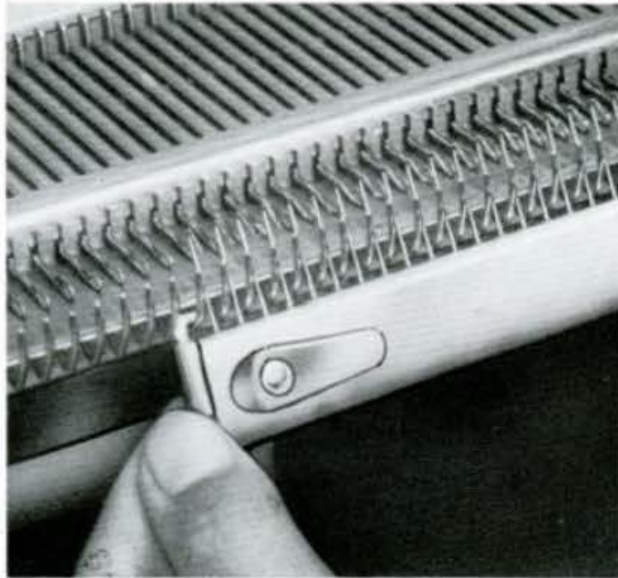


Fig. 23

OPEN EDGE CAST ON

1. Hold comb centered to the edge of the needle bed with the wire hooks of the comb facing you.
2. Turn securing pins A at both ends up.
3. Place hooks between pegs of needle bed as far up as possible. (See Fig. 24)

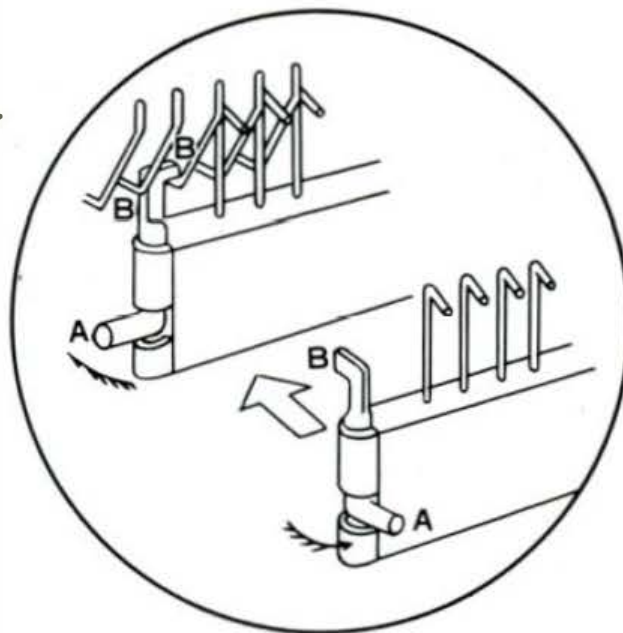


Fig. 24

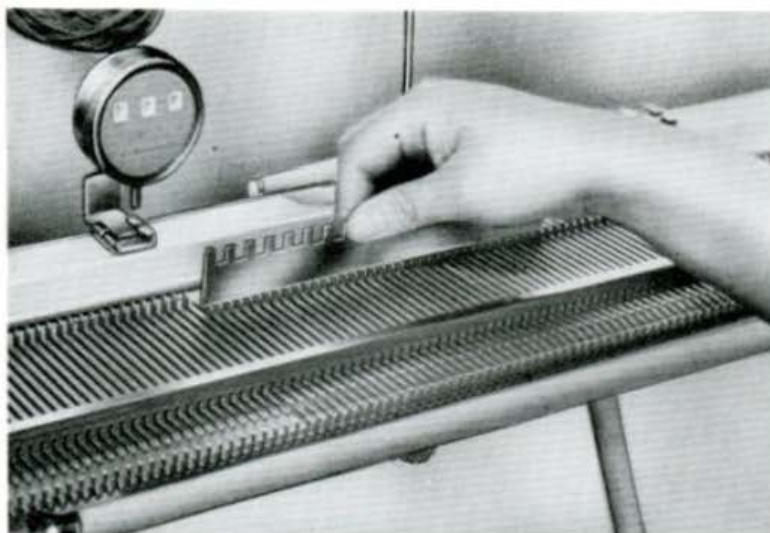


Fig. 25

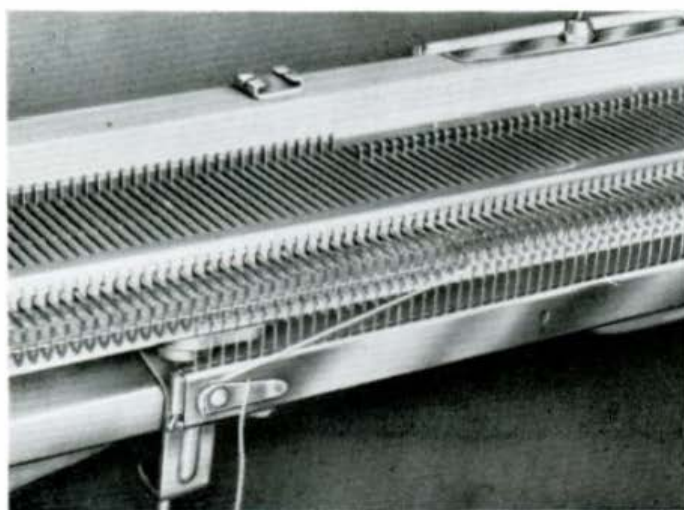


Fig. 26

4. Turn the two handles A outwardly to the right and left respectively and the cast-on comb will hang correctly on the machine. The comb should be hung in front of the needles to be knitted so that the central needle is central to the comb.
5. Using the straight edge of a needle pusher, bring forward to position B or about 1/2" from the resting position (A) the desired number of needles. (See Fig. 25)
6. Check to see that the needles pass freely between the cast-on comb teeth.

The threaded carriage should now be pushed across the needles to be knitted. This will cause loops to be picked up in the needles and to form around the gate pegs and the hooks of the cast on comb. Continue the carriage movement until the carriage clears the cast-on comb.

Carefully unhook the comb from the pegs by turning the handle A of the cast-on comb hanger B and let the cast-on comb hang in the loops of wool. (see Fig. 26) Turn the loose end of the wool round the cast-on comb knob to keep it out of the way and to secure the first stitch. Continue knitting.

- Note:**
- a. At the beginning knit slowly.....Speed comes with practice.
 - b. Do not reverse the movement of the carriage in the middle of a row as carriage will jam.
 - c. Move the carriage at an even speed and listen to a click at the end of each row.

FINISHED EDGE CAST-ON

1. Use tension recommended for weight of yarn; knitter carriage to the right.
2. Hang cast-on comb on pegs of needle bed and spaces clear for needle to come through.
3. Push needles to be used all the way up toward you. (Position E)
4. Fasten end of yarn with slip knot on left of knitter.
5. Loop yarn around each needle from left to right, counter-clockwise. Loops must be past the latches on stem of needle.
6. Thread yarn feeder on carriage and knit one row. The carriage should be eased across gently.
7. Lower comb after this row.
8. Knit garment.

QUICK RIB (1 x 1)

This rib may be used at the waist and cuffs of any knitted garment where a tight fit is required. This is suggested to the beginner as a simple method when learning to use the knitter.

1. Thread yarn into automatic yarn feeder and carriage feeder. Place carriage at the left of knitter.
2. Hold cast-on comb, centered, to the edge of the needle bed, with the hooks of the comb facing you. Place teeth of the comb between pegs of the needle bed, with the tails of the securing pins at the ends of the comb up, now turn tails outward. This secures comb to the edge of knitter as hooks catch into gate pegs.
3. Take your 1 x 1 needle pusher, using the even edge, push up the desired number of needles to position "B". the needles distributed evenly on each side of "O".
4. Turn pusher to cut out edge and pull back alternate needles. This sets needles to the 1 K. 1P. border.
5. Place carriage at the left, set tension dial to # 10 for the first cast-on row. Knit by pushing carriage gently across past the cast-on comb.
6. Release comb by turning pins at the ends of the comb and pull down carefully. Stitches must remain in the hooks. Carefully fasten beginning of yarn on left side of cast-on comb spring.
7. Re-set tension to a tight knit, about 3 for fingering yarn. Knit double the depth of the required border (about 40 rows for 2"). Always remember to hear "click" at the end of each row. Grasp each end of cast on comb and at the same time place index finger at edges of knitting to keep it from contracting and jumping off hooks.
8. Now, fold knitting in half by holding cast-on comb with the hooks down and the knitting hanging from the hooks close to the edge of needle bed. Hold comb steady and insert each empty needle through each loop on the comb. Remove comb from the stitches by tipping back and slipping hooks out of stitches now held by the needles.
9. Loosen the tension to # 6 or recommended gauge and continue making garment.

HOW TO MAKE HEMS ON THE KNITTER

The hem is a very popular border trim for both the beginning and finish of smart knitted garments. All hems should be cast on with an open edge and # 10 tension regardless of the weight of the yarn.

PICOT EDGE HEM

1. Cast on the necessary number of stitches.
2. Row 2 reset tension to normal gauge.
3. Knit the depth of the hem about 15 rows.
4. Use 1 eyed transfer tool starting at the second stitch from the edge transfer every other stitch to the adjacent needle, when row is completed every other needle is empty, the others hold 2 stitches.
5. Push back to knitting position B all empty needles.
6. Knit 1 row more than the first half for y. o. to fall on fold (in this case 16 rows).
7. Fold in half and insert needles into corresponding stitches on cast on comb.
8. Remove comb and continue garment.

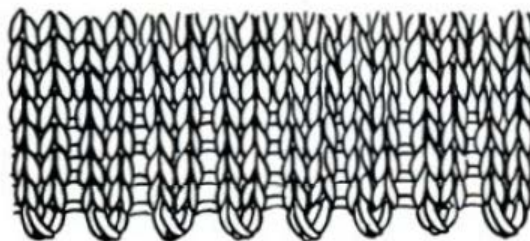


Fig. 27

TAILORED HEM

The same as above except that no picot transfers are necessary.

SHAPING KNIT GARMENTS

1. How to use the transfer tool. (to transfer stitches.)

This method is used for lace pattern, increasing, decreasing, and repairing dropped stitches.

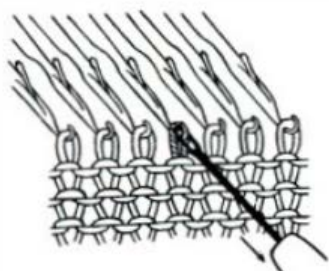


Fig. 28

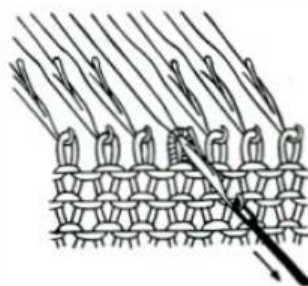


Fig. 29

- a. Hold the transfer tool parallel with the needles in the needle bed. Place the eye of the transfer tool into the hook of the needle. (See Fig. 28)
- b. With the transfer tool, bring the needle forward. The stitch in the hook of the needle will slide behind the latch and onto the stem of the needle. (See Fig. 29)

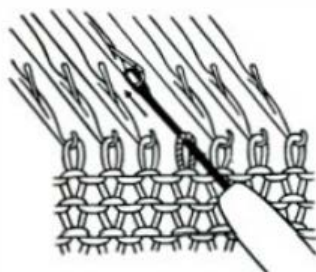


Fig. 30

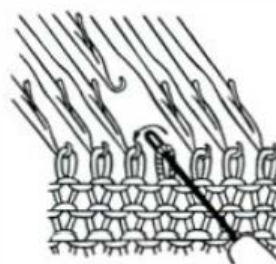


Fig. 31

- c. Without releasing the transfer tool, push the needle all the way back until the stitch is transferred onto the transfer tool. (See Fig. 30)
- d. Raise the transfer tool with the stitch on it and transfer it to the adjacent needle, right or left as desired. (See Fig. 31)

Note: If the latches of the needles are opened before transferring, you can speed the transfer of stitches.

