

# INSTRUCTIONS

FOR USING THE

Model



Knitting



Machine



MODEL KNITTING MACHINE CO.  
PHILADELPHIA, PENNA.  
U. S. A.



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PART I  
PLAIN MACHINE



"MODEL"  
PLAIN MACHINE

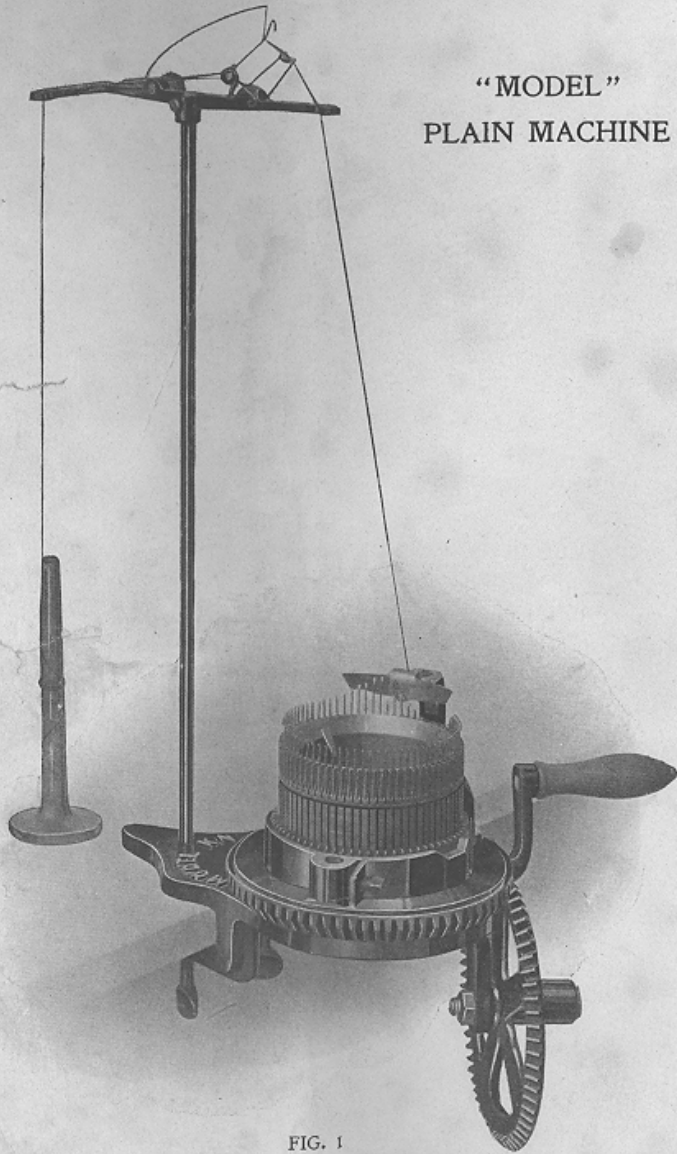


FIG. 1

(4)

UNPACKING AND SETTING UP  
THE MACHINE

Remove the machine from the packing box and fasten it to a table, window ledge or any convenient but firm place, by means of the thumb screws. Carefully clean off all the grease that was put on the polished parts to keep them from rusting while in transit.

Attach the hand gear wheel by means of the shaft and nut so that the red marks on both the gears will be together. Tighten the nut on the shaft so that it will not work loose.

Screw the post into the hole in the bed plate of the machine and attach the yarn guide to the top of the post so that the hole, in the single end of the guide, will be directly over the centre of the needle cylinder. Tighten the screw in the yarn guide that holds it on the post, Fig 2-D.

Draw down the knitted web which is in the machine, with your hand, and attach the heel hook to the web and hang the weights to the heel hook. Take the loose end and run off the rounds of yarn that are wound around the needles. Care must be taken not to turn the handle of the machine until you have the yarn in position to feed.

Should you have the rib dial attachment, then do not attempt to use it at this time, but lay it aside until you are thoroughly familiar with the plain machine. We always advise beginners to thoroughly understand the plain machine, and knit at least several dozen plain stockings, before attempting to use the rib dial attachment.

(5)



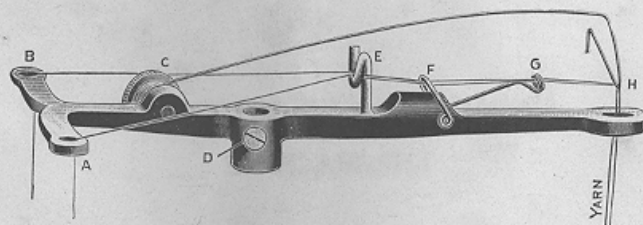


FIG. 2

Place a bobbin of yarn on the table directly under hole A or B at the double end of the yarn bracket. Run the end of yarn from the bobbin up through the hole in the yarn guide bracket A or B, through eyelet on top of yarn bracket E, under wire take-up lock F, through eyelet on end of take-up lock G, and down through hole in bracket H to yarn carrier. Tie this end of the yarn to the end that you unwound from the needles, and pull the slack yarn toward the bobbin.

See that all the latches of the needles are open and down, and that the yarn is in position to feed even and properly. The machine is then ready to operate. Turn the crank slowly forward, and at the same time see that everything is working properly. You can then proceed to knit tubular work to any length you may desire. The stitches are formed at the top edge of the cylinder, and should the cloth ride up on the needles, then hold down on the webbing slightly with the left hand, or hang on more weights.

Turn the crank slowly and study every movement of the needles, and learn how the stitches are formed. It is very important that you make yourself thoroughly familiar with the workings of the needles, cams, names of parts and the method of forming the stitch, as you will then be able to follow instruction more closely and save yourself considerable time and trouble.

