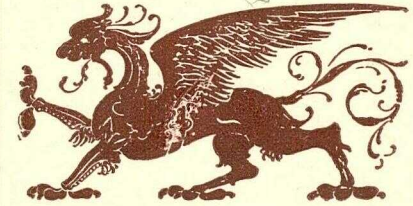


**Mechanical  
Lesson.**



**INSTRUCTIONS**  
— **FOR** —  
**PLAIN-MACHINE.**



1. *For Brevity* the following instruction is expressed in as few words as possible, to give operators an idea, rather than a full explanation, so that they can exercise their intelligence and ingenuity in finding out some things for themselves, especially in working out details and the application of general principles to the machine in use.

2. *First find out* the name of your machine—see name-plate—then apply the special or general instruction applicable to it. Special instruction headings marked with a \*. Refer to foot note which should be read in connection with instruction following \*. *For Illustrations of machines*, see page 2 for "BANNER" and "WORLD'S STAR" ; page 8 for "MONEY-MAKER A" and "IMPROVED MONEY-MAKER" ; and page 4 for "DOLLAR MAKER" and "MONEY-MAKER." The short-line instruction is numbered 1, 2, 3, etc., to enable the operator to remember the last point of reference.

3. *Starting a new machine—*

1. Carefully unpack and place securely on table.
2. Place Yarn-stand, etc., as shewn in cut.
3. Examine machine well in all details.
4. Learn all you can as to threading, etc.
5. Before attempting to knit a single stitch—
6. Remove Ribber carefully, if on machine.



STARTING A NEW MACHINE -*continued.*

7. Raise all Needles up against Spring-hand.
8. Remove Needle-cylinder-holding-screws, or
9. Unfasten "New K" Needle-cylinder Lever.
10. Lift Needle-cylinder out of Cain-cylinder.
11. Lift off Cain-cylinder and Cog-ring,
12. Except in the "New K" machines.



4. *Oiling machine.* Use Sperm or good Sewing-machine Oil. Oil all bearings where friction will cause wear, especially through oil-holes, such as Crank-bearing, Cog-ring-bearing, Cam-cylinder-bearing, Ribber-cam-hub-bearings ; also Cams, Heels of Needles, etc., and Power-loose-pulley-bearings.

5. *Cleaning machine.* The machine should be well cleaned frequently. Use Coal-oil for cleaning, especially when it runs hard after standing for sometime. Wipe off all old oil after cleaning, and re-oil with good Sperm oil.

6. *Place machine together* in the order taken apart ; and learn first and thoroughly, from the plate and price list, the names of the principal parts of the plain machine; and afterwards the names of the principal parts of the Ribber, before making any attempt to use the Ribber.

## MECHANICAL LESSON *continued.*

7. **Words of advice to Ambitious Operators** who wish to see the machine go first thing, by taking a short cut before learning the ABC lessons. We advise them, and persons of natural genius or mechanical ability, who can see with one eye open, to proceed at once to 2nd Knitting lesson, page 18, only first give close attention to the following particulars—

### 8. *Short-Cut Instruction* :




1. Remove Ribber, if on the machine.
2. Use fine or medium yarn at first.
3. Tie new yarn to old yarn if on machine.
4. Thread machine as shown by cuts on page 12.
5. See that stitches are on all needles, or

### SHORT-CUT INSTRUCTION—*continued.*



6. Set up work as shown on page 18.
7. Hold work or set-up well down by hand.
8. Turn crank slowly forward.
9. See that yarn passes freely from Bobbin.
10. Regulate tension or stitch to suit yarn.

 *Operators* who find the above Short-cut too difficult, should learn the most simple operations first, namely, Practice-lesson, and especially Flat-web-toe (see page 17, No. 34), before proceeding to knit a man's sock, as described in second Knitting lesson ; or Rib-work which is more difficult than Plain-work.

## THE TENSION OR LENGTH OF STITCH.


### 9. *Long-loose-stitch*" :

1. For a Long-loose-stitch or Open-work ;
2. Lower V-cam by turning tension-screw-head
3. To the left, until pointer on cam-cylinder
4. Lowers, or figures on top of screw-head,
5. Have made one or more turns as required.




### *Short-tight-stitch* :

0. For a Short-tight-stitch or Close-work ;
7. Raise V-cam by turning tension-screw head
8. To the right until pointer on cam-cylinder
9. Raises, or figures on top of tension-screw-head,
10. Have made one or more turns as required.

 *"With the "Banner," "World's Star," "Money-Maker A," and "Dollar-Maker"* the tension or length of stitch is regulated by raising or lowering the V or tension-cam by means of a tension-screw-head with figures on top, found on side of cam-cylinder. See brass indicator on cam-cylinder. For ribber tension see page 52, No. 153. This also applies to "Star" and "New Star" power machines.

10. *The "Improved Money-Maker," "Money-Maker" and "Klondyke"* V or tension-cam is raised or lowered on a tension-screw-post in cam-cylinder, by means of a tension-screw-nut, with figures on the top, and is turned in the same manner as above to regulate the length of stitch. These machines have no brass indicator on cam-cylinder.

11. \* *The "New K" machine* tension or length of stitch, is regulated by raising or lowering the needle-cylinder, by means of the tension-lever, on left side of bed-plate. Moving the tension-lever to the left effects a short-tight-stitch or Close-work, and moving it to the right effects a long-loose-stitch or Open-work.

 *It will be good policy* on the part of new operators, before attempting to do knitting, to practise well the regulating of the tensions, especially the tension of the machine for Plain-work, which can be done the most effectively by knitting a few rounds and changing the tension from Loose to Tight-knitting, and back to Loose-knitting until thoroughly understood.

# OPERATING NEEDLES.

## 12. Removing Needles without stitches :


- 1 Turn crank forward : stop yarn-carrier at back.
2. Lift one needle up against spring-band at front :
3. At same time draw top end toward you from cylinder.
4. Lift the heel up and out from behind spring-hand.
5. Repeat the operation for all needles to be removed.
6. Move the cam-cylinder forward when necessary.




## 13. Remove Needles with Stitches :

1. Stop cam-cylinder-wire-band-holder at front, or
2. Any point where needles are to be removed.
3. Place the needle-cylinder-spring-band
4. Over band-holder-wire on cam-cylinder
5. Lift one or more needles out with stitches on.
6. Move cam-cylinder forward when necessary.



 *The Instruction in No. 13 is applicable to power machines. "BANNER," "WORLDS STAR," "MONEY-MAKER A" and "DOLLAR-MAKER" machines,*

14. *With the "Improved Money-Maker," "Klondyke," and "Money-Maker," the needles in these machines are removed with their stitches on by holding cylinder-band out with the work-hook, so as to leave an opening for the heels of the needles, as there is no spring-band-holder on the cam-cylinder of these machines.*

 *Second method-* Raise the needle to be removed up out of action : press it inward until the heel of the needle comes out of the cylinder-needle-slot, then turn the needle sideways and lift the needle from under the spring-hand. To place a needle in the next groove with stitch on -after raising and pressing needle

inward, take heel in left hand, top in right, and lift over to next groove while needle remains under hand.

## 13. Placing Needles without stitches :

1. Turn crank forward; stop yarn-carrier at back.
2. Hold needle at right angles to cylinder-band.
3. With hook-end of the needle toward operator.
4. Place the heel of the needle back of cylinder-band :
5. Raise needle upright and press down to place.
6. Repeat for all needles required in the cylinder.




## 16. Placing needles with stitches :


1. Stop cam-cylinder-spring-band-holder at front, or
2. Any point where needles are to be placed.
3. Place the needle-cylinder-spring-band
4. Over band-holder-wire on cam-cylinder :
5. Place one or more needles in with stitches on.

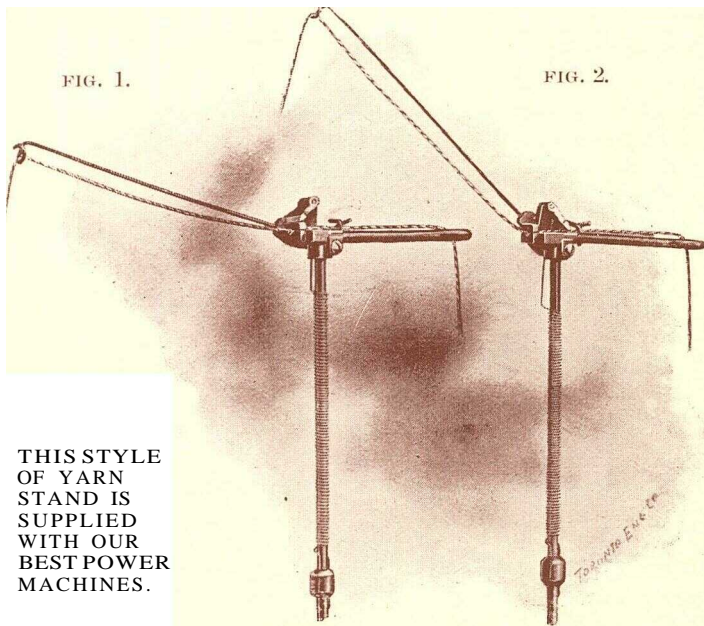


6. Move cam-cylinder forward when necessary.

 *\*The instruction in No. 16 is applicable to power machines. "BANNER," "WORLDS STAR," "MONEY-MAKER A" and "DOLLAR-MAKER" machines.*

*"With the "Improved Money-Maker," "Klondike" and "Money-Maker," the needles are placed in these machines with their stitches on, by holding the cylinder-band out with the work-hook, so as to leave an opening for the heels of the needles, as there is no spring-band-holder on the cam-cylinder of these machines.*

 Practice two, three, or even ten times, taking out and placing in needles, until thoroughly understood and quickly done.



THIS STYLE OF YARN STAND IS SUPPLIED WITH OUR BEST POWER MACHINES.

19. All machines with yarn-stands as shown in Figs. 1 and 2, make the leg and foot with the take-up-lock and spring in the position shown by Fig. 1, and the heel and toe with take-up-lock and spring in the position shown in Fig. 2. With yarn-stand shown in Figs. 1 and 2, before knitting leg or foot, swing the lock on top of yarn-stand-top forward, as shown in Fig. 1; and backward as shown in Fig. 2, before knitting heel and toe.

All machines with yarn-stand shown in Fig. 3, before knitting heel or toe, cord or flat-web, draw down friction-casting, 102, and raise it to position shown in Fig. 3, before knitting leg or foot.

All machines with yarn-stand shown in Fig. 4, before knitting heel and toe, cord or flat-web, place the yarn in the take-up-spring by lifting the yarn between the take-up-lock and the front eye of yarn-stand.

Remove the yarn from the take-up-spring, as shown in Fig. 4, before knitting leg and foot.

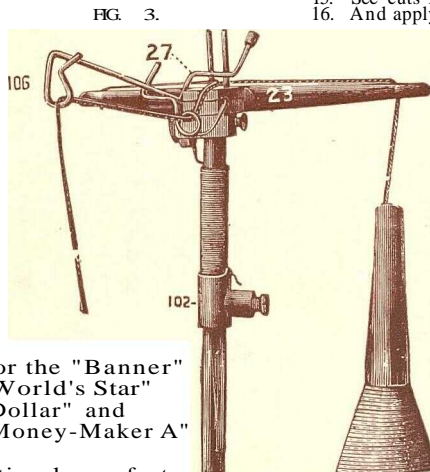
**Regulating take-up.** The strength of the take-up is regulated on the yarn-stand, Figs. 1, 2, and 3, by drawing down the friction-casting on the rod, sufficiently to secure the necessary power to control and take up the loose thread caused by reverse knitting.

The strength of take-up on yarn-stand, Fig. 4, is regulated by throwing take-up-spring back and securing with set-screw.

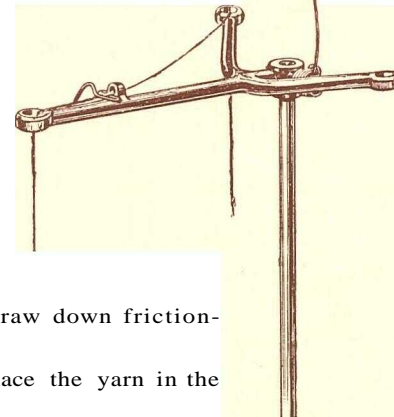
# Threading Yarn Stand.

## 18. Threading the machine\* :

1. Place bobbin directly under any eye of crossbar
2. For power-machines, and under one of the back-eyes
3. Of yarn stand-top, for hand-machines.
4. Pass the yarn through yarn stand-eye opposite bobbin
5. Pass it through all the eyes of yarn stand top,
6. As shown in the cut of each machine ;
7. Then forward through take-up-eye of all
8. Except in the "Improved Money-Maker," "Klondike," and "Money-Maker" machines.
9. In the latter machines pass the yarn through
10. Front-eye of yarn-stand-top, in place of take-up.
11. And finally through eye or eyes of yarn-carrier.
12. Before commencing to set up work on the machine
13. Draw yarn through carrier sufficient to reach floor,
14. Then set up the machine as shown on page 18.
15. See cuts for manner of threading each style,
16. And apply to the style of machine in use.




For the "Improved Money-Maker" "Klondike" and "Money-Maker"

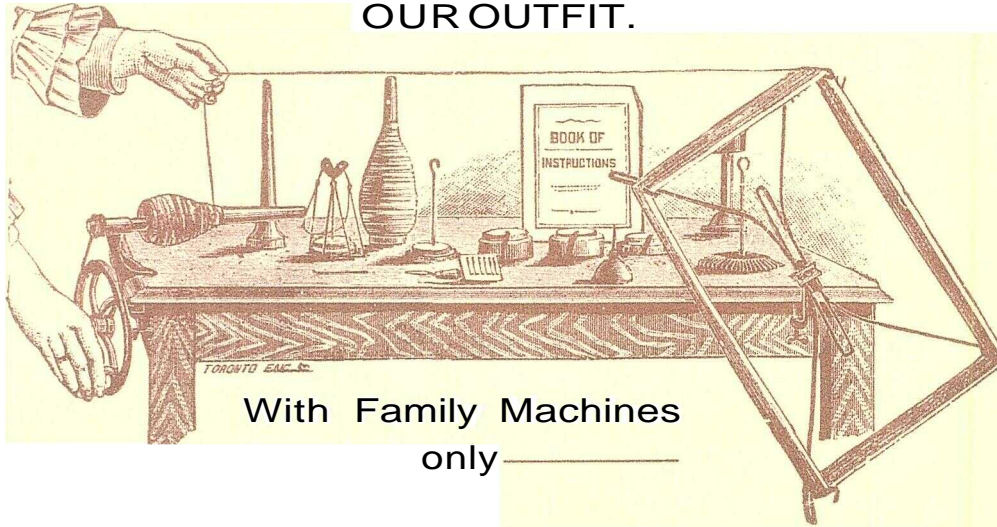


# BOBBIN-WINDING.


20. *Winding Bobbins.* Place Bobbin-winder and yarn-reel as shown in cut, or better still, on same side of table, with yarn-reel to the left, and winder to the right, and from 3 to 5 feet away from winder.

 **The following** outfit accompanies each of our Family machines 4 1/2 inches in diameter, also with 4 inch for export trade. Manufacturing machines and small sizes are not supplied with winder or yarn-reel.

## OUR OUTFIT.



## ALL FREE.



BOBBIN-WINDER.  
YARN-REEL.  
HEEL-HOLDER.  
WEIGHT-HOOKS.  
SET OF 4 WEIGHTS.  
SET-UP.  
OIL-CAN WITH OIL.  
SCREW-DRIVER  
WORK-HOOK.  
3 BOBBINS.  
12 EXTRA NEEDLES.  
INSTRUCTION BOOK.


21. *Bobbin-winder Operators* are like knitting-machines, good, bad and worthless. The first are interested, cultivate good taste, and do their best; the second are careless, indifferent, and lack knowledge; the latter are good-for-nothings.

22. *Wind bobbins well* and the machine will work well, Tie the yarn on bobbin with half-knot only. Commence winding at the bottom or large end of bobbin. Wind into the form of a cone, filling the large end first, with a medium even slope, as represented in out, which shows one bobbin filled and a second bobbin being filled.

23. *Harsh Yarns* should be washed or passed through a

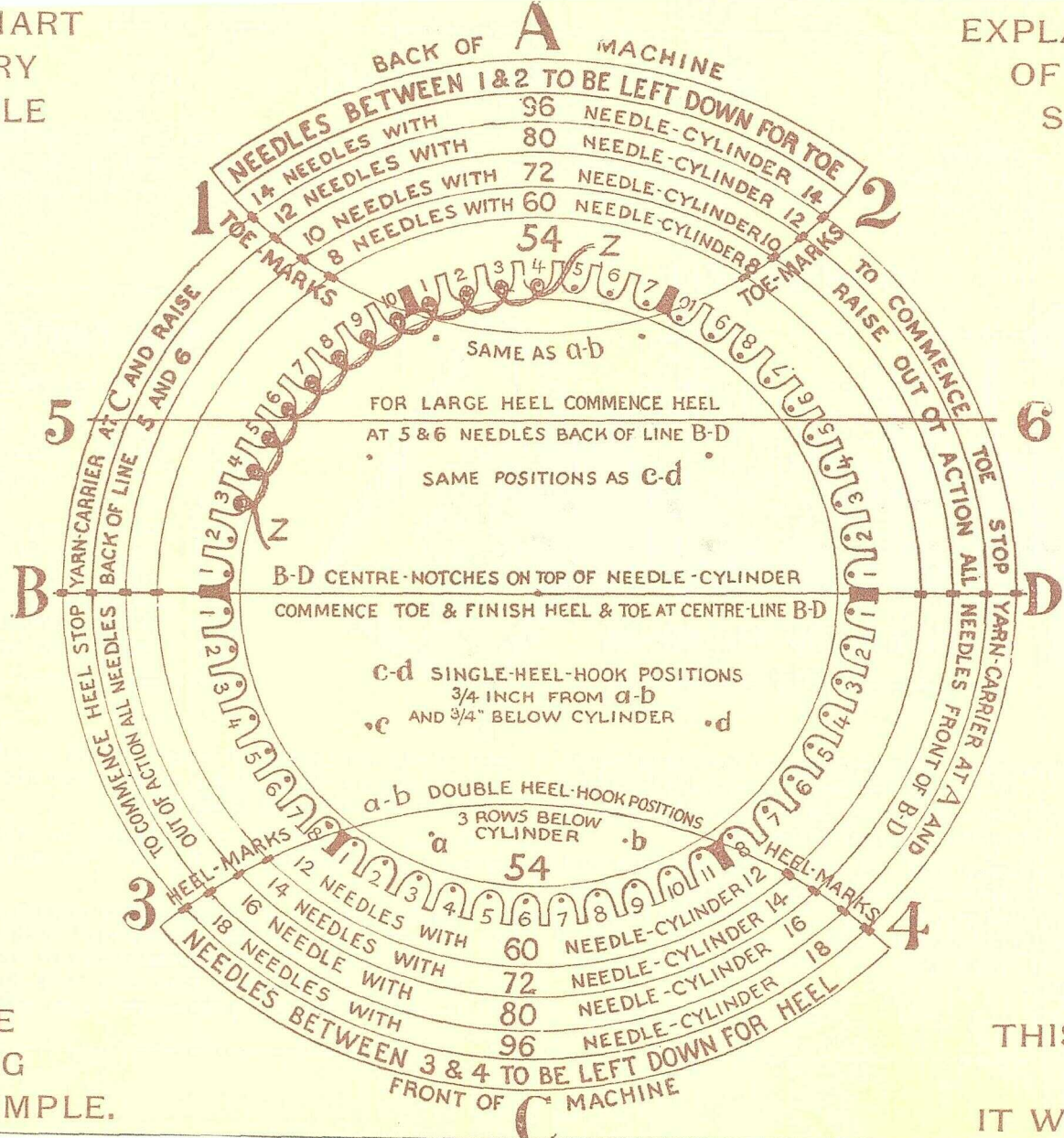
piece of oily-knit goods, or saturated with a mixture of equal parts of oil, soap, water (of pure quality, otherwise the work may smell or be injured) while being wound.

Cotton, silk, and fine yarns should lie wound firmly on bobbin. Do not allow the yarn to sink into bobbin when winding.

 **The best bobbin** is made by oscillating yarn, that is, moving the hand sideways, backward and forward, with a movement of about three inches. This movement should be made quickly. It has the effect of making the yarn cross itself in the operation of winding, and produces a firmer and better bobbin.

THIS CHART IS A VERY VALUABLE HELP.

EXPLANATION OF CHART— SEE NEXT PAGE.



HEEL AND TOE KNITTING MADE SIMPLE.

STUDY THIS CHART WELL. IT WILL PAY.



# CHART EXPLANATION.

24. *A* represents back of machine ; *C* front side ; BD centre line, or marks on top of needle-cylinder indicating half the cylinder.

*The inner circle with U shaped curves* is intended to represent the top of a 54 needle-cylinder and the dots within the U curves, the 54 needles.

*The figures within the U curves* show the number of needles to be raised or left down in making heel or toe on a 54 cylinder.


*The four outside circles* are intended to represent 60, 72, 80, and 96 cylinders respectively, and show on the front of the lines 3-4 and the back of line 1-2, the number of needles to be left down, before commencing the second part of heel and toe, as indicated by the dashes on lines 1-2 and 3-4. The dashes correspond to notches cut, or which can be cut on the top of needle-cylinder as shown to indicate the point of

finishing first part of heel and toe for each cylinder named.

*The words on circular lines* between points 1 and 8, and 2 and 4, tell how to commence heel and toe.

*The line 5-6 indicates* that all the needles back of this line are to be first raised out of action before commencing to knit large heel.


*The words on the lines BD and 5-6,* tell where to commence and finish heel and toe.

 For a small heel, raise only the needles out of action at back of centre line BD, and finish both heel and toe at centre-line BD.

*The small dots indicated by ab and cd* on the inside of centre circle, indicate the positions for placing the heel-hooks for holding down the work while knitting heel and toe. The words between the dots give brief explanation for holding down work.

## FIRST OR PRACTICE LESSON.

25. *Amateurs' first knitting lesson* is not intended for the born genius or persons of a mechanical turn of mind who learn easily. Such persons after studying thoroughly mechanical-lesson, and applying the instruction adapted to the style of machine used, can proceed at once to second knitting lesson. We would, however, advise those who wish to go slowly and surely, to practice all in this lesson, as a means of familiarizing the mind thoroughly with threading of the machine, cam and needle action, stitch formation, use of tension, narrowing, widening, etc., which make practical and more important work very simple.

 *The experience* in this lesson is valuable, and attained more easily with one or more needles in the machine rather than with all the needles in, and is less complicated and promoted self-teaching.

### 26. *Knitting braid cord :*

1. Remove all needles from the needle-cylinder,
2. Except one needle at C or front of machine. (See chart).
3. Turn crank ; stop yarn carrier at C or front.
4. Thread the machine as shown and described, page 12.
5. Tie a loop on the yarn 6 inches from the end.
6. Place the loop over the needle in the machine.
7. Regulate the take-up or take-up-spring. See page 12.
8. Or place a stitch from any web over needle.
9. Hold down very gently on yarn or web with left hand.
10. Turn crank and knit a few complete rounds.
11. Regulate the length of stitch if necessary.
12. And knit any length of cord desired.



**In cord and reverse knitting** the take-up spring should be no stronger than necessary to give power to control and take up the slack yarn caused by the circular or reverse movement of the machine. See page 12, No. 19, for regulating the strength of the take-up-spring.

**27. Knitting square cord :**

1. Place two needles in needle-cylinder at C or front.
2. Place a second needle in alongside of the first needle.
3. Place stitches on both needles from any web or
4. Place a stitch on second needle from braid-cord.
5. Hold down gently on the square cord and
6. Knit circular web or cord on the two needles.
7. See that the take-up and tensions are all O.K.
8. Knit square cord required ; examine work.



**28. Knitting round cord :**

1. Place three needles in cylinder at C or front, or
2. Place a third needle in alongside of the first two.
3. Place stitches on the needles from any web, or
4. Place a stitch on third needle from square cord.
5. Hold down gently on the round cord, and
6. Knit circular web or cord with the three needles.
7. Change the tension or length of stitch,
8. First to close work and then to loose work.



**Knit round cord** with four needles which will be larger and rounder, provided the work is fairly well held down.

**2g. Knitting Fringe :**

1. Place two needles in cylinder at A or back of machine,
2. Opposite the four needles used for round cord ; or
3. Place four needles in cylinder at C or front,
4. If they are not already in the machine.
5. See that stitches are placed on all needles or
6. Lift stitches on the two back needles from cord.
7. Hold down the double-web with weight-hook.
8. Knit circular double-web on the six needles.
9. Remove fringe by breaking yarn and turning crank.



10. Ravel out the stitches of the two needles.
11. Cut the lower end of fringe if desired.
12. Twist each two strands together if preferred.

**30. Short double fringe** is knit by using 4, 6 or 8 needles on each side of the machine at C or front and at A or back. Stitches are placed on these needles from any web, or work may be started with set-up. For setting up see page 36. Hold work well down. Knit length of fringe desired. Cut fringe in two pieces.

**31. Knitting flat web :**

1. Place in cylinder 10 or 12 needles at C or front.
2. Place stitches on them from any web ; or set-up
3. With set-up as described and shown on page 18.
4. Thread machine as shown and described page 12.
5. Regulate take-up or place yarn in take-up-spring.
6. Place weight-hook with one or more weights on work.
7. Hold down work with left hand if necessary,
8. Knit forward and backward a few times.
9. Regulate tension or length of stitch if required.
10. See that take-up or take-up-spring controls or
11. Takes up all slack yarn caused by reversing.
12. Practice flat web until well and fully understood.



**Flat web work** is very easy and is good practice preparatory to knitting heel and toe, and lays the foundation for all kinds of flat web knitting as required in very small children's stockings, drawers, underwear, etc.

**32. Narrowing :**

1. Stop cam-cylinder-wire-band-holder at B or left.
2. Place cylinder-band over band-holder.
3. Lift third needle to right of left side of web
4. Out of cylinder, with stitch on, and place its
5. Stitch on the next needle to the right.
6. Lift out of cylinder the two needles on the left.
7. Place them in the next two grooves to the right.
8. Knit four or five rows backward and forward.
9. Repeat the narrowing on the left side of web,
10. With cylinder-band remaining over band-holder.





### 33. Widening :



1. Lift out of cylinder, two needles on left of web.
2. Place them into the two next grooves on the left.
3. Place one needle into the empty cylinder-groove.
4. Lift a stitch from the first needle on the right.
5. Lift the last stitch cast off by this needle.
6. Place it on the needle placed in empty groove.



7. Knit 5 or 6 rounds and repeat the widening,
8. On one or both sides of web as may be desired.



*Narrowing and widening* can be done on both sides of the web when required, and also done as many stitches from the edge of the web as desired according to the nature of the work.

## Heel and Toe Flat Web.

*Used in knitting new heels and toes in old work, etc.).*

### 34. Round heel and toe :



1. Have, or place all needles in front-half of cylinder.
2. Turn crank, stop yarn-carrier at B or left side.
3. Have, or place stitches on needles from any web. or
4. Set up with set-up as described and shown page 18.
5. Place on the weight-hook with one or more weights.
6. Thread machine ; regulate tension, take-up, etc.
7. Knit as many rows flat-web as may be desired.
8. Stop yarn-carrier, last row at right or at D.
9. Count the needles used in knitting flat-web.
10. Raise out of action 1/4 of needles on left of web.
11. Knit one row to left : raise out of action 1/4 of
12. Needles on right, leaving 1/2 down in centre.

### 35. First part of heel :



1. Raise out of action one needle on left or at B.
2. Knit one row to right and stop carrier at A.
3. Raise out of action one needle on right or at D.
4. Knit one row to left, and stop carrier at back or A.
5. Continue raising one needle each row knit,
6. Until all needles are raised except 8, 10, 12, etc.,
7. According to the size of heel required.
8. The number of needles varies according to cylinder used.
9. Knit last row in direction of C B A.

### 36. Second part of heel :



1. Place the heel-hooks on the heel-side of web (see chart).
2. Put down one needle at left or at B.
3. That is, on the same side as the yarn.

4. Place the yarn over on the back of the needle put down.
5. Knit one row to right and stop carrier at back or A.
6. Put down one needle at right or at D.
7. Place the yarn over on the back of the needle put down.
8. Knit one row to left and stop carrier at back or at A.
9. Continue putting down one needle each row knit,
10. Until all needles raised in making first part of heel
11. Are put down, except the first needle,
12. Raised on each side when first starting heel.
13. At this point the heel is finished. Now
14. Knit last part of row from left to right.
15. Stop yarn-carrier at the front or at C.
16. Put down all needles remaining up.
17. Knit one row or round before running off the work.
18. This round is afterward ravelled for seaming toe.
19. Catch work and weights in left hand.
20. Raise the work up slightly to prevent
21. Stitches from raveling out while running off work.
22. Break yarn and knit backward and forward,
23. Until all stitches are run off needles.
24. Place weight-hook, work and weights on table.




