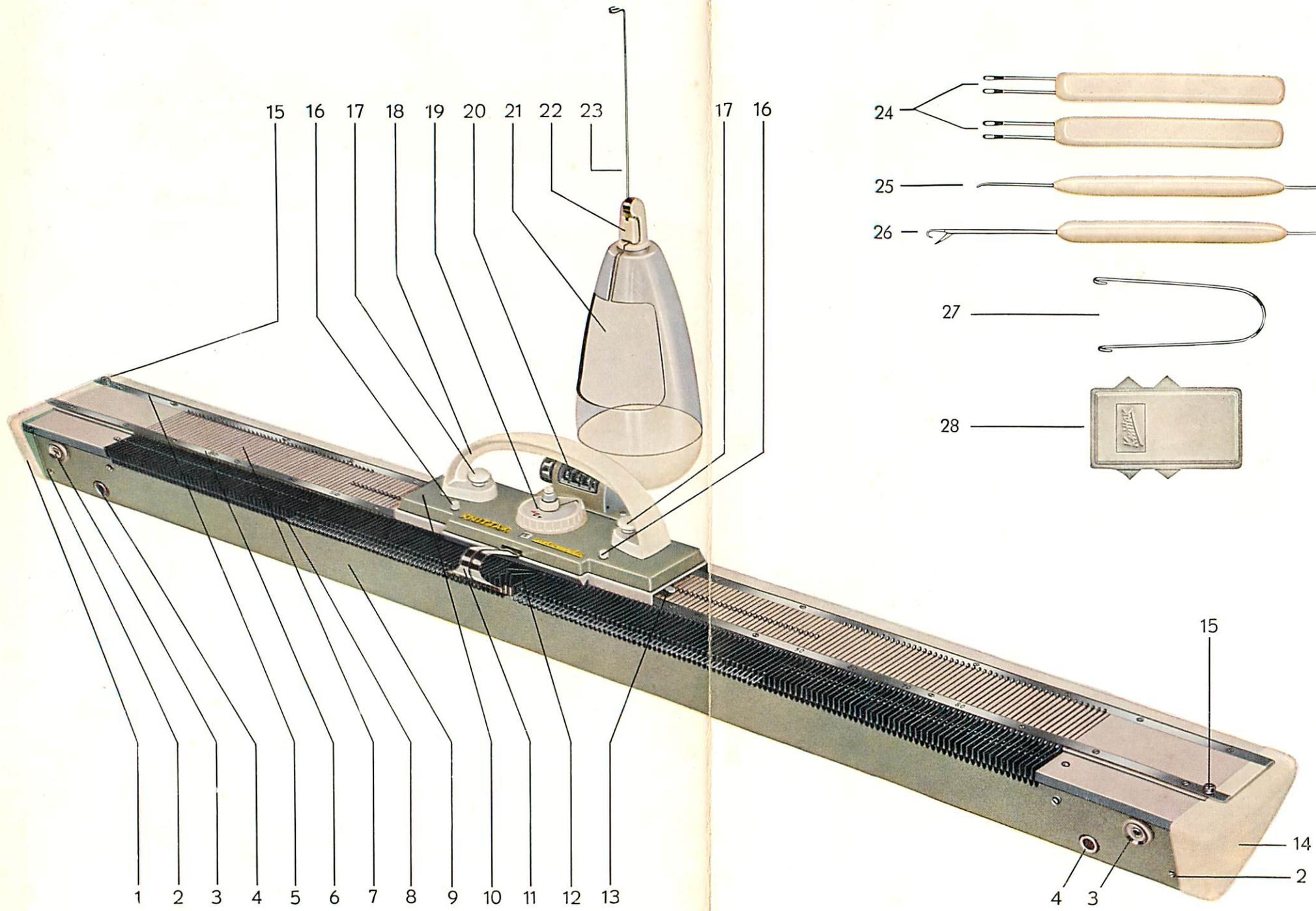


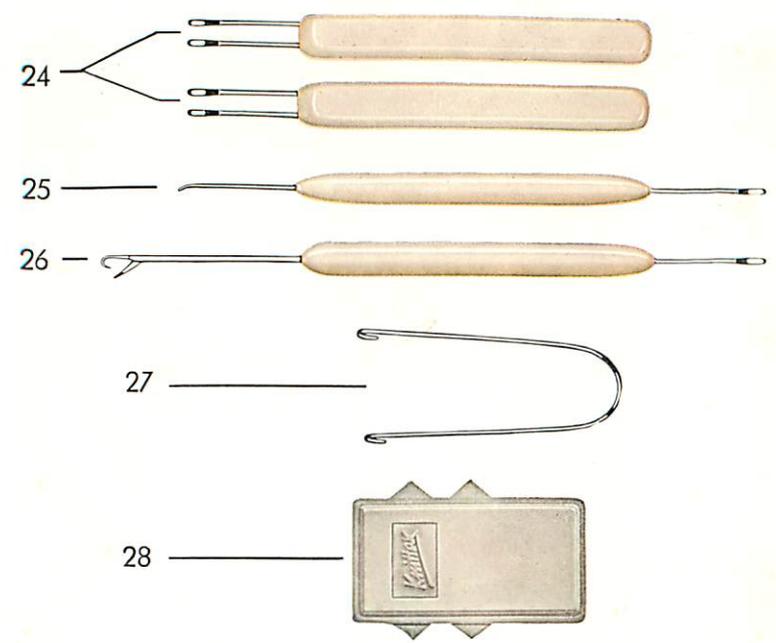


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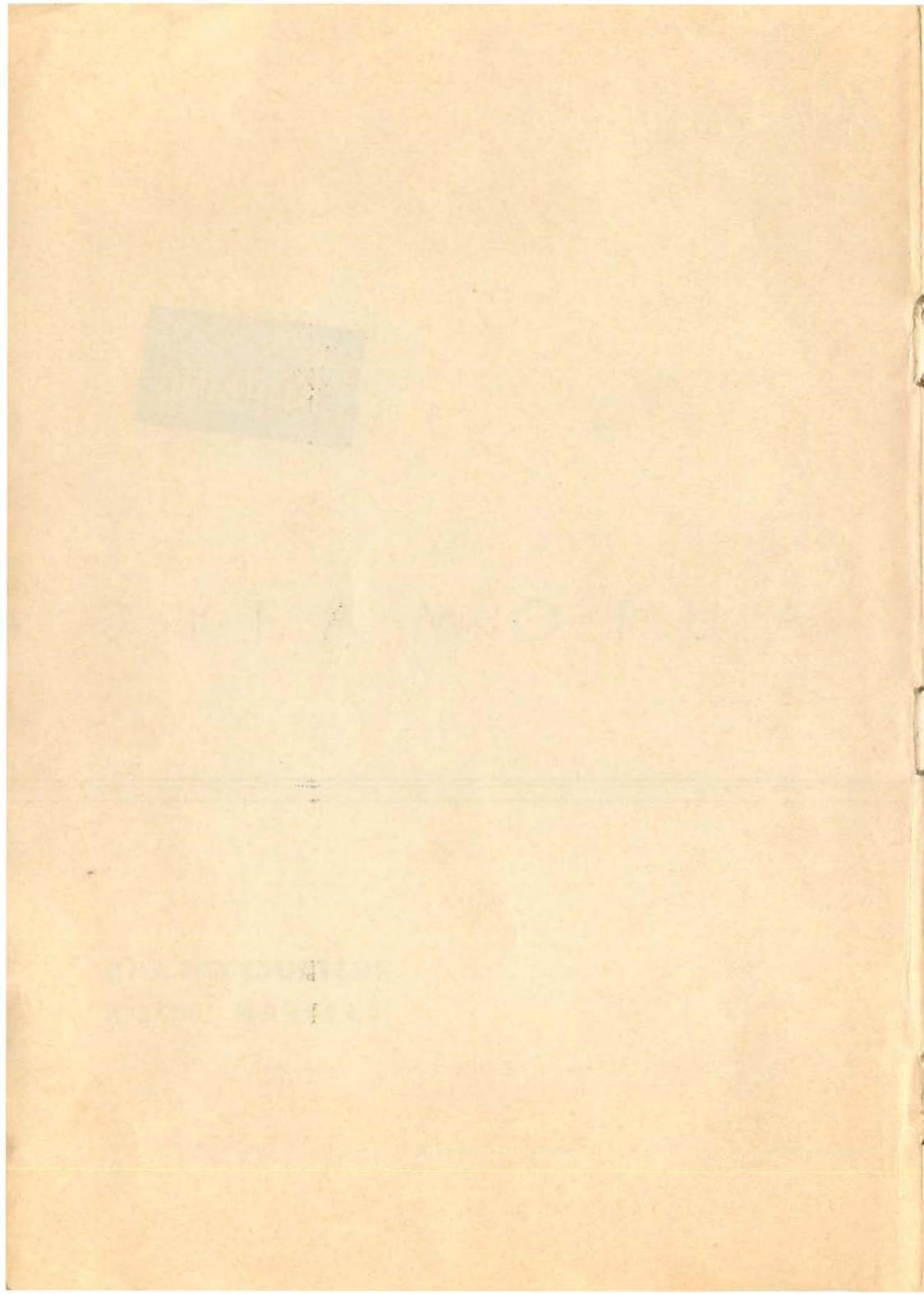


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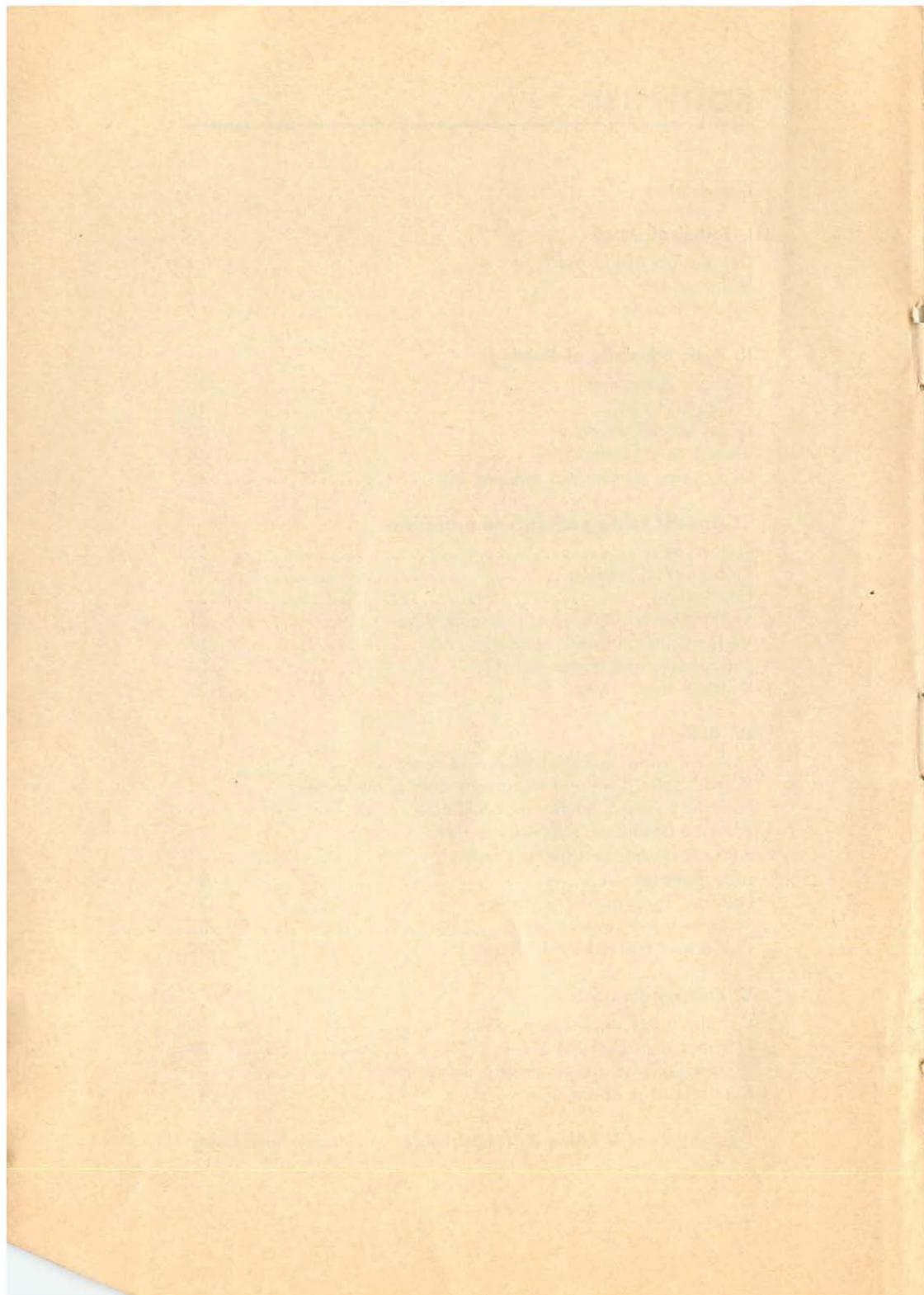
**INSTRUCTION AND  
PATTERN BOOK**



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## INTRODUCTION

The KNITKING AUTOMATIC is the latest model in the KNITKING line. The new design is the answer to the special demands of experienced knitters, and yet the KNITKING Automatic is just as simple to operate as the older model KNITKINGs that sold close to one million machines here and abroad over the past few years. Once you have mastered the basics of this manual, you, too, will become one of the million enthusiastic KNITKING knitters all over the world.

The KNITKING Automatic, just as the other KNITKING knitters, operates with latch needles used in industrial machines. Special features of the new model include the automatic stitch selector and needle retractors. The automatic stitch selector will give you better results with the special Holding Position, and enable you to knit patterns more easily and with greater speed than ever before, because several steps have been combined into one single movement.

The KNITKING Automatic will knit almost any yarn on the market: heavy and light weight, machine-made and home-spun wool and cotton yarns, pure silk, rayon, nylon, etc. Just as in handknitting, the yarn should be wound into a ball before you start your knitting. A center pull ball is preferable.

Garments knitted on the KNITKING Automatic look just like the best handknitting. Each part is individually knitted to shape, may be unravelled as in a handknitted garment, and the yarn used over again. Moreover, any work started on the KNITKING Automatic can be put on to hand needles, and vice versa: the machine will continue any work started on hand needles.

Read this booklet carefully. Section I explains the construction and stitch formation. Section II outlines the fundamentals of handknitting machines. First, familiarize yourself with the basic steps, and only then continue studying the other sections.

Pattern formation will be of particular interest to you since now you have the automatic stitch selector.

The final section gives you details on producing a variety of garments. Once you have mastered your knitter, which should not take you too long, various pattern books, brochures and magazines will provide you with additional ideas.

# I. TECHNICAL DETAILS

## Description of the Machine

(Please refer to illustration on inside back cover)

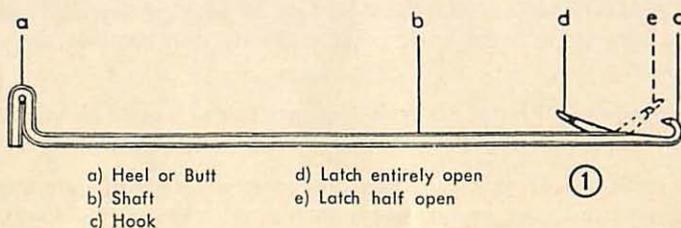
The **needle bed** (7) is made of a number of highly resistant plates. These plates and the two rails (5 and 6) are fastened to the base, the chassis, with screws and nuts. The needle bed has grooves for the latch needles and sinkers. Below the upper rail (6), hereinafter called numbered rail, there is a special type brake spring on the latch needles which serves to sufficiently brake the movement of the needles and prevent them from slipping out of position while knitting.

The graduation of the numbered rail facilitates the counting of the needles (number of needles = number of stitches) when casting on, increasing, decreasing, and following patterns. The graduation starts at the center of the machine to either side, and every fifth needle is marked.

There is a groove near the front edge of the needle bed (7), along which runs a tempered steel wire. The sinkers (12) rest on this wire, and it is a supporting shaft enabling the sinkers to move up and down.

On the right and left of the front plate, there are two casting on discs (3). When starting, fasten the yarn to either one of these by winding it around between the rubber and the metal discs.

The **latch needles** (8) are made of special steel and are extremely strong in spite of their slender appearance. However, should one break due to unusual abuse,



spare needles are included free of charge with the machine. Page 8 shows how the needles are replaced. The **sinkers** (12) operate in conjunction with the latch needles in order to hold down the stitches and feed the finished knitting out of the machine. While the needles move horizontally in their grooves, the sinkers pivot vertically (fig. 2). This results in a constant downward tension on the sinkers by springs hidden under the front plate (9). The **slide** (10) which is moved back and forth along the needle bed on the two rails while knitting, is equipped with a

mechanism controlling the operation of the needles and movement of the sinkers. The mechanism which operates the needles is located between the two runners of the slide. The movable sinker cam (33), which moves the sinkers, is on the front edge of the slide.

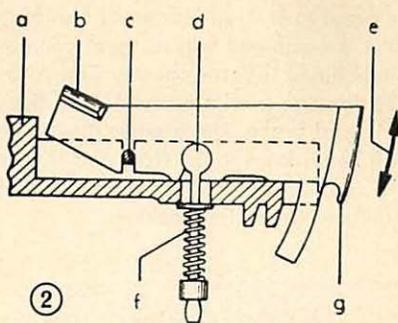


Fig. 4 shows the inside of the slide. The path of the needle heels is marked by a black line when the slide is moved from right to left, and by a dotted line when the slide is moved in the opposite direction.

In order to move the slide along the machine without operating the needles, the control mechanism operates between two guide strips (38). In this way, when the heels of the needles are outside the two guide strips, or are resting against the lower or upper rail, the cam-box can slide over the needles without moving them. (When the needle heels are pushed right up to the upper rail, the needles are in holding position. When pushed right down to the lower rail, they are in non-working position, fig. 8).

a) Needle bed, b) Sinker head, c) Sinker supporting shaft, d) Sinker pivot, e) Direction of travel, f) Sinker spring assembly, g) Sinker notch

The two control knobs (17) under the slide handle, are for raising the control cams either separately or together, so that they cease moving the needle heels. Consequently, the needles do not move when the slide is used.

**The Automatic Stitch Selector** (Fig. 5) will automatically push certain needles into holding position. While moving the slide and simultaneously pressing on the pattern knob (a in fig. 5), the needles are shifted into the required position. If you wish these needles to go back into knitting position, you must press the outer needle retractor knob (16). When pressed down and toward the handle, the knob will click into position; by slightly pressing it in the opposite direction, it will be released.

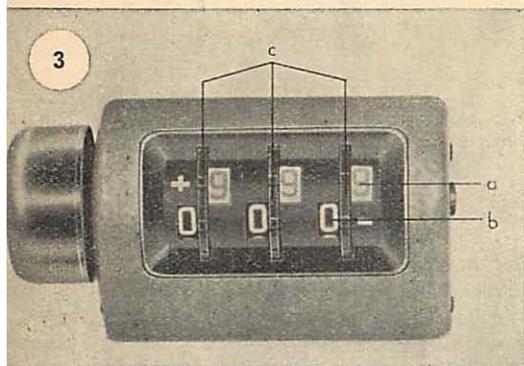
A detailed description of the automatic stitch selector is in section IV (page 27).

**The Tension Dial** (Fig. 5) operates the needle sinkers. By turning the outer ring of the dial (e) either clockwise or counter-clockwise, you set the needle sinkers either higher or lower, and produce smaller or larger stitches. The tension dial clicks into different positions. The little window (d) on the dial shows the figures 1, 1—5, 2, 2—5, etc., up to 10 (1 = small stitches, 10 = large stitches).

**The gate cam release lever** (13) is on the right hand side of the slide. Certain patterns can be obtained by temporarily putting one of the spring gates out of action.\*) For that purpose, push the lever toward the needle heels.

\*) Particularly in conjunction with the KNITTING Ribbing Attachment.

In order to knit with the **wool feeder** (11), the yarn tension device is required (22). This is combined with a wool container (21) which, when used, is placed on a stud behind the row counter. The yarn runs from the center of the wool container (21) through a wire eyelet (23) to the wool feeder. The wire eyelet is coupled to a thread brake. The greater the tension of the thread, the more the wire eyelet will bend down to the front and thus loosen the thread brake. If you do not need the wool feeder, pull it out from its holder in the slide, and also remove the wool container from the machine.



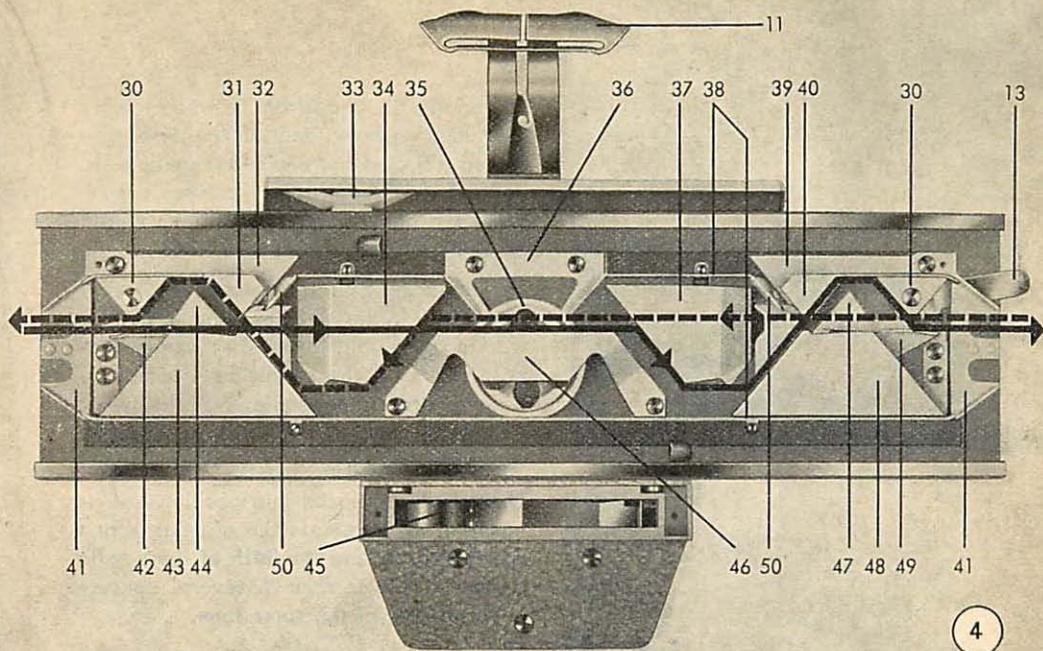
The **row counter** (20) shows how many rows you have knitted (fig. 3). The upper scale (a), marked with +, counts the rows. At the lower scale (b), marked with -, you can set the desired number of rows, then knit until the scale shows 000, when a bell will ring. The zero position, or the number of rows, can be set by turning upward the adjusting wheels on the right (c) of the check windows of the figures.

Standard accessories supplied with the machine are: A rib holding device (27); two transfer tools [one combined with a latch needle tool (26), and the other combined with a work hook (25)]; two cable tools (24); and a needle shifter (28). These are important implements, and their use will be explained when dealing with the operations concerned.

## Maintenance

The KNITKING must be kept absolutely clean! Do not leave it uncovered and exposed to dust for any length of time. Also, do not forget to clean it with a brush after each use.

The two slide rails, the needle heels, and the sinker heads require a little oil from time to time. **Only good quality, thin sewing machine oil should be used.** Use a small brush and lightly coat the parts. Never lubricate so much that the oil is visible. Excess oil mixed with dust and wool fibers will form a paste, clog the machine, and soil the garment. If a general cleaning is required, it should be done by one of our agents. **Use petrol or gasoline, no other cleaning agents should be used for your machine.**



4

**Specification of parts in fig. 4**

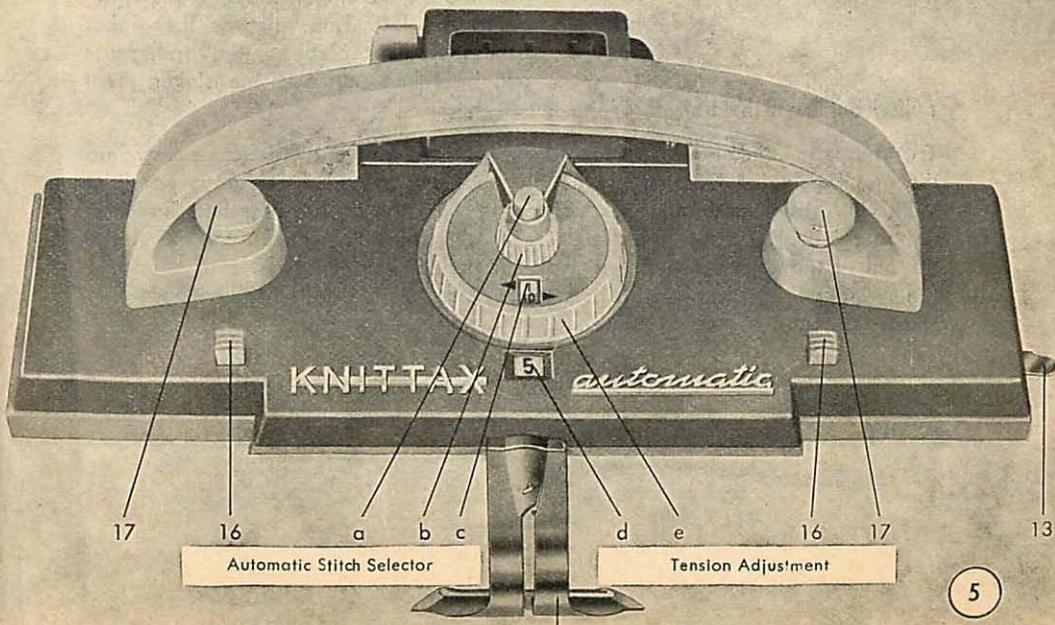
- 11 Wool feeder
- 13 Gate cam release lever
- 30 Fixed cam
- 31 Retractor cam, left
- 32 Retractor spring, left
- 33 Cam moving sinkers
- 34 Needle sinker, left

- 35 Pattern wheel
- 36 Radial Deflector
- 37 Needle sinker, right
- 38 Guide strips for control mechanism
- 39 Retractor spring, right
- 40 Retractor cam, right
- 41 Needle deflectors
- 42 Anti-skid spring, left

- 43 Control cam, left
- 44 Spring gate, left
- 45 Row counter mechanism
- 46 Guide spring
- 47 Spring gate, right
- 48 Control cam, right
- 49 Anti-skid spring, right
- 50 Secondary guide spring, right and left

**Specification of parts in fig. 5**

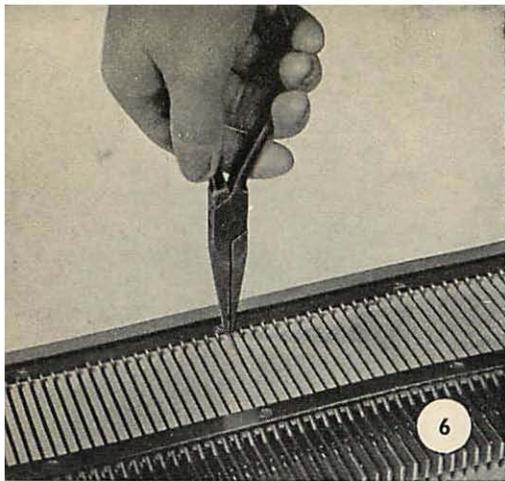
- a) Pattern knob
- b) Pattern dial
- c) Check window
- d) Check window
- e) Tension dial
- 16 Retractor knobs
- 17 Control knobs



Automatic Stitch Selector

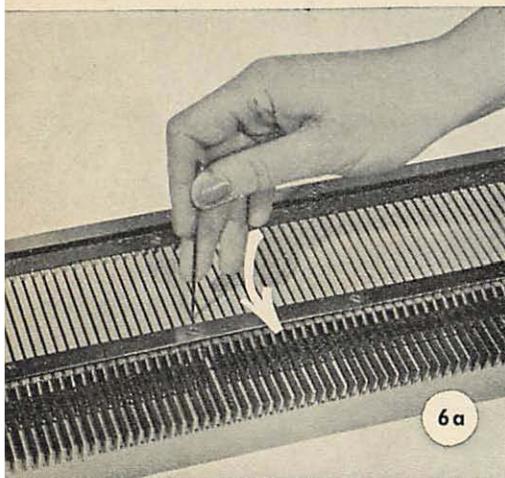
Tension Adjustment

5



To remove the slide from the machine for cleaning, unscrew one of the two stop screws (15) at either end of the guide rails. Pull off the slide from the needle bed. This is a very simple operation. **Please do not use heavy household tools.**

The replacing of latch needles (8) is very simple. Push the needle heels into non-working position; then, with small, flat-nose pliers lift the needle heel out of its groove, draw the needle over the lower guide rail and, pulling backward, easily remove it (fig. 6).



