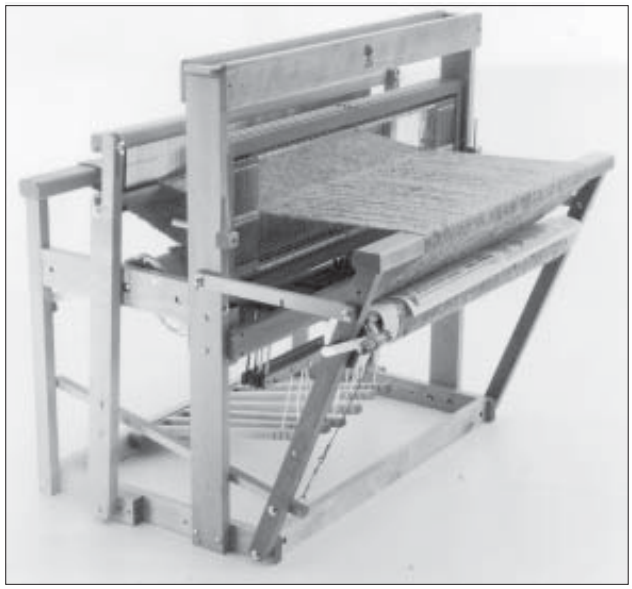
ashford HANDICRAFTS

ASSEMBLY INSTRUCTIONS

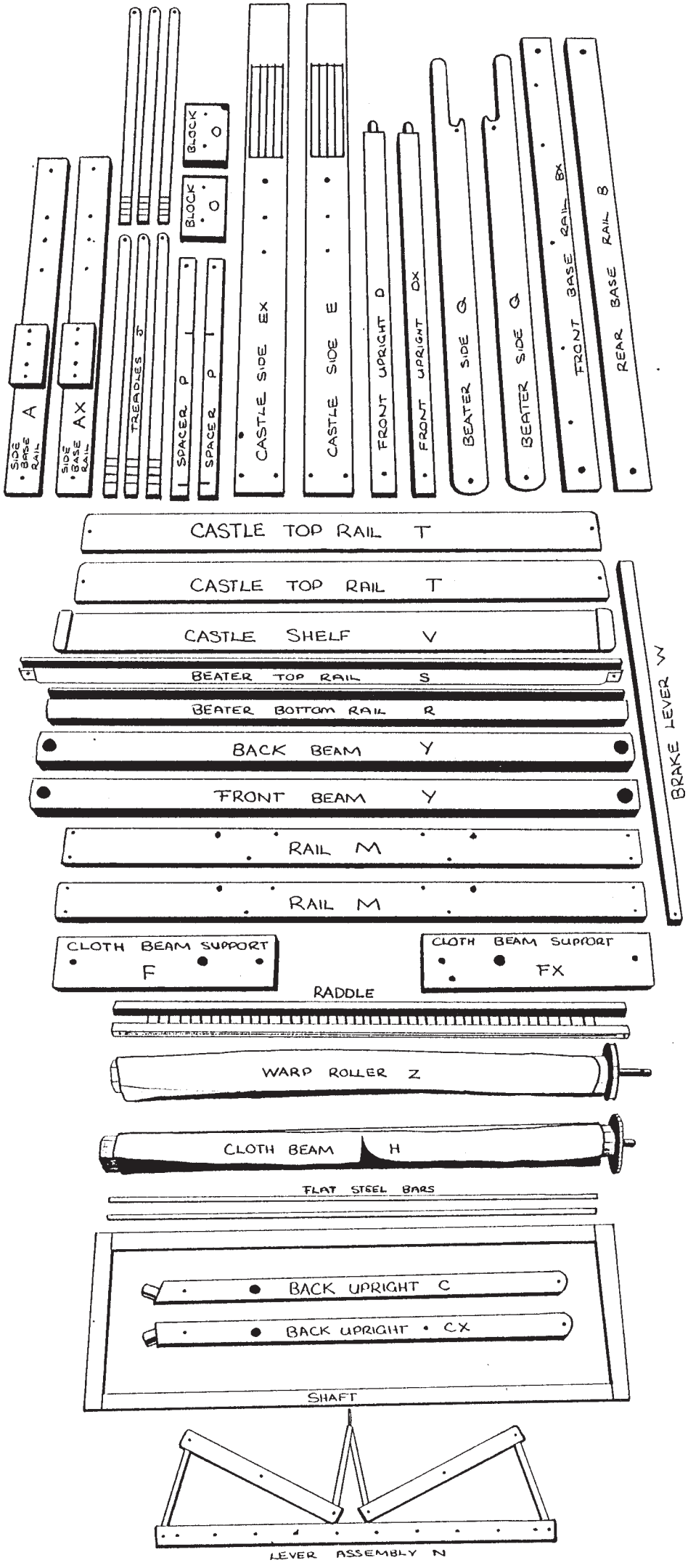
ASHFORD 4 & 8 SHAFT JACK LOOMS

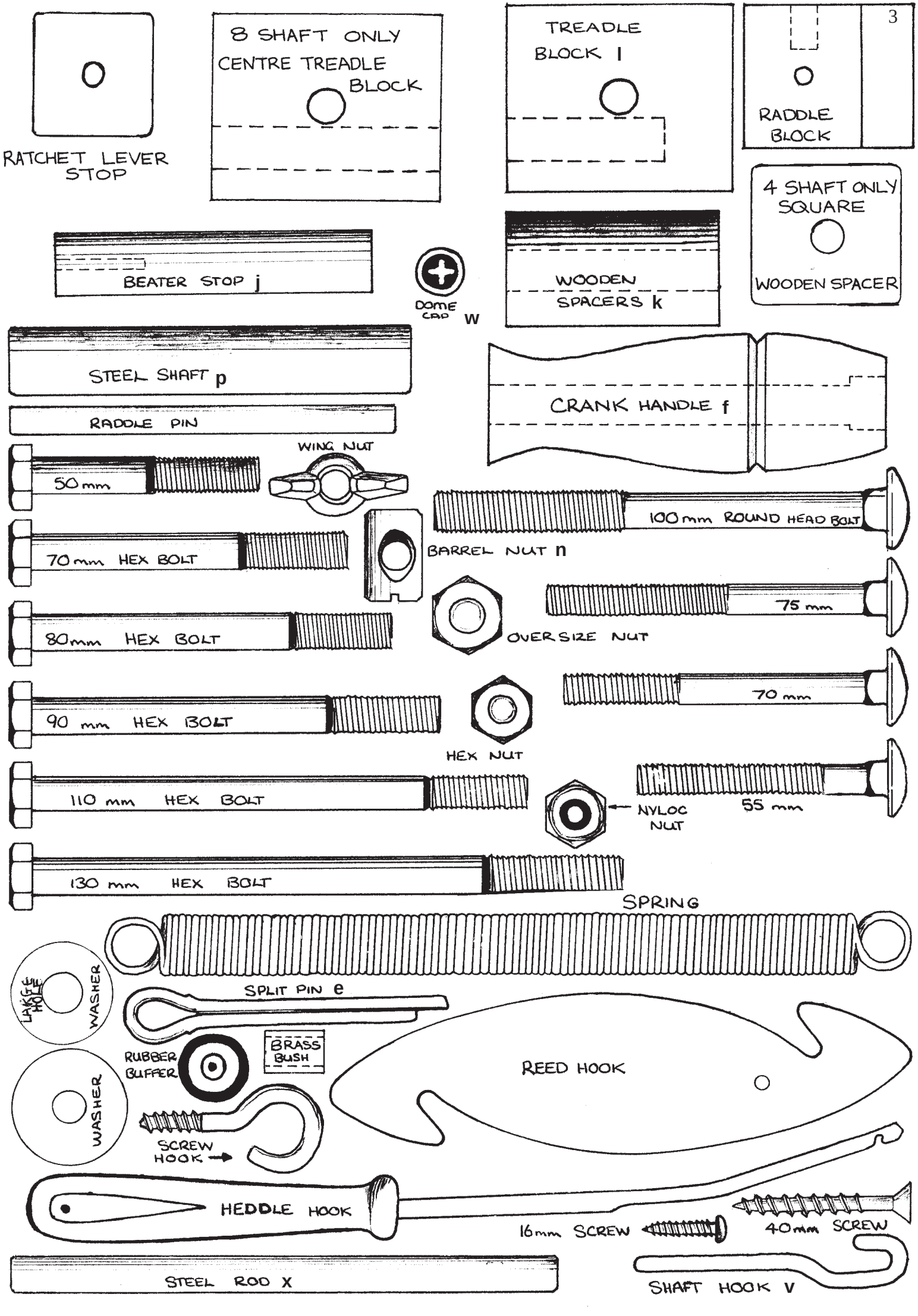
FRONT VIEW FOUR SHAFT JACK LOOM

REAR VIEW FOUR SHAFT JACK LOOM



P O BOX 474 415 WEST STREET ASHBURTON NEW ZEALAND

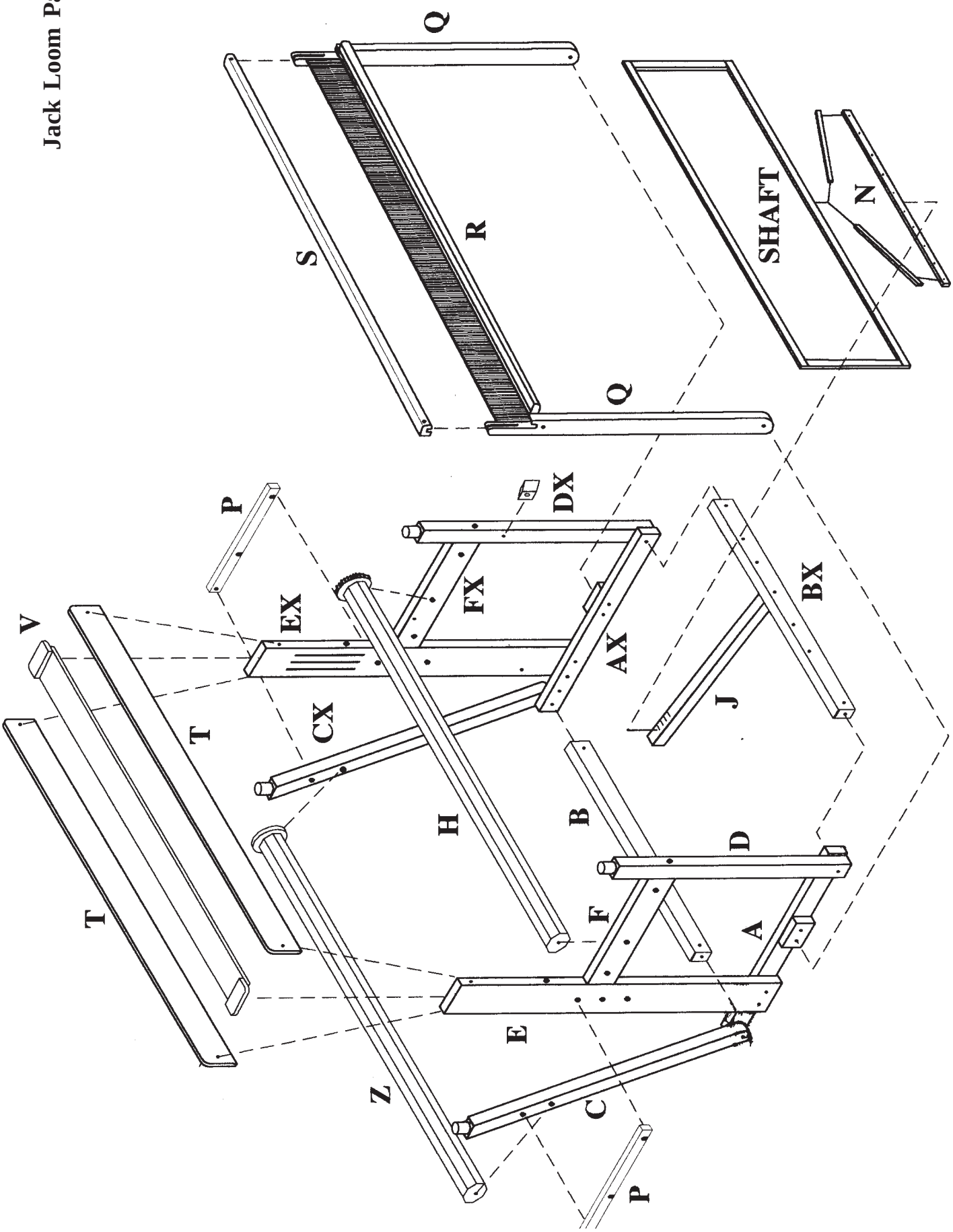

SIDE BASE RAIL A
SIDE BASE RAIL AX
TREADLES D
SPACER P
SPACER P
BLOCK O
BLOCK O
CASTLE SIDE EX
CASTLE SIDE E
FRONT UPRIGHT D
FRONT UPRIGHT DX
BEATER SIDE Q
BEATER SIDE Q
FRONT BASE RAIL BX
REAR BASE RAIL B
CASTLE TOP RAIL T
CASTLE TOP RAIL T
CASTLE SHELF V
BEATER TOP RAIL S
BEATER BOTTOM RAIL R
BACK BEAM Y
FRONT BEAM Y
BRAKE LEVER W
RAIL M
RAIL M
CLOTH BEAM SUPPORT F
CLOTH BEAM SUPPORT FX
RADDLE
WARP ROLLER Z
CLOTH BEAM H
FLAT STEEL BARS
BACK UPRIGHT C
BACK UPRIGHT CX
SHAFT
LEVER ASSEMBLY N