## THE METHOD OF FORMING STITCHES

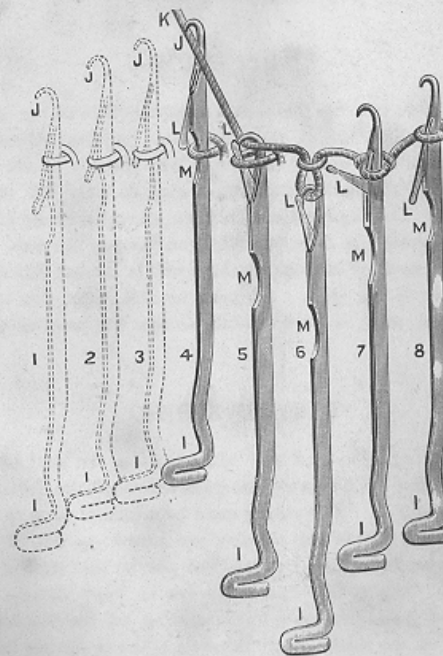


FIG. 3

Fig 3 represents eight needles in action in the machine. The dotted needles, 1, 2 and 3, represent the needles before they receive the yarn from the yarn carrier. Nos. 4, 5, 6, 7 and 8 represent needles in the act of forming the stitches. No. 4 shows the needle at the highest, and No. 6 at the lowest points at which the needles travel in the cylinder. Nos. 1 and 8 show the needles in its regular or idle position. The needle is raised up by the cam, as Nos. 1, 2 and 3, far enough to allow the stitch, which is on the needle, to pass below the latch as No. 4 and into the hollow M. The needle is then at its highest point and starts to descend. At this point the yarn K is fed in the hook of the needle J, and as the needle descends the stitch which was in the hollow M, raises back of the latch and closes it, leaving the yarn K in the hook J. The needle descends to its lowest point in the cylinder as Nos. 5 and 6, and the stitch, which was in the hollow M, passes over the hook of the needle and into the cylinder. No. 6 shows the needle drawing the length of stitch. It will be remembered that the further down this needle descends into the cylinder, the longer will be the stitch. From this point the needle raises to its regular position as No. 8. This process is repeated at each revolution of the machine.



## DESCRIPTION OF PARTS

### YARN GUIDE

The yarn guide conveys the yarn from the bobbin to the yarn carrier. The two arms, Fig. 2-A and B, are used when knitting different colors of yarn or in case you wish to knit double or two threads at the same time. The single arm of this guide should be directly over the centre of the needle cylinder. The double ends will then extend over the table, and the bobbins of yarn should be directly under the holes of the arm. This yarn guide is adjusted and set in place by the screw in the left side that binds on the post as shown in Fig. 2-D. All parts on this guide, that come in contact with the yarn, must be kept smooth, so that the yarn will pass through even and freely.

### TAKE-UP SPRING

The take-up spring is used only when knitting the heel and toe or flat web. It is adjusted by the screw that passes through the drum on the yarn guide bracket, Fig 2-C. The spring must be adjusted so as to take up all the slack yarn when part of the needles are raised up out of action, and you are turning backward and forward, and also so that the yarn lays close to the needles. The spring should always be kept straight and clean. The take-up lock holds the yarn from running off the bobbin while the spring is taking up the slack. Care must be taken in having this lock work very freely and hold the yarn properly.

### YARN CARRIER

The yarn carrier conveys the yarn to the needles. In threading always put the yarn through both holes from the outside to the inside. It is very important that it is set properly and kept smooth, so that the yarn will feed freely. It should be set close to the needles, although care must be taken not to set so close as to have the needles rub on it. This is adjusted by the small screw that runs through the yarn carrier to the top of the yarn carrier arm. In height, it must be adjusted so that the hook of the needles will catch the yarn as it feeds, although care must be taken so as not to have the latch touch the bottom of the carrier as it is closing. This adjustment is had by the screw that runs through the bottom of the yarn carrier arm to the cam plate. The yarn carrier can be raised up out of action and away from the needles.

(8)

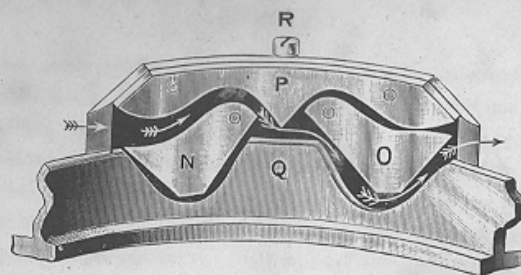


FIG. 4

### CAMS AND CAM PLATE

The Cams are used for drawing the needles up and down in the needle cylinder, in the forming of the stitches. Cam Q is stationary and needs no description. It merely acts as a guide to convey the needles properly to the stitch cams N and O, which perform the entire operation of knitting. O being used while knitting tubular work or when turning forward and N when turning backward when making heel and toe or flat webbing. The needles pass out over cam N, which raises them high enough to release the latch, down under cam O, which casts off the stitch from the needle and keeps the yarn in position to make a second stitch. It must be remembered that the needles must pass under one cam only, as otherwise it will not knit. In making a heel and toe, and when part of the needles are raised up out of reach of the cams, care must be taken to turn the handle back far enough to release all the needles from under the cam and allow it to drop down and bridge over so that the needles will pass over it to opposite cam.

### STITCH REGULATOR

This regulator is an adjustment for the cams and needles whereby the length of stitch is regulated. The further the needles are drawn down into the cylinder the longer will be the stitch. If you wish to knit a longer stitch, then draw down on the regulator screw R, and if you wish a shorter stitch, then loosen the regulator screw R. A very slight turn of this regulator screw is required to change the stitch, so that you must notice the work carefully if you wish nice knitting. If your stitch is too close or too tight then the machine will not knit freely, and if your stitch is too loose then the knitting will be poor. In ordinary knitting you should adjust the regulator so that the stitches will be long enough to draw down into the cylinder and release themselves freely from the needles. The machine will not knit properly if you have the stitch too tight and the cams are likely to lock themselves if you have the stitch too loose. Also the tighter the stitch the heavier the weight required to hold-down the webbing.

