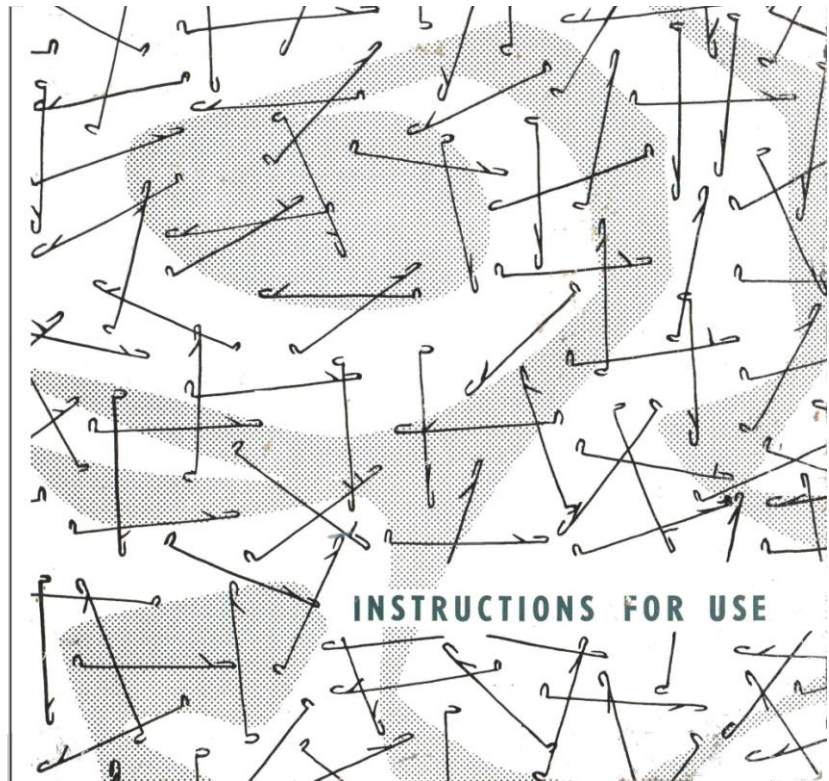
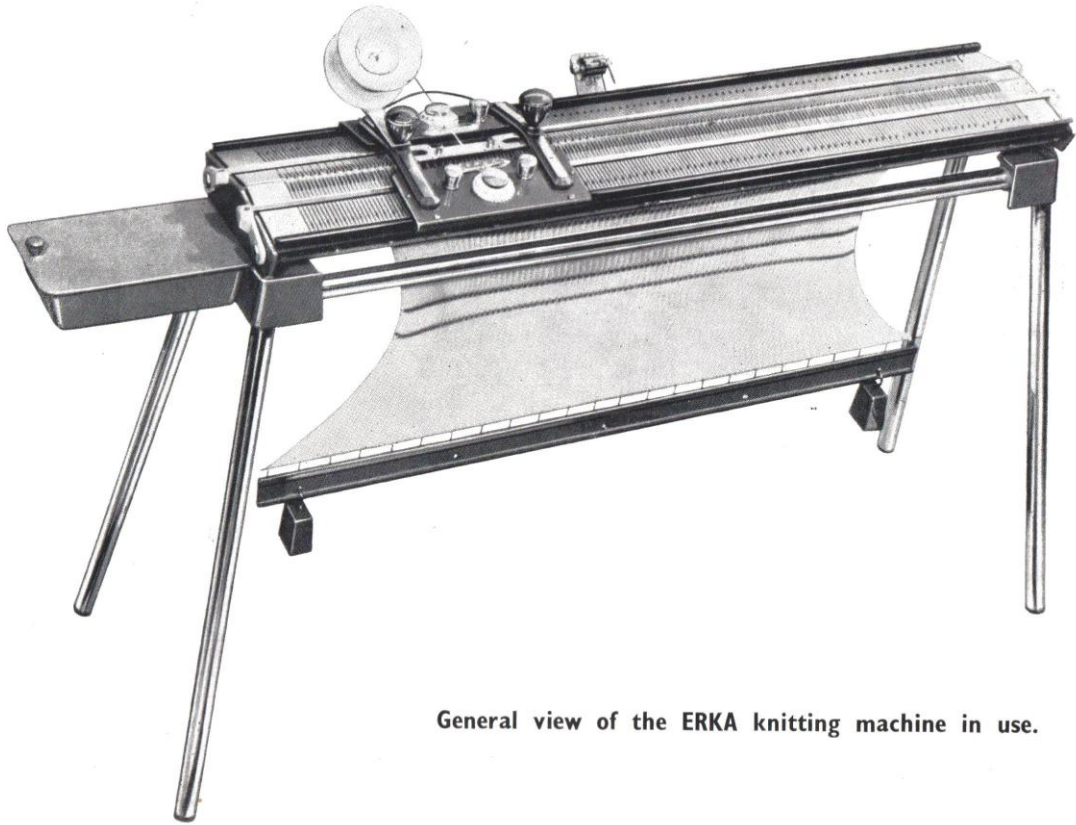


ERKA
Knitting machine





General view of the ERKA knitting machine in use.

To our valued customers

AT LAST YOU HAVE YOUR "ERKA" KNITTING MACHINE.

YOU SHOULD CERTAINLY BE VERY PLEASED BECAUSE YOU NOW HAVE THE BEST KNITTING MACHINE ON THE MARKET, WITH WHICH YOU CAN KNIT THE MAXIMUM VARIETY OF STITCHES WITH THE GREATEST OF EASE.

IN ORDER TO SAVE TIME, IT IS SUGGESTED THAT YOU FIRST READ THIS INSTRUCTION BOOK CAREFULLY, AND THEN FAMILIARISE YOURSELF WITH THE MACHINE BY KNITTING A FEW TRIAL PIECES ON ABOUT 100 STITCHES.

YOU WILL THEN BE READY TO UNDERTAKE YOUR FIRST GARMENT AND YOU WILL BE DELIGHTED AT THE EASE AND SPEED WITH WHICH YOU FINISH IT.

AS YOU BECOME MORE AND MORE ACCUSTOMED TO IT, YOU WILL GRADUALLY DISCOVER ALL YOU CAN DO WITH YOUR "ERKA" AND WE KNOW THAT YOU TOO WILL HAVE THE SATISFACTION OF WRITING US:

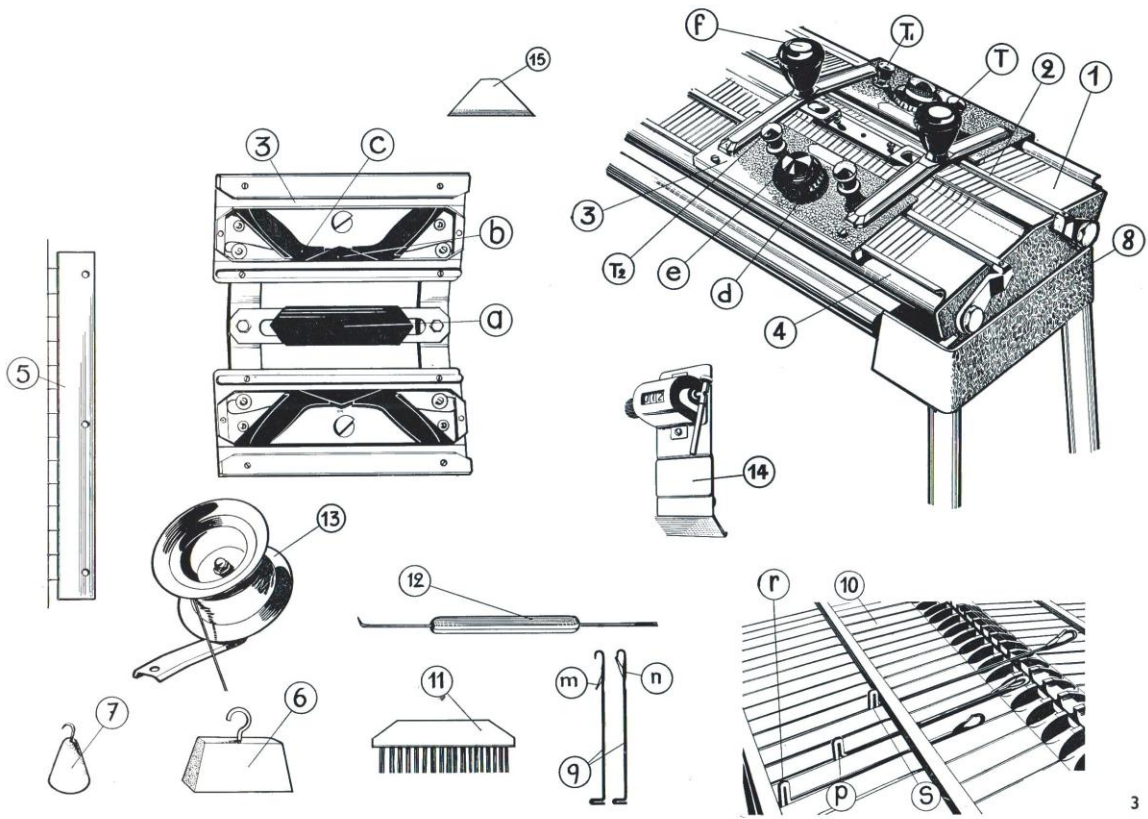
"I AM VERY PLEASED WITH MY ERKA FOR IT IS A MARVELLOUS MACHINE".