2. How to pick up dropped stitch

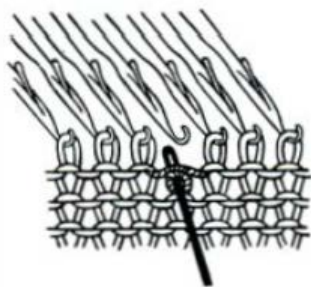


Fig. 32

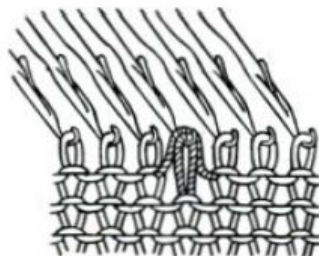


Fig. 33

- a. With the single transfer tool, pick up the stitch and the unknitted thread and put them both on the empty needle. (See Fig. 23, 33)

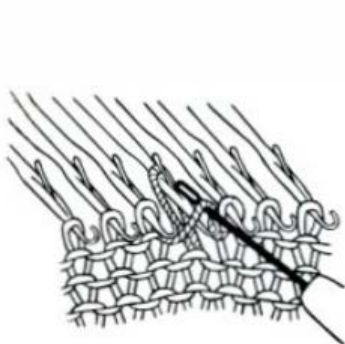


Fig. 34

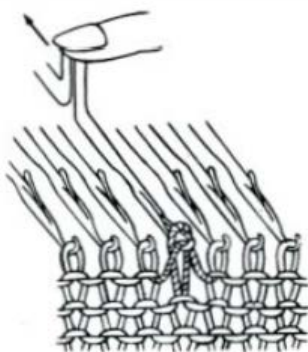


Fig. 35

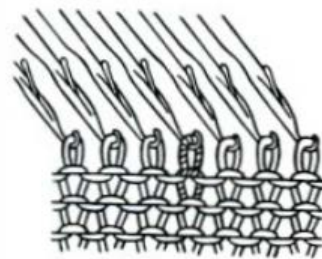


Fig. 36

- b. Push forward the empty needle until the stitch is behind the latch of the needle, catch the thread of the unknitted stitch into the hook of the needle. (See Fig. 34)
- c. With your finger on the butt of the needle, bring the needle back. The stitch will slide over the hook of the needle, and be re-knitted. (See Fig. 35, 36)

B. In case multiple rows drop (Plain knitting)

- a. Catch the lowest loop of dropped stitch with the latch hook from behind the fabric. (See Fig. 37)
- b. Working from behind the knitting with latch tool, crotch upwards to reform the line of stitches as follows:
With a downward movement place stitch behind latch and next horizontal thread into the hook of the needle. (See Fig. 37, 38)

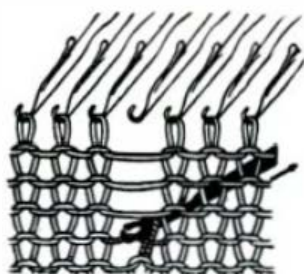


Fig. 37

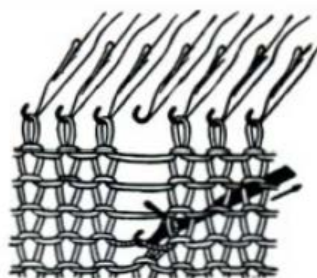


Fig. 38

Catch horizontal threads one by one to form new stitches until you have knitted back to the top of your work. The final stitch is placed back on the empty needle. (See Fig. 39, 40, 41)

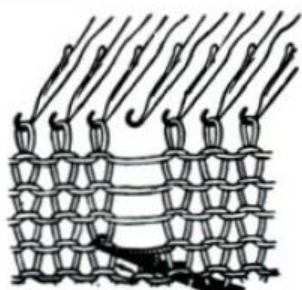


Fig. 39

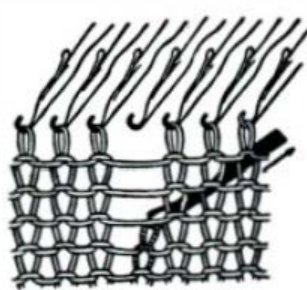


Fig. 40

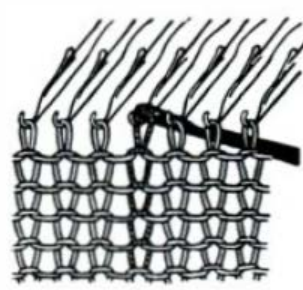


Fig. 41

3. Undoing rows or unravelling

If you have knitted more rows than necessary, do not remove work from the knitter. Simply unravel one or several rows, by doing the following; (See Fig. 42)

Pull the yarn slightly, drawing it out of the stitches. The stitches of the previous row will slip into the needles automatically as the yarn is raised in an upward movement towards the needle-bed.

To move the carriage in either direction without knitting, Push the 2 Pattern Selector Buttons to "PART" The carriage will then slide over

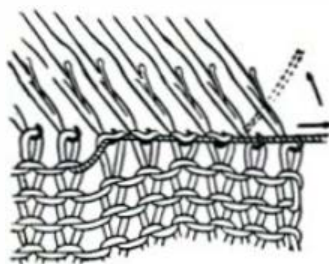


Fig. 42

the needles which are in operation without knitting. (This is also useful for multicolor knitting.)

Pull the ripped yarn down through the back of the yarn guide until the yarn tension spring is brought back into operation. Turn the knob at the back of the row counter, to deduct the number of rows unravelled, and push the Pattern Button to knit.

Note: It is advisable to hang cast on comb into knitting if several rows are to be raveled to prevent stitches from being pulled off needles.

4. To unlock carriage

In the event of the carriage jamming in the course of normal knitting the following steps will quickly free it:

- a. Loosen the thumb screws of the sinker plate. remove the sinker plate from the carriage. (See Fig. 43)
- b. Grip the handle of the carriage and lift up by first raising the front of the carriage. (See Fig. 44)

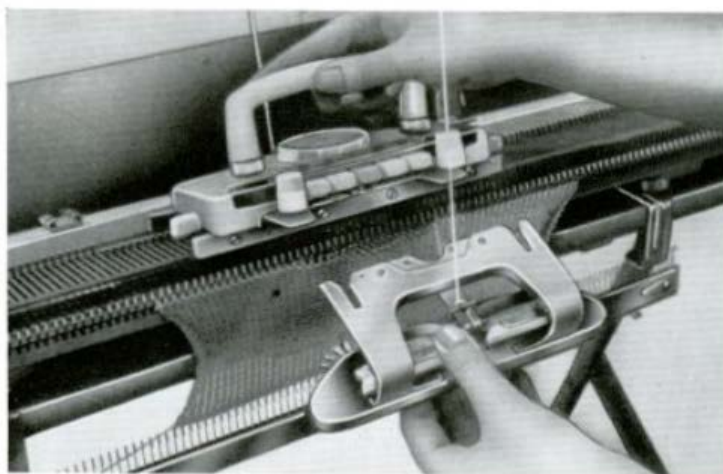


Fig.43

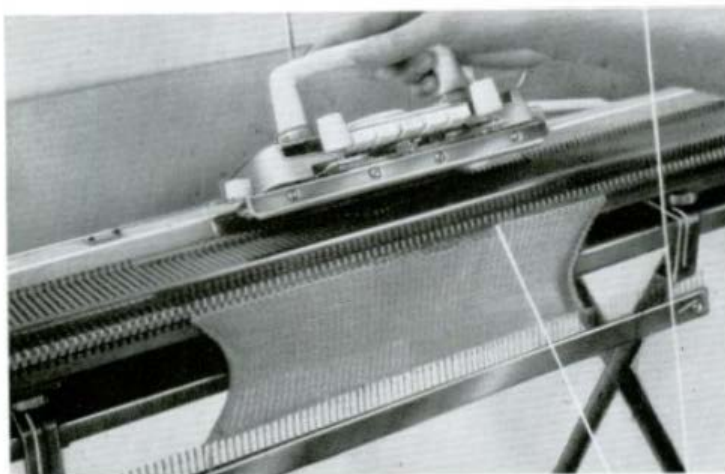


Fig. 44

- c. Slide the carriage in either direction and when free of the needles lower the front onto the needle bed.
- d. Attach the sinker plate to the carriage and fasten the Thumb screws of the sinker plate securely.
- e. Unravel last row of knitting.
- f. Adjust the numbers on the row counter.

5. How to make a knit and purl stitch or ribbing. (with latch tool)

The knit and purl stitch together on one side of the material leaves an uneven texture of a ribbed effect. The ribbing is produced by having knit stitch over knit stitch and purl stitch over purl stitch, in vertical lines. The ribbing narrows and lengthens the knitted fabric and increases its elasticity.

It is widely used for waist-bands in sweaters, cuffs, collars, pockets, and for many other decorative purposes. You can make many variations of ribbing. For example, 1 knit 1 purl, 2 knit 2 purl, 3 knit 1 purl etc. Select any number of combinations of knit and purl to suit your particular requirements.

To reverse knit to purl stitches on your knitter:-

For one knit one purl do the following:

Knit as many rows as required for the length of the ribbing on a slightly tighter tension. Drop the third stitch from the end by pushing the needle forward then back until the stitch drops off the needle then allow a series of stitches to drop as far down the fabric as you wish. Insert the hook of the latchet handle into the loop of the last dropped stitch from the front of the fabric. Hold the tool parallel, and see that the stitch is behind the latch. Catch next parallel thread into the hook, and pull forward until new stitch is formed. (see Fig. 45~52)

Watch the latch of tool, always pick up parallel threads one by one. Note that the last stitch falls behind the latch so that the next parallel thread is in front of the latch. The push-pull movement soon becomes

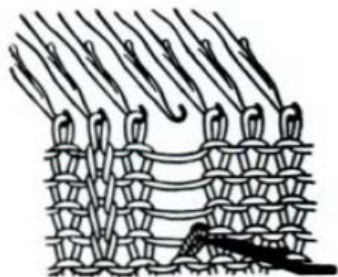


Fig. 45

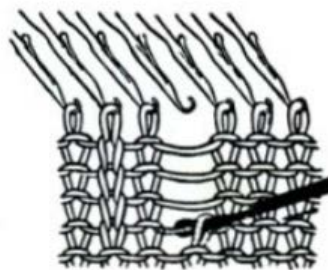


Fig. 46

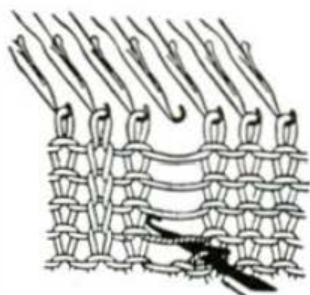


Fig. 47

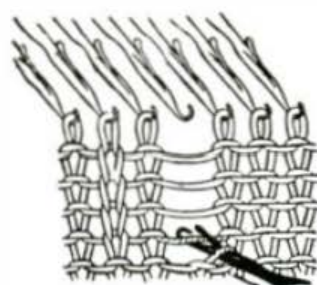


Fig. 48

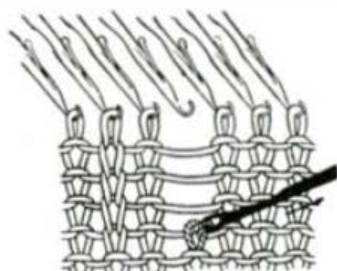


Fig. 49

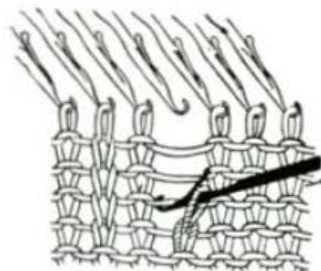


Fig. 50

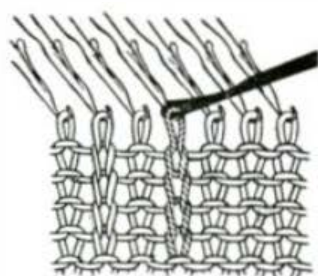


Fig. 51

mechanical. When all parallel threads are picked up, the last stitch is placed back onto the empty needle. In this manner, you are reversing your stitch, converting each stitch from knit to purl.

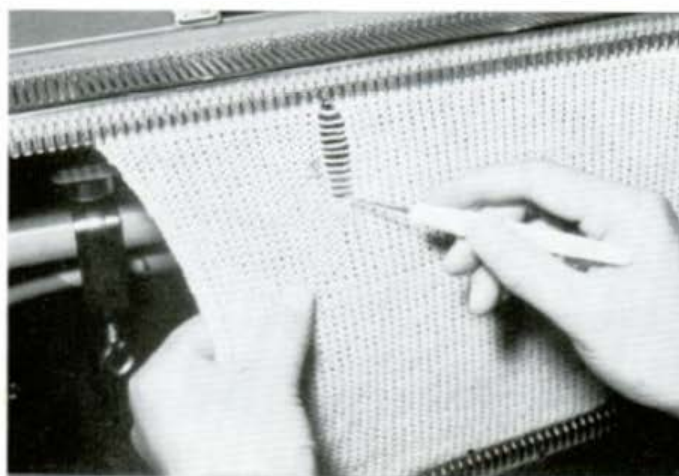


Fig. 52

6. How to remove the knitting from the knitter.

A. Unbound method:

- a. Take the yarn out of the yarn feeder on the carriage.
- b. Slide the carriage twice across the needles in action.
- c. The work will be released.

You may prefer to transfer your finished work to hand knitting needles. Do this as follows.