RATCHET LEVER STOP
8 SHAFT ONLY
CENTRE TREADLE BLOCK
TREADLE BLOCK l
RADDLE BLOCK
4 SHAFT ONLY
SQUARE
WOODEN SPACER
BEATER STOP j
DOME CAP w
WOODEN SPACERS k
STEEL SHAFT p
CRANK HANDLE f
RADDLE PIN
WING NUT
50 mm
100 mm ROUND HEAD BOLT
70 mm HEX BOLT
BARREL NUT n
75 mm
80mm HEX BOLT
OVERSIZE NUT
70 mm
90 mm HEX BOLT
HEX NUT
110 mm HEX BOLT
NYLOC NUT
55 mm
130 mm HEX BOLT
SPRING
LARGE HOLE WASHER
SPLIT PIN e
RUBBER BUFFER
BRASS BUSH
REED HOOK
WASHER
SCREW HOOK
HEDDLE HOOK
16mm SCREW
40mm SCREW
STEEL ROD x
SHAFT HOOK v

Jack Loom Hardware Checklist

QUANTITY HARDWARE	TYPE HARDWARE	
Bag 1		
3	M8 x 50 Eng Bolt	
1	M8 x 70 Eng Bolt	
4	M8 x 80 Eng Bolt	
4	M8 x 90 Eng Bolt	
2	M8 x 110 Eng Bolt	
2	M8 x 130 Eng Bolt	
3	M8 x 55 Cup Bolt	
10	M8 x 70 Cup Bolt	**(Eight Shaft: 11)**
2	M8 x 75 Cup Bolt	
1	M8 x 100 Cup Bolt	**(Eight Shaft: 2 x M8 Dome Nuts)**
Bag 2		
48	M8 x 25 Washer	**(Eight Shaft: 85)**
2	3/8 x 7/8 Washer	
15	8 x 1 ½" Super Screw	
6	M8 Wing Nut	
1	3/8" Hex Nut	
1	6.30 x 40 Cotter Pin	
3	40 x 8 Screw Hook Zinc	
Bag 3		
10	M8 Barrel Nuts	
4	M8 Nylock Nuts	
12	M8 Hex Nuts	**(Eight Shaft: 13)**
4	1/8" Starlock Dome Caps	**(Eight Shaft: 8)**
4	Shaft Hooks	**(Eight Shaft: 8)**
1	M8 x 12 mm Brass Spacer	
2	12 mm Rubber Buffers	
2	6 x 5/8 Pan Head BMA Screws	
2	5/8 x 89 mm Steel Rods	
6	8 mm x 120 mm Steel Rods	**(Eight Shaft: 8 mm x 172 mm)**
2	¼" x 95 mm Steel Rods	
Bag 4		
12	600 mm Nylon Braid	**(Eight Shaft: 40)**
24	580 mm 1208 String	
1	Heddle Hook	
1	Reed Hook	

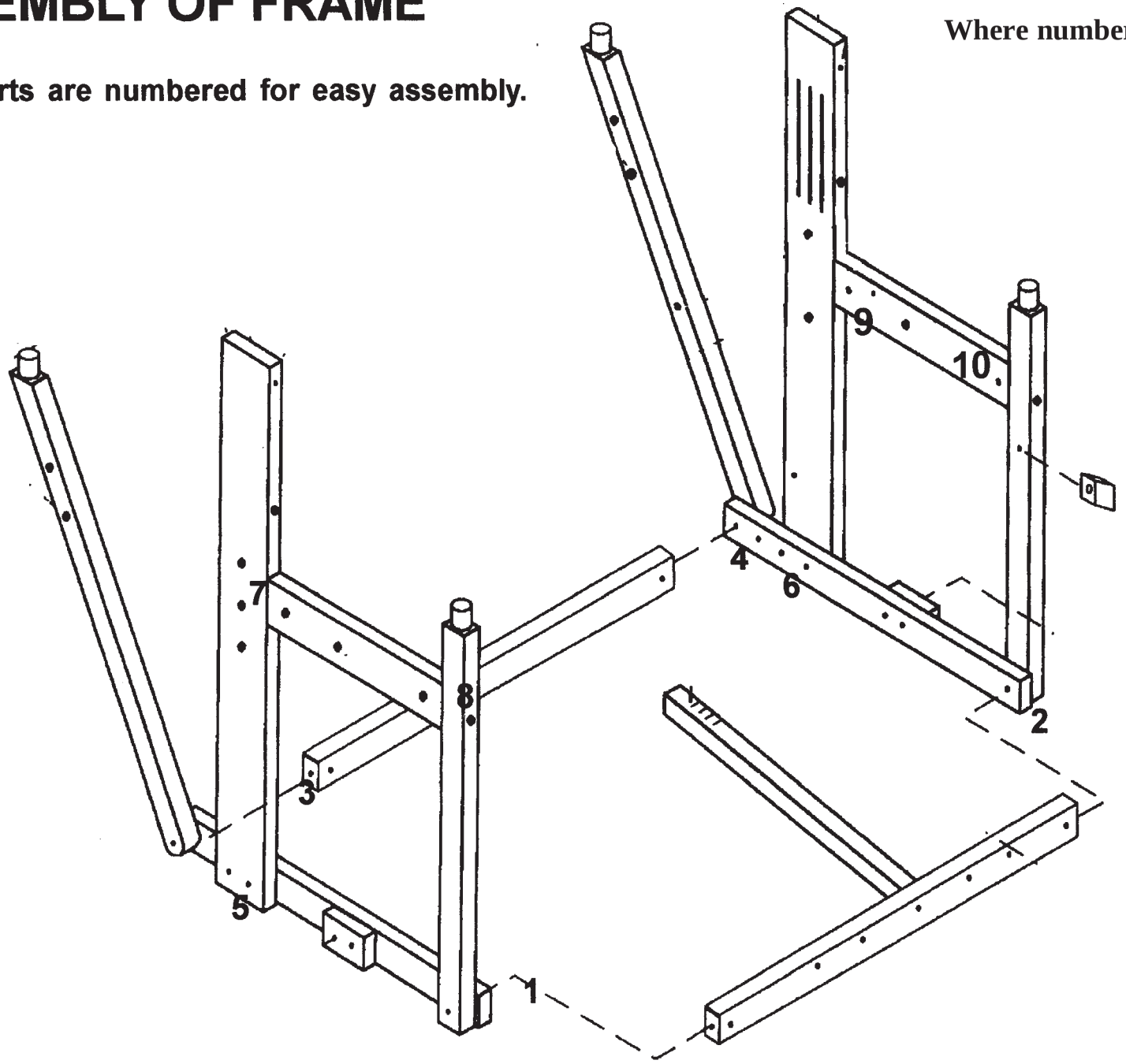
Jack Loom Parts



ASSEMBLY OF FRAME

Main parts are numbered for easy assembly.

Where numbered parts join



ASSEMBLY INSTRUCTIONS ASHFORD 4 & 8 SHAFT JACK LOOMS

Tools required: Screwdriver, hammer, ruler, candlewax, light lubrication oil and adjustable spanner.

Finishing the wood: The wood your Jack Loom is made of has been lacquered to provide a smooth attractive finish. If desired, use Ashford wax polish to enhance the natural beauty of the wood.

Before Assembly:

- Read the complete instructions and identify all parts and hardware.
- **BOLTS**. Check and sort the sizes against the full-size drawing on page 3. Check quantities on page 4.
- Rub candlewax or soap on the threads of the woodscrews to make assembly easier.