WE SHALL BE GRATIFIED BY YOUR SATISFACTION.

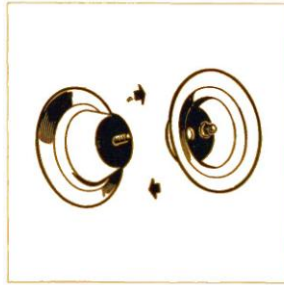
**THE MANAGEMENT
OF ETABLISSEMENTS ERKA.**

MAIN PARTS AND THEIR USE

1. **Needle beds** for guiding needles. The one nearest you is the Knit bed.
2. **Needle bars** swivelling, holding needles in their grooves.
3. **Cam box**
 - a) Wool feed orifice;
 - b) Needle sinker;
 - c) Swivelling cams which can be raised by knobs T.
 - T1 Knobs pulled up = cams raised (non-working position)
 - T2 Knobs pushed down = cams dropped (knitting position)
 - d) Stitch tension knob.
 - e) Knurled knob locking tension knob in place.
 - f) Handle knobs (**detachable**)
on which cam box travels.
4. **Slider rails** holding the work in place so that rows are regular.
5. **Stretcher** The reed is threaded in the eyelets of the stretcher.
to facilitate feeding down the finished knitting between needle beds.
6. **Weights** for selvages.
7. **Small Weights** with detachable legs.
8. **Machine stand** gauge 5, ERKA standard type.
9. **Latch needles**
 - m) Hook open (latch tilted back).
 - n) Hook closed (latch rests on hook).
10. **Needle position**
 - p) Knitting position.
 - r) Non-working position.
 - s) Holding position.
11. **Brush** for opening needle latches and cleaning needle beds.
12. **Transfer tool** for increasing and decreasing.
13. **Feed spool** stretching yarn automatically for each row.
14. **Row counter**
15. **Needle positioner** to facilitate knitting the first row.



ASSEMBLY OF MACHINE WITH ALL ACCESSORIES



Mounting the spool



Winding wool on spool

The machine is supplied dis-assembled in a carrying case.

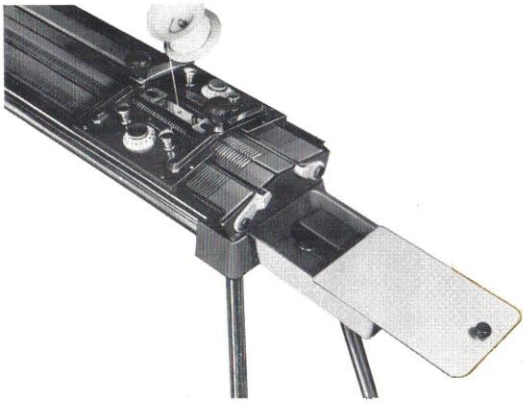
It can easily be assembled as follows:

- Insert legs in openings provided for this purpose in the machine stand (no. 8, page 3).
- Place the machine on its stand.
- Screw the two handle knobs " f " (no. 3, page 3) on the cam box.

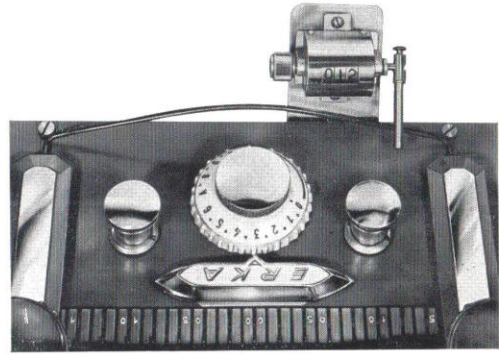


Fitting spool on cam box



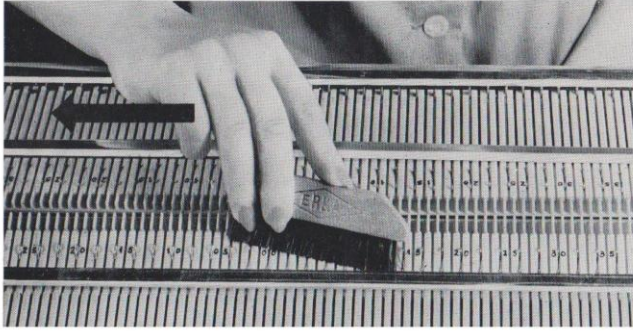


Fitting row counter and its driving rod

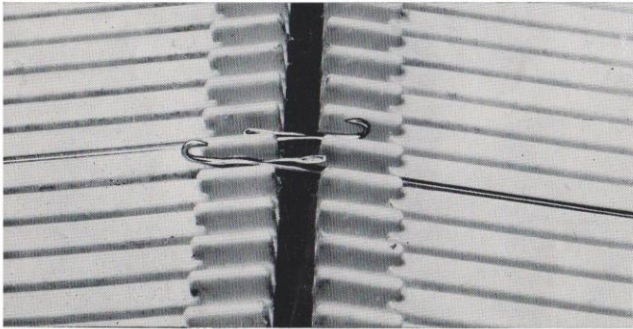


COMMENCING WORK

- ◆ **Swivel needle-bars outwards.**
- ◆ **Set the needles for one-and-one-rib** (see position A, fig. 12, page 13), that is to say one needle every other groove, so that an empty groove is always opposite each needle. As a general rule, whatever the pattern, each needle must always be opposite an empty groove so that it can always move back and forth in the groove.
- ◆ **Lower the needle bars.**
- ◆ **Open the needle latches.**
- ◆ **With needles in non-working position** (position R, no. 10, page 3 and page 7, fig. 1), open all the needle latches by tipping them with a small brush so that the wool can be threaded into them. Set the needles in knitting position (position P, no. 10, page 3 and fig. 2, page 7), by means of the stretcher or the needle positioners (no. 15, page 3).
- ◆ **Place the cam box between the two slider rails.** Set both tension knobs on number 3. Thread the wool into the wool feed orifice, leaving about 8 to 12" of yarn hanging between beds below the machine and fasten the end to one of the stand legs (For making a good selvedge, see page 20).
- ◆ **Pass the cam box across the needle beds to prepare for casting on.**
For this first row, which prepares the casting-on row, it is essential that the wool runs freely; we therefore advise you to unwind about 2 yards of wool so that it is not drawn too tight during knitting.
Pass the cam box slowly and steadily across the beds without jerks (see fig. 3, page 9) and **without ever moving it backwards.**
- ◆ When the cam box is passed across, the wool is automatically fed into the needle hooks in a zig zag arrangement. If wool has not been caught by one of the needles, complete the zig zag by means of the transfer tool once the row is finished.
- ◆ **Hook on the stretcher.**
Remove the reed from the eyelets. Insert the stretcher between the needle beds from beneath the machine so that the eyelets project above the casting on row. Insert the reed in the eyelets (see fig. 4, page 9) and attach the two heavy weights to it. **Make sure that the stretcher is well balanced in relation to the knitted work and that the reed rests on the wool and never on a needle.**



**Fig. 1. — OPENING NEEDLE LATCHES
WITH BRUSH.**



**Fig. 2. — NEEDLES WITH LATCH
TILTED BACK: THE HOOK CATCHES
THE WOOL YARN WHEN CAST-ON.**

COMMENCING WORK

- ◆ **Second row:** Slide cam box back after having stretched the wool slightly so as to avoid the formation of a loop on the edge of the work. Do not push the cam box too far at the end of the row to avoid the formation of loops on the selvedge. If you remove the cam box, do not forget to rewind the non-stretched wool onto the feed spool before knitting.
From the 2nd row on, it is not necessary to check the needle latches since the needles knit automatically whether the latches are open or closed.