B. To transfer to hand knitting needles.

- a. Slide a hand knitting needle into the first stitch. With your left hand, hold the knitting close to the knitter. With your finger, bring the needle forward so that the stitch in the hook of the needle slides onto the stem of the needle behind the latch.
- b. Bring the needle all the way back. The stitch will fall over the hook of the needle onto the knitting needle.
- c. Slide the knitting needle into the next stitch and repeat until all the stitches are off the needles in the needle bed. (See Fig. 53)



Fig. 53

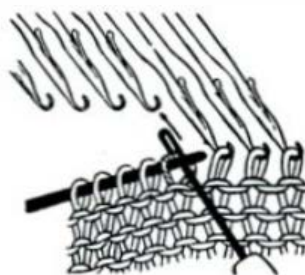


Fig. 54

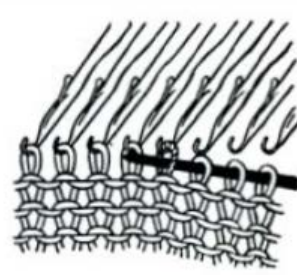


Fig. 55

7. To transfer the knitting needle to the knitter.

A. Using transfer tool

- a. Begin from right side. With left hand, hold the fabric facing in the desired direction with the hand knitting needle in line with machine needles. Pass the transfer needle through the stitch on the knitting needle from the front.
- b. Transfer the stitch from the transfer needle onto the hook of needle in the knitter. (See Fig. 54)

When a large number of stitches is transferred in this manner the stitches on the knitter are likely to come up and out of the hooks. To prevent this push the needles with transferred stitches back as far as they will go.

B. Other method.

- a. Place into Position D the needles from which the stitches are to be transferred.
- b. Open the latches of these needles (use hand brush).
- c. Begin from left side.
- d. Transfer the stitches from the hand knitting needle onto the opened hooks of the machine needles. (Fig. 55)

8. Increasing

A. Increasing one stitch on either side

- a. Simply push into action one needle from the resting position (A) on the side nearest the carriage.
- b. The vacant needle will pick up the yarn as it knits the next row.
- c. Repeat wherever the pattern requires, increasing one stitch on either side.

Full fashioned method of increasing one stitch on either side.

- a. Use 3 needle transfer tool, move the stitches out to the adjacent empty needles. (See Fig. 56)
Now the 3rd needle from the end becomes empty.
- b. To fill in empty needle pick up stitch from either side of empty needle on lower row. (See Fig. 56~59)

B. Increasing more than one stitch on either side of the garment.

- 1) Bring into action (Position C), on the same side as the carriage, as many needles as there are stitches to be increased.

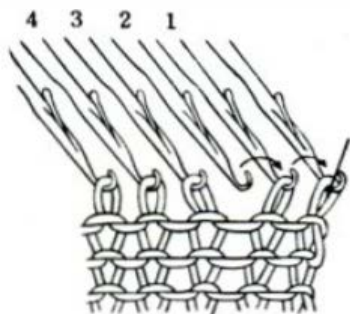


Fig. 56

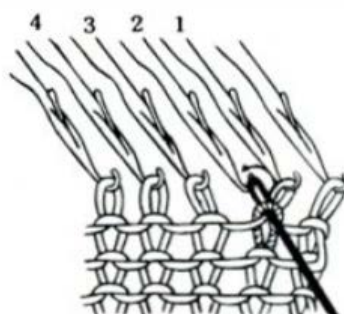


Fig. 57

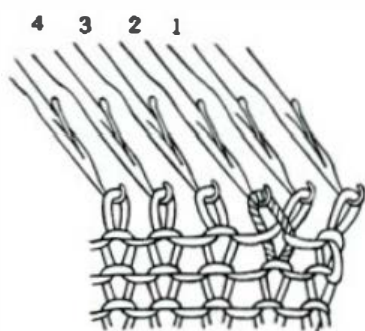


Fig. 58

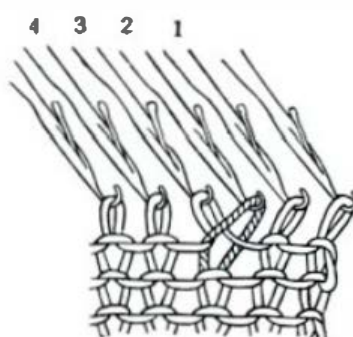


Fig. 59

- 2) Loosely wind yarn around stems of each needle. (Winding towards center) (See Fig. 60)
- 3) Loops must be on stem of needle past the latches.
- 4) Raise the Holding Cam Levers to position 1.
- 5) Knit across.



Fig. 60

Note: To insure perfect knitting on the increased stitches raise these needles to position E. manually before knitting across for 4 or 5 rows.

C. Increasing one stitch in center of row

- 1) Determine the position where you want to increase one stitch.
- 2) Use the 3 needle transfer tool, starting from either end, transfer all the stitches outward in either direction until the required needle is free. (See Fig. 61)

- 3) Pick the neighboring lower stitch onto the empty needle. (See Fig. 62)

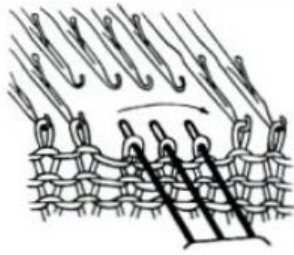


Fig.61

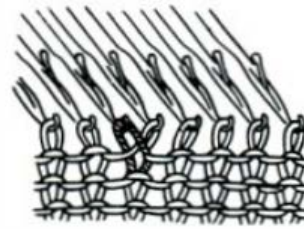


Fig.62

D. Increasing many stitches in the row

The above method "C" can be used or you can transfer the knitting from the knitter to a knitting needle.

Before the knitting is transferred back from the knitting needle to the knitter, determine the number of stitches to be increased and space the replaced stitches so that there will be an equal number of stitches transferred between each extra needle than transfer the knitting from the knitting needle to the knitter. (leaving empty needles where additional stitches are required)

Raise the neighboring lower stitches to the empty needles. (as in Fig. 62)

9. Decreasing

- 1) 1st method (one stitch on either end.)
 - a. Use single needle transfer tool, transfer the end stitch to the 2nd needle. (See Fig. 63) and place empty needle out of action (Position A)

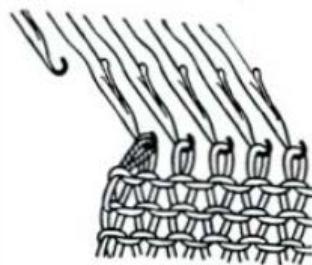


Fig.63

2) Full fashioned decreasing

- a. Use two needle transfer tool. transfer the end stitch to the 2nd needle and the 2nd stitch to the 3rd needle. Place empty needle out of action.

3) Decreasing in mid-row

- a. Use the single needle transfer tool and transfer a center stitch to adjacent needle. (See Fig. 64)
- b. Using the two or three needle transfer tool, shift all stitches in until all needles "in action" have stitches on them, then place the outer empty needles out of action. (See Fig. 65)

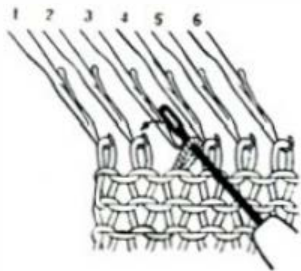


Fig.64

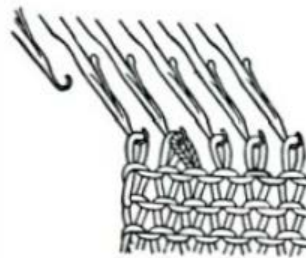


Fig.65

B. To bind or cast off.

- a. On the same side of the carriage, transfer the end stitch to the 2nd needle. (See Fig. 66)
- b. Raise the needle with the two stitches so that the stitches fall behind the latch of the needle. (See Fig. 67)

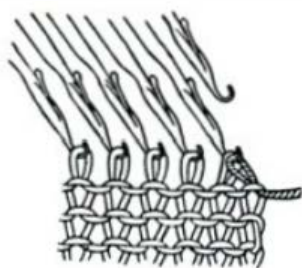


Fig. 66

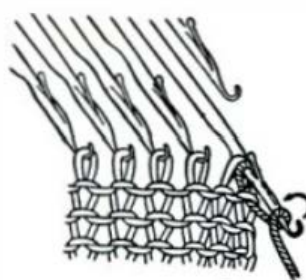


Fig. 67

- c. Place yarn in front of latch and manually pull needle back to form a single stitch. (See Fig 67)
- d. Repeat this process. (See Fig. 68)

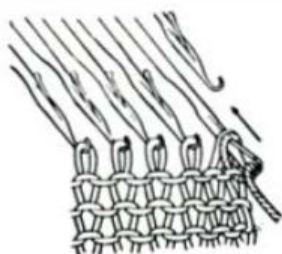


Fig. 68

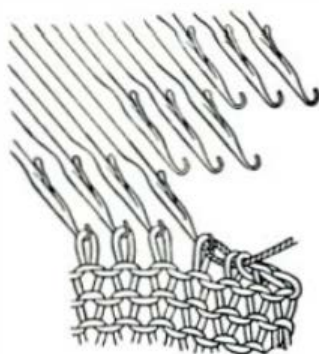


Fig. 69

Binding off and finishing an edge with latch tool

1. Start on the side where your yarn ends. (See Fig. 70)
2. Hold your latch tool upright, so latch remains down.
3. Remove first 2 stitches from the needles onto latch tool and let them slide past the latch. (See Fig. 71, 72)
4. Place yarn in the hook of the open latch and pull yarn through both stitches, this leaves one loop in the hook of your latch tool. Continue to take off one stitch at a time. (See Fig. 73)

This method can be used for binding off any number or all stitches at neck, armhole shoulder or pocket edges.

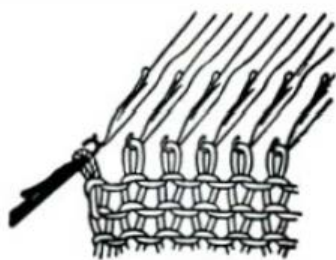


Fig. 70

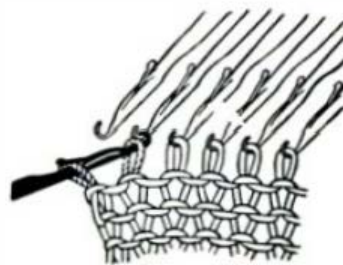


Fig. 71

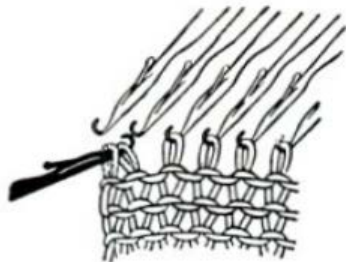


Fig. 72

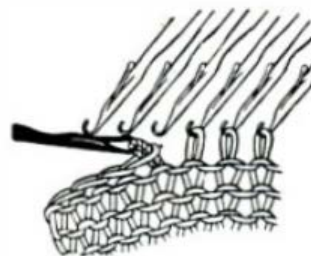


Fig. 73

C. Decreasing in the center of row

1) Decreasing one stitch

- a. Using the single transfer needle. transfer the center stitch onto a neighboring needle on either side. (See Fig. 72)
- b. Using the 3 needle transfer tool, transfer all stitches inward towards, and onto the empty needle. (See Fig. 73)

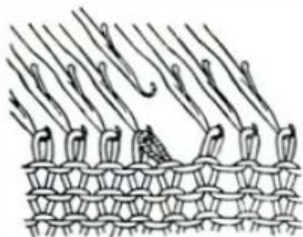


Fig. 74

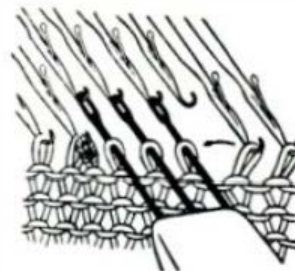


Fig. 75

2) Decreasing many stitches in row

- a. Transfer the knitting to a hand knitting needle. (See Fig. 76)
- b. Before returning the knitting from the knitting needle back to the knitter, calculate the proportional reduction in the number of stitches.

For example, to decrease one stitch in every third, hang the 2nd and 3rd stitches onto one needle. (See Fig. 77)

- c. The number of needles with double stitches represents the number of stitches decreased.

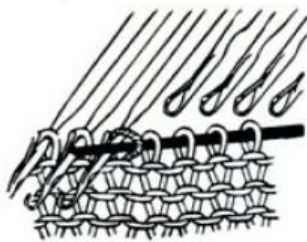


Fig. 76

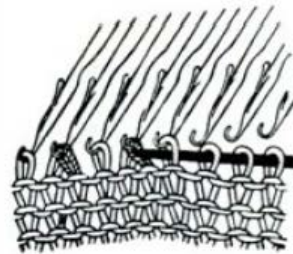


Fig. 77

THE PUSHBUTTON PATTERN KEYS

The Pattern Keys are the most revolutionary feature of this knitter. It makes multi-color and textured designs really automatic. The Pattern Keys in conjunction with the Hold Cams can produce the most intricate designs.

1. Place lever handle into switch at the back of knitter towards right end. This lever swings to the right and left respectively controlling the "Set" and "Off" of the Pattern Keys.
2. Knit several rows of the plain stockinette stitch as needles must be in pos. B for pattern keys to effect needles.
3. Push any combination of the 4 keys, (as illustrated on overleaf) then "set" lever handle to the left. The needles effected extend to pos. "D". Also put both Hold Cams on carriage to pos. 3. This position holds the set needles extended until pattern is completed. About 4 rows in "Hold" is sufficient, as too much yarn collecting on needles will result in dropping the stitches or jamming the carriage.