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## NEEDLES

Bent latches are caused by the yarn carrier striking them, which most frequently happens if the handle is turned quickly when there are no stitches on the needles. If a latch gets bent, it will work stiff and cause the yarn to gather around the needle, or cut holes in the webbing. The latch must be straightened so that it will work free and easy, and that the spoon will work and fit on the point of the hook. This can be done with the fingers or with a pair of light pincers. If impossible to straighten and get working freely, then insert new needle.

## REMOVING NEEDLES

To remove a needle from the machine, lift the needle that you wish to take out, as high as it will raise in the cylinder, then turn the top outward and downward until it will release itself from the wire cylinder band. To replace them, place the end of the butt of the needle down behind the cylinder band, then turn it up straight in the cylinder and push down as far as it will go. Always remove or replace needles opposite the yarn carrier or away from the cam action, for you cannot raise a needle when it is in the cams. Fig. 9 will show you needles lowered and in a position to either remove or replace in the cylinder.

## OILING THE MACHINE

Very little oil is needed, but it should be of good quality. Sewing machine oil or good lard oil will be best. Put a few drops in the hole in the hand wheel shaft hub, and also in the hole on the cam ring plate. It is important that you place a little oil on the face of the cams, and also in the slots of the needle cylinder, below the spring band. The gears can best be oiled with a small piece of oily waste, as this will distribute the oil evenly on the wheels and at the same time prevent it from dropping on the floor. Use little oil, and oil about twice a day, or in proportion to the amount of work you do. Never oil the latches of the needles or the cylinder at the top.

## BOBBIN WINDING

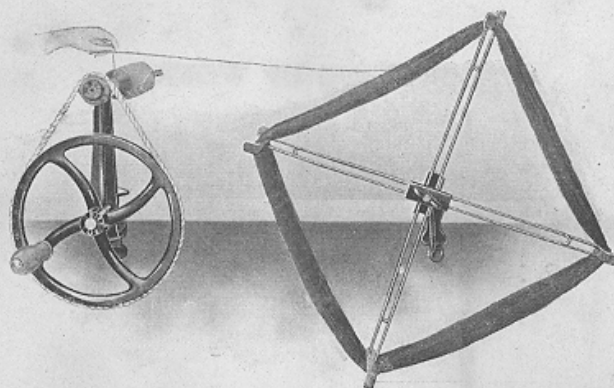


FIG 5

It is very important that you learn to make a good bobbin, for if your bobbin is not properly wound, or wound that the yarn will not run off even and freely, then you cannot expect your knitting machine to do good work.

You will see, Fig. 5, how to put together and arrange the winder and swift. Fasten them firmly to a table by means of the thumb screws. Stretch the skein over the hands in such a manner that the strands will loosen themselves so as to run free from the swift, then place over the wire extensions of the swift. Run out the four extensions as far as they will go, and fasten the thumb screw holding them, so that they will remain firm. Be sure and do not have the skein of yarn twisted on the extensions, otherwise it will not run off freely.

Press the wooden bobbin on the tapered spindle of the winder and commence winding the yarn at the bottom of the bobbin, filling the bottom first and gradually filling toward the top, keeping the yarn running up and down at even slant, each time nearing the top of the bobbin. Be sure to make the bobbin same size all the way to the top, and also so that the yarn does not run off from the sides instead of the end. The bobbin in Fig. 6 is an example of good winding.

Cotton yarn can be wound on the bobbin tight, but wool and worsted yarn must be wound loose. A little experience in winding will teach you that each different grade of yarn will require a little different tension, so as to have a firm bobbin and yet not have the yarn drag. The tension of the yarn is regulated with the fingers while the yarn is running through the left hand to the bobbin. If the yarn drags while knitting, then rewind the bobbin over again.



## SETTING UP WORK

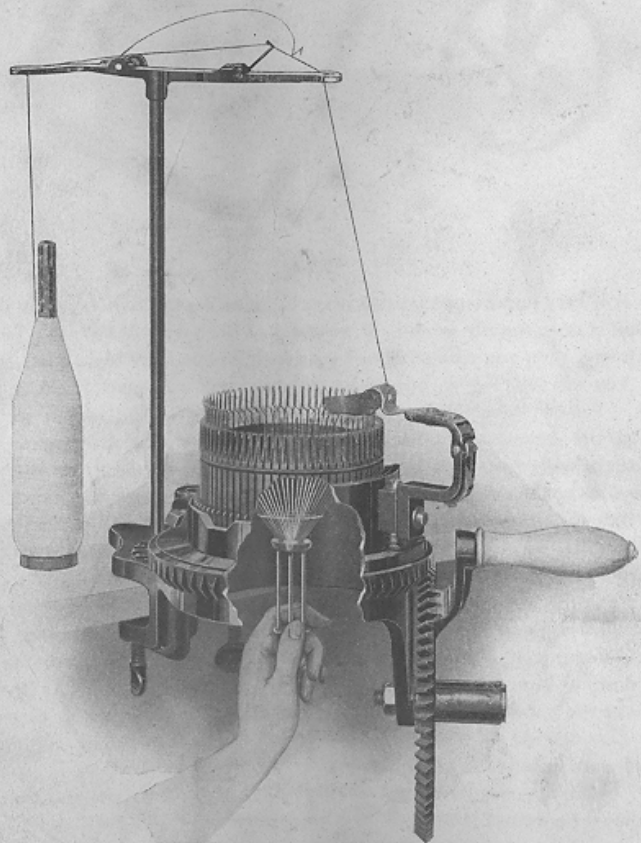


FIG. 6

## SETTING UP THE WORK

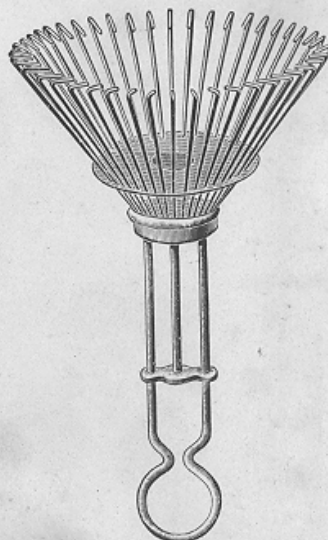


FIG. 7

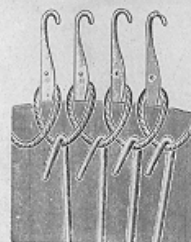


FIG. 8

Turn the handle so that the yarn carrier will be on the front of the machine. See that all the latches of the needles are open and down.