IMPORTANT ADVICE

So that the cam box shall move smoothly, it is advisable to apply a thin coat of Styflex on the needle beds at the level of needles in knitting position, using a brush to push it into the grooves.

- ◆ **To begin in stocking stitch:** After casting-on in one-and-one rib and fitting the stretcher, it suffices to place all needles on the same side, i. e. on the Knit bed for stocking stitch on the right side (see fig. 12, page 13, position B), and on the Purl bed for stocking stitch on the wrong side.
- ◆ **To do this,** remove the weights, raise the needle bars and, holding the butt of the needle (see fig. 5, page 9) and without allowing the stitch to slip off the hook, transpose the needle by half a turn and put it in the empty groove opposite the needle. Lower the needle bars, hang on the weights and continue knitting.
- ◆ **Weights:** The weights to be used vary according to the width of the work. When knitting with fine wool use less weight. For Fisherman rib, use more weight. The whole set of weights is intended for knitting with medium wool on the whole width of the machine.

IMPORTANT NOTE. On the ERKA knitting machine, tension adjustment is based on ribbing. It follows that for changing from ribbing to stocking stitch tension must be re-adjusted so that the texture of the work is always the same. In a general way, to obtain the same tension for both ribbing and stocking stitch, ribs must be knitted more tightly than stocking stitch, i. e.:

Rib tension no. 2 1/2 = stocking stitch no. 3 1/2 = hand knitting needles no. 0
Rib tension no. 3 = stocking stitch no. 4 = hand knitting needles no. 1
Rib tension no. 3 1/2 = stocking stitch no. 4 1/2 = hand knitting needles no. 2
Tension numbers are proportionate to the size of the wool.

Example: Tension no. 1 = fine wool; Tension no. 3 = medium wool;
Tension no. 5 = coarse wool.

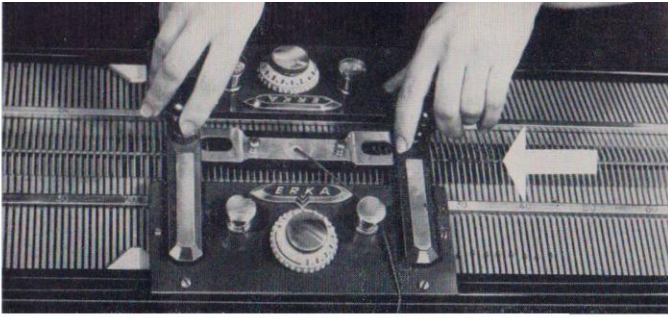


Fig. 3. — CAM BOX TRAVEL

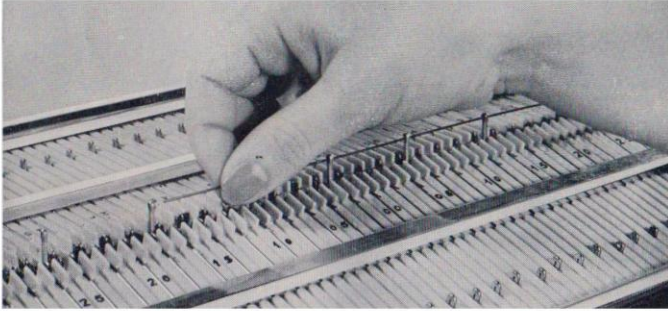


Fig. 4. — FITTING STRETCHER

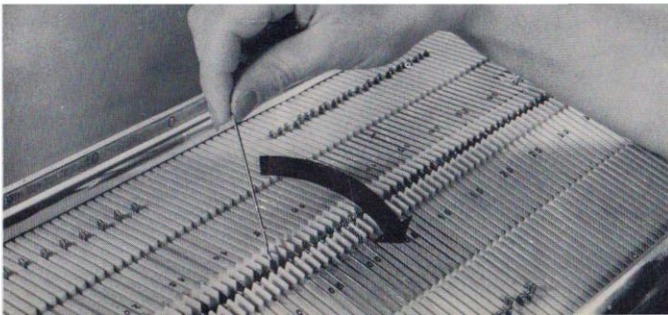


Fig. 5. — TRANSPOSITION OF A NEEDLE

A FEW BASIC STITCHES

FISHERMAN " ONE-AND-ONE " RIB (See position A, fig. 12, page 13)

For fisherman rib set both tension knobs on letters B, C, or D.

On " B " for loose knitting

on " C " for medium knitting

on " D " for tight knitting.

Do not use setting " A " which makes the knitting too loose, nor setting " E " which makes the knitting too tight.

Fisherman rib is knitted exactly like the other stitches by passing the cam box alternately from left to right and right to left without any other operation.

Be sure to stretch the wool fairly tight at the end of each row to avoid loops on the selvages.

If selvages are defective, attach the two selvedge weights to the edge of the work. For fisherman rib, it is advisable to increase the weight on the stretcher.

OPEN FISHERMAN RIB

For the same width of work, **less needles** are required than for the above fisherman rib.

According to the size of the wool, set all the needles on the two beds once and for all so that there are 2 or 3 empty grooves opposite each needle.

Never forget that there must always be an empty groove opposite a needle.

ONE-AND-ONE RIB

Needle setting: Use every other needle (see page 13, fig. 12, position A, and page 11, fig. 6).

This rib knitted on our machine is very elastic and has even more relief and softness than hand knitting.

RICHELIEU (THREE-AND-ONE) RIB

Needle setting: (see page 13, position C and fig. 8, page 11): 1 needle on Purl bed, 3 needles on Knit bed, and so on. This rib is mainly used for socks.



Fig. 6. — ONE AND-ONE-RIB



Fig. 7. — STOCKING STITCH



Fig. 8. — RICHELIEU « THREE AND-ONE » RIB

For explanations and needle settings see pages 12 and 13.



Fig. 9. — PEARL RIB



Fig. 10. — FISHERMAN RIB



Fig. 11. — OPEN FISHERMAN RIB



A FEW BASIC STITCHES

PEARL RIB

Generally knitted in One-and-one rib, but can also be knitted in two-and-one, three-and-two, etc., rib.

Set the Knit side tension knob on letter C once and for all.

Set the Purl side tension knob on 2 and 5 alternately before each row:

a) on 2 when cam box travels from left to right;

b) on 5 when cam box travels from right to left.

These settings may vary according to the size of wool and the raised ribs you wish to obtain (first make test pieces for tension).

For fisherman rib and pearl rib, always begin a row with a plain stitch and end it with a purl stitch.

STOCKING STITCH

Needle setting (see position B, fig. 12, page 13) :

To knit stocking stitch on the wrong side, place all the needles on the Purl bed; to knit stocking stitch on the right side, place them on the other bed. When knitting coarse wool, use **half** as many needles, leaving an empty groove between each of them. To change from ribbing to stocking stitch, knit the last row **more loosely** to enable the needles to be transposed easily. Thus, if you are knitting ribs on no 2, the last row should preferably be knitted more loosely, for instance on no 3 (see page 8 " Important Note ").

STOCKING STITCH ON THE CROSS

Every other row increase one stitch on one side and decrease one stitch on the other.

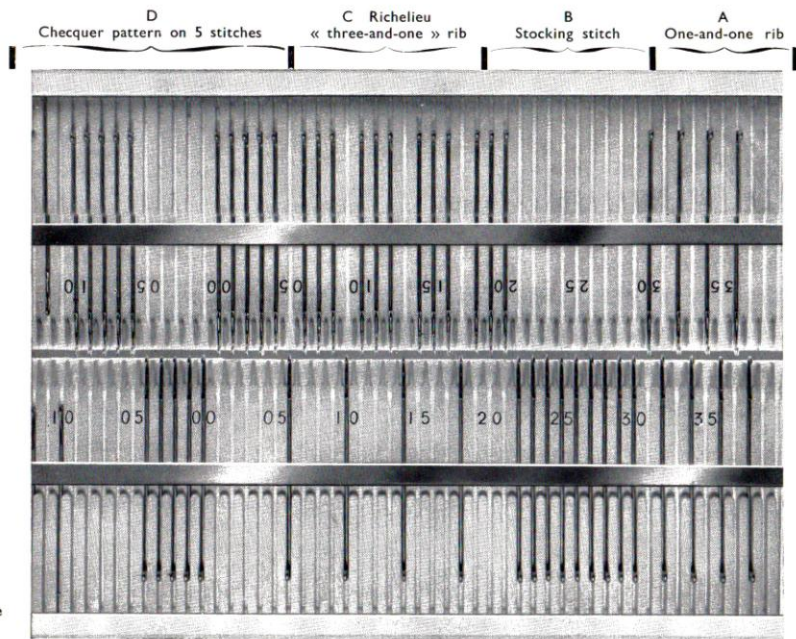
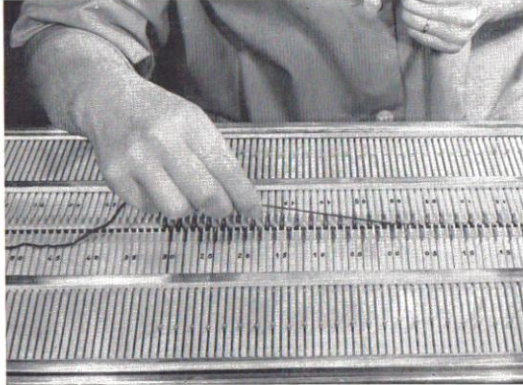


Fig. 12.
A few needle settings on the beds.

