

ILLUSTRATIONS OF PARTS AND ACCESSORIES FOR THE NEW PATTERN "GRISWOLD" STOCKING KNITTER.

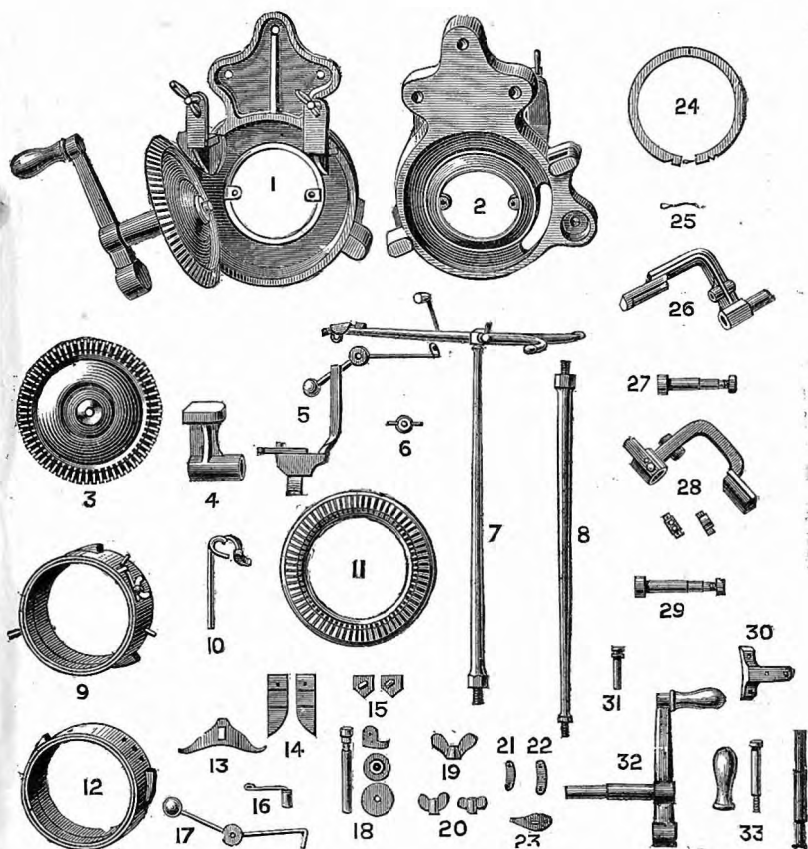
Kindly quote these numbers when ordering duplicate parts, etc., at the same time it is also advisable to give the number of the machine for which they are intended in order to assist us execute orders correctly.

"GRISWOLD" MACHINE PARTS.

No on Illustration	Description	No on Illustration	Description
1.	Body with Wheel and Handle, complete.	18.	Counter, complete.
2.	Body, fitted with Thumb-screws.	19.	Large (Brass) Thumbscrew or Wing Nut.
3.	Driving Wheel.	20.	Small (Brass) Thumbscrew or Wing Nut.
4.	Wheel Bracket.	21.	Stitch Indicator (small size).
5.	Adjustable Post.	22.	" " (large size).
6.	Wing Nut for Adjustable Post.	23.	" " Pointer.
7.	Yarn Post and Cross, complete.	24.	Clasp Ring.
8.	Yarn Post.	25.	Spring for Clasp Ring
9.	Cam Shell, fitted with Cams, complete.	26.	Ribber Arm, with Adjustable Tube.
10.	Latch Opener, fitted with Yarn Guide.	27.	Ribber Arm Spindle with Nut.
11.	Geared Reversing Ring.	28.	Ribber Arm (new style).
12.	Cam Shell.	29.	Ribber Arm Spindle (new style).
13.	Combined Stitch and Guard Cam.	30.	Yarn Carrier Bracket
14.	Side Cams.	31.	Driving Pin.
15.	Upthrow Cams.	32.	Handle fitted with Shaft complete.
16.	Automatic Roller Tension.	33.	Wood Handle. Wood Handle Stud. Wheel Shaft or Handle Shaft.
17.	Adjustable Take-up, complete.		

WHEN ORDERING NEEDLES PLEASE SEND SAMPLE.

ILLUSTRATION OF PARTS.

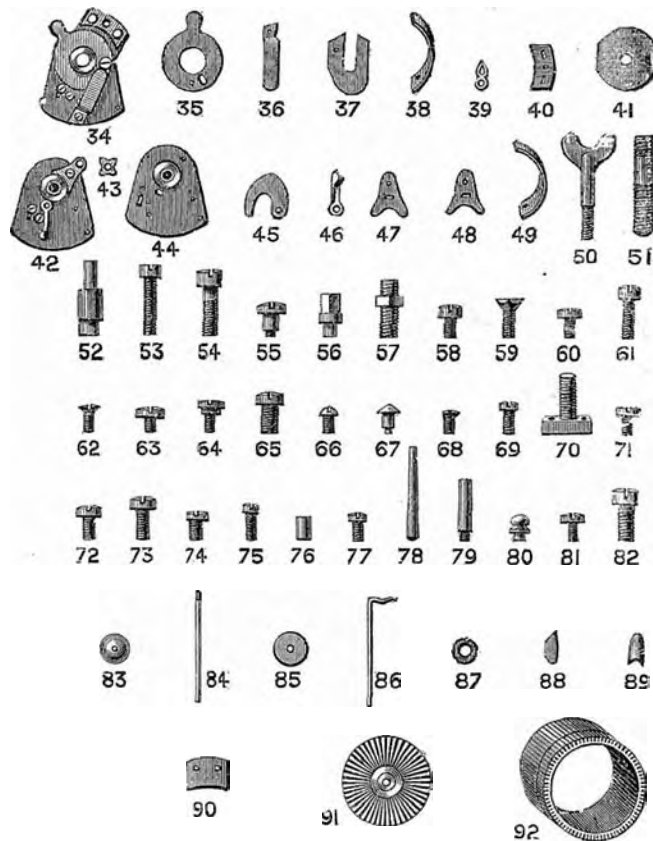


When ordering Parts please give Number of Machine for which they are intended.

No on Illustration	Description	No on Illustration	Description
34.	Large size Welting Cam Cap, with Cams complete.	62.	Cam Side Screw.
35.	Out-throw Cam Lever.	63.	Take-up Bush Stud Screw.
36.	Spring for Out-throw Cam Lever.	64.	Automatic Tension Screw.
37.	Out-throw Cam.	65.	Yarn Cross Screw.
38.	Ribber Stitch Cam.	66.	Name Plate Screw.
39.	Pointer for Ribber Stitch Cam.	67.	Centre for Out-throw Cam Lever Spring.
40.	Regulator Plate.	68.	Stitch Indicator Screw.
41.	Cam Cap Cover.	69.	Guide Wire Screw.
42.	Welting Cam Cap (small size) with Cams, complete.	70.	Cam Block.
43.	Star Spring for Out-throw Lever.	71.	Worm Shaft Bracket Screw.
44.	Small size Welting Cam Cap only.	72.	Ball Screw.
45.	Out-throw Cam and Stud for ditto.	73.	Shell Pointer Screw.
46.	Out-throw Cam Lever.	74.	Cam Pointer Screw.
47.	Adjustable Plate.	75.	Ribber Stitch Cam Screw.
48.	Adjustable Plate.	76.	Plunger Screw.
49.	Ribber Stitch Cam.	77.	Star Spring Screw.
50.	Bed Thumb Screw.	78.	Taper Pin for Wheel Shaft.
51.	Ribber Arm Screw to Shell.	79.	Cam Peg.
52.	Take-up Bush Stud.	80.	Indicator Knob.
53.	Cylinder Screw.	81.	Ring Spring Screw.
54.	Bracket Screw.	82.	Small Bracket Screw.
55.	Out-throw Cam Lever Stud.	83.	Ball Screw.
56.	Out-throw Cam Lever Stud.	84.	Ball Wire.
57.	Bed Screw.	85.	Take-up Bush.
58.	Latch Opener Screw.	86.	Take-up Wire.
59.	Bush Screw.	87.	Cam Shell Washer.
60.	Regulator Plate Screw.	88.	Ring Hinge.
61.	Yarn Carrier Staple Screw.	89.	Yarn Lock.
		90.	Holding-down Plate.
		91.	Dial.
		92.	Cylinder.

When ordering Parts please give Number of Machine for which they are intended.

ILLUSTRATION OF PARTS.