The needle is placed into position just as easily in the reverse order (fig. 6a). **When doing this, be sure the latch of the needle is closed.** Never remove several consecutive needles **at the same time.**

To exchange a sinker (12), remove the screws (2) recessed on the right and left of the front plate so that the front panel can be taken off. Now the sinker mechanism is exposed. Hold the sinker pivot between the thumb and forefinger, and push it upwards against the spring until the sinker has been lifted about half an inch. Using your free hand, exert a slight sideways pressure on the sinker either to the right, or to the left. This releases the sinker from the sinker pivot so that both parts can be taken out and the sinker pivot

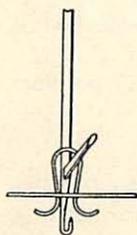
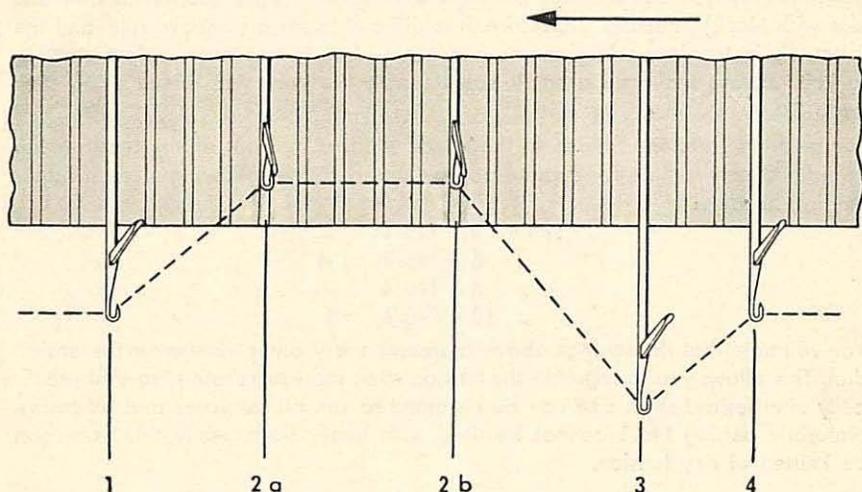
pulled out from the bottom of the needle bed.

To replace the sinker (in reverse order), insert the sinker pivot from below into the opening in the front of the needle bed, and press up as far as possible. With your other hand, guide each sinker into its slot, at the same time inserting the round head of the sinker pivot sideways into the round opening at the bottom of the spring. The sinker, which is pulled downwards by the tension of the spring, will slide down with its smaller recess resting on the sinker supporting shaft.

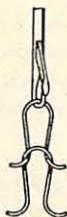
## Stitch formation

After bringing a number of needles into the knitting position, and moving the slide from right or left over the needles, the needle positions will be as shown in fig. 7. From this you will see the individual phases of the stitch formation. The back and forth movement of the slide makes the needles go up and down rapidly, in succession, as the cycle described below is repeated by all the needles consecutively across the full width of the garment.

Fig. 7



1. The previous stitch is underneath the open latch, and the yarn which is to be knitted is placed over the needle which is now in working position.



- 2a) The needle has moved downward and pulled the thread through the shaft of the previous row. A new loop has been formed, and the needle latch has closed.  
2b) Here the needle remains in the same position as in step 2a, but the sinkers have moved down, and are now holding down the newly formed stitch.



3. The needle has moved up beyond the working position. The latch has opened, and the newly-formed stitch slides on to the shaft of the needle.



4. The needle has been pulled back into working position, and the new stitch rests beneath the open latch as in step 1.

## II. BASIC PRINCIPLES OF KNITTING

### Tension Adjustment

When knitting with handknitting needles, the size of the stitches depends mainly on the thickness of the needles and the yarn. Your individual technique also has a distinct effect on the tension of the stitches.

Consequently, you can produce the same knitting with No. 2 needles as someone else with No. 2½ needles. Therefore, it is difficult to set a standard rule, and the following instructions will give you a general idea. **In any case, before starting to knit, always make up a small sample with the yarn you intend using** (See page 38).

For medium yarn, the figures in the check window in front of the tension dial (d in fig. 5) on the slide correspond approximately to the following sizes of hand-knitting needles:

setting 4 = No. 1	12
" 6 = No. 2	11
" 8 = No. 4	9
" 10 = No. 6	7

You will note that the settings above represent every other number on the tension dial. This allows you to regulate the tension even more accurately, so that practically any desired stitch size can be obtained to suit all purposes and all tastes. Naturally, setting No. 1 cannot be used with heavy yarn, while fine yarn can be knitted at any tension.

### Preparing to knit

Place your machine on the bare surface of any table. The sponge rubber feet on the chassis guarantee a maximum degree of firmness.

As stated before, the latch needles must be pre-set in certain, special positions in accordance with the functions they have to perform (fig. 8).

### Non-Working Position

The needle heels rest against the lower rails and are not operated by the slide mechanism when the cam-box is moved back and forth, i. e. they do not knit.

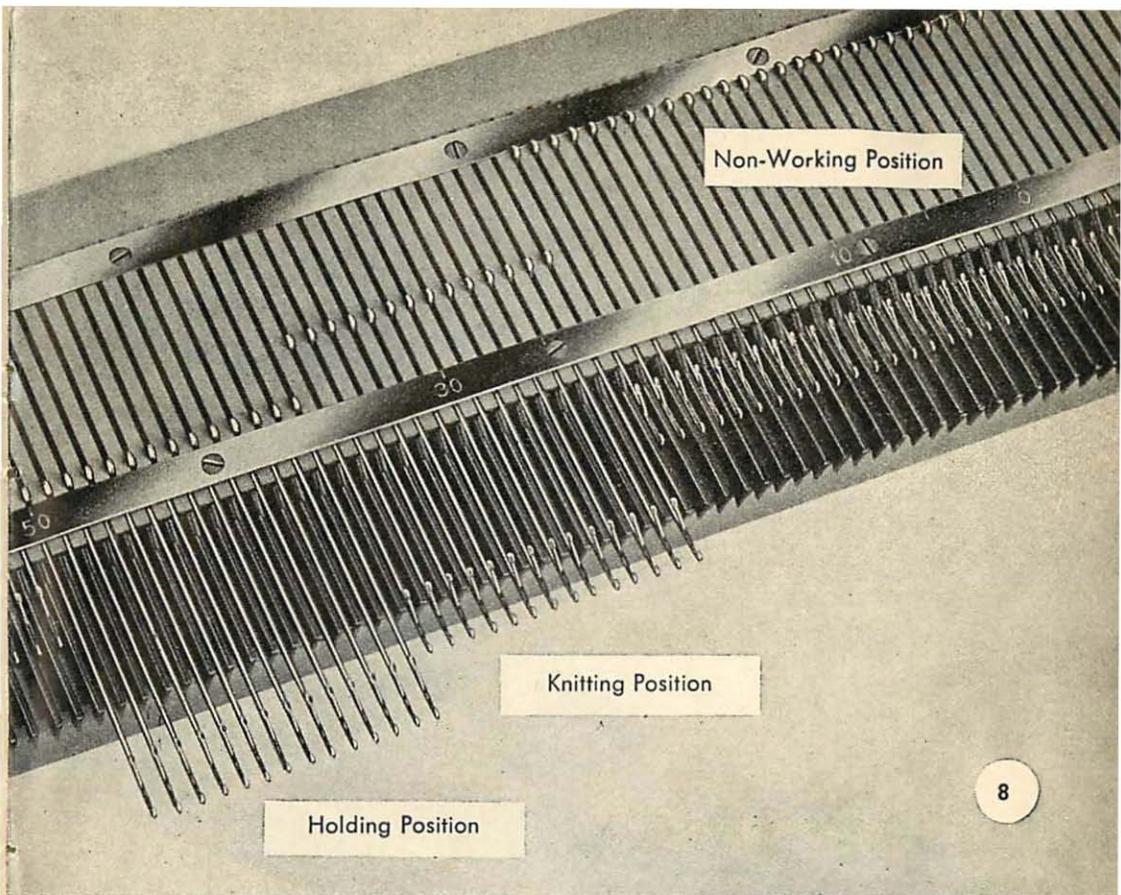
### Holding Position

The needle heels rest against the upper rail (numbered gauge). This position is required for various special knitting effects which are described later.

### Knitting Position

The needle heels are evenly aligned in the upper half of the space between the two slide rails.

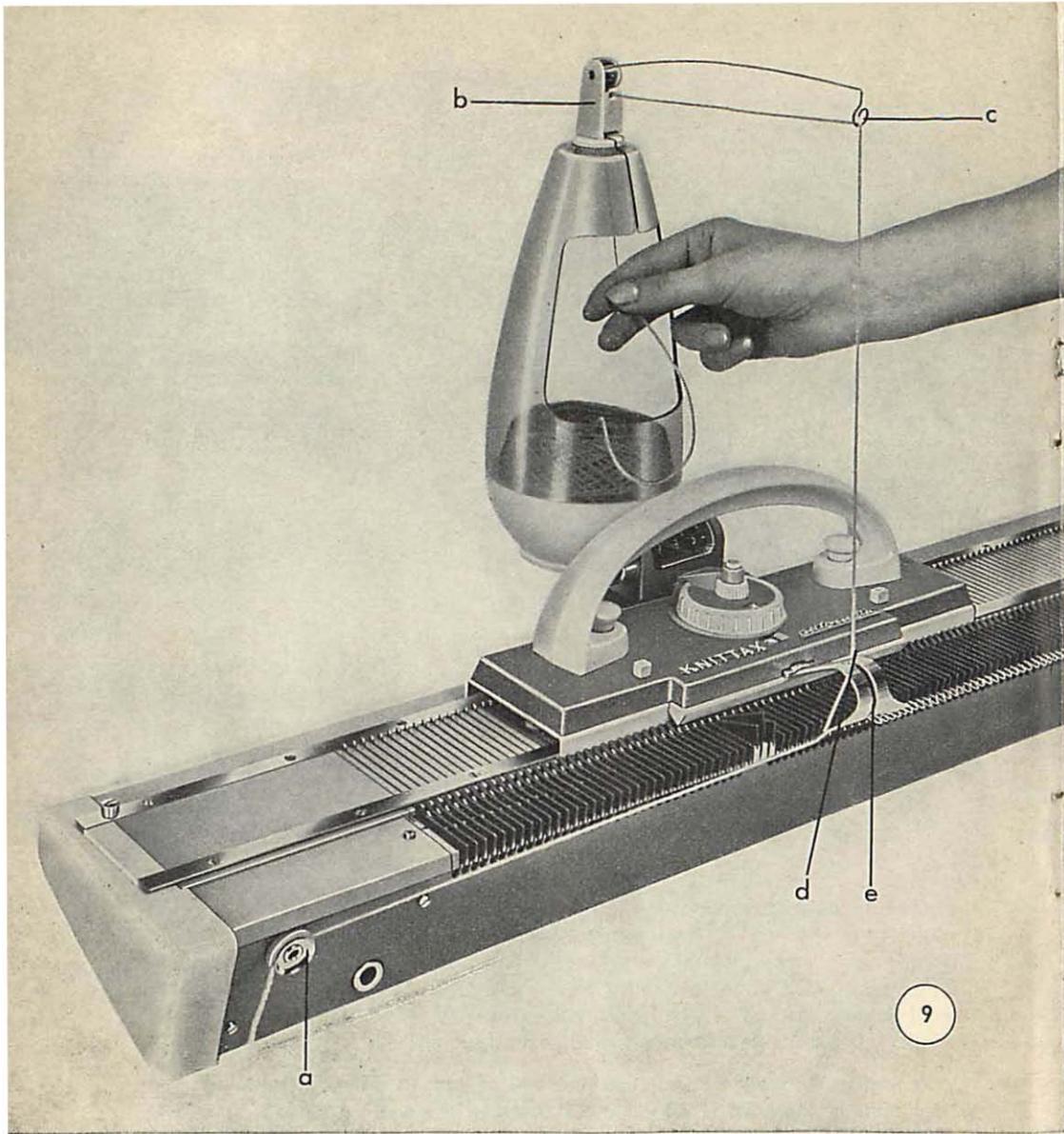
In order to bring the needles into knitting position at the starting-point, push the needle heels from the non-working position up to approximately half way between the two rails. By moving the slide once, the needles will automatically



assume the correct working position. Whether you should use the needles in the center or at the sides of the machine, depends on the shape of your knitting. In general, you work in the middle of the machine, counting the needles evenly on either side of the center marked 0 on the upper rail. When knitting **without the wool feeder**, the ball of yarn which you have wound by hand or with the wool winder\*) is placed in a smooth container on the floor.

When **using the wool feeder**, place the ball of yarn in the wool container. The beginning of the yarn is wound around one of the two casting on discs (a in fig. 9). Depending on the type of casting on used, the yarn is passed through the thread tension device (b) either immediately or after the formation of the first row of stitches. By slightly bending the antenna of the wool feeder, the yarn is introduced sideways into the shaft of the yarn tension device, and into the wire eyelet (c), then further down through both eyes of the wool feeder (d and e, fig. 9a).

\*) See special leaflet showing wool winder.

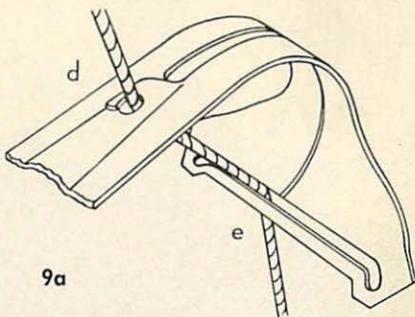


## Open edge casting on

### With wool feeder

After fixing the yarn on one of the casting on discs and inserting it into the yarn tension device and wool feeder, the slide is pushed toward the needles in knitting position until the first needle begins to move. At this moment, the yarn must be tightened by pulling it back. The correct tension is recognized by the

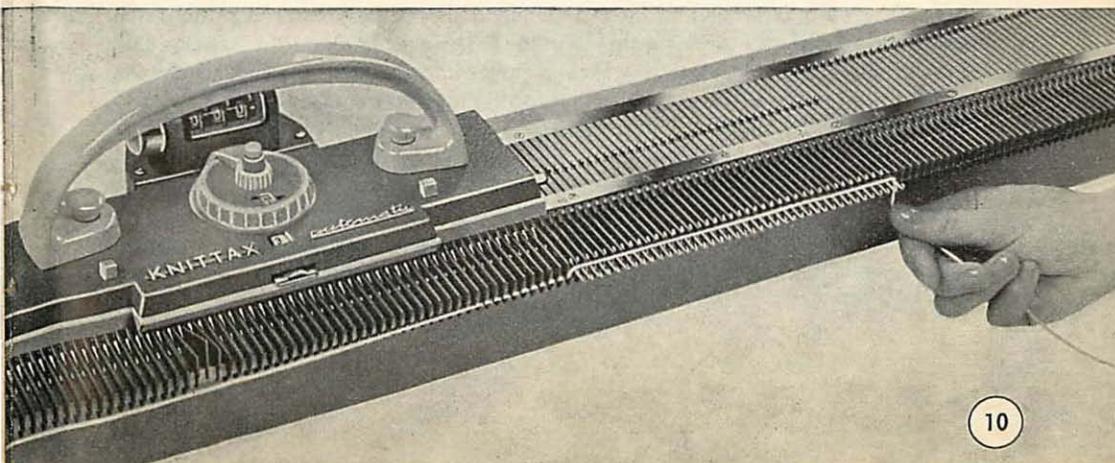
position of the antenna on the wool container. It must be bent forward as far as possible. Then, move the slide across the needles. In this way, the first row of stitches, known as an open edge, is made. This means that the knitting (when later taken off the machine) starts with open stitches. For the first row of open edge casting on, it is recommended to set the tension at No. 10. This prevents the open row of stitches from running too easily. Continue knitting with the setting required for the yarn and the pattern being used, by moving the slide back and forth until the desired number of rows is obtained.

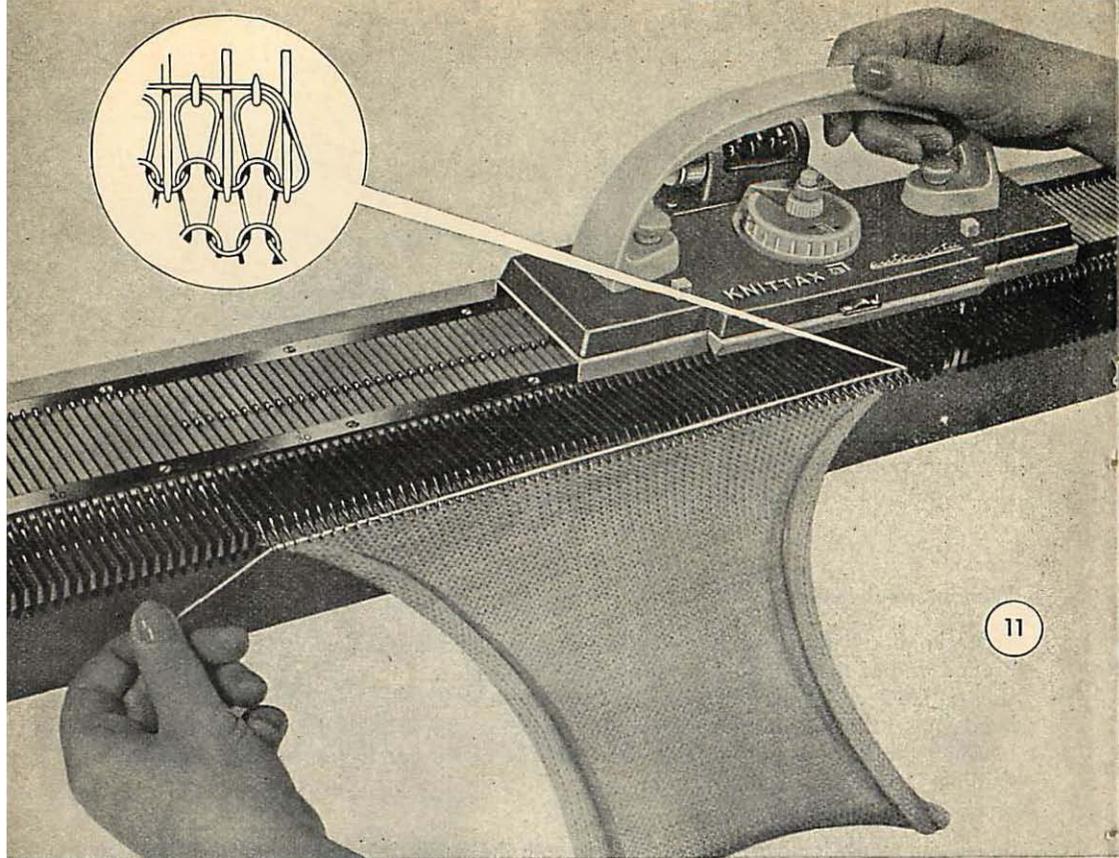


### Without wool feeder

When knitting without the wool feeder, you also wind the beginning of the yarn around one of the casting on discs on the front plate. The yarn leading to the ball on the floor is now laid over the protruding needles (fig. 10). While your free hand moves the slide across the needles, the other hand holds the yarn loosely between the fingers. In this way, the first row of stitches is formed. Continue knitting by placing the yarn over the needles in the opposite direction and operating the slide again, etc.

Be sure the yarn is always passed underneath the outer sinker hook before it is laid across the needles (fig. 11). The yarn will automatically lie underneath the sinker hook, if it is held properly while knitting. The yarn should be held close up and parallel to the front edge of the needle bed when looked at from above, and at a slight angle when seen from the front. If the slide feels unduly stiff or hard to work, this is either because the yarn is not slipping lightly enough between the fingers, or is due to the incorrect tension chosen for the thickness of the yarn.



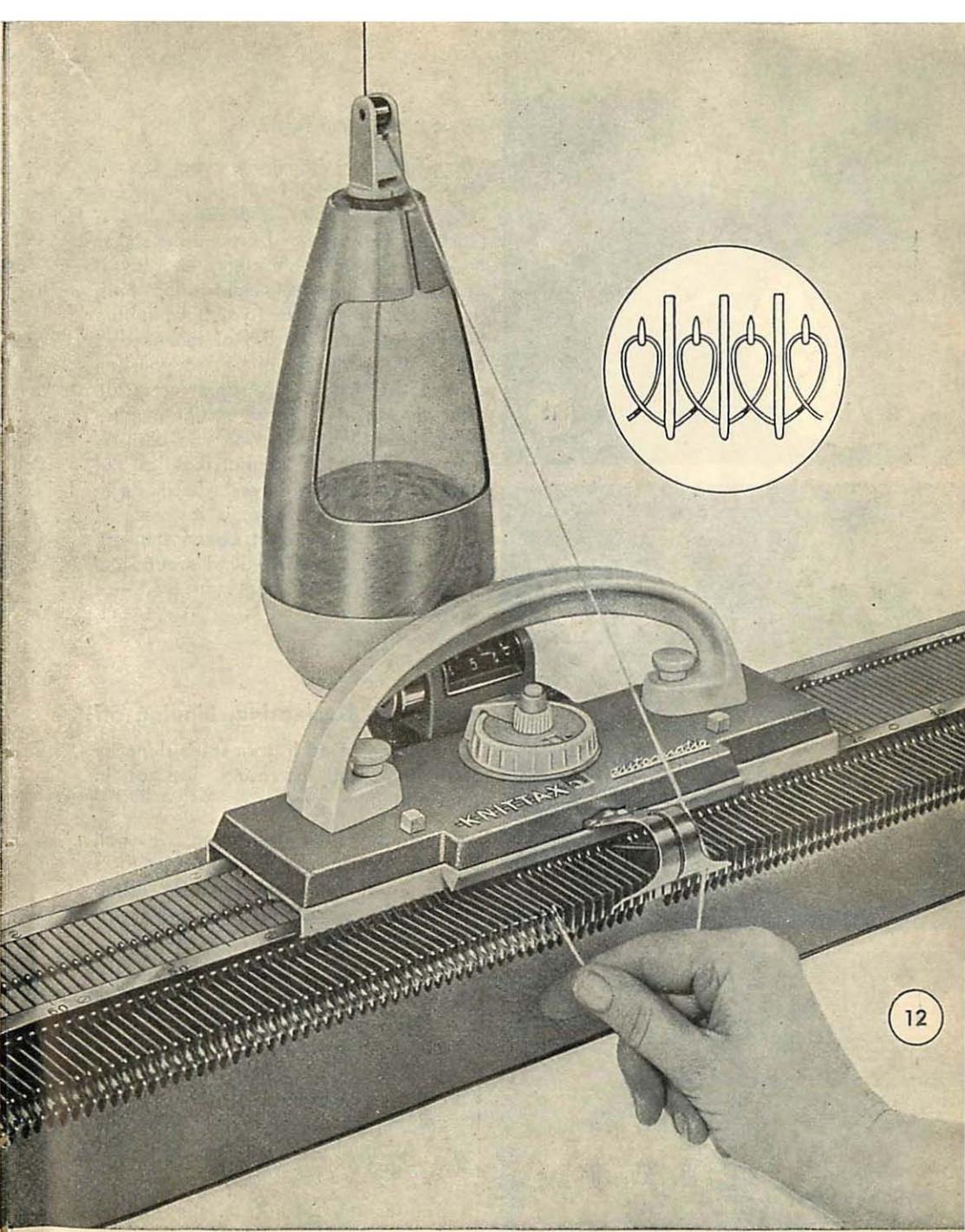


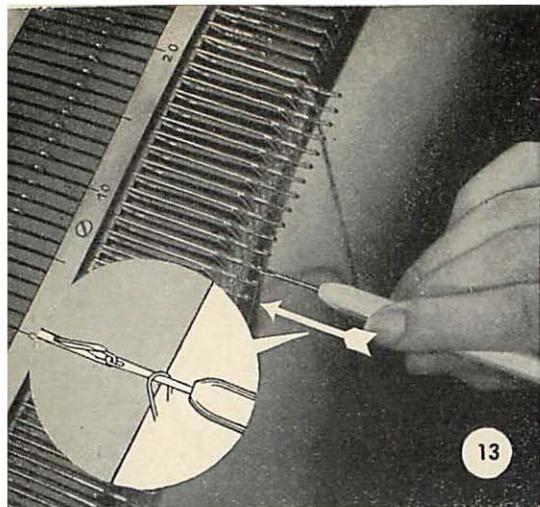
## Closed edge casting on

### With wool feeder

The majority of knitting is commenced with this type of edge (fig. 12).

Contrary to the open edge casting on, the yarn is fastened to the casting on disc opposite the slide. Thus, if the yarn is to be fastened on the left, the slide must be on the right. The needles are in working position, and the latches half open. The yarn is wound around the individual needles and sinker hooks in counter-clockwise direction, starting with the first sinker hook on the extreme left, around the first needle, under the second sinker hook, around the second needle, and so on. The yarn must not be pulled too tightly, just enough for the sinkers to be lifted slightly. When the yarn has been wound around all the needles and sinker hooks, the slide is pushed up to the needles in knitting position until the first needle begins to move, in the same manner as described for the open edge casting on (page 12). The yarn is then tightened (see fig. 9) by pulling it through the shaft of the thread tension device, the thread eyelet, and the eye of the wool feeder, until the antenna is bent forward as far as possible. Then the first row can be knitted.