Expand the set-up, Fig. 7, in the inside of the needle cylinder as seen in Fig. 6. The hooks should be held a little from the upper edge, and against the inside of the cylinder. Draw about a yard of yarn through the yarn carrier, or enough to set up the first row of stitches. Take the yarn close to the yarn carrier and put on one of the hooks of the set-up, then bring it up and around one of the needles in the machine that is nearest to the hook on which you have the yarn. Always bring the yarn around the needle from the right hand side to the left, and down under the next hook of the set-up, and so on until around each needle of the machine, and under a hook of the set-up, until you have come to the needles which are down into the cams. Now hook the weights in the ring of the set-up and turn the machine slowly to the right until the needles which are down in the cams are brought up on a full level with the other needles. Continue to set up these needles as before, running over two or three of those first set up, so as to fasten in the end of the yarn. Should you have had too much yarn drawn through, then break off the end.

You will notice that bringing the yarn around the needle from the right to the left always forms a crossing of the yarn on the inside of the needle, between it and the hook of the set-up, as shown in Fig. 8. It is very important that the hooks of the set-up should be held in place a little below the edge of the needle cylinder, else you are liable to break the yarn in the first round and spoil the selvedge. If there are more needles in the machine than there are hooks in the set-up, catch under the same hook twice, you will readily see how this should be done by keeping the hooks and the needles along even with each other.

## MAKING A MOCK RIB

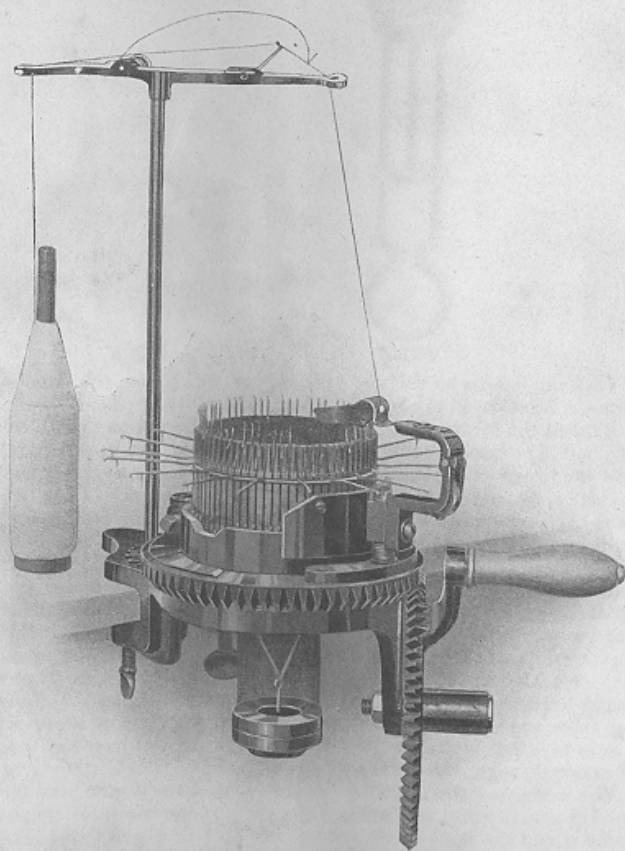


FIG. 9

## MAKING A MOCK RIB

A very good mock rib can be made by taking every third needle out of the cylinder. Lift up before setting up the work, every third needle, and tip it over in the cylinder as shown in Fig. 9. The yarn carrier arm will pass the needles that are tipped over without operating them. Set up the work as directed in "Setting up the work" and proceed to knit the top. When you have a top of sufficient length, then tip up the needles that have been layed over and push them down in the cylinder, on a line with the other needles, so that the cams will operate them. In doing this, set the back half of the needles first, and when you have these in position, then turn the yarn carrier to the back, and set the front half. Needles directly in front of the yarn carrier cannot be removed, raised or lowered, as they are locked in the camming device, and the yarn carrier must be turned to a different position to release the needles.

## TO KNIT A HEEL OR TOE

Turn the crank so that the yarn carrier will be on the front of the machine. You will see two marks on the top edge of the needle cylinder, one on the right and the other on the left side, dividing the needles in the cylinder in half. The front half will have two more marks again, dividing this half into three parts. These marks are filed in the top outside edge of the cylinder, and you will carefully locate the four of them, as they are the only means (with the exception of counting) you have of gauging the size of heel and toe.

Lift the needles in the back half of the cylinder as far up as they will come, or so that the butts of the needles will rest against the spring band on the cylinder and out of the cam action, Fig. 10. Put the yarn in the take-up spring on the top of the yarn guide. Turn the crank forward so that the yarn carrier will be at the back of the machine, or so that the cam action will be under the raised needles. Lift up with the work hook, one needle on the side that the yarn lies on and next to the ones already lifted up.



Notice that the stitch regulator is set, so that the stitches are formed freely on the needles, and keep the left hand on the webbing, so as to assist the weights, if necessary. After you have this portion knit, then raise the back half of the needles up out of action, and make heel as directed on page 15. After the heel is knit lower the needles into the cam action and knit the foot. As the foot is being knit, the weights are on the front of the webbing, and it will be necessary to keep the left hand on the fabric so as to hold down the back part of the webbing. After the foot is knit the proper length, raise the back half of the needles and knit toe same as heel, and as directed on page 15. After the toe is knit, lower the needles back into the cam action and knit two rounds. Break the yarn near the yarn carrier, and set the yarn carrier up out of action and away from the needles. Remove the weights, hold down the fabric lightly with the left hand, and turn the stocking out of the machine. Close the toe as directed on page 20, and finish.

