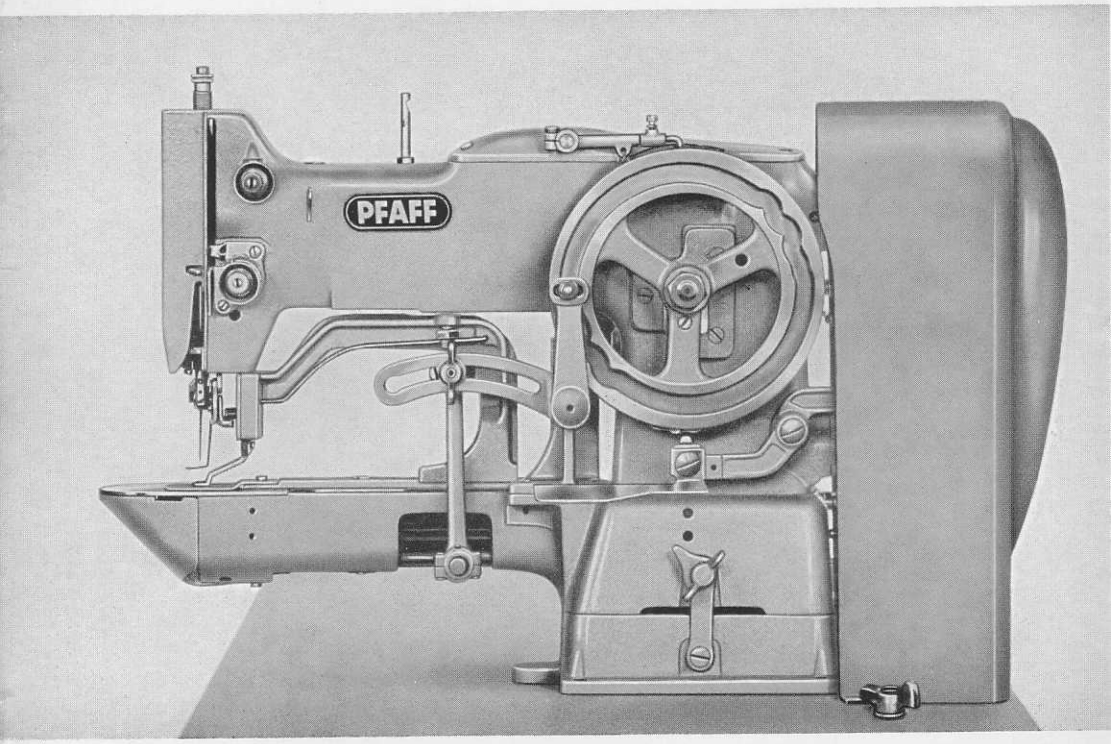
PFAFF® 3334



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Instruction Book

PFAFF® 3334

Automatic lockstitch bartacker
for making tacks
measuring up to
22 x 36 mm

Instruction Book

PFAFF INDUSTRIEMASCHINEN GMBH KAISERSLAUTERN

1. General

The Pfaff 3334 is equipped with central bobbin shuttle and designed for tacking bars of every description automatically. Its range of application embraces all branches of the sewing industry.

The number of stitches per tack varies according to the purpose of employment of the different subclass machines.

The work is held between the work clamp and the feed plate and moved under the needle as required by the tack design. The needle bar moves up and down only and does not swing sideways.

The length- and crosswise feed motions needed to produce the tack are derived from two cams which are carried on a joint shaft on either side of the machine arm. The right cam has two control slots milled into its front and back sides. While the channel track on the front controls the feed across motion, the slot on the back controls the motion of the work lengthwise of the machine arm. Another function of this cam is to stop the machine at the end of the sewing cycle.

The machine is started by depressing the right pedal. The belt shifter moves the (round) driving belt from the idler to the drive pulley. On machines equipped with subcl. -958/01 V-belt drive, the forked clutch lever pushes the conical idler (V-belt) pulley against the clutch lining of the drive pulley. As a result, the idler pulley is driven by the drive pulley.