*Heel and toe* are made practically the same, and for practice are more easily made with only half the needles in the machine. In second part of heel or toe the needles may be put down on the opposite side to the yarn without placing the yarn over on the back of needles put down, which makes the usual Commercial-Heel made in factories and is the most rapidly done, and illustrates the manner of knitting Heel-Knitting on both circular and flat-web work.

37. *Holding down heel and toe.* Words cannot tell how important this is. Experience only tells. Expert operators always hold first part of heel and toe down by hand, as follows :

Place the wrist-portion of the left-palm of the hand against the front-inside of needle-cylinder, using the cylinder as a fulcrum or rest to strengthen the hand, while pulling down the web of heel or toe as it is being knit. The web is held between the thumb and fore-finger of left hand with the thumb lying across the centre of the fore-finger opposite the middle knuckle, and the grip on the work is raised higher on the web, each four or five rows knit.

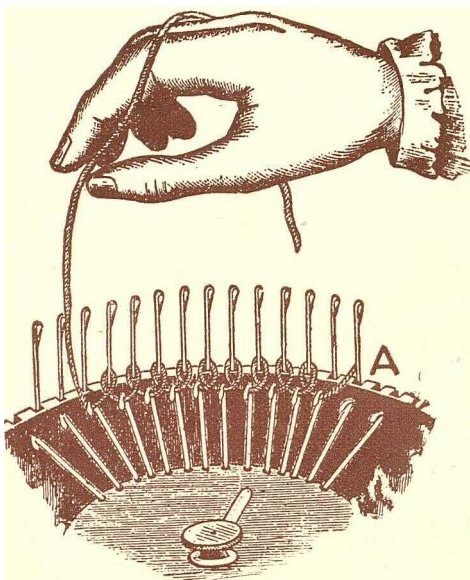
38. *The second part of heel and toe* is held down by

experts with the heel-hooks. See chart, page 14. It is absolutely necessary to raise the heel-hooks higher on the work as it descends, especially the outside-heel-hooks should be raised each four or five rows knit. Hold down in such manner as will positively keep the stitches from rising on the needles and perfectly close to the top of the needle-cylinder. This is *only* necessary on the needles which are actually knitting, and especially on the side needles, next those which are raised.


 *Side-needles missing the yarn.* In case the, side-needles miss the yarn, place the yarn over on the back of the side-needle missed. The missing is caused by the work being insufficiently held down on the missing needle.

## SECOND KNITTING LESSON.

### A MAN'S PLAIN SOCK.



39. *The knitting machine* is a good schoolmaster and will not advance the operator unless competent, therefore do not be surprised if it turns you back a, few times to mind your P's and Q's and A B C lessons.

 *Bear in mind, A* indicates back of machine ; C the front side ; B left side ; D right side ; BD cylinder-centre-marks ; 1-2 toe-line or cylinder marks ; 3-4 heel-line or cylinder marks ; 5-6 line indicating position for commencing large heel. See chart.

40. *Setting up work :*

Place A B C diagram before you. If lost send five cents for a new one.

Turn crank forward ; stop yarn-carrier at back or at A ; thread machine. See page 12.

Use yarn suitable for cylinder, or cylinder best adapted to yarn.

41. *Ordinary rib-top :*

Remove every third needle from needle-cylinder ; regulate tension or length of stitch.

For practice use medium fine yarn, rather than coarse. Place set-up within cylinder as shown in cut. Hold it with the left hand so the hooks are

One-eighth of an inch below top of needle-cylinder.

Draw yarn through carrier until it reaches the floor.


Commence setting up at back or at A, exactly as shown by cut.

Place the yarn around each and every needle and corresponding hook of set-up.

Cross the yarn between each needle as shown in cut.


# A FEW POINTERS.

42. *The principal thing* in setting up is to do it evenly to insure a good even finished top and at the same time to avoid having set-up-hooks too near the top of the cylinder, otherwise the yarn will break in knitting the first round, and if the set-up is too low, a loose and poorly finished top will be the result.

 *Rapid workers.* Keep the eyes on the needles and allow the yarn to catch irregularly on the hooks of set-up, that is two hooks of set-up may be caught or one hook missed, so long as every needle is looped with some hook of set-up device.

43. *After setting up* on all needles around to right or point D, hold down on set-up with left hand and at the same time turn crank forward and stop yarn-carrier at the right or at D. Finish the setting-up and set up double on the first needle, looped at the back or at A, that is, place an extra loop on it. Finally wind yarn twice around the centre-nut of set up, then place

44. *Weight-hook and weights* upon the set-up-rod to hold down the work. Use one, two or more weights according to the fineness or coarseness of the yarn. Knit 50 or 60 rounds or a 6 inch top with a fairly tight tension. Stop yarn carrier at back or at A; fill in empty needle grooves with needles. Place stitches on all empty needles, by lifting stitches from either of the side needles, namely, the last stitch cast off by side-needle. Knit 80 to 100 rounds or a 12 to 14 inch leg. Before making heel regulate take-up-lock, take-up or take-up-spring. See page 12.


 *Repeat setting up* three or four, or even ten times, until thoroughly understood and well and quickly done. Do not cross the yarn when setting up for plain work or in 1 & 1 rib-work, that is, if you wish the top to ravel out, to produce a top without a selvedge finish.

45. *Making round heel :*

1. Stop the yarn carrier at front or at C.
2. Secure a good hard cord to yarn-stand-rod.
3. Raise out of action with this cord,
4. All needles back of cylinder notches or line BD.
5. Regulate take-up, lock, or place yarn in take-up-spring.
6. See instruction for regulating on page 12.



7. Make heel the same as flat-web-toe (see page 17).
8. By, first raising out of action all needles back of line BD.
9. Use heavy yarn, regulate tension to correspond. See page 10.
10. After knitting heel, remove yarn from take-up-spring, or
11. Regulate take-up and take-up-lock. See page 12.
12. Knit leg 12 or 14 inches long as desired.
13. Measure the length of leg with a ruler,
14. By placing ruler inside of work against set-up.
15. In power machines regulate the leg length
16. By adjusting stop-plates on stop-motion-rod.

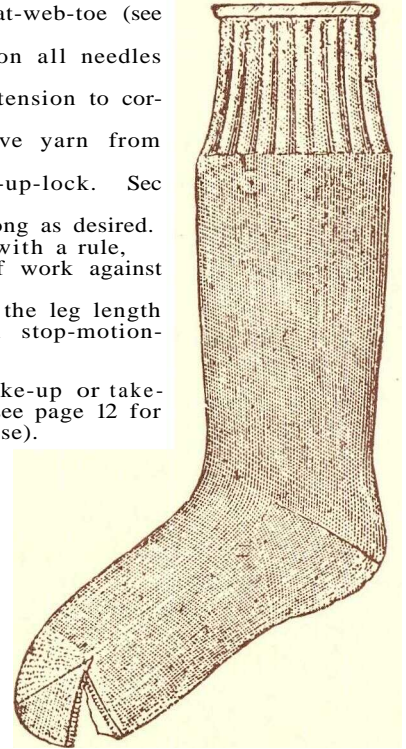
 *Regulate take-up-lock,* take-up or take-up-spring before making toe (see page 12 for explanation of yarn-stand in use).

46. *Making round toe :*

1. Stop yarn-carrier at front or at C.
2. Raise out of action with a cord,
3. All needles back of cylinder-marks or line BD.
4. Knit toe the same as flat-web-toe. See page 17.

47. *Toe on back of machine.* The toe may be made on the back of the machine in place of the front, which will cause the toe to close on the bottom of the sock. When this is desired, stop yarn-carrier at A and raise half the needles out of action at front or at C. *One half-dozen heels and toes* should be knit alternately for practice before making a complete sock.

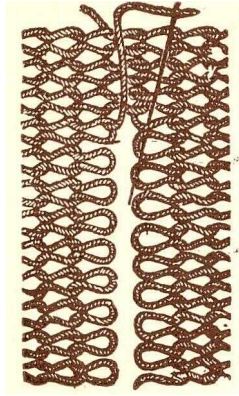
48. *The lengths of all hosiery* is regulated on power-machines by means of stop-plates on stop-motion-rod, or by a measuring support with holes one-half inch apart into which pins are placed.




## CLOSING-STITCH.

49. *Seaming toe (see Sock, page 19);*

1. Hold work with left hand, toe upward,
2. With open side of toe toward you.
3. Ravel out last round knit ; commence
4. On foot-side : continue ravelling the yarn,
5. Until the end is found, then ravel until
6. The yarn reaches the right-hand corner.
7. Break off yarn leaving three-quarters of a yard,
8. Which thread through a short darning-needle, or
9. Better still, through a wool-needle with blunt point.
10. The needle is passed through each stitch twice.
11. 1st, from outside inward, 2nd, from inside outward :
12. That is, 1st, take left half of old stitch inward,
13. Then take a new stitch from inside outward :
14. Commence at toe-side of right-hand corner.
15. Pass needle through first stitch on toe-side,
16. Then take an extra stitch by lifting a corner loop.
17. To fill up and close corner without a hole.
18. Pass needle through first corner stitch on foot.
19. Which will make three stitches on closing needle.
20. Draw the yarn through the stitches. See figure.
21. Pass the needle again, through the same toe-stitch,
22. From the outside of web, lifting left half of stitch,
23. Then pass it through a new, or the next toe-stitch,
24. From the inside of web, passing needle outward.
25. Draw the yarn through the stitch at the same time,
26. Press all upper or toe-stitches left of lifted stitch,



27. Between the fore-finger and thumb of left hand,
28. To prevent the stitches from ravelling or running down.
29. Pass the needle again through the same foot-stitch,
30. From the outside of web, lifting left-half of stitch.
31. Then pass it through a new or next foot-stitch,
32. From the inside of the web, passing needle outward,
33. Draw the yarn through the stitch at same time.
34. Press all under or foot-stitches left of lifted stitch,
35. Between left fore-finger and thumb, to prevent ravelling.
36. Each time a new stitch is being taken up,
37. Pass the finger and thumb over to the side,
38. From which the new stitch is to be taken, and
39. Hold the stitches on that side from ravelling out.
40. Repeat the operation until all stitches are lifted.

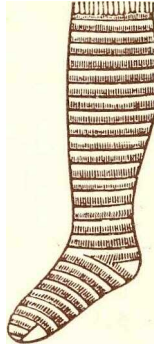
 *The above operation* properly done, will close the toe the same as if every stitch were knit. Should the stitches not come out evenly, take two stitches occasionally on one side and pass the needle backward and forward, through the work after lifting last stitch, to secure the yarn and give a good round finish to the last closing stitches.


**50. *Press the toe*** under a damp cloth with a hot iron, which will prevent the stitches ravelling, and make the closing very easily and quickly done. Closing can be learned more easily by using a piece of old knit web, in which the stitches have become firmly set.

# STRIPED WORK.

## 51. *Striping without knotting.*

1. Stop yarn-carrier on front or at C.\*
2. Break off yarn within one inch of yarn-carrier.
3. Place extra bobbin under second eye of yarn-stand, or
4. Under second eye of cross-bar for power machines.
5. Pass the yarn through this eye direct to carrier.
6. Pass it under hook of back-eye, and
7. Forward through slot into front-feeding-eye, then
8. Lay it under hooks of needles to left of carrier ;
9. Leave 3/4 of an inch of yarn on inside of cylinder,
10. Thereby causing the two yarns to cross each other,
11. Forming a splice or double-knitting on a few needles,
12. Which is considered better than tying or knotting.
13. Various colors can be introduced as above, and
14. Any number of rounds knit between each change of color.
15. The yarn should hang down from back eyes of yarn-stand,
16. That it may be readily caught up for changing.



 *The above instruction applies to all our standard machines. Stripe by knotting with the cheap Family machines.*

## 52. *Striping by knotting:*


1. Stop the yarn-carrier on the left or at 3.
2. Break off the yarn 2 1/2 inches from carrier, or
3. The yarn may be broken off above or back of yarn-stand.
4. Tie on second color with a weaver's or sore-finger knot.
5. The smaller the knot, the more easily it is knit.
6. In any case allow the end of yarn to hang down, so
7. It can be readily and quickly caught up in changing.
8. The changing of colors in both styles of stripes
9. Can be done more easily on back of machine.
10. In which case, the heel should be knit on the
11. Same side on which the stripes are made.
12. The ends of thread may be cut off if too long.

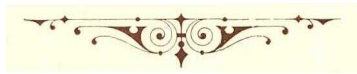


## 53. *Knitting two colors :*

1. Two bobbins of fine yarn may be used to make
2. One coarse thread, and both knit as one,
3. In which case knit the two threads by
5. Passing them through the take-up made weak.
6. The two threads will knit more evenly in this way
7. And retain the same color on one side of web.




 *Two yarns may be knit for double-knees in children's stockings ; also for double heels and toes in all classes of hosiery, in which case a fine yarn is usually run in with the regular knitting thread.*




# A Woman's Plain Stocking.

## 54. *Hem-top* :


- 
1. Turn crank, step yarn-carrier at back or at A.
  2. Place set-up inside of cylinder, commence work by
  3. .Setting up with all needles in the cylinder. See page 18.
  4. Regulate tension to suit yarn to be used,
  5. Knit 10, 20, or 24 rounds for hem-top.
  6. Stop yarn-carrier at front or at C.
  7. Remove the set-up and weights from the work.
  8. Turn the stocking-top, or lower end of the work,
  9. Up or inside of itself, commencing the hem
  10. On the left-hand side of the yarn-carrier by
  11. Lifting a loop from lower end of web on each needle,
  12. With pick-up, which will produce a perfect hem-top.
  13. The set-up-loops may be pressed over needles with thumb.
  14. The thumb-method is Factory-method and quicker,
  15. But does not make as even and perfect work.
  16. After all needles are looped around to left or to 3,
  17. Press the work down with fingers of left hand, and
  18. Turn crank, at the same time move the pressure of fingers
  19. Around on the work, as the yarn-carrier advances.
  20. Finish the hem by lifting loops on balance of needles.


## 55. *Replacing* set-up.

1. Place set-up inside of cylinder, down through work.
2. Allow the hooks of set-up to come up
3. Between the cylinder and the outside of work.

- 
4. Press the hooks of set-up through the work
  5. At 5 or 6 places, or sufficient to cause
  6. Set-up to hold work well down, while knitting.
  7. Place the weight hook, and one or more weights
  8. On the set-up and hold down by hand if necessary.
  9. Turn the crank forward, and at same time, with left,
  10. Press work down directly in front of yarn-carrier,
  11. Permitting fingers and pressure to precede carrier
  12. For the first round, until the double loops
  13. Of hem are cast off. Knit leg about 75 rounds.
  14. Then knit plain narrowed or ribbed narrowed ankle.

## 56. *Narrowing ankle.*

- 
1. The ankle is made smaller by ribbing, (see page 23) or
  2. By changing the tension to knit tighter, 1/2 mark, or
  3. Until the proper tension is required to slightly narrow.
  4. Then knit 10 to 15 rounds, and tighten the tension.
  5. Continue tightening tension and knitting until
  6. Web is firm, and about 65 rounds is knit for ankle.
  7. Before knitting heel, place yarn in take-up-spring, or
  8. Regulate take-up-lock, etc. properly, and
  9. Loosen tension or stitch to counteract the extra
  10. Tension placed on the yarn by take-up or spring.


 **The heel is knit** the same as the heel of a sock or flat-web-toe and the foot knit about 60 rounds. Knit toe on the front half needles the same as flat-web-toe. See page 17.

57. *Knitting hem tops continuously:*

1. After finishing toe and putting down all needles,
2. Knit one row ; stop carrier at back or at A.
3. Break off yarn close to carrier and splice or knot in
4. A No. 30 white cotton thread. See striping No. 51.
5. Knit two rows with the No. 30 cotton thread.
6. Break the thread and splicing yarn, see No. 51.
7. Knit 16, 20 or 24 rounds ; remove set-up &c.
8. Make hem as described page 22 No. 54, only
9. Lift the first row of stitches next the spool thread,



10. And place them on corresponding needles.
11. Use buckle, or a needle through foot of last stocking.
12. Hang the weight-hook with weights, thereon.
13. Turn crank, and press all double stitches
14. Down with left hand directly in front of carrier.
15. Complete knitting second stocking in the
16. Manner already described. See page 22. .

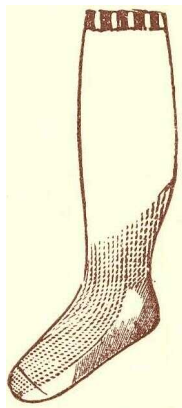
 A buckle for continuous knitting will be supplied by mail for holding down the work, on receipt of 30 cts.



## A Woman's Stocking, Ribbed Ankle.

58. *Narrowed rib ankle :*

1. Make hem-top or ordinary rib-top. See page 22.
2. Knit leg about 12 inches, or about 120 rounds.
3. Narrow ankle in the following manner :
4. Stop yarn-carrier at back or at A.
5. Place cylinder-spring-band over wire-holder\*
6. On cam-cylinder, or with machines without holder,
7. Hold out spring-band with work-hook.
8. Lift out two needles with stitches at front or C.
9. Place stitch of right needle on next needle to right.
10. Place the left needle into empty groove previously
11. Occupied by the needle just narrowed.
12. Knit 5 or 6 rounds; stop carrier at back or at A.
13. Now lift out 4th and 5th needles to left of narrowing ;
14. Place stitch of right needle on next needle to right.



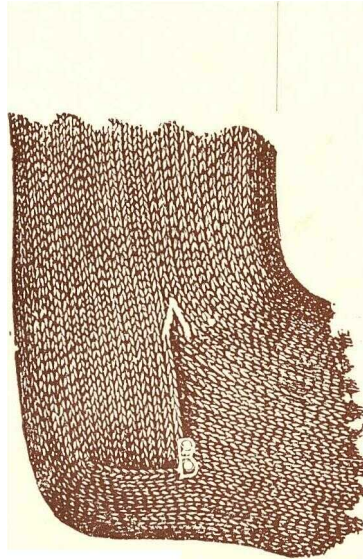
15. Place left needle into empty groove previously
16. Occupied by the needle just narrowed.
17. Lift out 4th and 5th needles to right of narrowings.
18. Place stitch of right needle on next needle to right.
19. Place the left needle into empty groove previously
20. Occupied by the needle first narrowed.
21. Knit 5 or 6 rounds and narrow again on each side
22. Of first narrowing, and again knit 5 or 6 rounds ;
23. And so on, until narrowings are made all round
24. The needle cylinder ; then knit ankle 20 or 30 rounds.
25. Stop yarn-carrier at the back or at A.
26. Place needles in all the empty grooves on front.
27. Place stitches on empty needles from side-needles.
28. Place yarn in take-up-spring. Proceed to make heel.

# HAND-MADE OR CAP-HEEL.

(Finished on Machine).

## 59. Cap-heel or square heel.

1. Stop yarn-carrier at front or at C.
2. Raise out of action all needles on
3. Back, or back of centre line BD.
4. Place yarn in the take-up-spring or
5. Regulate lock or take up, as required.
6. Place heel-hook on to hold work down,
7. While knitting Hat-web part of heel.
8. Raise side heel-hooks on selvedge edge
9. Occasionally as the work descends.
10. Knit flat-web, 20, 22, 24 or 26 rounds,
11. According to length of heel required,
12. Say 20 rows for a 54 needle-cylinder,
13. 22 rows for a 60 and 24 for a
14. 72 cylinder and so forth, according to cylinder used.
15. Stop yarn-carrier last row knit at left or at **B**.
16. Count the number of needles in flat-web-heel.
17. Raise 1/3 of needles on right side of flat web
18. Out of action. Knit one row to right.
19. Stop yarn-carrier at back or at A.
20. Remove heel-hooks and weight-hooks from heel.
21. Lift entirely out of cylinder, 1/3 of needles
22. On left side of heel, lift them with stitches on.
23. Place them inside of cylinder, hooks downward.
24. Lift entirely out of cylinder 1/3 of needles,
25. On right side of heel, with stitches on.
26. Place them inside of cylinder, hooks down.
27. 1/3 of heel needles will now remain in the
28. Centre of cylinder or flat-web-heel,
29. Upon which the bottom of heel is knit,
30. Thereby dividing heel into three equal parts.



5. On right side of centre-web ; place its stitch
6. On first needle on right of centre-web.
7. In lifting the latter needle, always lift it
8. From under the yarn and not over it.
9. Knit one row to the left and one row to right.
10. Repeat lifting one needle from inside of cylinder,
11. On each side of centre of flat-web,
12. Each two rows knit, until all the stitches
13. On needles lying on inside of cylinder are raised.
14. Knit last row to left; stop carrier at left or at **B**.
15. Two stitches may be placed over needle on one side,
16. That is, if necessary to make stitches come out even.

## 61. Replacing needles :

1. Place all needles in empty cylinder-grooves
2. On the right side of centre-flat-web, and
3. Put down the first or corner needle which is
4. Up on the right side of needles without stitches.
5. Place a stitch on the needle just put down,
6. Lifting the stitch from lower corner of flat-web
7. To make a good corner where heel and instep join.
8. Lift with work-hook on all empty needles,
9. Stitches from the right-hand selvedge loops ;
10. From the point A to B (see cut)
11. Lift them so as to divide selvedge web evenly
12. Over the empty needles placed in cylinder
13. On the right-hand side of heel-centre-web.
14. Now put down all needles which remain u p -
15. Turn crank forward and at the same time
16. Press work down on the front of the yarn carrier.
17. Stop the yarn-carrier at back or at A.
18. Lift stitch from lower corner of flat-web:
19. Place it on the last needle put down on left,
20. So as to make a good corner where heel and instep join.
21. Place all needles into empty grooves on the left.
22. Lift with work-hook on all empty needles,
23. Stitches from the left-hand selvedge loops :
24. And divide them evenly over the empty needles.
25. Place heel-hooks with weights on the cap-heel.
26. Remove yarn from the take-up-spring, or
27. Regulate the lock or take-up as required.
28. Knit the foot 6 inches or about 50 or 60 rounds.
29. Make round toe or hand-made toe as desired.
30. See page 17 for round toe, and page 25 for hand-made.

## 60. Knitting bottom of heel :



1. Lift the 1st needle on the inside of cylinder,
2. On left side of centre-web ; place its stitch
3. On first needle on left of centre-web.
4. Lift the first needle on inside of cylinder,

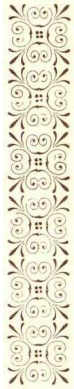


# Hand-Made Toe.

(Finished on machine).

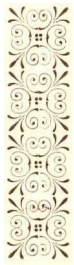
## 62. Toe, first part.

1. Stop yarn-carrier on **the** back or at **A**.
2. Raise out of action all the needles
3. On the front or front of centre line **BD**.
4. Knit first part of toe on back of machine
5. In the usual manner, see page 17, No. 36.
6. Narrow the first part of toe down to
7. Say six or eight needles in the centre.
8. Stop carrier last row knit on right or at 1).
9. Put down all needles on the left of the
10. 6 or 8 centre needles at back or at **A**.
11. Knit to the left, stop carrier at left or at 15.
12. Now put down all needles remaining up,
13. And remove heel-hooks and weights.
14. Lift entirely out of cylinder with stitches on.
15. All the toe needles on back of cylinder line **BD**,
16. And place them on the inside of cylinder.
17. Knit to the right; stop carrier at back or at **A**.
18. Now knit second half of toe. as follows :



## 63. Toe, second part.

1. Lift 1st needle on inside of cylinder
2. Found on the right, and draw the yarn
3. Through its stitch to cast off the double-loop,
4. To make the right side stitches the same as
5. The left side stitches which have been knit,
6. Place the stitch on the first needle to the left.
7. Lift out 3 needles on the left side of web.
8. Place stitch of 3rd needle on the 4th needle.
9. Place the remaining two needles into the grooves
10. Formerly occupied by the 2nd and 3rd needles.
11. Knit one row to left ; hold down work.
12. Stop yarn-carrier at the back or at **A**.
13. Now lift 1st needle on the left, inside of cylinder.
14. Keeping yarn on inside. Place its stitch on the.



15. First needle to right without drawing yarn through.
16. Narrow on the right side as already done on the left.
17. Knit one row to right, repeat lifting a needle
18. Each row knit, always lifting the needle
19. From inside of cylinder on same side as yarn,
20. And narrow them on opposite side to yarn
21. In manner described, so the needles narrowed
22. By lifting will equal the needles narrowed
23. By removal from the needle cylinder,
24. Thereby keeping stitches of both sides of toe equal.
25. Continue until all inside needles are raised.
20. And all cylinder-needles are narrowed down
27. To say 6 or 8 each. Then finish toe by
28. Placing the inside cylinder-needle stitches on
29. The 6 or 8 cylinder-needles ; break off yarn
30. All but 10 inches, which use for closing toe.
31. Lift out of the needle-cylinder entirely, the 1st
32. Needle on the right and draw the yarn through
33. The two stitches, then place stitch on next needle.
34. Continue lifting out one needle and draw yarn
35. Through the three stitches and place stitch on the next needle to the left,
36. Until all the needles are lifted out of cylinder:
37. Now draw yarn through last three stitches;
38. Then pass the yarn through work to centre of toe.
39. Fasten it securely and break off 3 inches from toe.
40. The toe may be made more pointed if desired.



*The toe can be made* in two halves, that is, each half knit and narrowed on both sides of web, two stitches from the selvedge in the manner already described for second part of toe. After both sides of toe have been narrowed down equally to (i or 8 needles, and the 6 or 8 stitches each side closed as above or with knit stitch, then the two selvedge edges are sewed together with the selvedge edge stitch, see page 29.

# FULL-FASHIONED STOCKING.

( *Flat-web-full size.*

## 64. *Narrowed ankle :*


1. Commence stocking with hem top and
2. Knit leg about 12 inches or about 120 rounds.
3. Stop yarn-carrier at the back or at A.
4. Narrow ankle directly on front of machine and
5. Knit the largest possible flat-web, as follows :
  6. Lift out of cylinder, one needle at front or C.
  7. Place its stitch on next needle to the right.
  8. Raise out of action with a hard twisted cord,
  9. 15 to 18 needles on right of empty groove, or
  10. Sufficient to allow the cam action to reverse and
  11. Pass under the raised needles on the right.
  12. Place yarn in take-up-spring, or regulate the
  13. Lock or take-up for flat-web as required. See page 12.
  14. Turn crank forward until cams pass under raised needles.
15. Stop yarn-carrier at the back or at A.
16. Knit back to left and stop carrier at back or at A.
17. Put down the needles up on the right hand side and
18. Raise out of action with a hard twisted cord
19. 15 to 18 needles on the left of empty groove ;
20. Continue knitting in same direction until cams
21. Pass under raised needles ; Stop carrier at A.
22. Knit back and stop carrier at back or at A.
23. Put down needles on left and raise on right ;
24. Continue in the same manner raising, and
25. Putting down needles on each side, until
26. 5 or 6 rows flat-web are knit on all needles except one.
27. Now narrow on each side of the flat-web
28. Two needles away from the selvedge edges,
29. That is, narrow 3rd needle on each side on to the 4th,
30. And so on until ankle is sufficiently narrowed, or

31. About 12 to 14 needles less than the leg.
32. Knit ankle 3 or 4 inches or about 35 to 50 rounds.

## 65. *Replacing needles :*

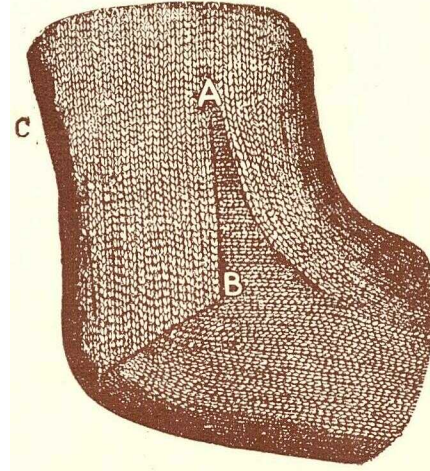
1. The needles taken out to narrow ankle are
2. Replaced before making heel, as follows :
3. Lift out of machine two needles on each side of web,
4. Place them into grooves, one groove away from work.
5. Place needles into the two empty grooves on each side.
6. Lift stitches on these needles from side needles.
7. Knit 4 rows flat-web and repeat, widening
8. Each three or four rows knit, until all needles
9. Are placed in cylinder. Knit round or cap-heel.
10. Knit foot circular-web and any style of toe desired.

66. *Two cylinders* may be used for a full-fashioned stocking, by narrowing from 72 cylinder or stitches down to GO or from an 84 cylinder or stitches down to 72. After narrowing is finished as described, remove the work from the larger cylinder, and place the smaller cylinder in the machine, and transfer the stitches to the needles, placing the two stitches nearest the selvedge edges, over the two adjacent needles at the front or at C. Knit the ankle circular-web, then make heel on the front or narrowed side of stocking. Knit foot circular and toe in any manner desired.

 *The widening* preparatory to knitting heel should be done quickly, with very few rounds knit between as the last 6 or 8 needles are put in. One row less between each widening will help the form of the heel. Regulate the number of rounds between each widening, according to size and in such manner as will produce a good shape, after heel is made and pressed.