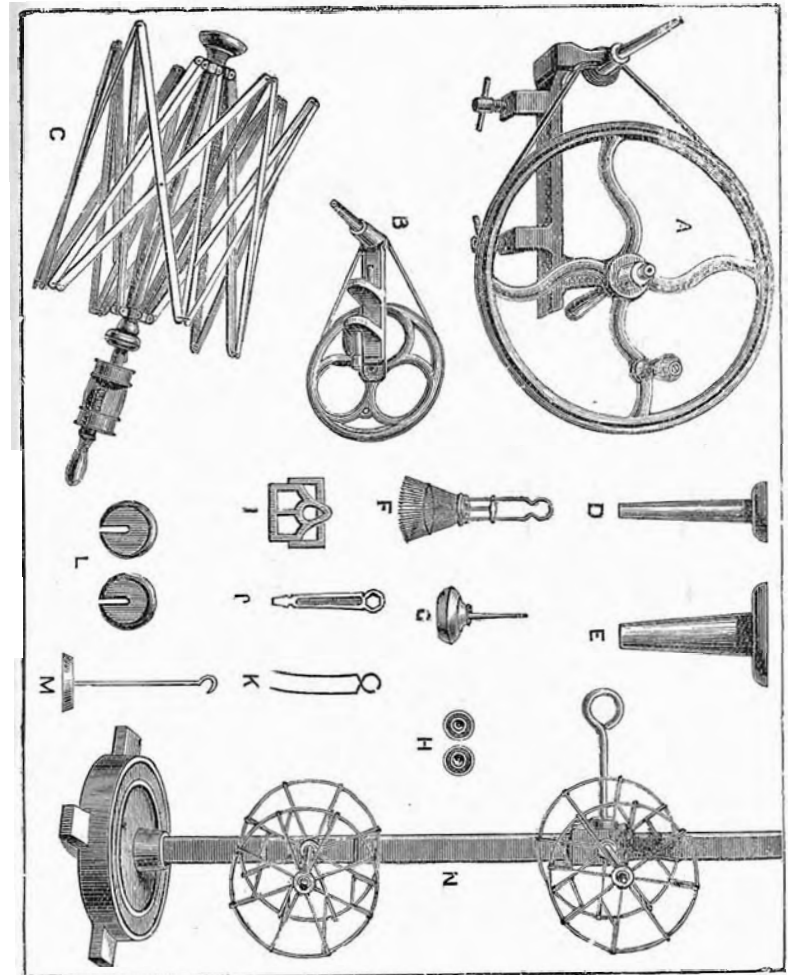


ESTIMATES FREE ON APPLICATION.

LIST OF ACCESSORIES FOR THE "GRISWOLD" KNITTER.

No. on Illustration	Description
A	Large Winder.
B	Small Winder.
C	Shaker Swift.
D	Small Bobbins.
E	Large Bobbins.
„	Medium Bobbins.
F	Expanding Set-up.
G	Oil Tin.
H	Buttons.
I	Buckle (iron).
„	Buckle (brass).
J	Screwdriver and Wrench.
K	Heel Wire.
L	Iron Weights.
M	Weight Stand and Hook.
N	Adjustable Runners on Stand.

ILLUSTRATION OF ACCESSORIES.



THE "GRISWOLD" STOCKING KNITTER.

The "Manufacturing" Machine differs from the "Family Machine in having—

First—A long post with cross, which enables the operator to run the yarn off a large bobbin or spool standing on a table, instead of using small revolving bobbins, as in the case of a "Family" Machine.

Second—A short yarn carrier, through which the yarn is brought in a vertical position (or direction) from a hole in the cross above referred to.

Third—A welting cam cap, which enables the operator to commence the sock or stocking with an improved selvedge or welt.

Fourth—A new arrangement for adjusting the dial to the cylinder after completing the 1 and 1 top (page 31) by means of an adjustable post inside the cylinder, which is actuated from the outside of the machine.

LIST OF ACCESSORIES SENT FREE WITH EACH MACHINE.

- 2 Buttons.
- Buckle.
- 2 Bobbins.
- 2 Heel Wires.
- Instruction Book.
- Lever (for adjusting the dial).
- 12 Needles (for Cylinder).
- 6 Needles (for Dial).
- Oil Can.
- Set-up.
- Turnscrew.
- 5 Weights.
- 2 Weight Stands.

Winders and Swifts if required are charged for.

THE "GRISWOLD" STOCKING KNITTER

Referred to in the Working Instructions.

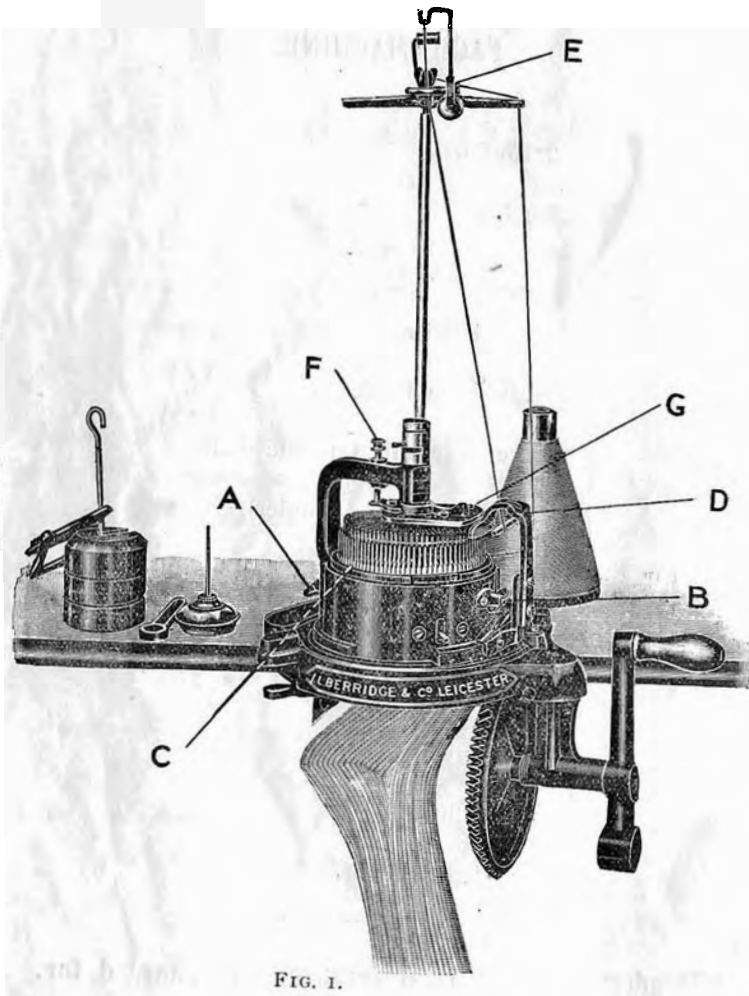


FIG. I.

The "Griswold" Knitter.

WORKING INSTRUCTIONS.

PART I.

This KNITTING MACHINE is sent out very carefully packed, in such a manner that it may be easily taken out of the box, and packed again when required.

Having unscrewed the lid of the box, remove all the loose parts, such as bobbins, etc., take out all the screws which are found on the outer sides of the box, and thus relieve the pieces of wood which hold the machine in place (*first having noticed how they are arranged, so as to be able to pack the machine again in the same way if required*). It is better to screw each piece back in its place, so that it and the screws will not be lost.

Having removed the machine, screw on the handle and fasten it to the side of a firm table.

Learners invariably expect to knit a ribbed stocking, completely shaped at the first sitting. This should not be anticipated; but anyone can become expert in working the machine within a very short time, from the book only, without personal instruction, provided they will commence at the beginning, and learn perfectly ONE THING AT A TIME, following the order herein given.

First Remove the Ribbing Attachment.

Having loosened the Ribber Arm wing nut (*a*) a little, the Ribbing Attachment may be lifted off entire, and as the machine without it is complete for knitting plain web and most of the fancy stitches, the ribber should not be replaced until you have become thoroughly acquainted with the working of the machine and have learned to knit the heel and toe of a stocking.

How the Needles form the Stitches.

Fig. 2 represents five of the needles with the yarn looped thereon, as when the machine is at work. Each needle consists of an angular bent portion or butt *R*, a hook *S*, and a latch *T*. The latter is pivoted to the shank of the needle and works partly in a slot formed in the body. The latch has, moreover, a spoon-shaped end, which, when the latch is closed, as shown at needle No. 2, meets and partly shuts over the point of the hook *S*, so that the loop formed on the needle easily slips off when the latter makes its downward movement.

The groove *W* serves to keep the needle from dropping down when it is raised out of action.

Now let the reader suppose one line of stitches already formed on these needles, as shown in the engraving, and the thread of yarn to be knit so held that the

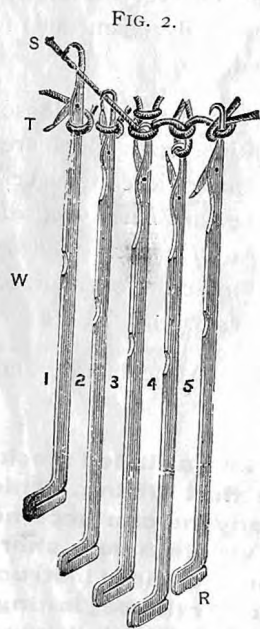


FIG. 2.