VARIOUS OPERATIONS DURING KNITTING

FOR CHANGING STITCHES TRANSPPOSITION OF NEEDLES

Fig. 13. —



To change the arrangement of Purl and Knit stitches which constitute the patterns, it suffices to remove the weights, the cam box and the needle bars, then to remove the needles from the grooves one by one and put them on either bed in their respective place, **without unhooking the stitches** (see fig. 5, page 9). With a certain amount of practice you will easily be able to transpose one needle per second;

To facilitate this operation, move the needle by $\frac{3}{8}$ " by pushing its butt. Press the needle hook down to tilt it slightly and, holding it by the butt, transpose it into another groove. Be sure there is always an empty groove opposite each needle. When many needles have to be transposed, the preceding row should be knitted more loosely.

UNRAVELLING ON THE MACHINE WITHOUT TAKING WORK OFF THE NEEDLES (fig. 13).

Stocking stitch: Remove the cam box from the machine, progressively pull out the wool, **keeping it in line with the needle beds**. The row will be unravelled automatically, the stitches below being automatically lifted and pulled over the needles; repeat the same operation in reverse for the second row, etc.

Ribs: Remove the cam box from the machine, progressively pull the wool following the zig zag arrangement of the rib. The stitch on each needle will be automatically pulled over its hook. Repeat this operation for the second row.

INCREASING

(always on the wool feed side).

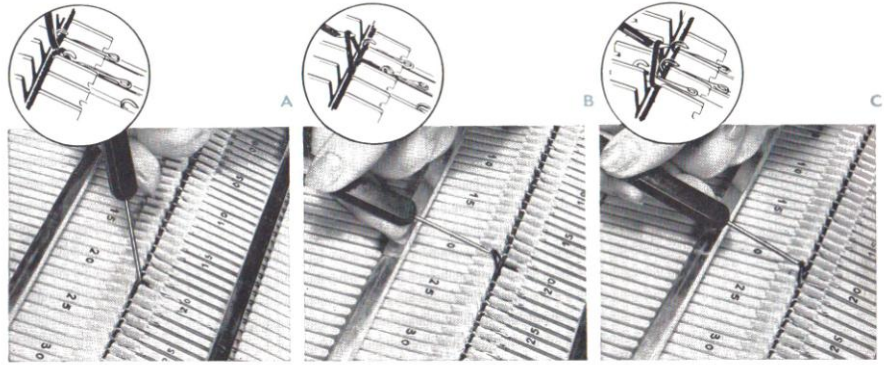


Fig. 14. — INCREASING WITHIN A ROW

Increasing single stitch: Move needle forward with hook open.

Increasing by several stitches:

A. "One-and-one" rib: See page 6, commencing work, Casting-on.

B. Stocking stitch:

Put the wool alternately **into** the hook of the first needle, then **under** the second needle, then **into** the hook of the third needle, and so on, always finishing **under** the hook of the last needle of increases (cam box side). Pass the cam box across and attach a small selvedge weight to the last stitch.

INCREASING WITHIN A ROW

Increasing single stitches

Remove the weights and the cam box, lift the needle bars. Shift the needles so as to add a new needle at the proper place (See fig. 14 A). By means of the transfer tool lift the stitch

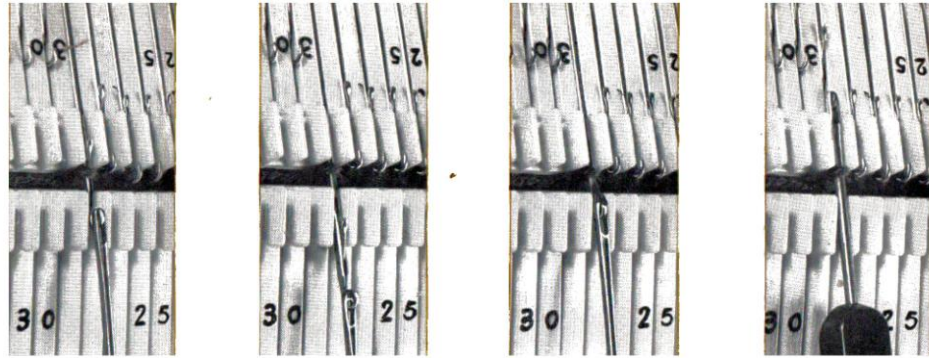
below the adjacent needle on the previous row (see fig. 14 B) and transfer it onto the hook of the new needle (See fig. 14 C).

To avoid the occurrence of a hole, pick up the stitch from underneath.

To make a dart, repeat this operation at the same place. Increasing by several stitches at the same time, to widen the knitting throughout its width.

Set tension knobs on „very loose“, no 5 or 6, to knit the row preceding increases. Remove the weights, the cam box, the needle bars and start shifting needles progressively so as to leave empty grooves **every ten or five needles** according to the width of work.

When the needles are evenly distributed, place the additional needles in the empty grooves. Replace the needle bars and weights and lift the stitch off the needle adjacent to the empty needle and transfer it onto the hook of the latter. This stitch should be twisted to avoid a hole.



DECREASING ON SIDE EDGES

Decreasing single stitches:

To decrease a stitch on the side edges of the work it suffices to transfer the outermost stitch one needle inwards. This can be done with the transfer tool. Then move the empty needle back against the slider rail. It will not be used any more.

Decreasing by several stitches on the side edges.

Is always done on the wool feed side with the transfer tool. Insert the transfer tool with its eye in the hook of the needle to be decreased (See fig. A). Pull the needle with the tool so as to lay the wool behind the latch (fig. B). Then push back the needle against the slider rail to slide the stitch onto the transfer tool (fig. C).

Then transfer this stitch by inserting the tool with its eye in the hook of the preceding needle and slip the stitch into the needle hook (fig. D). Both stitches will then be in the hook of the needle (Fig. E).

Pull the needle by its butt so that both stitches slide behind the latch (fig. F).

Lay the wool in the needle hook (fig. G).

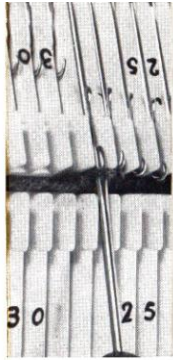
Push back needle to make both stitches slip over the latch and form a new stitch with the wool (fig. H).

Repeat the same operation on the following needle and so on, for all the other needles to be decreased.

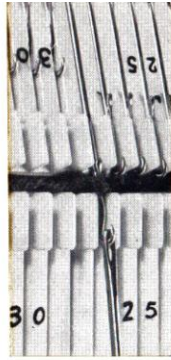
DECREASING WITHIN A ROW

Decreasing by several stitches at the same time (to reduce the width of a work).

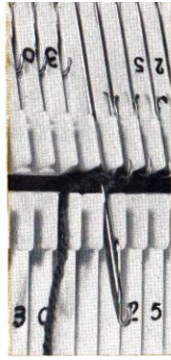
Using the transfer tool at the places selected, transfer a stitch in the hook of the adjacent needle, exactly as for lace work



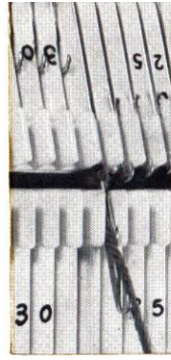
E



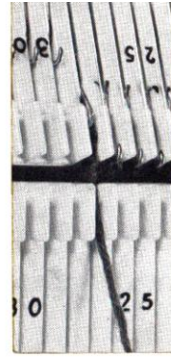
F



G



H



I

(see opposite). Repeat this operation as many times as there are decreases to be made.

Remove the weights, the cam box, the needle bars and remove empty needles.

Put the needles next to each other **beginning from the centre of the work** until there are no more empty grooves. Replace bars, cam box, weights and continue knitting.

