

# Section 8.2

## Half-leno Selvage Device (Klöcker)

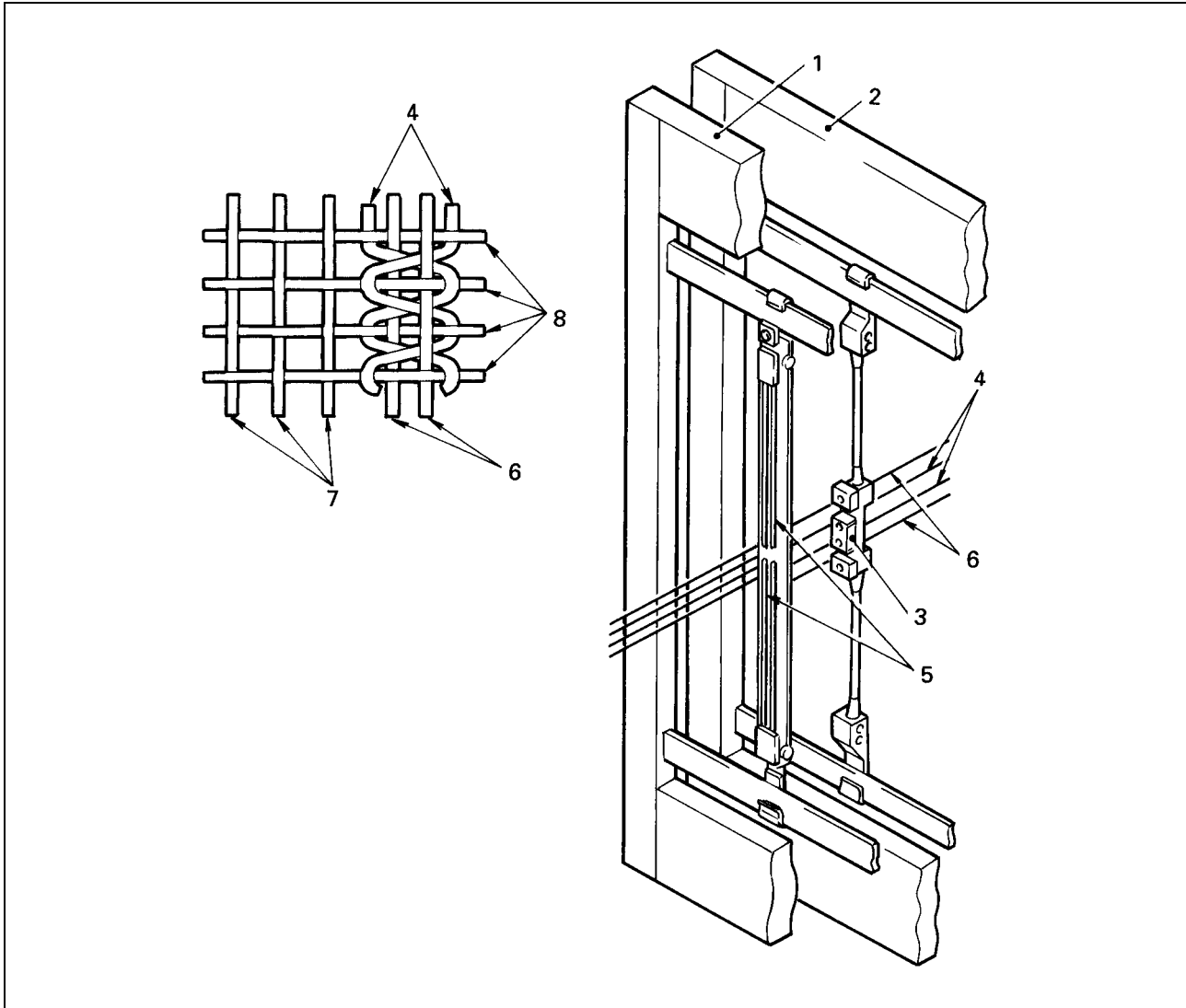
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## 8. SELVAGE FORMING DEVICE

### 8.2 Half-leno Selvage Device (Klöcker)

The half-leno selvage device is mounted on two heald frames as illustrated below. As 1st heald frame **1** and 2nd heald frame **2** move vertically, two cross yarns **4** (which are threaded through magnetic slide **3**) shift laterally against two stationary yarns **6** (which are threaded through needles **5**) to form a leno selvage. **7** and **8** indicate warp and weft, respectively.

