

**FAULT C.—Continued.**

Cause 8.—Stitch (or tension) is too tight, or yarn is too harsh (see also Cause 1).

Remedy 8.—Loosen stitch, and screw up pointer's wing nut *firmly*, and soften yarn by passing it through an oil cloth, when winding on to bobbin (see page 11).

Dark yarns require more weight than light or soft yarns.

Dark yarns are usually harsh through the gritty dyes employed in them.

Cause 9.—Yarn is sticking on the bobbin.

Remedy 9.—Re-wind the yarn, as directed on page 11, and so that it leaves the bobbin freely.

Cause 10.—There are two loops on each needle when knitting the first row of the Welt.

In the ordinary way each needle has only one loop upon it.

Remedy 10.—The Welt requires more power to drive machine.

Cause 11.—Wing nut of either plain or ribbing tension is not screwed up tightly, and so stitch cam has shifted.

Remedy 11.—Shift the pointer to the required tension, and screw up wing-nut *firmly* to hold pointer in its place.

Cause 12.—Machine is dry in its working parts.

Remedy 12.—Apply a drop of good machinery oil to parts subjected to friction. (See "Oiling," page 7).

Cause 13.—Machine in long use is clogged with dust and fluff off the yarn, or from using unsuitable oil. *Inferior machine oils, also castor, salad (olive), colza, and other domestic oils, if used upon the machine, get like glue (after a short time), and usually cause much trouble.*

Remedy 13.—If suitable oils have been used, the working parts should be cleansed with paraffin. Take out screws which hold cylinder, lift out cylinder and clean needle grooves, lift off shell and clean cams and needle way, clean cog-ring, also the ledges on base of machine, where cog-ring works, unscrew nut under dial, take off dial and cam-plate, clean dial and cams of ribber, oil all parts with pure machine oil, such as good sewing machine oil, or fine sperm, with a slight proportion of paraffin added, and replace.

**FAULT C.—Continued.**

Cause 14.—The cams in shell are hacked, or worn, or some other parts damaged by long wear.

Remedy 14.—Have cams re-ground or replaced, as also all worn parts.

Cause 15.—Some small obstruction, such as the latch or foot of a needle has got fixed in the cams, or between the posts of the cylinder. This very seldom happens and is usually seen at once as needle fails to act.

Remedy 15.—Examine the needles; if any are without latches or feet, and much force is required to revolve shell, take out cylinder and remove the obstruction; replace the cylinder.

Cause 16.—The plain needles are worn out through long use, and therefore do not pass the cams or cylinder posts smoothly. Worn needles have the feet deeply cut, and cause damage to cylinder posts.

Remedy 16.—Supply sound needles in place of worn ones. If machine has been long in use, new needles would not at first work smoothly with worn cams.

*N.B.—When ordering needles, send pattern.*

Cause 17.—The cams in shell are bearing against the cylinder through the screws which hold them not having been fully screwed up after cleaning, etc., or the cylinder is not in its correct position, is loose, and so rises on one side, and at each revolution presses on the shell. This will also cause the fabric to be in holes if ribber is in use, because the fabric is pinched between cylinder and dial, or it may cause shell and cog-ring to rise out of their places, and thus put machine out of gear.

Remedy 17.—See that the cams are in position with their backs against the shell. Then screw up fully, but not too firmly, one or both screws of each cam. Test if cylinder is in position and properly secured to the foundation.

**FAULT C.—Continued.**

Cause 18.—Dial needles are cutting the loops on the cylinder needles, or pushing out the cylinder needles because:—The dial was not adjusted to suit the cylinder needles, and therefore the dial needles are rubbing against the cylinder needles

Remedy 18.—Follow instructions for "adjusting dial," page 22, and observe that at the same *moment* you adjust dial post you must place your fingers on *Right* side of dial and push dial *Forwards*, that is, from *Right to Back*.

Cause 19.—Ribber-arm and dial do not work truly, but rise on one side of each revolution because:—The arm itself is not fully down on the ledge of the shell.

Remedy 19.—First see that the dial is close against the cam-plate, and cam-plate close against the ribber-arm, that is to say, the dial and cam-plate must not be *away* from the ribber-arm, but close to it, and held there by the nut underneath the dial, see "Ribber," pages 19 and 20. Then see that the ribber-arm is close down on the ledge, and held firmly to the shell by its wing-nut.

**FAULT D.****If Handle of Machine cannot be moved round.**

Cause 20.—One, or more, of the plain needles have not been lifted *fully* out of action when raising them. Needles can only be kept raised where there is one or more rows of knitting upon them.

Remedy 20.—Lift needles as far as possible, so that the feet escape the cams. The needles should be raised until the feet touch under side of belt.

Cause 21.—One, or more, of the posts in cylinder is hacked through bad needles, and so needles stick against that roughness and stop the action of the machine.

Remedy 21.—Get the cylinder repaired if not too much damaged; if much damaged or worn, get a new one.