Darts: Decrease a single stitch on each row, always on the same needle until the dart is completed. Remove the weights and cam box. Lift the needle bars, remove the empty needle, shift other needles so as not to leave any empty grooves. Lower the bars and knit.

Buttonholes and horizontal slits.

Take a piece of yarn of different color, about 6" long and knit the 4 stitches for the buttonhole on the machine by hand.

To knit a stitch by hand on the machine, push the needle forward by 1 1/4", lay the yarn in the needle hook and slide the needle

back again so that the previous stitch slips over the needle latch (see figs. G. H above and figures on page 19).

After knitting the 4 stitches in this way, leave both ends of the odd yarn hanging between the needle beds and continue knitting with cam box in the normal way.

When the work is finished you will find that the contrasting yarn joins both edges of the buttonhole.

As in hand knitting, stitch round the buttonhole by hand and remove the contrasting yarn.

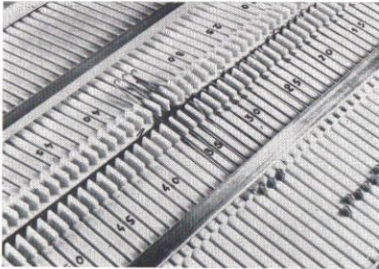
Vertical buttonhole: See vertical slit (page 18).

Open-work stitches: See Decreasing (page 16)

As in hand knitting, a hole is obtained by knitting two adjacent stitches together.

To knit two stitches together insert the transfer tool with its eye in the hook of the needle to be put out of action, pull it forward by 1 1/4", then push it back completely so that the stitch to be transferred to the adjacent needle is picked up by the

VARIOUS OPERATIONS DURING KNITTING



THREE NEEDLES IN HOLDING
POSITION

tool (see page 16, figs. A, B, C, D) (Leave the empty needle in knitting position with latch open).

Repeat this operation as many times as there are open-work stitches in the pattern. Then knit the next row normally and all the decreased needles will knit **automatically** if the latches have been opened.

When needles are pushed back against the slider rail, the open-work stitches are repeated on several rows, thus forming a double hemstitching pattern.

IMPORTANT NOTE — To locate the stitches to be decreased easily, it is advisable to put pencil reference marks on the needle beds or to coat the needle butts with nail polish.

Stitches kept in holding position

To put a stitch in holding position, it suffices to pull the needle **forward completely** so that its butt bears against the needle bar. To bring it back into knitting position, it suffices to **push it back** with latch open; when the cam box is passed across the needle knits again.

(See no 10, page 3, Needle position and figure opposite).

Vertical slit

Is done exactly as in hand knitting, i. e. one edge of the slit after the other. Divide the work into 2 equal parts, leave needles on one side in holding position (see figure opposite) and knit the other side to the required length. Then knit the other side in the same way.

V-shape neck opening

Is knitted in the same way as a vertical slit **but decreasing** one stitch every row on both sides of the slit, so as to obtain a slanting edge.

Round neck openings

Cast off a certain number of stitches in the middle of the work using an odd length of wool (see buttonhole and horizontal slit) and knit each side of the neck opening one after the other, decreasing as required as for the V-shape opening.

IMPORTANT — When only part of the work is being knitted it is necessary to **balance the weights** and to hook on the selvedge weights at the level of the slit to facilitate feeding down the finished knitting.

Pockets

They are made in two stages as in hand knitting.

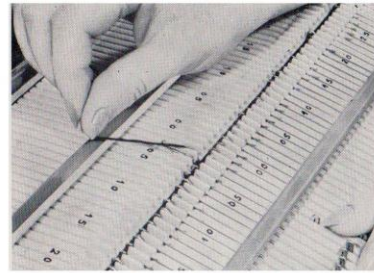
1. — First knit the pocket properly so-called separately, for instance on 20 stitches, using a small stretcher. Then knit about 60 rows according to the desired depth of pocket.

Cut the wool, let the knitting fall without removing the stretcher and pass a thread of different color through the 20 stitches, which will facilitate hooking them onto the machine later on.

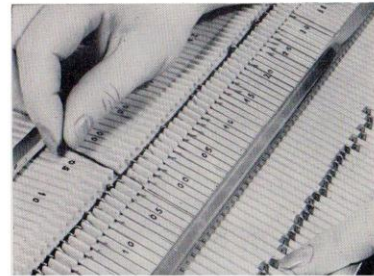
2. — Then knit the piece to which the pocket is to be attached and at the level of the pocket opening **cast off 20 stitches** to form its outer edge. On the 20 needles which are thus empty, **transfer the 20 stitches** of the small pocket after having inserted them between the two needle beds from beneath the machine.

To hang a stitch in the hook of a needle use the transfer tool as shown on fig. 14, page 15.

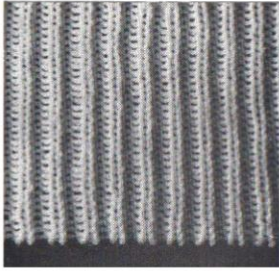
IMPORTANT. — If you are knitting stocking stitch on the right side, the **pocket must be laid** with plain knit side on the top. After hooking on the 20 stitches, attach a selvedge weight to the small stretcher and continue knitting. When the work is removed from the machine, finish off the pocket by sewing it inside.



**KNITTING A
STITCH BY
HAND**



EDGES



OPEN EDGE



CLOSED EDGE

A. — Casting on

a) **Open edge**—Cast on at the tension selected (2 for instance), attach the stretcher and weights.

— 2nd row: Leave all needles on the knit bed in holding position (see pages 2 and 3) so that only the Purl bed needles are knitting. Pass the cam box across the beds.

— 3rd row: Set the Knit bed needles kept in holding position to the knitting position and pass the cam box across to knit with needles on both beds.

— For these three rows, the wool must run freely as for preparing casting on. When the work is finished, remove the yarn which forms the loops of the row preparatory to casting on.

b) **Closed edge** — Begin knitting in the usual One-and-one rib. (Set the tension according to the size of the wool, 2 for instance). When the work is finished, remove the reed of the stretcher. This leaves an edge formed by a row of loops which you close by slipping them one over the other to form a chain.

— This closed edge can be made either with a machine knitting needle or with an ordinary crochet hook.

Note. — To facilitate knitting the first (casting-on) row wool must run freely (never use the feed spool).

B. — Casting off

a) **On the machine.** — Proceed as explained on page 16, parag. “Decreasing by several stitches on edges”, but continuing in the same way right across the width of the work.

b) **by hand.** — Knit the last row loosely (no. 4), release the knitting by cutting the wool, then by passing the cam box across the needle beds. Hold the knitting to prevent it from falling.

Pick up every stitch, either with two ordinary knitting needles or a latch needle or an ordinary crochet hook to make a chain as before.

It is preferable to knit a few extra loose rows which you unravel afterwards when the work has been taken out of the machine. You thus have a row of perfect stitches to knit the edge chain.

A FEW VERY SIMPLE FANCY PATTERNS



Fig. 15. — ZIG ZAG ON STOCKING STITCH

This pattern is knitted by transposing 2 needles every other row, once to the right, once to the left, so that the small chains thus formed join after 12 rows have been knitted. Knit 6 rows of stocking stitch without transposing needles, then repeat the pattern.

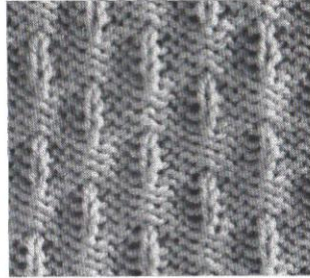


Fig. 16. — VERTICAL CHENILLE

P. 5, K. 1, etc.
Knit 4 rows, then change pattern. Change 3rd Purl stitch into Plain; change Plain stitch into Purl. Knit 4 rows and repeat.

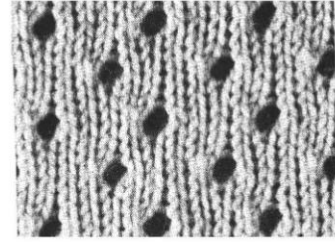
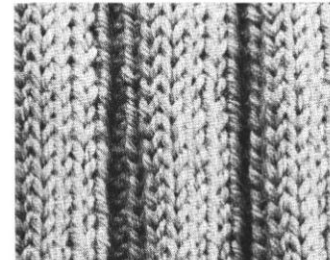


Fig. 17. — LACE PATTERN

Needle setting: Stocking stitch.
Make 1 hole every 4 needles (the decreased needle remains in knitting position). Repeat this step every 4 rows, moving the hole along by 2 needles.