67. *Gored or gusset-heel :*

1. After knitting leg and ankle the usual length,
2. Stop the yarn-carrier on the back or at A.
3. Raise out of action half the needles on front or C ;
4. That is all needles on front of cylinder-line BD.
5. Knit instep flat-web, on back half, about 22, 24, 28 or 30 rows according to cylinder.
7. Stop the yarn-carrier at front or at C.
8. Lift entirely out of cylinder with stitches on
9. All needles on the back of the machine.
10. Place them within the needle-cylinder.
11. Put down the needles on the front of machine.
12. Knit flat-web-heel on front needles, exactly
13. The same number of rows as knit on instep flat-web.
14. Raise half the heel needles on opposite side to yarn,
15. Less three in the centre of flat-web-heel.
10. Knit across and raise half the needles



17. On the other side of the flat-web-heel.
18. Three needles will now remain down in centre.
19. Put down two needles on the side opposite yarn.
20. Knit one row and put down two needles
21. On the other side of heel opposite yarn ;
22. And so on, each row knit, put down two needles,
23. Until the heel needles are all put down, thereby
24. Forming bottom part of heel, like bottom of round-heel.
25. Put a new set of needles in, on back of machine.
20. Place stitches on half of back needles from left selvedge.
27. Place stitches on the other half from the right selvedge.
28. That is, lift heel stitches of selvedge A to B as shown in cut.
29. All needles should now be in the cylinder.
30. The gusset is now formed flat-web as follows :

68. *Forming Gusset :*

1. Narrow in the middle of web at back or at A,
2. Twice, once on each side of gusset at A.
3. Make the narrowings, one needle from the edge of web.
4. Knit two rows backward and forward, and
5. Raise the needles on each side of web to allow cams to pass.
6. Make one narrowing on each side of gusset.
7. Again knit two rows flat-web and raise needles each row.
8. Continue knitting two rows and making the
9. Narrowings on each side, until all the needles
10. On back half of cylinder are again removed.
11. Now place in the cylinder the needles lying on
12. The inside of cylinder with their stitches on.




13. All needles will again be in the machine.
14. Knit foot the usual length from 0 to 10 inches.
15. Join the instep selvedge to gusset selvedge
16. With the flat web stitches described page 29.




**Bottom of heel.** The bottom part of heel may be knit by removing all needles entirely out of cylinder with their stitches on, except three needles in the middle of flat-web-heel. Then widen out, by placing the stitch of the first needle on the inside of cylinder, on each side, on each of the side needles of the three. Then place an extra needle in the grooves on each side of the three needles. After placing stitches thereon, knit two rows, back and forward on the five needles, and so on. Narrow one needle on each side, and place an extra needle in on each side until all the needles lifted out of each side of heel are again back in cylinder, Then proceed with gusset as described.

# Child's Plain Stocking.

## 69. *Knit flat-web :*


- 
1. Remove all needles from needle-cylinder on back and
  2. From front half, except those required, say
  3. 30, 40 or 50, according to the size of stocking.
  4. Regulate take-up-lock or put yarn in take-up-spring.
  5. Commence with set-up in the usual manner. See page 18.
  6. Make hem-top or ordinary set-up-top as desired
  7. Knit 50 to 60 rounds flat-web, according to size.
  8. Narrow ankle on each side of flat-web. See page 16.
  9. Knit 20 or 30 rows after narrowings are complete.
  10. Stop yarn-carrier at the left or at B.
  11. Raise out of action on the side opposite yarn,
  12. 3/4 of whole number of needles left after narrowing.
  13. Put down two or three needles to make heel large,
  14. Especially if same yarn is used in knitting heel.
  15. Knit one row to right; stop carrier at A ;
  16. Hold down heel by hand or with heel-hooks.

## 70. *Making heel, 1st half :*


- 
1. Raise out of action on right side of needles down,
  2. One needle in the same manner as in ordinary heel.
  3. Knit one row to left and one back to right.
  4. Raise one more needle out of action on same side.
  5. Knit one row to left and one back to right.
  6. Continue raising one needle each two rows knit,
  7. Until all needles down on left, are raised, except
  8. Four, five or six, according to size of heel required.
  9. Stop yarn-carrier last row knit at left or at B.
  10. Put down the first needle on right of needles down.
  11. Knit forward and backward, and
  12. Put down one more needle on same side as first,
  13. And knit forward and backward until
  14. All needles are put down which have double-stitches,
  15. Except the last one on right with double-stitch.



16. Stop yarn-carrier last round knit on left or at B.
17. Put down all needles and knit one row to right.
18. Stop the yarn-carrier at the back or at A.

 *The first half of heel* is now finished, and it will be observed that it is made on 1/4 of the whole number of needles, plus those used to make heel extra large ; that is, the heel in flat-web stockings is made in two equal parts, one half first on one side of the web, then the second half afterwards on the other side of the web.

## 71. *Making heel, 2nd half :*

- 
1. Raise out of action 3/4 of all the needles
  2. On the left side of the flat-web less, three on right.
  3. Knit to left; raise one more needle on left.
  4. Knit one row to right and one back to left,
  5. Raise one more needle out of action same side,
  6. And knit two rows backward and forward, and
  7. Continue raising one needle each two rows knit,
  8. Until all needles down on right are raised, except
  9. Four, five or six, according to the size of heel required.
  10. Stop yarn-carrier last row knit at right or at D.
  11. Put down the first needle on left of needles down.
  12. Knit two rows, backward and forward and
  13. Put down one more needle on same side as first ;
  14. And knit two more rows backward and forward, until
  15. All needles are put down which have double-stitches,
  16. Except the last one on left with double-stitches.
  17. .Stop yarn-carrier last row knit on right or at D.
  18. Put down all needles; knit toe, foot, etc., in usual manner.
  19. Break off yarn ; hold work and weights from
  20. Falling ; turn crank backward and forward,
  21. Until all stitches are run off the needles.
  22. Place work and weights on table together.

72. *Flat-web-cap-heel.* The cap-heel can be made on flat-web by knitting one half of the heel first on 1/4 of the needles and applying the instruction for regular cap-heel as far as it can be applied to the system of knitting only half of the heel at once. By studying the principle carefully, any average operator should be able to work it out without any special instruction.

73. *Flat-web-toe.* Raise out of action 1/4 of the needles on each side of the flat-web, and knit the toe on the centre or middle half, exactly the same as the toe of a circular stocking, (see page 17, No. 34, only narrow down the needles in the first

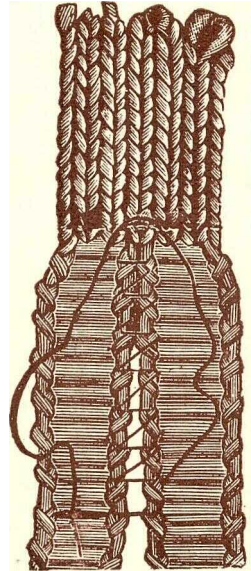
part of the toe to correspond to the size of stocking and number of stitches used.

**48** *All sizes of stockings.* Children's and misses' hose, can be made flat-web at the rate of 1/2 to 1 dozen a day by a good operator, which renders flat-web knitting, thoroughly practical for family use, and especially so, as the flat-web hose has the advantage of being full-fashioned or narrowed in the ankle the same as the best English, French and German hose, usually purchased in the stores, which are made exactly as children's flat-web-stockings herein described, with selvedge seam up the back of leg.

## SEAMING FLAT-WEB.

74. *The cut represents :*

1. Two pieces of flat-web, 3 stitches in each.
2. The upper half is turned over and represents
3. The right side of the knitting apparently without
4. Seam when properly sewed together (see top of cut).
5. When properly done, it will appear
6. As if knit, without the appearance of a seam.
7. The sewing should always be done, when possible
8. The same direction as the web was knit, and
9. Always done from the inside of the web.
10. the middle stitch of each web as shown
11. In the lower half of cut is ravelled out, so
12. The stitches to be sewed, can be readily seen.
13. There are three stitches which appear in
14. The selvedge. Only one, the shortest one is
15. The right stitch to be taken in sewing.
16. It will be known as the "Inside-stitch,"



17. As shown by the needle and the thread.
18. Which passes through the inside small stitches.

**75. Taking the stitches :**


1. Pass the needle through the short or small
2. Inside stitch on the right ;
3. Then pass through the corresponding stitch on
4. The other side of web, on the left,
5. Draw the needle with thread, through the
6. Two stitches as shown in lower end of cut :
7. Again pass the needle through the right stitch.
8. Then through the left stitch and draw
9. The yarn through until the web is
10. Drawn close together, and looks like
11. Regular knitting on the right side of web.
12. Damping and pressing with a hot iron will
13. Help the operator in finding the stitches,
14. Which are to be taken while sewing.

# Children's Fancy Stocking.

## 76. *Fancy ankle :*

1. Knit a plain leg the desired length, then
2. Remove every other needle, or
3. Every third needle, placing their
4. Stitches on either of the side needles.
5. Knit ankle with fancy stitch as follows :
6. Lift out of action every other needle, or
7. Every other pair of needles as arranged,
8. Knit three rounds ; then put down
9. All needles, and again lift out of action
10. Every other needle, or every other pair.
11. Knit three rounds and continue in the
12. Same manner raising the needles and
- 1 3 . Putting them down between each of the
14. Three rounds knit, until ankle is knit.
15. Knit heel in usual manner, on all needles.
16. Knit fancy stitch on top of ankle to the toe.



 **Two rounds may be knit**, with needles **out** of action and thereby vary the appearance of the fancy stitch. By changing the needles which are lifted alternately with the needles which are left down, a **new** pattern will appear. Changing the color of yarn each three rows knit, will also give a very beautiful effect.


## 77. *A good design :*

1. Arrange the needles, one out, then one in ;
2. Again one needle out, and three or more in,
3. That is, every 4th and 6th needles out all
4. Around the cylinder, and the **5th** needles all
5. Around raised each two or three rows knit,
6. Until ankle is the proper length, then



7. Make heel and fancy stitch along instep.


8. Knit toe in the usual manner.

 **The operator** can devise other fancy stitches or make use of some of the fancy stitches described hereafter, for fancy stockings made either in circular or flat-web-work.

78. **Child's fancy scarf** may be knit out of any soft yarn of good quality with any of the fancy stitches shown in this book, most appropriate ; or with the fancy stitch used for children's fancy stockings, No. 76, knitting the scarf in two or more colors. It may be turned wrong side out as preferred. Finish with tassel fringe.

79. **Boy's neck scarf.** Knit with silk or spool thread of suitable color. Knit very loose or with medium loose stitch or with any of the fancy stitches which may please the taste. The work may be turned wrong side out, according to the fancy stitch used, as the wrong side of some of the stitches would be more appropriate for a neck scarf than the right side. The scarf may be made out of wool in various colors, for winter wear, if preferred.

80. **Man's muffler.** Knit out of coarse yarn on as fine a needle cylinder as will knit the yarn without cutting. Knit the ends striped in two or more colors as desired. Knit 2/3 the usual length, and ravel out every other stitch the full length, which will lengthen the web and make it very light and loose. Finish with fringe 6 to 8 inches long.

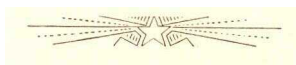
 **A very large Muffler** can be made with extra coarse, soft yarn by knitting in two large flat-webs, and raveling out, every other stitch in each. Then sew the two webs together on each side. Finish with fringe 6 or 8 inches long.

81. **Man's waist sash** is knit either plain well, or one and one, or two and one ribbed with striped ends, with a tight or loose stitch as may be desired. Finish with tassel fringe.

82. **Boy's Cap** can be made by knitting a plain web or a 1 and 1 rib web about 23 or 24 inches long. Join this web together at the ends with the seaming stitch, (see page 20) thereby making a complete circular band for the rim of the cap. Now knit a more or less pointed central piece for the crown, in the following manner :

Place in the machine on the front side, 30 to 40 needles according to the size of crown required. Raise one needle out of ac-

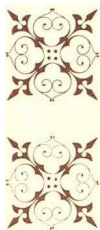
tion on the same side as the yarn. Knit across and back, and raise another needle. Continue raising one needle each two rows knit until all the needles are raised but 4 to 6 needles on the one side. Now put down all the needles and knit one row. Commence raising the needles in the same manner and knit a second triangular web. Repeat in the same manner until 8 triangular webs are made, all of which will be wide at one end and narrow at the other. Join the side of the first web with the last web, and this will make a complete conical crown piece, which, attach by seaming, to the circular web already made. Finish the crown with a small tassel. The manner of knitting the crown piece is illustrated and described page 48, No. 151, Instructions for circular mat in sections.



## MAN'S TOQUE.

### 83. **Knit flat-web.**

1. Commence with 50 or 60 needles in
2. The cylinder according to size of toque.
3. Set up with set-up so the stitches
4. Will ravel and be readily sewed.
5. On the 56 or 60 needle in machine
6. Knit an ordinary round toe, only more
7. Pointed, narrowing it down to two or three needles.
8. Then knit flat-web about 30 to 86 inches.
9. Make a pointed toe in the same manner as first.
10. Knit another flat-web about 30 to 36 inches.
11. The two Hat-webs between the pointed toes
12. Should be the same length, as they are
13. Sewed together up the sides with the
14. Flat-web-seaming-stitch, page 29, No. 74.
15. Join end which came off machine
16. With end made while setting up, with
17. The closing or seaming stitch. Page 20.
18. Finish toque with cord and tassels, and
19. Turn the one end up inside of the other,
20. Then turn up the lower end to form a band
21. About 4 to 6 inches as required.
22. Press with a damp cloth and hot iron.



84. *The toque may be striped* for the part which is turned up and knit with two or more colors according to taste. The toque may also be made tubular web on a cylinder with 108 or 120 needles, by knitting the tubular web 30 to 36 inches long, with pointed toe at two ends. Then the one pointed end is run up on the inside of the other, find the lower end of toque folded up 4 to 6 inches for a band. Finish with cord and tassels in the usual manner.

85. *The first end of toque* may be finished on the machine in the following manner :

Commence toque by raising out of action one half of the needles. Set-up with a set-up-device on the other half in such manner that the set-up loops will ravel out. Knit a loose pointed toe, narrowing down to three needles. Then widen out until all needles in toe are put down. Now put down the first half of the needles which were raised out of action. Remove the set-up-device from the work. Place the set-up-loop stitches, after raveling out one round, on the empty needles, thereby closing the pointed toe on the machine. Knit the usual length for toque and make point of toe on the other end.

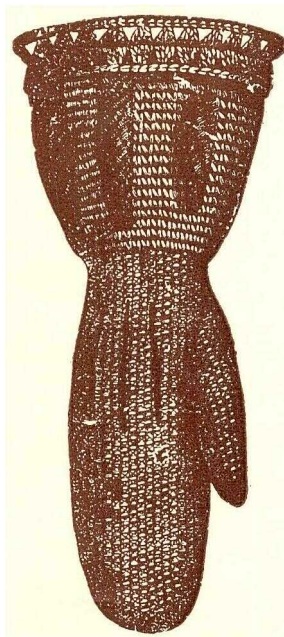
*Small size toques* can be made circular web on a 72 or 80 cylinder with medium coarse yarn and a loose tension, either rib or plain.

# Gauntlets, Mitts, Cuffs, &c.

## 86. *A man's mitt :*

1. Knit with coarse yarn on a coarse cylinder.
2. Knit about 7 inches for a double wrist or
3. Hem top, which should be about 3 1/2 inches.
4. After wrist is made, knit 15 to 20 rounds.
5. Now make thumb on the right side,
6. For a right-hand mitt, and on the
7. Left side of machine for left-hand mitt.
8. Commence thumb for right hand at the
9. Mark on top of cylinder at right side.
10. Commence thumb for left hand at the
11. Mark on top of cylinder at left side and
12. Count 20, 22, or 24 needles according to size.
13. Count from marks on top of cylinder,
14. Around to the front of the machine.
15. Raise all other needles out of action.
16. Knit thumb flat-web on the 20, 22, or 21
17. Needles, or about 50 to 60 rounds
18. According to length of thumb desired.
19. Hold down the thumb-web with heel-hooks.
20. Remove the heel-hooks from flat-web.
21. Break off yarn ; run work off thumb needles.
22. Stop yarn-carrier on the left side.
23. Raise the selvedge stitches of the flat-web.
24. Raise half from each side of the web,
25. The same as in knitting cap-heel.
26. Place the stitches on the empty needles.
27. Place on heel-hooks ; thread yarn-carrier.
28. Put down all needles which remain up.
29. Knit hand, 50 to 60 rounds.
30. Finish mitt same as round toe,
31. Only make the point broader by
32. Leaving down more needles for second half.

87. *Finish thumb* by sewing up the flat-web selvedge edges with the seaming stitch, then pass a double thread around



through all the stitches on end of thumb. Draw them together, which will leave a small round hole in the centre. Fill this up by drawing the thread backward and forward to fill up the space, and make as perfect a finish as possible.

The thumb may be finished, by knitting a flat-web-toe, in the usual manner. Where the thumb is extra large, this will be the better method of the two.

## 88. *Mitt flat-web (seamed on side opposite thumb) :*

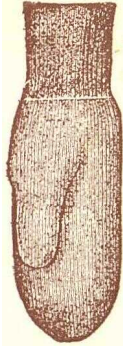
1. Knit on 40, 50 or 60 needles according to size,
2. On the front half of the needle-cylinder.
3. Knit wrist with hem-top, ordinary rib, or
4. Any of the fancy stitches desired.
5. Knit 15 to 20 rounds then make thumb.
6. Raise out of action half the needles on the
7. Left side of the flat-web, and all
8. On the right side, except 16, 18 or 20,
9. According to size of thumb required.
10. Knit thumb flat-web the desired length.
11. Run the work off the thumb needles.
12. Pick up the stitches from each selvedge.
13. Place half from each web on the
14. Empty needles, in the same manner as
15. In knitting cap-heel. See page 24.
16. Knit hand 40 or 50 rounds and make toe,
17. On half the needles in the usual manner.
18. Finish mitt by seaming with flat-web stitch.

89. *A man's gauntlet* can be knit in the manner described for a man's mitt, by knitting with a fancy stitch for the wrist, which will have a tendency to make the wrist wider. Rib mitts can also be made with ribber. See page 61, No. 183. All sizes of mitts can be made by knitting either circular or flat-web.



# FLEECE OR LOOP-LINED MITTS, SOCKS, &c.

Are made like the samples on our Special Machines.



**90. Looped or Fleece-lined mitts** are knit on the plain-machine and are very easily made, and are made practically the same as described on page 32. When a rib-wrist is required it is knit on a separate machine and transferred to the cylinder of the looping-machine, unless the mitt-machine is supplied with ribber. Make ordinary mitt first with 4-inch hem-top, same as in knitting stocking (see 54, page 22).

**91. In doing loop-work.** 1st—See that the looper is the proper height to ensure loops long enough to make a good looped lining, or sufficiently long to produce a fleece, when a fleeced interior is required.

2nd—See that the looper points run close to face of yarn-carrier but not so close as to rub against it, as they will cut into the yarn-carrier and damage it.

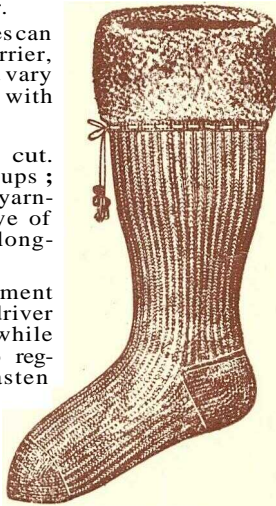
3rd—See that the yarn-carrier is the right height, that is so the hooks of the needles will just pass over and nicely clear the top of upper-feeding eye of yarn-carrier.

**4th**—The long or lower eye on high-grade mitt-machines can be moved in toward the yarn-carrier or out from carrier, and thereby produce a more even stripe, should it vary with a change of yarn. Plain work can be done with two colors, by moving it out about 1/8 of an inch.

**92. Threading machine.** Thread as shown in cut. See page 6. Leaving the yarn out of the two take-ups; thread the looping yarn through the short arm of yarn-stand-top and through the inner or upper feeding-eye of yarn-carrier, and the non-looping-thread through the long-arm and lower or outer eye of carrier.

**93. Changing looper.** Remove looper-attachment from machine and hold in hand and use large screw-driver to unfasten looper hold-screw and replace the looper while the sliding-looper-holder remains in its place. To regulate looper towards or away from yarn-carrier, unfasten the thumb-holding-screw on top of driving or revolving-arm, then regulate and re-fasten.

**94. Placing looper-attachment.** Place it on machine as shown in cut (see page 6); remove it from machine by placing it in the hole in bed-plate at back of machine, and in the same position as when on machine for convenience for threading and setting-up work.



**95. For thumbflat-web mitts and point :**  
Place the yarn in take-ups, as shown in cut. page 6, and remove the same when knitting the hand or straight-web for linings or cheap mitts with point of hand finished by sewing and rounded by cutting with scissors.

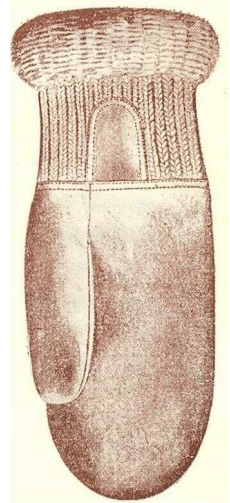
**96. The length of loop** is regulated by raising or lowering looper by means of thumb-screw on side of looper-arm or nut on top of arm. Raise looper for a long loop, and lower for a short loop. The loop will disappear and only stripe or plain-work be made if looper is too low and at the same time make very nice double-web.

**One and one and two and one loops.** Mitts made with the former have twice the number of loops that the latter has but are made only in plain work while the latter can be made either striped or plain. One needle-cylinder will do both styles of loops with two-loopers.

**97. Striping around mitt :**

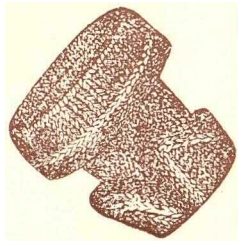
Move looper-driver forward, to throw looper out of action, and knit 2,4, 6 or 8 rounds and return to place and knit a few rounds ; repeat as often as desired. Mitts can be made with lower end of wrist either loop, roll, hem, plain, rib or large gauntlet-top, like the cut shown on page 32. This gauntlet-top is made by knitting with long loose stitch made with looper by lowering looper and placing both threads in the upper feeding-eye, so they will both pass over the looper-points and thereby make an extra long stitch. *Extra coarse yarn*, single or two threads, can also be knit in this manner.

**98. Power mitt machines** are operated as above, only non-looping thread is stationary at the back of machine and passes through back-eye of over-rod and down through the over-rod centre-eye, then through yarn-stand-top and take-up eyes and lower eye of yarn-carrier. *Fleecing can be done* by combing loops with a piece of card-clothing, by hand or with special power-wheels covered with card-clothing.

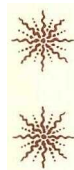


### 99. Men's cuffs :

1. Place set-up within the needle-cylinder.



2. Hold within 1/2 inch from top of cylinder.
3. Have every other needle out of cylinder.
4. Set up in the usual manner,
5. Only with a long half inch loop.
6. After knitting one round with regular yarn,
7. Place a small ball of yarn inside
8. Of cylinder, preferably a second color.
9. With this second yarn set up a second time,
10. Commencing in front of yarn-carrier.
11. Continue setting up, always in advance

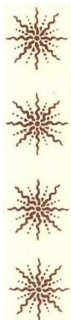


- MEN'S CUFFS—*continued.*
12. Of the yarn-carrier, knitting one row,
  13. For each setting up, always keeping
  14. The set-up loops the same length, or
  15. About  $\emptyset$  inch long, as preferred.
  16. Knit 10, 12 or 15 rounds with
  17. The half inch loop between each row, until
  18. The looping is as wide as desired.
  19. Now knit the cuff, or put
  20. On ribber and make one and one rib.
  21. Remove set-up and again place on the
  22. Inside of cylinder for second cuff.
  23. And in this manner, knit them
  24. In one continuous web, or single, as desired.

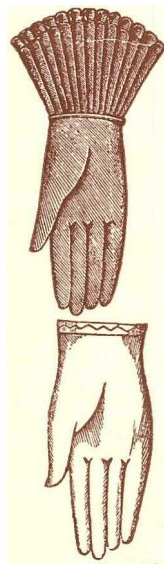
## MEN'S GLOVES.

### 100. Hand and 1st finger:

1. Knit either flat-web or circular web,
2. According to size of glove required.
3. Knit wrist and thumb same as for mitts.
4. Knit hand 2 inches or 20 to 25 rounds, then
5. Run the work entirely off the machine.
6. Knit a second hand similar to the first.
7. Remove all needles from cylinder, except 1/4
8. On front of machine. Place in cylinder on left,
9. One needle, making one needle more than 4
10. On these needles, knit first finger, by
11. Lifting the stitch which is closest to
12. The left side of thumb or left selvedge.
13. Place this stitch on the middle finger needle.
14. Lift stitches from both sides of the hand.
15. Place them on their respective needles,
16. Until one stitch more than 1/4 of hand stitches,
17. Are lifted, thread the yarn carrier, and
18. Knit one row to the right side of web.
19. Place one needle in first empty groove,
20. On the right side of the machine.
21. Place a stitch on it from needle on the left.
22. Lift last stitch cast off by side-needle.
23. Knit one more row to the left side.
24. Place a second needle in first empty groove
25. On the left, place a stitch thereon.
26. Knit one row to the right side.
27. Place a second needle in first empty groove
28. On the right : place stitch thereon.



29. Knit flat-web three inches or about 30 rounds.
80. Run stitches off proceed to knit second or large finger.



### 101. 2nd finger :

1. Place 1/8 of hand stitches from front of hand,
2. On the needles which are to the extreme right.
3. Place three stitches from the selvedge edge, formed
4. By the three widened needles which were put into the machine.
5. Lift two of the stitches from the front selvedge widening,
6. And one stitch from the back widening next selvedge.
7. Place them on the next three needles to the left, then
8. Place 1/8 of hand stitches from back of hand.
9. On the remaining needles on the left side.
10. Place yarn in carrier and knit to the right,
11. Place it on the right side, one needle, and
12. Place in on the left side one needle ; place stitches thereon.
13. Knit one row, place second needle on the right with stitch.
14. This makes second finger three stitches larger than first.
15. Knit 3 1/2 inches, or about 35 to 40 rows.
16. Run stitches off and proceed to third finger.

102. *3rd Finger.*

1. Lift six needles out of machine on the right.
2. Place 1/8 less two stitches from front of hand,
3. On the needles which are to the extreme right.
4. Lift on next three needles to left, the three widened
5. Selvedge stitches formed by widenings in last finger,
6. Then place 1/8 less two stitches on back of hand,
7. On the remaining needles on the left side.
8. Place yarn in carrier and knit to the right,
9. Place in on the light side one needle, and
10. Place in on the left side, one needle with stitch.
11. Knit one row ; place second needle in on right with stitch.
12. This makes 3rd finger same size as 1st.
13. Knit finger three inches or about 30 to 35 rounds.
14. Run stitches off. Proceed to 4th or small finger.

103. *4th Finger.*

1. Lift four needles out of the machine on the right.
2. Place stitches from each widened selvedge of last finger,
3. On the first three needles on the left side.
4. Place the remaining stitches of hand on the
5. Remaining needles ; place yarn in carrier and
6. Knit 2 1/2 inches or about 25 to 30 rounds.
7. Run stitches off ; sew up all fingers, and
8. Close finger-points by drawing yarn through
9. All the stitches ; pass yarn backward and forward
10. Through the point to make a good end-closing.

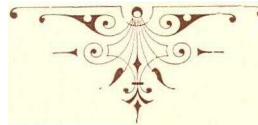
104. *Gloves, small sizes,* can be knit flat-web, with seam running in line with the outside of little finger. The relative size of fingers can be varied, one or two stitches from the above rule, if found more satisfactory.

*The above instruction* is based on 60 needles in the cylinder with 16 needles for 1st finger, 16 for 2nd, 13 for 3rd and 15 for 4th or little finger, which makes after widenings are made, 19 stitches for 1st, 22 for 2nd, 19 for 3rd and 18 for 4th. The above is about the proper proportion, relatively, for any number of stitches required.

*The wrist* of glove may be made with ribber 1 and 1 rib, with the rib up the back of hand, or if knit plain, a row of fancy stitches may be run up back of hand in line with the spaces between the fingers. The lower part of wrist may be formed with rouching or loops the same as described for a cuff.

*Gloves, right and left hand.* Be careful in making a pair of gloves to make them right and left hand. The left hand, the 1st finger folds over the 2nd, and the 2nd over the 3rd and the 3rd over the 4th, that is, with the thumb on the left side. The right hand glove requires the thumb on the right side and the fingers will fold over each other in the same manner.

*Fancy backs* can be made by making three fancy rows of stitches run up the back of hand so as to come between the fingers.