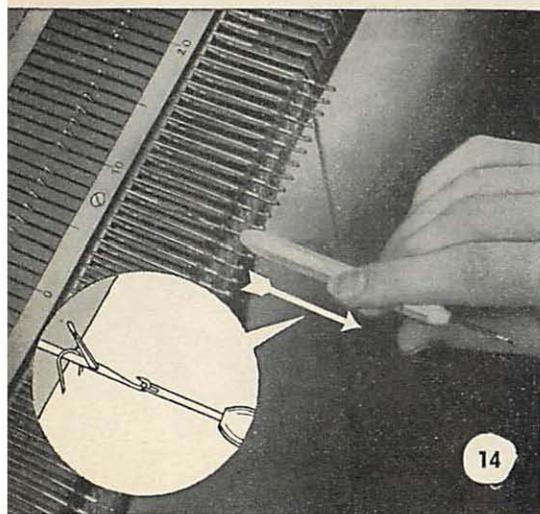




13

### Without the wool feeder

When knitting without the wool feeder, after having cast on by looping the yarn around the needles and sinker hooks, place the yarn by hand around the sinker hook on the extreme right, and lay it across the needles from right to left. Push the slide to the left, and you have knitted the first row. The latches of the needles are now completely open, and you can continue knitting rows in rapid succession after placing the yarn across the needles every time. Of course, you can cast on from the right, too. In that case, all the steps outlined above have to be made in reverse. That is, the yarn is fastened on the right, the slide must be on the left, and the yarn must be wound around the needles and sinker hooks in clockwise direction.



14

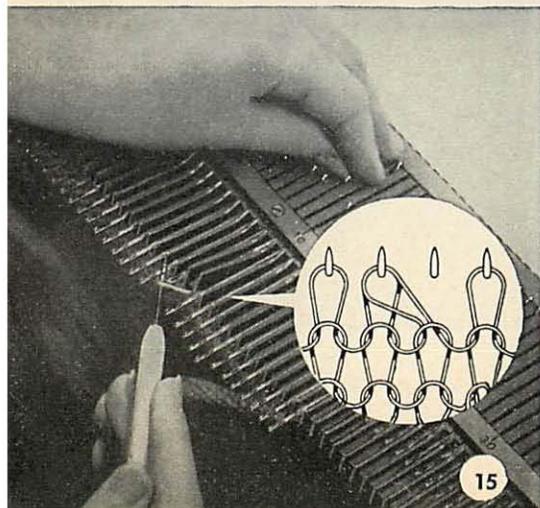
### Increasing, Decreasing, Binding off

The shaping of each garment is done by decreasing and increasing, just as in handknitting.

For increasing and decreasing, we shall first describe the use of the transfer tools (25/26). These tools are used for lifting stitches off the latch needles and transferring them on to others, as required.

In order to take a stitch off the needle, the transfer tool is inserted with its eye in the hook of the latch needle. The latch needle and the transfer tool have to line up (fig. 13). The transfer tool, together with the latch needle, is then pushed toward the needle bed. This makes the latch close, and the stitch slides on to the transfer tool.

To transfer the stitch from the tool to another needle, insert the eye in the hook



15

16

of the latch needle. Pull the transfer tool away from the needle bed, so that the stitch will slide from the transfer tool on to the latch needle (fig. 14).

When transferring a stitch on to an adjacent needle which already has a stitch on it, the latch should be closed by pushing the needle down slightly by its heel. This enables you to slip the stitch from the transfer tool easily over the closed latch (fig. 15). Then the needle must be brought back into working position.

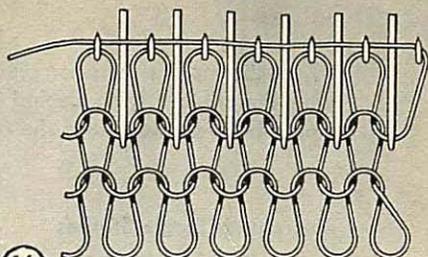
### Increasing Single Stitches

There are two methods of increasing single stitches.

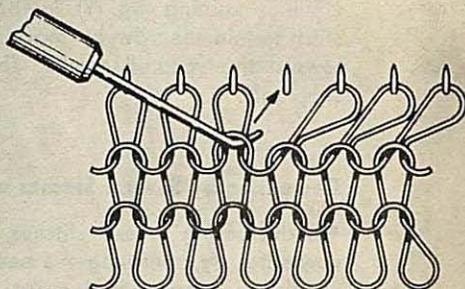
When increasing along the selvage, an additional needle is brought into knitting position at the beginning of each row, and the yarn is laid around the needle (fig. 16). In the second method, when increasing stitches within the row, lift the stitch at the end of the row with a transfer tool on to an additional needle. Then, using the work hook (25), place the adjacent stitch of the previous row on the empty needle (fig. 17). In the same way, it is possible to transfer a number of stitches one needle outward. In that case, the adjacent stitch of the previous row should always be placed on the empty needle.

### Increasing by Several Stitches

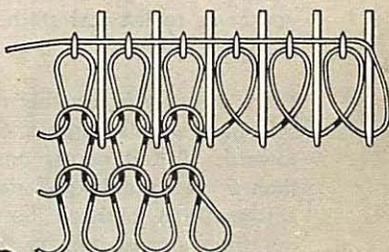
The process is basically the same as in the closed edge casting on (see page 14). As the yarn leading to the ball is required for this, it is only possible to increase at the end of a row. If the yarn is on the left hand side, it is looped in a clockwise direction around the required number of additional needles and sinker notches. If the increasing is to be done on the right hand side, the loops are wound in a counter-clockwise direction (fig. 18).



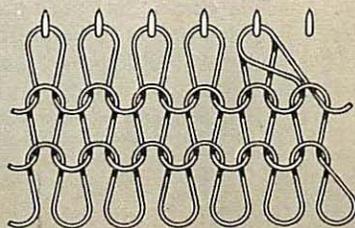
16



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When the increasing is completed, the needles are brought into knitting position with the stitches lying behind the latches, and the yarn is placed around the sinker hook at the end of the row. Then, continue knitting.

### **Decreasing Single Stitches**

This can be done at the beginning and end of the same row, if required. Using the transfer tool, the last stitch is transferred to the needle next to it. Be sure to place it behind the latch. Put empty needle into non-working position, and then continue knitting (fig. 19). In the same way, it is possible to decrease a single stitch within the row by moving a number of stitches one or more at a time toward the vacated needle. This is used for certain types of full-fashioned shaping\*).

### **Decreasing by Several Stitches and Binding Off**

For decreasing several stitches, lay the yarn over the first needle and make a new stitch by operating the needle by hand. Then lay the yarn over the same needle once again and make another handmade stitch (crochet stitch). Now transfer the stitch to the next needle, placing it behind the latch. Lay the yarn over this needle and knit the two stitches together; make another handmade stitch, and transfer this to the next needle in the same way, etc. After decreasing the desired number of stitches, continue knitting in the usual way. If the whole piece of knitting has to be bound off, the process is the same as above. When you come to the last stitch, cut the yarn from the ball, and thread it through the stitch.

There is, however, another method of casting off which produces a nice smooth selvage. For this purpose, the tension dial should be advanced by 10 settings towards 10. Knit across once. If you have been knitting at a higher tension than 5, you should pull down the needles by hand in order to form larger stitches. Then, push all the needles into holding position, and pull the knitting out from underneath the sinkers. With the latch needle tool, pull the second stitch through the first, the third stitch through the second, etc.

It is very easy to throw off the stitches from the machine. However, this method should be used only if you intend grafting certain knitted parts. In this case, it is advisable to knit a few additional rows with a different color yarn which will be unravelled later. The garment is removed from the machine by passing the slide across the needles without inserting any yarn. If you knit with the wool feeder, do not forget to release the yarn from the eye of the wool feeder before you take the knitting from the machine.

\*) For increasing and decreasing within the row, we recommend our multiple transfer tool described in special leaflet.

### III. SPECIAL KNITTING EFFECTS AND PROCEDURE

#### Knitted Hem

Without any sewing, you can give socks, panties, sleeves, pullovers, and other articles a finished edge by making a hem.

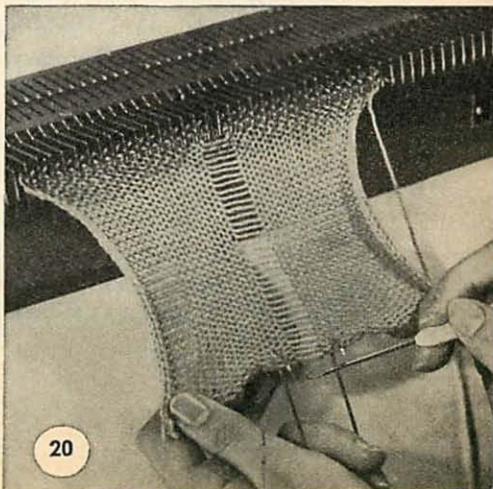
Cast on with a closed edge and knit a piece twice as long as the depth of hem required. Then, starting from the right-hand side and using the work hook, lift the stitches along the edge separately on to the latch needles. Place the loops behind the open latches together with the stitches of the last knitted row, have all needles in the knitting position, knit the first row carefully. Then continue in the usual way\*).

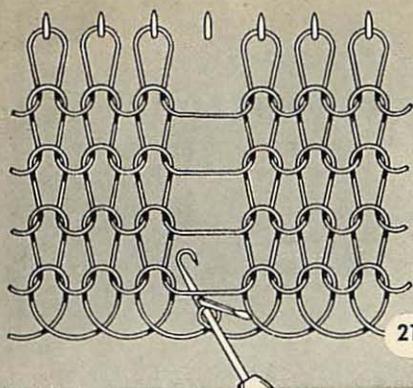
#### Knit and purl knitting

The basic stitch of the KNITKING is knit and purl, respectively. To obtain an alternate effect of knit and purl stitches, you must convert the purl stitches into knit stitches, provided you are not using the Automatic Ribbing Attachment. In order to do this, pick up the stitches on the purl side of the work, which is the side of the knitting facing the operator. Hold the lower edge of the knitting with the rib holding device (fig. 20). Then push a latch needle into non-working position so that the stitch will drop down to the casting on row. Insert the latch needle tool above the lowest running thread with the hook pointing down. By turning the latch needle tool to the right, you will make the first loop which will have to be slipped behind the latch. The hook of the latch needle tool now points up. Draw the running thread above into the hook of the latch needle tool (fig. 21).

Pull the tool toward you, and you will have a knit stitch on the purl side. Continue this process until the last running

\*) For this operation you may also use our Reversing Bar shown in special leaflet.





thread has been crocheted. Then, place the stitch on the latch needle again. Depending on whether the stitches are tight or loose, the rib holding device should be pulled down accordingly (either more, or less).

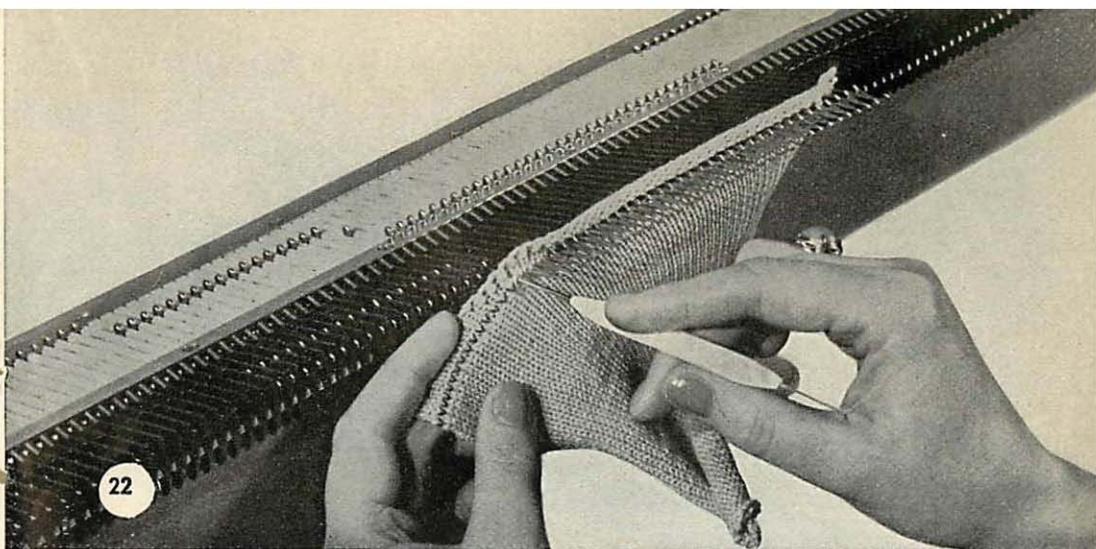
When reversing stitches within the knitted piece, it is advisable to mark the row to which the stitches are to be dropped (not right down as far as the bottom edge). This is best done by knitting in a thin

thread (sewing thread), laying it over the needles together with the yarn, and knitting it in as a marker. After the knitting is completed, this thread can be removed easily. In this case, you do not need the rib holding device, because it is quite easy to hold the knitting by hand. Before you drop a stitch, the latch needle tool must always be inserted into the respective stitch marked.

### Turning the Knitting

If you want one or more rows of purl right across the knit stitches horizontally, it will be necessary to turn the work around every time before beginning a new row. This should be done as follows:

From the row where the knitting has to be turned, make at least six extra rows with a different color yarn. Then, take the knitting off the machine by passing the slide across the needle bed without laying any yarn over the needles. Bring the needles back into knitting position by pushing the slide over the needles once. Make sure the slide is on the same side as the yarn leading to the ball after the work is turned. Using the palm of your hand, push the needle hooks down into the needle bed so they do not protrude beyond the sinkers. After the knitting has been turned, and the plain side is facing you, start from the right-hand side and insert the transfer tool into the stitches of the last row in the original color, placing them one by one on to their corresponding latch needles as follows: after the transfer tool has been inserted into each stitch, the eye is placed over and into the hook of the appropriate latch needle and pulled toward you so that the stitch slides from the transfer tool on to the latch needle which should be pulled forward through the stitches (fig. 22). After all the stitches are on the needles, the rows in the contrasting color are unravelled, the needles are brought into the knitting position, and the knitting continued. After the garment



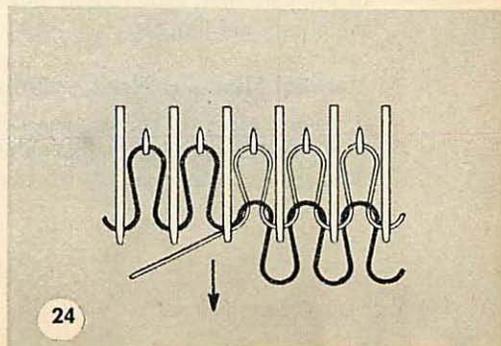
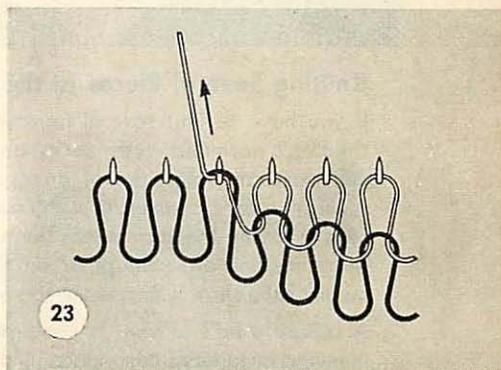
has been turned, the first row should be knitted slowly as the stitches are not yet under the sinker notches. It is advisable to pull the knitting down lightly, using your free hand\*).

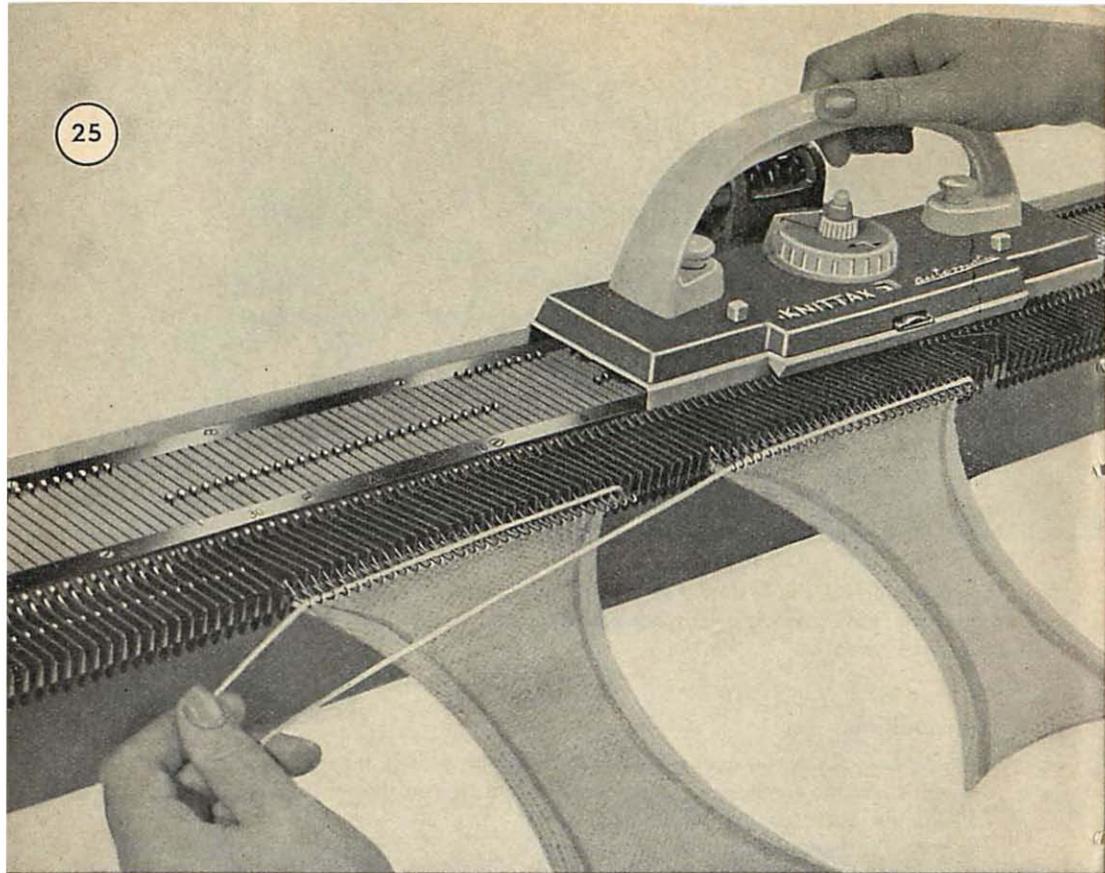
### Unravelling

Should you wish to unravel a few rows of knitting, it is not necessary to take the work off the needles. It is very easy to unravel on the machine as follows: Pull up the outer control knob, and knit one row. The needle heads will disappear between the sinkers. Then, pull the yarn alternately up and down. By pulling up, the first stitch will be released from the needle. The stitch below, in the previous row, will be lifted and automatically pulled up over the needle hook, replacing the unravelled stitch (fig. 23). When pulling down, the yarn will be released from the sinker hook (fig. 24).

The up and down movements of the yarn can be repeated in rapid succession, so that it takes but a few seconds to unravel a row. Before starting again, be sure to press down both control knobs and bring the needles into knitting position.

\*) For this operation, the Reversing Bar may be used (see special leaflet).





### Knitting Several Pieces at the same time

If you have to knit several narrow pieces, such as shoulder straps, sleeves for children's garments, cuffs, socks, and similar small articles at the same time, or if you work on both sides of an opening or slit, you can knit simultaneously on several strips. However, in such cases you cannot use the wool feeder. Each step, such as laying the yarn across the needles, increasing and decreasing, etc., has to be made one after the other on the separate parts, but only one single movement of the slide is necessary to knit a row on all the pieces at once.

A separate ball of yarn is required for each individual piece. The yarn is laid over the needles of each piece in the usual manner, and while knitting, each end of the yarn must slide loosely through the fingers regardless of how many ends there may be. (fig. 25).

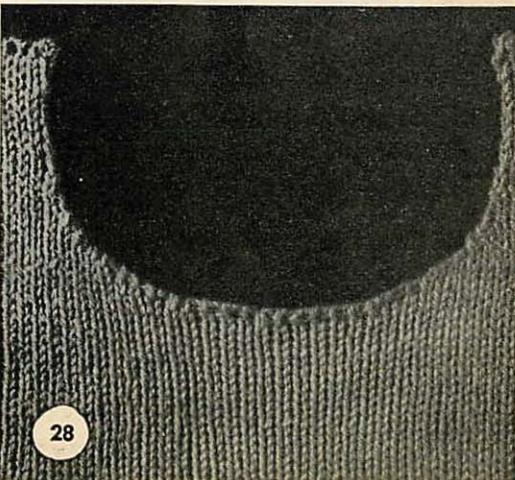
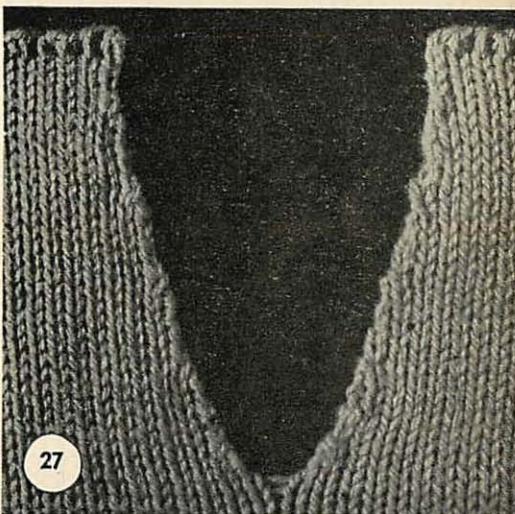
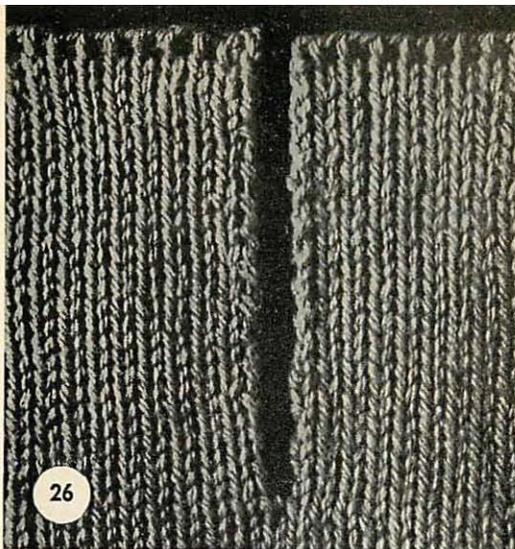
### Vertical Slits and Neck openings

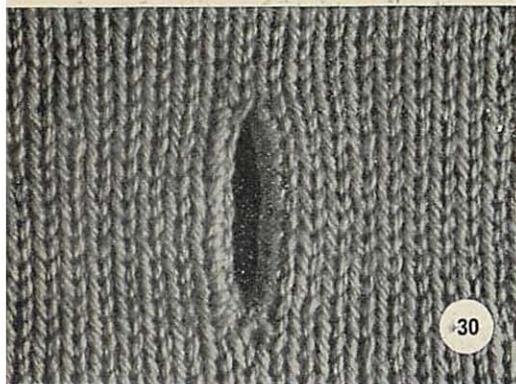
If it is necessary to make a vertical opening into a piece of knitting (fig. 26), the work must be divided at the point where the opening begins, and the knitting must then be continued in two parts (without the wool feeder).

You will need a separate ball of yarn for each side of the opening. The yarn from the original ball is laid across the needles up to the point in the row where the opening begins. The yarn from the second ball is passed from the casting on eyelet to where the slit begins, and is then laid across the remaining needles.

In this way, there are two working threads lying over the needles: the first running from the beginning of the row of needles as far as the opening, and the second running from the opening to the end of the row. Now, continue knitting in the way described „Knitting several pieces at the same time“. When working on a neck opening, the knitting is divided in the same way, and work is continued with two balls of yarn. Decreases should be made according to the shape required.

To make a V-neck (fig. 27), decrease on both sides of the opening in every second, third or fourth row, as required. You will need less decreasing for narrow pointed openings, and more decreases for wider openings. When making round openings (fig. 28), bind off a number of stitches, counting evenly from the center and using two balls of yarn. Stitches should now be decreased on each side according to the shape required. In the case of a deep round opening, fewer stitches will have to be decreased, and more rows knitted in between. For a shallow opening, a greater number of stitches will have to be decreased, and fewer rows knitted in between. When making a square neck opening, the knitting will have to be divided at one corner, and the required number of stitches for the horizontal edge of the opening bound off with the second ball of yarn. Continue knitting in two parts up to the shoulder, without decreasing.





## Buttonholes and Horizontal Slits

Vertical buttonholes (fig. 29 and 30) are made the same way as vertical openings. First of all, the knitting has to be divided, and then continued in two sections using two balls of yarn. When the desired length for the buttonhole is obtained, the knitting is continued in the regular way, using one ball of yarn only. The end of the yarn remaining at the buttonhole may either be sewn in at the back, or used for stitching around the buttonhole. Horizontal buttonholes are made by laying yarn of a different color over 4 to 8 needles according to the length required. Knit the row in the usual way, but see that the main yarn is taken underneath the needles covered with contrasting yarn. When the knitting is finished, remove the contrasting yarn leaving open stitches which should be fastened with a buttonhole stitch (fig. 31 and 32).

A horizontal slit with bound off edges (fig. 33) is knitted as follows. The slide and yarn are both on the left-hand side. Bring the needles on the right-hand side of the knitting from the edge up to the beginning of the slit into holding position. Knit one row so that the slide is on the right and the wool hanging down at the beginning of the slit. From right to left, bind off the number of stitches required for the slit. Using the same wool, cast on over the empty needles with a closed edge. Put all the needles into holding position, and push the slide to the left. Now bring the needles to the right of the slit into knitting position, and knit across once. Then place all the needles back into knitting position, and continue knitting as usual.