If the pattern stitch is to be continued, do not touch Pattern Keys again. just swing lever to the left to re-set the same needles at the start of each design.

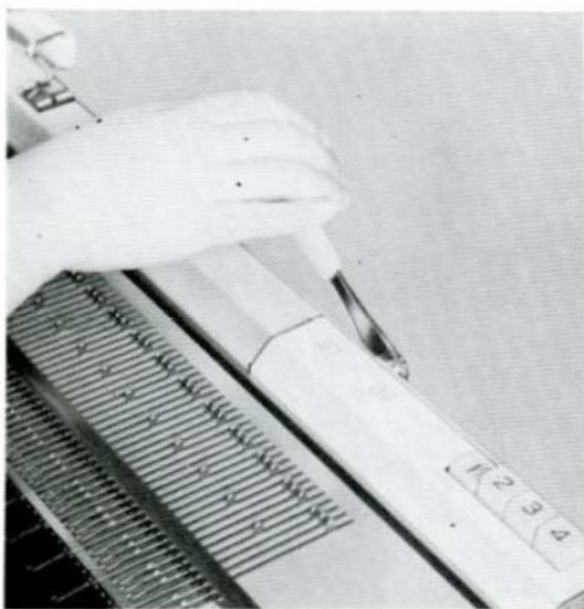


Fig. 78



Fig. 79

If a change in pattern is necessary, then swing lever to "off" then re-set for the alternate pattern.

If the wrong needles are set in error, push them back manually to knitting position, with the stitches just resting on closed latches, then release. Pattern Keys and re-set for correct pattern.

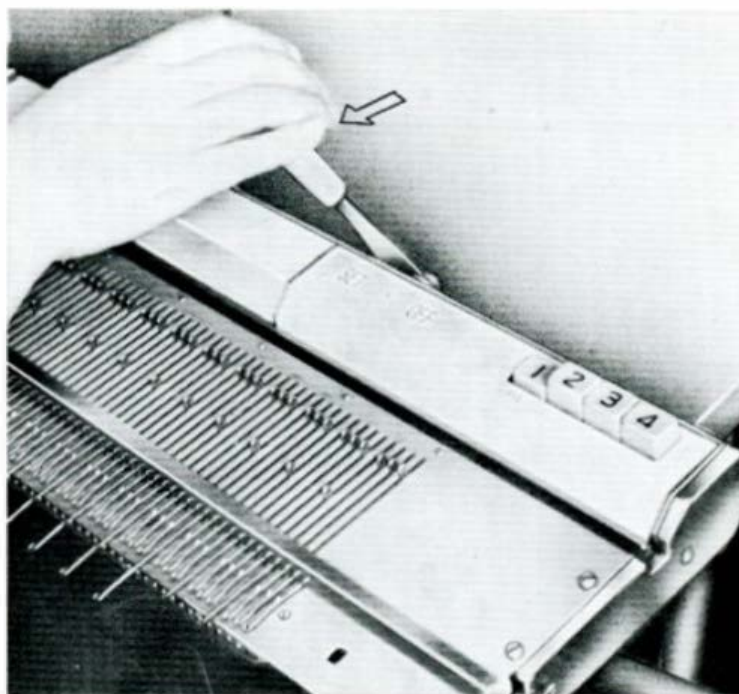




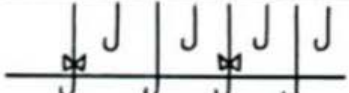

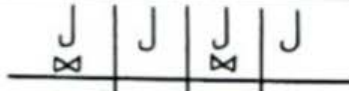

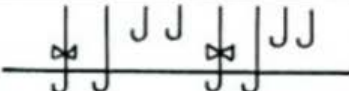

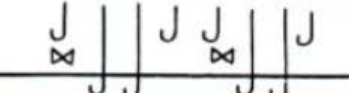

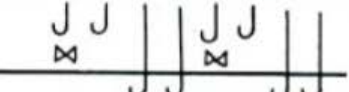

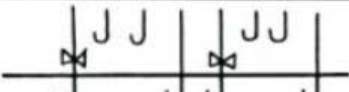

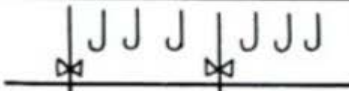

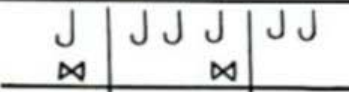
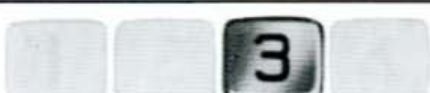
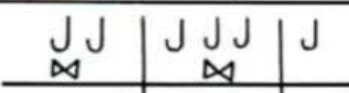

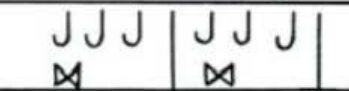

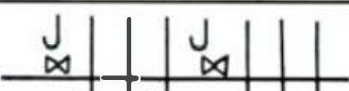
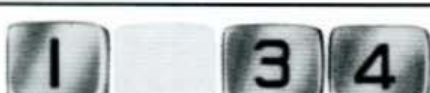
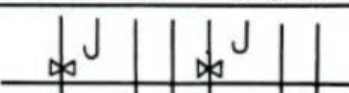

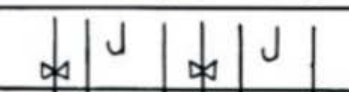

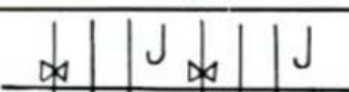
Fig. 80

The metal needle pushers can be used for other grouping of pattern stitches. Always release Pattern Keys when not in use as control spring under needle bed can be damaged if needles are forced back manually.

In actual knitting, the selector button and hoisting cam levers will be changed into various combination to enable different types of knitting.

The Pattern Keys are connected with the knitting needles. The No. 1 button is connected to the needle lined with the  mark on the front of the needle bed. Buttons 2, 3, and 4 are lined up with the needles consecutively to the right of the needle connected with button No. 1

PATTERN KEY OVERLEAF

Combination Code	Buttons Pushed	Needles Selected
$\frac{1}{1}$		
		
$\frac{2}{2}$		
		
		
		
$\frac{1}{3}$		
		
		
		
$\frac{3}{1}$		
		
		
		

RELATIVE POSITIONS OF PATTERN SELECTOR BUTTON, NEEDLES AND HOLDING CAM LEVER

Pattern Selector Button	Needle Position	Holding Cam Lever Position					
		1		2		3	
		← Left Course	→ Right Course	← Left Course	→ Right Course	← Left Course	→ Right Course
1	B	KNIT	KNIT	KNIT	KNIT	KNIT	KNIT
	C	//	//	//	//	//	//
	D	//	//	//	//	HOLDING	HOLDING
	E	//	//	HOLDING	HOLDING	//	//
2	B	TUCK	KNIT	TUCK	KNIT	TUCK	KNIT
	C	*	//	*	//	*	//
	D	KNIT	//	KNIT	//	HOLDING	HOLDING
	E	//	//	HOLDING	HOLDING	//	//
3	B	KNIT	TUCK	KNIT	TUCK	KNIT	TUCK
	C	//	*	//	*	//	*
	D	//	KNIT	//	KNIT	HOLDING	HOLDING
	E	//	//	HOLDING	HOLDING	//	//
4	B	TUCK	TUCK	TUCK	TUCK	TUCK	TUCK
	C	*	*	*	*	*	*
	D	KNIT	KNIT	KNIT	KNIT	HOLDING	HOLDING
	E	//	//	HOLDING	HOLDING	//	//
5	B	STATION- ARY	KNIT	STATION- ARY	KNIT	STATION- ARY	KNIT
	C	*	//	*	//	*	//
	D	KNIT	//	KNIT	//	HOLDING	HOLDING
	E	//	//	HOLDING	HOLDING	//	//
6	B	KNIT	STATION- ARY	KNIT	STATION- ARY	KNIT	STATION- ARY
	C	//	*	//	*	//	*
	D	//	KNIT	//	KNIT	HOLDING	HOLDING
	E	//	//	HOLDING	HOLDING	//	//
7	B	STATION- ARY	STATION- ARY	STATION- ARY	STATION- ARY	STATION- ARY	STATION- ARY
	C	*	*	*	*	*	*
	D	KNIT	KNIT	KNIT	KNIT	HOLDING	HOLDING
	E	//	//	HOLDING	HOLDING	//	//

* For the reason given in note 2 of following page needle position C should not be used where stated as it will cause a stitch to be dropped.

NEEDLE POSITIONS AND HOLD CAMS

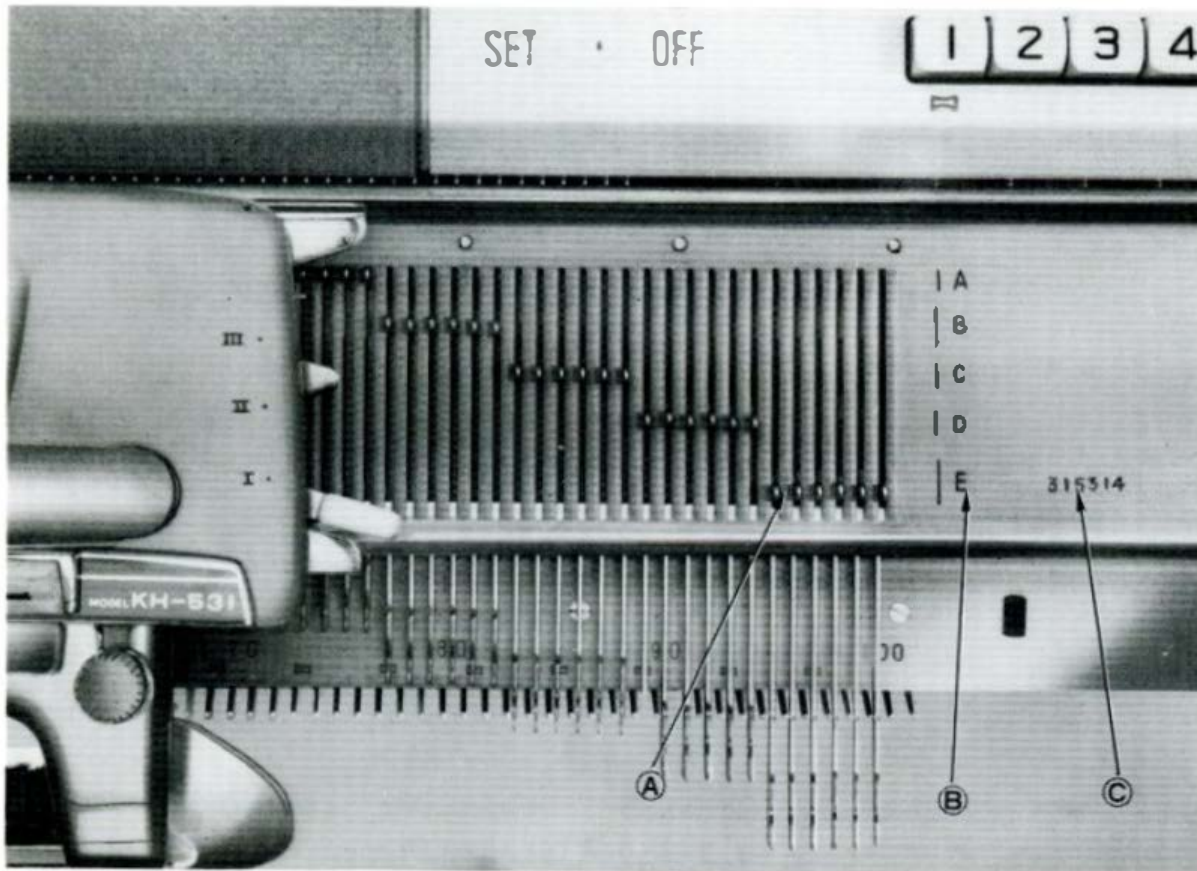


Fig.81

There are five needle positions.

- A : Resting or non-knitting position (all the way back to base of needle bed)
- B : Knitting or working position (needles raised about half an inch from base of needle bed)
- C : Two color knitting position also position for shaping and patterning.
- D : The position of needles to be knitted in partial knitting or multiple color knitting and tucking.
- E : Holding position. (all the way forward to top of needle bed)

HOLDING CAM LEVERS

On each side of the carriage is a long white knob, these "Hold Cams" in conjunction with the various needle positions makes it possible to form pattern stitches, shaping, etc.

To bring "Hold" position needles back to knit, raise knobs to position 1. and all needles will knit as carriage is pushed across them.