# MEN'S DRAWERS.

## 105 Knit on plain machine.

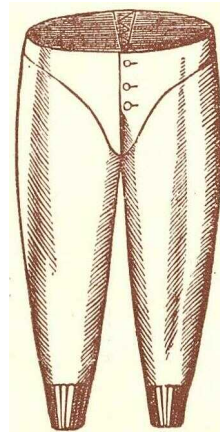
1. Knit with medium fine yarn on either a
2. 72, 80, or 96 needle cylinder with
3. Every fourth needle out of the cylinder.
4. Commence with set-up and knit ordinary rib-top,
5. About 5 inches long with medium tight stitch.
6. Place needles in all empty needle-cylinder grooves,
7. And lift stitches on them from the side needles.
8. Now lift entirely out of needle-cylinder,
9. All needles with their stitches on, on back, or
10. Back of the centre cylinder-line BD.
11. Permit the needles with their stitches on,
12. To lie on the inside of needle-cylinder.
13. Knit the balance of each leg in two pieces,
14. Knitting flat-web straight on one side,
15. And gradually widen out on the other.
16. The widening is done each four rows knit,
17. For about 6 inches, and then widen
18. Each 10 rows knit until all needles are in cylinder.
19. Then knit about 18 inches to the seat ;
20. After which the flat-web is continued for
21. 18 inches more, on all the needles, to form
22. The waist portion of body above the seat.

106. *The other half of leg* is knit in the same manner by, first removing the needles on which first part, of leg was knit and replacing in cylinder the needles with their stitches on, which were left on the inside of needle-cylinder.

*Make Widenings* with exactly the same number of rounds between, so the two narrowed sides of leg will come evenly together and the two straight sides come out evenly when sewed up.

A *square piece* knit on about 30 to 40 needles is inserted in the seat of the drawers so that the opposite corners will extend down between the seams of each leg. The drawers are finished by sewing the side seams with the flat-web seaming-stitch. See page 29. The top and front are lined and bound off and finished with button holes and buttons in the usual manner.

*Drawers are very easily made.* The process is simple and sufficiently rapid to make the work very practical for family use. Two pairs can be made in one day, the yarn costing about 45 cents for each pair and the drawers are easily worth \$2.00 per pair.

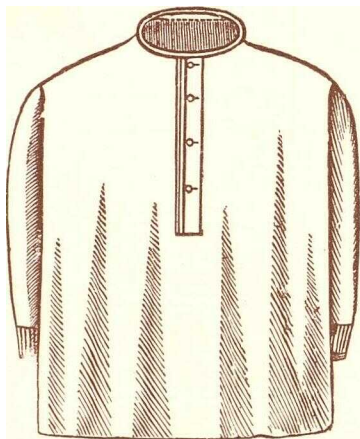


107. *Drawers with 1 and 1 rib bottom.* The machines which have ribbers will make the bottom end of drawers with 1 and 1 real rib (in place of the ordinary rib, which of necessity must be made upon the plain machines.) We would recommend the lower end of drawers to be made with 1 and 1 real rib. After the rib is knit about 5 inches long, the stitches of rib-needles are transferred to the machine needles, and the ribber removed. The drawers are then made as described above.

*All-rib drawers* can be made on the plan of narrowing a stocking, that is, reversing the method by widening in place of narrowing so that when the widening is completed, with all needles in the cylinder and all in a 1 and 1 dial, the wide portion of the rib will make the upper part of the leg to the knee, after which the web is knit very loose, sufficiently long to reach to the top of the waist. The web is then cut down to the seat of the drawers. A second leg is made in the same manner, then finished according to the above instructions.

## MAN'S UNDERSHIRT.

### 110. Knit on plain machine :



1. Knit flat-web with medium yarn.
2. Knit with medium tension or loose stitch.
3. On a 72, 80 or 96 needle-cylinder, and
4. Knit with all needles in the cylinder,
5. Provided you wish to knit a large size.
6. See page 26, No. 64, for knitting large flat-web.
7. Knit two flat-web strips, each about
8. 72 inches long, and full width of machine.
9. Knit the two webs straight on the sides.
10. Fold them evenly in the centre of web.
11. The one web will form left half of shirt,

12. And the other web, the right half.

**110.** This useful garment can be made with any color of suitable yarn with plain rib or fancy stitches, and can be made whole as one piece, or in strips and sewed together. When knit plain, one row of stitches, if ripped out down the web, leaving four or six inches between, will give it a design in the front. The neck and shoulders are knit by widening and narrowing to suit the shape shown in figure. The neckband and belt can be knit either plain or rib, and sewed on.

**111.** Button-hole is knit in the band by raising up one-half the needles on one side of the web and knitting the length of the web on the remaining needles, then depress the needles raised and raise the other half, and knit the second side of the button-hole the same number of rows as the first, then depress the needles and narrow off the end on each side every round, Or every other round, by taking out the needles on each side.

*no.* Men's and boy's ribbed undershirts are quickly and easily made on machine with ribber by knitting with loose web with all the needles in the cylinder and all in the dial, mak-



13. Sew webs together with flat-web stitch.
14. See page 29, No. 74, for seaming flat-web.
15. Sew the outside seams within ten inches
16. From the top, leaving ten inches for sleeve.
17. Sew the back seam to the top of shirt.
18. Sew the front seam within thirteen inches of top.
19. Cut the neck in a half circle on front web.
20. Sew the half circular piece to the back,
21. With a herring-bone stitch, to cover seam.
22. Bind off the front in the usual manner,
23. Making button-holes ; sew on buttons, etc.
24. Finish the bottom by hem or crochet stitch.

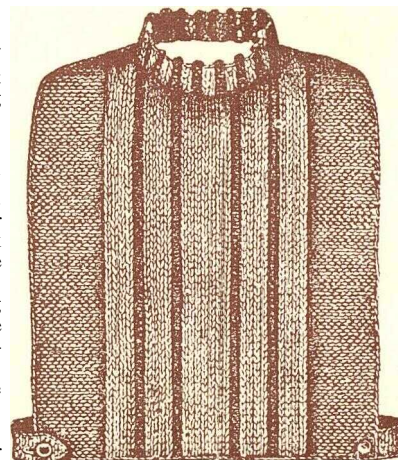
**109. Knitting sleeves.** The sleeves are knit the same as a stocking leg with ordinary rib-top (or with one and one rib-top with ribber) about four inches long. The top part of sleeve is knit full size flat-web for five inches and a square piece five inches square, or knit on about 30 needles and placed into the flat-web opening, that is, one corner is placed into the sleeve and the other corner runs down the side seam of the shirt.

**112.** Undershirts made in the above manner are worth \$2 each. The yarn costing about 40 cts. They will wear longer than usual store goods and have no harsh seams in either body or sleeve. Two shirts can be, made and finished in one day.

## GENTLEMAN ' S CHEST PROTECTOR .

ing web double the length of the body of shirt. Then cut it open from end to end along a rib seam.

*Fold it in the middle* and it will represent the body of a shirt. The web should now be cut in a half circular or elliptical form for the neck and straight down for the bosom opening. The half circular piece formed by cutting neck may be fastened to the back of shirt with the herring-bone stitch, or bound down with a piece of tape, and the sides of shirt to arm pits in the same manner. The bottom may be hemmed around or



finished with the crochet stitch. The bosom should be finished with a band of knit work made flat-web, or with any suitable cloth band made with button-holes, &c.

*The sleeves and gussets* are shaped as follows : Knit the sleeves ribbed like a ribbed stocking with a narrowed ankle (or the reverse by putting needles in and widening in place of

narrowing). This will shape the sleeve, which should be cut down at top three to five inches to receive half the gusset.

**Knit the gusset** three, four or six inches square according to size and fold at opposite corners placing one half in the body and the other half in the sleeves.

## CHILDREN'S SHIRTS.



**111. Knit on plain Machine** with a fine cylinder and medium yarn, and all the needles in the machine except one out on the front. Knit with a loose stitch, 2 yards, or as long as may be desired to suit the size. Run off the work, and cut the web open down the cross threads where the one needle is left out; now fold the two ends together, sew up the sides as far as the arm-holes. Shape the neck and

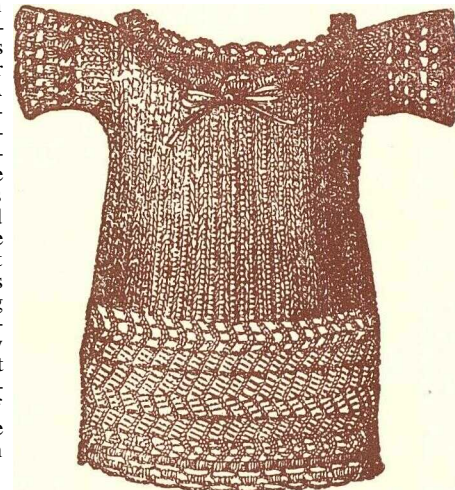
cut down the breast, and bind off the shirt, and put in sleeves the same as shown or as described for a man's shirt.

**105. Children's all ribbed vests** are made on our Family Ribbing Machines in the same manner as described on last page, for men's and boy's ribbed underwear. The sizes are regulated according to the number of needles in the cylinder, and style of rib. The sleeves are made in the same manner as the small rib stockings.

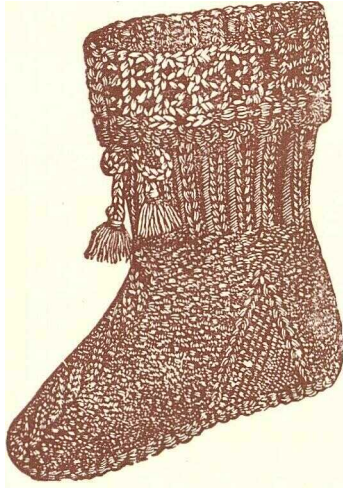
They are made rapidly and cheaply. The seam in the body caused by cutting is similar to the seams which are in most under-

shirts found on the market. One-half dozen can be made in one day, and are therefore not only practical for family use, but also profitable for general domestic knitting.

**112. Child's fancy vest** can be made like the pattern shown in cut by using any suitable cylinder and yarn with any of the fancy stitches shown in this book, which are suitable. The body and sleeves are made plain or rib after knitting the fancy part. A little good taste and judgment will enable any person with ordinary intelligence and a little experience to make these garments entirely satisfactorily, and enable them to clothe the family from head to foot with cosy and warm lamb's wool underwear, including boy's full sailor suits, thereby making the Family Knitting Machine a most valuable investment, especially as the prices of our family machines are extremely low and within the reach of everyone.



**107. Agents and Teachers** can explain easily how large undershirts are made (and this is a good point in selling machines). Take a piece of paper 9x3 inches. Fold it from end to end, then explain that a piece of knit work must be made twice the length of body of shirt and knit loose on all the needles in the cylinder and all in the dial, then cut open, which, when folded, will give body of shirt. Now double the paper the other way and mark, the neck line, and bosom lines, and buttons, which will represent the body of the shirt. Explain that sleeves are knit like a stocking and placed in the body, also explain how to finish, &c.



*113. Babies' Bootees.* Knit on a fine cylinder with suitable yarn, say on thirty-four needles, five rows of one color plain ; knit three rows of honey-comb stitch, hark and forth, that is, nine times; again knit five rows of scarlet plain ; now knit twenty-five rows of white ; narrow four stitches on each side, knitting five rows plain between each narrowing; then knit twenty rows for the ankle ; drop twelve stitches on each side for the heel ; knit thirty-five rows for the top of the foot ; then knit the toe the same as a gored stocking, and run off the work. Now

take up the selvedge stitches of the heel and form a gore, and the bottom of foot and toe in the usual manner. Stripe the top of the foot, or knit with fancy stitches, as desired, and sew up the sides of leg and toe ; then turn down the top of ankle and finish with tassels.

*114. Babies' Overshoes.* Figure 114 shows one knit tubular for sufficient length to allow the top being turned over ; and can be knit rib or with any of the fancy stitches to the heel, and then two-thirds of the needles lifted out of action and flat web knit for the heel. The work is now run off the heel needles and the needles removed, and one-half of



of the remaining needles removed with their stitches upon them and left on the inside of the cylinder. The half of the front is now knit down to the toe, widened a few stitches on the heel side, and narrowed on the centre of the foot side, as shown by Fig. 114. Any of the fancy stitches most suitable can be used and varied to suit the taste. Finish with a sole the same as the first. Children's overshoes or babies' boots can be made in the same manner.

# GARMENTS--Ornamental and Useful.



*115.* All the foregoing garments are those which are usually made by everyone having a good Family Knitting Machine. The instruction for garments shown on this and the following pages, and also on the last page, is not written in full. Operators are left to their own resources and ingenuity to put in to practice the

hints which are given for each garment, which are given in the order of their usefulness.

*115. Lady's overshoe.* Fig. 115 shows how overshoes are made in three parts, commencing at the top with the desired number of needles, according to the size. Then one or two needles are removed on each side to form the depressions in the front; now widen out for two rounds again and knit to the heel; then knit the front of the foot in two pieces, commencing at the top, and gradually widen out to form the tip in the front, and then narrow again on the front each two or three rows across until the desired length is knit. Line the overshoe with red flannel or cloth, and sew on a heavy sole of felt or cloth. Bind off and work button-holes, and sew on buttons to finish.

*116. Knit legging.* Fig. 116 shows how a legging may be knit with part rib and part fancy stitches, and may be knit either tubular or flat-web. The instep is knit by raising one-half of the needles and knitting flat-web on the other half the desired length, then depressing the first half raised and knit flat-web for the heel; then remove the needles, and take up the stitches from the selvedge, and knit a gusset on each side, raising a needle on the top side of gusset each two rows in the same manner as the flat-web heel. Bind off with the crochet stitch, or in any manner to please the taste.

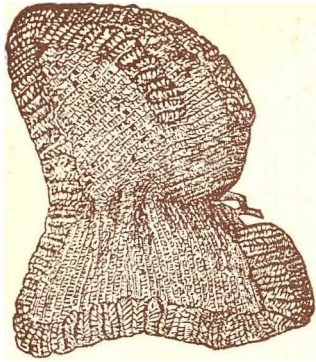


*117. Gored skirt.* Knit upon a fine or medium cylinder, with suitable yarn of desired color, four flat-web pieces the length required. Narrow one or two of the strips on each side of the web to narrow the top of garment down to the desired size.

All four pieces can be gradually narrowed at the top ends to give the skirt the proper size at the top, and all are sewed together by the closing flat-web stitch. Add more stripes for larger, and less for smaller sizes.



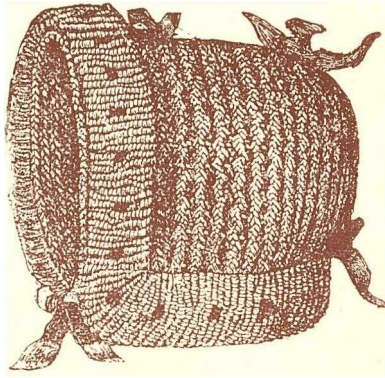




**118. Skating hood.** Figure 118 represents a hood made out of superior fingering or worsted yarn on any suitable cylinder. Knit flat web sufficient length for the cape; then a row of holes are made for a drawing cord, and the upper portion can be knit in the same manner as a heel, by lifting the needles and depressing them, only lifting sufficiently to give the hood the desired round which will be in proportion to the

size. There are several of the fancy stitches which are suitable. The hood may be trimmed by cord knit on three stitches as shown in the figure, or the centre stitch of the cord can be unravelled and the hood trimmed with unravelled cord.

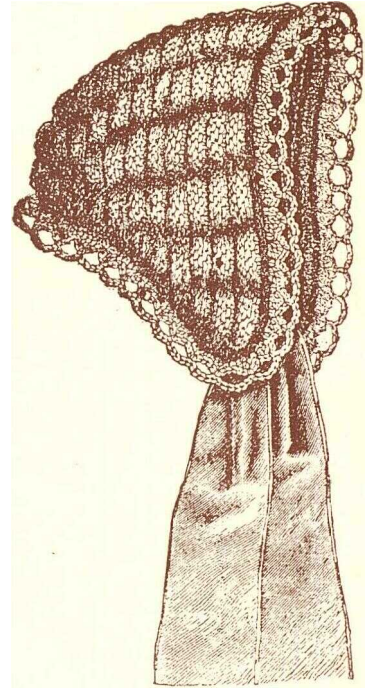
**119. Child's hood, a baby's hood** or hoods for children can be made with fancy stitches and trimmed like Fig. 120, in colors to suit the taste. Operators will find very little trouble in knitting any of the styles shown in figures, or other new styles of their own designing, by using good judgment and displaying a little artistic skill.



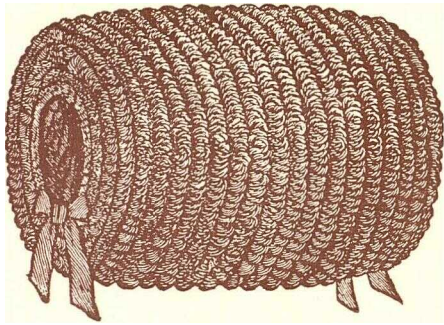
**120. Ladies' Hood :**

Knit on ten or fifteen needles strips to reach on the front from one side of the hood to the other, gradually making them shorter each time, to give the shape at the back. Knit ten rows with coarse, soft yarn, with a long stitch, and four rows with a fine yarn, of second color, with tight stitch, which will form puffs in the work, as represented. Sew the strips together, and ornament the border to suit the taste, with fancy knit or crochet work.

**Good knitters** by hand make good knitters on the machine and find ways and means to vary the designs, trimmings, &c., to suit taste.



the designs, trimmings, &c., to suit taste.



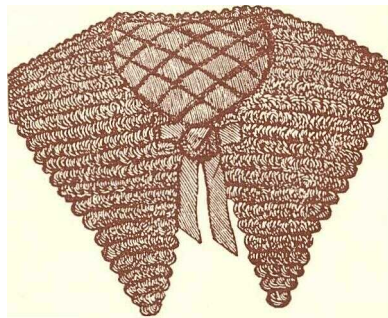
121. Muff.

The muffs and tippet will require to be lined and padded to suit the taste, and can be made circular or flat-web.

Cuffs, mitts and fancy trimmings can be made with the

*Rouching with a ring:*

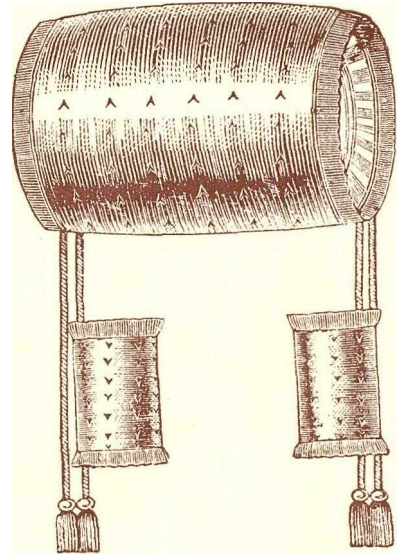
Bend a piece of nicely polished wire, the size of a lead pencil, about three and a half inches long, to suit the inside circle of the needle-cylinder, and loop a second coloured yarn over the wire and around each needle alternately with the wire, and knit forward, holding down the wire while the yarn-carrier passes. Move the wire around in the loops the length of itself each time the wire is filled with loops. The wire will have to be gradually moved around while being looped.



122. Tippet.

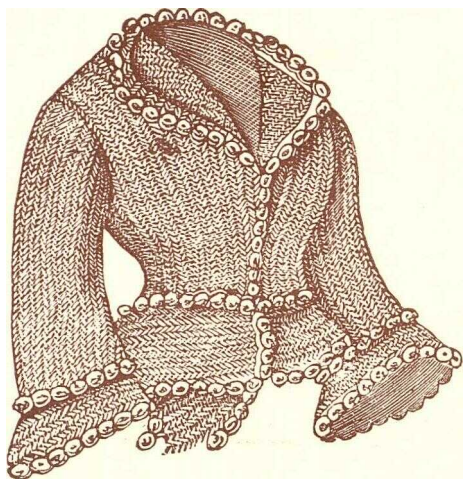
rouching in short or long loops, according to the size of wire used for a looper.

The three figures can be made with rouching or tufted work, by having all extra thread of yarn wound in a small ball, resting on the inside of the cylinder, and can be used with another color if desired, or the same yarn may be used when knitting flat-web rouching, on say 10 to 20 needles, by removing the yarn from the carrier each row of loops made and moving it around to the left side. Then cast the yarn around the fore-finger of the left hand and around a needle, and around the finger again and around the next needle, and so on all across. Now place the yarn in the carrier again and knit across ; remove the yarn again and loop over the finger back again. Be careful to hold down the loops while the needles rise up through, and while knitting, each time of knitting across.



123. Muff and wristlets.

The jacket shown in Fig. 124 is made with soft wools, in colors to suit the taste, and is made flat-web, narrowed or widened to suit



124. Ladies' Jacket.

for trimming, etc. In some of the stitches where the work is not open enough, every other needle may be taken out of the fine cylinders, and then arrange the needles according to the instruction given ; many beautiful designs of work can be made by intermingling the fancy stitches together and knitting a few rounds of plain knitting between them or a number of plain stitches around the cylinder, or in the web alternately with the fancy stitches and squares, triangles, diamonds, monograms, etc.

Bed spreads, carriage robes, shawls, window curtains, antimacassars, etc., can be knit in strips and joined on the machine or with the needle, and may be pressed and lined, when desired.

127. *The tidy stitch :*

Set-up flat-web three needles in and two needles out : lift out of action all but three needles on the right hand side ; knit one row of stitches on the three needles ; lift up the first needle

the shape and trimmed with work made with some fancy stitches for trimmings. Other shaped sleeves may be used and finally finished with button-holes and buttons. Many other styles can be made in shape and trimmings. See Fig. 125 for ladies' cape.

126. *Fancy stitches without illustrations.*

Most of the fancy stitches named on the following pages can be knit flat-web or in circular work, and can be used in many of the following garments

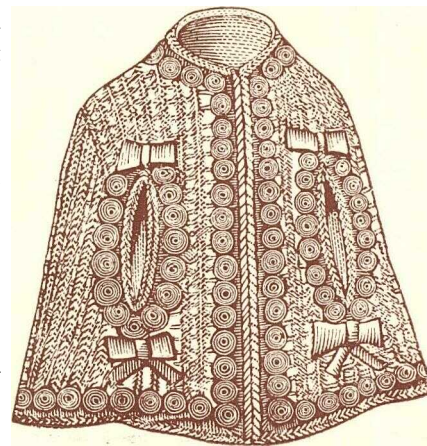
on the right ; knit across on the two needles ; depress the first needle upon the left, and knit back, and raise another on the right, and so on, each row of stitches knit ; depress one needle on the left and raise one on the right, advancing to the left until you reach that side ; then reverse the raising and depressing of the needles each row of stitches, until the right side again is reached, and continue knitting until the desired length is knit. If scalloped edging be desired, continue to advance towards each side until only two needles are left down, before returning back. Vary the pattern by setting up with two in and two out, or two in and four out, according to taste. The preceding stitches are all made by lifting out of action certain needles, and then depressing them and raising others between the rows of stitches, and can be knit more rapidly than those that follow, which are made by transferring stitches from one needle to another by means of the work-hook.

128. *Imitation Moss :*

Knit flat-web on ten needles of the required width and length ; wet the web and press with a warm iron and ravel out all the stitches except two or three rows on one side of the flat-web, and use for trimming mats.

129. *Cord Mat :*

Knit cord on four needles, one yard long, and another yard of a second color of yarn ; place the cord where the two colors meet, in the centre of a piece of canvas and sew the two cords on spiral form, and finish with a double fringe, moss rouching, or shell-work ; shaded yarn may be used in place of the two colors.



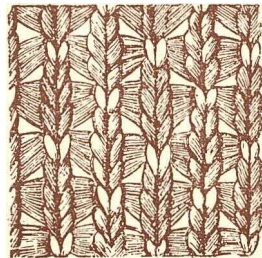
125. Ladies' Cape.

# Fancy Stitches for the Ornamental and Useful.




**130. Basket-stitch pattern.** Lift entirely out of cam-cylinder, each alternate set of three needles, and leave them, with their stitches upon them, on the inside of the needle-cylinder. Now knit three rows of stitches; replace the needles lifted out and knit three more rows. Lift out the sets of needles first left in, and again knit three rows upon the set of needles first removed, then replace all the needles again, and so on. Knit three rows every time the alternate sets of three needles are removed and replaced, allowing the needles to hang in their stitches upon the inside of the needle-cylinder when removed. The basket-pattern may be made to represent a number of beautiful patterns, by simply lifting out the needles in sets of twos or fours, and knitting two or four rows of stitches as desired.

**131. Lace-stitch.** Every other needle should be removed in fine cylinders, and all the needles are used in the coarse. Lift every third or fourth needle out of action, as desired; knit three rows of stitches; depress the needles

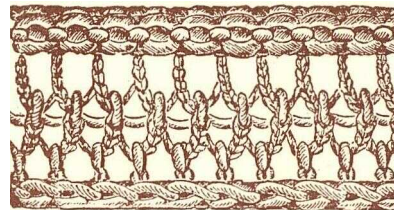


*The Fancy stitches* which are shown, are a few of the many beautiful designs which can be knit, and are only limited by the taste and ingenuity of the operator. A little experience in knitting the following variety will enable anyone to apply the stitches to garments and useful domestic ornaments. *For practice, knit all fancy stitches flat-web on front of machine with 18 needles in, the machine.*

raised and knit one row of stitches; lift out of action the same; needles again and knit three rows, and depress and knit one row, and so on; raise and depress and knit the rounds named. Vary the stitch to suit the taste by knitting two rows in place of three, and lift and depress every other needle in place of every third or fourth. This is a good fancy stocking pattern.

 Change the color of yarn each three rows knit if desired.

**132. Insertion pattern.** Knit three or four rows of stitches plain flat-web on twenty needles; 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.



**123. Another good fancy change.** When all the needles are in the machine or a portion of the cylinder, remove one needle, then leave one in and remove the next: now leave three or four needles in and remove the next, and then have one in and remove the next. Lift out of action those needles which now have one out on either side, and knit two or three rows of stitches as desired. Then depress the needles raised and knit one row: again lift out of action the same needles, and so on; every time the needles are raised knit two or three rows of stitches, and then one, after depressing the needles raised.



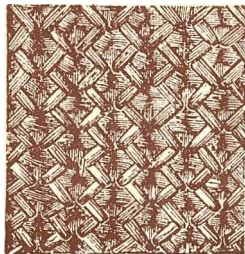
**133. Cross-bar-stitch.**

Set up flat-web or circular work with three needles in and one out; knit three or four rows of stitches plain : lift out of action every alternate set of three needles; knit one row of stitches. Then depress the sets of three needles raised, and lift out of action the other set of alternate needles, and so on. Every round knit change the sets of needles in action with those out of action. Vary the stitch by using the needles in sets of two.

The double cross-bar is knit the same as the single bar just described ; only two rows are knit between the changes of the needles.

**134. Honey-comb stitch.**

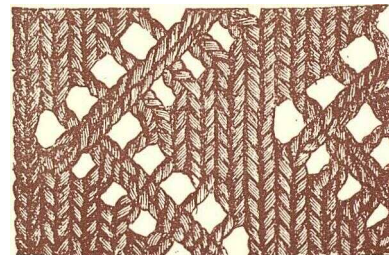
Lift out of action above the cams, each alternate needle ; knit two rows of stitches ; depress into action again the needles lifted, and lift out of action the alternate needles, or those left down at first; again knit two rows of stitches and so on every two rows knit. By knitting this stitch in strips of two colors changed every two rows, beautiful afghans or carriage-ropes can be made by sewing them together. It is a desirable stitch for ornamenting babies' stockings. The honey-comb stitch can be varied by lifting the same set of needles, or, by first removing every other needle from fine cylinders, and then knitting in the manner described, by lifting and depressing the alternate needles each two or three rounds : or other beautiful designs may



be knit by lifting out of action the alternate needles, every time a row of stitches is knit, in place of every two rows, and when the color of yarn is changed, every row of stitches knit, stripes will appear both ways in the work.

**135. Diagonal stitch.**

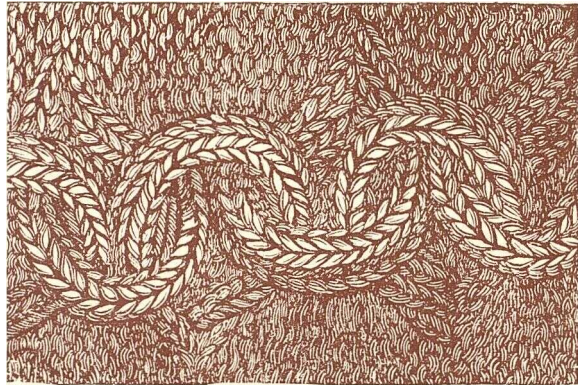
Knit three or four rounds plain, on say, thirty needles. Leave the yarn-carrier on the right-hand side, and lift out of action twenty needles on the left side ; knit across, and raise the outside needle on the right; knit back and then put down one needle on the left and knit across again ; again lift out of action one needle on the right, and so on. Each time before knitting across, lift out of action one needle on the right when the yarn-carrier is on the left, and depress one needle on the left when carrier is on the right. In this manner nine needles will knit the one way, while ten will knit the other. Continue knitting this way all across the web, then knit back by raising the last needle put down on the left after the yarn-carrier knits to the right, and when again on the left, raise one needle on the right, and so on, changing the colour when desired. This stitch can be used to good advantage for trimming garments, and for scarfs, etc.