While the machine is in operation, the lifting lever is locked so that the work clamp cannot be raised.

The left cam operates the needle and bobbin thread knives and moves them from the inoperative to the operative position.

When you depress the left pedal after the machine has been stopped automatically, the work clamp is raised and both threads trimmed simultaneously.

The illustrations still showing the round-belt drive also apply to machines equipped with subcl. -958/01 V-belt pulley.

2. Cleaning and oiling

Careful cleaning and regular oiling increase the service life of the machine and ensure smooth running.

When the machine is delivered, all polished parts are covered with a rust-preventative lubricant. Remove this grease, together with the dust which has accumulated in transit, before you put the machine in operation. Also squirt an ample amount of oil into all marked oiling points, unthread the needle, take out the bobbin case, and run the machine to work the oil into all the bearings.

All important oiling points are marked by arrows in Figs. 1—4 and, wherever feasible, with red paint on the machine.

To reach the oiling points in the cylinder arm and the machine base, remove the belt guard, loosen wing nut **D** (Fig. 1), swing away catch **E**, tilt the machine over to the left, and rest it on the wooden peg.

When the machine is in operation constantly, form the habit of removing, several times a day, the lint which has accumulated in the vicinity of the shuttle and putting a drop of oil into the shuttle race. Run the machine with a scrap of material under the work clamp to absorb excess oil.

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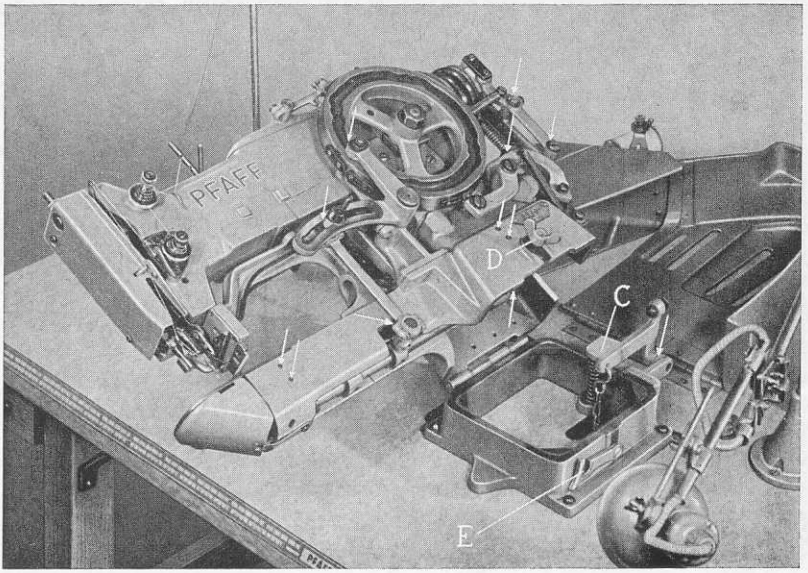

Fig. 1

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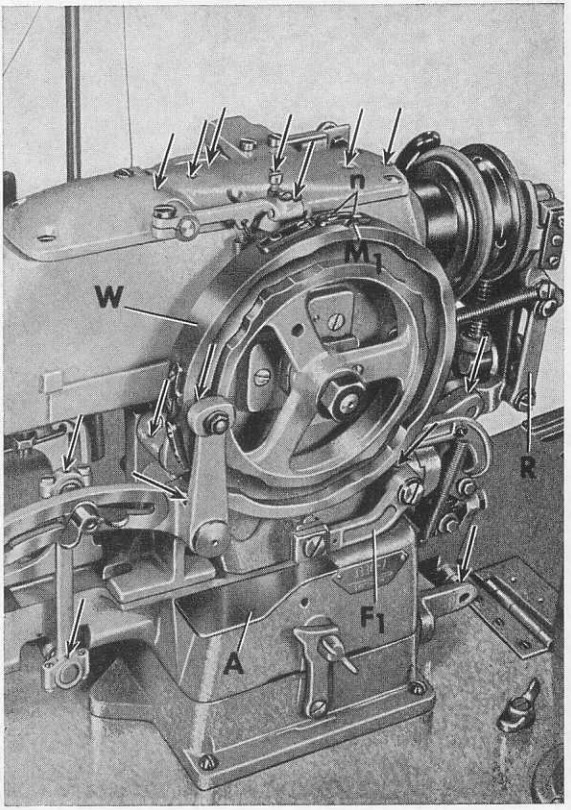