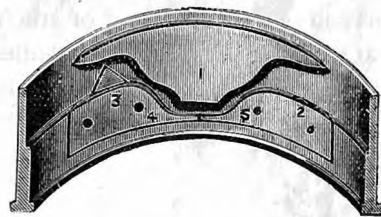
needle marked No. 1 will hook over it when that needle descends. The yarn will be drawn down by the needle until the latch *T* meets the loop previously formed. This loop, sliding along the body of the needle, lifts the latch and closes it into position shown in No. 2. The loop then slides off the needle as it continues to descend, and the thread, being drawn through the former loop, as at No. 4, forms a new loop, through which the needle will pass in rising, as shown in No. 5, opening the latch, and leaving the hook free to engage the yarn again. This process is repeated at each revolution of the machine.

Now it is obvious that if we supply mechanism that will bring the yarn under the hooks at the proper moment, and also move the needles up and down successively, and also provide a device for supporting each row of loops till the next row is formed, we shall have a machine that will knit a straight tube. By still other devices we are able to knit flat, as well as tubular web, and to narrow and widen at will.

How the Cams actuate the Needles.

If you remove all the needles and unscrew the two screws underneath the machine, which hold the grooved needle cylinder in its place, this cylinder may be lifted out. You will then observe the form of the actuating cams as represented in Fig. 3

FIG. 3.



observe the form of the actuating cams as represented in Fig. 3

which shows these cams arranged as when turning the handle towards the right; 3 is the right-hand up-throw cam, the office of which is to raise the needles so as to free their latches, as at No. 1 in Fig. 2. The cam 1 then depresses the needles to knock off the newly-formed loops, as in No. 4, Fig. 2. The cam 5 then raises the needles again to their normal position as represented by No. 5. It is evident, therefore, that the farther down the cam 1 is, the farther down the needle No. 3 will be compelled to travel, and the longer will be the stitch. This cam is regulated by the stitch-cam wing nut on shell, B, Fig. 1.

Shortening or Lengthening the Stitch.

This is done by loosening the stitch cam wing nut (*b*), and pushing the indicator pointer down for lengthening, and up for shortening the stitch, always being sure to turn the screw as tightly as possible again before working the machine. When using very coarse yarn, or if you wish for an open or long stitch, the lever must be down; and in using the finest yarn, or in making a very close stitch, it must be up, or nearly up to the top. The tighter or firmer the work, the more weight will be required. If there is not sufficient weight, instead of forming a row of stitches, a long piece of unknit yarn will be left round the needles; this result will also occur when the stitch is too short for the material used.

Oiling.

Very little oil is needed, but what is used should be of the *very best quality*. When the clasp ring is removed, a few drops

should be put on to the cams directly behind the cam screw, and in front of the cams, and also into the hole on the bearing of the handle.

Sperm Oil is the best. Do not use Salad Oil.

FIG. 4.

Winding the Yarn.

In filling the bobbin, commence at the bottom, and wind in the form of a cone, filling the lower end first in a short, even slope, as represented in Fig. 4. Coarse yarn should be wound tightly, fine or soft twisted yarn and wools loosely, but smoothly.



Great care should be taken to wind the bobbins so that the yarn will run off without clinging or causing tension. An unevenly wound bobbin will make the machine run badly when everything else is right.

Fig. 5 represents what is known as the "Shaker Swift," which is supplied at 3/6.

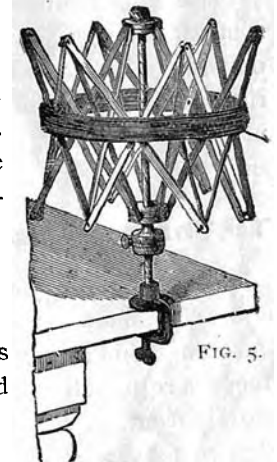


FIG. 5.

Heel Wire.

We send with each machine two heel *wires*, as represented in Fig. 6, which are used in making the heel and toe of a stocking, or in certain kinds of fancy work, where one part of the work becomes longer than the other, so that the weight does not hold it down properly. The hooks A and B should be hooked into the fabric, and the weights hooked into the hole E.



To put the Needles into the Machine.

Turn the handle round to the right a few times, to accustom yourself to the motion. Stop with the yarn carrier at the back.

Take off the clasp ring (c, Fig. 1).

Place a needle in each groove of the cylinder, from the left round to the right, until you find that the needles will not go down into the grooves properly; then turn the handle to the right half a revolution, and afterwards continue to insert needles until every groove has its needle, and replace the clasp ring.

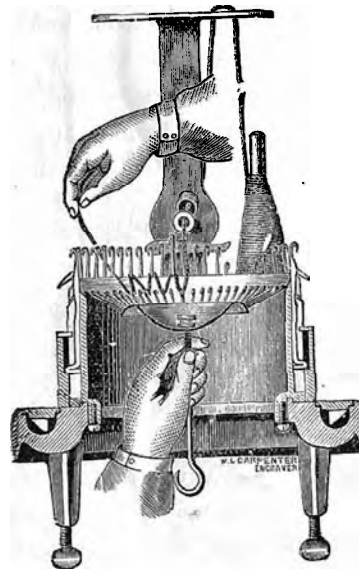
To Thread Machine.

Place bobbin of yarn on table or machine stand directly under right-hand arm of yarn cross, thread the yarn through this arm, then through hole in centre of yarn cross, directly above yarn post, then under shield and through centre hole of cross in front, then through hole in yarn carrier or latch opener, then round yarn staple and through latch opener again.

To Set-up Tubular Work without a Selvedge.

Draw off about $1\frac{1}{2}$ yards of yarn, and place the set-up inside the machine, *concave side up*, and with the hooks level with the top of the needle-cylinder. Hold the set-up with the left-

FIG. 7.



hand, and, commencing under the yarn guide, with the right hand wind the yarn under one of the hooks of the set-up, as shown in Fig. 7, then round one of the needles, then under the next hook, then round the next needle but one to the left, and so continue putting the wool round each alternate needle, and that hook which is nearest abreast of the needle, as illustrated in Fig. 7, and advance (in a direction opposite to that in which the hands of a watch move) round the cylinder to

where the needles are depressed: then attach a weight-hook, with one or two weights, to the bottom of the set-up, see that all the latches of the needles are opened down, turn the handle slowly to the right, and when you have knitted about half a round (far enough to bring all the needles that were below the top of the cylinder up again), wind the yarn round every alternate one of these in the same way as round the others; wind up the loose end of yarn, and place it on the top of the set-up, and knit forward as many rows as are required.

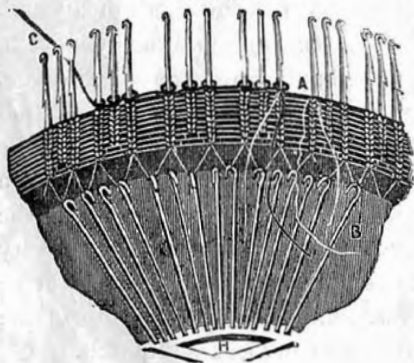
The machine will form its own loops over each alternate needle; but if, by inadvertence, *two* adjacent needles have been skipped, you have only, after knitting once round, to draw the loop down between the two empty needles and place it over one of the hooks of the set-up; or, instead of that, you may lift out of action one of the two needles, and after knitting once round, put it down again. A proper loop will then be formed upon each needle.

The machine will knit when turned in either direction, but in round work it is more convenient to turn the handle towards the right (*i.e.*, the way the hands of a watch move), and these instructions are prepared accordingly.

Setting-up with a Selvedge.

The machine should be first set up without a selvedge, as directed on page 17; break off the yarn, leaving a short piece inside the cylinder, as shown at A B, Fig. 8; thread the yarn carrier with a piece of strong linen thread (which has previously been oiled), rather more than long enough to knit one row, and knit with it halfway round. Then

FIG. 8.