**136. Net work stitch.**

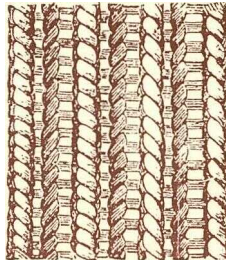
Knit three or four rows of stitches plain ; lift the stitch from every third needle, commencing at the second needle from the edge, and put them on the next needle to the left; knit across and back; now lift the stitch off every third needle, commencing at the third one from the edge, and put it on the next needle to the right. Again knit two rows; repeat lifting the stitches off every third needle, commencing each time, first two needles from the edge and second three, and knit two rows each ; change until the desired length is knit.

137. *Cord-link stitch.* Knit four or six rows on twenty needles in the front of the machine, leaving one needle groove empty between the needles ; make a very loose long stitch ; leave the yarn-carrier to the right ; lift out of action the



needles to the left, and knit across to the left ; now lift out of action the five needles on the right ; knit thirty rows on the five needles down, holding down the work by hand, and leave the yarn-carrier on the left ;

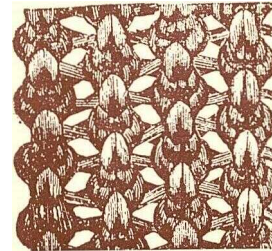
press down the five needles on the right and knit across to the right ; now push down the ten needles to the left and knit six rows on all the needles ; now raise up one-half the needles on the right and knit across to the right ; lift up the five needles on the left ; knit thirty rows on the five needles down and break off the yarn and run off the stitches of the five needles and keep the stripe through the first stripe and cast the stitches upon the same needles without twisting them ; join the yarn and depress the needles up and knit six rows, and so on. Continue the desired length to be knit. Any number of needles can be used, and the links made any length desired. This link is very useful for afghans, sofa pillow covers, mats, tidies, etc. The link can be joined in any manner to suit the taste of the operator.



138. *Rope and 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

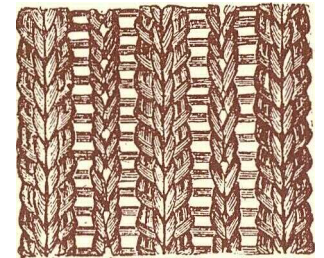
empty needles on to the next needle on the left, and leave the loops on their own needles as well, which will place these loops on the two needles. Every row of new stitches, lift the loop off the needles first emptied of their loops, on to the next needle, allowing it to remain on its own needle as well.

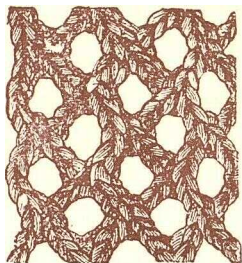
139. *Dew-drop stitch.* Knit three or four rows of stitches plain ; lift the stitch from the second needle and put it on the third ; lift the stitch from the sixth needle and place it upon the fifth ; lift the stitch from the eighth needle and put it on the ninth, and the stitch from the twelfth needle and put it on the eleventh ; and so on across the web in each of the successive changes, knit one row. Now take the stitch off the third needle and put it on the fourth, and the stitch off the fifth needle and put it on the fourth needle ; also lift the stitches off the ninth and eleventh needles and put them on the tenth needle, and knit one row. Now take the loop off the third needle and put it on the second needle, and the loop off the fifth needle and put it on the sixth needle, and the ninth needle loop on to the eighth needle, and the loop off the eleventh and put it on to the



twelfth needle, and knit one row. Again, take the stitch off the second needle and put it on the first needle, and the stitches off the sixth and eighth needles and put them on the seventh, and the stitch off the twelfth needle on to the thirteenth, and so on. Repeat from the first again.

140. *Cable-pattern.* Knit three or four rows of stitches plain ; cross the stitches of the second and fourth needles upon each other, and the stitches sixth and eighth in the same manner, all across the web as in preceding pattern. Knit two rows of stitches and repeat the interchanging of the stitches on the same needles, and knit in this manner the desired length.

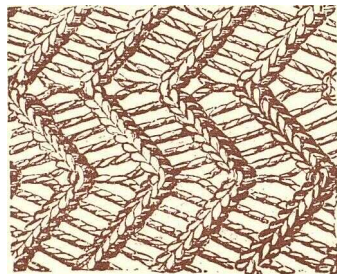




**141. Counter-pane pattern.** Set-up the desired number of needles flat-web, and knit across three or four rows of stitches plain, then lift out of action all but four needles on the right; knit back and forward on these four needles, four rows, stopping the yarn-carrier on the right; depress the four needles on the left; knit across the eight needles. Now lift out of action the four needles on the right, and

knit back; depress the next four on the left, and knit three rows of stitches on the eight needles; lift up four more on the right and knit back, and then put down four on the left, and so on, advancing four needles each time toward the left, and raising four on the right until across the web. Then commence with two needles from the left side, and knit back in the same manner, so that the holes will not come opposite the first ones.

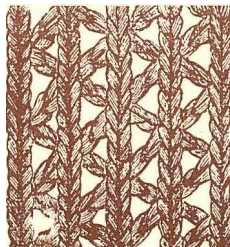
**142. Diamond-stitch.** Knit flat-web three or four rows on twenty needles. Lift the stitch off every other needle and place it upon the next to the left; then knit one row of stitches to make new loops on the needles from which the stitches were taken; knit another row of stitches; now remove the stitches 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.



**143. Diagonal-stitch.** Knit three or four rows plain; lift the stitches off every other needle and place them on the next needle to the left; knit one row of stitches, and remove the new loops formed on the empty needles to the next needle on the left, and so on; each row of stitches knit, remove the loops

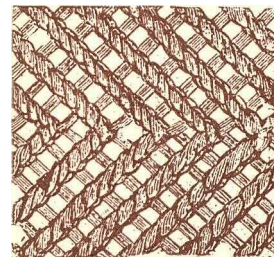


from the empty needles to the next on the left. Vary the pattern when desired by removing the stitches to the right in place of the left.

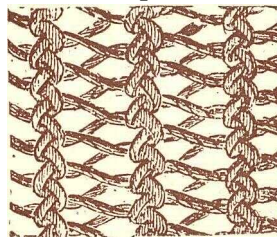


**144. Half-diamond stitch.** Knit three or four rows of stitches plain; lift the stitch off the second needle and place it upon the third, and lift the stitch off fourth and place upon the third needle also; now leave, say, three plain stitches, and lift the stitches of the eighth and tenth needles and place upon the ninth, and leave three more plain stitches, and so on across the web; now knit two rows, lift the stitches off the third and fifth needles and place them upon the fourth, and lift the stitches off the ninth and eleventh.

**145. Herring-bone-stitch.** Knit three or four rows plain; lift the stitches off every other needle and place them on the next to the left; knit one row of stitches, and then lift the new loops formed on the empty needles, on to the next needles on the left, and continue this for four or six rows; then change the loops to the right for four or six rows, and knit the desired length.



**146. 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.

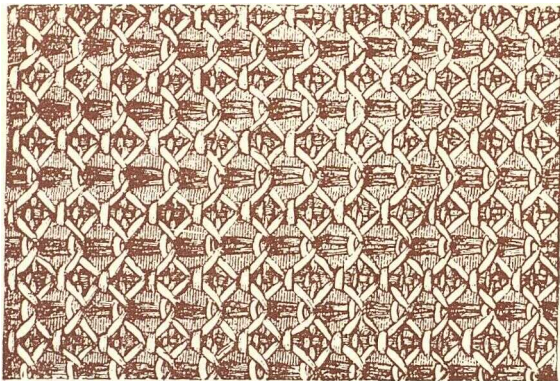


#### 147. Lattice Stitch :

Knit three or four rows of stitches plain ; lift out of action every other needle, and knit two rows ; press down the needles raised and knit one row ; lift the needles first left down and knit two rows ; depress those raised and knit one row, and so on until the desired length is knit. This stitch, if made on the fine cylinders with every other needle out of the machine, will be much better for many uses.

#### 148. Crossed Crochet Stitch :

Knit three or four rows of stitches plain ; lift the stitches off the second and fourth



147. Lattice Stitch.

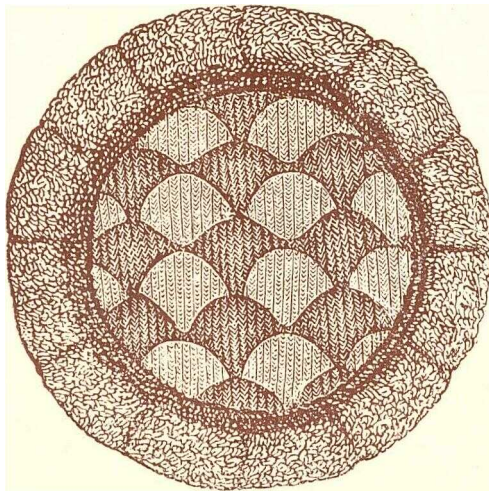
the web ; knit two rows, and repeat the first change until the desired length is knit.

#### 149. Net-work Stitch :

Knit three or four rows of stitches plain ; lift the stitch from every third needle, commencing at the second needle from the edge, and put them on the next needle to the left ; knit across and back ; now lift the stitch off every third needle, commencing at the third one from the edge, and put it on the next needle to the right. Again knit two rows ; repeat lifting the stitches off every third needle ; commencing each time, first two needles from the edge and second three, and knit two rows each ; change until the desired length is knit.

#### 150. Shell pattern :

Set-up flat-web, say sixty needles ; knit ten rows of stitches and stop the yarn-carrier on the right ; lift out of action all but sixth and seventh needles from the right side ; knit once across these two needles ; depress the needle to right of these two ; knit back across these three needles ; depress the next needle to the left ; knit across the four needles ; and so on, depressing one needle each row of stitches knit

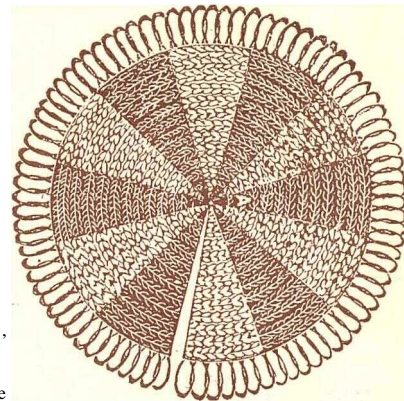


until twelve needles are down ; stop the yarn-carrier on the left of these twelve, and lift them out of action, which completes the triangular shaped piece. Depress the eighteenth and nineteenth needles from the right side, and knit one row of stitches, and depress a needle each row until twelve more needles are down, which completes a second triangle. Form say five such triangles, and change the color of wool. Depress all the needles and knit once across to the right ; lift out of action all but two needles on the right, and form half a triangle by depressing the needles on the left side only, until six needles are down ; lift these out of action ; depress the twelfth and thirteenth needles, and knit a complete triangle, which shall have its apex between the two bosses of the triangles, in the first row of triangles. Complete a row of four triangles with another half-triangle on the left ; change the color of wool again ; depress all the needles, and knit back to the right ; and so on until the mat is completed, which can be bound off with work made by any suitable stitch or crochet work.

#### 151. Circular mat or Cap-crown :

Set up with stitches equal to half the diameter of the mat required ; knit back and forward flat-web, lifting out of action, on one side, one needle each time across, until only three or four needles remain ; depress all the needles ; knit one row and change the yarn for another color, and knit section number two in the same manner, and repeat the operation until six triangular sections ; then close together with a needle the first section with last one knit, leaving three or four outside stitches unclosed ; press with a hot iron, and ravel out the outside three or four stitches to form a fringed mat. Lift two needles in place of one if more sections are wanted.

A Boy's Cap is made with a plain bind or with a 1 and 1 Rib band and the crown knit with 6, 8, or more pieces in the above manner. This makes a simple, cheap, warm, and good cap.





## EXPLANATION.

**T**HE following instruction is intended, in a great measure, for all of our Seamless-hosiery-ribbing-machines, the operation of which is very much alike. \_\_\_\_\_

APPLY GENERAL INSTRUCTION to all machines, and the Special Instructions only to the machines referred to in the instruction marked with a star. \_\_\_\_\_

IF YOU FAIL, write us and explain details of your trouble and send a sample, of your imperfect work, and we will write you and render you valuable assistance. \_\_\_\_\_

## GOOD ADVICE.

**D**O not attempt to use the Ribber until you are sufficiently well acquainted with the Plain Machine to knit at least a sock or stocking perfectly. \_\_\_\_\_

NOTHING CAN BE GAINED by the operator trying to learn the Ribber before the Plain Machine is well understood, except the Old-lesson, that the A B C lessons must be first learned. \_\_\_\_\_

TAKE THE RIBBER-DIAL OFF MACHINE ; examine the Ribber-cams and the manner of controlling length of rib-stitch. Learn, from price-list, names of principal ribber parts before attempting to use ribber. \_\_\_\_\_

# RIBBER INSTRUCTION.

**THE RIBBER** is worth more than the full price of **ATTACHMENT** the plain machine. \_\_\_\_\_

In fact a machine without a ribber is only half a machine, and the poorest half at that. The Ribber is one of the most expensive parts to manufacture and the *most valuable* to the user, especially as rib-goods pay the manufacturer better than plain goods, and are in most demand over the counter. Competition in Rib-goods is not so strong as in plain goods. Our Ribbing-machines do both Rib and Plain work, therefore they are the most profitable investment for the manufacturer.

**FAMILY RIBBING** almost double the range of work **MACHINES** that can be done on a plain machine, and enables the operator to knit a wider range of yarn and a greater range of sizes. \_\_\_\_\_

—It is easily worth double the price of a Plain Machine.—

OUR ADVICE TO CUSTOMERS would be to buy a Ribber every time, and one with not less than two cylinders and two dials, or one dial which will work with both the cylinders, where economy in purchase is a consideration.

**Table No.1, showing style of Ribs.**

NAME OF DIALS IN ORDERING	STYLE OF RIB TO BE MADE	NO. OF NEEDLES IN CYLINDER	NO. OF NEEDLES IN THE DIAL	EXAMPLES.
1 and 1 dials contain slots equal to 1/2 the number contained in the needle-cylinder and will make the following ribs :	1 and 1 Rib.. 1/2 or every other one out	.....all in the dial.....		A 72 cylinder and 36 dial will make 1 and 1 rib with all needles in dial and every other one out of cylinder.
2 and 1 dials contain slots equal to 1/3 the number contained in the needle-cylinder and will make the following ribs :	2 and 1 Rib 2 / 3 or every third one out	.....all in the dial		A 72 cylinder and 24 dial will make 2 and 1 rib with all needles in dial and every third one out of cylinder. A 72 cylinder and 24 dial will make 3 and 1 rib with all needles in both cylinder and dial.
	2 and 1 Rib ..... all in the cylinder	..... all in the dial		
	3 and 1 Rib. ...3/4 or every 4th one out	.. 1/2 or every other one out.		A 72 cylinder and 36 dial will make 2 and 1 rib with all needles in both cylinder and dial.
	4 and 1 Rib	.....all in the cylinder	... 1/2 or every other one out.	
	2 and 1 Rib 2 / 3 or every third one out	.. ...all in the dial	....	A 72 cylinder and 24 dial will make 2 and 1 rib with all needles in dial and every third one out of cylinder.
	3 and 1 Rib	..... all in the cylinder	..... all in the dial	A 72 cylinder and 24 dial will make 3 and 1 rib with all needles in both cylinder and dial.
	5 and 1 Rib	...5/6 or every 6th one out	.1/2 or every other one out	
	6 and 1 Rib	... all in the cylinder	..... 1/2 or every other one out.	

**Do not mix up** or call a **1 and 1 dial** a **2 and 1 dial** or vice versa, as both make **2 and 1 rib**.

**The 2 and 1 dials** make **3 and 1 rib** in the top of stocking, and **2 and 1** in the ankle when all needles are used in the needle-cylinder and make the neatest and best shaped ankle, especially when narrowing is done all around the stocking.

**The 1 and 1 dials** are the best for rib-socks and boys' knickerbockers or fashioned rib-stockings with **1 and 1 rib ankle** 1/3 way around the stocking, and are usually ordered with new

machines and **2 and 1 dials** as extras.

**The cylinders marked with \*** in table, page No. **2**, will make either **1 and 1 rib** or **2 and 1 rib** with the proper dials, as given in the table. The table explains the various ribs which can be made with each dial.

**In ordering dials** always give the number of grooves **required** in the dial also the **gauge** of the **grooves** and diameter of dial as well as the name of machine for which dial is intended. These particulars apply to orders for cylinders as well as to dials.

*Table No. 2, showing corresponding cylinders and dials  
for one and one Rib, etc.*

NUMBER OF CYLINDER GROOVES.	NUMBER OF RIBBER-DIAL, GROOVES AND STYLE OF RIB MADE.												
	24	28	30	32	34	36	38	40	42	44	46	48	50
48*	1 & 1 1 & 2 1 & 3 1 & 5			1 & 2 1 & 3 1 & 5		1 & 3 1 & 4		1 & 5				1 & 1 1 & 2 1 & 3 1&5	
56		1 & 1 1 & 2 1 & 3 1 & 5											
60*			1 & 1 1 & 2 1 & 3 1 & 5			1 & 4 1 & 5		1 & 2 1 & 3 1 & 5				1 & 4 1 & 5	
64				1&1 1 & 2 1&3 1 & 5									
					1 & 1 1 & 2 1 & 3 1&5								
72*	1 & 2 1 & 3 1 & 5					1 & 1 1 & 2 1 & 3 1 & 5						1 & 2 1&3 1 & 5	
76							1 & 1 2 & 2 1 & 3 1 & 5						
80				1 & 4 1 & 5				1 & 1 1&2 1 & 3 1 & 5				1 & 4 1&5	
84*		1 & 2 1 & 3 1 & 5							1 & 1 1 & 2 1 & 3 1 & 5				
88										1 & 1 1 & 2 1 & 3 1 & 5			
92											1 & 1 1 & 2 1&3 1 & 5		
96*	1 & 3 1 & 4			1 & 2 1 & 3 1 & 5								1&1 1&2 1&3 1 & 5	
100													1 & 1 1 & 2 1&3 1 & 5

*One and one rib dials will make two and one rib with all needles in cylinder and dial.*

# Ribbing Machine-Mechanical Lesson.

**152. Before attempting to knit rib-work** we would recommend beginners to practice thoroughly without any stitches or work on the machine, all the following operations on the next three pages, three or four, or even ten times ; and after ribber is put on, run the machine and ribber a few rounds without stitches upon either machine or ribber : and repeat the operation of removing and placing the ribber on, until fully understood and speedily done, then proceed to rib-work with only one ribbing needle in the ribber on the front of the machine, to form a rib-back-seam in a plain stocking.

**Ribbing with one rib-needle is the simplest possible ribbing lesson**, and enables the operator without complication, to thoroughly observe the full operation of the ribber in forming the rib stitch. More can be learned in ten minutes by knitting with one rib-needle in the ribber, than would be possible in an hour attempting to rib with all the needles in ribbing-dial.

**153. Ribber tension** or length of stitch on all our ribbing machines is regulated by ribber-tension-cam by means of a thumb-screw on top of ribber-cam-plate. Moving the thumb-screw and tension-cam inward toward the centre, effects a long loose stitch, or open work, and moving it outward effects a short tight stitch, or close work.

It is very important to watch the distance the rib-needles draw into the dial, in regulating the length of the stitch on all ribbing machines. See ribber-tension indicator on ribber-cam-plate, if on machine.

## **154. Opening rib-needle latches :**



1. Place the two fore fingers of the right hand
2. On top of latch-guide-casting or holder.
3. Place thumb of same hand, directly under
4. The short-knifed-edged-slot found on the inside.
5. And running toward the centre of latch-guide.
6. Press the thumb upwards against the latch-guide,



7. And at the same time turn dial with left hand
8. By means of the lug on bottom of needle dial,
9. Allowing the rib-needles to pass over face of thumb,
10. And their latches to come in contact with the
11. Knife-edge of latch-guide, and be returned back or open.
12. See that all latches have been well and properly opened.

**154. Opening hitches** as above applies to all machines except "NEW K." cone-dial, "DOLLAR," "KLONDYKE" and "MONEY-MAKER" machines which have no needle-latch-opener, therefore the latches are opened by hand.

## **155. Rib-needles out of action :**

1. To draw rib-needles into dial out of action,
2. Move ribber-switch-cam outward, at same time
3. Turn needle dial to left with left hand,

## **Rib-needles into action :**

4. To remove rib-needles in dial, out into action,
5. Move ribber-switch-cam inward, and at same time
6. Turn needle-dial to left with left hand.

**155. The rib-needles** are moved out of action before putting the ribber on and moved again into action after ribber is on the machine, and is done in the above manner, except in the "KLONDYKE" and "MONKY-MAKER" ribbers which have no switch-cam on ribber.

**156. Regulating ribber-needles centrally.** The rib-needles are regulated centrally in all ribber-machines by means of a thumb-screw on the left side of machine-bed.

**156. When moving the ribber-needles to the right**, press the dial to the right at the same time as turning the regulating-screw, when moving the rib needles to the left, the lock or locks on inside of cylinder, will carry the dial to left without pressing the dial by hand.

### 157. *Placing ribber on.*



1. Stop yarn-carrier  $2\frac{1}{2}$  inches left of C or at 3.
2. Have all or half the needles in the needle-dial.
3. According to the style of rib required.
4. Open all rib-needle-latches as explained. (No. 154).
5. Draw rib-needles into dial out of action.
6. By switch-cam, and turning needle-dial.
7. Place ribber carefully on over centre of machine.
8. Guide the lock on bottom of needle-dial, down carefully.
9. So dial-lock will rest on left side of cylinder-lock.
10. Or on left side of cylinder-ring, double locks.
11. Bring down ribber-latch-guide-holder to place.
12. Or place ribber-driving arm-pin in proper position.
13. Move ribber-driving-arm forward against holder.

*227* Before placing ribber, see that the set-up has two wide spaces between wires of set-up, directly opposite each other, to allow the dial-lock or locks to pass through the wires of set-up freely, as the ribber descends in the operation of placing ribber on.

All ribbers with ribber-arm carried in hole in cam-cylinder are placed in hole on left side of bed-plate when removed from machine. All ribbers with ribber-arm-holder attached to bed-plate, are swung off to left side when removed from machine.

### 158. *Making welt.*



1. Use dial with half the number of needles used in cylinder.
2. Remove from needle-cylinder grooves, every other needle.
3. So the cylinder-needles will be equal to dial-needles;
4. That is, the same number in both cylinder and dial.
5. Draw rib-needles in and out of action. (No. 154).



6. Knit two, three or four rounds according to yarn used.
7. Bring rib-needles out into action. (Page 52, No. 155).
8. Proceed to knit 1 and 1 rib. Hold work well down.

*228* A welt or good finished top is made in the above manner with 1 and 1 rib, with two, three or four rounds knit with rib-needles out of action, and then moved out into action. The operation should be practised three or four, or even ten times, until thoroughly understood, and should be done at first without any work on the machine, as described above.

159. The welt on cone-dial-ribber is made practically the same as on flat-dial-ribber. (See No. 158). The MONEY-MAKER and KLONDYKE ribbers have no switch-cams, therefore do not make a welt. A good, well-finished top, however, can be made with any of our ribbing machines not furnished with the welt-cam, by using the set-up in the usual way to start knitting. Then transfer the needles or needle stitches from the plain needles immediately after knitting first round, that is, commence transferring the stitches at the point where the first round after setting up commences.

160. *Regulating height of ribber-dial.* The height of the ribber-dial is regulated by means of nut on ribber-arm or arm-holder or by a thumb-screw in ribber-arm.

Ribber-dial height should be from  $\frac{1}{8}$  to  $\frac{3}{16}$  of an inch, up from the top of needle cylinder to the bottom of needle-dial slot, for medium work; and for extra coarse work,  $\frac{3}{16}$  to  $\frac{1}{4}$  of an inch.

The height of the ribber-dial is regulated in the "NEW K" cone-dial-ribber by means of an adjusting nut on the top of ribber-arm.

**161. Threading the ribber-arm :**

1. After the ribber is placed on the machine
2. Turn the ribber-cam-plate from left to right
3. Until the slot in the ribber-cam-plate-hub
4. Is opposite the slot in the ribber-arm.
5. Then thread the ribber-arm as follows :
6. Pass the yarn down through the hole ;
7. Of ribber-arm and ribber-cam-plate-hub ;
8. Then pass it around left end of wire-yarn-guide
9. Found on front of cam-plate-hub,
10. Then through the eyes or eye of yarn-carrier.



*star* The above instruction for threading ribber applies to all ribbers having ribber-arm attached to bed-plate, or any machine where the yarn passes down through the ribber-arm to permit it to pass around without coming in contact with the ribber-arm.

**162. For practice** we would recommend placing the ribber on and off frequently and threading the ribber-arm and yarn-carrier as explained above. After each threading, fasten the yarn to the yarn-carrier, so that it will not engage in the needles, then turn the machine empty, that is, without stitches on either machine or rib-needles, and repeat taking ribber off and putting on, threading, etc., until well understood and quickly done.



## ***Transfer Needle-Ribbers.***

**163. Transfer needle-ribbers,** use the same needle in the cylinder, as in the dial, and are usually placed on the machine without needles in the dial, and the cylinder-needles transferred to the dial, after the ribber is placed on the machine.

**164. The "New K" cone-dial and "Dollar" ribbers** have a needle-latch-protector, but no latch-guide-opener, and do not require one for transfer work. When the ribber is put on with needles in the dial, the dial needle-latches are opened by hand.

**The cone-dial and "Dollar" ribbers** are the best for work requiring needles to be taken out of cylinder and placed in dial to produce rib-work, as the needles with their stitches are more quickly transferred than the stitches are in the case of the flat-dial.

**The flat-dial-ribber** is considered the best for work requiring all needles in the cylinder and all, or half, in the dial. Both cone and flat-dial-ribbers will do both kinds of work, but each is best for its special class of work as explained.

**165. Transferring cone-dial and "Dollar" rib-needles :**

1. Place ribber on the machine properly ;
2. Stop cam-cylinder-band-holder at left or at B ;
3. Place the needle-cylinder-spring-band
4. Over band-holder-wire on cam-cylinder.
5. Open cam-hub wire-gate, if on machine.
6. Lift one needle out of needle-cylinder
7. Place it into the corresponding dial-groove.
8. Transfer second needle into next needle-groove.
9. Continue to transfer in this manner
10. All the needles required, in needle-dial.



11. Close the gate of ribber-cam-plate-hub ;
12. Return needle-cylinder-spring-band to place ;
13. Turn crank ; watch carefully needle action ;
14. See that ribber-dial is the right height.
15. See that the ribber-tension or stitch is all O.K.
16. See that the work is well held down.



*Transferring cone-dial and "Dollar" machine needles to dial* is done when work is on machine, and changes the knitting from plain to rib-work. Transferring of needles from dial to cylinder, changes the knitting from rib to plain work.



## FIRST RIBBING LESSON.

### A MAN'S RIB-TOP-SOCK.

**166. Rib-top and plain-leg :**



1. Use a good quality of medium fine yarn at first.
2. Use all needles in a 2 and 1 or half in a 1 and 1 dial ;
3. Turn crank ; stop carrier at the back or at A.
4. Thread machine and yarn-carrier. (See page 12).
5. Commence setting up as for plain-work. (See page 18).
6. Knit  $\frac{1}{2}$  of a round ; stop carrier at left or at 3.
7. That is,  $2\frac{1}{2}$  to 3 inches to left of front of machine.
8. This is the best and proper position to stop carrier

9. For placing ribber on to best advantage,
10. And makes a better rib-top for all styles of tops,
11. As well as facilitating the transferring of needles.
12. Open all rib-needle-latches. (See page 52, No. 151).
13. Draw all rib-needles into dial-out of action. (page 52).
14. With "KLOXDYKE" and "MONEY MAKER" ribbers, remove
15. All rib-needles from the needle-dial.
16. Now place ribber carefully on (see page 53, No. 157).
17. Directly over centre of machine, and guide
18. The dial-lock or locks down close to, and
19. Directly on the left of, cylinder-lock or locks.





20. Bring down ribber-latch-guide-holder;
21. Place yarn in ribber-arm under hook. (See page 54.)
22. Regulate rib-needles centrally. See page 52, No. 156

**167. Changing from plain to rib:**

1. Place cylinder-band over wire-band-holder;
2. Lift entirely out of cylinder, with stitches on,
3. First machine needle to left of back or A,
4. Directly opposite first rib-needle to the left of A,
5. Press each needle down on outside of cam-cylinder,
6. Take hold of heel with left hand; lift needle up,
7. Place its stitch on the rib-needle by
8. Placing hook of machine needle on the
9. Hook of rib-needle, then with left hand
10. Lift the heel of machine-needle up, and
11. At the same time draw the machine-needle
12. Slightly outward which will draw the hook
13. Of rib-needles through the stitch of the
14. Machine-needle, and thereby pass the stitch from
15. The machine-needle to the rib-needle,
16. Repeat the operation on the next rib-needle
17. And so on all around the cylinder,
18. Working in the direction of A B C. (See chart).
19. Move rib-needles in dial out into action. (See page 52.)
20. Turn crank and transfer to rib all around cylinder.
21. When the stitches are transferred to



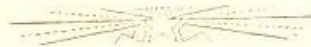
22. The rib-needles all around the cylinder
23. Knit the rib-top  $5\frac{1}{2}$  or 6 inches long
24. Then change to plain-work. (See 160).