Fig. 2

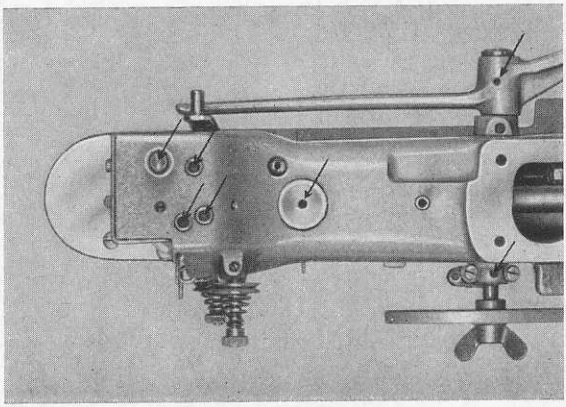

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Fig. 3

Certain sewing troubles, such as skipping of stitches or thread breaking, cannot be remedied by lavish oiling. Excessive quantities of oil are liable to soil the work or mix with the dirt and lint in the machine and cause binding.

Since Pfaff sewing machine oil **No. 280-1-120 122** has the correct lubricating properties and is non-resinous, use no other oil.

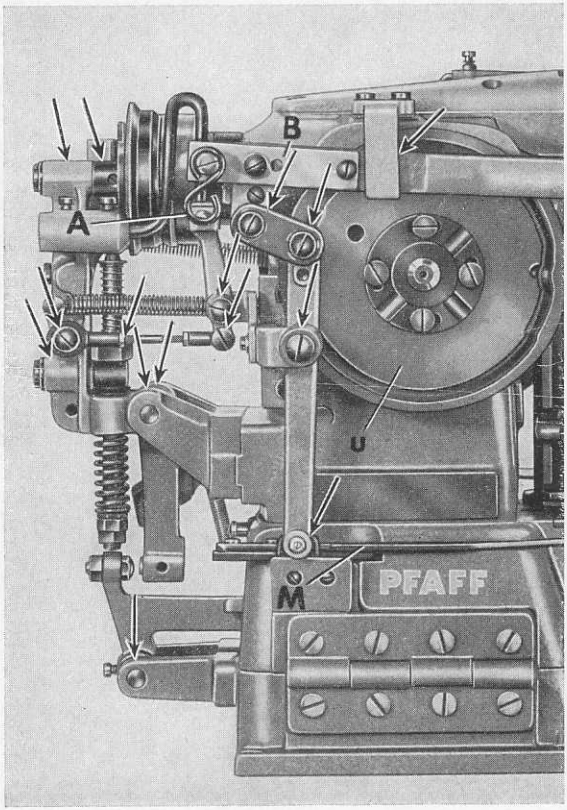

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Fig. 4

3. Selecting the correct needle

Pfaff 3334 machines are regularly fitted with System 34 needles. To sew thicker fabrics on Model C machines, use a System 332 needle which is slightly longer than the standard needle.

The needle size should be selected in accordance with the thread size and the fabric weight. In any case, the thread must pass freely through the needle eye. As a general rule, select the needle as thin as possible, but not too thin to risk needle breakage in dense and resistant materials.

Select the proper needle from the following table.