### TO KNIT A PLAIN LADIES' STOCKING

Set up and attach weights as directed on page 13. Turn the stitch regulator screw down about one turn, as this will knit a looser stitch and make the top of stocking wider. Knit the length of leg desired, turn back the stitch regulator screw one turn and knit ankle. After you have the ankle knit, which completes the leg portion of the stocking, raise the needles in the back half of the cylinder, and knit heel as directed on page 15. After the heel is knit, lower the needles back into the cam action and knit the foot. As the foot is being knit, the weights are on the front of the webbing, and it will be necessary to keep the left hand on the fabric, so as to hold down the back part of the webbing as it is being knit. After the foot is knit the proper length, raise the back half of the needles, same as heel, and as directed on page 15. After the toe is knit, lower the needles back into the cam action, and knit two rounds. Break the yarn close to the yarn carrier, and set the yarn carrier up out of action and away from the needles. Remove the weights, hold down the fabric lightly with the left hand and turn the stocking out of the machine. Close the toe as directed on page 20, and finish.

### LADIES' MOCK RIB STOCKING

Ladies' rib stockings are knit same as half hose, with the exception that the mock rib is knit the full length of the leg portion, and the needles that have been lowered to make this mock rib are set back in the cam action just before making heel. The mock rib can be made on the front of the stocking or it can be made all around.

### DIFFERENT SIZES

There are four things that change the size of a stocking: 1. The diameter of the machine. 2. The number of needles in the cylinder. 3. The length of stitch. 4. The size of yarn.

In the making of ladies' and gents' hosiery, the sizes can, as a rule, be made on the same machine. In the making of children's sizes, the difference varies more, and the best results are had on the different size machines.

The coarser the yarn, the larger will be the web with any given number of needles; and the finer the yarn, the smaller the web. The coarse cylinder will make a small stocking, with fine yarn and a short stitch, but the fine cylinder will not knit a coarse yarn. Seamed work is always smaller than where a full set of needles is used. With every other needle out of the cylinder, you can knit a small web.

### MENDING BROKEN STITCHES

This is done with one of the needles of the machine, either in the machine or after the work is out. The knitting-needle is used as a crochet-needle. You hook it in the dropped stitch and push it far enough through to bring the stitch below the latch; then draw it back, catching the next cross thread above in the hook above the latch; continue to draw the needle back until a new stitch is formed; proceed in this way until all the dropped stitches are knit in. If the mending is done out of the machine, you will tie the dropped stitch with a short piece of yarn and draw the ends inside of the web.

### REFOOTING STOCKINGS

New feet can oftentimes be knit in old stockings that otherwise would be worthless. Cut off the foot portion of the stocking to be refooted, just above the heel. Raise the yarn carrier away from the needles; see that all the latches are open and down; run the leg portion on the needles; ravel off the selvedge, knit heel, and finish as instructed for the making of a regular stocking. In running knit fabric on the needles, always place the stitches on the needles that are round and exposed at the top; also run on one round, as otherwise the stitches will not ravel clean. If the old portion contains more stitches than there are needles in the machine, then the extra stitches must be divided equally around the cylinder and placed on the nearest needle. Some of the needles will then have two stitches on them, but this will knit all right providing you add a little extra weight until these stitches are away from the needles.



### CLOSING THE TOE

After the sock or stocking is run out of the machine, take a flat or sad iron and damp cloth and press the toe so that the stitches will lay out straight and smooth as Fig. 10. Ravel one round until the yarn is brought to the corner, as shown in Fig. 10. Thread the loose yarn in a darning-needle and pass the needle through the first stitch from the upper side and through the opposite stitch from the under side, as seen in Fig. 11. Draw the yarn through the stitches, pass the needle down through the first stitch



FIG. 10

and up through the next one to it, as seen in Fig. 11; then on the opposite side take the stitch through which the yarn has already passed and the next in front of it, and so on, each alternate side, take the last stitch in which the yarn was drawn and next in front until the toe is closed. This can be done very rapidly and neatly, so that it cannot be distinguished from the other knitting. The damp cloth and hot iron will prevent the stitches from raveling back easily.

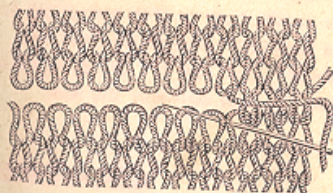


FIG. 11

### KNITTING FLAT WEB

Take about twenty needles out at the back of the needle cylinder; turn the handle so that the cams or yarn carrier will be at the back where there are no needles; set up the work on the remaining needles as instructed on page 13; knit backwards and forwards, as in making heel and toe, but change the turn when the cams or yarn carrier will be where you have taken out the needles, as otherwise the reverse cam cannot drop and the machine will not knit. The webbing can be narrowed or widened by either removing or replacing needles in the cylinder, although enough needles must always be left out of the cylinder so as to allow for the reverse of the cams.

### FINISHING KNIT GOODS

The best method of finishing woolen hosiery is to draw them on a wooden form after they have been washed. Allow them to thoroughly dry while on the form, and press with a hot iron. This gives them a perfect shape and prevents shrinking.

Cotton hosiery should be slightly dampened and drawn on a wooden form. Press with a hot iron while on the form. Knit goods and specialties should be laid out flat on a table or board; then, a wet cloth having been laid upon them, they should be pressed with a hot iron.

### TO KNIT A MITTEN

Take out every fourth needle, as in knitting rib top of sock. Set up and knit the length wanted for wrist; put in the needle taken out and lift the stitches over these needles, so as to close the hole that is left if they are allowed to set their own stitches; knit 14 round plain when you are ready to knit the thumb; now lift up the needles as you do in knitting the heel of a sock, leaving 24 down in operation; on these knit the thumb; knit back and forth 45 times; close off the end of thumb by lifting up six needles on each side; then proceed as in heel of sock; push all of the 24 needles down and run the thumb out, leaving the yarn-carrier on the left; take the selvage stitches on each side of the thumb thus knit, beginning close at the bottom, and put them over the empty needles, 12 from each selvage; put the yarn in the yarn-carrier; push all the needles down, and proceed to knit round and round for the hand. It takes from 40 to 50 rounds for the hand. Close off just as in the toe of a sock. Holding down the strip, while knitting for the thumb, is the only difficult part of this operation, which must be done with heel hooks or with the left hand.