*The rib-top can be made* 1 and 1 rib or 3 and 1 rib with plain leg, by transferring stitches as above, with every fourth machine-needle out, in place of every other needle as above; or a welt top can be made with a 1 and 1 rib-top as desired. (See page 53, No. 158).

*The welt-top*, however, cannot be made on the "KLONDYKE" or MONEY-MAKER ribbers, as these two machines have no switch-cam to draw the rib-needles in out of action.


**168. For speed in transferring the stitches** from plain to rib, commence lifting needles out of cylinder at the left end of opening, made by cylinder-band being over cam-cylinder-wire. Lift out as many needles as possible, pressing each needle down on the outside of cam cylinder as lifted out. Move the crank forward, when necessary, so that about one-third of the needles around the cylinder may be lifted out before transferring their stitches. Then transfer the stitches of all the needles lifted out, one after the other, moving from left to right.


*In the "Improved Money Maker," the "Klondyke" and "Money-Makers"* hold cylinder-spring-band out with work-hook to facilitate the transfer of machine-needle stitches to the rib-needles, and transfer the needles direct with their stitches in machines using the same needle in the cylinder as in the dial.






169. *Changing from rib to plain:*

- 
1. Turn crank: stop carrier at the back or at A.
  2. Place in on front of machine, machine-needles
  3. Into all empty needle-cylinder grooves, and
  4. Place the stitch of the rib-needles on them by
  5. First pressing out the rib-needles with work-hook.
  6. By placing work-hook in behind the heels of rib-needles.
  7. Then lift each rib-needle, catching the hook-end
  8. In one hand, and the heel-end in the other and
  9. Place the stitch on the machine-needle, then


- 
10. Withdraw the rib-needles and repeat until
  11. All the rib-needles are removed on the front.
  12. Turn crank forward, and stop slot of ribber-cam-plate
  13. Directly in line or opposite slot of ribber-arm.
  14. Place machine-needles in on back of machine.
  15. Transfer the stitches of rib-needles to machine-needles.
  16. Remove thread from ribber-arm, and remove ribber
  17. By lifting it up and placing off to left side.
  18. Knit leg plain, and full length, about fourteen inches;
  19. Make heel, foot, toe, etc., in the usual manner.
  20. Knit heavy heel and toe with extra thread if desired.


## A Man's All-Rib-Sock.

170. *One and one rib-top:*


- 
1. Remove every other needle from needle-cylinder.
  2. Use a 1 and 1 rib-dial, or the same number of needles
  3. In the dial as in cylinder, after removing every other one.
  4. Set up as described on page 18, only do not
  5. Cross the yarn between needles and hooks of set-up.
  6. Knit one round; stop carrier at left or at 3.
  7. Open rib-latches in the usual manner. (See page 52).
  8. Draw rib-needles into dial out of action. (See page 52).
  9. Place ribber on carefully and properly. (See page 53).
  10. Regulate rib-needles centrally between machine-needles.
  11. Move rib-needles in dial out of action. (See page 52).
  12. Knit exactly one complete round on rib-needles.
  13. Then form welt by drawing rib-needles
  14. Into dial out of action and knit three or four rounds.
  15. Move rib-needles in dial out into action.
  16. Hold work well down. Knit top  $5\frac{1}{2}$  inches.

171. *Three and one leg:*

- 
1. Stop yarn-carrier at the back or at A.
  2. Place in every other empty groove of needle-cylinder
  3. On front side of machine, a machine-needle.
  4. Transfer stitches of rib-needles to machine-needles
  5. Just put in, directly opposite the rib-needles;
  6. Knit one-half round, and place in cylinder, in
  7. Every other empty groove on the back of the machine.

- 
8. A machine-needle, upon which place or
  9. Transfer the stitches of the rib-needles which
  10. Are opposite the machine-needles just put in.
  11. Knit leg 3 and 1 rib, full length, about 14 inches
  12. Then make heel in the usual manner as follows:

172. *Heel with ribber on:*

- 
1. Stop the yarn-carrier at the back or at A.
  2. Place needles in all empty cylinder grooves on front.
  3. Transfer stitches off rib-needles to machine-needles.
  4. The machine-needles should knit plain on twelve needles
  5. More than half, that is, six needles more on each side.
  6. When a good large heel is desired
  7. Turn crank; stop carrier at left or at 3.
  8. Move ribber-latch-guide-holder and cam-plate
  9. Forward sufficiently to bring ribber-arm and
  10. Rib-cam-plate-hub-slots in line with each other;
  11. Then remove the yarn from the ribber-arm;
  12. Raise ribber-latch-guide-holder, and thereby
  13. Disconnect ribber before making heel;
  14. Raise out of action all needles on back or
  15. Back of the large heel-line 5 and 6, that is,
  16. Raise half the needles less six on each side.
  17. Place yarn in take-up-spring, or regulate take-up;
  18. Make the heel in the usual manner, only
  19. On six needles, each side, more than half.
  20. Finish second part of heel at centre-line BD.
  21. Stop carrier last row knit on left or at B.
  22. Put down all the needles upon the right.

23. Knit back to right; stop carrier at left, at 3.
24. Put down all needles which remain up;
25. Remove yarn from take-up-spring, or regulate take-up;
26. Place yarn into ribber-arm under hook;
27. Bring down ribber-latch-guide-holder.
28. The machine will now knit rib on the
29. Top of the foot and plain on the bottom.
30. See that the work is well held down;
31. Knit six rounds and narrow instep by
32. Placing in one rib-needle on each side.
33. Again knit six rounds and narrow instep, by
34. Placing in one rib-needle on each side
35. In placing the two rib-needles on each side.
36. Remove one machine-needle, for each rib-needle.
37. Transfer the stitch of the machine-needles to the rib,
38. Thereby making two more 3 and 1 ribs on each side.
39. Knit foot the usual length, about ten inches.
40. Then make toe with ribber on, and run off work.



### 173. Toe with ribber on :



1. Stop yarn-carrier at left or at 3.
2. Raise out of action one-half of cylinder-needles or
3. All needles back of centre-line BD;
4. Place yarn in take-up-spring or regulate take-up.
5. Knit the toe in the same manner as heel, only narrow
6. First part of toe down four needles less than heel.
7. After toe is finished, put down all needles;
8. Break off yarn; hold work up, and run off.

174. *Large leg sock 2 and 1 rib* is knit with all needles in the cylinder and all in a 1 and 1 dial. After the 1 and 1 top is knit all empty grooves in cylinder are filled with needles, and stitches placed on the needles by lifting stitches from the side-needles, namely, the last stitch cast off by the side needles.

When cheap work is required, the stitches need not be lifted, in which case small holes will appear between the 1 and 1 rib and the 2 and 1 rib.

## A Lady's Full-fashioned-Stocking.

### 175. Hem top, narrowed ankle :

1. Use medium-fine cylinder and medium-fine yarn;
2. Use all needles in cylinder and half in a 1 and 1 dial;
3. Commence with set-up in the usual manner, (See page 18).
4. Knit 20 to 24 rounds; make hem-top. (See page 22).
5. After turning up lower-end of stocking for hem-top,
6. Knit one round; stop carrier at left or at 3;
7. Place ribber on carefully and properly. (See page 53).
8. Place stitches on rib-needles from machine-needles, by
9. Lifting the last stitch cast off machine needles or,
10. If cheap work is required with holes between
11. Hem-top and rib leg, place no stitches on rib-needles.
12. Knit leg fifteen inches long, then narrow ankle as follows :



2. Place cylinder-band over wire-cam-holder;
3. Narrow the 4 and 1 rib-leg to a 3 and 1 rib-ankle, by
4. Lifting out of needle-cylinder, first and second needles
5. To left of first rib-needle directly on front or at C,
6. Place the stitch of second needle on the third needle;
7. Place the first needle in the groove occupied by second;
8. Adjust rib-needles slightly to the left to
9. Equalize rib-stitch on account of needle removed.
10. Knit six rounds, narrow on each side of first narrowings,
11. Exactly in the same manner as first narrowings ;
12. Knit six rounds and continue the two narrowings
13. On each side, each six rounds until the narrowings
14. Are made all the way around the stocking ;
15. Knit four inches after narrowing is finished, or
16. Six inches if narrowing is made only half way round.
17. Four or five rounds may be knit between narrowings
18. In smaller sizes or in a 2 and 1 rib-leg.
19. Knit heel, foot, and toe, same as a man's rib-sock.
20. Make an extra narrowing in instep if desired.

### 176. Narrowing ankle :

1. Stop yarn-carrier at the back or at A.

*Bear in mind* the narrowing can be carried to the right in place of to the left. In all cases, make the narrowings, by carrying the stitches in the same direction on both sides of the stocking, that is, carry all stitches in the direction the first narrowed stitch is carried. Larger ribs than 3 and 1 are narrowed the same as 3 and 1 rib, that is, the narrowing is done on the second

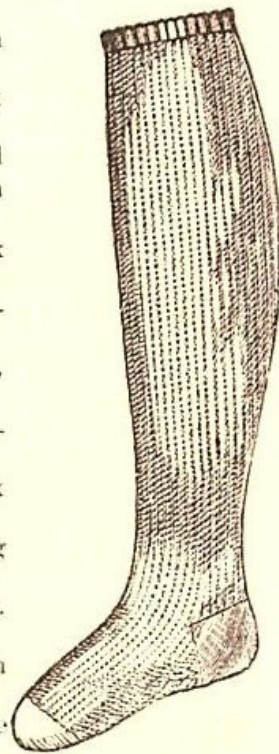
needle away from the rib-needle or rib-stitch.

177 *Two and one rib-leg* is narrowed to 1 and 1 rib-ankle by placing stitch of first needle to left of each rib-needle, on the next needle to the left. 2 and 1 rib-leg is usually narrowed one-third way around the stocking.

## Fancy-Rib or Scalloped Top.

### 177. Stockings knit continuously:

1. After finishing toe, remove ribber from machine;
2. Knit one row and stop carrier at back or at C.
3. Splice in No. 30 white cotton-thread, and
4. Knit two rounds; lift all needles in cylinder
5. Up out of action; stop carrier at back or at A
6. Thread yarn-carrier in the usual manner, and
7. Draw through carrier, one yard of yarn, with which
8. Commence setting up at A in the following manner:
9. Place yarn around one needle at back or at A.
10. Place it around a second needle crossing the yarn,
11. The same as in setting up with set-up. (See page 18).
12. Hold down each loop as it is placed on needle, with
13. Fore-finger of the left hand, until the next loop
14. Is placed, then move the fore-finger of left hand,
15. Forward one needle to catch the new loop as it
16. Is being placed on the needle and so on all round the needle-cylinder, until all the
17. Needles are set up or loops placed on them.
18. Place loops on the needles loosely, so the
19. Yarn will not break in knitting first round



20. Move yarn-carrier back to right or to 6.
21. Put down all needles up, commencing at back or at A.
22. After two-thirds of the needles are down, knit one-third row and
23. Stop carrier at left or at 3; proceed to rib by
24. Placing ribber, carefully and properly on, then
25. Lift with the work-hook, stitches or the two loops
26. Lying between the machine needles, and formed by the
27. Setting-up loops and the row of stitches last knit.
28. Place them on all rib-needles which will cause
29. The top to present a notched or scalloped finish.
30. Place a little extra weight on the work when knitting
31. The first round with ribber after placing stitches on.
32. Should the stitches cut or knit hard, the first round,
33. Make set-up loops more loosely next time.

178. *One sock, stocking, or mitt, &c.*, can be made one after the other, continuously, by setting up without the set-up as described above. When a 1 and 1, 2 and 1, 3 and 1, or 4 and 1 rib is desired by removing one machine-needle from needle-cylinder, the stitches of the machine-needles are transferred direct to the rib-needles immediately after placing the ribber on the machine.

*If the scallop top*, however, is preferred, in any of the above-named ribs, all the needles are used in the cylinder and the double loops placed upon the rib-needles as above described, except in the 1 and 1 rib.

179 *The setting up loops* may be made to cross on the outside in place of the inside, that is, by keeping the hand which does the setting up on the outside of the needles in place of on the inside, thereby causing the setting-up-loops to be on the outside in place of on the inside.

## A MAN'S SOCK, 1 AND 1 RIB, TOP PLAIN LEG.



### 179. Transferred rib-top.

1. One and one rib tops are made with a welt and
2. Knit continuously, one after the other, by
3. Separating with two rounds of No. 30 white thread.
4. In this manner, 100 or more tops may be made, and
5. Separated after being knit, by cutting the spool thread
6. In two places directly opposite each other, then
7. Withdraw the spool thread after being cut.
8. The top is then placed on inside of needle-cylinder
9. And the stitches picked up on the needles by
10. Lifting every other stitch first, with work-hook

11. Then ravel out the first row of stitches and lift
12. The remaining stitches in the same manner with work-hook.
13. The above is the quickest method of knitting
14. Socks with one and one rib and plain leg.

180. *Rib legs* as well as rib-tops can be transferred in the above manner, the leg being knit separately on one machine and transferred to another, or to the same machine with fewer needles in the cylinder, and the foot in this manner knit somewhat smaller than the leg, in which case, place all extra stitches on evenly around the cylinder, or on the back of the leg, by placing double stitches occasionally, to distribute the extra stitches used in the leg. The leg, heel, foot and toe for a one and one rib-top, transferred as above, is knit in the usual manner.

181. *New heels and toes* are made on old work by lifting the stitches in the same manner after cutting out or off old heel and toe, which is neater and superior to darning. The new heel is closed to bottom of foot by seaming stitch. (See page 20)

## CHILDREN'S RIB STOCKINGS

(on  $4\frac{1}{2}$  inch Family Machine).

### 181. Rib leg, narrowed ankle.

1. Use a coarse or medium needle-cylinder
2. With all needles in cylinder and commence
3. With set-up in the usual manner. (See page 18).
4. Transfer the stitches to a 3 and 1 or a 2 and 1 rib
5. According to the dial used or rib preferred.
6. A 60 cylinder and 40 dial, or a 54 cylinder and 36 dial
7. Will make a 2 and 1 rib with every other needle out of dial and
8. Corresponding needles out of cylinder.
9. After transferring to the rib desired, (see page 56).
10. Knit 8 or 12 inches, 2 and 1 or 3 and 1 rib,
11. Then narrow the ankle in the following manner :
12. Stop the yarn-carrier at the back or at A.
13. If leg is 3 and 1 rib, narrow the middle needle
14. In the rib, by placing its stitch on the next needle
15. To the left of rib-needle at front or at C.
16. Place the 1st needle left of rib-needle in the
17. Next groove occupied by the needle narrowed.
18. If the leg is 2 and 1 rib, it is narrowed to



19. 1 and 1 rib by placing stitch of first needle
20. To the left of rib-needle at front or at C,
21. Unto the next needle to the left. Knit four rounds.
22. Repeat narrowings on each side of leg all around.
23. Which will make each rib-needle take the
24. Place of two machine-needles, and thereby
25. Narrow the ankle one needle for each rib-needle.
26. Tighten the machine tension as much as possible
27. For the ankle, by gradually tightening after
28. First narrowing, and each 10 or 12 rounds thereafter.
29. Knit ankle after narrowing, about 3 inches.
30. Then proceed to knit heel in the following manner :

182. *After the 1st narrowing* has been made, regulate the rib needles more centrally where the two needles are out of cylinder to equalize the rib-needles in their relation to the machine-needles, as far as possible, and after the narrowings are all made in the ankle, regulate the rib-needles exactly in the centre of machine-needles, and tighten the tension as much as possible before knitting ankle.

182. *Small heel:*



1. Knit two or three rows with a loose tension and
2. Stop yarn-carrier at the back or at A.
3. Place in all empty needle-grooves on front of machine,
4. Sufficient needles to make a small heel
5. On half the needles, all but two each side,
6. Lift stitches on all the needles put in, lifting
7. The stitches last cast off by the side-needles,
8. Knit the heel on half the needles less four, in the
9. Usual manner: knit four rounds after heel is finished,
10. Then make one rib narrowing on each side of instep,
11. That is, put in dial one rib-needle on each side,
12. To form a new rib on each side, which will
13. Correspond with the other ribs on top of foot.
14. Now lift out the third needle from rib-needle
15. Just put in, and place its stitches on the fourth,
16. Place the second needle in the groove occupied by first,
17. Transfer stitch of first needle to rib-needle,
18. Repeat the narrowing and transferring on other side,
19. Knit four rounds and make another rib-narrowing



20. On each side: again knit four rounds, and
21. Make a third narrowing on each side, provided
22. A very small instep and foot is required,
23. Knit foot four or five inches long, and proceed
24. To make toe by counting all the needles in both
25. Dial and cylinder. Transfer from rib to plain
26. On each side of the plain web, until the
27. Plain needles are equal with all the other
28. Needles in both cylinder and dial, so the
29. Toe can be made on exactly half of the whole
30. Number of stitches used in making the foot,
31. This is necessary for closing the toe,
32. Knit toe as usual on plain stitches on front half.

*Children's rib stockings* can be made in various sizes in the above manner, and made in various ribs. For instance 1 and 1 rib will make a small size; 2 and 1 rib will make a larger size; 3 and 1 rib will make a third size; 4 and 1 rib a fourth size; 5 and 1 rib a fifth size, by narrowing the ankle as already described above, that is, making the narrowings so that one rib-needle will take the place of two machine-needles, and making extra narrowings in the instep to insure a small foot.

## RIB MITTS.

183. *All ribbed:*



1. Knit with coarse or medium yarn as desired;
2. Knit with 1 and 1 or 2 and 1 rib as preferred;
3. Knit wrist about four inches or 30 to 40 rounds;
4. Knit thumb plain on the front or at C, by
5. Placing in one needle opposite rib-needle at C.
6. Transfer stitch of rib-needle to machine-needle;
7. Knit three or four rounds and place in one more needle
8. Opposite next rib-needle on each side of first;
9. Transfer stitches of these rib-needles to machine-needles;
10. Knit three or four rounds; continue placing in needles
11. Until the plain thumb is 18, 20 or 24 inches wide;
12. Knit three or four rounds; stop carrier at front or at C;
13. Disconnect ribber; remove yarn from arm; regulate take-up;
14. Raise out of action all needles but plain thumb needles.
15. Knit thumb flat-web on plain needles, about 55 rows;
16. Break the yarn and run off thumb stitches;
17. Put down first needle upon each side of thumb;
18. Lift stitches from each corner of selvage,



19. And place them on the two needles just put down,
20. To make a good joining where thumb joins the hand.
21. Now lift stitches equal to half the thumb needles,
22. From each side of selvage and place them
23. On thumb needles, commencing on right and left side
24. All the thumb needles run off, will now have stitches.
25. Place heel-hooks on thumb; stop carrier at left or at 3;
26. Thread yarn-carrier, ribber-arm; regulate take-up;
27. Put down all needles which are up, commencing
28. On the right side; knit hand  $4\frac{1}{2}$  or 5 inches.
29. If rib is 1 and 1 rib, finish point of mitt
30. Plain, the same as the toe of a stocking.
31. If mitt is 2 and 1 rib, finish in same manner, or
32. Transfer the 2 and 1 rib so as to make
33. A 1 and 1 rib, then knit with a tighter tension
34. About 15 to 20 rounds, 1 and 1 rib, then
35. Close by drawing the 1 and 1 rib stitches together.
36. The 2 and 1 rib may be closed in same manner.

**184. Mitts can be made** in a variety of ribs with needles out of cylinder to form the rib; or all needles in cylinder to form the rib, as may be preferred, making either 1 and 1, 2 and 1, 3 and 1, or 4 and 1 rib, etc. The thumb is knit plain, practically in the same manner, irrespective of the style of rib which may be used.

**185. Mitt, rib back, plain front** is made by transferring all the rib-needles to the machine-needles, on one side of the thumb immediately when commencing the thumb, which will make the front of hand plain. The other side of thumb is widened out to plain needles gradually, each three or four rounds knit, the same as in an all-ribbed mitt.

**186. A gauntlet rib mitt** is made by knitting wrist three or four inches or about 30 or 40 rounds plain web with all needles in the machine. Then knit rib 2 and 1 with all needles in the dial, exactly the same length as the first part of wrist. Now change machine needles to knit 1 and 1 or 3 and 1 rib. Then knit about 15 or 20 rounds and make the thumb, hand, etc., in the usual manner. Finish the mitt by turning the plain web wrist of gauntlet up inside of rib web, so that the gauntlet will fold at the point where the rib-stitches join the plain-stitches, and thereby make a fancy notched or scalloped end for upper part of gauntlet.

**187. A good wrist** can also be made by knitting the wrist with a 1 and 1 rib double length to make a long rib hem, or double wrist by turning the upper end of the 1 and 1 rib inside of the outer web. The wrist may also be knit with plain double web or with what might be termed a very wide hem, then knit

1 and 1 or 2 and 1 rib for 15 or 20 rounds, after which the thumb and hand are made in the usual manner.

**188. One and one rib mitts** can be made with a fancy wrist by making a series of welts in the middle of the wrist in the following manner:

First knit  $1\frac{1}{2}$  inches 1 and 1 rib, then draw rib-needles into dial out of action, and knit six rounds with them out of action, holding the work well down, especially the fourth, fifth and sixth rounds. Bring the rib-needles out into action again. Knit five rounds. Again draw the rib-needles into dial out of action and knit five rounds. Then knit four rounds with rib-needles in action, and four rounds with them out of action; three rounds with them in action, and so on, reducing the number of rounds by one round in both welts and the number of rounds between each welt, until a two round welt is made, then knit one inch 1 and 1 rib before making thumb.

**Fancy leggings** 1 and 1 rib can be made in the above manner by putting more rounds between each welt, thereby regulating the length of the fancy part of legging according to design or style required.

**Special mitt machines** can be supplied, which will make loops or tufted work on the inside and do plain or striped work as well, with loops on the inside of each, which makes an *extra heavy mitt with loop lining*, which may be fleeced or napped, thereby producing a very warm and soft fur-lining, and one of the best mitts ever put on the market.

## PRESSING HOSIERY, &c.

**189. Hosiery press forms.** The forms are usually made out of good hard wood  $\frac{1}{4}$  inch thick, and the goods pressed while on the form. Custom knitters can use these forms or *zinc forms* with round, smooth edges, pressing the goods, overlaid with a damp cloth, by a hand hot smoothing iron. Ribbed goods require narrow press-boards and light pressing.

**We can supply** the paper-pattern-forms by which to make good form shaping boards, at the rate of 50 cents per set, 12 sizes.

**190. Harsh dyed yarns** should be run through a piece of oily knit goods attached to winder, or the skein sprinkled or brushed with a whisk dipped into an oily liquid made of equal

parts of water, liquid soap, and oil of good quality that will not taint or effect the goods.

**Hosiery is pressed** in large knitting mills by our special steam hosiery press; in small mills with electric irons, or heavy smoothing hand-irons.

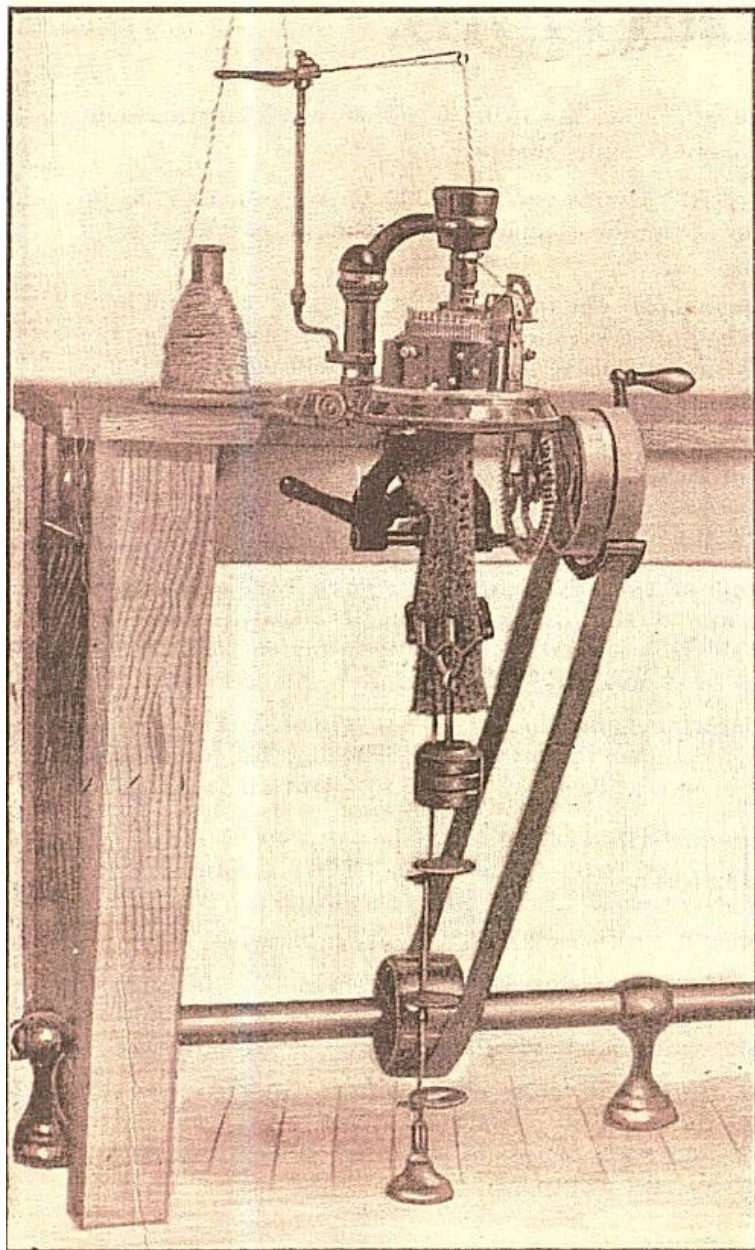
**The hand process is as follows:** Place a damp cloth over the hosiery on the forms and press with a hot iron; press foot and ankle with a damp cloth and top of leg with a dry or slightly damp cloth; press the top of 1 and 1 rib socks in same manner as top or leg of hosiery.

# KNITTING ROOM POINTERS.

- 1. Light and ventilation.** Good light and ventilation are essential to insure speedy operators and large production. Reason is plain. Light hearts and good health are accompaniments of good light, ventilation and large production.
- 2. The best is the cheapest.** The best and latest up-to-date machines are the cheapest. Larger production, longer life, and less cost for repairs is what it means.
- 3. A stitch in time saves nine.** Everyone knows what this means. It is more than true in respect to knitting machines. In a word, do not neglect oiling machines, or they will heat and cut. Do not neglect grinding and polishing the cams or they will be short lived, as well as shorten the life of needles, cylinders, etc., and keep your hand in your pocket. Inspect machines regularly and keep them in A1 order, and keep your hand out of your pocket.
- 4. Foremen in knitting rooms,** or managers of hosiery mills having difficulty in knitting very fine yarns, may find it necessary to send to us for a special "V" or tension-cam, which is shorter and better adapted to extra fine work.
- 5. A special ribber tension-cam** for extra fine work will also give better results. This applies to machines built for general work and especially those for Canadian trade. Fine take-up springs are also requisite for doing extra fine work. Those usually supplied with machines are for medium and general work.
- 6. Mexican and other fine machines,** built especially for extra fine work, do not require these extra cams, etc.
- 7. Yarn-carrier-height** for "NEW STAR," "STAR," "BANNER" and "WORLD'S STAR" machines should be  $\frac{5}{8}$  in. up from top of needle-cylinder to bottom of yarn-carrier-eye. All yarn-carriers should be set to run as close as possible to needles without the hooks of the needles rubbing against the carrier; and set sideways so the needles in back and forward knitting will pass the carrier-eye equal distance on both sides.
- 8. The "New K" yarn-carrier** should be set  $\frac{1}{2}$  in. to  $\frac{3}{4}$  in. up from the top of needle-cylinder to bottom of carrier-eye for general work.
- 9. Yarn-carrier for cheap machine** without latch-guide is regulated by height of dial and should stand close to needles but not rub against them. This is necessary to prevent missing stitches on rib-needles.
- 10. The second eye of "K" cone yarn-carrier** should be set so the yarn will strike against the hook of the dial needle, a shade on the inside centre of hook, so that yarn will readily slide off in front of the hook.
- 11. The slope of the "K" cone dial yarn-carrier** should be about the same as that of the dial-needles, that is, the dial-needles should pass over the face of yarn-carrier close to it but not so close as to wear the yarn-carrier.
- 12. Ribber-dial-height** should be  $\frac{1}{8}$  to  $\frac{3}{16}$  of an inch up from top of needle-cylinder to bottom of needle-dial-slot for medium work, and for extra coarse work,  $\frac{3}{16}$  to  $\frac{1}{4}$  of an inch high.
- 13. The flat-dial-ribbers** are timed fast or slow by means of a long screw through latch-guide-holder. Fast timing requires the screw to be turned to the left, or out. Slow timing requires the screw to be turned to the right, or in.
- 14. Correct timing of flat-dial-ribbers** requires the yarn to lie on ribber-needle, half way between ribber-latch and hook of rib-needle, when latch of rib-needle stands straight up.
- 15. Correct timing of cone-dial-ribber** requires the yarn to lie across the latch of cone-needle, half way between the end of latch and hook of needle, when latch has descended to  
THE STITCH ON THE NEEDLE.