The standard structure of a half-leno selvage is a plain weave as shown below. Depending upon the fabric structure, it may be a mat weave.



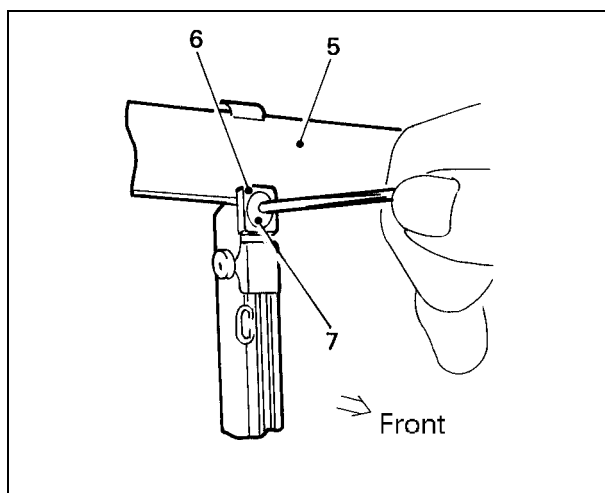
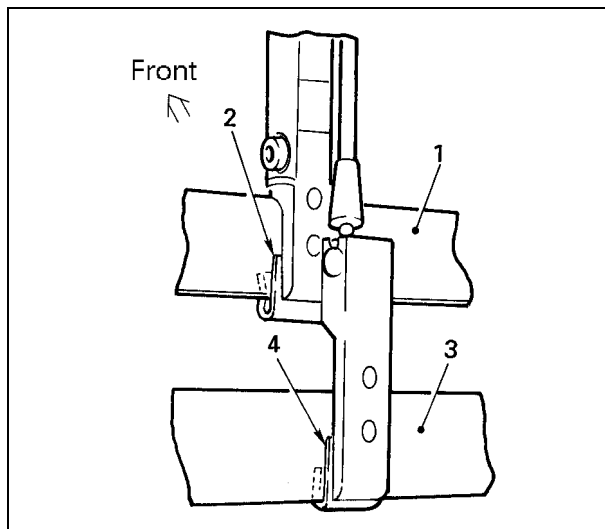
## 8.2.1 Installation, Adjustment, and Preparatory Operation

### [ 1 ] Installation to the heald frames (single type)

The half-leno selvage device should be installed on the 1st and 2nd heald frames intended for the plain weave (1/1), as standard.

**NOTE:** The maximum shed sizes in the Klöcker half-leno selvage device are listed below. When using the Klöcker half-leno selvage device, be careful with the installation position of the heald frames and heald frame stroke of the ground weave.

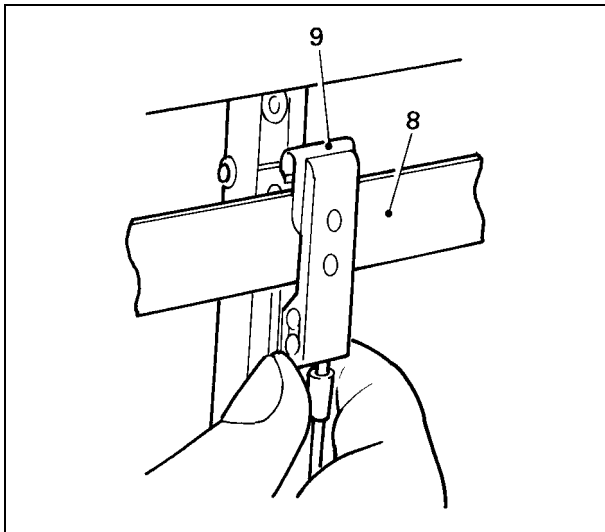
Heald length (mm)	Max. shed size (mm)
280	83
300 (302)	83
330	95



- (1) Press the emergency stop button down until it locks itself and the machine.
- (2) Fit lower front clamber **2** of the leno selvage device onto lower carrier rod **1** of the 1st heald frame.
- (3) Fit rear clamber **4** (having a magnetic slide) of the leno selvage device onto lower carrier rod **3** of the 2nd heald frame.
- (4) Secure the upper end of the leno selvage device to upper carrier rod **5** of the 1st heald frame with pressure plate **6** and bolt **7**.