**FAULT E.****Holes in the Fabric arise from—**

Cause 22.—Latches of needles not being open.

Remedy 22.—Always see latches are open after setting work, or after transferring loops.

**FAULT E.—Continued.**

Cause 23.—Bent latches of needles.

Remedy 23.—Straighten bent latches with finger and thumb so that they open and close *freely and fully* upon the stem and hook.

(The needles need not be taken out of cylinder when straightening the latches.)

Cause 24.—Dial needles cutting the plain stitches.

Remedy 24.—See "Faults and Remedies," C. 18.

Cause 25.—Ribber arm not working truly.

Remedy 25.—See "Faults and Remedies," C. 19.

Cause 26.—Yarn-guide being loose.

Remedy 26.—See that screws are holding quite securely yarn guide to cog-ring.

Cause 27.—Latch-opener being too high above the ribbing needles.

Remedy 27.—Lower the latch-opener so that *its under side* just passes over and clears the hooks of the ribbing needles.

Cause 28.—Cylinder not fully down on base.

Remedy 28.—See "Faults and Remedies," C. 17.

**FAULT F.**

**Irregular stitches, or crossed stitches are formed by two or three loops collecting on a needle before it Knits—that is, a needle makes a stitch now and again only, whereas it should make a stitch every time yarn-guide passes it. Such faulty stitches are caused by—**

Cause 29.—Bent latches of needles.

Remedy 29.—See "Faults and Remedies," E. 23.

**FAULT F.—Continued.**

Cause 30.—The fabric rising about the needle.

Remedy 30.—See "Faults and Remedies," A. 1, 2, 3, 4.

Cause 31.—Too tight a tension, or stitch, for the yarn used.

Remedy 31.—See "Faults and Remedies," A. 1, 3.

**FAULT. G.****Cylinder Needles slip Stitches.**

Cause 32.—Latch opener and yarn-guide are too far away from the needles.

Remedy 32.—Bend the latch opener slightly towards the needles with the monkey wrench or hand-vice.

**FAULT H.****Dial Needles slip Stitches.**

Cause 33.—Latch opener and yarn guide are too high.

Remedy 33.—Lower slightly the yarn-guide by the two screws which hold it to the bracket on the cog-ring.

Cause 34.—Dial driving pin is not in the hole on the dial plate.

Remedy 34.—Adjust the driving pin to the hole of the cam plate.

**FAULT I.****Bent Hooks on Dial Needles.**

Cause 35.—The dial is adjusted too high above the cylinder.

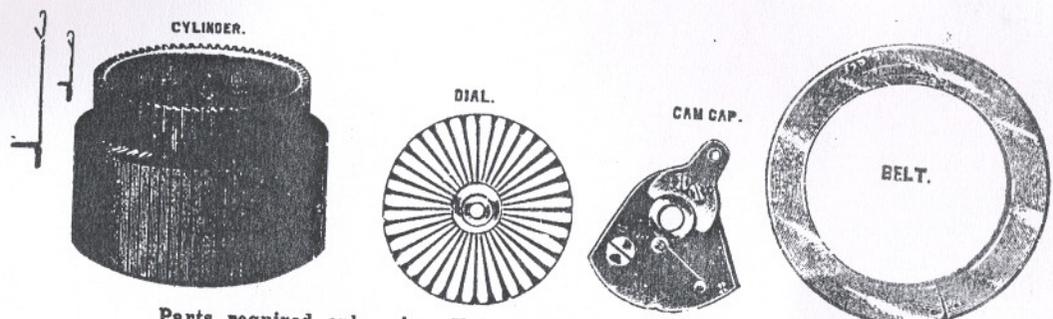
It should only be high enough just to allow of the work passing comfortably between it and the cylinder.

Remedy 35.—Lower the dial by means of the Dial Height Regulator (see page 22).

Cause 36.—The yarn guide is too low.

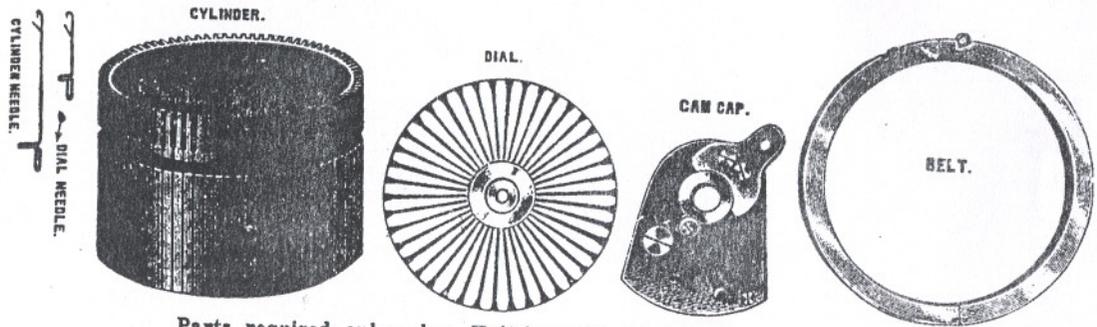
Remedy 36.—Raise the yarn-guide by the two screws which bind it to the bracket on the cog ring.