Example:

1. Set needles 4, 8, 12, 16, 20 to pos. E.
2. Push both Hold Cams to 1.
3. Knit 4 rows.

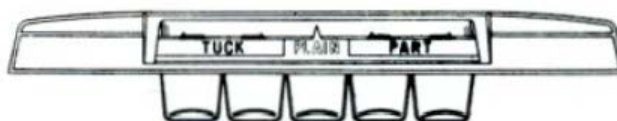
4. Raise Hold Cams to 1.
5. Knit 2 rows, (notice all needles are even).

Repeat all steps except that Hold needles should start with needle 2, 6, 10, 14, 18, etc., so pattern forms a diamond.

THE PATTERN SELECTOR BUTTONS

The 5 buttons on the carriage, control all the stitch formations. The center button marked "Plain"-if pushed in acts as a release for all others. When all 5 are even, you get plain knitting or the stockinette stitch. Part or partial knit is used principally for Fair Isle designs-each button controls the direction you are knitting. Push in 2 of a kind and you can knit back and forth.

Code 1 ; PLAIN
plain knitting.....Left and
Right course



Code ; TUCK
tucking.....Left course
plain knitting.....Right course



Code 3 ; TUCK
plain knitting.....Left course
tucking.....Right course



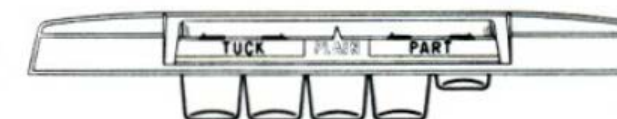
Code 4 ; TUCK
tucking.....Left and Right
course



Code 5 ; PART
partial knitting...Left course
plain knitting...Right course



Code 6 ; PART
plain knitting.....Left course
partial knitting.....Right
course



Code 7 ; PART
partial knitting.....Left and
Right course



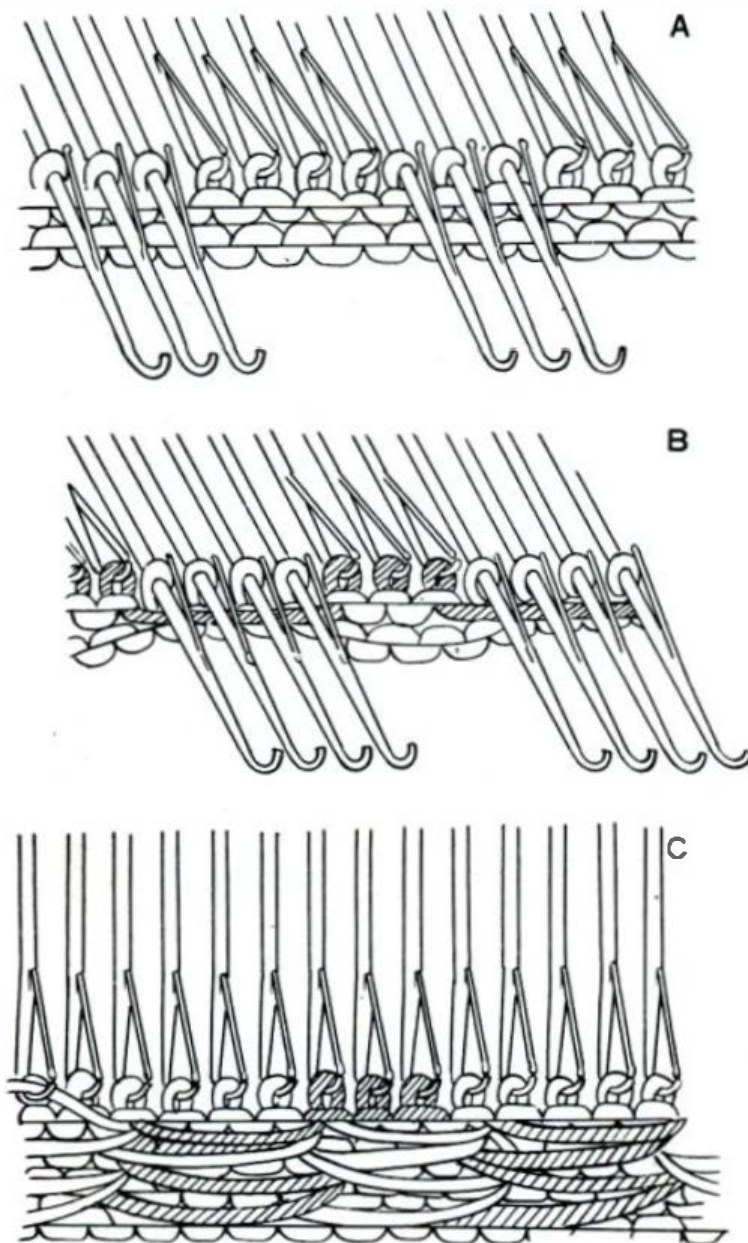
The COURSE refers to the direction of the carriage across the knitting. The points of the arrows on the plate indicate the direction of the operation. LEFT COURSE means carriage movement from right TO LEFT. RIGHT COURSE means carriage movement from left TO RIGHT.

FAIR ISLE & NORWEGIAN DESIGNS

Every knitter is at heart, a composer, a creator of variety and beauty in both design and color. Your KNITTER will help you create whatever pattern you wish. From the description on PARTIAL KNITTING, you will understand that you can produce MULTICOLOR PATTERNS.

To knit Fair Isle Patterns of two different color yarns:

Color A: To form a main color. Color B: For the trim color.



**Push both "PART"
buttons in**

Thread the Color A yarn in the yarn-feeder and raise the needles you wish to knit with Color A yarn and knit one row by moving the carriage across the bed. In this way you will knit only on the needles which you pushed up.

Next row must be knitted with yarn Color B. To do this, remove the Yarn A and thread Color B in the yarn-feeder and again push up the needles which you wish to knit with this color. In other words, the needles you push up are knitted.

Move the carriage to knit one row with Color B. Work row by row,

Fig. 82

changing colors. By repeating the knitting with yarn Color A and B alternately, you will get rectangular Argyle Pattern. To produce a diamond shape, or other patterns, you must arrange the needles to knit with Color

B according to the pattern:

Push in both "Part" buttons, follow any standard graph outline for color and design. For this type of work manually raise to pos. D all needles you want to knit. Use bobbins for the contrasting colors, push up all the needles across the row that are to be knitted of color A, knit manually, then color B, etc. Each color across row must be knitted this way when all contrasting design are completed, push all remaining needles of main color and knit across with carriage. This method is used specifically for argyle designs and figures.

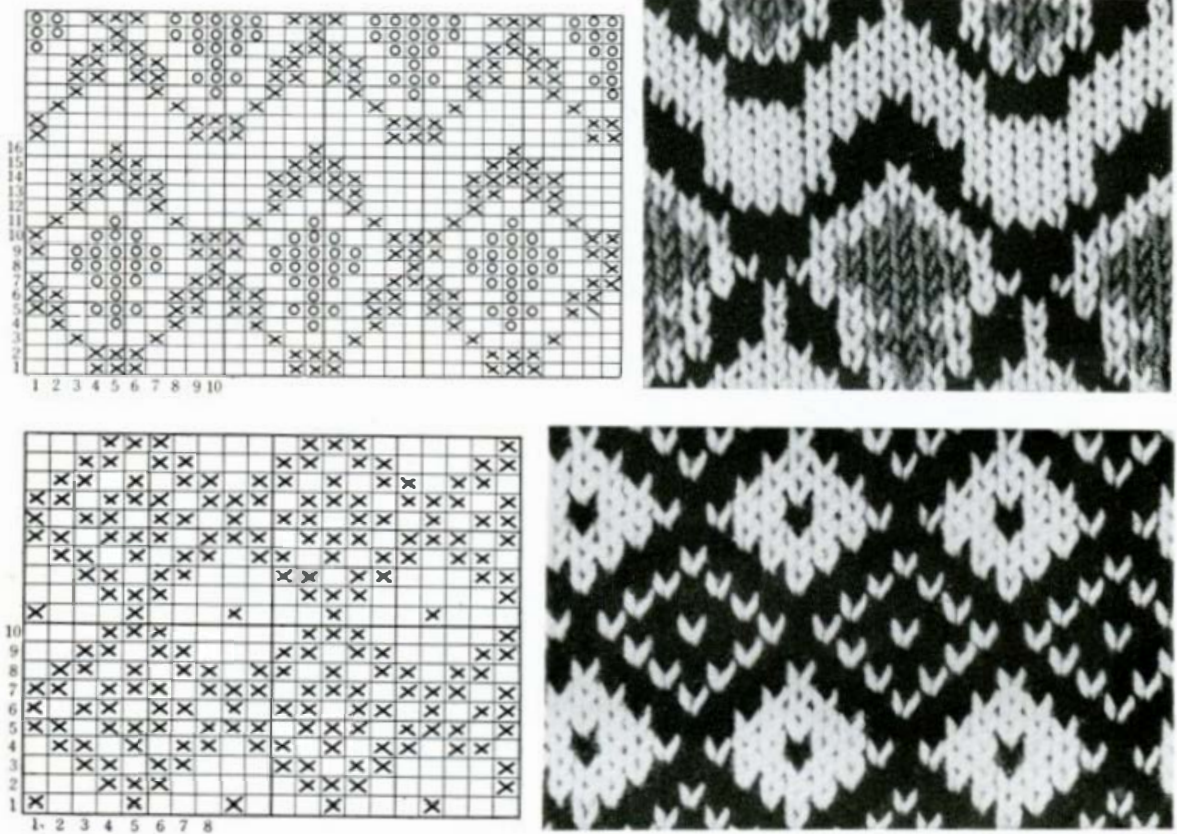


Fig. 83

PATTERN STITCHES

How to Join Another Color of Yarn

To make a stripe:

1. Remove the yarn from the yarn feeder of carriage only. Rest the yarn under the left end of knitter.
2. Thread the yarn feeder with the second color.
3. Be sure the new yarn is threaded into the two openings of the yarn

feeder. Let the yarn hang 6 inches below the carriage.

Note: Always check that the last opening of the yarn-feeder is threaded, otherwise the carriage will not have yarn to feed the needles, and all the stitches will drop.

4. Continue knitting.
5. By repeating the above operation, you may join as many colors as you wish.

"Hints and Abbreviations for Pattern Key Stitches"

The pattern keys in conjunction with "Hold Cams" at ■ form most of the basic patterns.

1. Start with carriage at the left side of knitter.
 2. After pressing down pattern keys be sure to set needles by gently swinging lever to the left.
 3. Always release set keys before resetting for alternate pattern.
 4. Do not knit more than 2 rows when using every other needle on H. P. as thickness of collected yarn on needles jam carriage.
 5. Hold Cams-H. C.
 6. Contrasting color-C. C. Main color-M. C.
 7. Hold Position-H. P.-needles in this position do not knit.
 8. Full Fashioned-F. F. use 3 eyed transfer tool and decrease 1 stitch by moving 2 stitches together on the 3rd stitch to 4th needle.
 9. It is advisable to insert comb into knitter when making H. P. patterns.
 10. Textured patterns should be steamed lightly. Do not let iron rest on garment when blocking.
 11. Do not unthread automatic yarn feeder when using 2 or more colors. remove M.C. from carriage yarn guide, thread C.C. into carriage feeder.
- Note:** If not otherwise specified "Hold Cams" should be in pos. 1.

HOLD CAMS AND PATTERN KEY STITCHES



Fig. 84

"Diamond Design"

1. Set "Hold Cams" to pos. ■.
2. Push # 4 and set needles
3. Knit 4 rows
4. Set "Hold Cams" back to I.
5. Knit 2 rows
6. Repeat steps 1, 2, 3, 4 and 5. For next pattern release set keys and push button #2 set needles, to alternate the hold needle which forms the diamond. This is a textured stitch which may be used on either side.

"Popcorn Stitch"

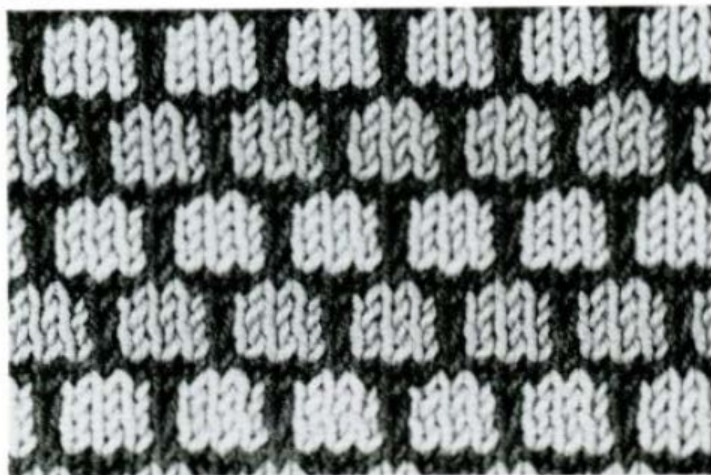


Fig.85

Same as diamond design except at step 4, remove M.C. from carriage, do not unthread top automatic feeder, but swing yarn under left side of knitter bed. Rethread carriage feeder with contrasting color. Knit 4 rows. Remove from carriage feeder and re-thread M.C. Knit 2 rows. Repeat.