ASSEMBLY OF THE LOOM

1 Assemble the base as detailed in ***illustration 1 and 2*** using 90 mm hex head bolts, washers and barrel nuts. Note the holes in rail **BX** are to the top. Bushes in parts **C** and **CX** are on the inside.

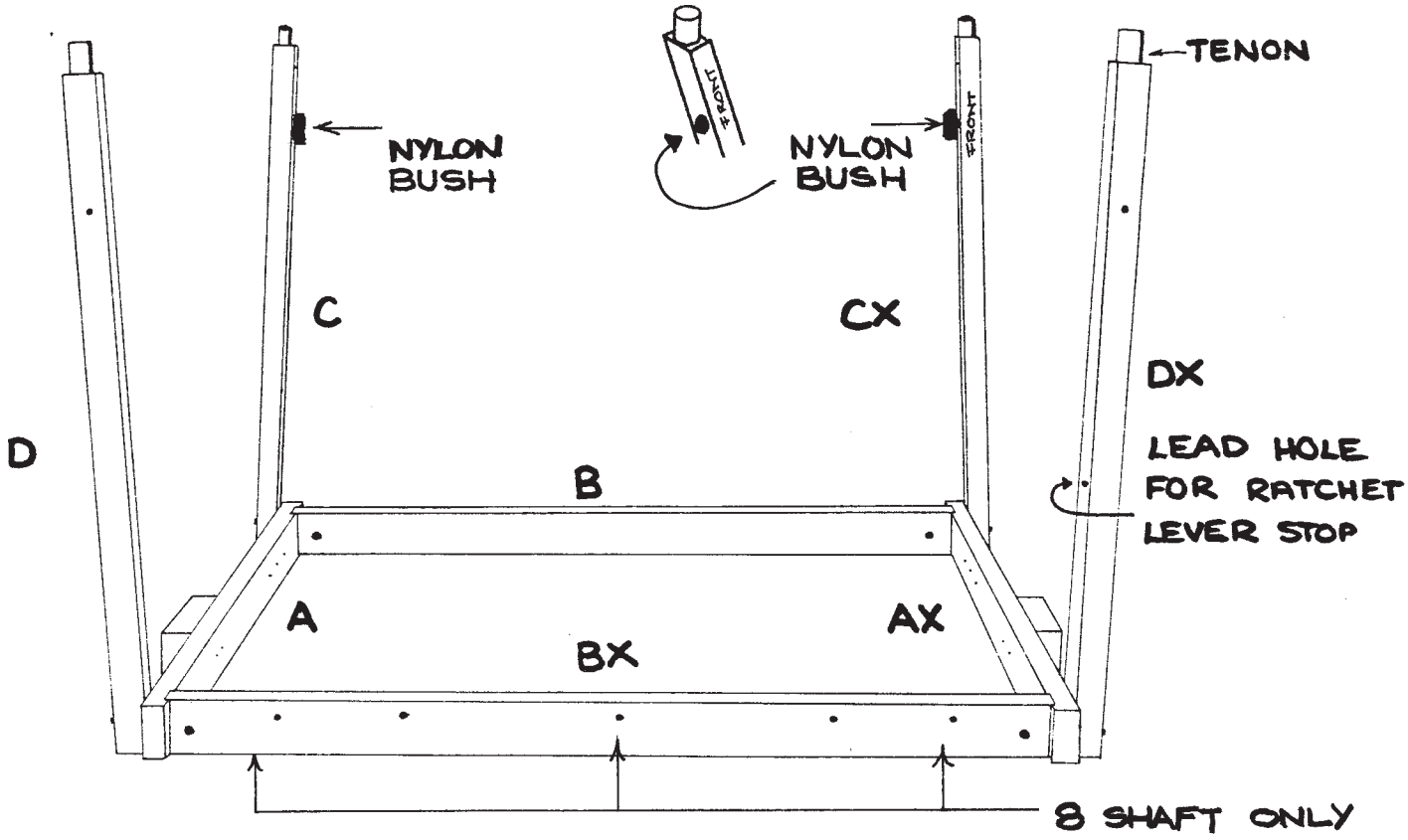


ILLUSTRATION 1

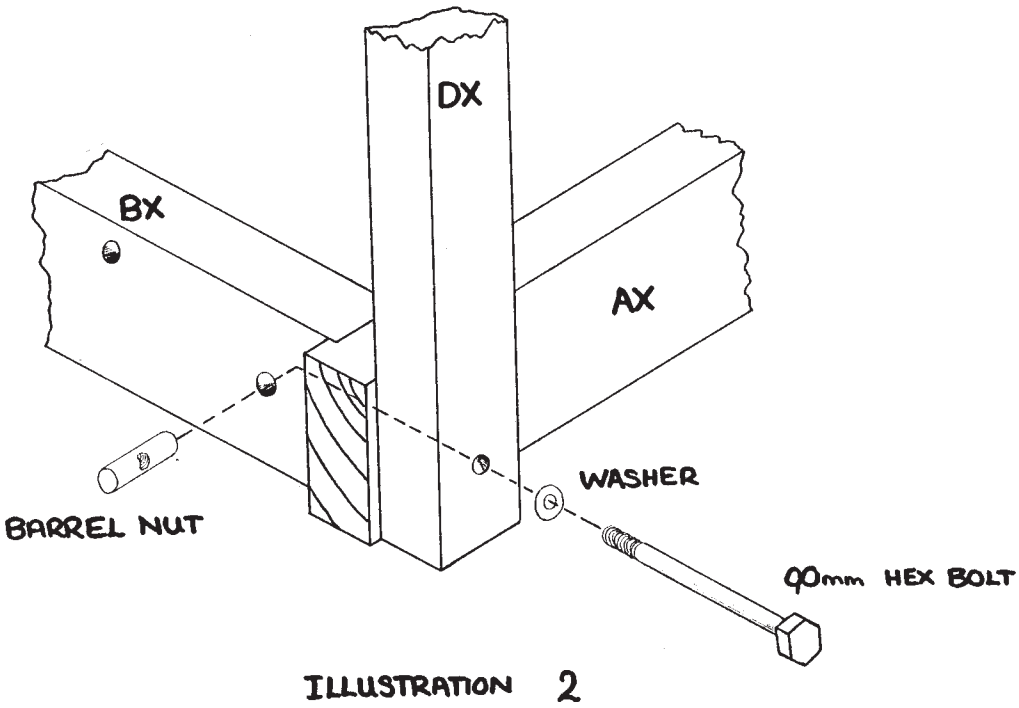


ILLUSTRATION 2

2 Bolt castle side **E** to the outside of base rail **A**, and the castle side **EX** to the base rail **AX** using 70 mm round head bolts, washers and hex nuts as shown in ***illustration 3***. **Note** the nylon shaft guides are to the inside of the frame and holes for the beater stops face forward.

3 Secure the blocks **O** to the inside of the castle sides **E** and **EX** with 70 mm round head bolts, washers and nuts as shown in ***illustration 3***.