Needle size	Cotton	Silk	Synthetic	Linen
70	100/3 100/4	120/3	140/3–120/3	
80	80/3 80/4	100/3	120/3–100/3	
90	70/3–60/3 70/4–60/4	80/3	100/3–80/3	70/3
100	50/3–40/3 50/4–40/4	70/3	70/3	60/3
110	30/3 30/4 30/6	60/3	60/3	50/3
120	24/3 24/6	50/3	50/3	40/3

Insert a new needle into the opening of the needle clamp and push it up as far as it will go. Make sure the long groove faces toward you.

4. Winding the bobbin

Pass the thread from spool **1** (Fig. 5) through thread guide **2**, from back to front around and between tension discs **3**, and down to bobbin **4**. Wind the thread end around the bobbin a few turns in counter-clockwise direction. Press in lever **5** so that the driving pulley contacts the drive belt.

Normally, the bobbin winder should stop when the thread is roughly 1 mm below the rim of the bobbin. The amount of thread to be wound on the bobbin can be regulated by turning screw **6** as follows:

Turn screw right for more thread,
or left for less thread.

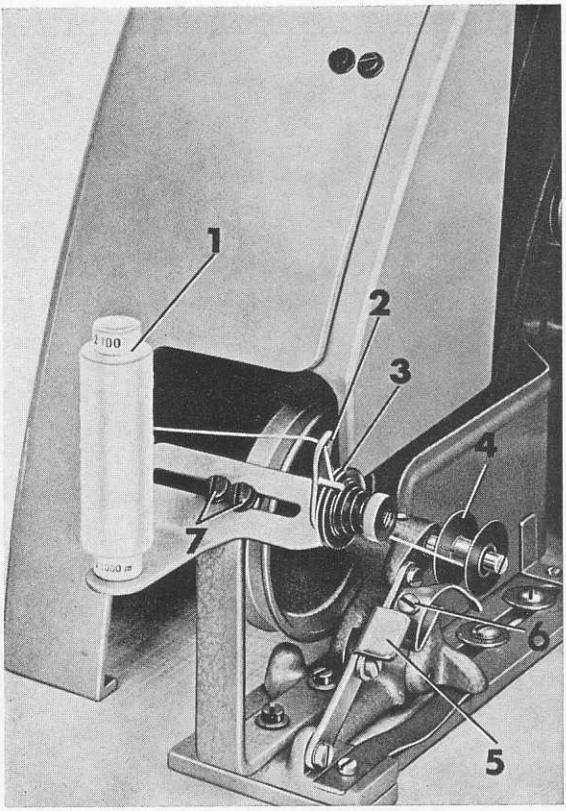

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Fig. 5

5. Threading the bobbin case

To remove the empty bobbin, open the cap on the cylinder arm, lift the bobbin case latch and pull out bobbin case and bobbin. When you release the latch, the empty bobbin drops out.

Insert the full bobbin into its case so that it turns clockwise when you pull the thread (Fig. 6). Pull the thread into slot **1** (Fig. 7) and draw it under the tension spring into delivery eye **2** (Fig. 8) and through hole **3** in the position finger (Fig. 8). Leave about 7 cm of thread hanging from the bobbin case.

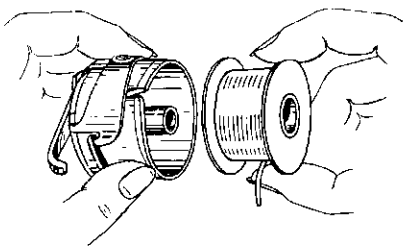

Fig. 6

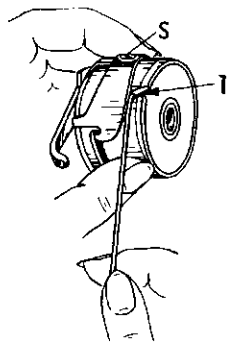

Fig. 7

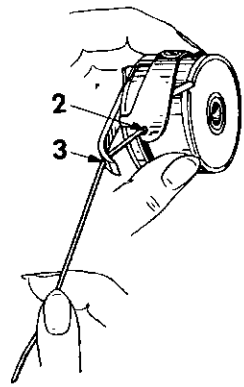

Fig. 8

When inserting the bobbin case, make sure that the position finger enters the slot in the shuttle race ring and that the loose end of thread does not get jammed between position finger and edge of slot. Press against the bobbin case until you hear it snap into place.