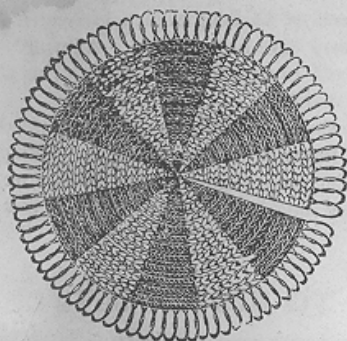
The number of rounds given above are approximate, and will vary according to the number of needles in your machine, number of yarn and size of mitten to be made.

### WRISTLETS OR PULSE WARMERS

Use large sized yarn of a fine quality. Take out every other needle in coarse cylinder, set a loose stitch, so the yarn will knit free; knit the required length and run off; bind off very loosely, and you may fringe or tuft at the end. Fancy yarn may be used and ornamented in different ways. For double wristlet, knit double length, and join the ends together with a mending stitch.



## MATS



A nice circular mat may be made by setting up flat web from 20 to 30 needles. Knit several times across with some refuse yarn, or long enough to hold with the hand. Take out the set-ups, and, having the yarn-carrier on the right-hand side, lift up a needle just as in the heel or toe of a stocking, run across and back; lift up another needle, run across and back; repeat this until all but six needles are lifted up; now push all the needles down at once, and run back to the right, and repeat the same operation over again, lifting up one needle each time on the right-hand side. Do this six times successively, and run out. Remove the refuse yarn used at the beginning and join the ends together with mending stitch, and it will form a perfect circle. Wash the mat thus knit in warm suds, and, when nearly dry, press on the wrong side, placing over it a piece of muslin to prevent scorching. Now, at the place where you joined the two ends together cut back six stitches, and proceed to ravel these six stitches all around the edge of the mat to form a fringe, the washing and pressing causing the ravelled edge to crumple nicely. You can knit each of the six parts of different colored yarn, or arrange the colors to suit your fancy.

## CHILD'S AFGHAN

Select your yarn, say scarlet or white, or any colors that you may desire. Use the coarse cylinder, removing every other needle, making the stitch as long as possible. Set up for flat web as many needles as will work in the cylinder, and place the long strips at each cord. After knitting once or twice across, lift up three needles and leave three down alternately; the number of needles in the Cylinder being such as will divide evenly by three; now knit across three times, push down the three alternate needles lifted

up, and lift up the alternate three that remained down; knit three times across, and again lift the first alternate three, and knit three times across and so on lift up, and push down each alternate three until about two yards of web is knit. Now knit the same length of another color, and join this to the edge of the first. Knit the number of widths required to make size to suit your taste, and after joining together, finish with fringe at each end.

## BREAKFAST SHAWL

Knit same stitch as described in making CHILD'S AFGHAN. Knit the first strip blue, about  $1\frac{1}{2}$  yards long, and finish at the end by lifting up one needle each time at the right-hand side, as in heel of sock, until all the needles are lifted up; push all the needles down and knit twice across plain and run out. This makes the slant or mitre to join at the centre of the back. Knit about four strips of chinchilla, each one shorter than the other, finishing at the end just as the one above described. When these are joined together they make one-half the shawl. Knit other strips just as these, only in narrowing off lift the needles on the left-hand side instead of the right; join together, and then join the two halves at the back with the mending stitch. In joining the strips together on each side, be sure to join the long side of each shorter side to the shorter side of the longer one, thus shortening it toward the neck; and when the two halves thus made are joined together along the ends, the joining will be perpendicular down the back of the shawl. The front edge is trimmed off and bound or hemmed so as not to ravel. Fringe is made by cutting colored yarn eight or nine inches long, and drawing four or six threads at a time through the meshes of the lower edge of the shawl and knotting together to suit taste.

## HOODS

A nice hood' may be knit by setting up flat web as wide as can be knit on a coarse cylinder, and knit the Afghan stitch. Knit the length of the front of the hood, and then knit a crown and join in the center of back, and down each side of front, down the selvedge, adding cape of some other fancy stitch. Any other fancy stitch will do for front and crown, or a plain stitch knit loose, trimmed with fancy stitch border, and cape to suit fancy of the operator.

## REMARKS

It is important that you learn to wind a good bobbin. Wind the yarn on the bobbin so that it will run off even and freely, otherwise you cannot expect good knitting. If a bobbin does not run properly, then rewind it on to a second bobbin.

The take-up spring is only used in knitting heel and toe or flat work. It is adjusted by the screw C, fig. 2, and if there is too much tension on the spring it is liable to cut holes in the webbing. If the spring is too loose it is liable to knit large and ragged stitches in the gore of the heel, toe and edge of flat webbing.

In knitting tight work, put on plenty of weight, or assist the weights in holding down the fabric, with the left hand. Too light weight will allow the stitches as they are being formed, to raise up on the needles. Too heavy weight will cut holes in the webbing.

Care must be taken in holding down the webbing with the left hand in knitting the heel and toe. Hold down in such a manner that you are not drawing down harder on the last needles that are down in the cylinder at the sides, than in the center. This will be the cause of cutting holes in the gore of the heel and toe.

Never attempt to reverse the machine while knitting tubular webbing. The needles must descend down into the cylinder after the yarn carrier has passed them and never ahead of the carrier. If you reverse the machine without having a portion of the needles raised up out of action, or in knitting the heel and toe and you do not turn the handle back far enough to allow the cam to drop down and close the passage of the needles, then the needles will raise both before and after the yarn carrier has passed them and will not knit.