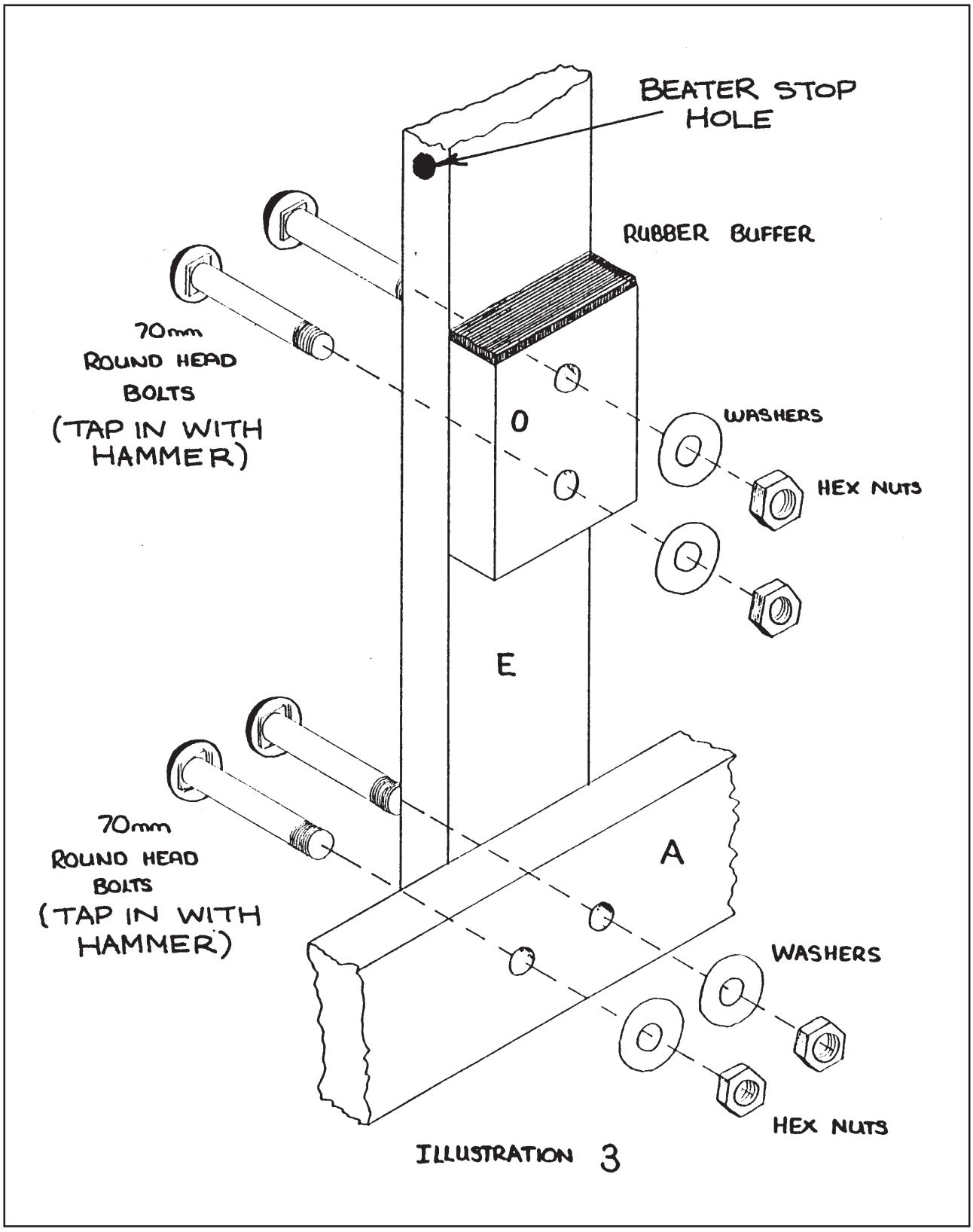


ILLUSTRATION 3

4 Secure one rail **M** to blocks **O** using 40 mm screws. ***Illustration 4.*** **Note** the position of the holes for the steel rods **x**.

5 Place the 6 steel rods **x** into the rail **M**.

6 **FOR FOUR SHAFT LOOMS:**

Place square wooden spacers onto the two lower rods **x** followed by a lever assembly **N**. Place two washers onto each lower rod **x** followed by another lever assembly **N**. Repeat this procedure until all the lever assemblies are in position, finishing with wooden spacers. A drop of light oil on the rods will help make treadling easier. ***See illustration 4a.***

FOR EIGHT SHAFT LOOMS:

Place 5 washers onto the lower rods **x** followed by a lever assembly **N**. Place 2 washers onto each lower rod **x** followed by another lever assembly **N**. Repeat this procedure until all the lever assemblies are in position, finishing with 5 washers. A drop of light oil on the rods will help make treadling easier. ***See illustration 4a.***