6. Threading the needle

Lead the thread from the spool up through the thread guide at the top of the thread stand, then down to spool pin **1** on the machine arm (Fig. 9). Pass it through the hollow pin, from top to bottom, thence below thread guide **2**, over and from right to left around and between tension discs **3**, clockwise around and between tension discs **4**, over thread check spring **5**, below thread guide **6**, up and behind guide **7**, from right to left through the hole in take-up lever **8**, down and through thread guides **9** and **10**, between thread nipper spring **11** and needle bar, and from front to back through the needle eye. Leave about 6 cm of thread hanging from the needle eye.

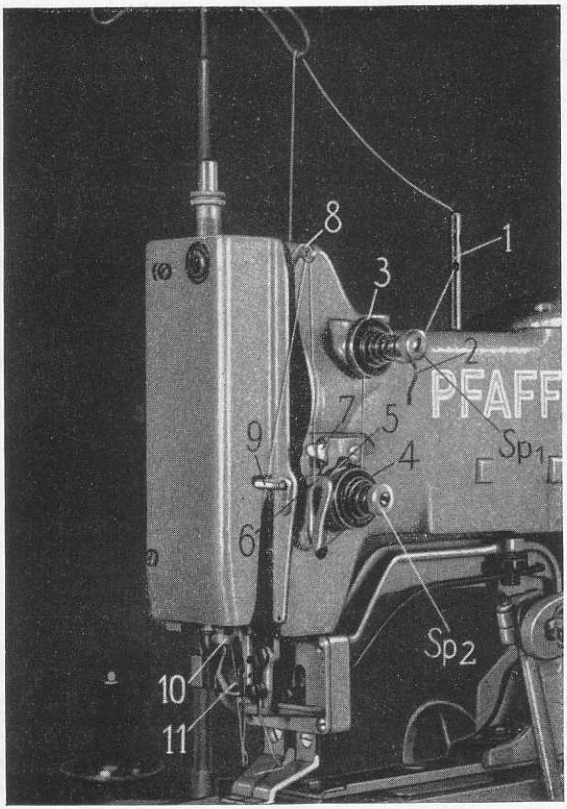

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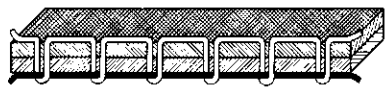
Fig. 9

7. Regulating the thread tensions

The neat appearance of the finished bartack greatly depends on the correct regulation of tensions. Adjust both tensions so that the concatenation of threads will not be visible on the top side of the material and the thread will not form loops on the underside. The following illustrations show how the tensions should be balanced.

Both threads are interlocked in the center of the material because both tensions are balanced correctly.



The bobbin thread pulls the needle thread to the underside of the fabric as the stitch is being formed.

Cause: Needle thread tension too weak, or bobbin thread tension too tight.
Remedy: Increase needle thread tension or decrease bobbin thread tension.

The needle thread pulls the bobbin thread to the surface of the fabric as the stitch is being formed.

Cause: Needle thread tension too tight, or bobbin thread tension too weak.

Remedy: Decrease needle thread tension or increase bobbin thread tension.

Regulating the bobbin thread tension

Set the bobbin thread tension so that the bobbin thread will be pulled into the fabric correctly. Make sure, however, that the tension is not too light as otherwise the bobbin thread will not be cut.

The bobbin thread tension is regulated by the small screw **S** (Fig. 7), as follows:

Turn it right for tighter tension,
or left for looser tension.