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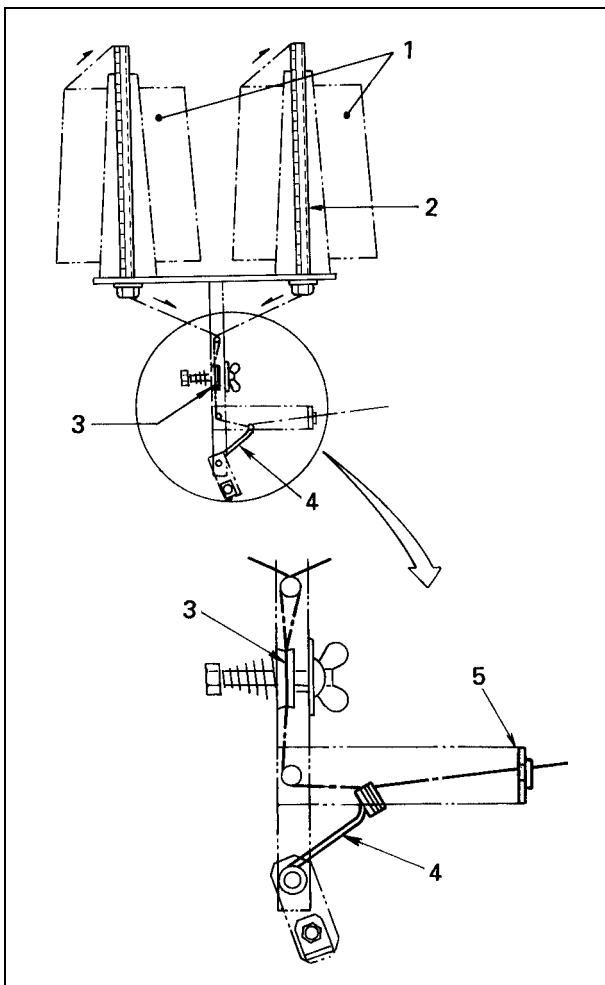
- (5) Fit rear clamber **9** of the leno selvage device onto upper carrier rod **8** of the 2nd heald frame.

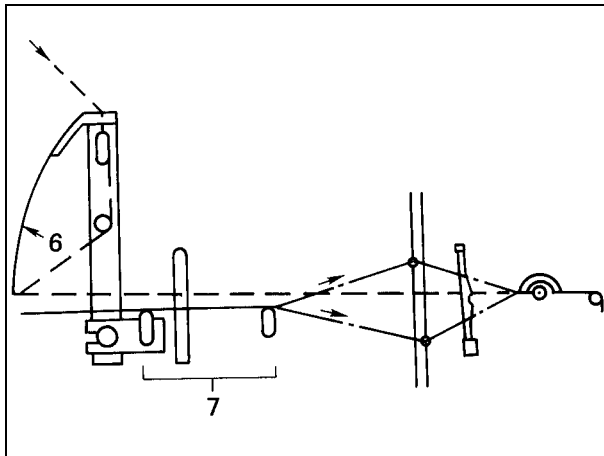
### [ 2 ] Threading leno yarn

#### [ 2.1 ] How to thread yarn through the cheese stand

- (1) Thread leno yarn fed from bobbin **1** through cheese stand **2**, tenser **3**, wire dropper **4**, and thread eye **5**.

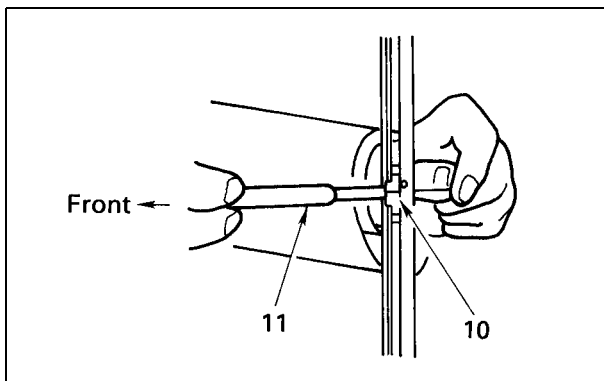
**NOTE:** The low-density weaving machine has no wire dropper **4** so that it uses a dropper as a stop motion instead.