Fig. 18. — PLEATING

Purl s. | | | | | | | | etc.
Plain s. | | | | | | | | etc.
Set the needles as shown above and knit as many rows as required.



A few lace patterns



Fig. 19. — GIANT GRID

P. 1, K. 1, etc.
Only work on plain stitches. Every other row, transfer 1 st stitch onto 2nd, 3rd onto 4th, etc.; knit 2 rows, transfer 2nd stitch onto 1st, 4th onto 3rd, etc. Repeat from beginning.

Fig. 20. — LACY STOCKING STITCH

Needle setting: Stocking stitch
On every row, make staggered holes, 6 stitches apart, always on the same 3 needles.

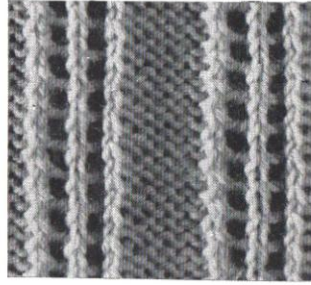


Fig. 21. — LACY RIB

P. 4, K. 5, etc.
Only work on plain stitches.
1st row : Transfer 2nd stitch onto 1st needle, 4th stitch onto 5th needle (Keep the decreased needles in knitting position).
2nd row : Pass the cam box across the beds.
Repeat both rows.



Fig. 22. — LACY CHECQUER PATTERN

Checquers are knitted on 8 stitches and 8 rows.
K. 8, then commence openwork : Transfer 2nd stitch onto 1st, 4th onto 3rd, 6th onto 5th, 8th onto 7th, and so on.
Alternate open-work checquers.

A few patterns based on needle transposition

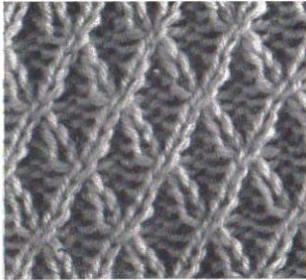


Fig. 23. — HONEYCOMB PATTERN

P. 1, K. 1, etc.
Every 4 rows, invert plain stitches by always transferring the right hand stitch onto the left one without changing the Purl stitches and moving along by one needle each time.

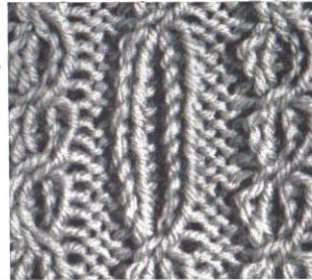


Fig. 24. — BUTTERFLIES

Needle setting : P. 2, K. 1, etc.
Pattern knitted by crossing over needles every 4th row (Small cable-stitch).
Every 12 rows, shift the cables.

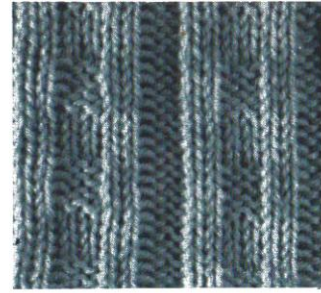


Fig. 25. — FANCY RIB

K. 6, P. 2.
Only work on the 4th and 5th rib plain stitches. Knit 4 rows and transpose the 2 plain stitch needles into Purl needles. Knit 4 rows and repeat 1st step, and so on.

Fig. 26. — TULIP PATTERN

P. 1, K. 1, etc.
Only work on Plain stitches. Knit 6 rows, transfer 4th and 6th Plain stitches onto 5th Plain needle. Skip 3 plain stitches, etc. Knit 6 rows and shift the pattern. Transfer 1st and 3rd Plain stitches onto 2nd Plain needle; skip 3 plain stitches, etc.



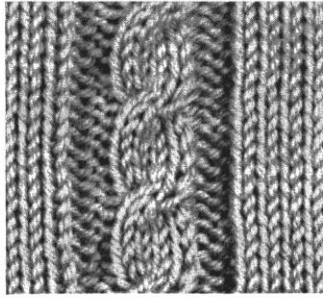


Fig. 27.

Cable and checquer patterns

Cable on 6 Plain stitches between 3 Purl stitches :

Needle setting :

Purl : | | | ← | | |
 Plain : | | | | | | | | | | | | | | | | | |

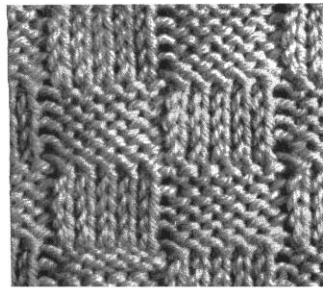
Is executed as in hand knitting, crossing half the number of stitches of the cable over the other half. This is done **easily** by moving the needle **along** the same needle bed.

When knitting the row preceding the cable, **slightly loosen** the yarn by pulling it with a crochet hook to make a $3/4$ loop **before** the 1st stitch and **after** the last stitch of the cable. Then remove the 3 right hand needles which you **hold up** with your left hand while your right hand moves the 3 other needles into the empty grooves. **Transfer** the right hand needles into the left hand empty grooves. Then continue knitting for 10 or 20 rows and repeat the cable pattern.

The only difficult operation in this cable pattern is to make loops large enough so that the stitches can be easily crossed over.

Also be sure to cross stitches over always in the same direction.

Fig. 28.



CHECQUER PATTERN

(See position D, fig. 12, page 13).

5 **plain** stitches on the Knit bed, 5 **Purl** stitches on the Purl bed, and so on.

Knit 6 to 10 rows according to the size of wool and tension, **TRANSPOSE** needles so that the 5 plain stitches become Purl stitches, and vice-versa. Knit the same number of rows and then transpose needles as above.

CIRCULAR STOCKING STITCH

CIRCULAR STOCKING STITCH is in the form of a tube used for making seamless pullover sleeves or socks, but only in stocking stitch, therefore without ribbing.

Knitting properly so-called:

It consists in knitting Purl and Plain stitches successively.

Work as follows:

Cast on in One-and-one rib as usual (See page 6).

Then place needles in the empty grooves of both needle beds (the needles are therefore opposite each other in this case).

1st row

a) Set the extra needles of Purl bed in knitting position with hook open. Set the extra needles on Knit bed in non-working position (butts against slider rails).

b) Lift both knobs **T** (plain stitch side of cam box).

keeping both knobs **T** (Purl stitch side) in dropped position — pass the cam box across.

Only the Purl bed needles operate (see pages 2 and 3, position of knobs **T**)

2nd row

a) Set the knit bed needles which were in non-working position to knitting position.

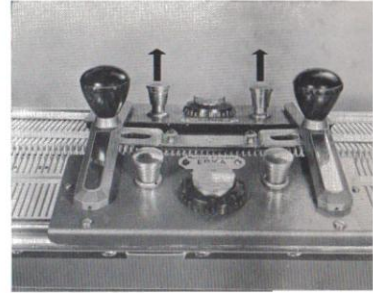
b) Press down both knobs **T** (Plain stitch side) and lift both knobs **T** (Purl side).

Pass the cam box across. **Only the Knit bed needles operate.** Continue knitting in the same manner, making sure to lift and press down knobs **T** before each row.

You will note that cam box handling is harder than for ordinary stocking stitch.

IMPORTANT: Knitting is impossible when the 4 knobs **T** are all dropped; you must therefore **never** forget to change the position of these knobs before each row.

If the cam box jams owing to a mistake, lift the 4 knobs, release the cam box without forcing it (See page 36, paragraph 2).



SEMI-CIRCULAR STOCKING STITCH

U-shape work forming a wide strip of stocking stitch (400 stitches).

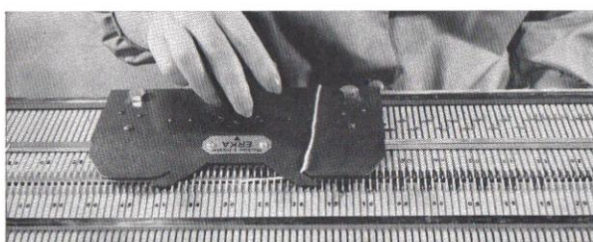
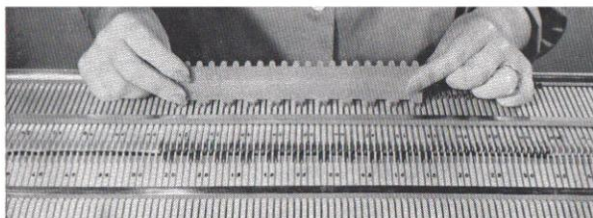
Set needles as for circular stocking stitch.