The tension is correct if you have to overcome a noticeable resistance when pulling the thread.

Regulating the needle thread tension

The Pfaff 3334 has two needle thread tensions. The top tension **Sp 1** (Fig. 9) controls the thread tension during the thread trimming action and should be set so that the thread is trimmed easily. If the tension is set too light, the knives will draw an excessive amount of thread through the tension and the needle thread will not be cut. If, on the other hand, the tension is too tight, the thread will be trimmed too early and too close to the needle eye.

The lower, or main, tension **Sp 2** (Fig. 9) controls the needle thread during the stitch setting phase. Begin by setting top tension **Sp 1** and then adjust main tension **Sp 2** so that the thread will be drawn into the material properly. In order to prevent that the fabric will be contracted by the first long stitches of the tack, the lower tension will not become operative until the machine has made three or four stitches. (This naturally applies only to tacks made on flimsy material and involving extremely long initial stitches.) The main tension is released again before the last tying stitch is made so that a sufficient amount of thread can be pulled through the tension mechanism before the threads are trimmed.

8. Starting the machine

Do not start the machine unless you have thoroughly familiarized yourself with its mode of operation.

When you depress the right pedal, the brake is released and the belt shifted from the loose to the driving pulley. This action starts the machine.

To acquaint yourself with the operation of the machine, turn the driving pulley by hand and study the individual phases of operation. Then thread the machine and try out the stitching on a piece of material.

While the machine is in operation, a locking mechanism prevents the work clamp from being raised and the knives from cutting the threads. Conversely, the machine cannot be started while the work clamp is raised.

9. Stopping the machine

Upon completion of the sewing action, tripping lever **F 1** (Fig. 2) is depressed by the stop tripping segment on the rim of feed cam **W** and stop motion lever **R** pulled against the drive cam by a tension spring. At the same time, the belt shifter shifts the belt from the driving to the loose pulley to slow down the machine before it stops. Then the stop link snaps into the stop cam which stops the machine. The momentum of the machine is absorbed by double buffer springs. After the machine has stopped, the locking mechanism is released so that, by depressing the left pedal, the clamp can be raised and the threads cut.

If any trouble should occur while the machine is in operation, stop the machine by pressing down hand stop lever **A** (Fig. 2).

10. Trimming the threads

The thread trimming knives are located on the underside of the needle plate. Shortly before the last stitch is made, main tension **Sp 2** is released. At the same time, knife cam **u** (Fig. 4) operates the vertical knife bar tripping lever and knife bar **M** and thereby causes the knives to be moved to the stand-by position. However, the threads are not actually trimmed until the left pedal is depressed.

When the left pedal is depressed, the roller at the top end of the knife bar tripping lever drops into a recess in the control slot of the knife cam. This motion is transmitted to the knife bar and the knives which swing forward. As a result, the threads slide down from the knife tips onto the cutting edges and are trimmed. The thread wiper pulls the needle thread end up through the needle hole.

11. Feeding the material

Since this machine has a rigid needle bar which does not swing sideways, the material is moved lengthwise and across the arm to form the desired tack design.

The feed motion is derived from feed cam **W** and conveyed to work clamp **D** and feed plate **E** (Fig. 10), between which the work is clamped.

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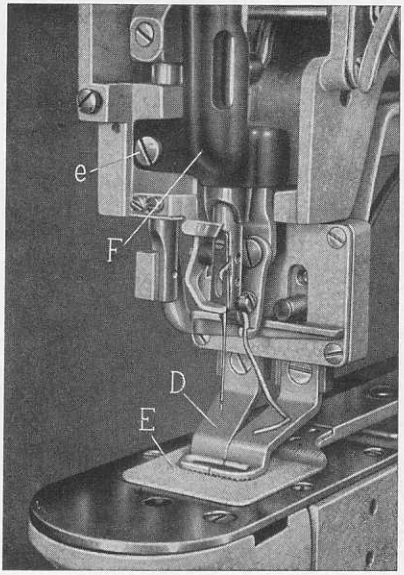