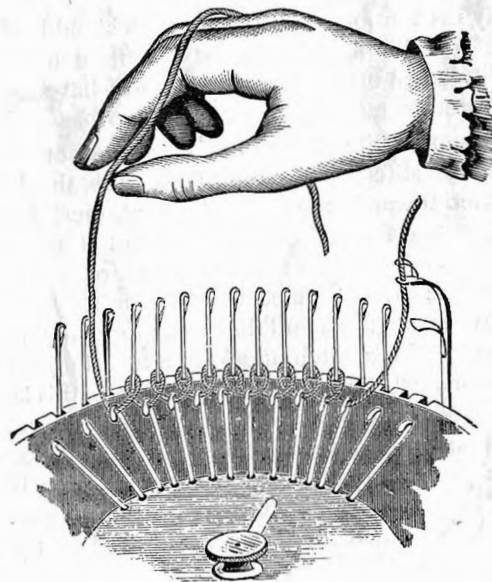


commencing at A, and leaving the end hanging inside the cylinder, raise all the needles which have stitches of thread upon them (*i.e.*, commencing at A). Knit forward until the yarn carrier is at the back of the machine; then raise the remaining needles;

break off the thread, leaving a third short end inside the cylinder next to the stitch last knitted. Thread the yarn carrier with the wool which you intend using for the work, and draw off about $1\frac{1}{2}$ yards; then at A commence to put on the selvedge (leaving a fourth end loose inside the cylinder), wind the wool round each needle (instead of alternate ones) forming loops as shown in Fig. 8. This being done all the way round, put down the needles, beginning from A (the one round which the selvedge was put first). Knit on until the carrier is at the front, and then put down the remaining needles and knit round as many times as you require.

When the knitting is finished, draw out the linen thread, and as perfect a selvedge will be found as can be knitted by hand.

FIG. 9.



Another Method of Forming the Selvedge.

In stockings made from Alloa, or coarse fingering yarns, a selvedge cast on directly from the set-up as follows will be found sufficiently smooth and tight, and is much more quickly done than that just described.

To make this selvedge, set up the work as described on page 18, only you must wind the yarn around *every needle*, from left to right, so as to form loops similar to those represented in Fig. 9. When two needles come abreast of one hook of the set-up, the loop may be wound twice round the same hook; or if there are too many hooks you can occasionally miss one.

To take up Dropped Stitches.

Unless the latch opener (*d*) has been bent out of its position, the machine cannot drop stitches except through the carelessness of the operator.

If by any inattention, however, a stitch should be dropped, (providing the ribbing attachment is not in use) it can be quite readily taken up, even if several rows have been subsequently knitted.

do this, open the clasp ring (*c*), and take out the needle from which the stitch is dropped, and (with the butt of the needle turned towards the top of the cylinder) take upon its hook the first perfect stitch, and crochet it up as follows: push the needle downward far enough to free the latch of the needle from the stitch; place the first cross yarn over the needle, between the hook and the latch; draw the needle back so as to knock off the stitch and form a new loop; then push the needle forward so as to free the latch from this last-formed loop; place the next cross yarn between the hook and the latch of the needle; draw the needle back, forming another loop, and thus reknit each loop successively, and place the needle back into the groove again with the loop upon it.

Faults thus remedied cannot be discovered in the finished work.

To Knit Flat Web.

Take out some of the needles, leaving at the back of the machine as many needles as are necessary to knit the required width.

Turn the handle to the right, and then back, until the carrier is opposite the first needle on the right side; set up the work, attach the weights, hook the take-up lever (*e*, Fig. 1) into the yarn, and knit backwards and forwards the length required.

BEFORE THE CARRIER IS REVERSED IT MUST BE TURNED FAR ENOUGH TO BRING THE UP-THROW PIN (*f*) ON SHELL BEYOND THE LAST NEEDLE, OTHERWISE THE FEW NEEDLES WILL NOT KNIT.

Widening and Narrowing.

A flat web may be widened on either or both sides by merely inserting a needle in the next groove (the latch being down), and putting the yarn behind this needle before reversing. It may be narrowed by removing one needle on either or sides and transferring its loop to the adjoining needle.

Before narrowing or widening, remove the clasp-ring, which is only required when setting up the work, or when lifting needles out of action, as in knitting the heel or toe.

A better selvedge is formed if, in narrowing you remove from the machine the fourth needle from the selvedge edge, and having placed its stitch over the fifth needle, you move back the other three needles to fill up the vacant space.

Putting the Needles out of Action.

Any one or more needles may be made inactive for the time by simply lifting them up as far as possible, without opening or removing the clasp-ring.

By thus raising the needles it will be seen that their butts (R, Fig. 2) will pass over the cam guard (6, Fig. 3) and entirely out of reach of the cams. The heel and toe, as well as many fancy stitches, are formed by thus putting out of and into action a certain portion of the needles.

To Unravel without removing the work from the Machine.

Knit once across or round without any weight, which will bring all the loops above the latches of the needles; draw some yarn out of the mouth of the yarn guide and pull it tightly in a line with the top of the needles, which will cause the previous row of stitches to fall over the hooks of the needles; with a little practice one can ravel back as far as desirable without dropping a stitch. In tubular work, if there is any difficulty in passing the needles which are below the top of cylinder, turn the handle a little either to the right or left.

To Finish off with a Selvedge.

Lift all the needles out of action; break off the yarn, leaving an end about $1\frac{1}{2}$ yards long; take out the needle which knitted the last stitch, and, drawing a loop from the yarn in the hand through this stitch, place it over the next needle. There will then be two loops on this needle. Take the next needle out and draw a loop through the two loops which are upon it, and place this loop upon the next needle. Repeat this all round or across, being careful not to draw the loops too tight, and drawing the wool twice through the last stitch to make it secure. This selvedge will be exactly like the usual closing off by hand.

Imitation Rib.

A very good imitation rib, suitable for the tops of socks or for children's stockings, may be knitted by leaving out every third needle, and knitting with as tight a stitch as possible.

PART II.

THE KNITTING OF SOCKS AND STOCKINGS.

Before learning to use the Ribbing Attachment it is advisable to learn to make a plain sock with the mock-rib top, as represented in Figure 10.

Instructions for Knitting a Man's Plain Sock.

Foot $10\frac{1}{2}$ inches. 84 cylinder, $\frac{1}{4}$ lb. ex. super Scotch fingering. Stitch as tight as will run easily. Put the needles into the machine in groups 3 in and 1 out, all the way round. Set up the machine with old yarn, and knit about 10 rows; then knit one row with stout sewing cotton or linen thread; raise all the needles, and put on a selvedge with the fingering as directed on page 18, and illustrated in Figure 8. Knit 30 rows of the mock ribbing, then fill up the vacant spaces, taking up on to

each needle the stitch last knit by its adjacent needle, and knit 100 rows plain, stopping with the carrier in front. Raise 42 needles at the back of the machine, and knit to the right across all the needles which remain down. Loosen the stitch by depressing the stitch-indicator about two points; put a bobbin of splicing yarn (about half the thickness of the yarn that is being used for the sock); thread this yarn through the remaining two eyes of the yarn-carrier and tie it on to the other yarn, just before it enters the

yarn-guide; hook in the take-up; now raise one needle on the

FIG. 10.



FIG. 11.

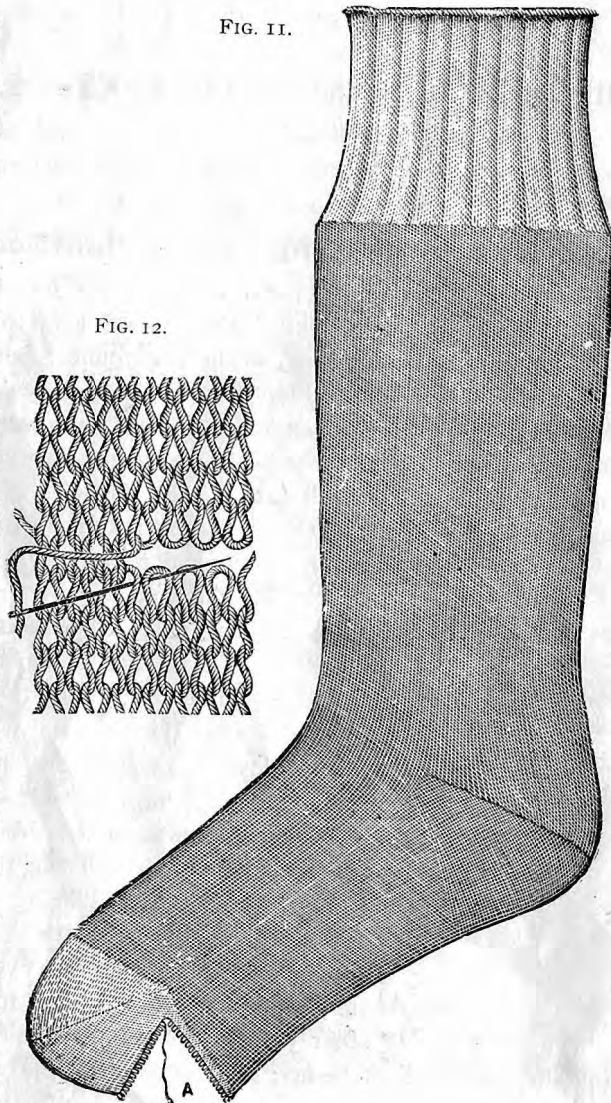
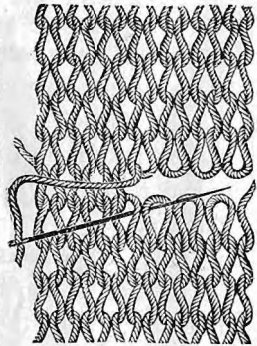


FIG. 12.



right next to those already drawn up ; knit across to the left, raise one there ; knit back again to the right and raise another and so continue raising one needle every row, and on the side the carrier is, until all but 14 needles are up,—this completes the narrowing for the heel as far as A B, Fig. 10. To widen out again, this process must be reversed, and one needle must be put down every row across, on the side of the carrier, and the wool put behind it. As soon as you have 40 needles down stop with the carrier in front, and put down all those at the back ; break off the splicing yarn ; unhook the take-up lever ; raise the stitch-indicator to the point where it was before commencing the heel, and knit round the cylinder 80 times, which completes the foot as far as C, D, Fig. 10.