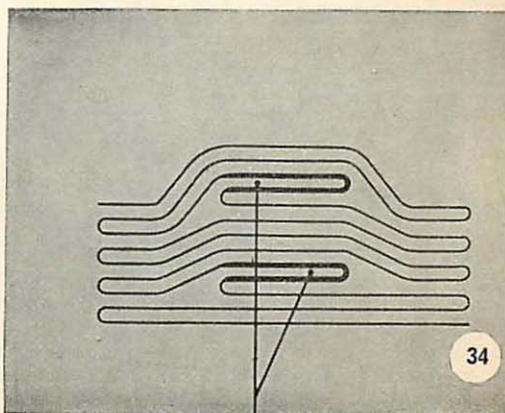
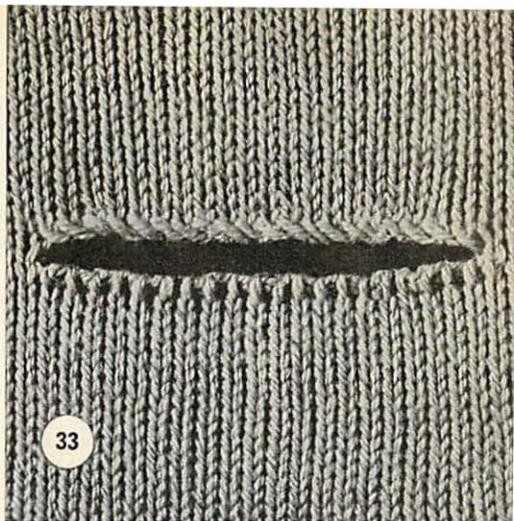
## Knitting Short Rows

Knitting with short rows means that in order to obtain certain shapes, you temporarily knit with some of the needles in operation (fig. 34). The remaining needles are pushed into holding position. In this way, you knit shorter rows than before. This type of knitting is for shoulder shapings, flat openings, flat tops of sleeves, round collars, heels of socks and stockings, toes of stockings and tips of gloves, double collars, curved yokes, full-flared skirts, etc. It is best to work without the wool feeder, since knitting with short rows the yarn must be laid over the nearest needle in the holding position.

If you knit short rows on one side only, you will obtain a slope or curvature on one side, such as in shoulder shapings or curved yokes. When knitting short rows on both sides, you are forming a curvature or bulge, such as required for the top of sleeves, or for the heels of socks and stockings. Depending on the number and length of short rows, the slopes, curvatures, or bulges, vary. For a large shallow bulge, only a few, comparatively long, additional rows are knitted in. If, on the other hand, you knit a very large number of short rows, the result is a smaller, but much deeper bulge, for example, a heel.

When knitting short rows on one side, you push the corresponding number of needles into holding position at the opposite side of the slide, and knit across once. When returning the slide, you pass the yarn around the nearest needle in holding position in order to avoid a hole in the knitting. Now, you can either bring all the needles back into knitting position and knit a few rows over the whole width, or you may push further needles into holding position on the same side and work exactly as described above.

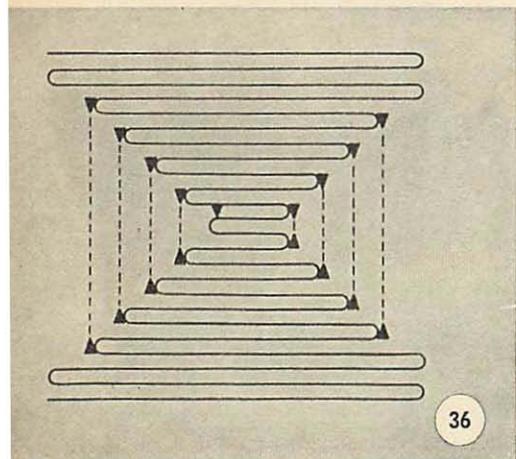
When knitting short rows on both sides, push needles into holding position alternately on the right and left-hand side, but always on the opposite side of the slide.



Additional or short rows

Knit one row after each shortening. The shape of the part to be knitted will indicate the number of needles to be pushed into holding position.

When making heels, toes of stockings, brassieres, and the like, you also knit short rows on both sides (fig. 35 and 36). For this purpose, you first push the needles alternately into holding position, and then you bring them back into knitting position in the same way, i. e. first the shortened rows become shorter, and then again longer, until the original number of stitches is obtained.



The ends of the rows which are marked by arrows and connected by dotted lines, are joined together when increasing the length of the shorter rows.

## IV. PATTERNS

The following pages will explain some of the basic patterns which will show you different knitting techniques of the machine. By combining, or modifying these basic patterns, you can obtain countless interesting variations, so that patterns can be selected to suit all tastes and purposes. Apart from the usual descriptions of the patterns, knitting symbols have been introduced. They will be found in the last section of this manual in some of the descriptions of garments.

The knitting symbols must be read the same way as the work facing you, i. e. if you have purl stitches in front of you, they show purl stitches, and if you have knit stitches in front of you, they show knit stitches. The respective numbers of rows are shown on the right of the knitting symbols. Missing numbers of rows — mean one row of knit stitches.

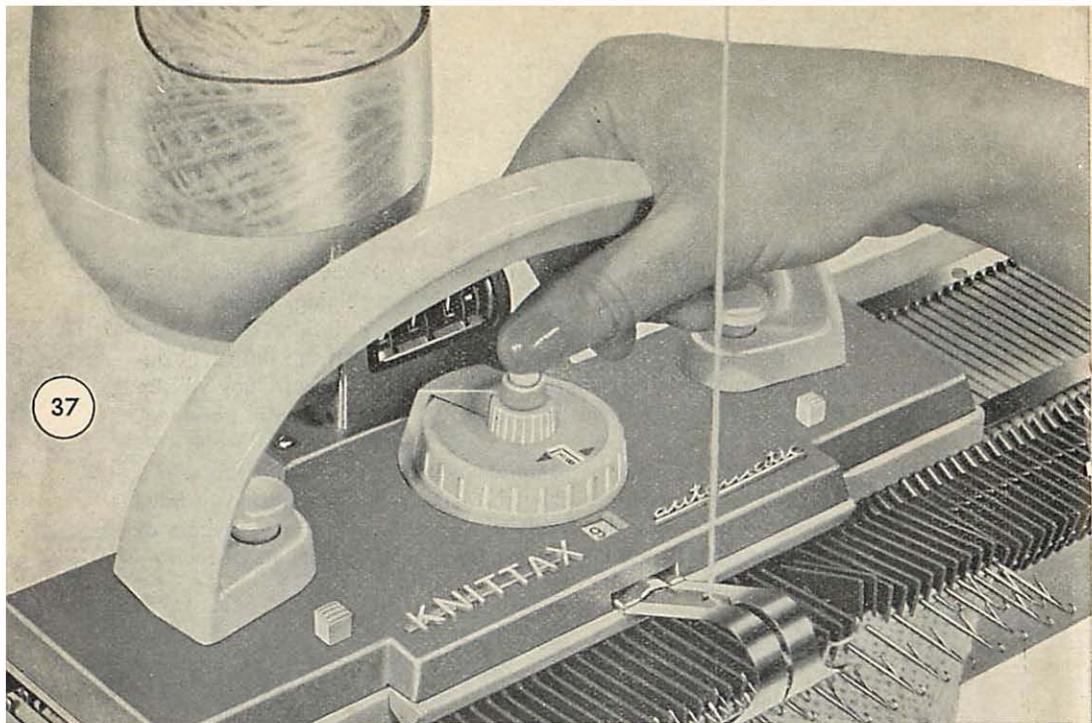
### Definition of Knitting Symbols

-  = plain stitch
-  = purl stitch
-  = empty needle (remaining in knitting position)
-  = needle in non-working position
-  = needle in holding position
-  = needle in knitting position
-  = 1 stitch transferred to adjacent needle on the right
-  = 1 stitch transferred to adjacent needle on the left
-  = 3 stitches linked together.

### Patterns Using Special Holding Position

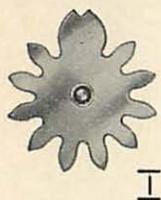
If, within one row, a needle is pushed up entirely so that it remains in holding position during the movement of the slide, the yarn remains over the needle shaft without being knitted, forming a loop. By putting the needle back into knitting position, you can make one or several loops on the same needle shaft before knitting all of the loops into one single stitch.

**The Automatic Stitch Selector** (19) will push the required needles into Holding Position while moving the slide and lightly pressing the pattern knob at the same time (fig. 37). If these needles are to go back into knitting position, you must press the outer retractor knob before starting to move the slide. When simultaneously pressing down and toward the handle, the knob will click into position; by slightly pressing in the opposite direction, it will be released.



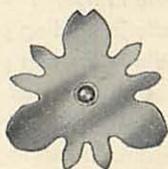
Depending on requirements the **Pattern Wheels** (fig. 38) will push the following needles into holding position:

Fig. 38



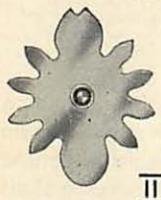
I

**Wheel I**  
(1 large tooth)  
every 12th needle



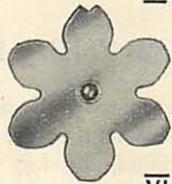
III

**Wheel III**  
(3 large teeth)  
every 4th needle



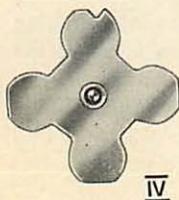
II

**Wheel II**  
(2 large teeth)  
every 6th needle



VI

**Wheel VI**  
(6 large teeth)  
every 2nd needle



IV

**Wheel IV** (4 large teeth) to be used only when knitting on every 2nd needle (as with heavier yarn). This wheel will push into holding position every other needle that is in knitting position.

By turning the pattern dial (b, fig. 5), you will set the figures shown in the check window (c) of the Automatic Stitch Selector. Each figure indicates which needle, counting from the beginning of the row, will be the first to be pushed into holding position. (Before needles are reset, they must be first brought back into knitting position.)

The numbers to be used for each wheel are as follows:

Wheel I—1 to 12

Wheel II—1 to 6

Wheel III—1 to 4

Wheel IV—1 and 2

Wheel VI—1 and 2

Depending on the direction of the slide movement (arrows marked beside the check window), the red or black figures will apply.

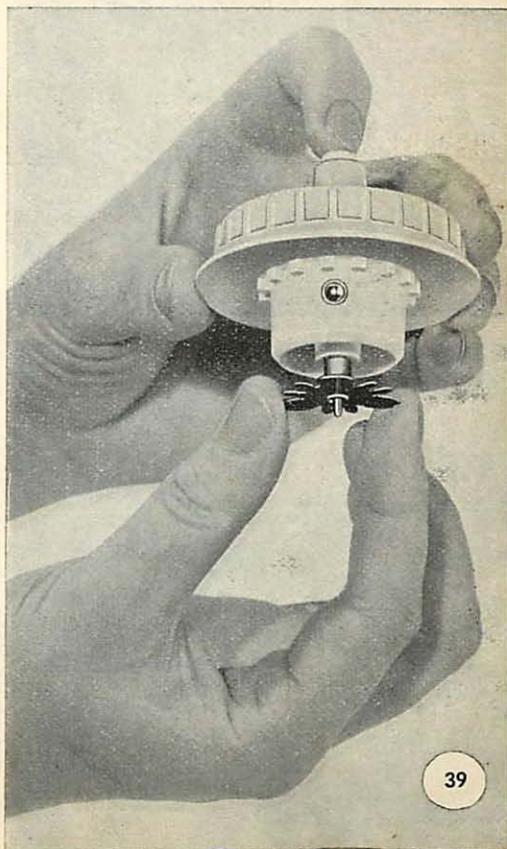
**When increasing and decreasing, note the required change in setting of numbers.**

When operating the Automatic Stitch Selector, the slide must be moved across the needles **with moderate speed**. But prior to that, all the needles must be in working position. This is done by pressing the outer retractor knob while moving the slide.

### Changing of Pattern Wheels

The Automatic Stitch Selector is removed from the slide vertically. The pattern wheels can be exchanged by simply extracting one wheel and inserting another (fig. 39). To insert a wheel, push its axle into the wheel bearing. If it does not fit right away, turn it a little, exerting slight pressure on the wheel until its axle slides completely into the bearing. Then, put the stitch selector back on to the slide, making sure it clicks noticeably, and that the check windows are one above the other.

To obtain various patterns, continuously shift the needles from holding to knitting position, and vice versa. For this you can use the needle shifter (28) which is part of the standard accessories. When using the needle shifter, place it against the numbered rail (6) in such a way that the trade mark KNITKING is not upside down. Now, the needle shifter can be moved across the needles from **right to left**.









Example 7

Wheel VI

Fig. 46

### Ribbed pattern without the use of the Ribbing Attachment

1. All the needles are in knitting position. The slide is on the right. Set release lever to the needle heels. Dial figure 2, press pattern knob and right-hand retractor knob. Knit 1 row. The retractor knob remains clicked into position until the pattern is completed.
2. The slide is on the left. Knit 1 row without operating knobs.
3. Repeat steps 1 and 2.

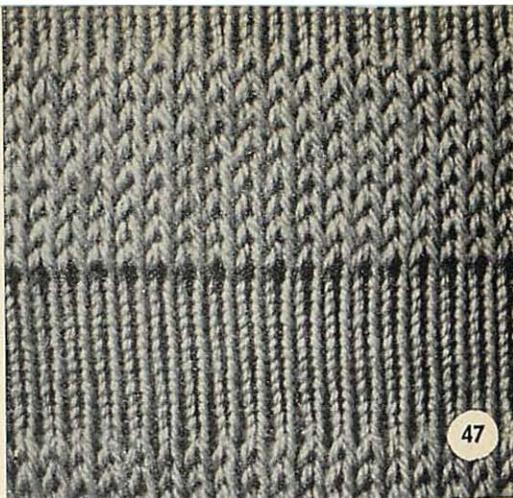
When using heavy yarn for this pattern, every 2nd needle should be in non-working position. Now, use Wheel IV. The slide is on the right. Dial figure 3. Continue as described in steps 1 and 2.

## Patterns Based on Multi-Tension Effects

Alternating loose and tight stitches, knit a number of rows according to pattern. This gives the knitting a striped texture effect.

### Example Fig. 47

1. Knit 15 rows with tension 3.
2. Knit 8 rows with tension 10.
3. Repeat steps 1 and 2.

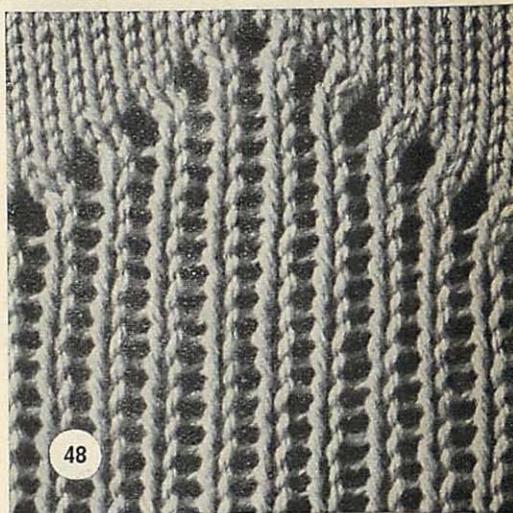


## Patterns Based on Skipped Needles

Put needles out of service at certain distances (from each other), so that at these points there is always a wider space between two stitches. A needle is put out of service by transferring its stitch to an adjacent needle and pushing the empty needle into non-working position.

### Example Fig. 48

1. Put every second needle out of action. The needles out of action must be an odd number. Knit desired length this way.
2. Bring the outside right and left needles from non-working into knitting position.
3. Knit across twice.
4. Bring the next outside right and left needles into knitting position.
5. Knit across twice.
6. Repeat steps 2-5 until all needles are back in knitting position.

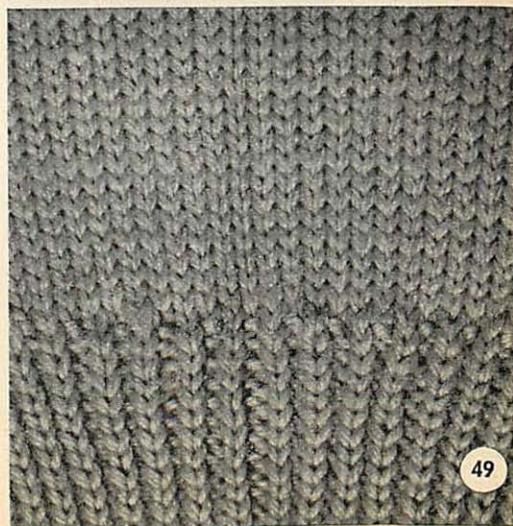


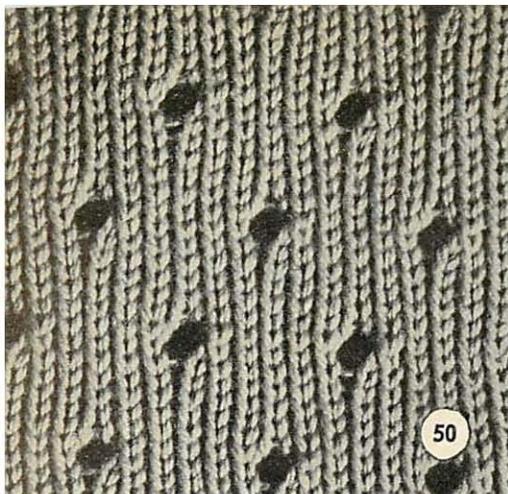
## Patterns Based on Ribbing Process

These patterns are made by dropping certain stitches and then picking them up again with the latch needle tool (see page 19).

### Example Fig. 49

1. Knit required number of rows.
2. Drop every 2nd stitch.
3. Pick up each dropped stitch on the purl side. (This process can be eliminated by using the Ribbing Attachment.)



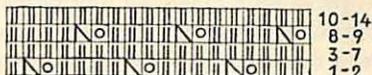
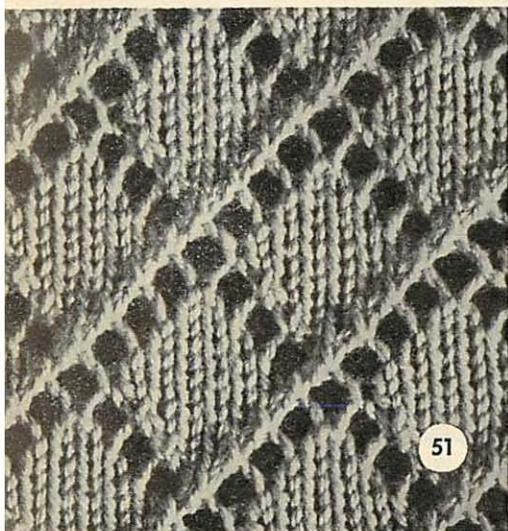


## Lace Patterns

With the transfer tool, hang (transfer) a stitch on to the adjacent right or left needle. Leave empty needle in knitting position. After knitting two rows, a small hole will appear at the point where the stitch was transferred. When following a handknitting pattern, this is equivalent to yarn over, k. 2 together.

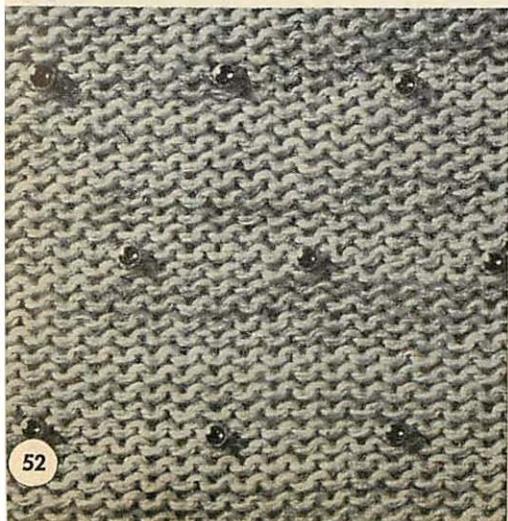
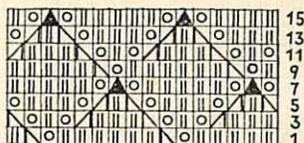
**Example 1** Fig. 50

1. Transfer every 6th stitch on to next right or left needle.
2. Knit seven rows.
3. Repeat steps 1 and 2, but alternate pattern so that each hole is exactly half way between the two holes of the previous pattern row.



**Example 2** Fig. 51

1. Counting from the left, transfer every eighth stitch to its adjacent needle at left. Knit across twice.
2. Again counting from the left, transfer stitches 9, 17, 25, 33, etc., to their adjacent needles at right, and stitches 7, 15, 23, 31, etc., to their adjacent needles at left. Knit across twice.
3. Transfer stitches 10, 18, 26, 34, etc., to their adjacent needles at right and stitches 6, 14, 22, 30, etc., to their adjacent needles at left. Knit across twice.
4. Transfer stitches 11, 19, 27, 35, etc., to their adjacent needles on the right and stitches 5, 13, 21, 29, etc., to their adjacent needles at left. Knit across twice.
5. Repeat steps 1—4, alternating pattern.



## Patterns Using Beads and Auxiliary Yarns

To make these patterns, use an auxiliary yarn of the same or of a contrasting color.

**Example 1** Fig. 52

1. Thread beads on to the auxiliary yarn (use the same yarn as the intermediate rows).

2. Lay the auxiliary yarn over the needles. Place the beads, each between two needles, at the desired distance from one another. Knit one row slowly so that the beads do not move out of place.
3. Knit another row with the auxiliary yarn, but without beads.
4. Knit 8 rows using the main yarn.
5. Repeat steps 2—4, but move the pattern along as desired. When finished, if preferred, the beads may be pushed through so that they show on the knit side of the work.

**Example 2**      **Fig. 53**

1. Knit 3 rows with smooth fine wool.
2. Place the napped yarn alternately below 3 needles, and over 1 needle, behind the latch.
3. Repeat steps 1 and 2, moving the pattern along. When knitting the first row with smooth yarn, be sure the latches of the needles are open.



## Patterns Using Several Colors

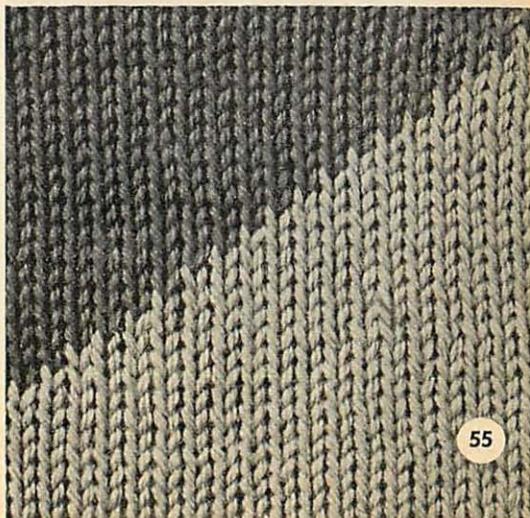
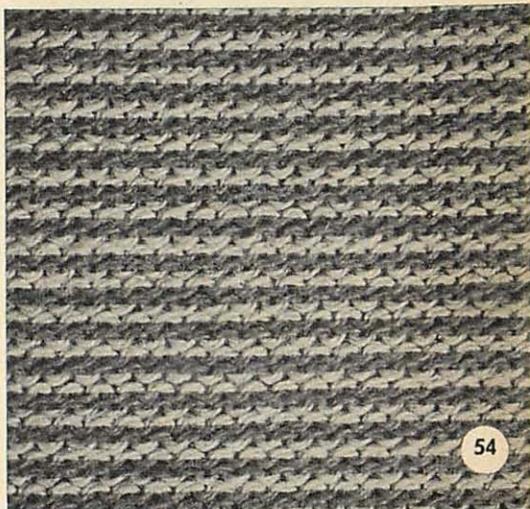
When introducing single row stripes, or stripes that have an odd number of rows, it is necessary to slide the cam-box to the other side without knitting, in order to pick up the other working thread. This means that before knitting the last row of the stripe, the outer control knob must be raised, i. e. if the slide is on the right of the needle-bed, the right control knob must be raised, and vice versa. Knit the final row of the stripe with the control knob in the same position, then return the slide to the other end of the needle bed without laying any yarn over the needles. Make sure both control knobs are pressed down before continuing, unless, of course, you wish to change color again after the next row.

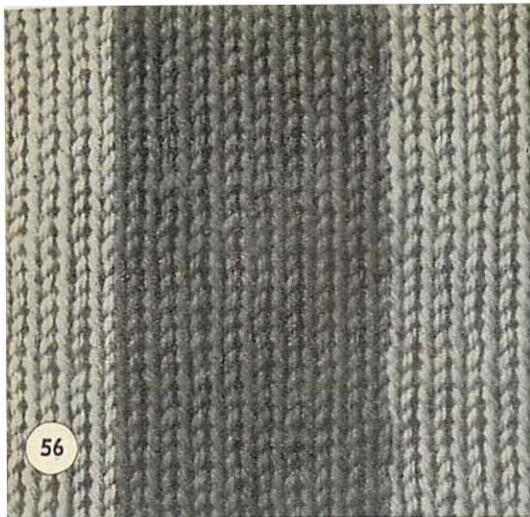
**Example 1**      **Fig. 54**

1. Knit one row using the light shade.
2. Pull up the outer control knob. Knit one row in dark shade, then return the slide to the other side without using any yarn. Press down the control knob.
3. Repeat steps 1 and 2 as often as required.

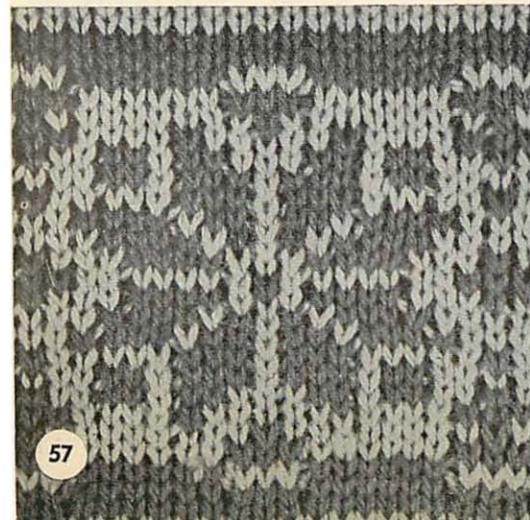
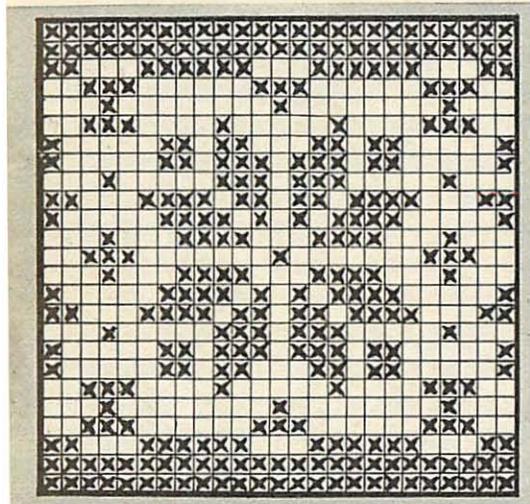
**Example 2**      **Fig. 55**

1. Knit 2 rows using the main color.
2. Lay the main color over the needles, but bring the yarn down between the last and the second before last needle.





56



57

3. Lay the contrasting color from below over the last needle of the row.
4. Knit across once, letting both threads run freely.
5. Lay the contrasting yarn over the first two needles of the row. Lay the main color over the remaining needles.
6. Knit across once.
7. Repeat steps 2—6, moving the colors along one needle in each row.

When making vertical or sloping divisions between the colors, twist the threads around each other where the colors meet in order to prevent a slit. This pattern is worked using 3 balls of yarn, even if the first thread is the same color as the third.

**Example 3** Fig. 56

1. Lay the first thread over the needles from the left, and bring it down between the 4th and 5th needles.
2. Bring the second thread up between the 4th and 5th needles, and lay it toward the right over the next 9 needles, bringing it down between the 13th and 14th needles.
3. Bring the third thread up between the 13th and 14th needles, and lay it over the remaining needles toward the right.
4. Knit across once.
5. Repeat steps 1—4 in reverse, i. e. bring the third thread down between the 13th and 14th needles; bring the second thread from the 13th needle down between the 4th and 5th needles, and lay the first thread from the 4th needle across toward the left.
6. Repeat steps 1—5.