- (2) Thread the yarn coming from the thread eye through the eye of tenser spring 6 and dropper box 7.

### [ 2.2 ] How to thread yarn through the leno selvage device



- (1) Thread one of the two cross yarns through the upper eye in slider 10, and the other yarn through the lower eye in slider 10, from the rear to front. For this operation, use a short yarn hook 11.

- (2) Thread these two cross yarns through the reed.

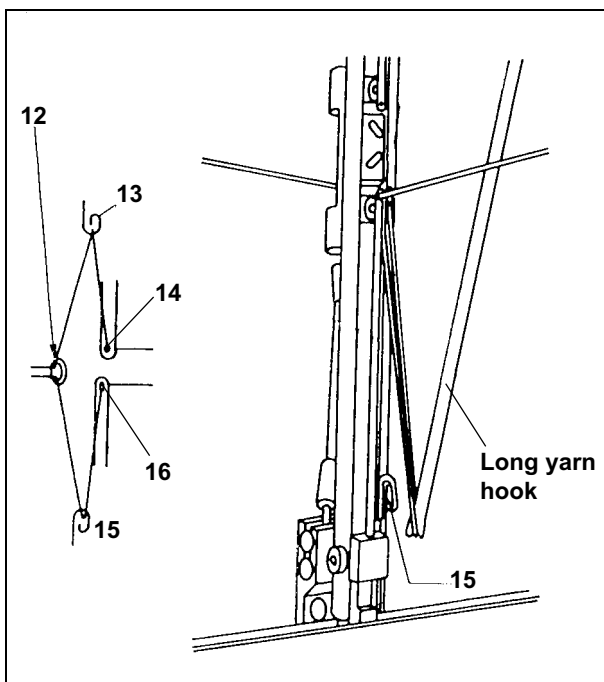
- (3) Thread both of the two stationary yarns through eye 12 of the guide rail, from the rear to the front.

- (4) Thread one of these stationary yarns through upper guide eye 13 and upper needle eyes 14.

- (5) Thread the other stationary yarn through lower guide eye 15 and lower needle eye 16.

- (6) Thread these two stationary yarns through the reed.

**NOTE:** When threading yarns, take care not to damage any section of the selvage device.



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### [ 2.3 ] Yarn specifications for half-leno selvage devices

- (1) Basic requirements: High-quality yarn having less fluff or burl

As fine and strong as possible

This is because the 4-leno weave contains many cross sections so that produced selvages become thick easily.

- (2) Yarn type: Two-ply (or three-ply), machine sewing thread (parched yarn)

- (3) Yarn number count: Higher than that of ground warp

(Ex.) When the ground warp is C40<sup>s</sup>, use leno yarn of C100/2<sup>s</sup>.

- (4) If using the same type of yarn as for ground warp may result in insufficient strength of half-leno selvages or if the above specified yarn is not available, select yarn having the similar physical properties as specified.

When using the different types of yarn from the ground warp, make sure that no problem occurs in the subsequent processes.

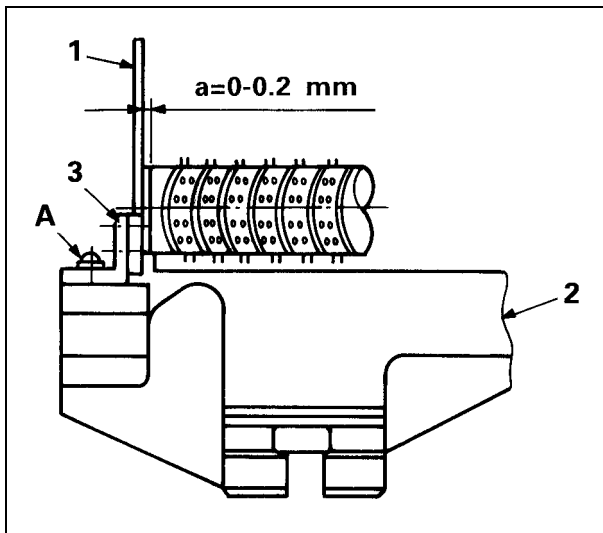
**[ 3 ] Setting the yarn clip holder**

The yarn clip holder is an auxiliary device to make the leno selvage stronger by holding the left ends of the inserted wefts.