The toe is more quickly formed, in the same manner as the heel, and sewed up across the bottom by the mending stitch, as represented in Fig. 11 ; but before running the work off the machine, you should put all the needles into action and knit two or three rounds, which will be ravelled out before sewing up. Damp the part that is to be sewn up, and press with a hot flat iron, so as to keep the stitches from raveling out.

Fig. 11 shows the sock after the surplus rows have been ravelled out. Leave the sock right side out, just as it comes from the machine. Thread a darning needle ; put the needle in through the first stitch and out through the second, on the same side, as shown in Fig. 12 ; then in through the first and out through the second, on the other side ; then put the needle in through the stitch which you brought it out of on the first side, and out through the next stitch on the same side, as represented in Fig. 12 ; continue in this manner, taking the old and a new stitch on one side, then on the other, alternately, being careful to draw the yarn just as tightly as the web was

knitted. If care is taken not to miss a stitch or split the yarn, it cannot be discovered where the toe is sewn up, and the sock or stocking will be absolutely seamless, as much so as if knitted by hand.

Method of Forming the Scotch Heel.

After having knit the ankle, top of instep, and half of the toe, as directed, insert the needles which were left hanging in the loops at A, C; knit 32 rows, remove 16 needles on the side opposite to the carrier, knit across and remove 16 needles on the other side; now put the stitches from the 16 needles hanging on each side on to the outside needle in the machine, one on each side, every time you knit across; now take up the 16 selvedge

FIG. 13.



loops, A, B, on 16 needles placed on each side in the machine, and knit the 80 rows for the bottom of the foot, and form the toe as before.

Forming the Scotch Toe in two parts.

The toe may also be made in two parts, with selvedge edges, and sewn together.

Raise 42 needles at the back, as before commencing the heel, knit three rows, then two stitches must be narrowed;

this is done by taking out the second needle on each side, and putting the stitch over the third, and moving back the first, to fill up the space. This narrowing must be repeated every third row, until only 30 needles remain in the machine, and then every second row, until 14 are left; then knit three or four rows, to be ravelled out before the two halves of the toe are sewn together; break off the wool and take these needles out; then depress the needles which were raised, and knit the second half the same as the first, narrowing to 14 needles, and knitting a few surplus rows. Now press the toe with a hot iron; ravel out the surplus rows; crochet the loose stitches together, or sew them with the mending stitch, after which the sock should be turned wrong side out and the selvedge edges sewed together.

A SMALL-SIZED MAN'S OR YOUTH'S SOCK IS BETTER KNITTED ON THE 72 CYLINDER, IN WHICH CASE ONLY 36 NEEELES ARE USED IN FORMING THE HEEL AND TOE, INSTEAD OF 42.

For proportions, see Table, page 46.

Method of making a Seamless Stocking.

Form the leg, heel, and foot of the sock or stockings as instructed on page 23. For the toe, lift out of action the back half of the needles; narrow the front half of the toe in the usual manner, by lifting a needle out of action on each side, until 12 needles remain. Lift these 12 needles; break off the yarn, leaving a short end. Then having depressed the back half of the needles, tie the end of the yarn on to a stitch on the inside of the stocking, just under the first needle on the right; knit a short distance, so as to bring the yarn-carrier at the back of the machine; remove the clasp ring, and take out all the needles upon which the first half of the toe was knit,

letting them hang in their loops in the inside of the cylinder ; transfer the stitch which is on the first loose needle at the left-hand side on to the first needle which remains in the machine, and knit across to the left ; transfer the stitch which is on the first loose needle on the right to the first needle remaining in the machine at that side ; narrow at the left (on the same side as the yarn carrier) by taking out a needle and placing its stitch upon the next needle. Knit back to the right side again, and, repeating the process, thus knit to and fro, narrowing on the side of the yarn carrier, and transferring a stitch to the last needle on the opposite side, until only 12 needles remain in the machine ; remove these needles and join these 12 stitches to the 12 remaining ones on the other half of the toe, by the mending stitch (see page 25), or finish off the machine as instructed on page 22, and the stocking will be complete, and as seamless as could be made by hand.

RIBBING ATTACHMENT.

Before removing the Ribbing Attachment from the machine, or replacing it, if there are needles in the dial the yarn-carrier must be turned back so that the yarn tube is directly over the cam screw (*b*, Fig. 1), otherwise the projecting ribbing needles will be broken, or the latch-opener bent.

THE MACHINE MUST NOT BE LIFTED BY THE RIBBING ATTACHMENT, OR IT WILL BE LIABLE TO BE BROKEN OR STRAINED.

It is advisable that the learner should first get thoroughly acquainted with the working of the machine *without the attachment*, before using the latter, and to this end should carefully practice according to the instructions given in Part I., and also learn how to make a plain sock.

The Latch-opener

Is the steel part (*d*, Fig. 1) and it performs one of the most important offices in the machine. It will be noticed that the latches of nearly all the needles are held open by the loops last knit, so that these latches cannot be closed ; but that just before it knits, each cylinder needle rises up, and each ribbing needle projects forward, so that its latch is freed from its loop.

Now the Latch-opener guards these latches and keeps them from closing when not held open by their loops, and if properly adjusted the dropping of stitches is impossible, unless caused by the carelessness of the operator. If the Latch-opener should get bent too low down, or too far back towards the centre of the machine, it will touch the needles and probably break some of them. If, on the other hand, it is too far away, or too high up, the latches (especially those of the ribbing needles) will be allowed to close before the yarn has passed under their hooks, and the stitches will be dropped.

Every machine is carefully adjusted in this respect before leaving the factory, but it is quite possible that either while in transit, or when being removed from the box, the Latch-opener may become bent, in which case it must be re-adjusted as explained above ; for this purpose the screw holes for the Latch-opener are slotted.

To Change the Dial.

Each ribbing dial is usually made with just half as many grooves as there are in the corresponding needle cylinder, and a separate dial is required for each cylinder. To change the dial, use the handle of the screw-driver, and with it unscrew

the nut on the bottom of the ribbing-spindle; remove the dial and substitute the other one, then screw the nut firmly down to its place again.

The Picking-up of Dropped Stitches

In plain work is easily accomplished, in the manner explained on page 20; but in ribbed work this is more difficult, and the operator is advised not to restore the dropped stitches of ribbed stockings until after the work is finished and removed from the machine. To do this (having first turned the stocking wrong side out, if it is a ribbed stitch that is dropped) take the first perfect stitch on to one of the machine needles (with the butt of the needle towards the top of the stocking), and crochet it up as follows; push the needle forward far enough to free the latch of the needle from the stitch; place the first cross yarn over the needle between the hook and the latch; draw the needle back so as to form a new loop; then push the needle forward so as to free the latch from this last-formed loop; place the next cross yarn between the hook and the latch of the needle; draw the needle back, forming another loop, and thus re-knit each loop successively. Finally, with a wool needle threaded with some of the same yarn, fasten the last loop, so that it cannot unravel again, and the fault can hardly be detected.

If, during the knitting a needle is noticed to have dropped its stitch, the latch of this needle should be opened, in which case it will commence knitting again, and only a few rows will have to be restored.

To Fix the Ribbing Attachment to the Machine.

See that the Ribbing Attachment is complete, but with *no needles* in the dial.

Fix the Ribbing Attachment to the machine by placing the slot at bottom of the ribber arm over the ribber arm wing nut screw (*a*). Press the arm firmly down into its place, and screw the brass wing nut (*a*) as tight as possible with the hand.

THE MACHINE MUST NEVER BE TURNED BACKWARD
WHILE THE RIBBING ATTACHMENT IS IN ACTION.

Adjustable Post.

To effect this adjustment, loosen the thumbscrew underneath the machine which secures the adjustable post, and move the post a little to the left by means of the projecting lever, at the same time holding the dial either with the left hand, or by means of the pin sent for the purpose (called "Lever for adjusting dial" in list of accessories), so that it presses against the *lug* on the dial, which when put on should always be to the left of the post referred to; then tighten the screw when the post is in the required position for the upper part of the leg of a stocking, that is with the ribbing needles working over the posts of the cylinder, instead of over the empty grooves.