Circular and semi-circular stocking stitch knittings **differ only** by the way the knobs are set. In circular stocking stitch, the

knobs **T** must be lifted **before each row**, while for semi-circular stocking stitch, they must be lifted only **every other row**.

Decreasing and increasing. — Work in the same way as for ordinary knitting, adding or removing stitches along the edges (See pages 15 and 16).

This pattern is made using the Fair-Isle cam box especially designed to permit a change of color for each row, without cutting the wool.



Operating principle of the fair-isle cam box

Contrary to the double cam box which controls all the needles in knitting position, the **Fair-Isle cam box** only operates the needles previously moved forward by about $3/8$ ". As the needles which have not been moved are out of action, it is easy to select the needles for knitting a given color.

When all needles are moved forward, Plain color stocking stitch is knitted. We advise you to start with this pattern in order to learn soon to use easily the **Fair Isle cam box**.

Stocking stitch knitting with the fair-isle cam box

As you cannot cast on with a Fair-Isle cam box, we assume that you already have a stocking stitch knitting on the machine. Insert the Fair-Isle cam box from the end of the machine so that its edge rest on a slider rail.

With the straight edge of the needle selector, move all the needles by about $3/8$ " so as to open all the latches **without, however, slipping stitches behind them**. Insert the wool in the Fair-Isle cam box slot and **push it down to the end of the slot where it must be kept**. Slightly stretch the wool and slide the cam box across without jerks. It automatically feeds the wool into the hooks of the needles which, after having formed new stitches, return to their original position.

For the next row, repeat the same operations:

— move all the needles $\frac{3}{8}$ " forward to put them into the Fair-Isle knitting position;

— insert the wool in the other cam box slot and push the cam box in the opposite direction.

Do not forget to change the wool from one slot to the other before each row. When the cam box is going to move towards the left, the wool must be in the left hand slot; when it moves towards the right, the wool must be in the right hand slot.

If you want to knit **stripes in stocking stitch**, you simply use yarns of different colors.

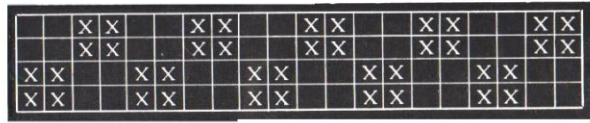
Tension is adjusted by means of the center knob. It may differ slightly from that of the double cam box. We therefore recommend you to knit a test piece of stocking stitch with each cam box and then to compare the settings.

Stocking stitch knitting with fair-isle patterns

Yarns of several different colors are used and successively laid in the hooks of the needles moved forward for each row.

Example: Checquer pattern with 2 red stitches and 2 white stitches. Move every other needle forward. Lay the red wool in the left hand slot of the cam box if it has to be moved towards the left, or vice-versa.

when moved across, the cam box only knits the needles which have been moved forward.



After pushing back all needles, move forward those which have not been knitted, insert the white wool in the other slot and push the cam box across.

You thus have knitted a two-color row of stitches in 2 steps. Repeat the same operations for the following rows moving the selected needles forward so as to obtain the pattern described: the **Checquer** pattern. You can thus easily knit Herringbone, Cross-stitch, Norwegian patterns, vertical stripes, etc.

Important note

For each row there must be as many cam box travels as there are different colors in the row.

The cam box can be moved easily without working, which permits of taking a yarn from the other side of the knitting. Needles are pushed forward more easily when using **selectors**. The **red** needle-selector permits of pushing 2 adjacent needles on one side and every other needle on the other side.

The **green** needle-selector permits of pushing every third needle on one side and all the needles on the other side.

You can thus easily select the needles correctly for making the various classical Fair-Isle patterns.

A FEW EASY-TO-KNIT



SCARF

Materials: 7 ozs 3-ply medium wool in white or pastel shade.

Needle setting:

K. 1, P. 1, K. 1, 5 empty grooves

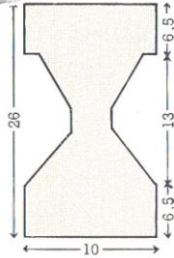
P. 1, K. 1, P. 1, 5 empty grooves

K. 1, P. 1, K. 1, 5 empty grooves, etc.

Cast-on, tension 1, put in the stretcher and the weights.

Knit 600 rows in this manner and cast off with a loose chain (See Casting off).

Knit fringes at each end of the scarf.



WOOLEN BRIEFS (Size: 7/8 years)

Materials: 3 1/2 ozs 3-ply wool in white.

Stitches: One-and-one rib and three-and-one rib (K. 3, P. 1).

Execution: Begin at top front. Cast on 80 stitches (one-and-one rib), tension 1 1/2; knit 10 rows, then set needles for three-and-one rib, tension no 3. Knit 70 rows, with 4 equally spaced increases on each side. At this point **cast off** 13 stitches on each edge, then 1 stitch at the beginning of each row until 22 stitches remain.

Knit these 22 stitches without shaping up to 140th row.

Increase 1 stitch at the beginning of each row until you have 88 stitches. Knit these 88 stitches without shaping up to the 270th row. Set the needles for one-and-one rib with tension 1 1/12, knit 10 rows and **cast off all stitches.**

To make up: Press the piece, sew the edges of the briefs. To make the borders for the legs, knit 2 ribbed strips on 12 stitches, tension no 1, 180 rows. Sew and press the seams.

GARMENTS FOR BEGINNERS

SLEEVELESS PULLOVER (Size: 15-16 years)

Materials: 8 1/2 — 9 ozs of wool.

Stitches: One-and-one rib — three-and-one rib.

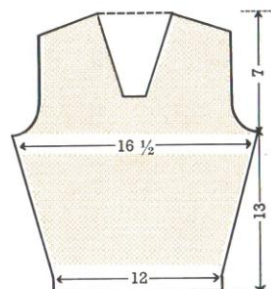
Front: Cast on 100 stitches (one-and-one rib), tension no 2. Knit 22 rows, then set needles for three-and-one rib (K. 3, P. 1), tension no 3. Knit 72 rows with 5 equally spaced increases on each side. Then on both sides cast off 9 stitches then 3 times 3 stitches and knit without shaping. 18 rows after beginning the armhole shaping, cast off 6 stitches in the middle of the work; leave one side in **holding position**, and knit the other, shaping **neck opening** by decreasing 1 stitch every other row, 10 times. 152 rows after commencing work, cast off the 24 remaining stitches in 3 steps. Pick up stitches on the other side kept in holding position and knit in the same way.

Back: Cast on 94 stitches in one-and-one rib, tension no 2. Knit 22 rows, then set the needles for three-and-one rib, tension no 3. Knit 72 rows with 5 equally spaced increases on each side. **Then decrease** 6 stitches + 3 stitches + 2 stitches + 1 stitch on each side and continue knitting without shaping until 152nd row. Shape shoulder by casting off 8 stitches three times on each side. Cast off **all** the remaining stitches.

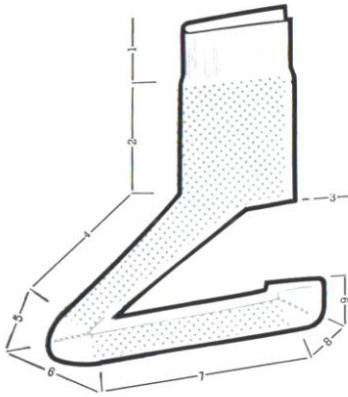
Neckband: Cast on 142 stitches in one-and-one rib, tension no 2, knit 10 rows and cast off.

Armhole borders: Cast on 130 stitches in one-and-one rib, tension no 2, knit 10 rows and cast off. Knit the other border in the same way.

This garment can also be knitted in small chequer pattern for instance.



Knitting ankle-socks (size 7 1/2)



Materials: 2 ozs medium 4-ply wool.

Leg and instep

1. — **Cast on** 60 stitches, tension no. 2, and knit 28 rows in one-and-one rib (Knit the last single ribbed row with tension set at 3).
2. — **Set** needles for three-and-one rib, tension no. 3, knit 35 rows.
3. — With 2 hand-knitting needles **pick-up** 15 stitches on each side of the knitting (i. e. 30 stitches).
4. — **30 stitches remain** on the machine corresponding to the instep. Knit 50 rows without shaping.

Toe

5. — **Set** all needles on the Knit bed, tension no. 3, knit 24 rows, putting one needle in holding position at each row on alternate sides until only 6 needles remain in knitting position. Ease the work out of the machine after each row by means of the selvedge weights.
6. — **Knit** 24 rows, moving one needle back into knitting position **at each row** and on alternate sides until you have 30 stitches again. Keep on easing work out of the machine by means of selvedge weights.