Note that setting the yarn clip holder makes the left fringe selvage longer (5 to 10 mm).

(1) **Left-to-right positioning:**

Adjust yarn clip holder bracket 3 to the right and left so that there is 0-0.2 mm clearance between the end of yarn clip holder 1 and the temple receiving end of temple case 2.

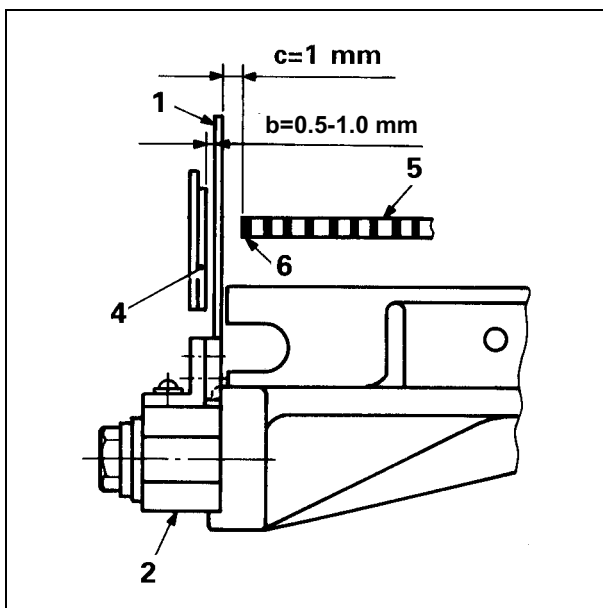


(2) **Positioning relative to the cutter:**

Secure temple case 2 to provide 0.5-1.0 mm clearance between the left end of yarn clip holder 1 and the right end of upper cutter blade 4.

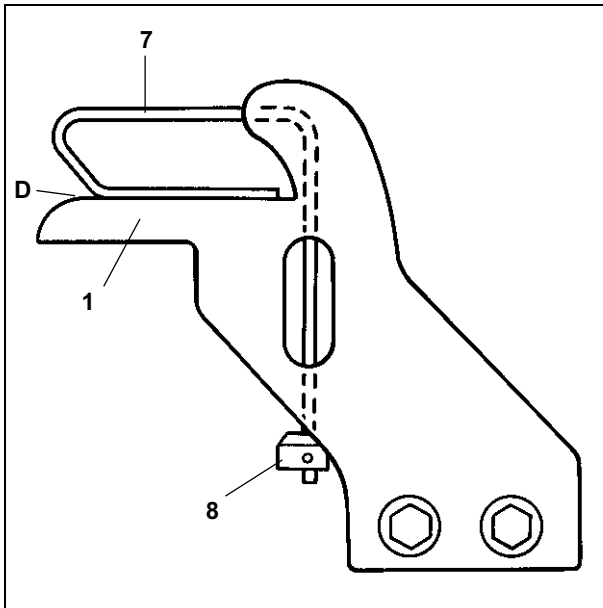
(3) **Positioning relative to the reed:**

Install reed 5 to provide 1 mm clearance between the right end of yarn clip holder 1 and the left end of first tooth 6 of reed 5.