New Adjustable Post.

This is actuated by star wheel on spindle under body of machine on left hand side. This attachment will give a very accurate adjustment of the dial by merely turning star wheel.

To put the Attachment out of Action.

The ribbing attachment may be put out of action by removing the driving pin (*f*). In replacing this pin care must be taken that it enters its hole in the cam cap.

To Adjust the Ribbing Stitch.

Loosen the cam screw on cam cap (G), and move it a little forward in the slot to *lighten*, and a little back to *loosen* the stitch, being careful to screw it up firmly after each operation, otherwise the ribbing needles will not work.

To Adjust the Ribbing Needles.


The needles of the Ribbing Attachment may be adjusted so as to work either over the posts or over the grooves of the cylinder: for instance—while knitting the foot and ankle of a stocking, every fourth needle is removed from the cylinder, and the ribbing needles work over the empty grooves; but in the upper part of the leg, all the needles of the cylinder being in use, the ribbing needles are adjusted to work over the posts of the cylinder.

To Set up for 1 & 1 Ribbed Seamless Work.

Having removed the ribbing attachment, take every alternate needle from the machine, set up the work on the remaining needles; knit a few rows until the work is perfect on every needle; and stop with the yarn-carrier at the back of the machine.

Having removed all the ribbing needles, place the ribbing attachment on the machine in the manner indicated on page 30. Insert the driving pin into both of the holes, as shown in Fig. 1; adjust the dial as directed, page 31, so that each groove of the dial will come directly over the groove of the cylinder. When accurately adjusted, put a ribbing needle (with its latch opened back) into each groove of the front half

of the dial; turn the handle half a round; and then insert a needle in each of the remaining grooves at the back of the dial. Knit slowly 2 or 3 rounds, following the action of each needle with the eye, and carefully note that each needle catches hold of the yarn.

 In knitting 1 and 1 ribbed fabric, the stitch indicator must be well down, say at the 5th or 6th point, so as to give a sufficiently loose stitch.

To Set up for 3 & 1 Ribbed Seamless Work.

Remove the ribbing attachment; take out every fourth needle, leaving 3 needles and 1 empty groove successively round the cylinder; set up as for *plain* seamless work, and stopping with the yarn-carrier at the back of the machine, fix the ribbing attachment as for 1 and 1 ribbed work, placing a ribbing needle in *every other* groove—*i.e.*, those which are directly over the empty grooves of the cylinder—and proceed to knit the required number of rounds.

To Set up 4 & 1 Ribbed Seamless Work.

Place *all* the needles in the cylinder; set up as for *plain* seamless work, and, stopping with the yarn-carrier at the back of the machine, fix the ribbing attachment in its place, and adjust the dial so that the grooves come over the *posts* between the cylinder needles; put a ribbing needle in every other groove of the dial, and proceed to knit the required number of rounds. The result is a 4 and 1 rib, such as is used for the legs of stockings.

To Set up 3 & 1 or 4 & 1 Rib with Selvedge.

Set up with old yarn, and put on the selvedge with the yarn intended to be used (as directed on page 18). Knit once

round ; put on the ribbing attachment, insert every alternate ribbing needle, and transfer to it a stitch, and also in the case of a 1 rib removing the corresponding cylinder needle.

To make a Scalloped Top.

The scalloped top forms a very neat commencement for either a sock or stocking, and is made as follows :—Take off the ribbing attachment and set up the machine for plain work. Knit a few rounds plain, then one complete round with cotton or splicing thread, and put on a selvedge as directed on page 18) with the yarn intended to be used.

Knit one round ; put on the attachment with the needles left out ; insert the driving pin ; adjust the dial ; then commencing at the back of the machine where the selvedge was begun, and advancing in the direction in which the machine turns, insert the ribbing needles successively in their respective grooves, first catching up with each ribbing needle the selvedge thread and also the thread of the first row knitted. When about half the ribbing needles have been inserted, knit round far enough to admit of inserting the rest of the needles in the same manner. Knit as many rows as are required, draw out the thread, and you will find a nice scalloped top.

To make the Two and One Welt.

Run in one row of cotton or splicing, pick up every alternate cylinder needle, knit one row of yarn to be used for the stocking, pull forward welting spring, knit one row with needles still lifted up. Loosen tension half a stitch, put down cylinder needles, knit three rows, pull back welting spring, proceed as usual.

To Knit a Ribbed Sock.

84 cylinder ; 4 oz. *ex. super* Scotch Fingering. Notice on opposite sides of the cylinder two of the posts are sloped off. This is to divide the cylinder in two equal parts for making the heel and toe.

With the yarn-carrier at the back of the machine insert every other needle, commencing at the left-hand slope.

Set as directed on page 33 ; knit a few rows until the work is perfect on every needle. Stop with the yarn-carrier at the back of the machine ; put on the ribbing attachment ; adjust the dial so that a groove of the dial comes directly over an empty groove of the cylinder. Put the stitch indicator at the 5th or 6th point from the top ; place a ribbing needle in each groove of the dial, commencing at the left slope and advancing round the front of the machine. When half of the ribbing needles have been inserted, put the driving pin (*f*) through arm and cap, and knit half a round, bringing the yarn-carrier to the front ; then insert the rest of the ribbing needles, taking care that the latches are open ; knit a few rows, watching each needle to see that it knits properly. Shorten the cylinder stitch until it is as tight as can be conveniently knitted ; then tie on the yarn from which the stocking or cuff is to be made, with which knit exactly one round, stopping with the yarn-carrier in front of the machine, and move towards you the lever as far as it will go, thus throwing ribbing needles out of action. Now knit with care, holding the work down firmly, two or more complete rows, and then replace the lever which completes the selvedge.

Selvedge or 1/1 Welt.

Move the brass lever to the right as far as it will go, knit 3 rows if yarn is thick or 4 or 5 rows if yarn is fine, and then replace the brass lever being careful to have it touching the screws at the left hand side, this completes the selvedge or welt.

[When the sock is finished, the line of cotton must be cut in three or four places, and drawn out, and a perfect selvedge will be found at the top.]

Now set the brass counter at No. 1, opposite mark on body of machine, or put pointer to No. 1 on clock and knit 50 rows for the ribbed top. Stop with the yarn-carrier at the back, and commencing at the left-hand slope and advancing round the front of the machine, take out every alternate ribbing needle, transferring its stitch to a cylinder needle and inserting the latter in its corresponding groove. You have now, instead of a 1 and 1 rib, a 3 and 1 rib, which should extend as far as the heel. For this purpose set the brass counter at No. 1, as before, and knit 80 rows.

For the number of rows to knit the various sizes, see Table on page 47.

To Form the Heel.

Stop the yarn-carrier at the back ; and, commencing at the left-hand slope, remove one by one the front half of the ribbing needles, transfer their stitches to corresponding machine needles, and place the latter in their respective empty grooves in the machine ; knit round to the front ; remove the driving-pin ; raise out of action the half of the needles in the machine at the back ; hook on the take-up lever, as shewn at

Fig. 1, and knit to the right across all the needles which remain down. Loosen the stitch by depressing the stitch indicator about one point ; put a bobbin of splicing yarn (about half the thickness of the yarn that is being used for the sock) on the table ; thread this yarn through the remaining two eyes of the yarn-carrier, and tie it on the other yarn, then it enters the yarn guide ; now raise one needle on the right (next to those already drawn up) ; knit across to the left, raise one there ; knit back again to the right and raise another and so continue raising one needle every row and on the side the carrier is, until all but 12 needles are up ; this completes the narrowing for the heel, as far as A, B, Fig. 10. To widen out again this process must be reversed, and one needle must be put down every row across on the side of the carrier and the wool put behind it. As soon as you have 40 needles down, stop with the carrier in front, and put down those needles which are out of action at the back, looking to see that all the latches are opened down ; break off the splicing yarn ; unhook the take-up ; raise the stitch indicator to the point where it was before commencing the heel, put in the driving pin and knit round the cylinder 80 times, which completes the foot as far as C, D, Fig. 10. The needles which have been removed from the ribbing attachment while forming the heel should *not* be replaced, thus leaving the bottom of the foot plain.

Form the toe exactly the same as the heel, adding a splicing yarn, if necessary, and narrowing to 12 instead of 14 needles. Having finished the toe, put all the machine needles and the ribbing attachment into action, break off the splicing yarn, and knit 3 or 4 rows, to be ravelled out before sewing up the toe, as directed on page 25.

To Knit a Fashioned Ribbed Stocking.