Fig. 10

12. Regulating the feed across motion

The amount of sideways travel of the work clamp depends on the design of the tack and varies with each subclass. For certain tacks, a greater adjustability cannot be obtained unless the work clamp and the feed plate are exchanged for parts having a larger cutout. To adjust the feed across motion, loosen wing nut **F** (Fig. 11) and move ball stud **G** in the slot of feed across regulator **H**, as follows:

Move it toward you for more sideways clamp travel,
or away from you for less.

As a result of this adjustment, the stitches will be lengthened or packed more closely together, while the total number of stitches does not change. If the stitches are placed too far apart, the tack looks ugly. And conversely, if they are packed too close particularly in leather or plastic material, the thread is likely to cut through the material. To facilitate correct adjustment, the maximum width of sideways travel has been limited in accordance with the style of tack made by each subclass.

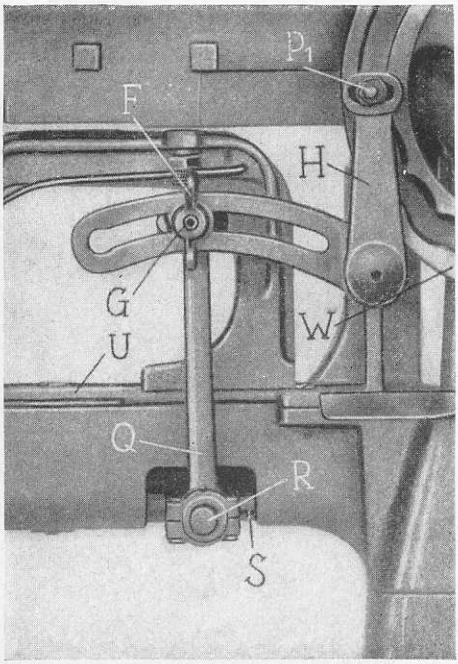

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Fig. 11

13. Regulating the feed lengthwise motion

The lengthwise clamp travel is derived from the control slot on the back side of the feed cam. This motion is conveyed to the work clamp by means of feed regulator **a** (Fig. 12), feed regulator post **K**, feed plate carrier **b** and arch clamp frame **L**.

To adjust the feed lengthwise motion, loosen screw **B** and move hinge block **J**, as follows.

Move it up as far as it will go to reduce lengthwise clamp travel to zero, or down to increase travel.

Note that for certain tack designs which are not actually bars, hinge block **J** must not be moved if the proportions of the design are to be preserved.

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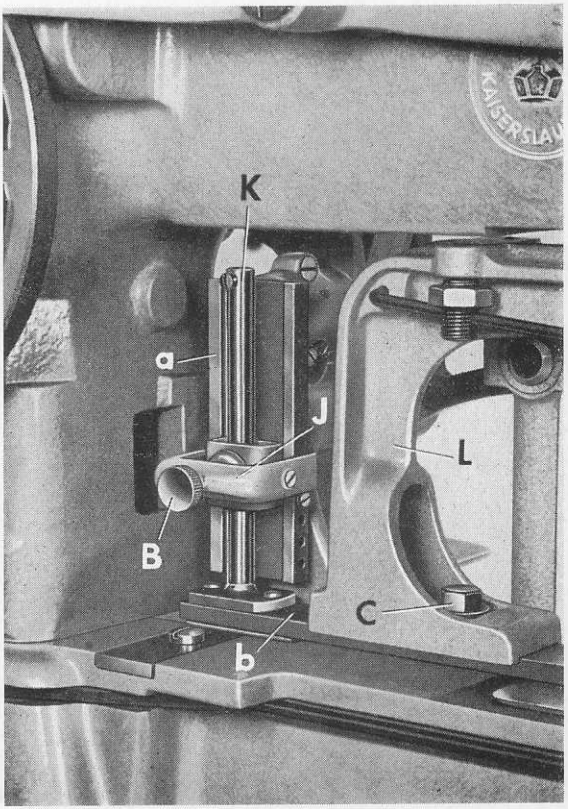

Fig. 12

14. Dismantling the shuttle race

If the machine is used constantly, clean the shuttle race from time to time.