**Norwegian patterns** are knitted according to chart. Two or more colors of yarn are required for any Norwegian pattern. Each yarn must be knitted in separately. This means that the slide will have to be operated several times for the same row, depending on the number of different colors. If a row counter is used, be sure the number of rows is counted correctly since the row counter registers the number of movements of the slide.

**Example 1** Fig. 57

1. Bring all needles for the contrasting color into holding position. Raise both control knobs. Knit across once with the main color, and return the slide to the other side, pressing outer retractor knob.

2. Push down the outer control knob, and knit across once with the contrasting color.

3. Repeat steps 1 and 2 according to chart.

For Norwegian patterns with 3 colors, the procedure is as follows:

1. Push all needles for the contrasting colors (chart) into holding position. Pull up both control knobs. Knit across once with the main color, and return the slide to starting side.

2. Bring the needles for the 1st contrasting color from holding into knitting position. Knit across once, and return slide to starting side, pressing the outer retractor knob.

3. Push outer control knob down, and knit across once with 2nd contrasting color.

Repeat steps 1-3.

If you knit with more than three colors, proceed with each color exactly as described in step 2. When knitting the last color, follow the procedure described in step 3.

## Cable and Crossed Stitch Patterns

With a single or double transfer tool, lift certain stitches off the needles, cross them over, and hang on the needles again. When crossing over, unless directed otherwise, be sure the stitches are brought over and under in the same way each time.

### Example 1 Fig. 58

1. Knit 6 rows.
2. Using single transfer tools, cross over stitches 7 and 8, 13 and 14, 19 and 20, 25 and 26, and so on.
3. Repeat steps 1 and 2, alternating pattern.

### Example 2 Fig. 59

1. Knit 6 rows.
2. Drop stitches 9, 14, 18 and 23, etc., leaving the empty needles in knitting position.
3. Using the double transfer tools, cross stitches 10 and 11 with 12 and 13, 19 and 20 with 21 and 22, and so on.
4. Repeat steps 1-3.
5. Using the latch needle tool, pick up the dropped stitches as in ribbing.

### Example 3 Fig. 60

1. Using single transfer tools, cross over stitches 7 and 8, 15 and 16, 23 and 24, and so on. Knit across once.
2. Repeat pattern, moving it by one needle at each row.



## V. KNITTING GARMENTS

### Calculation of Stitches and Rows

When knitting on the machine (as in handknitting), it is not always possible to exactly follow a handknitting pattern. Besides the correct measurements in inches, you will also have to ascertain the corresponding numbers of stitches and rows. These vary, depending on the yarn used.

After you set the tension as indicated in the pattern, count the number of stitches and rows by making a stitch test with the same yarn and at the same tension and pattern as the garment you are about to make. Therefore, each time you use a different make of yarn, even if it is the same ply, and whenever you knit at a different tension, make a stitch test first.

The sample piece should be as large as possible. As soon as you take it off the machine, pull it several times lengthwise and crosswise, as well as diagonally across the corners, ending with a lengthwise pull. Then leave it overnight, and pin it loosely to a smooth surface the following day. Now, count the stitches and rows per 2 inches width and height respectively.\*)

The conversion of inches into stitches and rows is shown by the following example:

The sample to be knitted is  $12\frac{1}{4}$  inches wide and 19 inches high.

Resulting stitch test is:

2 inches width = 17 stitches

2 inches height = 21 rows

a) How many stitches must be cast on?

2 inches = 17 stitches

$\frac{1}{4}$  inch =  $17 : 5 = 3,4$  stitches

12 inches =  $3,4 \times 31 = 105,4$  stitches = **roughly 105 stitches**

b) How many rows must be knitted?

2 inches = 21 rows

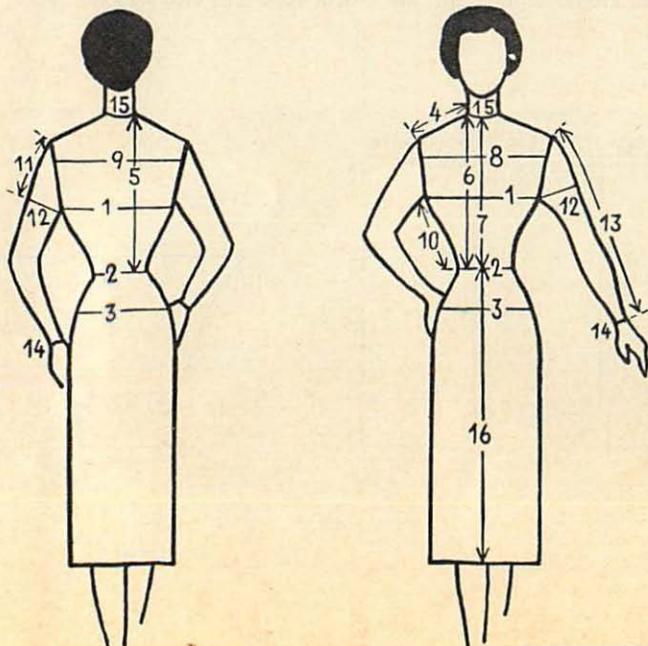
$\frac{1}{4}$  inch =  $21 : 5 = 4,2$  rows

19 inches =  $4,2 \times 48 = 201,6$  rows = **roughly 202 rows**

\*) To facilitate this work, use our Converta Tape for stitches and rows.

## Personal Measurement Chart

1. Chest or Bust: Measure over the widest part of the back, under the arms, and loosely over the widest part of the chest. For the front of the garment, count half the total measurement plus  $\frac{3}{4}$ — $1\frac{1}{2}$  inches, depending on the bust. For the back, count half the total width of the chest less  $\frac{3}{4}$ — $1\frac{1}{2}$  inches.
2. Waist: Measure around the waist.
3. Hips: Measure loosely around the widest part of the hips, approximately 8 inches below the waist.
4. Width of shoulder: Measure from base of neck to beginning of arm.
5. Length of Back: Measure from neck to waist.
6. Length of Front: Measure from highest point of shoulder, over the bust, down to the waist.
7. Depth of Neck: Measure from base of neck down to the waist, and deduct this length from front length.
8. Width of Chest: Measure approximately 3 inches below the neck, from arm to arm.
9. Width of Back: Measure from arm to arm, approximately 4 inches below the neck.
10. Length of Side: Place a ruler horizontally under the arm, and measure from the top edge of the ruler to the waist.
11. Length of Shaping for Top of Sleeve: Let arm hang straight down. Pass one end of tape measure around the arm at the level of the armpit. Measure from top of arm to top edge of tape. For the average pullover sleeve, the shaping of the top requires 5—6 inches.
12. Width of Arm above the Elbow: Measure around the widest part of the arm.
13. Sleeve Length: Measure from end of shoulder width, down the arm to the wrist. This length, minus the shaping for the top of the sleeve, represents the length of the sleeve seam.
14. Width of Cuffs: Measure tightly around the wrist.
15. Width of Neck: Measure tightly around base of neck.
16. Skirt Length: Measure from waist to hem.
17. Seat Height: Measure in sitting position, from waist to the chair.



## Explanations of Diagrams and Instructions

The diagrams will give you an idea of the shape of different parts. The large figures give the number of rows, the smaller figures indicates the inches. The casting on is marked with 0. Some pieces are knitted from the bottom up, others from the top down, others across. Parts, such as neck bands, waist borders, cuffs, borders for buttons and buttonholes, straight collars and crotches, etc., do not appear in the diagrams, only in the description.

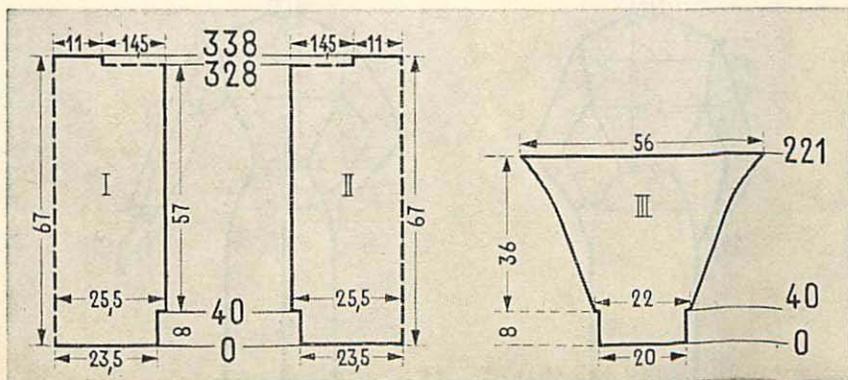
Figures in parenthesis, which in many descriptions are given after the number of rows, indicate the rows for the second half of the piece which is knitted in the opposite direction so as to correspond with the first half.

The yarn you use, may vary from that on which instructions are based. Therefore, it is very important to knit a sample swatch. If you do not obtain the same gauge in the swatch (gauge being the number of stitches and rows per inch) as the one given in each instruction, it means you have to adjust your dial.

In the instructions, each row of Norwegian pattern is counted only once, although at least three movements of the slide are always necessary for one row. (See: "Knitting of Norwegian Patterns", page 36.) Knitting with short rows, always means that a part of the needles with stitches on them are pushed into holding position (see page 25). This type of knitting is used for shaping the seat of panties, also to shape round collars and borders, full-flared skirts, toes and heels of socks and stockings, glove points, etc. How many needles are to be pushed into holding and knitting position, respectively, will be seen from the figures indicated in each particular instruction.

Diagrams with a dotted line, represent only one half of the piece. Diagrams will help the knitter understand the instructions and visualize the work.

DP 2530



### Picture 61 Stola DV 2342

**Size:**  $24\frac{1}{2}'' \times 53\frac{1}{8}''$  (63 × 135 cm).

**Material:**  $12\frac{1}{2}$  oz. azalea red machine wool, to be knitted two-fold.

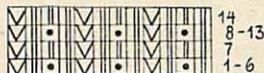
**Dial:** 8.

**Gauge:** 13 stitches = 2" (5 cm), 52 rows = 2" (5 cm).

**Pattern stitch:** Pattern using holding position on purl side according to chart. The needles in non-working position are counted in the description and gauge.

**Cast on 163 needles** ( $24\frac{1}{2}'' = 63$  cm). Using special holding position and following the chart below, knit with wheel III of the automatic stitch selector. Work even for 1400 rows, then cast off the stitches.

**Finishing:** Fasten fringes approximately 8" (20 cm) long to the width of the stola.



### Picture 62 Striped Sweater DP 2530

**Size:** 10—12 (40—42).

**Material:**  $9\frac{1}{2}$  oz. white and 4 oz. each blue, orange, and yellow medium weight 4-ply wool.

**Dial:** 4.

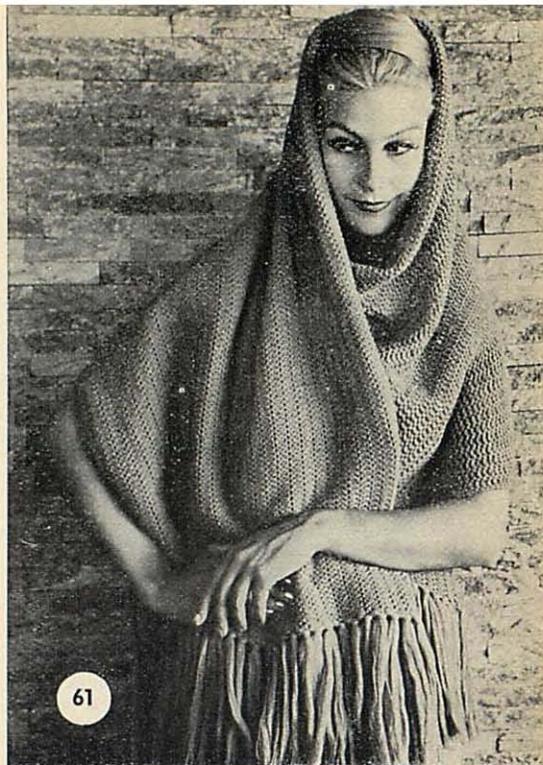
**Gauge:** 16 stitches = 2" (5 cm), 25 rows = 2" (5 cm).

**Pattern stitch:** Plain stockinette stitch in stripe pattern as follows: 2 rows blue, 8 rows orange, 2 rows blue, 8 rows white, 2 rows blue, 8 rows yellow, 2 rows blue, 8 rows white.

**Back (II):** Cast on 149 stitches ( $18\frac{1}{2}'' = 47$  cm) with white. Stockinette stitch. Rows 1—28: Work even. Continue to knit in stripe pattern, described above under "pattern stitch". Rows 29—39: Work even. Increase 15 stitches evenly distributed over entire width. To increase raise cross thread between 2 stitches onto empty needle. Row 40: Make knitted hem, but do not hang the newly increased stitches onto the needles. There are now 164 stitches ( $20\frac{1}{3}'' = 51$  cm) on the needles. Rows 41—328: Work even. Shape shoulder: on each side place 47 stitches ( $5\frac{1}{16}'' = 14.5$  cm) onto additional needles. For hem continue to knit with white over remaining stitches. Rows 329—338: Work even. Bind off these 70 stitches ( $8\frac{7}{16}'' = 22$  cm).

**Front (I):** Work same as back.

**Sleeves (III):** Cast on 64 stitches (8" = 20 cm) with white. Stockinette stitch. Rows 1—28: Work even. Continue to knit in stripe pattern, described under "pattern stitch" above, but knit first 2 rows blue and 8 rows yellow. Rows 29—39: Work even. Increase 6 stitches evenly distributed over entire width. To increase raise cross thread between two stitches onto empty needle. Row 40: Make knitted hem, but do not hang



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the newly increased stitches onto the needles. There are now 70 stitches ( $8\frac{7}{16}$ " = 22 cm) on the needles. Rows 41—221: After the 44th row, increase each side 1 stitch and again 1 stitch every 4th row 32 times and 1 stitch every 2nd row 22 times. Knit the last 3 rows with blue. Bind off all 180 stitches ( $22\frac{1}{8}$ " = 56 cm) with blue. Work second sleeve same way.

**Finishing:** Graft front and back at shoulder seams, join side seams with mattress stitch, leaving open  $11\frac{1}{16}$ " (= 28 cm) at side edges, counted from the shoulder. Sew sleeves and put them in. Be careful that 2 blue rows remain visible on upper sleeve edge. Turn in 10 rows of the neck edges.

### Picture 63 Cardigan Knitted Sideways DP 2534

**Size:** 44 = 14.

**Material:** 14 oz. raspberry red medium weight super soft Dralon yarn.

**Dial:** 4 and 10 for stripe pattern, 7 for borders

**Gauge:** 15 stitches = 2" (5 cm), 26 rows = 2" (5 cm) for stripe pattern; 15 stitches = 2" (5 cm), 22 rows = 2" (5 cm) for borders.

**Pattern stitch:** Stripe pattern: stockinette stitch, 3 rows dial 4 and 1 row dial 10, alternating. Borders: stockinette stitch, dial 7. The cardigan is knitted sideways and started at the bottom of the sleeve.

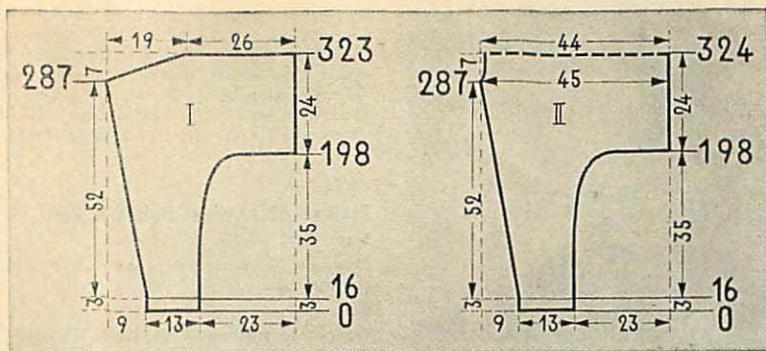
**Back (II):** Cast on 39 stitches ( $5\frac{7}{8}$ " = 13 cm). Dial 7. Stockinette stitch. Rows 1—15 (633—647): Work even for hem. Row 16 (632): For hem

fold stockinette stitch, dial 10. Continue in stripe pattern, as indicated under "pattern stitch". Rows 17—72 (576—631): On upper sleeve edge increase 1 stitch after 33rd row and 1 stitch 3 times every 10th row. Rows 73—198 (450—575): On lower sleeve edge increase as follows: 1 stitch after 70th, 96th, 120th, 144th and 154th row, 1 stitch every 8th row twice, 1 stitch every 4th row 3 times, 1 stitch every 2nd row 3 times, 2 stitches every 2nd row twice, 3 stitches every 2nd row once, 5 stitches every 2nd row once. On upper sleeve edge increase: 1 stitch after 73rd row, 1 stitch every 10th row 7 times, 1 stitch every 10th row and 1 stitch every 8th row, the last two alternating 3 times. After 198th row cast on additional 45 stitches on lower edge. Now there are 127 stitches ( $16\frac{1}{2}$ " = 42 cm) on the needles. Rows 199—287 (361—499): Increase on upper sleeve edge and shoulder edge respectively: 1 stitch after the 207th row, and alternating 4 times, 1 stitch every 8th row, and 1 stitch every 10th row. Now there are 136 stitches ( $17\frac{3}{4}$ " = 45 cm) on the needles. Rows 288—324 (325—360): Shape neck opening. On upper edge decrease 1 stitch after the 287th row and 1 stitch every 10th row twice. There are now 133 stitches ( $17\frac{3}{8}$ " = 44 cm) on the needles and we have reached the centre of the back. The 324th row is the centre row. Work the following 323 rows for second half in opposite direction. The figures in brackets represent the rows for the second half of the back.

**Front (I):** Cast on 39 stitches ( $5\frac{7}{8}$ " = 13 cm). Dial 7. Stockinette stitch. Rows 1—15: Work even for hem. Row 16: For hem fold stockinette stitch, dial 10. Continue in stripe pattern, as indicated under "pattern stitch". Rows 17—72: On upper sleeve edge increase 1 stitch after 33rd row and 1 stitch every 10th row 3 times. Rows 73—198: On lower sleeve edge increase as follows: 1 stitch after the 70th, 96th, 120th, 144th and 154th row, 1 stitch every 8th row twice, 1 stitch every 4th row 3 times, 1 stitch every 2nd row 3 times, 2 stitches every 2nd row twice, 3 stitches every 2nd row once, 5 stitches every 2nd row once. On upper sleeve edge increase 1 stitch after the 73rd row, 1 stitch every 10th row 7 times, and alternating 3 times, 1 stitch every 10th row, 1 stitch every 8th row. After 198th row cast on additional 45 stitches on lower edge. Now there are 127 stitches ( $16\frac{1}{2}$ " = 42 cm) on the needles. Rows 199—287: On upper sleeve edge and shoulder edge respectively increase: 1 stitch after 207th row, and alternating 4 times, 1 stitch every 8th row and 1 stitch every 10th row. There are now 136 stitches ( $17\frac{3}{4}$ " = 45 cm) on the needles. Rows 288—323: Shape neck opening. Starting at upper edge bind off 4 stitches 3 times and 3 stitches 15 times. Finally bind off the remaining 79 stitches ( $10\frac{3}{4}$ " = 26 cm). Work second half of front to correspond.

**Lower back border:** Cast on 126 stitches ( $16\frac{1}{2}$ " = 42 cm). Stockinette stitch with dial 7. Rows 1—36: Work even. Then bind off all stitches. **Lower front border with buttonhole border:** Cast on 63 stitches ( $8\frac{5}{16}$ " = 21 cm) for lower





border. Stockinette stitch with dial 7. Rows 1—18: Work even. For buttonhole border cast on additional 24 stitches. There are now 87 stitches ( $11\frac{1}{3}'' = 29$  cm) on the needles. Rows 19—35: Work even. After the 26th row work buttonholes over the 3rd — 7th needle and 18th — 22nd needle, counted from right edge. After the 35th row bind off 63 stitches for lower border. Continue to knit buttonhole border over remaining 24 stitches. Rows 36—272: Work even. Work buttonholes after the 52nd, 78th, 104th and 130th row over the 3rd — 7th needle and 18th — 22nd needle. Transfer stitches onto extra needle. Work second border to correspond, but without buttonholes.

**Finishing:** Join front and back by sewing upper sleeve and shoulder seams respectively and lower sleeve seams and side seams. Turn in sleeve for hem  $1\frac{3}{16}'' (= 3$  cm) and sew seam. Join back border and front borders. Use stockinette stitch to join parts in centre of back. Sew on border, tucking lower cardigan edge, front edges and back of neck inside. Sew together lower edges of buttonhole border. Insert elastic into lower border. Fasten buttonholes with buttonhole stitch. Sew on buttons.

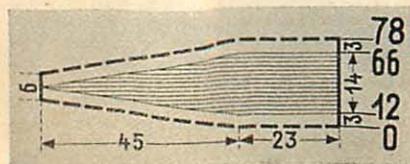
#### Picture 64 Full-Flared Skirt DR 2862

**Size:** 10/12 (40—42).

**Material:** 16 oz. (450 grams) of black and white blended looped mohair wool.

**Dial:** 9.

**Gauge:** 12 stitches = 2" (5 cm), 19 rows = 2" (5 cm).



**Pattern stitch:** Plain purl. The skirt is knitted sideways in one piece. The shape is obtained by knitting shortened rows.

Cast on 164 stitches ( $27'' = 68$  cm), preferably by means of the reversing bar. Rows 1—12: Work even. Rows 13—40: Knit shortened rows. For that purpose push 108 needles into holding position on the lefthand side. Knit 2 rows. Then successively put 13 times 8 needles back into working position and knit 2 rows each time. Rows 41—66: Continue to knit shortened rows, successively pushing 13 times 8 needles back into holding position. Then continue to knit over all needles. Rows 67—78: Work even. Now one full-flared panel is finished. Repeat rows 1—78 11 times, then transferring all stitches onto an auxiliary





needle. **Waistband:** Cast on 164 stitches. Knit 24 rows plain purl. Bind off all stitches. **Finishing:** Take off cast-on thread, transfer the stitches to an auxiliary needle and sew the skirt together in knitting stitch. On top leave open

42 stitches for zipper and bind off these stitches on both sides. Make bottom hem, approximately  $1\frac{1}{4}$ " (3 cm) wide. Turn in narrow seam at slit edges. Sew elastic belt to top edge allowing for an overlap of  $\frac{4}{5}$ " (2 cm). Sew on waistband, tucking in upper edge with elastic belt. Sew in side zipper. Also sew on hooks and eyes.

### Picture 65 Ladies' Suit DK 2667

**Size:** 10/12 (40/42).

**Material:** 32 oz. dark blue medium weight 4-ply sports wool.

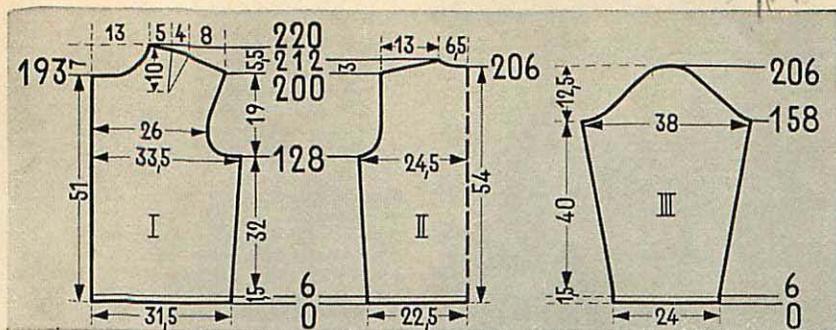
**Dial:** 7.

**Gauge:** 12 stitches = 2" (5 cm), 19 rows = 2" (5 cm).

**Pattern stitch:** Plain stockinette stitch, Borders knit 1 — purl 1 ribbing.

**Cardigan: Back (II):** Cast on 107 stitches (18" = 45 cm). Rows 1—6: Knit 1 — purl 1 ribbing. Increase 1 stitch on one side. Continue with stockinette stitch. Rows 7—128: After the 26th row increase each side 1 stitch and 1 stitch every 20th row 4 times. There are now 118 stitches ( $17\frac{3}{4}$ " = 49 cm) on the needles. Rows 129—146: Shape armhole. After the 128th row bind off each side 3 stitches. Then decrease as follows: 3 stitches every 2nd row once, 2 stitches every 2nd row once, 1 stitch every 2nd row twice and 1 stitch every 4th row twice. Rows 147—200: Work even. Rows 201—212: Shape shoulder. Bind off each side 4 stitches every 2nd row 4 times and 5 stitches every 2nd row 3 times. At the same time after the 206th row shape neck opening. Bind off 14 stitches in centre and on each side in every 2nd row 5 stitches once and 4 stitches once.

**Front (I):** Cast on 75 stitches ( $12\frac{7}{16}$ " = 31.5 cm). Rows 1—6: Knit 1 — purl 1 ribbing. Increase 1 stitch on side edge and continue with stockinette stitch. Rows 7—128: Work buttonholes after 12th, 56th and 100th row over the 3rd—7th needle and 16th—20th needle, counted from front edge. At the same time after the 26th row increase 1 stitch on side edge and 1 stitch every 20th row 4 times. There are now 81 stitches ( $13\frac{1}{4}$ " = 33.5 cm) on the needles. Rows 129—146: Shape armhole. After the 128th row bind off 6 stitches. Decrease 4 stitches every 2nd row once, 3 stitches every 2nd row once, 2 stitches every 2nd row once, 1 stitch once and 1 stitch every 4th row twice. At the same time after the 144th row work buttonholes over the 3rd—7th needle and 16th—20th needle. There are now 63 stitches ( $10\frac{1}{4}$ " = 26 cm) on the needles. Rows 147—160: Work even. Rows 161—193: After the 160th row at edge of armhole increase 1 stitch and 1 stitch every 4th row 8 times. At the same time work buttonholes after the 188th row over the 3rd—7th and 16th—20th needle. Rows 194—200: Shape neck opening. On front edge bind off 16 stitches. Decrease every 2nd row 4 stitches once, 3 stitches once and two stitches once. Rows 201—220:



Shape shoulder. Bind off: 3 stitches every 2nd row 7 times and 5 stitches every 2nd row 4 times. After the 201st row decrease at the same time for neck opening 2 stitches, 1 stitch in the 2nd row and 1 stitch every 4th row 3 times. Work second half to correspond, but without buttonholes.

**Sleeves (III):** Cast on 57 stitches ( $9\frac{7}{16}'' = 24$  cm). Rows 1-6: knit 1 — purl 1 ribbing. Continue with stockinette stitch. Rows 7-158: After the 16th row increase 1 stitch each side, 1 stitch every 10th row 3 times and 1 stitch every 8th row 13 times. There are now 91 stitches ( $15'' = 38$  cm) on the needles. Rows 159-170: Shape cap of sleeve. Back: bind off 3 stitches every 2nd row twice, 2 stitches every 2nd row twice, 1 stitch every 2nd row twice. Front: bind off every 2nd row 6 stitches once, 4 stitches once, 3 stitches once, 2 stitches twice and 1 stitch once. Rows 171-202: Decrease each side every 2nd row 1 stitch 3 times and 2 stitches once. Repeat three times. Rows 203-206: Bind off each side every 2nd row 3 stitches twice. Finally bind off remaining 9 stitches. Work second sleeve to correspond.