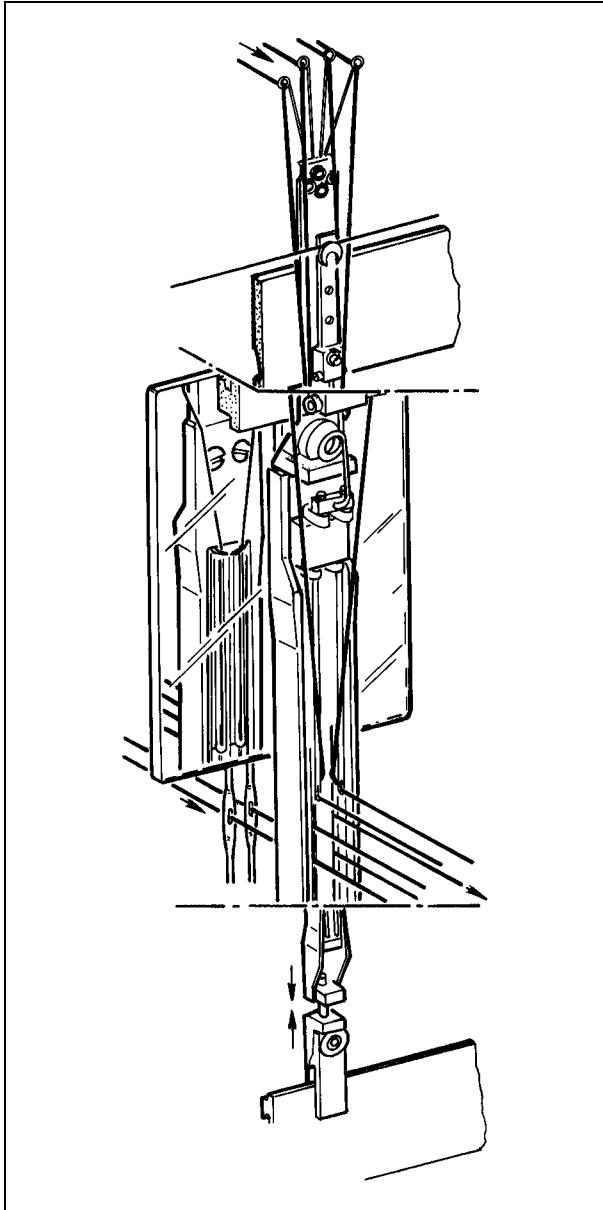
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- (4) **Vertical positioning:**  
Set the crank angle at  $0^\circ$ . Adjust the height of yarn clip holder **1** so that the height of weft yarns held by yarn guide spring **7** and yarn clip holder **1** is identical with the cloth fell height **D**.
- (5) **Contact pressure of yarn guide spring:**  
Adjust the contact pressure of yarn guide spring **7** by turning nut **8** so that wefts become aligned with the cloth fell height **D** and are held firmly.
- If a held weft yarn comes off when the reed is retracted after beating, increase the contact pressure of yarn guide spring **7**.
  - If fluff accumulates on the yarn clip holder, decrease the contact pressure of yarn guide spring **7**.
  - When handling broken warps or miss wefts, take care not to let yarn guide spring **7** come from yarn clip holder **1**.



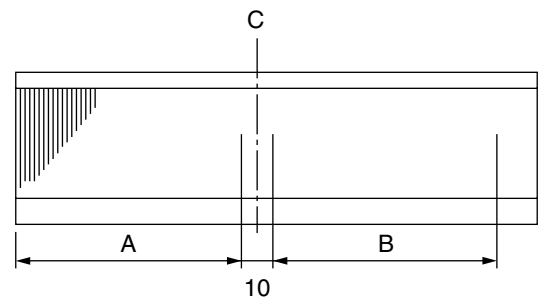


### TIP: Double Type

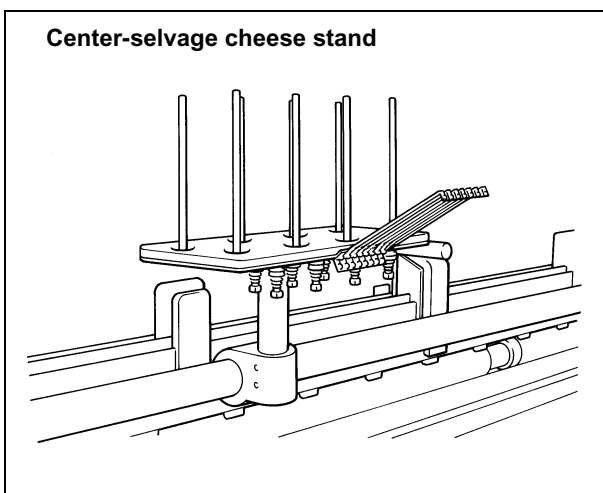
The double type is a pair of half-leno selvage devices which are symmetrically placed. It is used in dual roll production (for producing two rolls of cloth). One of the pair and its cheese stand should usually be mounted between those two rolls just like center-selvage cheese stands (see the illustration shown at left bottom).

For the handling and adjustment, refer to the procedures for the single type.