Let the machine run until it stops. Remove the belt guard and tilt the machine over to the left, resting it on the wooden peg. Open the cylinder bed cap, press down and pull it off. Remove the bobbin case and bobbin. Take out screws **h** and **i** (Fig. 13) and strip shuttle race ring **d**. Then, seize the shuttle by its center stud and pull it out. Take care that the springs on screws **h** and **i** do not get lost.

The shuttle race proper need not be stripped for cleaning. Take a pair of tweezers and remove pieces of thread that have accumulated in the area behind the shuttle race. Then, with a toothpick or similar wooden instrument, clean the raceway of the shuttle. Never use a metal tool for this purpose.

To assemble the shuttle mechanism, reverse the above procedure. Note that the point of the shuttle should point downward when you insert it. Do not forget to replace the springs on screws **h** and **i** and to put a drop of oil into the shuttle race after it has been re-assembled.

The springs on screws **h** and **i** hold the shuttle race ring in elastic suspension and prevent damage to the machine if thread should jam in the raceway. Pieces of thread or lint that should have entered the race can thus be easily removed.

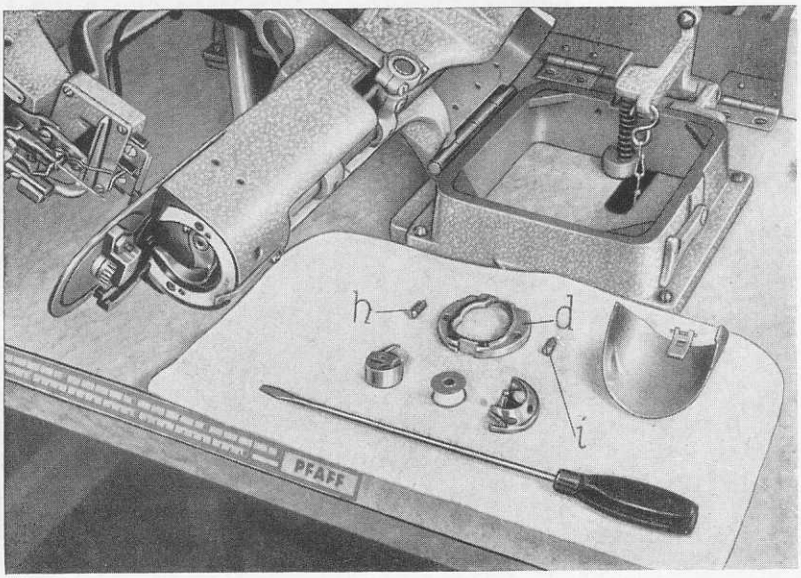

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Fig. 13

15. Trouble shooting

Sewing troubles should rarely occur if all the instructions given in this book are carefully followed. If trouble should nevertheless occur, the following hints will help you locate the fault.

Machine skips stitches:

1. Needle bent.
2. Needle incorrectly inserted.
3. Needle too fine for the thread.

Thread breaks:

1. For any of the causes enumerated above.
2. Needle point blunt or worn, or burrs and sharp edges on needle plate.
3. Thread caught between tension discs.
4. Poor or knotty thread used.
5. Thread tensions too loose or too tight.

Needle breaks:

1. Needle bent.
2. Needle too fine for the fabric, or deflected by hard spots in the material.

Machine works heavily:

1. Lack of oil.
2. Mechanism clogged by inferior lubricants.
3. Pieces of thread jammed in shuttle race.

Contents

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