7 Locate the second rail **M** onto the steel rods **x** and secure to blocks **O** with 40 mm screws.

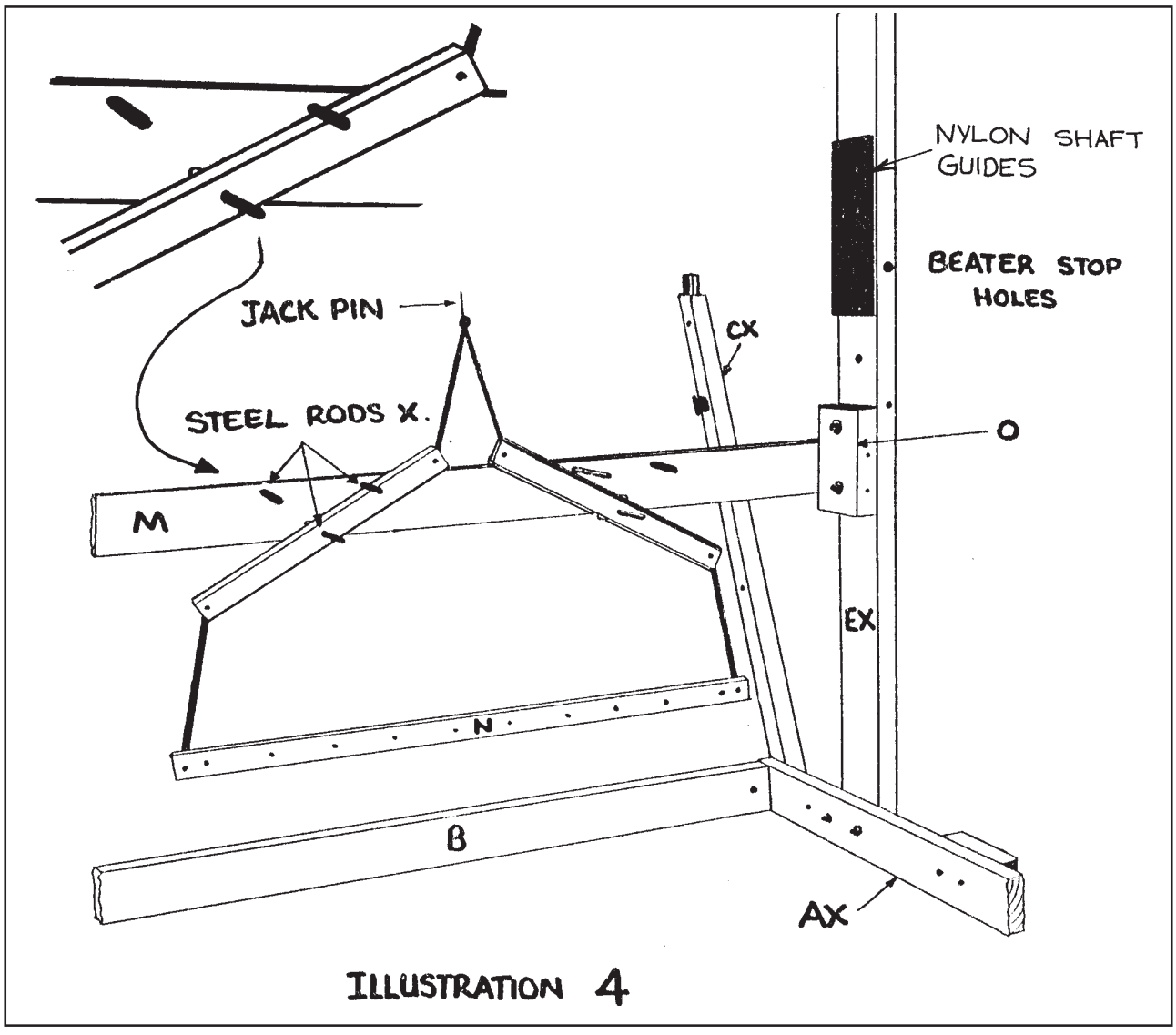
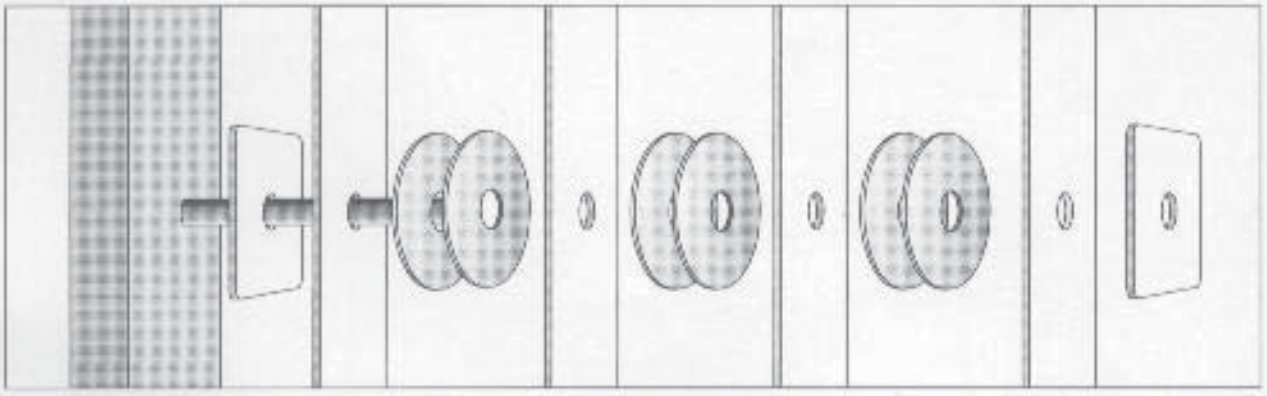
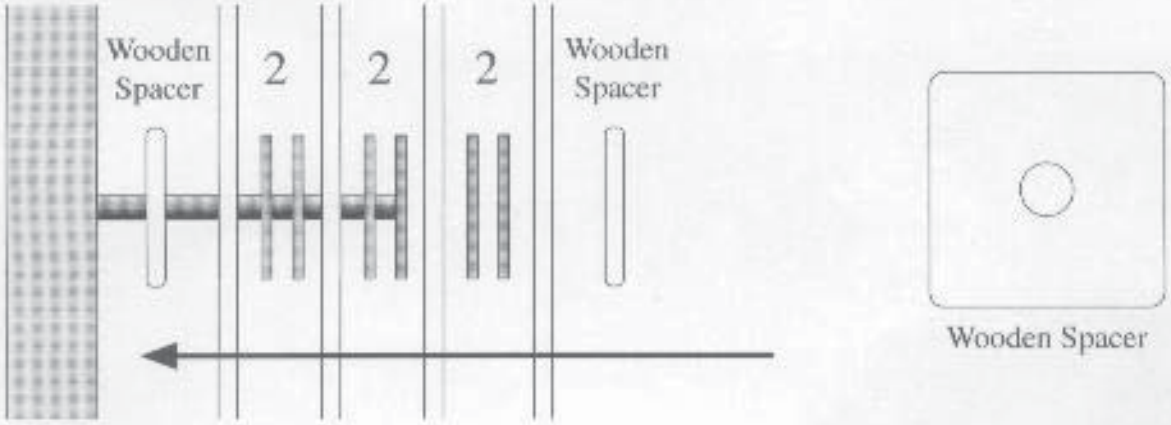