**Collar:** Cast on 137 stitches ( $22\frac{1}{2}'' = 57$  cm). Rows 1-6: Knit 1 — purl 1 ribbing. Bind off

each side 21 stitches ( $3\frac{7}{16}'' = 9$  cm) and continue to knit in stockinette stitch over the 95 centre stitches ( $15\frac{5}{8}'' = 39$  cm). Rows 7-40: After the 18th row decrease each side 1 stitch and 1 stitch every 4th row 4 times. For this transfer the 3rd stitch onto the 2nd needle, also transfer the 2 edge stitches onto same needle. Finally bind off all 85 stitches ( $13\frac{3}{4}'' = 35$  cm).

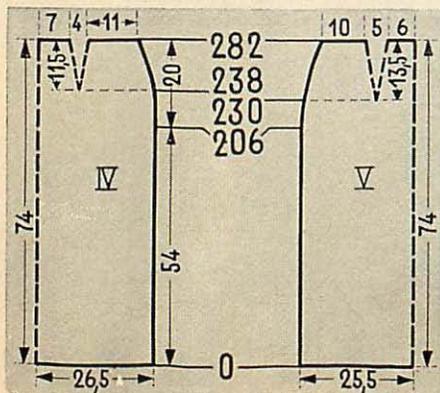
**Skirt:** The skirt is worked in two panels.

**Back Panel (V):** Cast on 122 stitches ( $20\frac{1}{8}'' = 51$  cm). Stockinette stitch. Rows 1-206: Work even. Rows 207-230: After the 206th row decrease each side 1 stitch and 1 stitch every 8th row twice. Now for both darts transfer on both sides the 36th and 38th stitch to 37th needle, also transfer the other stitches to same needle. The following decreases to be exactly on top of these. Rows 231-282: After the 230th row decrease each side 1 stitch and 1 stitch every 8th row 6 times. At the same time after the 238th row decrease for each dart 2 stitches and 2 stitches every 8th row 4 times. Finally bind off the remaining 78 stitches ( $12\frac{5}{8}'' = 32$  cm).

**Front Panel (IV):** Cast on 127 stitches ( $21\frac{7}{8}'' = 53$  cm). Stockinette stitch. Rows 1-206: Work even. Rows 207-238: After the 206th row decrease each side 1 stitch and 1 stitch every 8th row 3 times. Now for both darts each sides transfer the 36th and 38th stitches to the 37th needle, also transfer the other stitches to same needle. The following decreases to be exactly on top of these. Rows 239-282: After the 238th row decrease each side 1 stitch and 1 stitch every 8th row 5 times. At the same time after the 246th row for each dart decrease 2 stitches and 2 stitches every 8th row 3 times. Finally bind off the remaining 87 stitches ( $14\frac{1}{4}'' = 36$  cm).

**Finishing: Cardigan:** On the two fronts work shoulder darts according to diagram. Sew shoulder and side seams. Sew sleeve seams and put them in. Turn in front edges  $1\frac{1}{16}''$  (4 cm). Sew ribbed bands on to side edges of collar. Sew on collar. Make buttonhole stitch around buttonholes. Sew on buttons.

**Skirt:** Sew side seams of both front and back. On left side leave open approximately  $7\frac{1}{8}''$



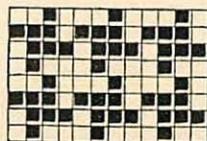


(18 cm) for zipper. Turn in 2 rows at top edge. Sew elastic grosgrain against it. Sew in zipper. Sew hooks and eyes on to grosgrain. Make a hem approximately  $2\frac{3}{8}$ " (6 cm) wide at bottom.

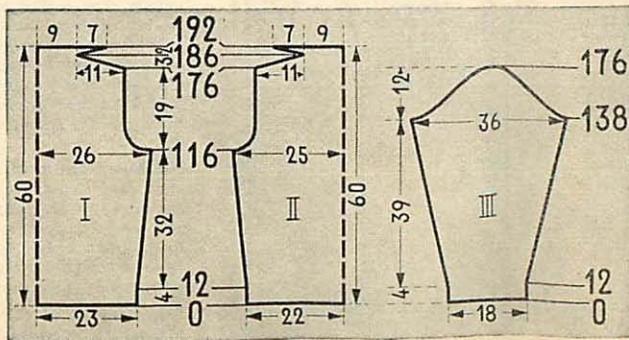
**Picture 66 Sweater in Cock's Tread  
Pattern DP 2463**

**Size:** 12—14 (42/44).

**Material:**  $1\frac{1}{4}$  oz. white and  $1\frac{1}{2}$  oz. turquoise heavy doubletwisted 3-ply wool.



■ turquoise  
□ white



**Dial:** 10.

**Gauge:** 14 stitches = 2" (5 cm), 16 rows = 2" (5 cm).

**Pattern stitch:** Norwegian pattern according to chart. Borders: stockinette stitch. Every row with Norwegian pattern is counted once only though the slide is to be operated always 3 times for one row.

**Back (II):** Cast on 124 stitches ( $17\frac{1}{4}$ " = 44cm) with white. Rows 1—12: Stockinette stitch. Continue with Norwegian pattern according to chart. Rows 13—116: After the 16th row increase each side 1 stitch and 1 stitch every 12th row 7 times. There are now 140 stitches ( $19\frac{3}{8}$ " = 50 cm) on the needles. Rows 117—132: Shape armhole. Bind off each side 3 stitches every 2nd row twice, 2 stitches every 2nd row twice, 1 stitch every 2nd row 4 times. Rows 133—176: Work even. Rows 177—180: Shape shoulder. Bind off each side 5 stitches every 2nd row once and 6 stitches once. Continue knit stockinette stitch with white. Rows 181—186: Shape shoulder. Bind off each side every 2nd row 6 stitches twice and 8 stitches once. There are now 50 stitches ( $7\frac{1}{8}$ " = 18 cm) on the needles. Rows 187—192: Increase each side every 2nd row 8 stitches once and 6 stitches twice. Finally bind off 90 stitches ( $12\frac{5}{8}$ " = 32 cm).

**Front (I):** Cast on 130 stitches ( $18\frac{5}{16}$ " = 46 cm) with white. Rows 1—12: Stockinette stitch. Continue working with Norwegian pattern. Rows 13—116: After the 16th row increase each side 1 stitch and 1 stitch every 12th row 7 times. There are now 146 stitches ( $20\frac{13}{16}$ " = 52 cm) on the needles. Rows 117—132: Shape armhole. Bind off each side as follows: 4 stitches every 2nd row once, 3 stitches every 2nd row twice, 2 stitches every 2nd row twice and 1 stitch every 2nd row 3 times. Rows 133—176: Work even. Rows 177—180: Shape shoulder. Bind off each side every 2nd row 5 stitches once and 6 stitches once. Continue knit stockinette stitch with white. Rows 181—186: Shape shoulder. Bind off each side 6 stitches every 2nd row twice and 8 stitches once. There are now 50 stitches ( $7\frac{1}{8}$ " = 18 cm) on the needles. Rows 187—192: Increase each side every 2nd row 8 stitches once and

6 stitches twice. Finally bind off all 90 stitches ( $12\frac{5}{8}'' = 32$  cm).

**Sleeves (III):** Cast on 51 stitches ( $7\frac{1}{8}'' = 18$  cm) with white. Rows 1—12: Stockinette stitch. Continue working with Norwegian pattern. Rows 13—138: After 12th row increase each side 1 stitch, 1 stitch every 6th row 12 times, 1 stitch every 4th row 12 times. There are now 101 stitches ( $14\frac{1}{2}'' = 36$  cm) on the needles. Rows 139—148: Shape cap of sleeve. Bind off every 2nd row as follows: back: 3 stitches twice and 2 stitches 3 times, front: 3 stitches 5 times, 4 times and 3 times. Rows 149—172: Bind off each side 2 stitches every 2nd row 12 times. Rows 173—176: Bind off each side every 2nd row 3 stitches, 4 stitches and then the remaining 9 stitches. Work second sleeve to correspond.

**Finishing:** For sewing use fine white 3-ply wool. Sew side seams and shoulders. Sew sleeves together and put them in. Turn in half of all white edges for hem.

### Picture 67 Men's Cardigan - Plain HP 3053

**Size:** 40—42 (52—54).

**Material:** 25 oz. medium weight wool.

**Dial:** 8.

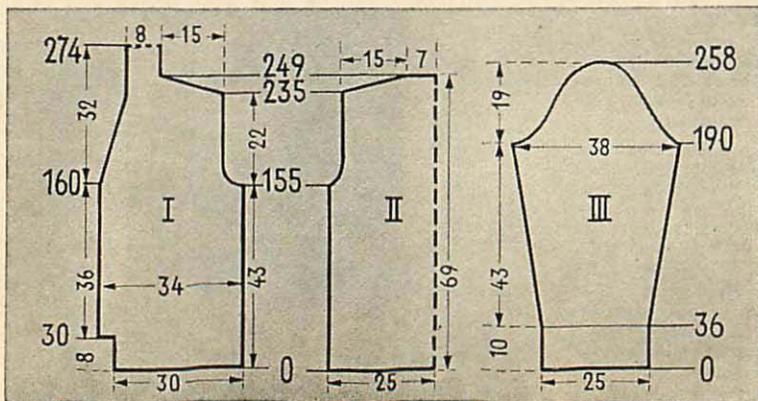
**Gauge:** 15 stitches = 2" (5 cm), 18 rows = 2" (5 cm).

**Pattern stitch:** Stockinette stitch. Sleeve borders: knit 1 — purl 1 ribbing.

**Front (I):** Cast on 91 stitches ( $11\frac{13}{16}'' = 30$  cm). Rows 1—30: Work even. Make knitted hem. For front underlap cast on additional 12 stitches. There are now 103 stitches ( $13\frac{3}{8}'' = 34$  cm) on the needles. Rows 31—60: Work even. At the same time in the 31st and 56th row work buttonholes over the 4th—8th and 17th—21st stitches. For the pocket, counted from side seam push 26 needles, counted from edge push 42 needles



into holding position and knit 22 rows over the 35 needles. Bind off. For inner pocket cast on additional 35 stitches and work 22 rows even. The rows for the pocket do not count in the description. Now the needles from the side are put back into knitting position. Continue to knit over the entire width. Rows 61—155: Work even. At the same time in the 81st, 106th, 131st row work buttonholes. Rows 156—167: Shape armholes. Decrease every 2nd row 5 stitches, 4 stitches, 3 stitches, 2 stitches and twice 1 stitch. In





stitches ( $5\frac{1}{2}'' = 14$  cm).

**Sleeves (III):** Cast on 75 stitches ( $9\frac{7}{8}'' = 25$  cm). Rows 1—36: Knit 1 — purl 1 ribbing. Rows 37—190: Stockinette stitch. Increase each side 1 stitch every 6th row 10 times and 1 stitch every 8th row 10 times. Continue work even. There are now 115 stitches ( $15'' = 38$  cm) on the needles. Rows 191—202: Shape cap of sleeve. Bind off every 2nd row as follows: Front: 6, 5, 4, 3 times and twice 2 stitches; back: 3 stitches and 2 stitches 5 times. Rows 203—258: Decrease each side every 2nd row 1 stitch 24 times, bind off each side 2 stitches twice, 3, 4 and the remaining 10 stitches.

**Finishing:** Sew side seams and shoulders. Graft knitted-on neck band in back centre and sew it onto back part. Turn in half to make hem. Turn in half of pocket edge to make hem, sew on at sides. Sew on pocket from inside. Sew sleeves together and put them in. Make buttonhole stitch around buttonholes. Sew on buttons.

### Picture 68 Slipover HP 3201

**Size:** 38/40 (50/52).

**Material:** 11 oz. mixed light grey medium weight 4-ply wool.

**Dial:** 8 for pattern, 6 for knit 1-purl 1 ribbing.

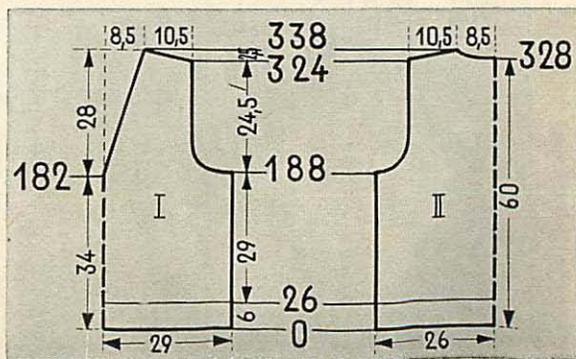
**Gauge:** 14 stitches = 2" (5 cm), 28 rows = 2" (5 cm) for pattern, 14 stitches = 2" (5 cm), 22 rows = 2" (5 cm) for knit 1-purl 1 ribbing.

**Pattern stitch:** Pattern using holding position on purl side according to chart with wheel III of automatic stitch selector. Borders: knit 1 — purl 1 ribbing.

**Back (II):** Cast on 145 stitches ( $20\frac{1}{2}'' = 52$  cm). Rows 1—26: Knit 1 — purl 1 ribbing, dial 6. Continue work pattern using holding position according to chart, dial 8. Rows 27—188: Work even. Rows 189—222: Shape armhole. Bind off each side 5 stitches. Decrease every 4th row 4 stitches once, 3 stitches once, 2 stitches twice, 1 stitch twice and 1 stitch once in the 8th row.

the 156th row work buttonhole. Shape neck opening. After the 160th row and 164th row decrease 1 stitch each. To do so always transfer the 26th stitch to the 25th needle and do the same with the 25 stitches. Rows 168—235: After the 168th row at front edge transfer the 26th stitch to the 25th needle and again transfer the 26th stitch every 4th row 14 times to the 25th needle. There are now 69 stitches ( $9\frac{1}{16}'' = 23$  cm) on the needles. Rows 236—249: Shape shoulder. Bind off every 2nd row 6 stitches 4 times and 7 stitches 3 times. Rows 250—274: Work even over the remaining 24 stitches and take them off the machine. Work 2nd half of front to correspond, but without buttonholes.

**Back (II):** Cast on 150 stitches ( $19\frac{3}{4}'' = 50$  cm). Rows 1—155: Work even. Rows 156—169: Shape armholes. Decrease each side every 2nd row 2 stitches twice, 1 stitch 5 times. Rows 170—235: Work even. Rows 236—249: Shape shoulder. Bind off each side every 2nd row 6 stitches 4 times, 7 stitches 3 times. Bind off in centre the remaining 42







Picture 69 Men's Sweater HP 3154

Size: 36 (48).

**Material:** 20 oz. light grey and 2 oz. anthracite medium weight Bouclé wool.

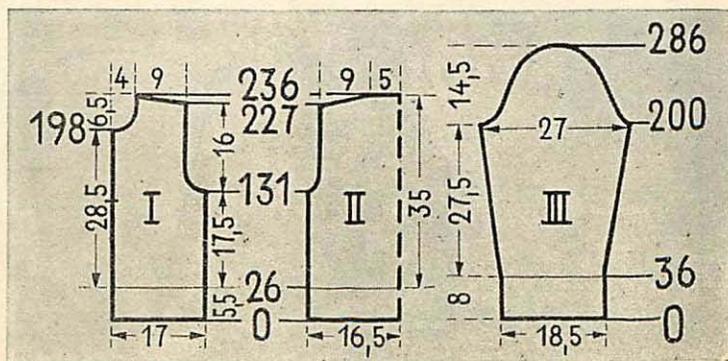
**Dial:** 7 for purl side, 6 for knit 1 — purl 1 ribbing.

**Gauge:** 13 stitches = 2" (5 cm), 26 rows = 2" (5 cm).

**Pattern stitch:** Stripe pattern on purl side: 44 rows light grey, 4 rows anthracite, 16 rows light grey, 4 rows anthracite. Lower edges and collar: knit 1 — purl 1 ribbing.

**Back (II):** Cast on 139 stitches ( $21\frac{1}{4}$ " = 54 cm) with light grey. Rows 1—36: Knit 1 — purl 1

ribbing, with dial 6. Increase one side 1 stitch and continue work in stripe pattern, described under "pattern stitch", with dial 7. At the beginning knit only 20 rows with light grey. Rows 37—192: Work even. Rows 193—220: Shape armhole. Decrease each side 1 stitch every 2nd row 14 times. Rows 221—316: Work even. Rows 317—332: Shape shoulder. Bind off each side 4 stitches every 2nd row 9 times. At the same time shape neck opening. After the 324th row bind off 18 stitches in centre and each side thereof 5 stitches once and 3 stitches twice. **Front (I):** Cast on 139 stitches ( $21\frac{1}{4}$ " = 54 cm) with light grey. Rows 1—36: Knit 1 — purl 1 ribbing, dial 6. Increase one side 1 stitch. Continue work with stripe pattern, indicated under "pattern stitch", dial 7. At the beginning knit only 20 rows with light grey. Rows 37—192: Work even. Rows 193—216: Shape armholes. Decrease each side 1 stitch every 2nd row 12 times. Divide work in centre and work right half first. Push needles for left half into holding position. Rows 217—220: Shape armholes. Again decrease 1 stitch twice. After the 217th row cast on 2 additional stitches for front underlap. For this purpose put 2 of the needles in holding position back into working position and transfer the stitches to an additional needle. Rows 221—301: Work even. Rows 302—316: Shape neck opening. Decrease every 2nd row 7 stitches once, 3 stitches twice, 2 stitches twice and 1 stitch twice. Rows 317—332: Shape shoulder. Bind off 4 stitches every 2nd row 9 times. After the 317th, 321st and 325th row decrease 1 more stitch at neck opening. Place slide to left side and shift row counter back to 216. Push all needles back into knitting position and work second half like first half. **Sleeves (III):** Cast on 57 stitches ( $8\frac{1}{16}$ " = 22 cm) with light grey. Rows 1—52: Knit 1 — purl 1 ribbing, dial 6. Increase 10 stitches evenly distributed over entire width. Continue work with stripe pattern, indicated under "pattern stitch", dial 7. At the beginning knit only 20 rows with light grey. Rows 53—276: After the 62nd row increase each side 1 stitch and 1 stitch



every 10th row 6 times and every 8th row 18 times. There are now 117 stitches ( $17\frac{3}{4}'' = 45$  cm) on the needles. Rows 277-324: Shape cap of sleeve. Bind off each side 1 stitch every 2nd row 14 times, 3 stitches 4 times and 4 stitches 6 times. Finally bind off the remaining 17 stitches. Work second sleeve same way. **Collar:** Cast on 117 stitches ( $17\frac{3}{4}'' = 45$  cm) with light grey. Work even 52 rows in knit 1—purl 1 ribbing, dial 6. Finally bind off all stitches. **Finishing:** Sew shoulder and side seams. Sew sleeve seams and put them in. At front slit turn in 2 stitches each side and sew. Sew on collar. Sew in zipper. Crochet one row of plain stitches on to lower sweater edge and sleeve edges.

### Picture 70 Boy's Cardigan KK 4104

**Size:** 5-7 years.

**Material:** 10 oz. dark blue and 4 oz. red medium weight wool.

**Dial:** 6.

**Gauge:** 16 stitches = 2" (5 cm), 30 rows = 2" (5 cm) for pattern using holding position. 16 stitches = 2" (5 cm), 23 rows = 2" (5 cm) for knit 1—purl 1 ribbing.

**Pattern stitch:** Pattern using holding position on plain side, according to chart, with wheel III of the automatic stitch selector. Borders: knit 1—purl 1 ribbing.

**Front (I):** Cast on 55 stitches ( $6\frac{1}{16}'' = 17$  cm) with blue. Rows 1-26: knit 1—purl 1 ribbing. Continue work with pattern using holding position. Rows 27-131: Work even. Rows 132-141: Shape armhole. Bind off every 2nd row 5 stitches, 3 stitches, 2 stitches and 1 stitch twice. Rows 142-198: Work even. Rows 199-208: Shape neck opening. Bind off every 2nd row 5 stitches, 4 stitches, 2 stitches and 1 stitch twice. Rows 209-227: Work even. Rows 228-236: Shape shoulder. Bind off every 2nd row 7 stitches twice and 8 stitches twice. Work second front half to correspond. **Back (II):** Cast on 105 stitches ( $13'' = 33$  cm). Work back following knitting description for front. However, to shape armholes decrease 3 stitches, 2 stitches and 1 stitch twice. There is no neck opening. Finally bind off 31 stitches ( $4'' = 10$  cm) in the centre. **Sleeves (III):** Cast on 59 stitches ( $7\frac{3}{16}'' = 18.5$  cm) with blue. Rows 1-36: knit 1—purl 1 ribbing. Continue work with pattern using holding position. Rows 37-200: Increase each side 1 stitch every 10th row 14 times, then work even. There are now 87 stitches ( $10\frac{5}{8}'' = 27$  cm) on the needles. Rows 201-206: Shape cap of sleeve. Bind off in front every 2nd row 5, 3, 2 stitches, in back 3, 2, 2 stitches. Rows 207-278: Decrease each side 1 stitch every 4th row 18 times until 34 stitches remain on the needles. Rows 279-286: Bind off each side every 2nd row 2, 3, 4, 5 stitches and finally the remaining 6 stitches. **Neckband:** Cast on 113 stitches

( $13\frac{7}{8}'' = 35$  cm) with blue. Rows 1-26: knit 1—purl 1 ribbing, bind off. **Finishing:** Sew shoulders and side seams. Sew sleeves together and put them in. Sew on neck band, gathering neck opening between the two edges. Crochet 3 rows of plain stitches on to front edges. Sew in separable zipper in front.

21-24	blue
19-20	red
15-18	blue
13-14	red
9-12	blue
7-8	red
3-6	blue
1-2	red

### Picture 71 Boy's Suit KK 4293

**Size:**  $1\frac{1}{2}$ -2 years.

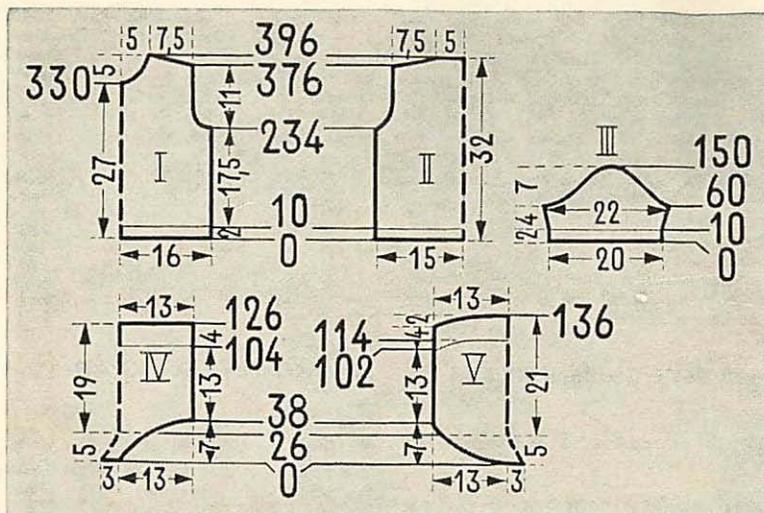
**Material:** Sweater:  $\frac{3}{4}$  oz. of fine white wool and 3 oz. light blue medium weight 3-ply wool. For pants with suspenders  $\frac{2}{4}$  oz. light blue medium weight 3-ply wool.

**Dial:** 5 for sweater, 4 for pants.

**Gauge:** 15 stitches = 2" (5 cm), 64 rows = 2" (5 cm) for pattern using holding position, 15 stitches = 2" (5 cm), 25 rows = 2" (5 cm) for borders of sweater. 17 stitches = 2" (5 cm), 26 rows = 2" (5 cm) for pants.

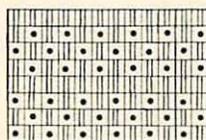
**Pattern stitch:** Sweater: pattern using holding position on plain side, according to chart, with wheel VI of the automatic stitch selector. Neck band: knit 1—purl 1 ribbing. Lower edges: stockinette stitch. Pants: stockinette stitch. Borders and suspenders: knit 1—purl 1 ribbing.

**Sweater, Back (II):** Cast on 90 stitches ( $11\frac{5}{16}'' = 30$  cm) with blue. Rows 1-10: For hem work even, stockinette stitch. Continue with two-coloured pattern using holding position, according to chart. Rows 11-234: Work even. Rows 235-260: Shape armhole. Bind off each side every 6th row 3 stitches once and 1 stitch 4 times. Rows 261-376: Work even. Rows 377-396: Shape shoulder. Bind off each side every 2nd row 2 stitches 7 times and 3 stitches 3 times. For neck edge bind off the remaining 30 stitches ( $4'' = 10$  cm). **Front (I):** Cast on 96 stitches ( $12\frac{5}{8}'' = 32$  cm) with blue. Rows 1-10: For hem work even, stockinette stitch. Continue, with both white and blue, with pattern using holding position according to chart. Rows 11-234: Work even. Rows 235-254: Shape armhole. Bind off each side as follows: every 6th row 4 stitches once, 3 stitches once, 2 stitches once and 1 stitch once. Rows 255-330: Work even. Rows 331-376: Shape neck opening. Bind off 10 stitches in centre and decrease each side thereof every 6th row 3 stitches once, 2 stitches once and 1 stitch 5 times. Rows 377-396: Shape shoulder. Bind off each side every 2nd row 2 stitches 7 times and 3 stitches 3 times.



**Sleeves (III):** Cast on 60 stitches ( $7\frac{7}{8}'' = 20$  cm) with blue. Rows 1–10: For hem work even, stockinette stitch. Continue with both white and blue with pattern using holding position according to chart. Rows 11–60: After the 22nd row increase each side 1 stitch and 1 stitch every 12th row twice. There are now 66 stitches ( $8\frac{11}{16}'' = 22$  cm) on the needles. Rows 61–72: Shape cap of sleeve. Bind off every 4th row as follows: back: 2 stitches twice and 1 stitch once, front: 4 stitches once, 3 stitches once and 2 stitches once. Rows 73–144: Decrease each side 1 stitch every 4th row 18 times. Rows 145–150: Bind off each side every 4th row 2 stitches once and 3 stitches once. Then bind off the remaining 6 stitches. Work second sleeve to correspond. **Front neck band:** Cast on 71 stitches with blue. Rows 1–24: Knit 1—purl 1 ribbing. Finally bind off all stitches. **Back neck band:** Work like front neck band, but cast on only 57 stitches.