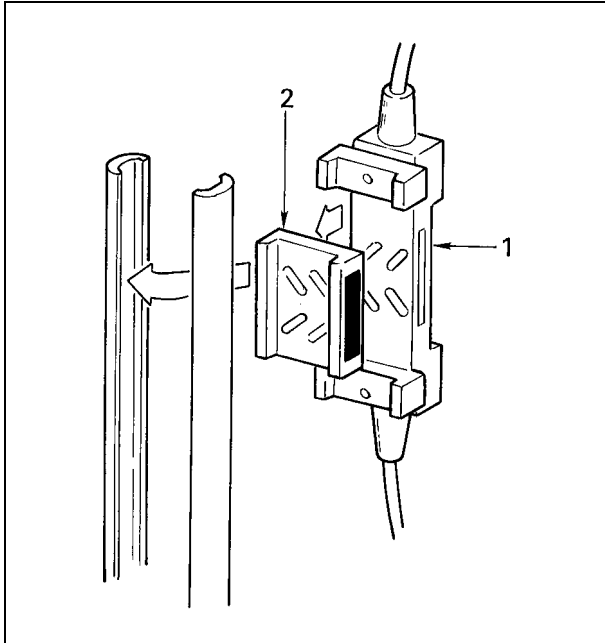
In dual roll production, thread warps through the reed so that a 10 mm clearance is provided between the **A** and **B** rolls of cloth.



Center-selvage cheese stand



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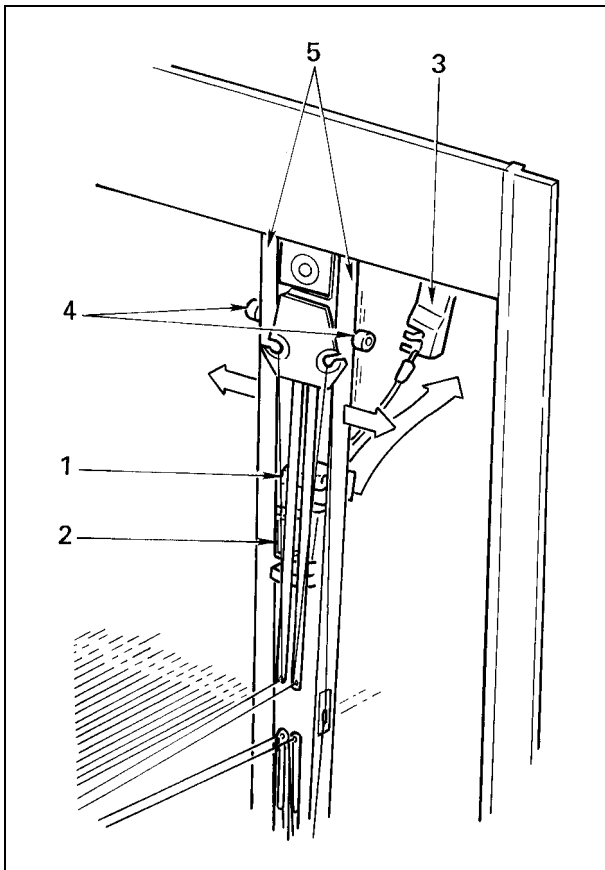


### 8.2.2 Inspection

#### [ 1 ] Trimonthly inspection

According to the steps below, check that link motion guide 1 and magnetic slide 2 operate smoothly.

- (1) Set the weaving machine to the shedding crank angle.
- (2) Remove clamp 3 from the 2nd heald frame as shown in the lower left figure, then move link motion guide 1 by hand to check for proper movement.
- (3) If link motion guide 1 fails to work correctly, clean it with petroleum detergent and brush.



#### [ 2 ] When changing the fabric style

According to the steps below, disassemble the half leno selvage device to check all components:

- (1) Remove two screws 4 and cut four leno yarns.
- (2) Lightly pull guide rails 5 outwards, then lift up all of the parts attached to magnetic slide 2 towards the rear, taking care not to drop them.
- (3) Check those parts for wear. If any worn parts are found, replace them.  
Wash all of those parts.
- (4) Spray CRC silicone on them.
- (5) Reinstall them, then check that magnetic slide 2 and link motion guide 1 are set into place.