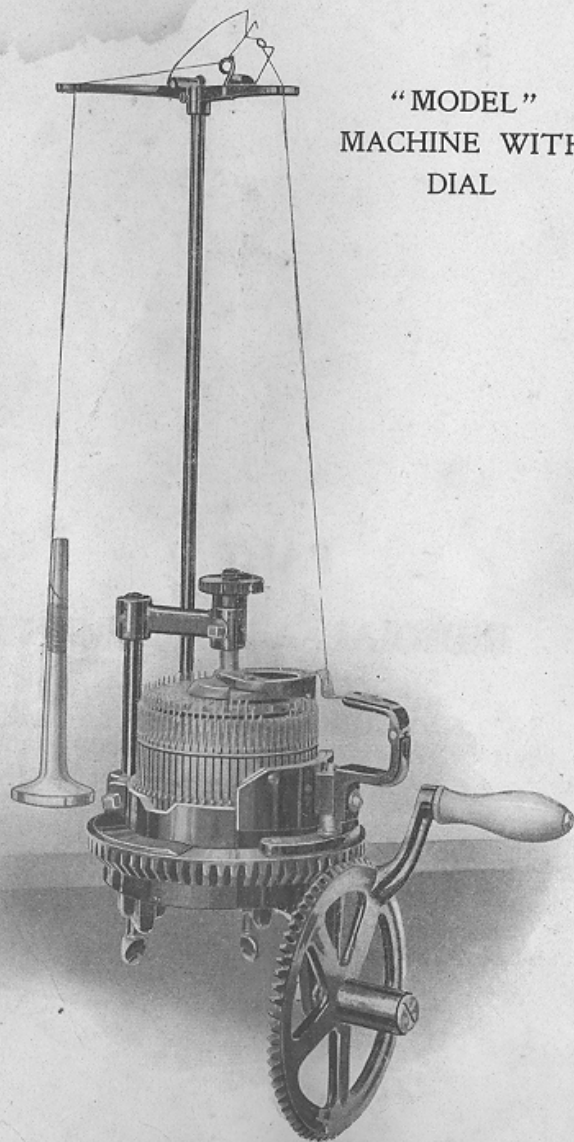
Set the yarn carrier in a position that it will feed the yarn to the needles properly as they descend down into the cylinder, but not to touch the needles. If the yarn carrier is set too far away from the needles, or too high, it will cause drop stitches.

If you have the stitch regulator set too high, the stitches will then ride on the needles regardless of the amount of weight that you may use. If too low, the webbing will then be very loose and poor looking.

## PART II

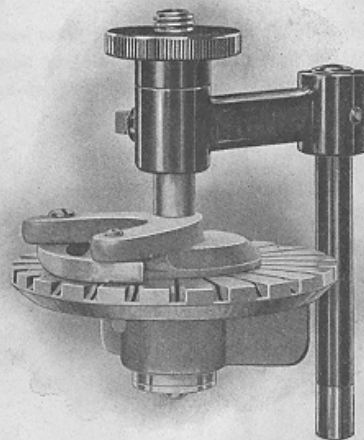
### RIB DIAL ATTACHMENT





"MODEL"  
MACHINE WITH  
DIAL

## RIB DIAL ATTACHMENT



RIB DIAL ATTACHMENT

We advise beginners to study the plain machine before attempting to use the ribbing attachment and never use the ribbing attachment until you are thoroughly familiar with the plain machine.

The ribbing attachment has been thoroughly tested before being shipped and we advise not to alter the adjustment until you have made yourself familiar with the different working parts of same.

### PLACING RIBBING ATTACHMENT ON THE MACHINE

Always have webbing on the cylinder needles before attaching the ribber. Remove all the needles from the dial. Place the dial into the cylinder from the top and press the dial post down into the hole in the gear ring and opposite the yarn carrier. Set the dial central in the cylinder and tighten the set screw that binds on the dial post in the gear ring.

The needles can be placed in any position of the dial, with the exception of in front of the dial stitch cam, but for convenience, turn the handle so that the yarn carrier will be at the back of the machine and with the finger turn the dial in the same direction that the yarn carrier travels, so that the lug on the bottom of the dial rests firmly against the lug on the inside of the needle cylinder.

With the yarn carrier at the back of the machine, place the needles in the grooves of the dial on the right hand side of the machine between the yarn carrier and the dial post and as you fill the grooves with needles, turn the handle so that the cam will not be in the way of filling the entire dial with needles.

Turn the machine slowly and at the same time watch carefully every movement, so as to see that everything is working properly and become familiar with the movements. You are then ready to knit tubular ribbed webbing to any desired length.

### REMOVING RIB ATTACHMENT FROM THE MACHINE

When there is no webbing on the needles, raise up the yarn carrier, loosen the dial post set screw on the gear ring and lift the dial away from the cylinder. To remove the dial from the machine with webbing on the needles is impossible, unless the dial stitches are transferred on to the cylinder needles as instructed on page 29.

### ADJUSTING THE DIAL

When the dial post is all the way to the bottom of the hole in the cam ring, the top surface of the dial should be about  $\frac{1}{4}$  inch above the top edge of the needle cylinder. This can be varied according to the number of needles in the cylinder and the weight of yarn, but care must be taken to allow enough space between the cylinder and dial so that the webbing will pass down freely while knitting.

To raise or lower the dial, loosen the set screw on the dial arm and turn the hand nut on the dial shaft. Raising the dial will knit a longer dial stitch and also widen the fabric.

### ADJUSTING THE DIAL STITCH CAM

To knit a tight dial stitch, release the dial cam set screw at the large end of the cam and set the end of cam away from the center of the dial, toward the yarn carrier. To loosen the dial stitch, release the screw at the large end of dial cam and set the large end of dial cam in toward the center of the dial and away from the yarn carrier. This is an important adjustment, as the slightest move of the cam will alter the stitch. In adjusting, always tighten the screw at the large end of dial stitch cam, otherwise the dial needles will not work.