"Seed Stitch"



Fig.86

1. Carriage at left.
2. Set left H.C. to pos. I. Set right H.C. to pos. ■.
3. Push keys 1 & 3, set needles.
4. Knit 1 row to the right then 1 row to the left.
5. Switch "off" keys 1 & 3, set 2 & 4.
6. Repeat steps 3, 4 & 5. This stitch may be used wherever a seed stitch is required. This stitch acquires texture after it is removed from knitter.

"Checkerboard"

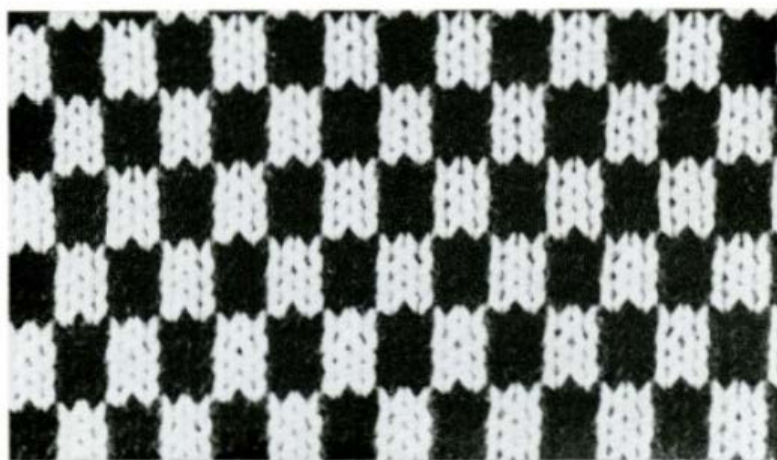


Fig. 87

1. Push both "Part" buttons.
2. Put both H. C. to Pos. 1.
3. Push keys 1 & 2.
4. Set needles each row and knit two rows main color.
5. Push keys 3 & 4.
6. Set needles each row and knit two rows main color.
7. Push keys 1 & 2.
8. Change to trim color.
9. Set needles each row and knit two rows trim color.
10. Push keys 3 & 4.
11. Set needles each row and knit two rows trim color.
12. Repeat from 1 to 11.

"Honeycomb Stitch"

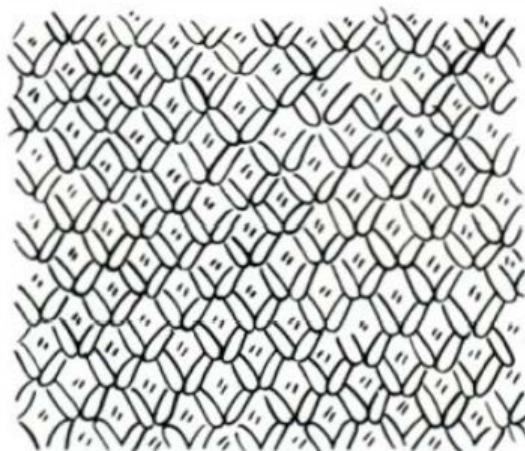


Fig. 88

This is a firm textured stitch, the purl side shows the pattern most effectively. Push in both Tuck buttons.

Row 1—Set Pattern keys 1 & 3 knit across. Release keys and reset.

Row 2—Set keys 2 & 4 knit back. Repeat steps 1 & 2 by alternating needles at each row.

DIAGONAL KNIT 2 COLOR



Fig. 89

1. Start with carriage at right—put H.C. to Pos. ■.
2. Raise 2 needles at left to Pos. D.
3. Knit 1 row to left and pass yarn under needle stem as illustrated. Knit 1 row to right.
4. Continue raising 2 needles and knitting 2 rows until all needles are in H.P.
5. Change color yarn, remove carriage from right side and starting at the left push in to pos. C 2 needles at a time, now knit 1 row to the left and 1 to the right, reversing the previous process until all needles are back in knitting position.

PLATING FEED

In addition to pushbutton pattern keys and stitch button features, the knitting machine has a feature in the yarn feeder which makes it very easy to do plating.

A combination of new yarn for the outside of the garment and reclaimed yarn for the inside can be used in different color yarns to produce a new, fluffy appearing single color outside backed by a different color yarn on the inside.

Thread two yarns through the yarn tension unit in separate threading channels in the same manner as ordinary knitting explained under "Preparing the Tension Unit".

Yarn "A", which is to appear on the surface of the garment is threaded through the two keyhole-shaped yarn slots of the yarn feeder as explained in section "Preparing the Tension Unit."

Yarn "B", which is to appear on the inside of the garment, is threaded through the top (larger) keyhole-shaped yarn slot together with the surface yarn but the lower portion is threaded into the slot on the left of the bottom (smaller) keyhole-shaped yarn slot of the yarn feeder and in-

to the curved slot so that the yarn can move freely to the left and right following the movement of the carriage.



Fig. 90

Setting the Tension Dial :

Plating with 2 medium-thickness yarns:	Tension about 9
Plating with 1 medium and 1 thin yarns:	Tension about 8
Plating with 2 thin yarns	Tension about 6

Note: When plating with 2 medium-thickness yarns, a little help must be given by pulling down the knitted portion to ease movement of the carriage. To do this, hang cast on comb on knitted portion and pull down on cast on comb so that the knitted portion is pulled down evenly all the way across.

HERRINGBONE

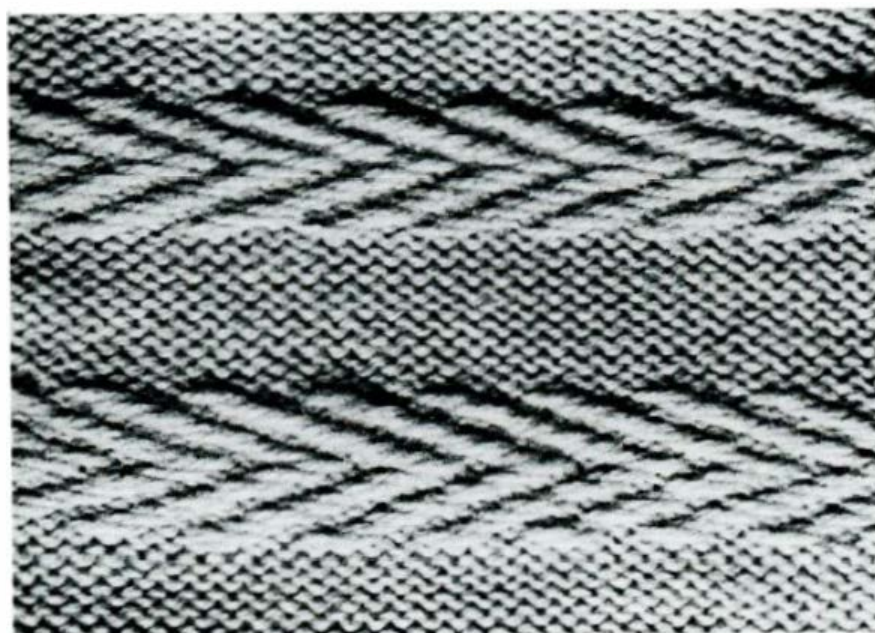


Fig.91

Knit 10 rows plain stockinette. Push in both "Partial" buttons. Needles are changed at each row, release keys and re-set in each direction as follows. Hold cams in normal knit pos. 1.

Row 1—Pattern Key 1 & 2 Knit to the right

2—	"	2 & 3	"	left
3—	"	3 & 4	"	right
4—	"	4 & 1	"	left
5—	"	1 & 2	"	right
6—	"	2 & 3	"	left
7—	"	3 & 4	"	right

This is half of the diagonal pattern, now reverse.

8—	"	4 & 3	
9—	"	3 & 2	
10—	"	2 & 1	
11—	"	1 & 4	
12—	"	4 & 3	
13—	"	3 & 2	
14—	"	2 & 1	

Repeat 10 plain knit rows and continue pattern.

The purl side is the right side of this design.

CABLES

1. Using both hands take two identical transfer tools, place the eyes of the tool into the hooks of the needles.
2. Pull needles out toward you, let stitches slide past the latches.
3. Now reverse this motion and push needles back until stitches have slipped off the needles and onto the tools.
4. Hold the left tool out of the way over to the left, take the right tool, first cross it over to needles 1, 2, 3 and transfer the stitches from the tool to the needles.
5. Take the left tool, cross over the first 3 stitches and transfer these to needles 4, 5, and 6. Do not remove tool from the hooks of the needles until certain that the stitches have slipped on to the hooks of the needles.
6. Knit 8 or 10 rows even, then repeat cable twist.
7. After several cables have been knitted, reverse 1 stitch on each side for the "purl" stitch.



Fig. 92

YARN OVER PATTERNS

This stitch is very popular among hand knitters and can be duplicated very easily on the knitter. The basic stitch is to knit 2 together, this is done by transferring 1 stitch to the adjacent needle, always return empty needle to knit position, as carriage knits across, this needle automatically picks up the stitch to form Y.O.

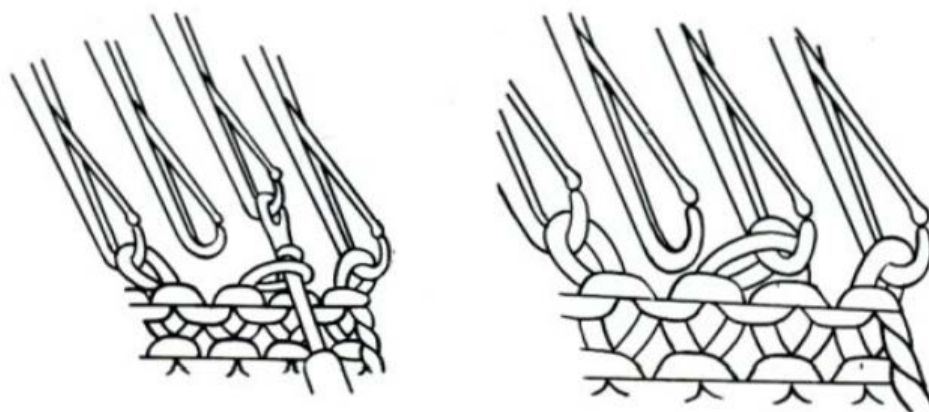


Fig.93

4 Leaf Clover:

1. With the 1 eye tool transfer every 10th stitch to the adjacent needle.
Be sure the needle you took the stitch off is back in knitting position.
2. Knit 2 rows.
3. Transfer one stitch from each side of the stitch, which is directly above the first Y.O. to this needle which now holds 3 stitches.
4. Knit 2 rows.
5. Transfer the stitch directly above the first stitch transferred. Knit even the desired rows and repeat.



Fig. 94

Lace or Open Work Pattern:

Knit 4 rows.

1. Transfer every second stitch to the next needle.
2. Bring the empty needles to the edge of the needle bed.
3. Knit 4 rows. Repeat 1, 2, and 3.

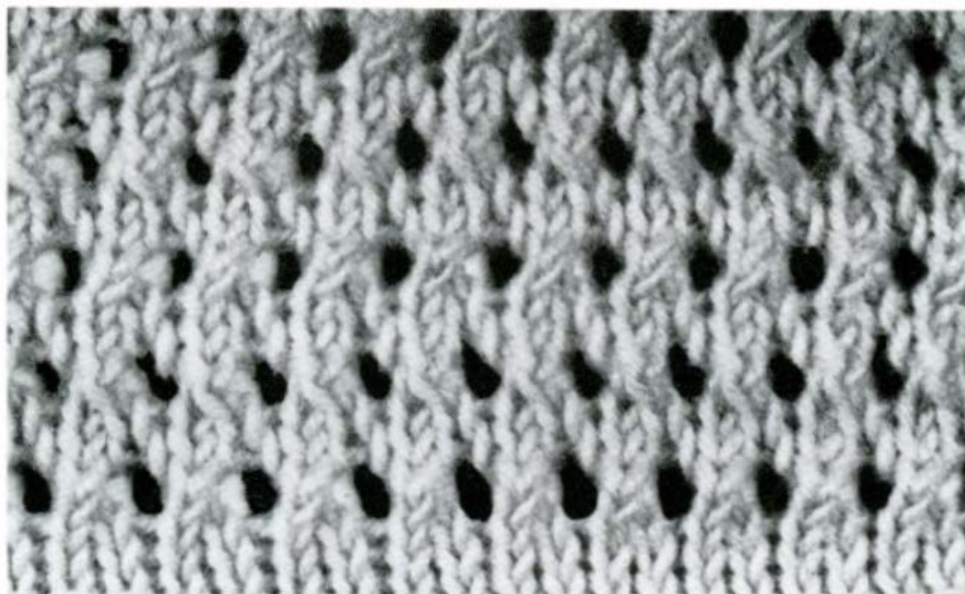


Fig.95

DIAMOND YARNOVER PATTERN

20 stitches for design—10 on each side of center "O". Remember to put back empty needles to knitting position after each line of transfer. Always knit two rows between each line of transfer.