*"NEW K" POWER MACHINE.*

*FLAT-DIAL-RIBBER.*



WE RECOMMEND  
THESE MACHINES  
EACH FOR ITS  
SPECIAL WORK.



THE "NEW K"  
FLAT DIAL  
RIBBER IS THE  
BEST FOR THE  
MANUFACTURE  
OF RIB-SEAMLESS-  
HOSIERY.



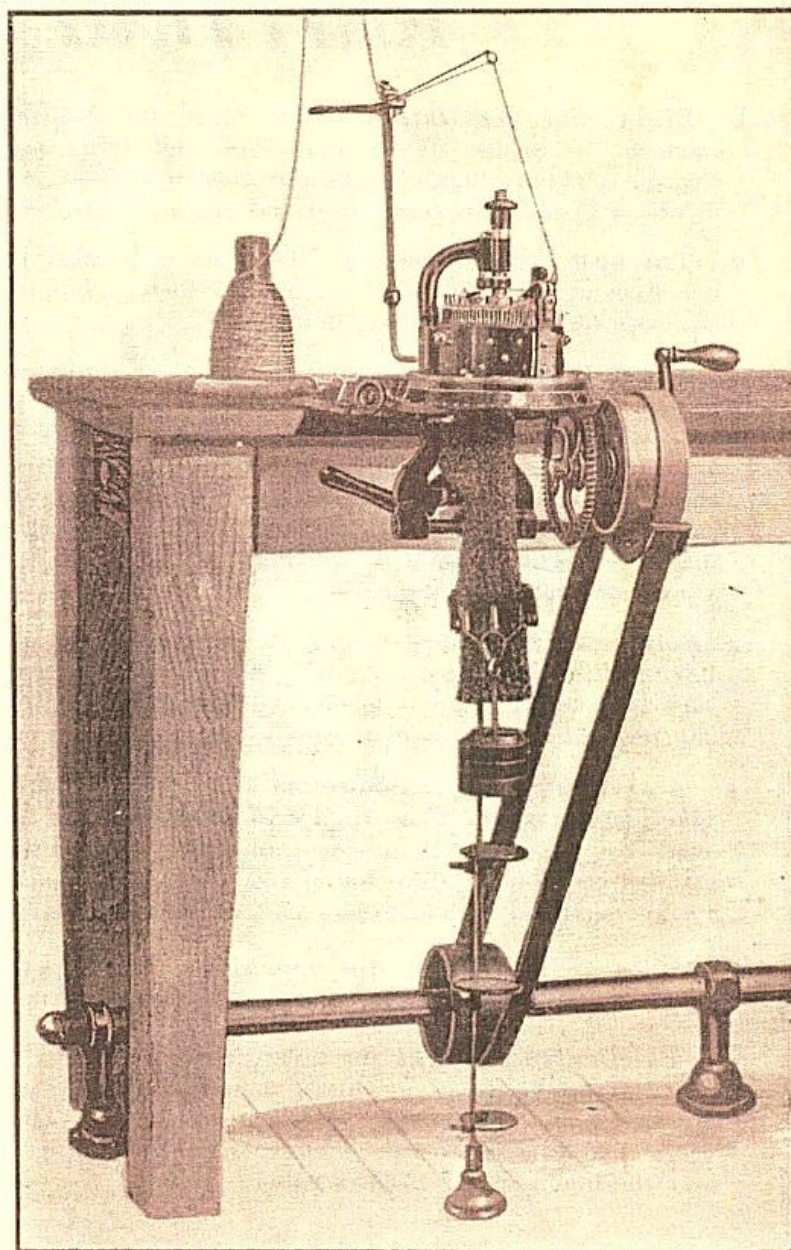
THE "NEW K"  
TRANSFER NEEDLE  
MACHINE WITH  
CONE DIAL  
RIBBER, IS THE  
BEST FOR THE  
MANUFACTURE OF  
ALL-RIB HALF  
HOSE AND FOR  
BOYS' RIB  
KNICKERBOCKERS;  
AND WILL MAKE  
 $\frac{1}{2}$  TO ONE  
DOZEN PER DAY  
MORE OF THIS  
CLASS OF WORK  
THAN FLAT DIAL  
RIBBERS.



OUR POWER  
CATALOGUE FREE  
FOR THE ASKING.

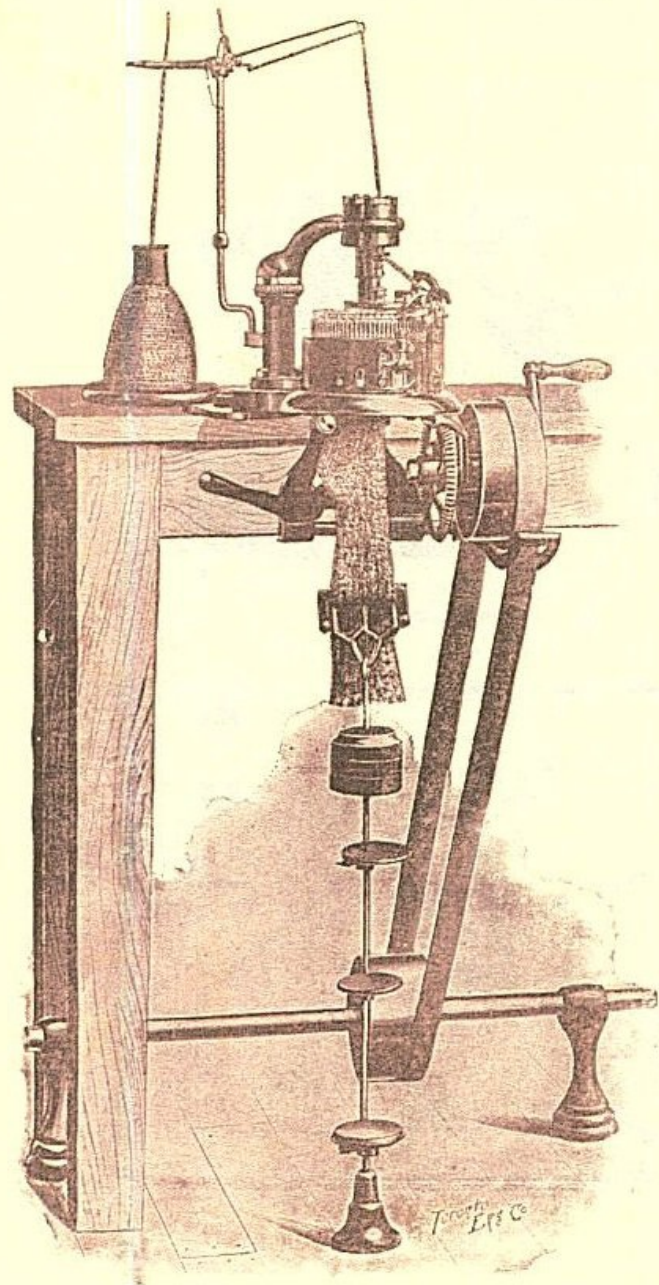
*"NEW K" POWER MACHINE.*

*CONE-DIAL-RIBBER.*

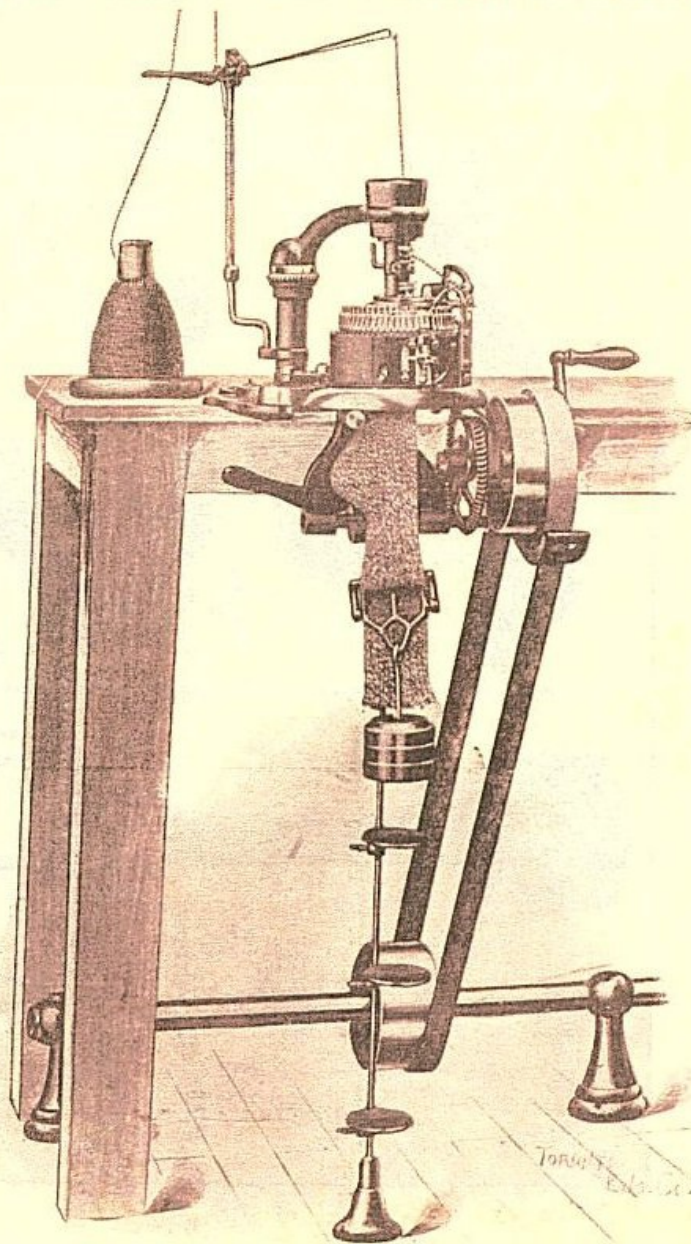




THE "STAR" POWER MACHINE.



THE "NEW STAR" POWER MACHINE



THIS IS THE  
CHEAPEST  
POWER  
MACHINE

WE MANUFACTURE.



THE "BANNER" AND  
"WORLD'S STAR" \*\*  
MACHINES CAN \*\*\*  
BOTH BE SUPPLIED  
WITH THIS STYLE OF  
POWER. \*\*\*\*\*



FOR HOME AND EXPORT  
TRADE WE STRONGLY  
RECOMMEND THE...

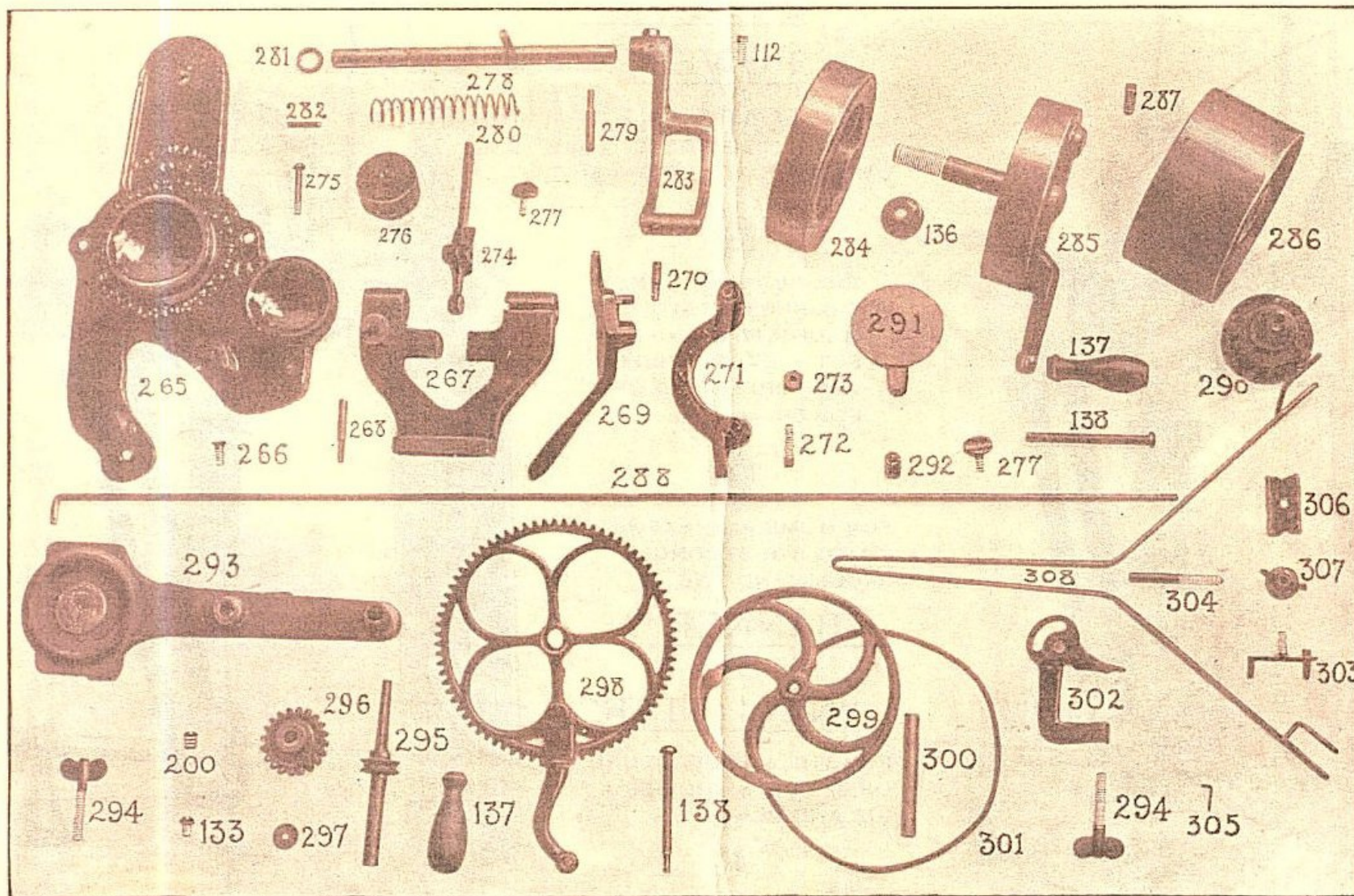
"BANNER"  
AND  
"NEW STAR"

FOR THE MANUFACTURE  
OF SEAMLESS HOSIERY,  
RIB AND PLAIN.



POWER CATALOGUE  
FREE ON APPLICATION.

NEW POWER PARTS.



Order by Name and Number.

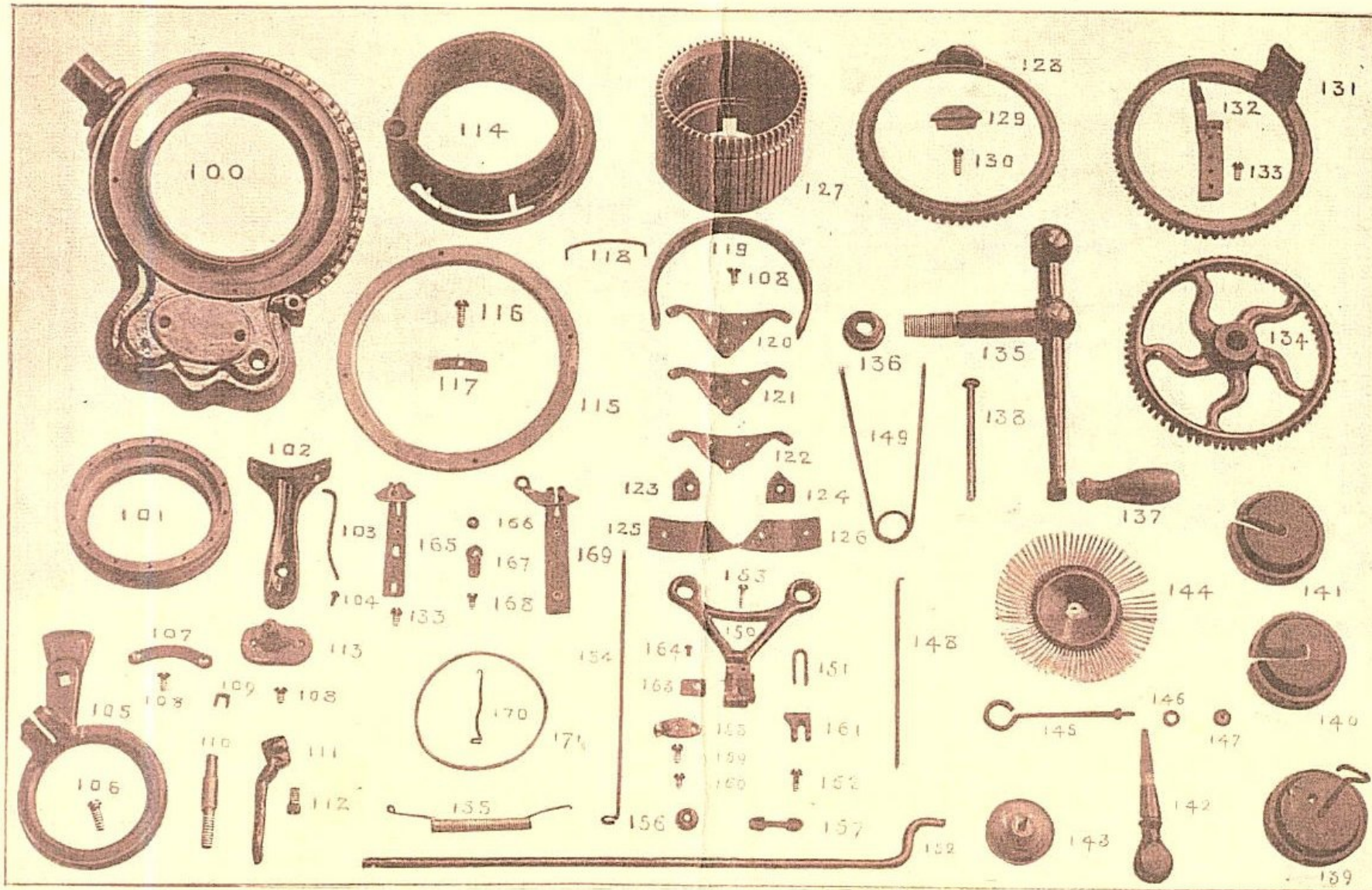
PRICE LIST OF PARTS FOR NEW-POWER.

No.	NAME.	PRICES.	No.	NAME.	PRICES.
	Power, complete	\$8 50	288	Power-stop-motion-rod	\$ 25
265	" table plate	1 30	289	" " split pin	01
266	" " screw	05	290	" " floor-cone	20
267	" frame	1 00	291	" motion-plate	15
268	" connecting-pin	05	292	" " support	15
269	" starting-handle	25	277	" " " screw	10
270	" " pin	05		Rapid-winder, complete	3 50
271	" connection	20	293	" frame, only	1 00
272	" " adjusting-screw	05	294	" " clamp screw	10
273	" " " nut	05	295	" bobbin spindle	50
274	" weight lever	20	296	" gear	40
275	" " screw	05	299	" " set-screw	10
276	" lever weight	15	297	" spindle-washer	01
277	" " thumb-screw	05	133	" " screw	03
278	" shaft	60	298	" crank gear	1 20
279	" " pin	05	137	" " handle	10
280	" " spring	15	138	" " rivet	10
281	" collar	05	299	" belt wheel	40
282	" " pin	05	300	" " spindle	25
283	" belt shifter	35	301	" " belt	15
112	" " set-screw	05	*	Swift, complete	1 50
284	" loose pulley	1 20	302	" clamp	40
	" crank pulley, complete	2 25	294	" " thumb-screw	10
	" " " " " " " "	2 00	303	" " adjuster	25
285	" " nut	15	304	" " " shaft	15
136	" " handle	10	305	" " " pin	01
137	" " " rivet	10	306	" arm-holder	20
138	" " " " " " " "	10	307	" " nut	15
286	" lower pulley	1 60	308	" arm, each	20
287	" " set-screw	05			

Light parts by mail; heavy parts per express.

Always state when the article is required complete with all parts.

THE "NEW K" MACHINE PARTS.



Order by Name, Diameter, and Number (see page 2 of Cover).

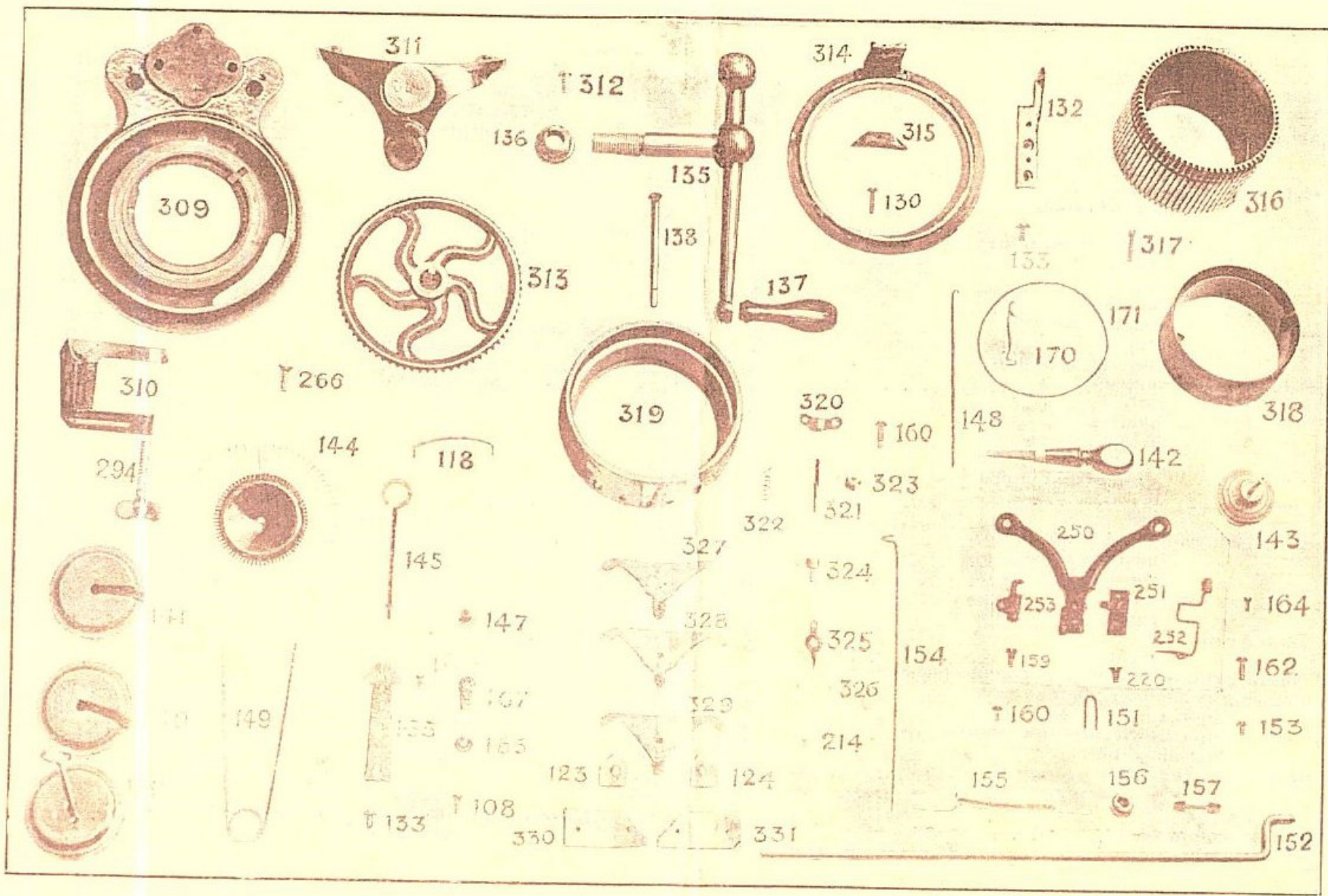
PRICE LIST OF PARTS FOR THE "NEW K" MACHINE.

No.	NAME.	PRICES.	No.	NAME.	PRICES.
100	Bed-plate.....	\$5 00	136	Crank nut.....	\$ 15
101	Tension-ring.....	2 40	137	" handle.....	10
102	Tension-handle.....	20	138	" handle rivet.....	10
103	" spring.....	15	139	Heel and weight-hook.....	25
104	" rivet.....	01	140	Large weight.....	20
105	Cylinder-clamp.....	2 50	141	Small weight.....	15
106	" adjusting-screw.....	03	142	Screw-driver.....	15
107	" holder.....	15	143	Oil-can.....	15
108	" holder-screw (long).....	03	144	Set-up, complete.....	1 00
109	" staple.....	05	144	" only.....	65
110	" bolt.....	20	145	" rod.....	20
111	" handle.....	20	146	" washer.....	01
112	" handle-set-screw.....	05	147	" nut.....	10
113	" stop.....	25	148	Pick-up-hook.....	10
108	" stop-screw (long).....	05	149	Manufacturers' heel-hook.....	20
114c	Cam-cylinder, complete.....	7 50	150c	Yarn-stand, complete.....	1 60
114	" only.....	4 00	150c	" top, complete.....	1 00
115	" holding-ring.....	1 00	150	" only.....	50
116	" holding-ring-screw.....	03	151	" staple.....	05
117	" brass-wear adjuster.....	05	152	" rod.....	20
118	" spring-band-holder.....	15	153	" set-screw.....	03
119	" bed.....	50	154	Take-up.....	05
108	" bed-screw.....	03	155	" spring.....	15
120	V Tension-cam, long draw.....	80	156	" friction bearing.....	15
121	" medium draw.....	80	157	" friction-bearing-spring.....	15
122	" short draw.....	80	158	" holder.....	15
123	Up-throw-cam, left.....	35	159	" screw.....	03
124	" right.....	35	160	" set-screw.....	03
125	Lower cam, left.....	50	161	" lock.....	20
126	" right.....	50	162	" screw.....	03
127	Needle-cylinder (\$3.00 plus 2 cents per slot).....	*	163	" plate.....	15
128	Cog-ring cone dial-ribber.....	1 30	164	" plate-screw.....	03
129	" up-throw-cam, fin.....	20	165	Yarn-carrier, complete (flat dial).....	1 00
130	" up-throw-cam-screw (short).....	03	133	" screw.....	03
131	" flat-dial-ribber.....	1 60	166	" front-eye.....	10
132	Ribber driving-arm.....	35	167	" back-eye.....	20
133	" screw.....	03	168	" screw.....	03
134	Crank wheel.....	1 00	169	" complete (cone-dial).....	1 20
135c	Crank, complete.....	1 60	170	Cylinder-needle (\$2.50 per 100, 36 cents per doz.).....	*
135	" only.....	1 30	171	" spring-band.....	15

Light parts by mail; heavy parts per express.

# PARTS FOR "NEW STAR," "STAR," "BANNER," AND "WORLD'S STAR."

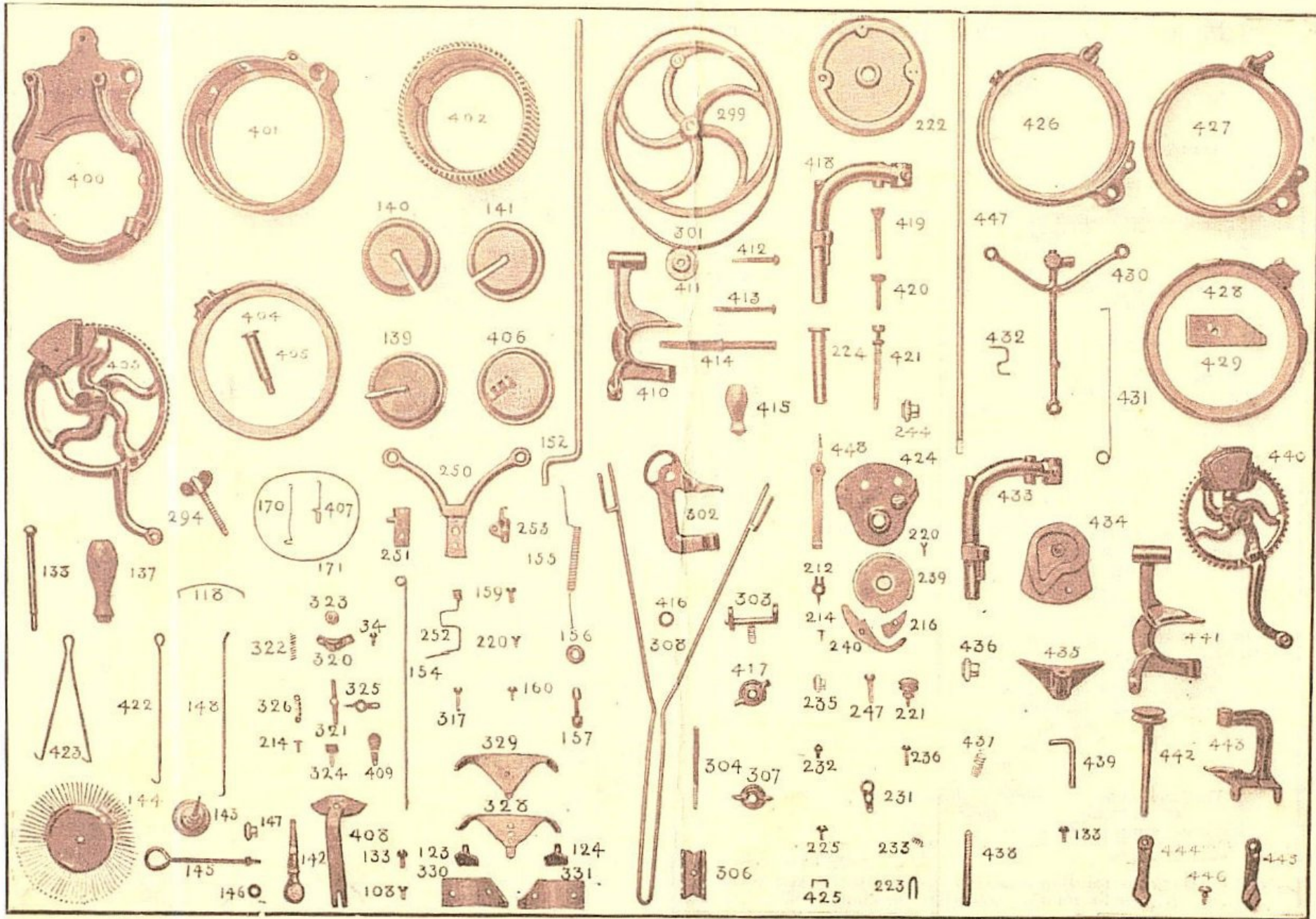
See Foot-note, page 65. See page 66 for Winder and Yarn-reel parts.