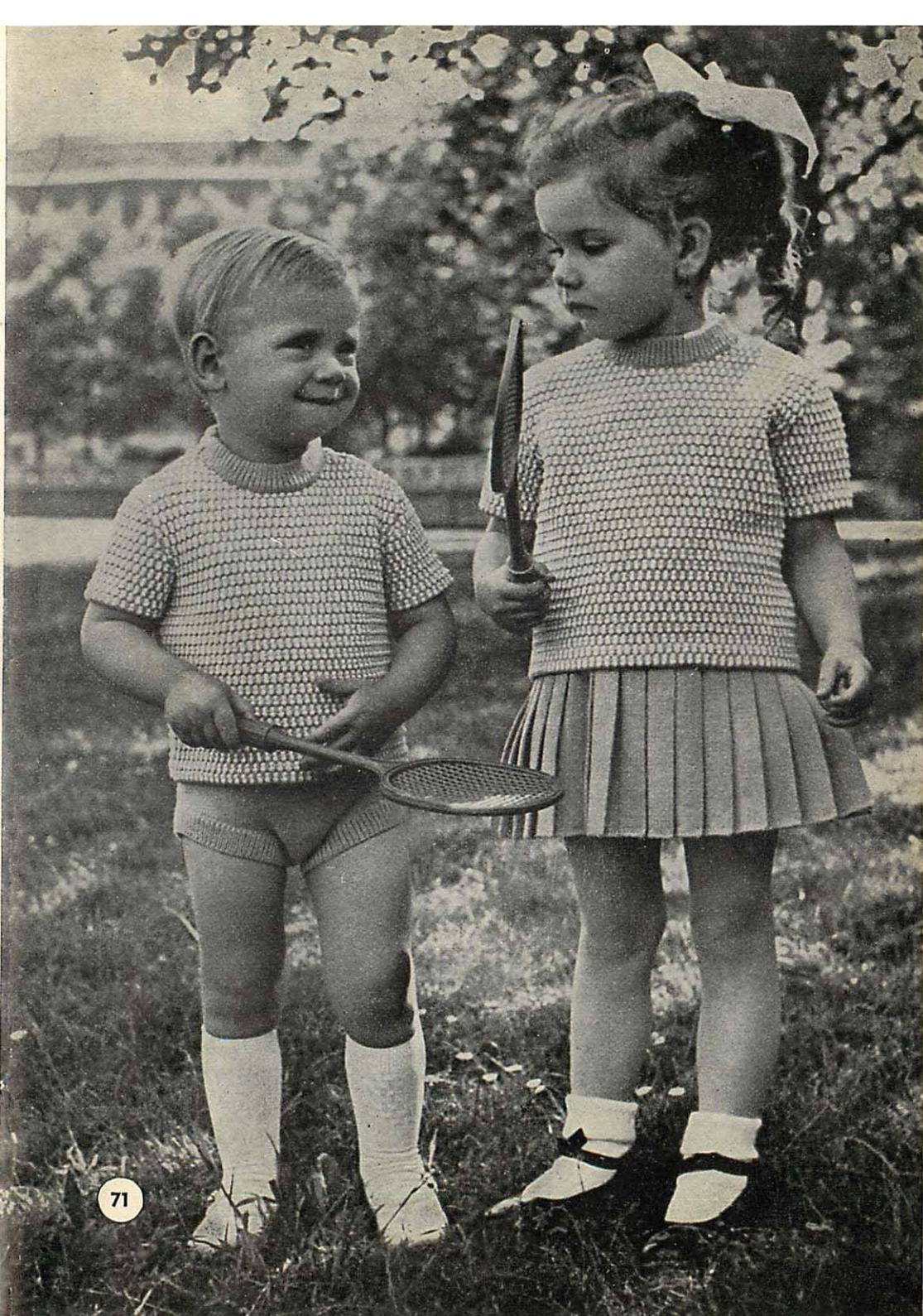
**Pants with suspenders: Back (V):** For crotch cast on 21 stitches ( $2\frac{3}{8}'' = 6$  cm) with blue. Stockinette stitch. Rows 1–26: On leg edges increase each side every 2nd row 3 stitches 5 times, 3 times alternating 2 stitches once and 3 stitches once, then again 2 stitches once. At the same time decrease for crotch within the row after the 6th row and every 2nd row 9 times as follows: transfer the 1st crotch stitch to the right neighbouring needle of the leg edge. Do same with all stitches. Transfer the last crotch stitch to the left neighbouring needle of the leg edge. Do same with all stitches. Continue decreasing same way until 1 crotch stitch is left in centre. Rows 27–38: On edges of leg increase each side 2 stitches every 2nd row 6 times. There are now 89 stitches ( $10\frac{1}{4}'' = 26$  cm) on the needles. Rows 39–102: Work



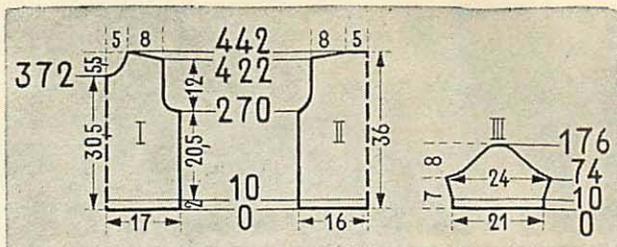
23-24 blue  
19-22 white  
17-18 blue  
13-16 white  
11-12 blue  
7-10 white  
5-6 blue  
1-4 white

even. Rows 103–112: For seat work shortened rows. On left edge place 5 needles into holding position, knit 1 row. On right edge place 5 needles into holding position, knit 1 row. Again place on each side consecutively 5 needles once and 7 needles 3 times into holding position. Rows 113–114: On left edge put 31 needles back into knitting position, knit 1 row. On right edge put 31 needles back into Knitting position. Knit 1 row over all needles. For top edge continue knit 1—purl 1 ribbing. Rows 115–136: Work even. Finally bind off all 89 stitches ( $10\frac{1}{4}'' = 26$  cm).

**Front (IV):** For crotch cast on 21 stitches ( $2\frac{3}{8}'' = 6$  cm) with blue. Stockinette stitch. Rows 1–26: After the 4th row increase on leg edges each side 1 stitch, then every 2nd row 1 stitch 4 times, 2 stitches 4 times and 3 stitches twice. At the same time after the 6th row and 9 times every 2nd row decrease for crotch same number of stitches as above for back. Rows 27–38: On leg edges increase each side every 2nd row 3 stitches twice, 4 stitches 3 times and 7 stitches once. There are now 89 stitches ( $10\frac{1}{4}'' = 26$  cm) on the needles. Rows 39–104: Work even: For top edge continue knit 1—purl 1 ribbing. Rows 105–126: Work even. Finally bind off all 89 stitches ( $10\frac{1}{4}'' = 26$  cm). **Suspenders:** Cast on



15 stitches each, with blue. Work 170 rows in knit 1 — purl 1 ribbing. Then bind off all stitches. **Leg borders:** Cast on 141 stitches each, with blue. Work 12 rows knit 1 — purl 1 ribbing. Then bind off all stitches. **Finishing:** **Sweater:** Sew side seams. Sew only 1" (2.5 cm) of shoulder seams. Sew sleeve seams and put them in. Turn in 8 rows of lower edges of sweater and of sleeve edges. Turn front shoulder edges in slightly. For underlap sew a band of 10 knitted rows, stockinette stitch, double, on to back shoulder edges. Sew on neck bands, tucking in neck opening. Make 3 loops each side of front closing edge. Sew buttons on to corresponding back edge. **Pants:** Sew both front and back on the sides and in centre; close leg borders and sew them on. Sew on suspenders crosswise.



### Picture 71 Pleated Skirt and Sweater MK 4294

**Size:** 3—4 years.

**Material:** Skirt: 9 oz. light blue medium weight 3-ply wool. Sweater: 4 oz. light blue medium weight and 4 oz. fine white 3-ply wool.

**Dial:** 4 for skirt, 5 for sweater.

**Gauge:** 17 stitches = 2" (5 cm), 26 rows = 2" (5 cm) for skirt, 15 stitches = 2" (5 cm), 64 rows = 2" (5 cm) for pattern using holding position. 15 stitches = 2" (5 cm), 25 rows = 2" (5 cm) for borders of sweater. Please note that the knitting for the skirt changes by crocheting off the stitches for the pleats. The gauge is therefore to be worked proportionally larger and the 7th stitch of each stripe in plain knitting is to be crocheted off with plain crochet stitches.

**Pattern stitch:** Skirt: knit 21 — purl 1 ribbing. Waistband and suspenders: stockinette stitch. Sweater: Pattern using holding position on plain side, according to chart KK 4293, with automatic stitch selector. Lower borders: stockinette stitch. Neck band: knit 1 — purl 1 ribbing. **Skirt:** The skirt is knitted in 4 panels. The purl stitches will form the inner folds. To produce the outer folds, every 7th plain stitch on the left of the purl stitch will be crocheted from bottom to top with plain crochet stitches after each panel has been finished. The skirt will have a length of 10 3/8" (27 cm) after crocheting the pleats. **Cast on 153 stitches** (17 3/4" = 45 cm). Knit 21 — purl 1 ribbing. Rows 1—140: Work even. Finally bind off all stitches. Work remaining 3 panels in the same way. **Waistband:** Cast on twice 100 stitches (11 7/16" = 29.5 cm). Knit 22 rows stockinette

stitch. Then bind off all stitches. **Suspenders:** Cast on twice 19 stitches (23/16" = 5.5 cm). Work even 234 rows in stockinette stitch. Then bind off all stitches.

**Sweater: Back (II):** Cast on 96 stitches (12 5/8" = 32 cm) with blue. Rows 1—10: For hem work even, stockinette stitch. Continue knit with both white and blue pattern using special holding position according to chart. Rows 11—270: Work even. Rows 271—296: Shape armhole. Bind off each side as follows: every 6th row 3 stitches once, 2 stitches twice and 1 stitch twice. Rows 297—422: Work even. Rows 423—442. Shape shoulder. Bind off each side every 2nd row 2 stitches 6 times and 3 stitches 4 times. Then for neck edge bind off the remaining 30 stitches (4" = 10 cm).

**Front (I):** Cast on 102 stitches (13 3/8" = 34 cm) with blue. Rows 1—10: For hem work even, stockinette stitch. Continue to knit in two-coloured pattern using special holding position, according to chart. Rows 11—270: Work



even. Rows 271—302: Shape armhole. Bind off each side as follows: every 6th row 4 stitches once, 3 stitches once, two stitches once and 1 stitch 3 times. Rows 303—372: Work even. Rows 373—422: Shape neck opening. Bind off 8 stitches in centre and decrease each side thereof every 6th row 3 stitches once, 2 stitches twice and 1 stitch twice, again 1 stitch in the 10th row. Rows 423—442: Shape shoulder. Bind off each side every 2nd row 2 stitches 6 times and 3 stitches 4 times. After the 422nd row for neck opening decrease each side 1 more stitch.

**Sleeves (III):** Cast on 63 stitches ( $8\frac{1}{4}'' = 21$  cm) with blue. Rows 1—10: For hem work even, stockinette stitch. Continue to knit in two-coloured pattern using special holding position, according to chart. Rows 11—74: After the 20th row increase each side 1 stitch and 1 stitch every 10th row 4 times. There are now 73 stitches ( $9\frac{7}{16}'' = 24$  cm) on the needles. Rows 75—86: Shape cap of sleeve. Bind off every 4th row as follows: back: 3 stitches once and 2 stitches twice, front: 4 stitches once, 3 stitches once and 2 stitches once. Rows 87—170: Decrease each side 1 stitch every 4th row 21 times. Rows 171—176: Bind off each side every 4th row 2 stitches once and 3 stitches once, then the remaining 5 stitches. Work second sleeve to correspond. **Neck border: front:** Cast on 77 stitches with blue. Rows 1—24: Knit 1—purl 1 ribbing. Bind off all stitches. **Neck border: back:** Cast on 57 stitches with blue. Rows 1—24: Knit 1—purl 1 ribbing. Bind off all stitches. **Finishing:** Skirt: Crochet the stitches for the pleats, as described under "pattern stitch". Join the 4 panels with plain crochet stitches, with the exception of the last panel. Steam the pleats and join the skirt with plain crochet stitches. For slit leave approximately 2" (5 cm) open on top. Work plain crochet stitches around these edges. Sew elastic of 1" (2.5 cm) on top edge, with loose stitches and using wool so that it may stretch, shoving pleats together to width of waistband. Join waistband and sew on to top edge, inside and outside. Work 1 row of plain crochet stitches on bottom edge. Double suspenders, sew together and sew on crosswise. Work eyes with buttonhole stitches on waistband and sew on hooks. **Sweater:** Sew side seams. Sew only 1" (= 2.5 cm) of shoulder seams. Sew sleeves together and put them in. Turn in 8 rows of lower edge of sweater and of sleeve edges. Slightly turn in

front shoulder edges. For underlap sew a band of 10 rows of stockinette stitch, double, on to back shoulder edges. Sew on neck band, tucking in neck edges. Each side of front closing edge make 4 loops and sew buttons on to corresponding back edge.

## Picture 72 Skirt with Suspenders and Knitted Blouse MK 4289

**Size:** 3—4 years.

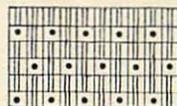
**Material:** 8 oz. fine white 3-ply wool for the skirt. 2 oz. white,  $\frac{1}{4}$  oz. red,  $\frac{1}{4}$  oz. blue and  $\frac{1}{4}$  oz. yellow fine 3-ply wool for the sweater.

**Dial:** 3.

**Gauge:** 20 stitches = 2" (5 cm), 27 rows = 2" (5 cm) for stockinette stitch. 17 stitches = 2" (5 cm), 44 rows = 2" (5 cm) for pattern using holding position.

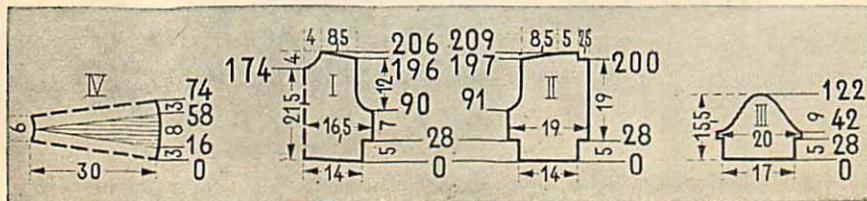
**Pattern stitch:** Stockinette stitch and pattern using holding position on plain side, according to chart. Knit with wheel VI of the automatic stitch selector.

**Skirt (IV):** The skirt is knitted sideways and in one piece. The full-flared skirt is produced by knitting shortened rows. **Cast on 120 stitches with open edge** ( $12'' = 30$  cm). Stockinette stitch. Rows 1—16: Work even. Rows 17—38: Knit shortened rows. Push 60 needles into holding position, counted from top edge. Knit 2 rows, successively put back into working position 3 times 8 needles, 3 times 6 needles and 4 times 4 needles. Rows 39—58: Continue to knit shortened rows. Successively push the



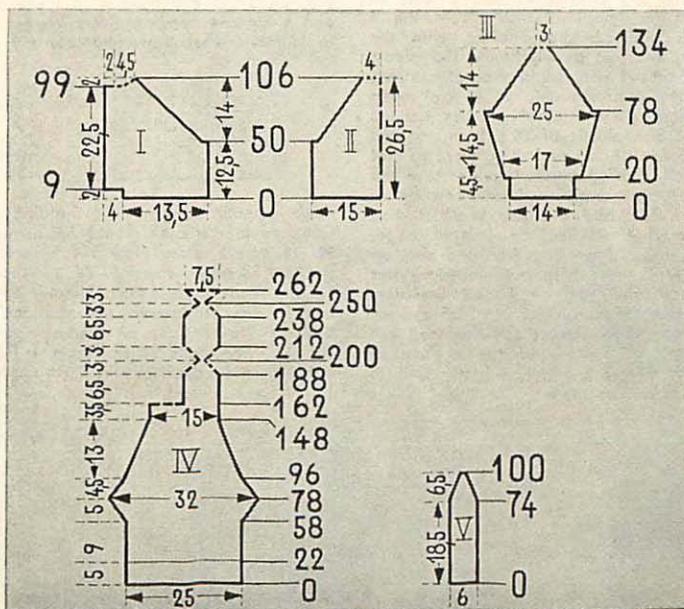
11-12 white  
9-10 yellow  
7-8 white  
5-6 blue  
3-4 white  
1-2 red

same needles again into holding position. Continue to knit over all the 120 needles. Rows 59—74: Work even. Now 1 full-flared part is finished. Repeat rows 1—74 10 times more. At the end work even 15 rows only. Then transfer the stitches to an additional needle. **Bodice: Front:** Cast on 120 stitches ( $12'' = 30$  cm). Stockinette stitch. Rows 1—130: Work even. Then bind off. **Back:** Cast on 60 stitches



( $5\frac{7}{8}$ " = 15 cm). Stockinette stitch. Rows 1—130: Work even. Then bind off. Work second half of back to correspond. **Suspenders:** Cast on 25 stitches each. Work even 120 rows, stockinette stitch. Bind off. **Blouse: Back (II):** Cast on 56 stitches ( $5\frac{1}{2}$ " = 14 cm) with white. Rows 1—28: Stockinette stitch. After the 5th and 21st row work buttonholes over the 4th—7th needle. After the 27th row work knitted hem. On the right edge cast on additional 8 stitches and continue to knit in pattern using holding position, according to chart. There are now 64 stitches ( $7\frac{1}{2}$ " = 19 cm) on the needles. Rows 29—91: Work even. After the 48th and 76th row work buttonholes over the 2nd—5th and 12th—15th needles knitting 2 rows each time. Rows 92—113: Shape armhole. Decrease every 4th row 3 stitches once, 2 stitches twice and 1 stitch 3 times. After the 104th row work buttonholes. Rows 114—197: Work even. After the 132nd, 160th and 188th row work buttonholes. Rows 198—209: Shape shoulder. Bind off every 2nd row 4 stitches once and 5 stitches 5 times. After the 200th row bind off 8 stitches on the right side. Finally bind off the remaining 17 stitches ( $2$ " = 5 cm). Work second half to correspond, but without buttonholes. For this second half cast on from right to left. **Front (I):** Cast on 113 stitches ( $11\frac{1}{16}$ " = 28 cm) with white. Rows 1—28: Stockinette stitch. After the 27th row work knitted hem. Continue to knit pattern using holding position according to chart. Rows 29—90: Work even. There are now 113 stitches ( $13$ " = 33 cm) on

the needles. Rows 91—112: Shape armhole. Decrease each side every 4th row 5 stitches, 3 stitches, 2 stitches twice and 1 stitch twice. Rows 113—174: Work even. Rows 175—206: Shape neck opening. Decrease 7 stitches in the centre and each side thereof decrease every 4th row 3 stitches once, 2 stitches twice and 1 stitch 3 times. After the 196th row shape shoulder. Bind off each side every 2nd row 4 stitches once and 5 stitches 5 times. **Sleeves (III):** Cast on 69 stitches ( $6\frac{7}{16}$ " = 17 cm) with white. Rows 1—28: Stockinette stitch. After the 27th row work knitted hem. Continue to knit pattern using special holding position, according to chart. Rows 29—42: Work even. There are now 69 stitches ( $7\frac{7}{8}$ " = 20 cm) on the needles. Rows 43—62: Shape cap of sleeve. Bind off every 4th row as follows: back: 3 stitches once and 2 stitches 4 times; front: 4 stitches once, 3 stitches once and 2 stitches 3 times. Rows 63—114: Decrease each side 1 stitch every 4th row 13 times. Rows 115—122: Bind off each side every 4th row 2, 3 and then the remaining 9 stitches. Work second sleeve to correspond. **Finishing: Skirt:** Take off the casting-on thread and graft the skirt seams, leaving open approximately  $2\frac{3}{8}$ " (6 cm) for the back slit. Sew side seams of the bodice. Sew bodice onto skirt, tucking in the top edge of the skirt. Make a hem approximately 2" wide at bottom. Double suspenders and sew them onto the bodice. Sew in zipper. **Blouse:** Sew shoulder and side seams. Sew sleeves and put them in. Turn in 8 stitches of back





edges. Turn in a narrow seam at neck edge and sew knitted band against it. Make buttonhole stitch around buttonholes. Sew on buttons.

### Picture 73 Baby's Set SK 5042

**Size:**  $\frac{1}{2}$ — $\frac{3}{4}$  year.

**Material:** Jacket: 4 oz., Pants:  $3\frac{1}{2}$  oz., Cap: 2 oz. light blue heavy baby wool.

**Dial:** 9 for stockinette stitch, 8 for knit 1 — purl 1 ribbing.

**Gauge:** 14 stitches = 2" (5 cm), 20 rows = 2" (5 cm) for stockinette stitch. 14 stitches = 2" (5 cm), 22 rows for knit 1 — purl 1 ribbing.

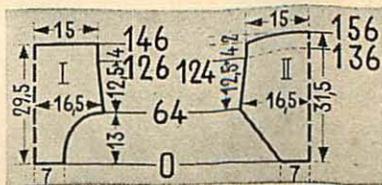
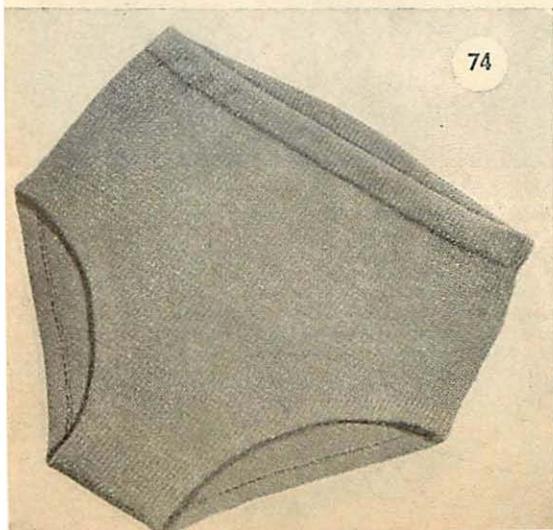
**Pattern stitch:** Stockinette stitch. At the same time, to obtain raglan effect on jacket and cap, form loops as indicated hereafter. Borders: knit 1 — purl 1 ribbing.

**Jacket: Back (II):** Cast on 84 stitches (12" = 30 cm). Work stockinette stitch with dial 9. Rows 1—50: Work even. Rows 51—52: Bind off each side 4 stitches. Rows 53—106: Decrease each side 1 stitch every 2nd row 27 times. At the same time, to obtain the raglan effect, form loops. After each decrease, push the 3rd needle from those in non-working position into holding position and lay the yarn around this needle in counter-clockwise direction from underneath. Before decreasing again, let the loop slide from the needle and put the needle back into non-working position. Finally transfer 22 stitches ( $3\frac{1}{8}$ " = 8 cm) onto an additional needle. **Front (I):** Cast on 38 stitches ( $5\frac{5}{16}$ " = 13.5 cm). Work stockinette stitch with dial 9. Rows 1—9: Work even. On front edge cast on 12 additional stitches. Rows 10—50: Work even. Rows 51—52: On the right side bind off 4 stitches. Rows 53—99: Shape raglan. Decrease every 2nd row 1 stitch 24 times and form loops, as described for back. Then on front edge bind off 6 stitches. Row 100: **Work even.** Rows 101—106: Shape neck opening. Knit shortened rows. On the left side push twice 4 and once 3 needles into holding position. At the same time for raglan effect, decrease again 1 stitch 3 times. Finally transfer 13 stitches ( $1\frac{3}{4}$ " = 4.5 cm) onto an auxiliary needle. Work second half to correspond. **Sleeves (III):** Cast on 39 stitches (5" = 14 cm). Rows 1—20: Knit 1 — purl 1 ribbing with dial 8. Now increase 9 stitches evenly distributed over the entire width and continue work stockinette stitch with dial 9. There are now 48 stitches ( $6\frac{3}{4}$ " = 17 cm) on the needles. Rows 21—78: After the 26th row increase each side 1 stitch and again 1 stitch every 6th row 4 times and every 4th row 6 times. There are now 70 stitches ( $9\frac{7}{8}$ " = 25 cm) on the needles. Rows 79—80: Bind off each side 4 stitches. Rows 81—134: Shape raglan. Decrease each side 1 stitch 27 times and form loops as described for "back". Finally transfer 8 stitches ( $1\frac{3}{16}$ " = 3 cm) onto an auxiliary needle. Work second sleeve in exactly the same way.

**Pants (IV):** The pants are knitted in two parts and started at the top. Cast on 71 stitches (10" = 25 cm). Rows 1—22: Knit 1 — purl 1 ribbing with dial 8. After the 6th row, work a row with holes, to insert cord. To that effect place the 6th, 12th, 18th, 24th, 30th stitch, etc. onto the left adjacent needle. The empty needles remain in working position. Now increase 1 stitch on one side and continue to work stockinette stitch with dial 9. Rows 23—58: Work even. Rows 59—78: After the 58th row increase for the crotch each side 1 stitch and again 1 stitch every 2nd row 8 times. There are now 90 stitches ( $12\frac{5}{8}$ " = 32 cm) on the needles. Rows 79—96: After the 78th row decrease for the crotch each side 1 stitch and again 1 stitch every 2nd row 8 times. Rows 97—148: After the 96th row decrease each side 1 stitch and again 1 stitch every 4th row 11 times and every 2nd row 3 times. There are now 42 stitches ( $5\frac{1}{16}$ " = 15 cm) on the needles. Rows 149—162: Work even. On the left side transfer 21 stitches on to an auxiliary needle. Rows 163—188: For the instep work even. Rows 189—200: For the toe knit shortened rows. Push on each side successively 4 times one needle and twice 2 needles into holding position. Rows 201—212: Continue to knit shortened rows. Put the same needles successively back into working position. Rows 213—238: For the sole, work even. Rows 239—250: For the heel knit shortened rows. Push on each side successively 4 times 1 needle and twice 2 needles into holding position. Rows 251—262: Continue to knit shortened rows. Put the same needles successively back into working position. Finally transfer all stitches on to an auxiliary needle. Work second half to correspond.

**Cap (V):** The cap is worked in 5 parts, stockinette stitch, with dial 9. Cast on 17 stitches ( $2\frac{3}{8}$ " = 6 cm). Rows 1—74: Work even. At the same time form loops on each side. For this purpose, before starting each row, push the 3rd needle from those in non-working position into holding position and lay the yarn around this needle in counter-clockwise direction from underneath. After several rows drop these loops and start again to form new loops. Rows 75—100: After the 74th row decrease 1 stitch on each side and again 1 stitch 6 times every 4th row. At the same time form loops. Finally bind off the remaining 3 stitches. Knit the other four parts in the same way.

**Finishing: Jacket:** First work raglan seams. For this purpose, starting at the bottom and using the work hook, pull one loop from the sleeve





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through a loop of the front. Continue to pull alternatively a loop from the front through a loop from the sleeve, etc. Work the other three seams the same way. For the neck band, place the stitches of the back on the machine and on each side thereof separately the last two loops. Then add the stitches of the sleeves. The last two loops should be placed separately on the machine; then add the stitches of both fronts. Work 12 rows of stockinette stitch over 72 needles. Then bind off all the stitches. Sew side and sleeve seams. Turn in  $1\frac{3}{16}$ " (2 cm) of bottom edge and  $2\frac{3}{8}$ " (6 cm) of front edge. Turn in half of neck band. Draw a cord made of twisted wool through neck band. Sew pompoms at cord ends. Make 2 loops and sew on buttons.