Start each transfer row by moving stitch 2 to needle 1 then every other row 1 more stitch is shifted toward the central needle to form the vein.



	Right	Left
Row 1-transfer stitches	2 to 1	2 to 1
Knit 2 rows even		
Row 3-transfer stitches	3 to 2	3 to 2
Knit 2 rows even		
Row 5-transfer stitches	4 to 3	4 to 3
Knit 2 rows even		
Row 7-transfer stitches	5 to 4	5 to 4
Knit 2 rows even		
Row 9-transfer stitches	6 to 5	6 to 5
Knit 2 rows even		
Row 11-transfer stitches	7 to 6	7 to 6
Knit 2 rows even		
Row 13-transfer stitches	8 to 7	8 to 7
Knit 2 rows even		
Row 15-transfer stitches	9 to 8	9 to 8
Knit 2 rows even		
Row 17-transfer stitches	10 to 9	10 to 9
Knit 2 rows even		

Fig.96

LACE CABLE

Manually knit across row by pulling each individual needle as far back as possible to form the longest stitch. When the row is completed insert cast-on comb into the knitting and with the comb carefully pull knitting forward. The needles are now in pos. B, the stitches hanging on the hooks, using the 2 transfer tools proceed to cross the loops as you make cables. Transfer the carriage to the opposite side and proceed with your knitting.

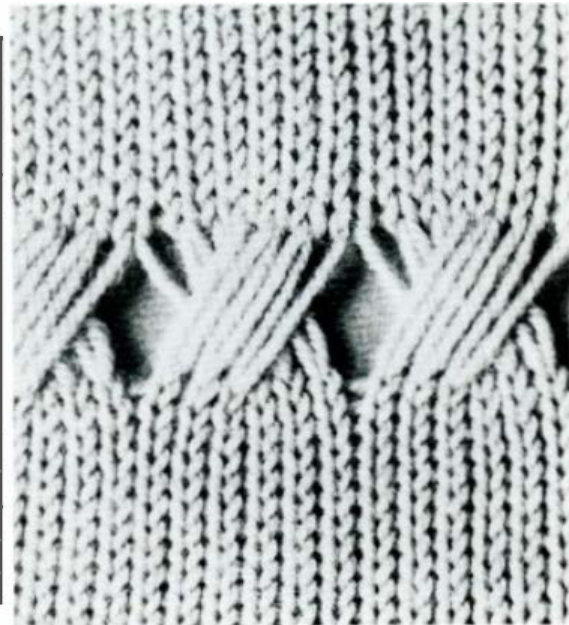
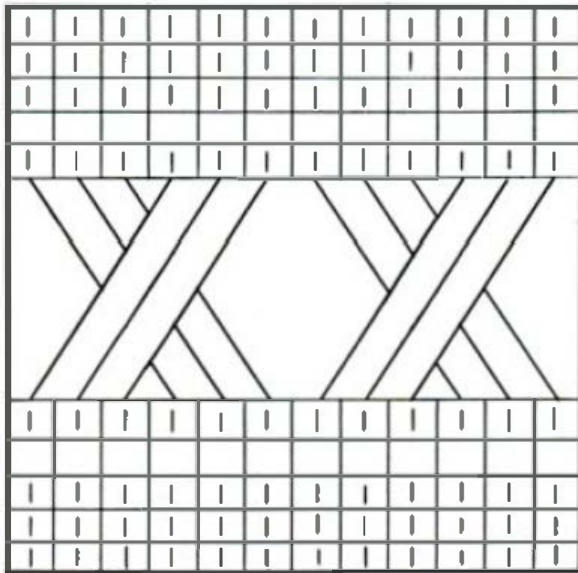


Fig. 97

POCKETS

Knit the pockets in one piece without binding off or picking up stitches. These are basic instructions, some changes have to be made for the differences in sizes and yarns.

Pockets should be placed about 3" from side seam of cardigan. Assuming you cast on 90 stitches. Put 25 stitches from side edge, and 35 stitches from front edge to pos. D. Set both H.C. to pos. ■, using another ball of yarn knit on the 30 stitches remaining in the center. Knit double the depth of the pocket. The stitches at the edges must be watched, pull knitting down every few rows to help knitting feed down. This is the lining of the pocket and should be knitted double, about 40 rows. When lining is long enough, tear yarn, set H.C. to pos. I, knit in the usual manner to continue with garment.

SHORT ROWS

A short row is simply knitting a part of the row. This method of shaping is used most frequently for:

1. Turning the heel of socks. 2. pockets. 3. Horizontal darts.
4. Circular pieces-yokes, skirts. 5. Zigzag design.
6. Set both H.C. to pos. ■ then put 1 or more needles in H.P. (pos. D) so these needles stop knitting, and hold the stitch or stitches for future use.

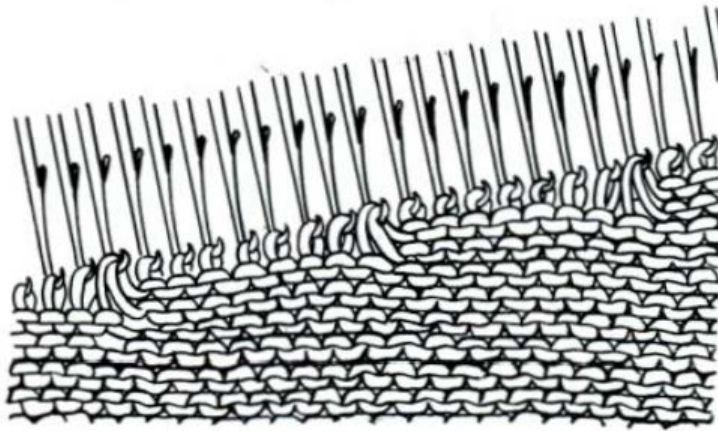


Fig. 98

HOW TO MAKE A VERTICAL BUTTONHOLE

When knitting a vertical buttonhole, knit up to the row where the buttonhole starts.

1. Set hold cams to pos. ■.
2. If the carriage is on the right side of the needle bed, knit the right side of the buttonhole first by bringing up all needles on the left side of the buttonhole.
3. Knit four rows. If a larger buttonhole is desired, knit as many rows as are necessary for the size of the button.

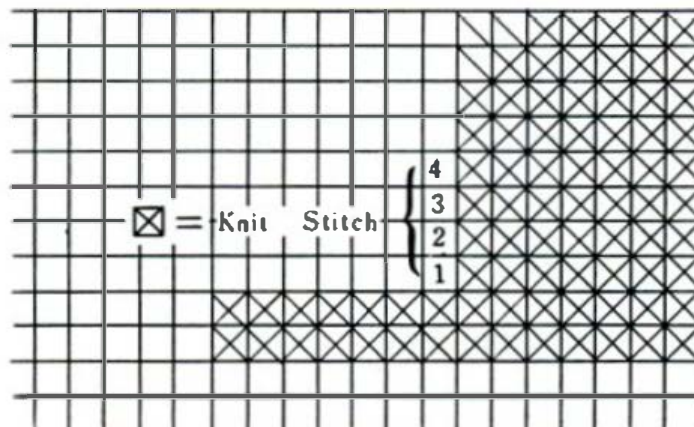
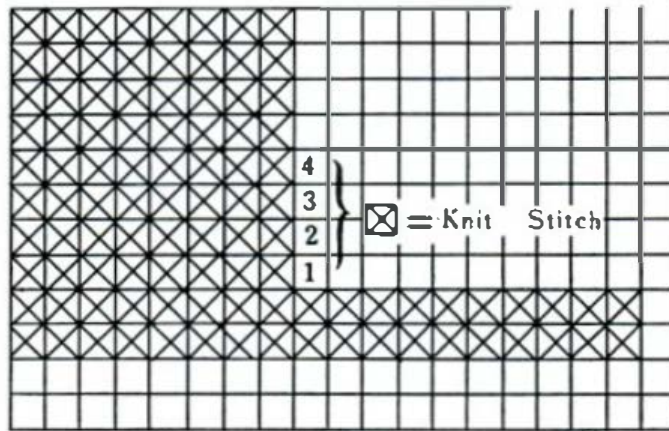


Fig. 99

4. Break the thread and in hold knit position, knit the other side of the buttonhole.
5. After you have completed the same number of rows on the left side of the buttonhole, change cams to whatever position you were knitting before you started the buttonhole and continue to knit.

HOW TO MAKE HORIZONTAL BUTTONHOLE

1. Knit manually the first 4 stitches from the front edge, then put into pos. D to hold.
2. Bind off the next 4 stitches.
3. Put Hold Cams to pos. 1 and knit across the remaining stitches.
4. Cast on the 4 stitches which were bound off and knit remainder of row with carriage.

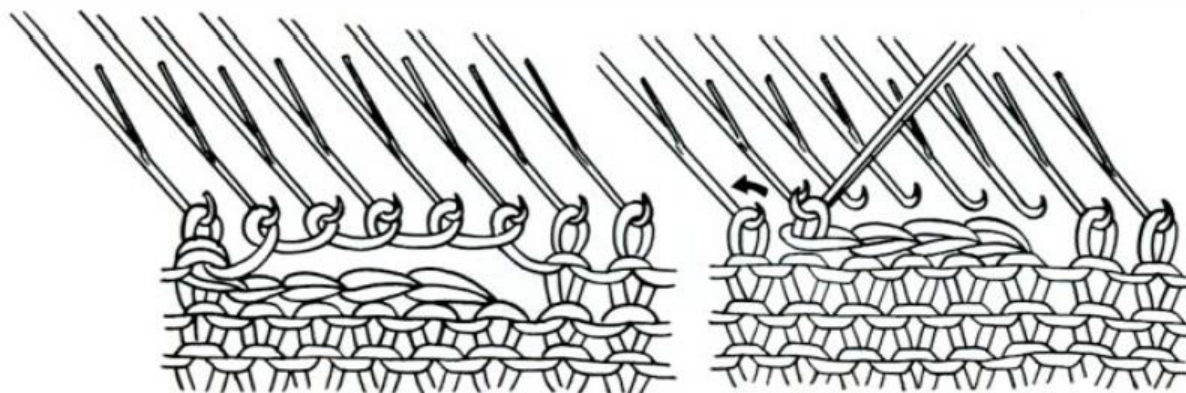


Fig. 100

Fig. 101

HOW TO KNIT "V" NECKLINE

For the knitting of the "V" neckline or any other neck openings, vertical or round, we employ the holding position which means that we knit one side at a time, by dividing the work at the start of the neckline. After one side is completed, we then continue the other half of the garment and shape the neckline corresponding to the finished side.

Rows

1. Knit up to the start of the neck opening. Then set the hold cam knobs to position 1.
2. The carriage should be at the right side of the needle bed, divide the work in half, bring forward left side of the needles engaged in knitting the garment.

3. Decrease one stitch on the neck edge. Repeat, decrease stitches for the required number of rows. The average size in "V" neck, requires the decreasing of one stitch every fourth row.

After you are completely finished with the right half of the garment:

1. Set the cams back to knitting position # 1.
2. Continue to knit in the regular way and knit other side to correspond.

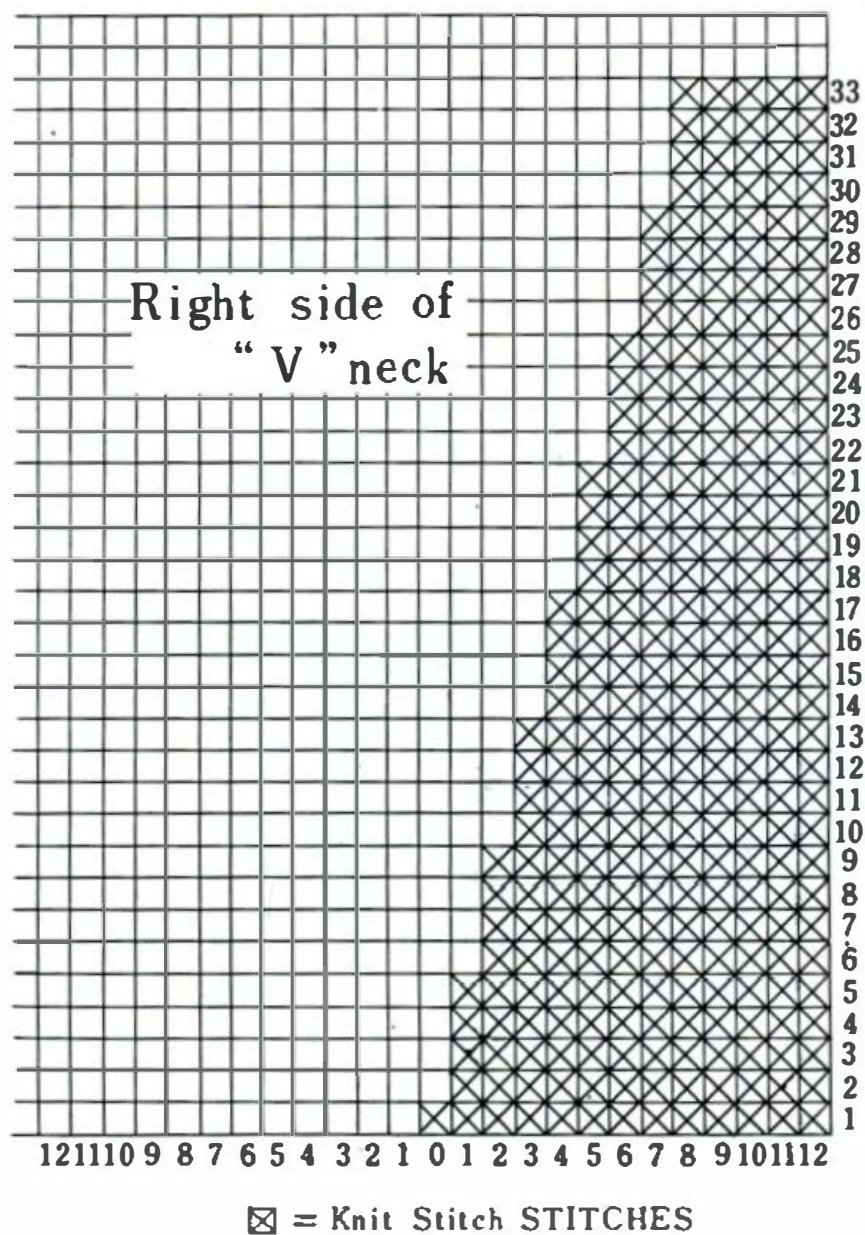


Fig. 102

CLASSIC SOCK

sizes large - medium - small

2oz. 2 oz. 1 oz.-sock yarn

Use any 2 needle sock instructions for size and design and follow illustration below for shaping.