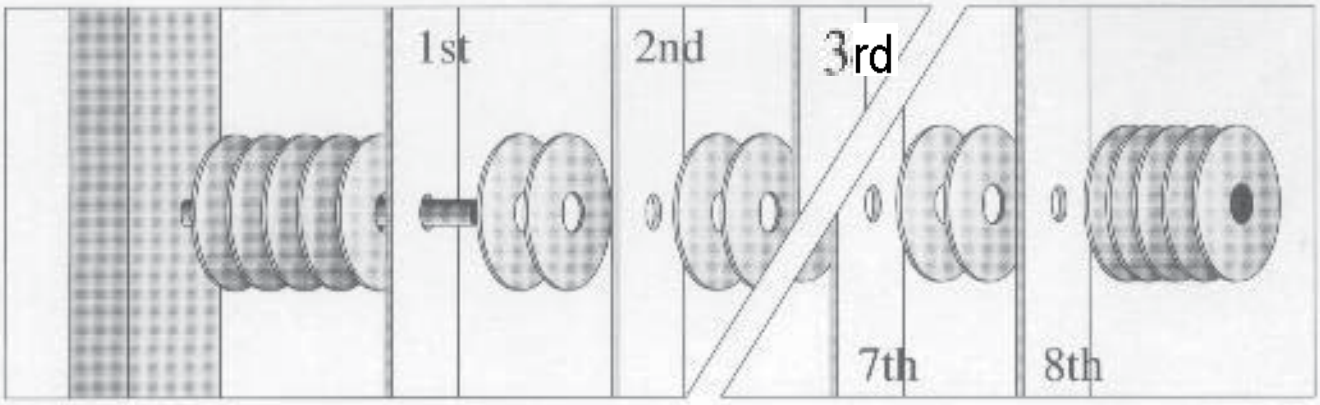
ILLUSTRATION 4

4 shafts





8 shafts



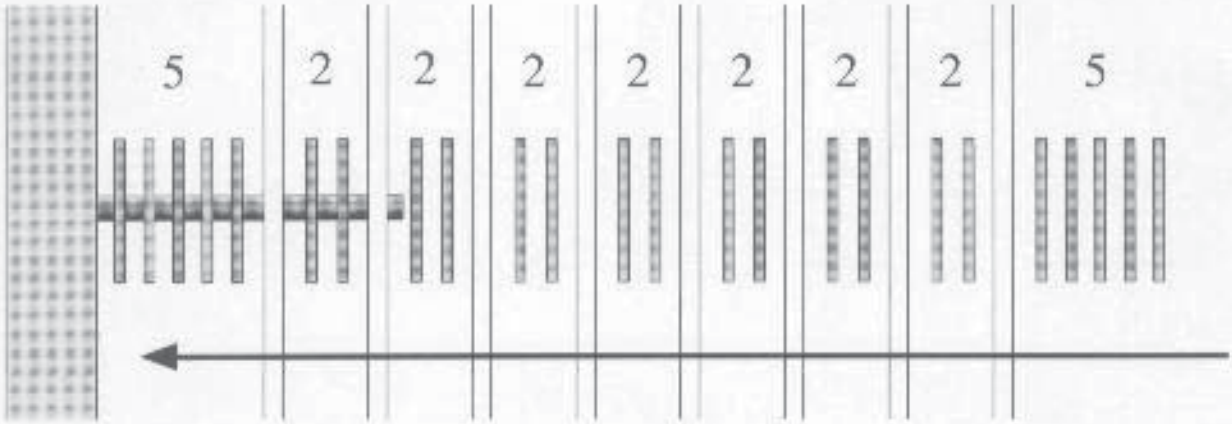


ILLUSTRATION 4a

8 Identify the cloth beam supports **F** (left) and **FX** (right). **FX** has a counterbored hole facing the outside.

9 Attach **but do not** tighten **FX** to **DX** with an 80 mm hex bolt, washer and barrel nut and to **EX** with a 130 mm hex bolt washer and barrel nut as shown in ***illustration 5***. Repeat for the opposite side with **F**, **D** and **E**. Keeping the nylon bushes to the inside.

for eight shaft looms:

A 195 mm threaded shaft, dome nut, washer and barrel nut **n** are used to connect **F** and **FX** to **E** and **EX**.

10 Slide the ratchet lever **G** onto the steel shaft on the cloth beam **H** and ensure the pawl engages the ratchet teeth. ***See illustration 6.***

11 Twist the cloth beam support **FX** slightly and locate the cloth beam **H** into the nylon bush. Lower **H** so the holes in **H** and **F** line up and then tap a steel shaft **p** through the nylon bush and into **H**. Then tighten the bolts securing **F** and **FX**.