Sole

7. — **Knit** 45 rows without shaping to make the sole.

Heel

8. — Proceed as for knitting the toe, but knit 20 rows instead of 24 and keep 10 needles in knitting position instead of 6. When heel is completed knit 5 rows.

To make up

9. — **Remove** the work from the machine, picking up the 30 stitches of the heel on a knitting needle. Cast off these stitches together with the 30 stitches already picked up on two needles (Paragraph 3). Sew the sole and instep together.

CLEANING AND MAINTENANCE

- The needle beds and needles **must never be oiled** as the oil may soil the knitting.
- **Only oil** the 4 pins of the swivelling cams **from time to time**. Place the cam box **upside down** and put a drop of liquid paraffin **under the swivelling cams** so that they can be **raised** or **lowered** freely.
- **To ensure smoother travel of cam box** you can also apply a **thin coat** of "STYFLEX" on the **guide strips** of the cam box, as well as on the **top of needle butts**.
- **If you find it difficult to remove** the legs from the stand, rub a piece of paraffin on their tapered ends to prevent them from jamming.

CLEANING

Requires four operations:

- **Cleaning and checking all needles**
It is **essential** to wipe them **one by one** with a clean cloth **making sure** that each latch operates properly.
If a latch does not swivel freely, this shows it is twisted. You can straighten it easily with small tweezers.
— **You should never knit with defective needles** (stained, rusted, bent or forced).
- **Cleaning needle beds**
Remove from **the bottom of the grooves** all dust and plush which interfere with the free travel of needles (With the **needles bars tilted down beneath the machine**).
Using an ERKA brush **impregnated** with liquid paraffin or paraffin oil, clean the needle beds **one after the other, rubbing each groove**, so that the bristles **penetrate deeply** into the grooves.
Dirt will be detached and agglutinated by the oil.
Then **remove** the soiled oil by brushing in the direction of the grooves and cleaning the brush bristles often with a clean rag.
When you clean the second needle bed be sure to cover the clean bed with paper.
- **Cleaning painted metal parts.**
They must **also** be cleaned with an **oiled cloth** and then wiped with a **clean cloth** so as to remove **all traces of oil.**
- **Cleaning bright parts**
Use a special metal cleaning product.
Avoid using solvents (benzine, gasoline, etc.), water (soapy or plain) which always get into the interstices in the machine and this may rust the screws and metal parts.
After thoroughly cleaning the machine, **it is advisable** to knit some twenty rows on the whole length of the needle beds with **all the needles**, so as to **wipe off** the remaining traces of oil which might soil your future work.
NEVER clean the machine with **vegetable oils.**

A FEW PRACTICAL HINTS

Ready-made balls of wool must always be used from the center out.

To find the end of the yarn, slip your finger inside the ball and take out the first center turns.

Never try to knit directly from ready-made balls which unwind more or less evenly.

It is preferable to use our ERKA spool on which you wind the wool.

Use **good quality** wool to ensure **good work** and smooth running of the machine. Beware of natural untreated wools, which are rough, irregular and often **uneconomic**, in view of their high weight per unit of length. These very cheap wools are actually very expensive as they do not go very far.

To avoid dropping stitches when casting on, unwind about 2 yards of wool so that it does not become too tight. Your machine can handle a **knot in the wool** easily, but we recommend you to slow down passing it through the machine, then **push** it using the transfer tool so that it **does not jam the needles**.

To **avoid** a defect due to a knot, pull the knot out to the edge of the work, where it forms a large loop to which you attach a small selvedge weight.

A FEW PRACTICAL HINTS

The wool must never be held back during knitting, but only stretched at the beginning of each row by pulling it slightly so that the outer stitches are not shortened.

When using our ERKA feed spool you need not stretch the yarn at each row, as this is done automatically. Furthermore, the knitting is much more even.

Tension for ribbing must be **tighter** than for stocking stitch (See Important Notes, page 8).

To knit **interwoven** stripes of stocking stitch and ribs of even tightness, the Purl bed knob must be set at a **higher** tension than that of the Knit bed (stocking stitch).

Before commencing work, always knit a test piece of 40 stitches on 40 rows with the wool and tension selected. The **measurement** of this test piece will give you the width of 40 stitches and length of 40 rows knitted on the machine. These dimensions will enable you to **convert** measurements of the garment to be knitted into stitches and rows.

To obtain perfect edges and avoid dropping stitches, do not push the cam box too far from the selvages and add selvedge weights, if necessary.

If you have to stop your work put the **dust cover** on the machine. **Clean** the knitting machine at **regular intervals**, as the cam box is **difficult to handle** when the machine is **dusty** or contains fluff.

Cam box handling

It must **never** be moved quickly. If you move it slowly and **steadily** across the beds you obtain a **finer knitting**, as stitches have sufficient time to be formed normally and you **avoid dropped stitches**.

When working on **180 stitches** you must never knit more than 20 rows per minute (**at this speed a 300 row pullover can be knitted in a quarter of an hour**)

When you put the machine away, be sure that all accessories are in the box provided for this purpose. Never leave the weights in the bottom of the case or on the needle beds as they might seriously damage the machine. The cam box with handle knobs removed must be placed on the machine with the four cam knobs raised.

If you are not going to use the machine for some time, remove all the needles and wrap them in a cloth soaked with paraffin oil or Styflex.

When your work reaches the floor, wind the knitting around the stretcher secure it with 2 clothes pegs, and attach the weights again.

Never let children touch the machine, nor your friends if they have not been thoroughly trained;

Like most household appliances, a knitting machine **should not be lent to others**.

To make up. When all the pieces required for the garment are knitted, lay them **very flat** on the ironing board, pinning out the edges, to **prevent them from curling**. Iron them under a damp cloth **pressing especially on the edges**. Tack the pieces together, then machine-stitch the seams so as to give the work a **finished appearance** which cannot be achieved by hand sewing, (**use the same tension as for sewing an ordinary fabric**). Then flatten out all seams, stitch the buttonholes, if any, and sew on the buttons.

For fisherman rib or pearl rib, only the edges to be machined should be pressed.

TECHNICIAN'S ADVICE

- **The cam box does not move freely**
 - a) You are knitting with wool which is **too coarse** for the tension selected.
 - b) The machine is dirty, choked up and **dusty**. Clean it thoroughly (**See page 32, Cleaning and Maintenance**)
 - c) You are knitting with **bad quality wool**, too rough and stiff, for instance natural untreated wool.
In all cases, apply a very thin coat of STYFLEX on the top of the needle butts, which will facilitate sliding of swivelling cams.
 - d) The slider rails of the cam box are very dirty; clean them.
 - e) The guide strips of the cam box are not properly adjusted. Ask your local agent to re-set them.

- **The cam box is jammed**
 - 1. — One or several stitches remain **on the tip** of the hooks **preventing** the needles from moving (add weights).
 - 2. — The tension knob has become loose and you are knitting too tightly.
 - 3. — The butt of the needle interferes with the movement of a cam. Move the needle.
Above all, no force or blows must be used. Raise the cam knobs so as to put them out of action.
Set the 2 tension knobs on 0 and release the cam box by pushing it slightly towards the right or left.

- **The knitting is not fed down**, the stitches remain on the needle latches.
 - a) the number of weights is **inadequate** for the knitted width.
 - b) the work is **too long**, the weights rest on the floor (see Hints, page 35).
 - c) You are knitting **too tightly** for the size of the wool, a tension knob may have become **loose**.

- **Dropped stitches within the work**
 - a) the main cause is that the cam box is **moved too quickly**. **You must handle it slowly so as to knit 20 rows per minute at most.**
 - b) If the stitch is **always dropped** by the same needle, change the needle, the latch is bent. You can easily straighten it with small tweezers.
 - c) You are knitting freshly unravelled crimped wool.

- **Dropped stitches on edges**
 - Wool is not properly stretched at the selvages (See Hints, page 34).
 - b) Knitting is not **fed down** properly at selvages. Attach the 2 small selvedge weights to the edges of the work.
 - c) The selvedge needles are defective. Change them.

- **Irregular tensioning**, defects appear in the knitting. The wool is fed unevenly, it does **not unwind properly**, thus causing a braking effect during knitting.
You will do away with this drawback by using the ERKA spool.

- **Striping effect on stocking stitch**: every second row is tighter than the other.
 - a) Shift the cam box by half a turn and knit with the other set of cams.
 - b) The guide strips of the cam box are not properly adjusted. See your local agent.