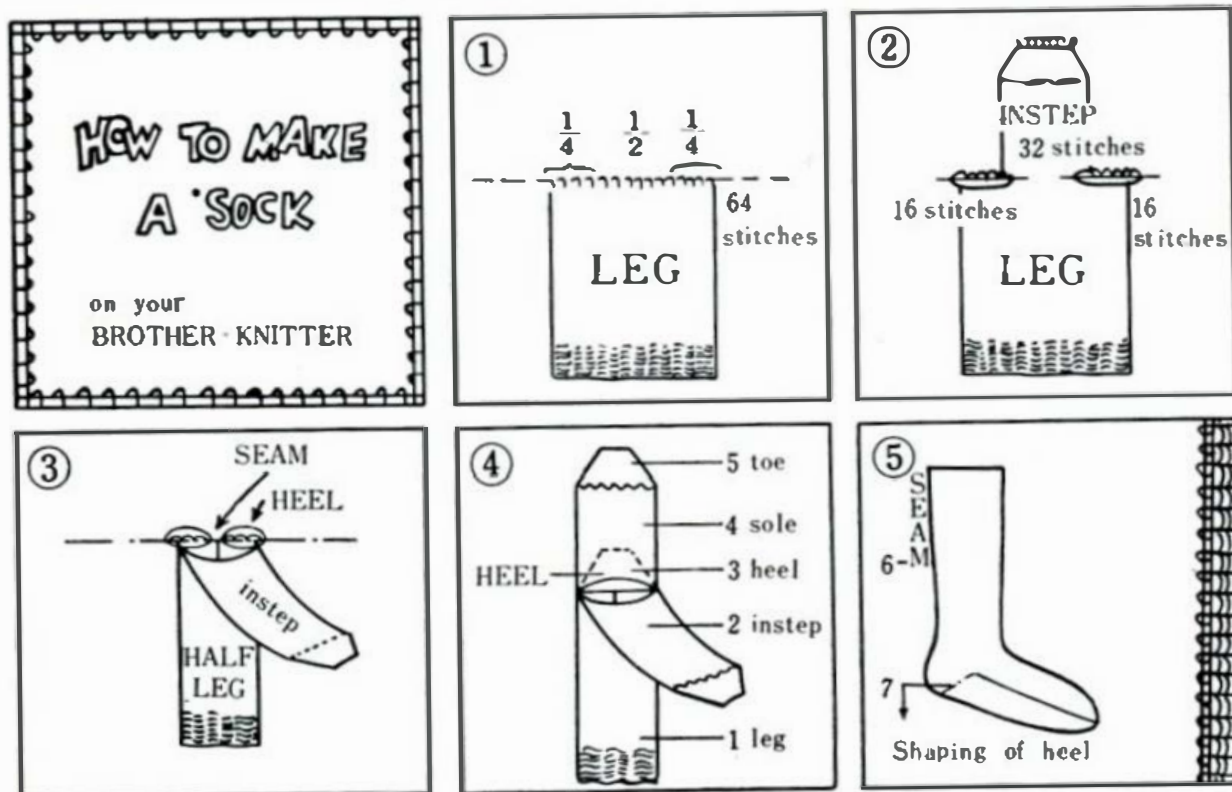


Fig. 103

Cast on 64 stitches* (59-47)-Knit 24 rows, this may be 1-K 1-P or quick rib cuff. Knit even for 80(70-60) rows-Instep-set row counter back to "O". Set H. C. to pos. ■. Put the 16 (15-12) needles on each side of sock to pos. D. Now tear yarn and knit only the 32 (29-23) stitches in center. If end stitches should drop as knitting grows, either hold down manually or insert small comb into knitting to hold it down. Knit even for 90 (80-70) rows. Toe shaping decrease 1 each side every other row F. F. method until 10 stitches remain. They may be bound off or transferred to holder and later sew or woven to sole.

Heel - Now remove the 16 (15-12) from the right side of the knitter, replace these stitches to the left of the stitches now on knitter, so that the "purl" side is facing you and the edges meet in the center. These stitches form the heel. Knit 10 rows even, then put H. C. to pos. ■.

Shaping - you will now push up to H. P. 1 needle at a time starting with

the first needle nearest the carriage. Knit 1 row to the right push up the outside needle, knit 1 row to the left push up second needle, etc., until the work is divided into thirds 10 (8-6) stitches on each side are in H.P. and 10 stitches in the middle, which is the center of the heel in knit position. You have been decreasing one stitch at a time within your knitting. Now, reverse process to increase. Pull back 1 needle at a time carefully to pos. C, so that the stitch does not slip off needle, starting with the center needle last put into H. P., until all needles are knitting again, the heel is now completed. Set row counter to "O".

Sole Knit 80 (70-60) even.

Toe Shaping: decrease 1 stitch each side until it corresponds to toe of instep.

Finishing:- Carefully weave side seams, toe and back seam. Pick up only 1 stitch from each side to form a nice flat seam.

This is a basic sock, you can introduce cables or any of the pattern stitches for an attractive trim.

HOW TO REPLACE THE NEEDLES

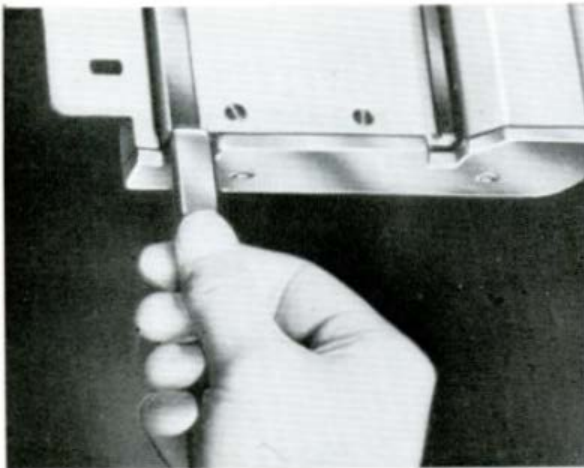


Fig. 104

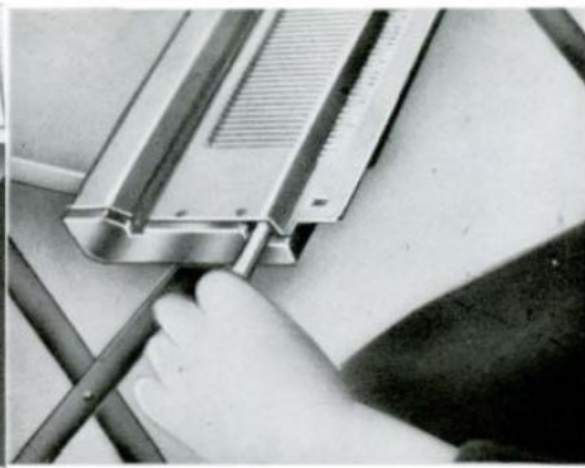


Fig. 105

- a. Push either side of the felt bar end piece with the end of latch tool. The felt bar end then appears on the other side.
- b. Withdraw it by hand from the knitter until the needle you wish to change is freed. (See Fig. 105)
- c. Bring forward the needle as far as it will go.
- d. Push down the hook of the needle, until shank end of the needle rises free of the needle bed.
- e. Grasp the shank end and draw it out backwards. (See Fig. 106)
- f. Replace with a new needle by holding it as shown in Fig. (with

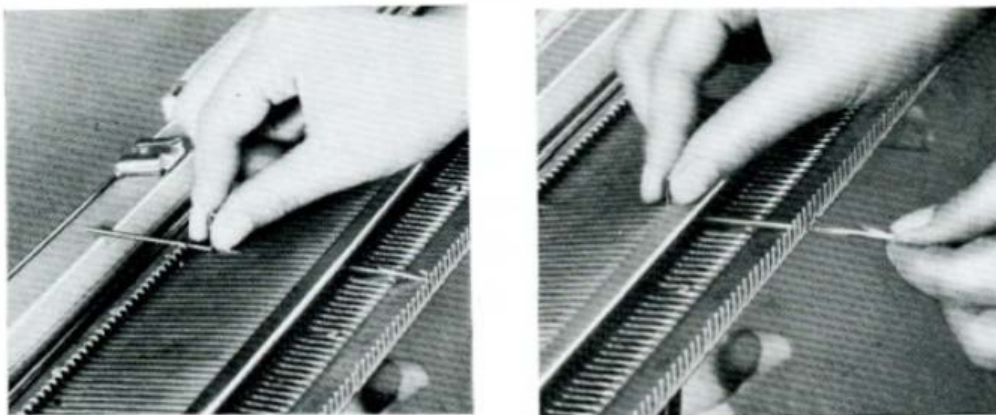


Fig. 106

latch opened)

- g. Now push back the needle to the resting position (A).
- h. Push in the foam bar, making sure that the foam faces downward.

Note: Make sure that neither foam bar end piece protrudes from the ends of the lower case.

How to fold up the knitter.

Release all Pushbuttons by using set lever.

- a) All needles are to be placed in the position "A". (resting position)
- b) Remove the row counter and replace in the accessory box as shown in Fig. 107.
- c) Remove the sinker plate and replace in the accessory box as shown in Fig. 107.

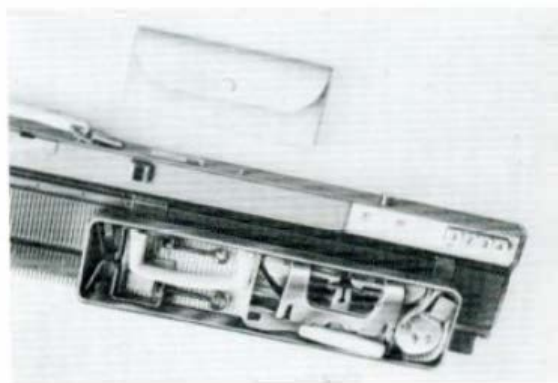


Fig. 107

- d) Remove the automatic yarn tension unit from the upright rod, and replace it in the clip in the case.

- e) Remove the carriage lock from the accessory box. and lock both carriages on the left of the knitter.
- f) Remove the carriage handle and replace it in the accessory box 106.
- g) Remove the table clamps from the knitter.
- h) Replace the plastic kit in the accessory box.
- i) Replace the accessory box on the right of the knitter. The right foot must be placed on the ungrooved part and the left foot placed between two rivets on the back of the needle groove. (See Fig. 107) Then the butts of the needles will fit into the holes of the left foot of the accessory box. (See Fig. 108)

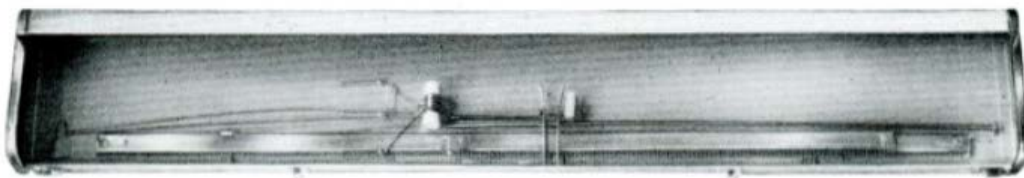


Fig. 108



- l) Open the side covers of the upper case, and place it on the knitter as shown in Fig. 109 with a curving movement.



Fig. 109

- m) Close the side covers and lock the four locks.

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