The upper part of the leg of a stocking is usually knit with all the needles in the machine cylinder, and with the ribbing attachment so adjusted that its needles come directly over the posts of the machine cylinder. When commencing with a 1 and 1 ribbed top, however, this adjustment should not be made until the top is completed, the same as in a sock. Having completed the 1 and 1 ribbed top, as directed for a sock, take out every alternate ribbing needle, and having transferred its stitch to the corresponding cylinder needle, insert the latter in its groove in the cylinder; then adjust the ribbing attachment so that the ribbing needles will be directly over the posts of the cylinder. Fill up the vacant grooves in the cylinder, taking up on to each needle the stitch last knit by the adjoining needle. Knit the required number of rows for the upper part of the leg (see page 47); then, to *narrow*, take out of the cylinder one of the two needles in the middle of that rib which is directly in the front of the machine, and place its stitch on the other middle needle of the same rib, moving forward the next cylinder needle to fill the empty space; knit 5 rows; then take out the corresponding needle of the rib next on the left, and one from the rib next on the right of the first one, and place these stitches on the adjoining needles; knit 6 rows more, and take out again one needle on each side; do this all round, so as to leave the needles in the cylinder in groups of three. Now adjust the dial by adjustable post (see page 31) so as to bring the ribbing needles exactly over the empty grooves in the machine; put the yarn into the hook of the take-up, in order to tighten the stitch; knit the required number of rows for the ankle (see page 47), and form the heel, foot, and toe as instructed for a sock.

The upper part of a stocking should be made loose, and the stitch gradually tightened down the leg, so that at the ankle and in the foot the stitch may be as tight as possible.

SEVERAL DIFFERENT SIZES of socks and stockings may be knitted on the same cylinder and from the same sized yarn by simply knitting the smaller sizes more tightly than the larger sizes and observing the number of rows, as given for each size, in the table on page 47.

WE SHOULD ADVISE LEARNERS TO CAREFULLY READ AND BEAR IN MIND THE REMARKS ON PAGE 48 (WHICH FOLLOW THE TABLE OF SIZES) AS SOME VERY VALUABLE HINTS ARE THEREIN GIVEN.

Boys' Ribbed Hose.

The numbers 0 and 1 sizes of boys' hose cannot be well knitted on the Class C machine *seamless*, as the foot would be too large in diameter. The legs of these smaller sizes may be advantageously knitted without narrowing in a 3 and 1, or 1 and 1 straight web, in which case the feet may be knitted plain, in two parts and narrowed, as explained on pages 37 and 38, for plain stockings. This may be done whenever desired, provided the feet are knitted plain.

The 72 cylinder in the full-sized stocking machine is the one used for boys' hose, and in ordinary extra-super 4-ply Scotch fingerings; this will make all the sizes from No. 2 to No. 4 inclusive. Larger sizes than these should be made on the 84 cylinder, or else a thicker (say a 5-ply) yarn should be used. With a thicker yarn the same number of stitches are required for the Nos. 5, 6, and 7, as in the thinner yarn would be used in knitting the Nos. 2, 3, and 4 respectively.

To Knit a Ribbed Jersey.

Set up with a selvedge, a ribbed web, with all the needles in both the dial and the cylinder; knit a piece of (2 and 1) tubular web twice as long as is required for the body of the Jersey; finish off with a selvedge as directed on page 22. Now, with a pair of scissors, split this tube down, following one of the ribs, and fold it over, so that the two selvedge ends will come together. Then sew up each side one rib back from the edge (leaving room for the armholes), and feather-stitch down the seams neatly. Pick out a row of stitches half-way across the middle of the top, thus making an opening for the neck. Having started with a selvedge (scalloped or plain, see page 34), knit a (2 and 1) collar about $1\frac{1}{2}$ inches long and run it off the machine. Sew this collar into the neck with the mending stitch (see page 25). Make the sleeves exactly like the leg of a fashioned stocking (see page 38), and sew them into the two armholes, and the Jersey will be complete.

With 4-ply Scotch fingering the children's sizes may be made on the 84 cylinder, but for ladies' sizes the 96 cylinder is required.

4 and 1 Fashioning.

Centre rib needle to be left in all through. Take out ribbers right and left of centre, knit four rounds. Put the stitch off 3rd plain needle on to 2nd on each side, taking out the empty needles. Move plain needles up to centre, leaving ribbers working over blank spaces. Knit four rounds. Put stitch off plain needle on to 2nd. Move ribbers and plain needles round from back to front of machine. Continue narrowing,

leaving plain needles in groups of four, with ribbers working over blank spaces. On the 84 machine, only 4 rib needles should be taken out.

Another Method.

Before commencing to put the stitch off 3rd plain needle on to 2nd, take out another ribbing needle right and left of centre rib needle and knit 4 rounds, continuing as directed in other 4 and 1 fashioning.

Instructions for Scalloped Top on 3 and 1.

Turn two or more rounds with strong splicing; tension very slack; tie up with ordinary yarn to be used; when it comes to needle to be knit lift up 1st and 3rd needle in each group of three all round cylinder; knit one row; put back welting cam; knit one round; put down the plain or cylinder needles, knit one round, and work as many rounds as required; bring forward welting cam and proceed as usual.

Instructions for Making Socks and Stockings completely Seamless.

To do this it is necessary to commence at the toe, put in half the needles back of machine; set up, starting from the right and knit 8 rows; narrow down a needle at a time, leaving twelve needles, and widen out again as usual; work five and a half rows backwards and forwards, stopping with the carrier at the back; take out the set-up, put

in front needles, leaving out one needle next to the slope on either side; transfer selvedge loops to front needles, raveling off $2\frac{1}{2}$ rows; crochet up with a cylinder needle, the additional rows at each side to form one stitch, inserting the needles in the empty grooves; put on ribber; transfer every fourth cylinder needle to a ribbing needle at back, and knit the foot as usual; then knit heel, and transfer every fourth cylinder needle to a ribber in front of the machine, making a 3 and 1 rib all round for leg. Having knit, say 75 rows for a sock, transfer every other cylinder needle to a ribber to form a 1 and 1 rib, and having knit the required number of rows, break off yarn close to yarn tube, and crochet top by hand to secure the stitches.

Instructions for Making Fancy Tops for Stockings.

To make Half-diamond Pattern.—Put in all needles in cylinder grooves exactly as used in knitting plain work. Divide same into four equal parts of 21 needles each, lift up 63 needles, leaving down one group of 21 needles, on these knit the yarn, raising one needle on each side, instead of only one, as in making heels and toes, the 63 needles being stationary. Then knit the three remaining groups of 21 needles in the same way as first group of 21. This produces half-diamonds.

To make complete Diamond Pattern.—Put down needle in centre of two half-diamonds; continue putting down two needles each time until there are 21 down, then pick up these needles same as in half-diamonds. Repeat this process until four diamonds are made. To complete top, knit four half-diamonds as described above.

To make Skeleton Diamond Pattern.—Divide machine into equal portions, as before, but in this case leave all needles in work. Loop the colours required to the first needle of each group, leaving a length of the yarn, say about 12 inches, hanging inside the machine, that is four ends. Take off clasp ring, lift out needle, knit a loop on each of the four loose threads by lifting needle, knitting the loop by hand, continue this, crossing the diamond according to pattern required. Two or more sets of colours may be used according to design required.

Instructions for Changing Cylinder & Dial on Compound Griswold Knitting Machine.

To change from the 84 4½ Cylinder and Dial to the 72 3¾ Compound.

First break off yarn and turn two rows to press off all work.

Take off ribber attachment, by loosening large thumb screw, and take out all ribber needles from dial.

Unscrew nut holding dial underneath ribber attachment, take off dial and cam cap, now put on small cam cap and dial in place of the others and screw up to position again. This 3¾ ribber attachment is now ready for use.

Take out all cylinder needles, and the two cylinder screws.

Unscrew the adjustable post inside cylinder and take it right off.

Now lift out the 84 cylinder and replace with 72 3¾ cylinder.

Then fit in the 3¾ adjustable post to its right position and after doing this, screw up cylinder.

Put in your compound cylinder needles.

Fix the clasp ring round cylinder.

Bring yarn carrier nearer needles by loosening the screw in slot, to move sliding carrier forward as required, then screw up tightly again.

Machine is now ready for setting up work as shown in Instruction book on page 15.

Price of Compound Griswold Knitters on application.

Instructions for the use of the New Splicing Arrangement on the Griswold Machine.

Place the small splicing bobbin on the pin provided for it on the top of the ribbing spindle. Thread the splicing yarn first through the hole in bracket which is directly above the bobbin, then through the hole at the end of the same bracket; from there through the hole in the steel trapper, next through the split tube, then through the solid tube.

To splice the front part of the stocking, put the steel peg on the right of the operator in the inside hole on the body of machine, and the peg on the left on the outside hole. To splice the back put the pins *vice versa*. To throw the splicer out of action altogether, remove the pin which is in the outside hole to the inside hole.