**Pants:** Graft the stitches of the heel and of the leggings. Sew instep and sole with side seams. Sew leggings. Sew pants in front and back. Draw wool cord through row with holes.

**Cap:** Join all parts of the cap by crocheting the loops, as described for jacket. Draw a thread through the top edge of the cap. Turn in  $2\frac{3}{8}$ " (6 cm) of lower edges. Sew a small knitted band at the side on to lower edge of cap. This band is buttoned on to other side of cap by means of a loop. Sew pompon on top of cap.

#### Picture 74 Bathing Trunks KK 4444

Size: 8—10 years.

Material: 3 oz. blue medium fine water resistant 4-ply wool.

Dial: 4.

Gauge: 16 stitches = 2" (5 cm), 25 rows = 2" (5 cm).

Pattern stitch: Plain stockinette stitch.

**Back (II):** Cast on 44 stitches ( $5\frac{1}{2}$ " = 14 cm). Stockinette stitch. Rows 1—64: After the 2nd row increase each side 1 stitch and again 1 stitch every 2nd row 30 times. There are now 106 stitches ( $13$ " = 33 cm) on the needles. Rows 65—124: After the 74th row decrease each side 1 stitch and 1 stitch every 12th row 4 times. There are now 96 stitches on the needles ( $11\frac{13}{16}$ " = 30 cm). Rows 125—134: To shape seat work shortened rows. On the left push 8 needles into holding position. Knit 1 row. On the right push 8 needles into holding position. Knit 1 row. Alternatively on each side push additional 8 needles 4 times into holding position. Rows 135—136: On the left side put all the needles back into working position. Knit 1 row. On the right put all the needles back into working position. Knit 1 row over all needles. Rows 137—156: Work even. Bind off all stitches.

**Front (I):** Cast on 44 stitches ( $5\frac{1}{2}$ " = 14 cm). Stockinette stitch. Rows 1—64: After the 20th row increase each side 1 stitch and again 1 stitch every 4th row 6 times, 1 stitch every 2nd row 5 times, 3 stitches every 2nd row 3 times and 10 stitches once. There are now 106 stitches ( $13$ " = 33 cm) on the needles. Rows 65—126: After the 74th row decrease each side 1 stitch and again 1 stitch every 12th row 4 times. There are now 96 stitches ( $11\frac{13}{16}$ " = 30 cm) on the needles. Rows 127—146: Work even. Bind off all stitches.

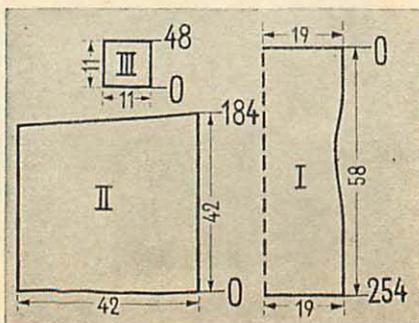
**Finishing:** Join both parts with side seams and sew pants at the bottom. Turn in 10 rows at top edge. At leg edges turn in approximately  $\frac{5}{8}$ " (1.5 cm). Insert elastic.

#### Picture 75 Women's Knitted Underwear DW 2088

Size: 12—14 (42/44).

Dial: 4.

Gauge: 16 stitches = 2" (5 cm), 22 rows = 2" (5 cm).





3 times. Rows 93—116: Work even. Rows 117—178: After the 116th row increase 1 stitch each side and again 1 stitch every 20th row 3 times. Rows 179—254: Work even. Bind off all stitches. **Back:** Work back like front, but without pattern. **Panties (II):** Cast on 133 stitches ( $16\frac{1}{2}'' = 42$  cm). Rows 1—20: Work even. Make knitted hem. For pattern based on skipped needles, see description for front. However, instead of 9 stripes, work only 7 stripes. Rows 21—150: Work even. Rows 151—162: Work shortened rows to shape seat. For this purpose push successively 6 times 19 needles into holding position until you have 19 stitches on the needles. Push all the needles back into working position. Rows 163—184: Work even. Bind off all stitches. Work second part of panties to correspond.

**Crotch (III):** Cast on 36 stitches ( $4\frac{3}{8}'' = 11$  cm). Knit 48 rows. Bind off.

**Finishing: Chemise:** Sew side seams. Turn in bottom hem. Sew on shoulder straps.

**Panties:** Sew together  $1\frac{1}{16}''$  (4 cm) of bottom leg edges of each half of the panties. Sew seams in middle of front and back and insert crotch at bottom. Turn in top to make hem and insert elastic.

### Picture 76 Bed Jacket DW 2090

**Size:** 12/14 (42/44).

**Material:** 9 oz. of medium fine white wool.

**Dial:** 4.

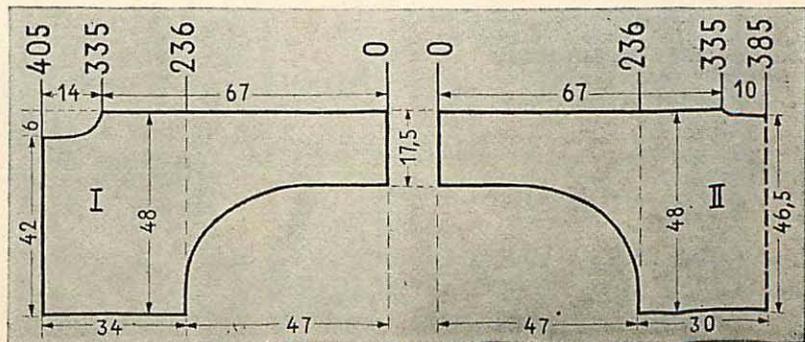
**Gauge:** 17 stitches = 2" (5 cm). 25 rows = 2" (5 cm).

**Pattern stitch:** Pattern based on skipped needles. Put every 3rd needle out of service. Use purl side as right side of work. Neck band, borders on sleeves and front: Use purl side as outside. The jacket is knitted sideways and started at the bottom of the sleeve. The figures in brackets indicate the rows for the second half of back. Starting with row 386 the second half is worked in opposite direction.

**Back (II):** Cast on 59 stitches ( $6\frac{7}{8}'' = 17.5$  cm). Rows 1—20: (751—770): Work even on purl side. Transfer every 3rd needle on to adjacent needle.

**Pattern stitch:** Plain stockinette stitch and pattern based on skipped needles.

**Chemise: Front (I):** Cast on 121 stitches (15" = 38 cm). Rows 1—20: Work even. Make knitted hem. For pattern based on skipped needles transfer the centre stitch and on each side thereof 4 times the 6th stitch to the adjacent needle so that there are 9 stripes in front. The two outer stripes end after the 46th row, i. e. the empty needles are put back into working position. The following stripes each end 8 rows after the previous ones. Rows 21—60: Work even. Rows 61—92: After the 60th row decrease 1 stitch each side and again 1 stitch every 10th row

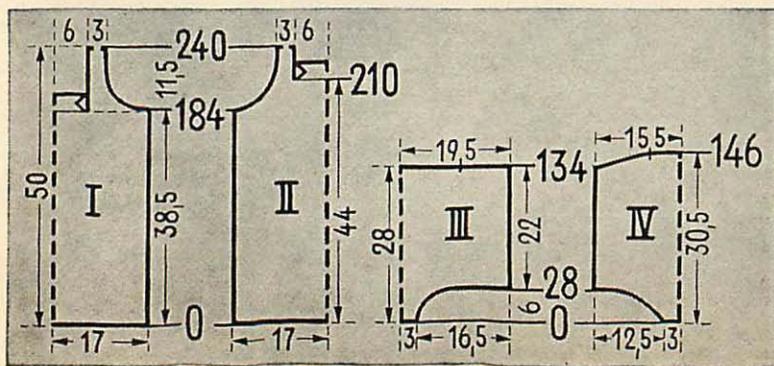
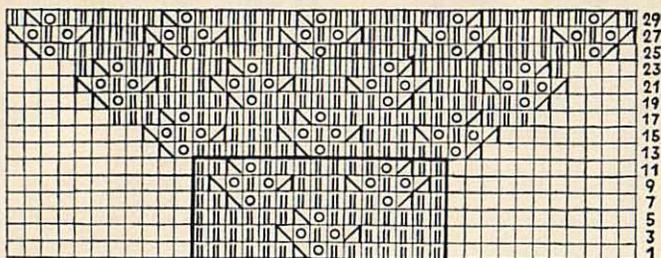


Put empty needles out of service. Rows 21—84: (687—750): Work even. 85—142: (629—686): On inner sleeve seam, increase 1 stitch every 6th row 10 times. Rows 143—180: (591—628): Increase 1 stitch every 4th row 10 times. Rows 181—210 (561—590): Increase 1 stitch every 2nd row 15 times. Rows 211—230 (541—560): Increase 2 stitches every 2nd row 10 times. Rows 231—234 (537—540): Increase 5 stitches every 2nd row twice. Rows 235—236 (535—536): Increase 40 stitches once. There now are 164 stitches ( $18\frac{7}{8}'' = 48$  cm) on the needles. Rows 237—335 (436—534): Work even. Rows 336—357 (414—435): Shape neck opening. Decrease 1 stitch every 4th row 6 times. Rows 358—385 (386—413): Work even. Now the centre of the back has been reached. Stitches are now increased and decreased respectively, same as they were decreased and increased for the first half of the back.

**Front (I):** Up to row 335 each front is knitted same as the back. Now bind off for neck opening, as follows: Rows 336—372: every 2nd row 4 stitches, 3 stitches, 2 stitches twice, 1 stitch 5 times and 1 stitch every 4th row 5 times. Rows 373—385: Work even. Now put the needles from the non-working position back into the knitting position and knit over all needles. Rows 386—405: Work even on purl side. Bind off.

**Neck band:** Cast on 112 stitches. ( $13'' = 33$  cm). Work even 30 rows. Bind off.

**Finishing:** Sew side and sleeve seams. Turn in sleeve and front edges. Sew neck band on to





neck opening. Roll neck band loosely to the outside and fasten it with a few stitches. Make 2 pieces of cord of twisted wool, each  $17\frac{3}{4}$ " (45 cm) long and sew on to neck opening. Draw a wool cord,  $9\frac{1}{2}$ " (2.30 m) long, at the waist through the bed jacket. Insert rubber threads along the double sleeve cuffs.

### Picture 77 Girls' Underwear MW 4119

Size: 8—10 years.

Material: 9 oz. of white, medium fine wool.

Dial: 4.

Gauge: 16 stitches = 2" (5 cm), 24 rows = 2" (5 cm).

Pattern stitch: Stockinette stitch and lace pattern according to chart.

**Chemise: Front (I):** Cast on 109 stitches ( $13\frac{3}{8}$ " = 34 cm). Rows 1—22: Work even. Work knitted hem. Rows 32—184: Work even. In centre of 154th row start knitting lace pattern according to chart. Shape neck opening. At each side push 36 needles into holding position and knit 12 rows of stockinette stitch over the 37 centre needles, decreasing on each side 1 stitch 3 times and increasing 1 stitch 3 times. Bind off the 37 stitches. These 12 rows are not counted in the description. Rows 185—240: Shape armhole. Bind off on each side in every 2nd row 6, 4, 3, 2 stitches and 1 stitch 11 times. Work even and take the remaining 10 stitches ( $1\frac{3}{16}$ " = 3 cm) off the machine.

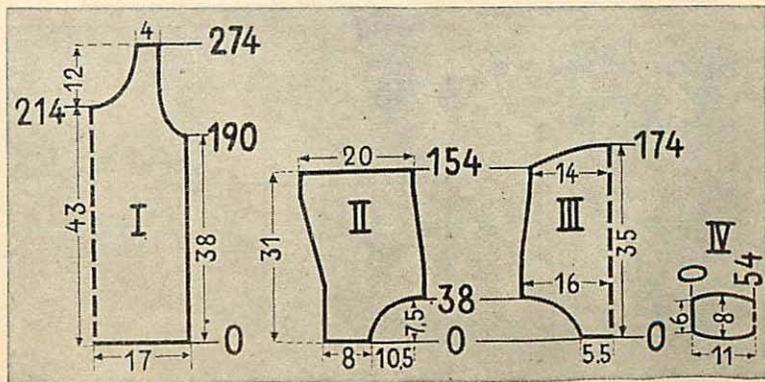
**Back (II):** Work like front, but without pattern. Shape armhole. On each side bind off in every 2nd row 4 stitches, 2 stitches twice and 1 stitch 18 times. Shape neck opening only in the 211th row. Finally take the knitting off the machine.

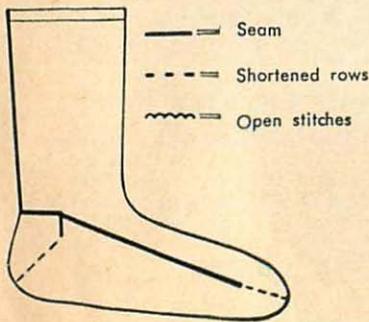
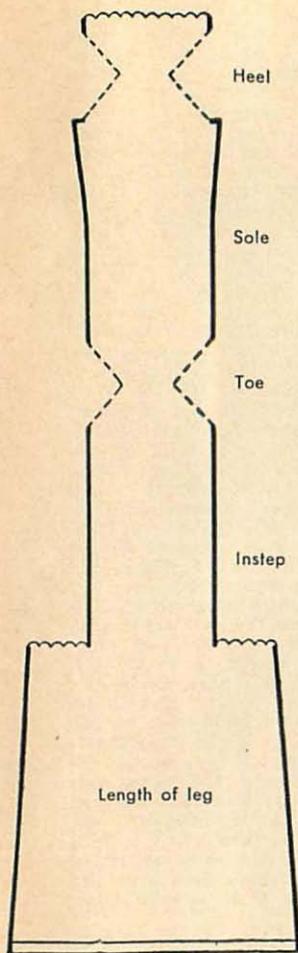
**Panties:** The panties are knitted in two parts. The seams are on both sides.

**Panties: Front (III):** Cast on 20 stitches ( $2\frac{3}{8}$ " = 6 cm). Rows 1—4: Work even. Rows 5—28: Increase on each side in every 2nd row 1 stitch 7 times, then increase 2, 3, 6, 8 and 27 stitches. There are now 126 stitches ( $15\frac{7}{8}$ " = 39 cm) on the needles. Rows 29—118: Work even. In the 30th row, on each side, start knitting the lace pattern. See marked part of the chart. Repeat pattern continuously. Rows 119—134: Work even. Bind off.

**Panties: Back (IV):** Cast on 20 stitches ( $2\frac{3}{8}$ " = 6 cm). Rows 1—4: Work even. Rows 5—28: Increase on each side 1 stitch every 2nd row 7 times, then increase 2, 3, 6, 8 and 15 stitches. There are now 98 stitches ( $12\frac{7}{16}$ " = 31 cm) on the needles. Rows 28—118: Work even. Stockinette stitch. Rows 119—130: To shape seat work

to be continued on page 64



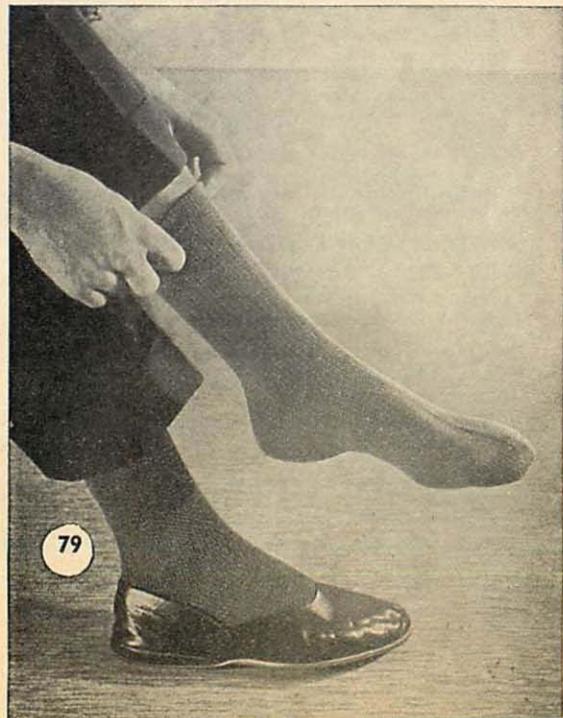


## Knitting of Socks

(See sketch on left)

These socks are knitted flat in one piece. First you knit the leg whereby you may either start with a hem and use a single colour only or you may start with knit 1—purl 1 ribbing and then use several colours for the leg and instep for a striped effect or any other pattern you may choose. When you have knitted the **length of the leg**, you knit on each side over  $\frac{1}{4}$  of the stitches 4—5 rows with an auxiliary yarn and then drop these stitches from the machine, or you may put them on a big safety pin. With the remaining stitches you knit the **instep** and thereafter the **toe**, using for that the special holding position. (See "Knitting shortened rows", page 27.) After the toe you knit the **sole** increasing on both sides 3—4 times one stitch each. On completion of the sole these additional stitches are cast-off; they serve for better fitting of the socks over the instep. Then you knit the **heel** also with shorter rows, using the special holding position, plus an extra 4—6 rows over all the stitches which are then put on to a stitch holder. For finishing, close the seam down the leg, and if you have used an auxiliary yarn, unravel it and graft stitches of the leg with the stitches of the heel. Sew side seams.

This method enables you to detach toe, sole, and heel when these are worn out and re-knit them with a minimum of material and labour.





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continuation of page 62

shortened rows. For this purpose place on each side successively 6 times 6 needles each into holding position. Then put back all needles into working position. Rows 131—146: Work even. Bind off.

**Finishing: Chemise:** Join back and front by grafting shoulders. On the sides of the neck opening cast on 57 stitches each and knit 12 rows, decreasing on each side 1 stitch 3 times and increasing 1 stitch 3 times. Bind off. Sew side seams. Sew the knitted-on borders of the neck opening at the 4 corners. Turn in half of border. Sew on.

**Panties:** Join both parts by sewing side seams. Turn in top hem. Insert elastic.

### Picture 78 Shirt and Pants for Boys KW 4082

Size: 8—10 years.

**Material:** 5 oz. unbleached Estremadura yarn, Nr. 5.

**Dial:** 2.

**Gauge:** 21 stitches = 2" (5 cm), 25 rows = 2" (5 cm).

**Pattern stitch:** Plain stockinette stitch.

**Shirt: Front (I):** Cast on 141 stitches ( $13\frac{1}{2}$ " = 34 cm). Rows 1—30: Work even. Work knitted hem. Rows 31—190: Work even. Rows 191—214: Shape armhole. Bind off on each side in every 2nd row as follows: 5, 4, 3 stitches, 2 stitches. Shape neck opening. Bind off 9 stitches in

centre, then bind off on each side in every 2nd row 4, 3 and 3 times 2 stitches. Shape armhole. Decrease 1 stitch every 4th row 3 times. Rows 227—256: Shape neck opening. Decrease on each side 1 stitch every 2nd row 5 times and 1 stitch every 4th row 5 times. Rows 257—274: Work even. Bind off on each side 17 stitches each. **Back:** Work like front. Shape neck opening starting in 227th row only. **Pants: Back (III):** Cast on 45 stitches ( $4\frac{5}{16}$ " = 11 cm). Rows 1—38: For leg openings increase on each side in every 2nd row 1 stitch 7 times, 2 stitches 8 times and 7 stitches 3 times. There are now 133 stitches ( $12\frac{5}{8}$ " = 32 cm) on the needles. Rows 39—50: Work even. Rows 51—126: Decrease on each side 1 stitch every 12th row 7 times. Rows 127—146: Work shortened rows to shape seat. For this purpose, place on each side 10 times 5 needles each into holding position. Rows 147—174: Work even. Knit over all needles. Bind off all stitches. **Pants: Front (II):** Cast on 33 stitches ( $3\frac{3}{16}$ " = 8 cm). Rows 1—38: For leg openings work as for back of pants. Work even in centre of front. Rows 39—126: On the side, decrease 1 stitch every 12th row 7 times. In centre of front increase 1 stitch every 6th row 14 times. There are now 84 stitches (8" = 20 cm) on the needles. At centre of front bind off 5 stitches and transfer the remaining stitches onto an auxiliary needle. Work second half to correspond. Now place both fronts onto the machine, hanging the 39 centre stitches on top of each other. Then knit over 119 needles. Rows 127—154: Work even. Bind off all stitches. **Crotch (IV):** Cast on 25 stitches ( $2\frac{3}{8}$ " = 6 cm). Rows 1—22: Increase on each side 1 stitch every 4th row 5 times. Rows 23—32: Work even. Rows 33—54: Decrease on each side 1 stitch every 4th row 5 times. For double crotch knit second part to correspond. **Finishing: Shirt:** Sew side and shoulder seams. Sew narrow bands along neck opening and armholes. **Pants:** Turn in front edges. Sew front and back with side seams. Sew in crotch. Sew narrow bands along leg openings. Turn in top for hem. Insert elastic.

### Picture 79 Men's Socks

**Length of leg:** 20 cm. = 8".

**Length of foot:** 28 cm. =  $10\frac{1}{2}$ ".

**Material:** 100 grs. or 4 ozs. brown nylon-reinforced stocking wool.

**Dial:** 4.

**Gauge:** 22 rows = 5 cm. (2"), 18 stitches = 5 cm. (2").

**Pattern stitch:** Plain stockinette stitch.

**Leg:** Cast-on 78 stitches (21,5 cm. =  $8\frac{1}{2}$ ").

Rows 1—20: Knit even. Make hem. Rows 21—44: Knit even. Rows 45—104: Decrease 3 times 1 stitch each side every 20th row. Put 18 stitches each side on safety pins or stitch holders. **Instep:** Rows 105—200: Knit even with 36 needles. **Toe:** Rows 201—226: Knit shortened rows, putting on each side alternately 1 needle into 3 times and 1 stitch 5 times. Rows 215—226:

holding position until only 10 needles are left in knitting position. Rows 227—252: Continue to knit short rows in reverse order, pushing on each side alternately 1 needle back into knitting position. **Sole:** Rows 253—332: Knit even. Rows 333—348: On each side, increase 1 stitch 4 times every 4th row. Rows 349—350: Bind off 4 stitches on each side. Rows 351—402: Work same as described for rows 201—252. Rows 403—410: Knit even. Put stitches on stitch holder. **Finishing:** Graft the stitches of the heel with the open stitches of the leg. Sew side seams, sew up back seam. Run elastic through hem.

### Picture 80 Long Stockings for Women DV 2099

**Length of foot:** 10¼" (26 cm). **Length of leg:** 25½" (65 cm).

**Material:** 9 oz. (210 grs.) brown stocking wool.

**Dial:** 5.

**Gauge:** 16 stitches = 2" (5 cm), 23 rows = 2" (5 cm).

**Pattern stitch:** Plain stockinette stitch. Top edge: knit 1—purl 1 ribbing.

**Stocking: Leg:** Cast on 119 stitches (14⅞" = 37 cm). Rows 1—20: Knit 1—purl 1 ribbing. Continue knitting stockinette stitch. Rows 21—30: Work even. Rows 31—88: Decrease on each side 1 stitch every 8th row 8 times. Rows 89—134: Work even. Rows 135—286: Decrease on each side 1 stitch every 8th row 16 times and 1 stitch every 6th row 5 times. There are now 61 stitches (7½" = 19 cm) on the needles. Rows 287—298: Work even. Now transfer from each side 15 stitches each onto auxiliary needles. **Instep:** Rows 299—368: Work even. **Toe:** Rows 369—392: Knit shortened rows. For this purpose push alternatively on each side 1 needle into holding position until you have only 7 needles in working position. Rows 393—416: Continue to knit shortened rows, but now place the same needles consecutively back into working position. **Sole:** Rows 417—468: Work even. Rows 469—484: For instep crotch increase on each side 1 stitch every 4th row 4 times. Rows 485—486: Bind off 4 stitches on each side. **Heel:** Rows 487—534: Work same as described for toe, rows 369—416. Rows 535—540: Work even. Transfer stitches onto an additional needle. **Finishing:** Sew back seam. Graft the stitches of the heel with the open stitches of the leg. Sew instep and sole.

### Picture 81 Mittens for Men HV 3031

**Size:** 8½—9.

**Material:** 3 oz. medium weight grey wool.

**Dial:** 5, for cuffs 5 and 2.

**Gauge:** 16 stitches = 2" (5 cm), 22 rows = 2" (5 cm).

**Pattern stitch:** Plain stockinette stitch.

Cast on 60 stitches (7½" = 19 cm). Rows 1—58: Work even. Knit alternatively 6 times 8 rows with dial 5 and 5 times 2 rows with dial 2. Make knitted hem. Rows 59—62: Work even.



Knit the 31st to 34th stitches with an auxiliary thread to produce the thumb slit, then take work off the machine and continue to knit in two separate parts. Rows 63—100: Work even. Cast on the 4 stitches again and continue work in one piece. Rows 101—140: Work even. Transfer the 30 stitches from the palm of the mitten to an auxiliary needle and work the point of the mitten like the heel of a stocking. Rows 141—156: Knit shortened rows, i. e. push alternately in every row on each side 1 more needle into holding position until only 14 needles are left in working position. Rows 157—172: Continue to knit shortened rows, but now pushing the needles back into working position in the same sequence as before. Transfer the stitches on to an auxiliary needle. **Thumb:** Place the 4 stitches from the auxiliary thread onto the machine. Rows 1—38: Increase each side 1 stitch every 4th row 9 times. Rows 39—40: Increase each side 2 stitches. Rows 41—54: Work even. Knit on each side 7 stitches each with an auxiliary thread and cast off after knitting 1 row. Rows 55—64: Knit shortened rows over 12 needles, as described above until only 2 needles remain in working position. Rows 65—74: Push needles successively back into working position. Transfer stitches to an auxiliary needle. Work second mitten to correspond. **Finishing:** Graft the stitches of the point of the mitten with the stitches of the palm of the mitten. Do likewise with the stitches of the point of the thumb. Sew thumb together and put it in. Sew side seam.



## AUTOMATIC

### DESCRIPTION OF MACHINE PARTS AND TOOLS

- 1 Left End Piece
  - 2 Front Cover Screws
  - 3 Casting-on Discs
  - 4 Holding Device for Ribbing Attachment
  - 5 Lower Rail
  - 6 Upper (numbered) Rail
  - 7 Needle Bed
  - 8 Latch Needles
  - 9 Front Cover
  - 10 Slide
  - 11 Wool Feeder
  - 12 Sinkers
  - 13 Gate Cam Release Lever
  - 14 Right End Piece
  - 15 Stop Screws
  - 16 Retractor Knobs
  - 17 Control Knobs
  - 18 Handle
  - 19 Tension Dial and Automatic Stitch Selector
  - 20 Row Counter
  - 21 Wool Container
  - 22 Thread Tension Device
  - 23 Thread Tension Spring (Antenna)
  - 24 Double Transfer Tools
  - 25 Work Hook and Single Transfer Tool
  - 26 Latch Needle Tool and Single Transfer Tool
  - 27 Rib Holding Device
  - 28 Needle Shifter
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