Order by Name, Diameter, and Number (see page 2 of Cover).



Parts for the "Money-Maker A," "Dollar," "Improved Money-Maker," "Klondyke," and "Money-Maker."

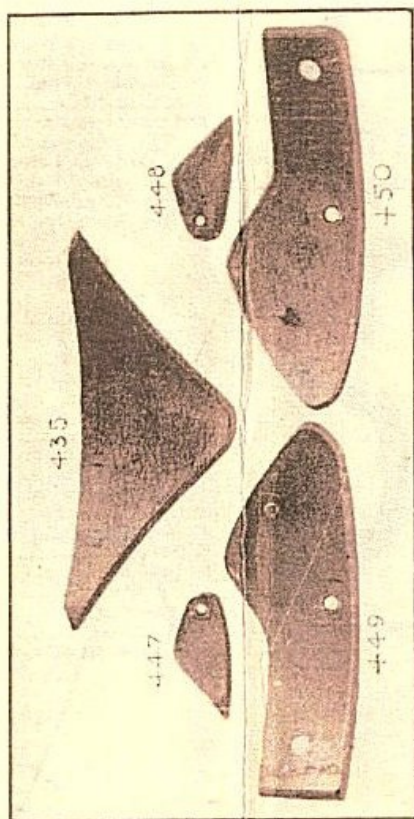


Order by Name, Diameter, and Number (see page 2 of Cover).



Parts of "Money-Maker A," "Dollar," "Improved Money-Maker," "Klondyke," and "Money-Maker."

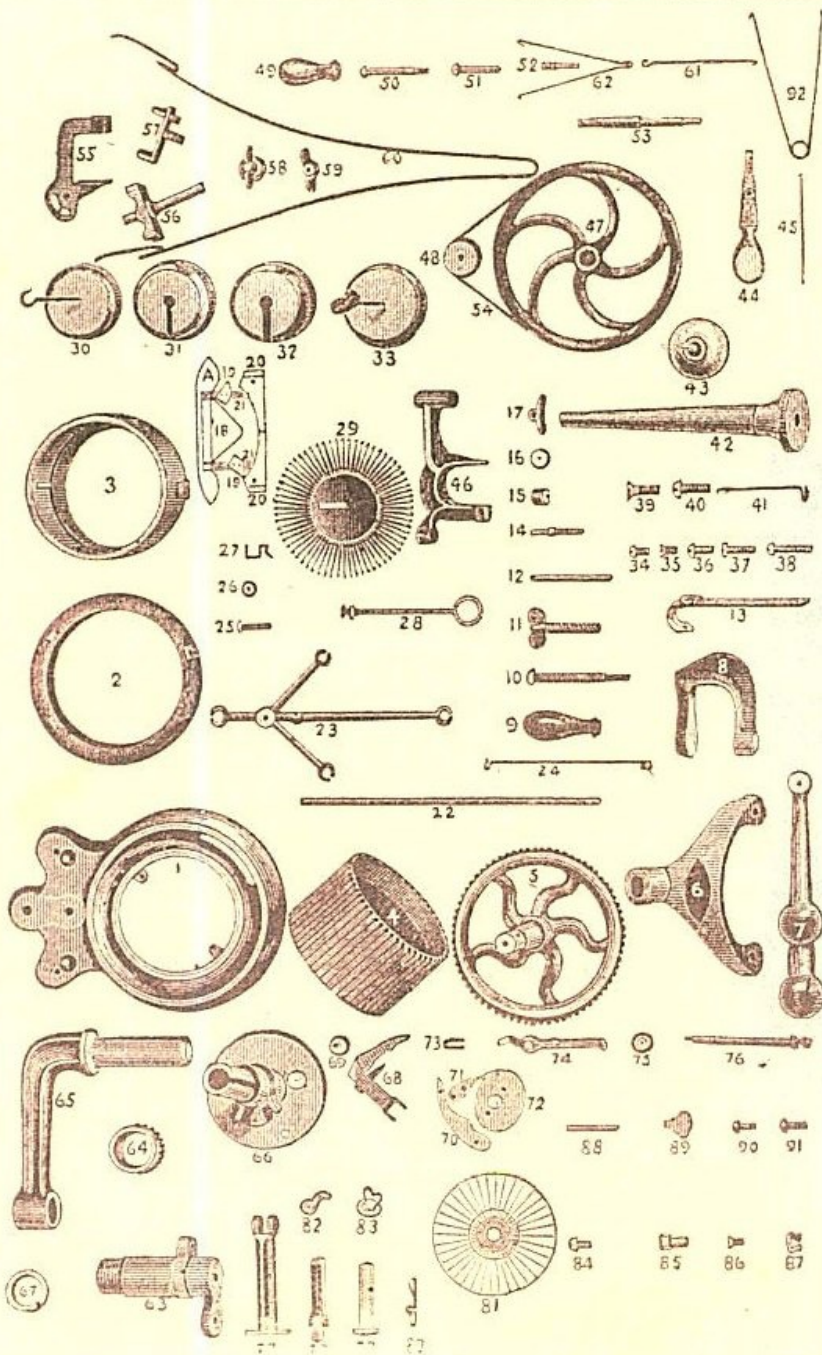
No.	NAME.	PRICE	No.	NAME.	PRICE	No.	NAME.	PRICE
34	Tension-bearing-screw	03	308	Swift-arm	20	328	V cam, medium draw	1 00
108	Cam-screw	03	317	Needle-cylinder-screw	05	329	V cam, long draw	1 00
118	Cam-cylinder-needle-band-holder	15	320	Tension-bearing	20	330	Left lower-cam	50
123	Left up-throw-cam	35	321	" screw	15	331	Right lower-cam	50
124	Right up-throw-cam	35	322	" spring	02	400	Bed-plate	3 75
133	Yarn-carrier screw	03	323	" head	10	401	Cam-cylinder	4 00
137	Crank-handle	10	324	" nut	15	402	Needle-cylinder, \$2.50 plus 2c. per slot	
138	" rivet	10	325	" pointer	10	403	Crank wheel, 6 inch	1 25
139	Weight-holder	25	326	" indicator	10	404	" stud	1 35
140	Large weight	20				405	Cog-ring	1 60
141	Small weight	15				406	Heel-holder	60
142	Screw-driver	15				407	Rib-needle	03
143	Oil-can	15				4 8	Yarn-carrier	75
144	Set-up	65				4 9	Cylinder-lever screw-driver	10
145	Set-up-rod	20				410	Bobbin-winder-clamp	60
146	Set-up-rod-washer	01				411	" pulley	25
147	Set-up-rod-nut	10				412	" rivet	10
148	Pick-up	10				413	" handle-rivet	10
152	Yarn-stand-rod	20				414	" spindle	30
154	Take-up	05				415	" handle	10
155	Take-up-spring	15				416	Swift-arm-washer	01
156	" friction-bearing	15				417	" nut	10
157	" friction-bearing-spring	15				418	Ribber-arm	1 75
159	" holder-screw	08				419	" driving-arm-pin	15
160	" set-screw	03				420	" height-regulating-screw	05
170	Machine-needle	03				421	" cylinder-lever-regulating-screw	40
171	Cylinder-spring-band	15				422	Single-heel-hooks	10
212	Rib-cam-plate-pointer	10				423	Double-heel-hooks	20
214	" rivet	01				424	Ribber-cam-plate	1 50
216	" switch-cam	35				425	Ribber-tension-indicator	10
220	" centre-cam-screw	03				426	Klondyke cam-cylinder	3 00
221	" tension-thumb-screw	10				427	Money-Maker cam-cylinder	2 50
222	" needle-dial, \$1.50 plus 2c. per slot					428	Cog-ring	1 60
223	" staple	05				429	Money-Maker Needle-plate	30
224	" did-post	35				430	Yarn-stand-top	35
225	" set-screw	03				431	Take-up-spring	05
231	" switch-cam-lever	35				432	" lock	15
232	" plunger	05				433	" ribber-arm	1 75
233	" spring	03				434	" rib-cam-plate	1 50
235	" timing-screw-nut	10				435	" tension-cam	35
236	" switch-cam-screw	05				436	" nut	10
239	" centre-cam	35				437	" spring	02
240	" tension-cam	35				438	" tension-post	15
244	" regulating-screw-head	10				439	" rib-driving-pin	10
247	" timing-screw	10				440	" crank wheel, 3 inch	1 00
250	Yarn-stand-top	50				441	" B. W. clamp	60
251	" lock-holder	15				442	" B. W. spindle	35
252	" lock	20				443	" swift-clamp	35
253	Take-up-holder	15				444	Klondyke left upthrow-cam	35
294	Bed-plate-clamp-screw	10				445	" right upthrow-cam	35
299	Bobbin-winder-wheel	40				446	" upthrow-cam-screw	10
301	" belt	15				447	Yarn-stand-rod (447 is also upthrow-cam)	20
302	Swift-clamp	35				448	Improved Money-Maker left upthrow-cam	30
303	Swift-clamp-adjuster	25				449	Needle-cylinder-lever (448 is also upthrow-cam)	50
304	" shaft	15				448	Imp. Money-Maker right upthrow-cam	30
306	" arm-holder	20				449	" left upthrow-cam-holder	30
307	" nut	15				450	" right upthrow-cam-holder	30



**Parts and Prices for "World's Star" Old-style Machines.**  
(Not now made. Repairs supplied).

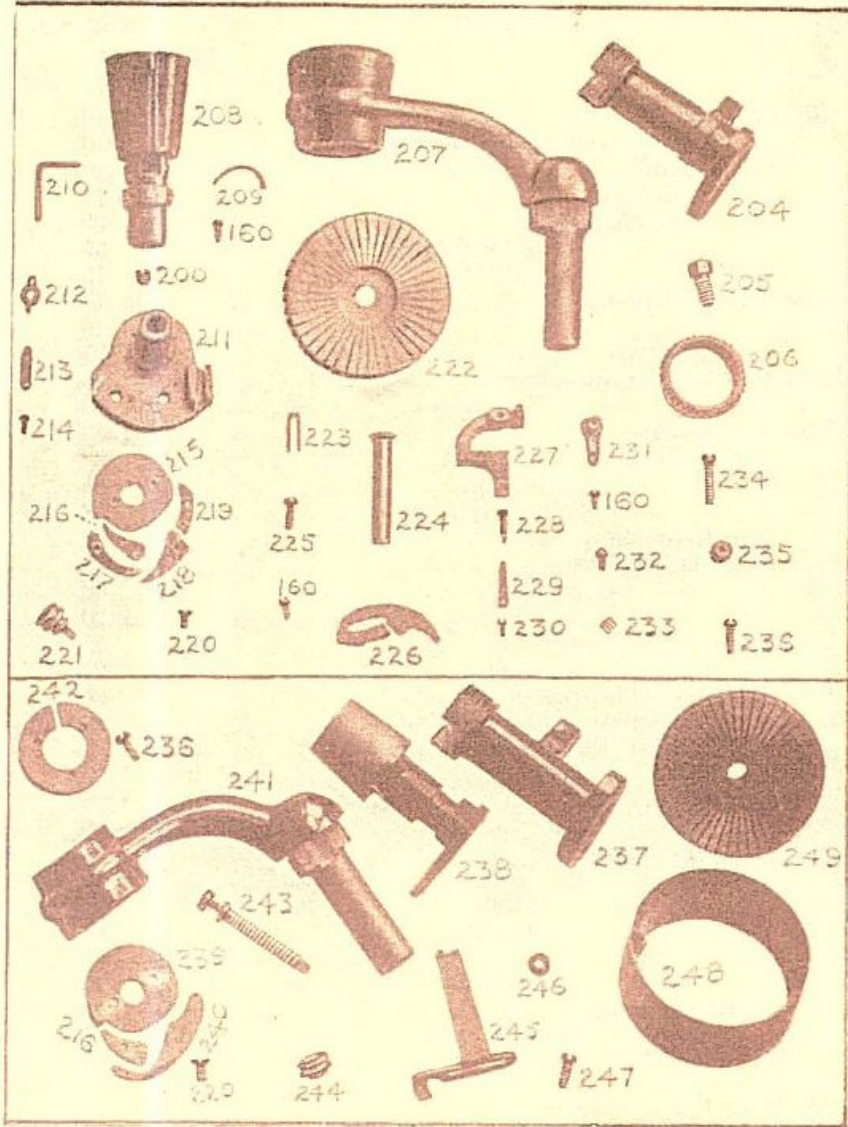
No.	NAME.	PRICE.	No.	NAME.	PRICE.
1	Bed-plate	24 00	57	Swift adjuster	10
2	Cog-ring	1 60	58	arm-holder-nut	10
3	Cam-cylinder	4 00	59	adjuster-nut	10
4	Needle-cylinder, \$2.00 plus 2c. per slot		60	arms	20
5	Crank-wheel	1 00	61	Outside heel-hook	10
6	Crank-wheel cap	1 20	62	Double heel-hook	20
7	Crank	75	63	Ribber arm-holder	3 50
8	Table-clamp	40	64	arm-nut	50
9	Crank-handle	10	65	arm	3 00
10	Crank-handle rivet	10	66	cam-plate and hub	4 00
11	Table-clamp-screw	10	67	hub-collar	40
12	Bobbin-pin	02	68	latch-guide	1 50
13	Yarn-carrier	1 25	69	tension-thumb-screw	10
14	Tension-screw	15	70	tension-cam	35
15	Tension-screw nut	15	71	switch-cam	35
16	Tension-screw head	10	72	centre-cam	35
17	Tension-bearing	20	73	dial-lock taple	05
18	Tension V-cam	75	74	cylinder-lever-lock	50
19	Sliding-lug	20	75	" screw-head	10
20	Lower-cams	30	76	" reg.-screw	40
21	Sliding-lug back	10	77	driving-arm	50
A	V-protecting-cam	15	78	" hinge	35
22	Yarn-stand-rod	20	79	" dial-post	35
23	Yarn-stand-top	50	80	" rib-needle	03
24	Take-up-spring	05	81	" dial, \$2.00 plus 2c. per slot	
25	" arbor	15	82	" latch-guide-button	15
26	" nut	10	83	" crown-cam	75
27	" lock	15	84	" dial-post set-screw	03
28	Set-up-rod	20	85	" arm-holder-screw	10
29	" device	65	86	" driving-arm-screw	03
30	Weight-hook	25	87	" spring	10
31	Small weight	15	88	" spool-pin	02
32	Large weight	20	89	" cylinder-lever screw-driver	10
33	Heel-holder	60	90	" crown-cam-screw	05
34	Tension-bearing-screw	03	91	" latch-guide button-screw	03
35	Cam-screws	03	92	Manufacturers' heel-hook	
36	Yarn-carrier-screw	03	93	Tension-pointer	10
37	Needle-cylinder-screw	03	94	" indicator	10
38	Crank-screw, old style	10		Ribber cam-plate-hub, complete	7 00
39	Crank-wheel-cap-screw	10		driving-arm	1 00
40	Bed-plate-clamp-screw	10		set of arms	1 00
41	Needle	03		cylinder-lever-reg.-screw	10
42	Bobbin	10		needles per dozen	35
43	Oil-can	15		" per 100	2 54
44	Screw-driver	15		Bed-plate complete	7 50
45	Work-hook	10		Cam-cylinder	7 50
46	Bobbin-winder clamp	60		Yarn-stand	1 20
47	" wheel	10		Set-up device	1 00
48	" pulley	25		Heel-hooks	1 00
49	" handle	10		Crank-handle	1 00
50	" rivet	10		Bobbin-winder complete	1 25
51	" wheel rivet	10		Swift or yarn-reel	1 25
52	Crank-screw, new style	10		Lower-cams, per pair	60
53	Bobbin-winder spindle	35		Needles, per dozen	35
54	belt	10		" per 100	2 54
55	Swift table-clamp	10		Bobbin	10
56	arm-holder	40			

Many of the old-style and new parts as shown on this and page 70 are the same. Order by name, diameter and number. (See cover page 2).



Parts and Price list of "New K," "New Star," "Star,"  
 "Banner," and "World's Star" Ribbers, etc.

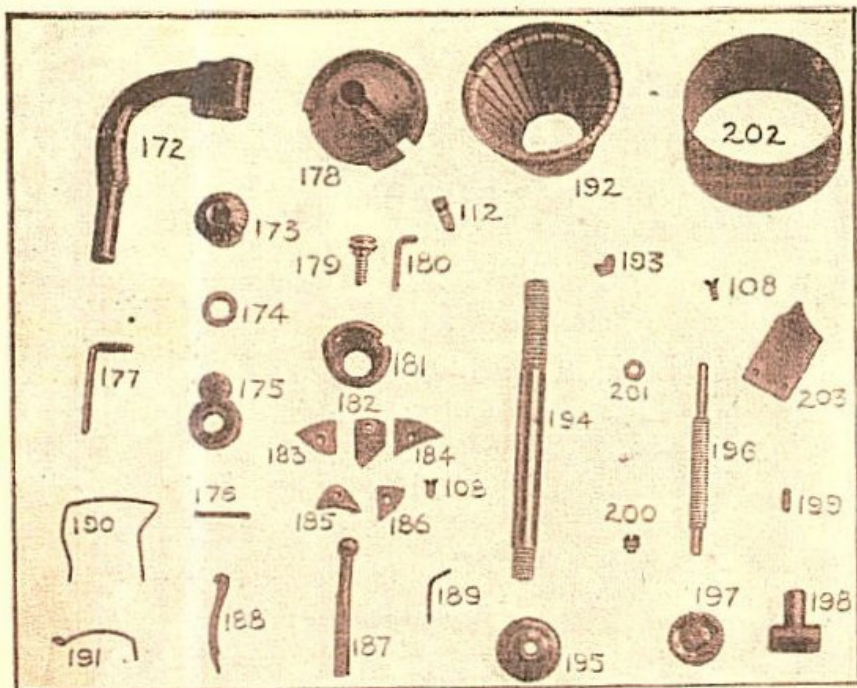
Some of these are common to other machines. See foot-note.



No.	NAME.	PRICES.
204	Ribber-arm-holder, taper bearing .....	3 60
204w	" " parallel bearing .....	3 60
205	" " set-screw .....	10
206	" " nut .....	50
207	" " taper bearing .....	3 80
207w	" " parallel bearing .....	3 80
208	Ribber taper bearing hub .....	2 40
209	" " yarn-guide .....	20
209w	" " wire .....	20
200	" " yarn-guide-screw .....	03
200	" " cam-plate set-screw .....	05
210	" " hub spool-pin .....	05
211c	Ribber cam-plate, complete .....	4 50
211	" " only .....	2 40
211b	" " long-hub .....	2 40
212	" " pointer .....	10
213	" " indicator .....	10
214	" " indicator-riever .....	01
215	Ribber-centre-cam .....	35
216	" " switch-cam .....	35
217	" " switch-guard-cam .....	35
218	" " tension-cam .....	35
219	" " tension-guard-cam .....	35
220	" " centre-cam-screw .....	03
221	" " tension-thumbscrew .....	10
222	" " needle-dial, two locks. \$2.00 plus 2c. per slot .....	05
223	" " staple .....	05
224	" " post, 4 1/2 in. long. (Give diameter machine) .....	35
224b	" " set-screw .....	35
225	" " latch-guide .....	03
226	" " screw .....	03
227	" " holder, Give diameter machine .....	50
228	" " hinge-screw .....	10
229	" " spring .....	10
230	" " spring-screw .....	03
231	" " switch-cam-lever .....	35
232	" " screw .....	03
233	" " plunger .....	05
234	" " spring .....	03
235	" " timing-screw .....	10
236	" " nut .....	10
237	" " switch-cam-screw .....	05
238	" " arm-holder .....	3 60
238w	" " cam-hub, conical-bearing .....	3 80
238w	" " parallel-bearing .....	3 80
239	" " centre-cam .....	35
240	" " switch-cam .....	35
241	" " tension-cam .....	35
242	" " centre-cam-screw .....	03
243	Rib-needles, per 100, postage paid .....	2 51
244	" " per doz. .....	34
245	Ribber-arm .....	3 80
246	" " collar .....	40
247w	" " narrower .....	40
248	" " screw .....	13
249	" " regulating-screw .....	40
250	" " head .....	10
251	" " cylinder-ring-lever .....	60
252w	" " cylinder-lever. See No. 71, page 71 .....	50
253	" " cylinder-ring-lever-washer .....	01
254	" " screw .....	05
255	" " STAR and NEW STAR, & C. .....	1 20
256	" " needle dial, one lock. \$2.00 plus 2c. per slot .....	05

Letter B stands for BANNER, C for complete, W for WORLD'S STAR. When B or W follows numbers it indicates that these parts vary in shape or some particular for BANNER and WORLD'S STAR machines.

Parts and Price List "New K" Cone-Dial Ribber and "Banner" (see foot note).



The "New K" Cone-dial Ribbers are only made in 4, 4½, 4¾ and 5 inch diameter.

The 4 and 4½ inch are especially adapted to rapid production of Men's All-Rib 1/2 Hose and Boys' Knickerbockers or Ladies' Rib-Stockings

with a needle out of cylinder for every one used in dial (see machine page 64).

\* B stands for Banner; C for Complete. When B follows the Nos. it indicates that the parts for the "BANNER" machine vary in shape, or some particular, from figure shown in cut.

No.	NAME.	PRICES.
172	Ribber arm .....	\$2 40
172b	" with arm projection (special).....	2 40
173	" nut.....	20
174	" nut-collar .....	15
175	" driving-collar .....	20
176	" " " hold pin .....	05
177	" " " pin .....	15
178	Cam-hub, complete.....	11 00
178	" .....	4 40
112	" set-screw .....	05
179	Cone-tension-thumb-screw .....	25
180	" " " wire.....	10
181	Cone-centre-cam.....	1 20
182	" tension-cam.....	80
183	" " " guide, left.....	50
184	" " " " right.....	50
185	" up-throw-cam .....	50
186	" welt-cam-guide .....	50
188	" " " screw (long).....	03
187	" " " .....	1 20
188	" " " support.....	25
189	" " " spring.....	03
190	" needle-latch-protector .....	20
191	" " " transfer-gate .....	20
192	" " " dial (\$2.50 plus 2c. per slot).....	*
193	" " " stop.....	15
194	" shaft .....	1 20
195	" " nut.....	20
196	" Regulating-screw .....	50
197	" " " " head.....	10
198	" " " " stud.....	25
199	" " " " buffer.....	01
200	" " " " " screw.....	05
201	" " " " " collar.....	15
202	" cylinder-ring .....	1 20
203	" " " " lever.....	50
108	" " " " " screw .....	03

These Long Needles are known as A.S.  
Use the term "A.S." when ordering.

L.B. Needles are 5-16 of an inch longer than A.S.  
Are for Old-style "World's Star" referred to on page 74.

No. 1.

No. 2.

No. 3.

No. 4.

No. 5.

No. 6.

No. 7.

No. 8.

8G - 4H

10G - 4H

12G - 3½H

12G - 3H

18G - 3½H

18G - 2H

24G - 2H

30G - 1H



8G - 4H

10G - 4H

12G - 3½H

12G - 3H

18G - 3½H

18G - 2H

24G - 2H

30G - 1H



No. 9.

No. 10.

No. 11.

No. 12.

No. 13.

No. 14.

No. 15.

No. 16.

These Rib-needles are known as A.S. Rib.  
Use the term A.S. Rib when ordering.

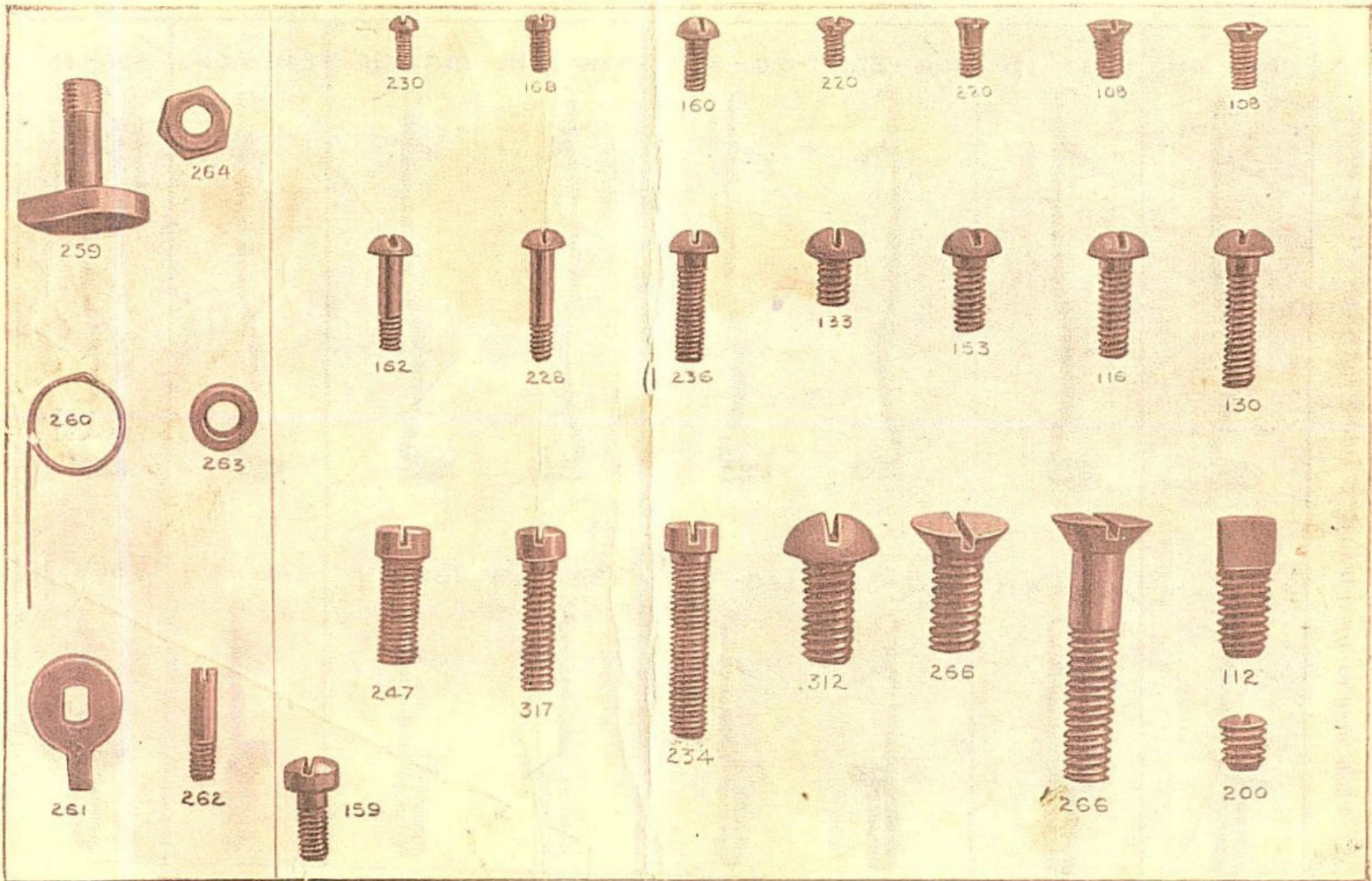
O.S. Rib 4 1-2 are 1-16 longer, and  
O.S. Rib 3 1-2 " " shorter in heel.

These needles are full-size. G stands for Gauge; H for Hook.

Price of Needles—\$2.54 per 100, 36 cents per dozen post paid.

SAFETY-CAMS.

FULL-SIZED SCREWS.



For Power: High Speed.

Order by Name and Number.