It is recommended that the stocking should be spliced down to the commencement of the heel as per instructions. But in making the heel it will be found easier to have a yarn bobbin filled with splicing by the side of the ordinary bobbin. When the operator has worked down to the heel, trap off the splicing by moving the outside pin to inside, and tie the splicing thread which is on the large bobbin to the yarn that is being worked.

When the splicing apparatus is not in use, and in making the heel, release the ordinary yarn from the split tube and let it work through the solid tube only. When the heel is finished proceed as before.

When splicing, the knitting yarn must only be threaded through the split and solid tubes, and when not splicing it should be released from the split tube.

It is only the splicing thread which should be threaded through the bracket, lever, and trapper, as well as through the tubes.



THE GRISWOLD STOCKING KNITTER

WITH

SPLICING ATTACHMENT.

Approximate Table for Knitting the different sizes of Socks and Stockings.

Which must vary according to quality, etc., of wool used (see note).

	SIZES.	MEN'S SOCKS.			MEN'S KNICKERBOCKERS.			WOMEN'S HOSE.			
		Ribbed Top	Leg	Foot	Ribbed Top	Leg	Ankle	Foot	Leg	Ankle	Foot
		52 and 60-Cylinder ; Alloa and Double Yarns. } Small Medium Full	38 38 38	55 59 63	50 54 58	40 40 40	60 65 70	45 45 45	50 54 58	100 105 110	45 45 45
72-Cylinder ; Scotch 4-fold Fingering. } Small Medium Full	50 50 50	75 80 85	60 65 70	56 56 56	70 78 86	50 50 50	60 65 70	120 130 140	50 50 50	50 55 60	
84-Cylinder ; Extra Super 4-fold Fingering. } Small Medium Full	50 50 50	80 87 94	65 72 79	45 45 45	140 150 160	55 55 55	65 72 79	175 185 195	55 55 55	52 59 65	
96-Cylinder ; 3-fold Fingering, Eider and Andalusian. } Small Medium Full	70 70 70	90 98 106	70 78 86	78 78 78	125 135 145	60 60 60	70 78 86	195 205 215	60 60 60	54 62 70	
108-Cylinder ; 2-fold Fingering, Silk Cotton and Merino. } Small Medium Full	80 80 80	100 110 120	90 100 110	88 88 88	150 165 180	70 70 70	90 100 110	230 245 260	70 70 70	70 80 90	
120-Cylinder ; 2-fold Fingering, Silk, Cotton, and Merino. } Small Medium Full	90 90 90	110 122 134	105 118 130	100 100 100	175 190 205	80 80 80	105 118 130	265 280 295	80 80 80	80 92 105	
132-Cylinder ; Fine Silk, Cotton, and Merino. } Small Medium Full	100 100 100	120 134 148	110 125 140	115 115 115	200 215 230	90 90 90	110 125 140	300 315 330	90 90 90	85 98 110	
144-Cylinder ; Extra Fine Silk, Cotton and Merino. } Small Medium Full	110 110 110	135 150 165	120 138 156	140 143 140	210 230 250	100 100 100	120 138 156	320 340 360	100 100 100	90 105 120	
					Boys' STOCKINGS.			Boys' SOCKS.			
					Rib'd Top	Leg	Ankle	Foot	Rib'd Top	Leg	Foot
72-Cylinder ; Extra Super 4-fold Fingering. } No. 2 No. 3 No. 4	50 50 50	70 80 90	30 30 35	40 45 45	45 45 45	50 50 55	40 45 50				
84-Cylinder ; Extra Super 4-fold Fingering. } No. 5 No. 6 No. 7	60 60 60	100 110 120	35 40 40	55 60 65	50 50 50	60 65 70	55 60 65				

REMARKS.

The preceding measurements have been carefully prepared from socks and stockings actually knitted in our factory, and are therefore in the main correct. So much, however, depends upon the quality of yarn employed and the tightness of the knitting, that they cannot be followed *absolutely*, but are only to be taken as indicating the approximate number of rows required.

The best way to obtain correct sizes, is to use an ordinary yard measure; and while the sock or stocking is in progress, put it up under the machine as high as it will go (temporarily removing the weight), and measure the work against it, allowing 2 inches for toe and 2 inches for heel, so that, supposing you require a sock of $9\frac{1}{2}$ inches in the foot, the leg should measure $10\frac{1}{2}$ inches (commencing from the top) before the heel is made. The heel and foot should be 8 inches, and the toe about $1\frac{1}{2}$ or 2 inches.

Add about $\frac{1}{2}$ an inch of knitting for each size larger, in the leg and foot.

As a rule, stockings should measure as follows, viz:—

For 6 inch foot ...	15 inch leg	For 8 inch foot ...	23 inch leg
" $6\frac{1}{2}$ " " ...	17 "	" $8\frac{1}{2}$ " " ...	25 "
" 7 " " ...	19 "	" up to about ...	28 "
" $7\frac{1}{2}$ " " ...	21 "	" for a man's stocking.	

The operator may prepare for herself a table of sizes, by knitting a few inches of web of the required tightness, from the yarn to be used; then without stretching it in either direction, measure with a rule one inch in length, and count the number of rows. Multiply this by the number of inches

required for the different parts of the stocking, making due allowance for the length of the heel and toe.

The upper part of the leg of a stocking should be knitted loosely, and the stitch gradually tightened above the ankle.

We have given the gauge of the cylinders best adapted for each kind of yarn, but oftentimes the best yarn can be knitted equally as well on a cylinder one or two grades coarser or finer than that designated. For instance, socks from the extra-super fingering can be made equally as well on the 72 as on the 84 or 96 cylinders, provided that all the machine needles are used, as in the leg of a stocking, instead of leaving out every fourth one, as usual.

The measurements given for the legs and ankles of stockings are *exclusive* of the number of rows that are knitted while the narrowings are being made.

When a 1 and 1 ribbed top is not required, the first two columns are to be added together for the length of the leg.

Ladies' stockings are usually preferred with the scalloped tops, but if 1 and 1 tops are required, the measurements for the leg are to be taken from the sizes given for men's knickerbockers.

Pressing.

Cotton yarns should be knitted as tightly as possible, and the articles washed with soap and hot water (or even boiled) before they are worn.

Woollen or worsted stockings, however, should be drawn on to wooden form, or block, of the required shape, then a wet cloth having been laid upon them, they should be pressed with

a hot iron. Any other woollen article should be dressed as follows: Lay it upon a flat surface, or ironing board, and place over it a piece of old cotton cloth wet with clear water, pass a hot flat iron lightly over the cotton until the steam has penetrated and damped the work; then remove the wet cloth and place a dry one over it, and press until quite free from moisture.

We have always in stock a large assortment of Yarns, which we obtain direct from the Manufacturers, and which are specially adapted for Machine Knitting. These we supply in any quantities by Post, at strictly Wholesale Prices. (SEE PRICE LIST.)

We also supply Hosiery Boards, and all requisites for making and finishing Hosiery.

LIST OF HOSIERY SHAPES.

- Children's Socks, 00, 0, 1, 2, 3, 4, 5, 6, 7, 8
 " $\frac{3}{4}$ Hose, 0, 1, 2, 3, 4, 5, 6, 7, 8
 " Hose, 00, 1, 2, 3.
 " Hose, 4, 5, 6.
 Men's Half-Hose, 9, 9 $\frac{1}{2}$, 10, 10 $\frac{1}{2}$, 11, 11 $\frac{1}{2}$, 12 inch feet.
 S. Wom.'s, Wom.'s, and O.S. Wom.'s Hose.
 S. Men's, Men's, and O.S. Men's.
 Boys' Jersey Boards, 0, 1, 2, 3. Brass Joints.
 " " " 4, 5, 6, 7. " "
 " Knicker " 0, 1, 2, 3. Brass Hinges.
 " " " 4, 5, 6, 7. " "
 Men's Shirt " 30, 32, 34, 36in. Brass Joints.
 " " " 38, 40, 42, 44in. " "
 " Pants " 10, 11, 12, 13in. seat. Brass Hinges.
 S. Ladies', Ladies' and O.S. Ladies' Vests.
 " " " Combinations.
 " " " Drawers.
 Glove Hands, straight or lapped.
 " " spring thumbs.
 Mitt.
 Gaiters.
 Gaiters, Knee Cap.
 Tam O'Shanter Cap Boards, 6, 7, 8, 9, 10, 11in.
 Shirt Frames for Wet Boarding, suitable for steaming
 Cardigan Jackets, or for private use for drying Under-
 shirts, 20, 22, 24, 26in.
 28, 30, 32, 34, 36in.
 38, 40, 42, 44in.

Extra Thick Boards supplied when required.

Plain Socks, $\frac{3}{4}$ -Hose, $\frac{1}{2}$ -Hose, and Hose.

Prices on application.