### TRANSFERRING DIAL STITCHES ON CYLINDER NEEDLES

Turn the handle so that the yarn carrier will be on the right hand side of the machine and so that the groove in the front of the dial cap will be directly over a dial needle. Lower the cylinder needles into the groove (or cut out) of the cylinder needle rest, on the front of the machine and in same section as dial cap groove. Lift the dial needle from the slot in such a way that you will not tear or release the stitch that is on it. Bring the dial needle around, upward in a circle and hook the dial needle stitch on the hook of the nearest cylinder needle. Continue this operation until all the dial needles have been removed and their stitches transferred on to the cylinder needles. The groove in the dial cap will permit the removing of the dial needle without releasing stitch. The groove in the cylinder needle rest will permit the lowering of the cylinder needles on which the dial stitch is to be transferred, and not stretch or twist the dial stitch.

### TO KNIT RIB HALF HOSE

Set up work as directed on page 13. Knit one or two rounds to see that the stitches on the cylinder needles are perfect and attach the rib dial attachment as directed on page 27. In placing the needles in the dial, see that the latches are all open and back. You can then knit a rib top of any desired length. Transfer the stitches as directed above and remove the dial, knit desired leg portion, raise needles for knitting heel and finish as directed in making plain half hose on page 17.

### TO KNIT LADIES' OR CHILDREN'S RIB STOCKINGS.

Set up work as directed on page 13. Knit one or two rounds to see that all the stitches on the cylinder needles are perfect and attach rib dial attachment as directed on page 27. In placing the needles in the dial, see that the latches are all open and back. You can then knit a rib leg portion of any desired length. Transfer the stitches as directed above and remove the dial. Knit two or three rounds plain, make heel and finish same as half hose.



## REMARKS

The machine cannot be turned backward while the dial is in position.

The dial needles must always be central between the cylinder needles. If the dial needles rest against the cylinder needles, the dial is then not in proper position. The lugs are then not resting against each other, and the needles must be removed, dial set, and the needles replaced.

Never attempt to remove the ribber from the machine while the needles are in the dial. Remove the dial needles first, then release set screw on cam ring and remove dial.

Never allow the yarn carrier to ride on or touch the dial needles, as this will bend the latches of the needles and cause them to cut holes.

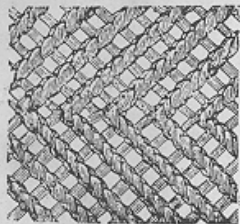
Oil the top surface of the dial and the butts of the dial needles occasionally. Also put a drop of oil occasionally between the hub of the dial and the washer on the bottom of the dial shaft.

In knitting a ladies' stocking the top should be knit with a loose stitch so as to be wide. The ankle can be knit tight. This adjustment can be had with the stitch regulator.

## PART III FANCY STITCHES AND TABLES

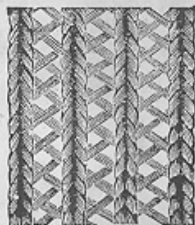
## FANCY STITCHES

An unlimited number of different fancy stitches can be made on the machine, this depending on the ingenuity of the operator. Following are full directions for those in more common use, and are made on a plain machine of any size or different number of needles.



### CHEVRON STITCH

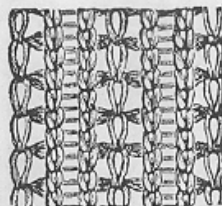
Set up flat web on every needle for the desired width; knit once across; put the stitch of each alternate needle upon the next needle to the right; knit once across and change the *loops* one needle to the right; work thus twelve times across, and then change the loops to the *left* twelve times, knitting across each time as before. Suitable for trimming children's garments, sacks, etc. For wider work, knit more than twelve times across before changing; for narrower, less.



### LATTICE STITCH

Commence as before by taking the stitches from every other needle and putting them over the next to the left; knit across once, forming loops; move the loops to the next needles to the right; knit across and carry the loops to the left; knit across and carry the loops to the right, and so on to the length desired.

(32)



### LACE STITCH

Set up the work with either all the needles in or every other one out, according to the coarseness of the stitch desired. Lift every third needle out of action; knit three times across or around; depress the raised needles and knit once across or round; raise the same needles as before and knit across or around three times, and so on, raising and depressing needles. This pattern may be varied by knitting twice instead of three times, or by lifting out of action each alternate needle, instead of each third needle.



### ANGLE STITCH

Knit flat-web three or four rows on twenty needles; lift the stitch off every other needle and place it upon the next to the left; then knit one row of stitches to make new loops on the needles from which the stitches were taken; knit another row of stitches; now remove the stitches from the same needles again, and cast them upon the needles next on the right, and knit two rows, and so on the desired length.

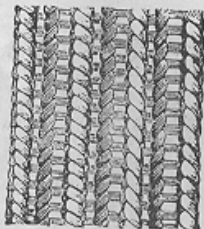
(33)





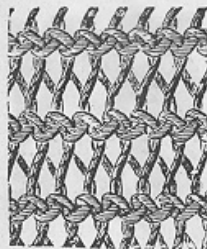
### STRIPE STITCH

Take out every other needle, set up and knit across ; lift every alternate needle *above the cams*, knit twice across ; change the bobbin for another color, put the raised needles down, and lift those which knit before ; knit twice across and change the bobbin ; continue to knit in this manner for desired length.



### CORD PATTERN

Knit three or four rows plain ; lift the stitches off every other needle and place them on the next needle on the left, and knit one row of stitches ; lift the new loops formed on the empty needles on to the next needle on the left, and leave the loops on their own needles as well, which will place these loops on the two needles. Every row of new stitches lift the loop off the needles first emptied of their loops on to the next needle, allowing it to remain on its own needle as well.



### SPIRAL STITCH

Knit three or four rows plain ; lift the stitches from every other needle and place them on the next needles to the left and knit one row of stitches ; remove the new loops from the empty needles every other row of stitches and place them on the next needles to the left, first to the left, then to the right.



### INSERTION PATTERN

On twenty needles flat-web knit three or four rows of stitches plain ; lift all the needles except one out of action ; knit four or six times across on the one needle and hold its stitches down by hand ; now lift this needle out of action and depress the next one, and knit four or six rows of stitches on it ; lift it out of action and depress the next, and so on completely across the web ; or when circular work is desired, all around the work knit one row of plain stitches and work in another fancy stitch, or repeat the same, or knit plain, as desired.