INSTRUCTIONS FOR USE OF THE  
 "DUPELEX PARTS."



Parts required only when Knitting with 3 1/2 inch diameter Cylinder

Fig. 46.



Parts required only when Knitting with 4 1/2 inch diameter Cylinder.

### INSTRUCTIONS FOR THE USE OF THE "DUPLEX" PARTS—Continued.

The "Duplex" is an arrangement of the machine by which cylinders of  $3\frac{3}{4}$  inches diameter may be used in the ordinary machine of  $4\frac{1}{2}$  inches diameter. By this arrangement the smaller size stockings up to 10 years, and the baby's socks can be knitted seamless and ribbed.

The "Duplex" machine is usually sent out with 1 cylinder and dial,  $4\frac{1}{2}$  inches diameter, and 84 grooves; and with 1 cylinder and dial,  $3\frac{3}{4}$  inches diameter, and 72 grooves.

The instructions for knitting various articles apply equally to the "Duplex" as to the "Ordinary" machine, and all that the learner here requires is a knowledge of how to change from  $4\frac{1}{2}$  inch to  $3\frac{3}{4}$  inch cylinder and dial.

#### TO CHANGE FROM $4\frac{1}{2}$ IN. TO $3\frac{3}{4}$ IN. CYLINDER AND DIAL.

Remove all the needles from the machine and place them right away, as "Duplex" needles are required for the  $3\frac{3}{4}$  inch cylinder and dial. Remove the ribber arm by unscrewing wing-nut 17, Fig. 17. Now unscrew the nut 35, Fig. 17 (page 20), and remove the dial, then the cam-plate, now place the  $3\frac{3}{4}$  inch cam-plate, then the  $3\frac{3}{4}$  inch dial on the bolt, and screw up tight the nut 35.

Remove the  $4\frac{1}{2}$  inch cylinder by means of the two screws below the machine, 11 of Fig. 2.

Clean all parts of the machine.

Now place in the machine the  $3\frac{3}{4}$  inch cylinder, and secure with the two screws from below.

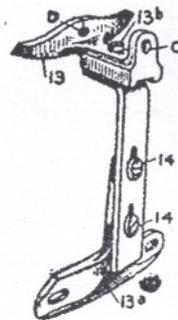


Fig. 47.

Adjust the yarn guide by means of the screw B (13 B), Fig. 47 (see illustration), to the extreme inner position of the slot, that is as near to the cylinder as possible.

Use the "Duplex" cylinder needles (long foot), and the "Duplex" dial needles (short dial needles).

Regulate the height of the dial as directed on page 22. Regulate also the height of the yarn guide, by means of the screws 14, Fig. 47, so as just to clear the needles. Oil the machine and proceed to set up as with the  $4\frac{1}{2}$  inch cylinder.

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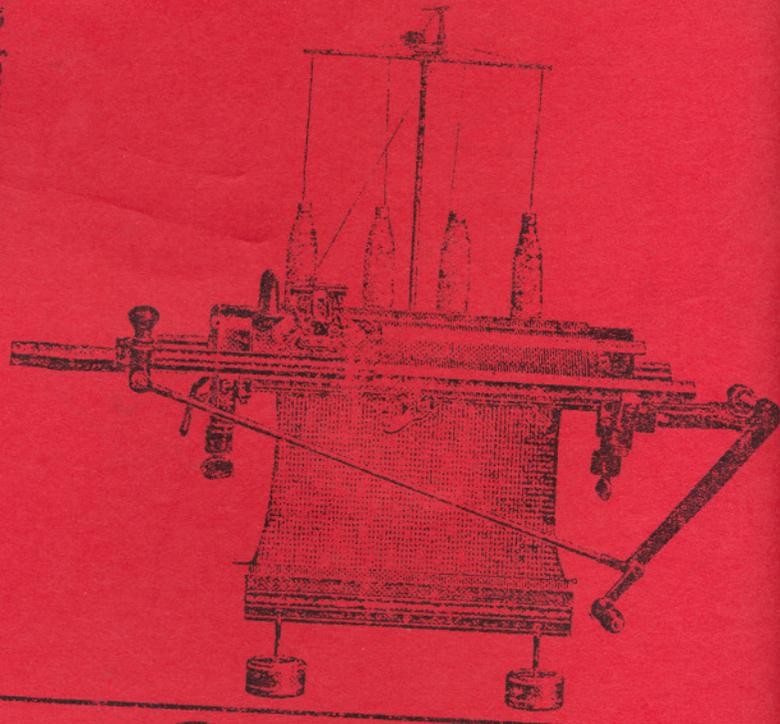
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