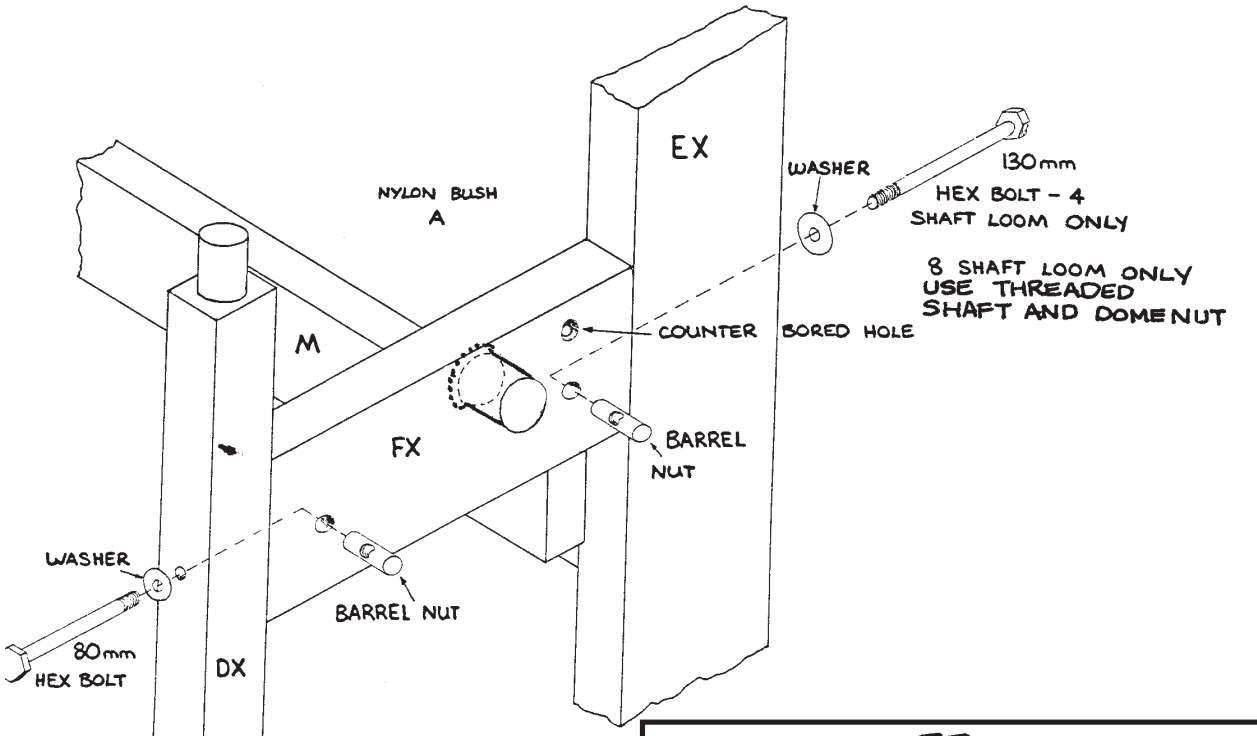


ILLUSTRATION 5

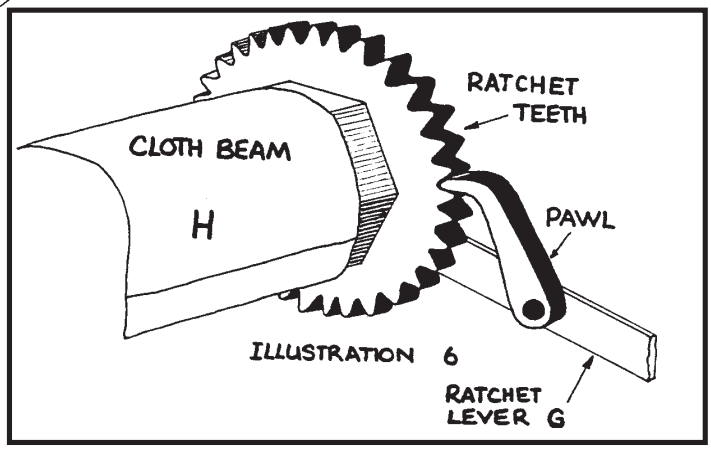


ILLUSTRATION 6

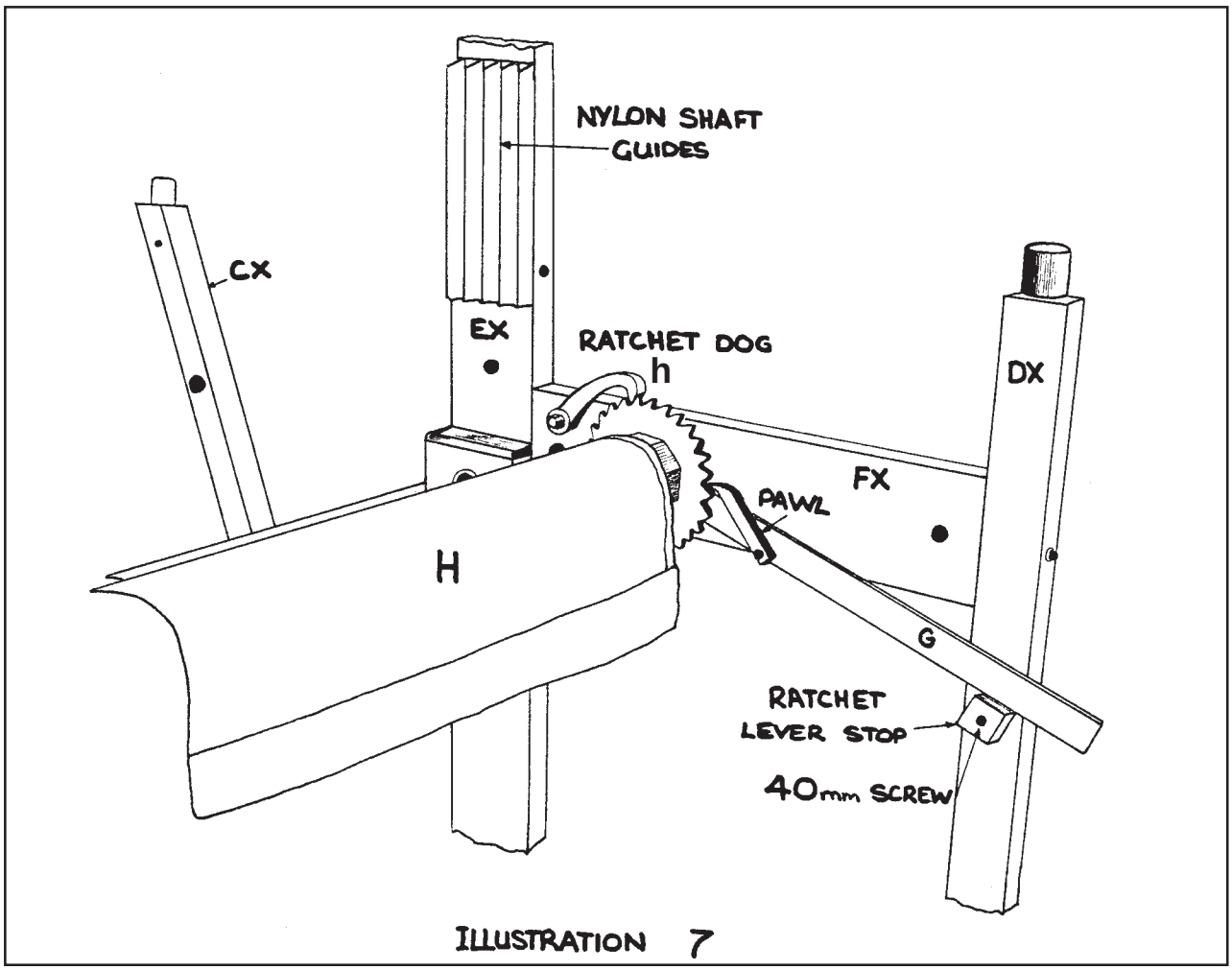


ILLUSTRATION 7

12 Secure the ratchet lever stop to the insde of the front upright **DX** with a 40 mm screw. The sloping side of the stop should face inwards at the top to support the lever. When transporting the loom pull the lever sideways past the stop and let it hang down. ***See illustration 7***.

13 Attach the ratchet dog **h** to the right cloth beam support **FX** as shown in illustration 8 using a 50 mm hex bolt, oversize nut, washer and nyloc nut. The head of the bolt will have to be tapped into the counterbored hole. The dog should move freely after tightening the nut. ***See illustration 8.***

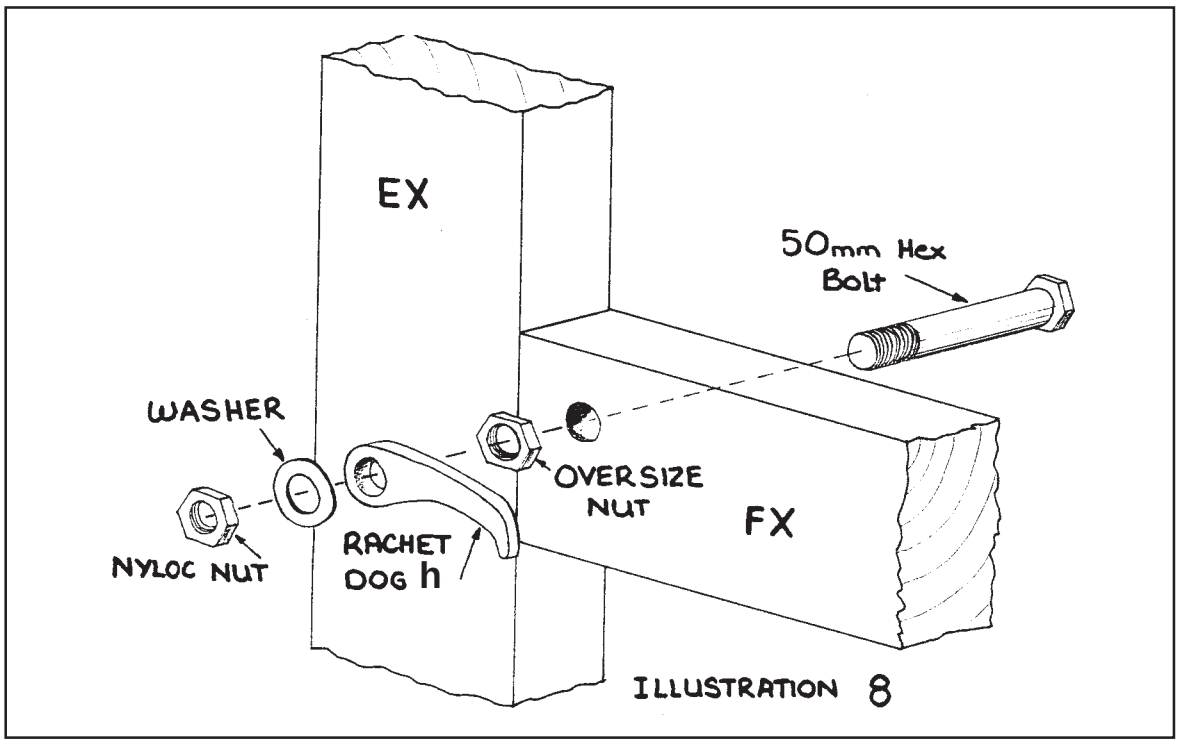


ILLUSTRATION 8

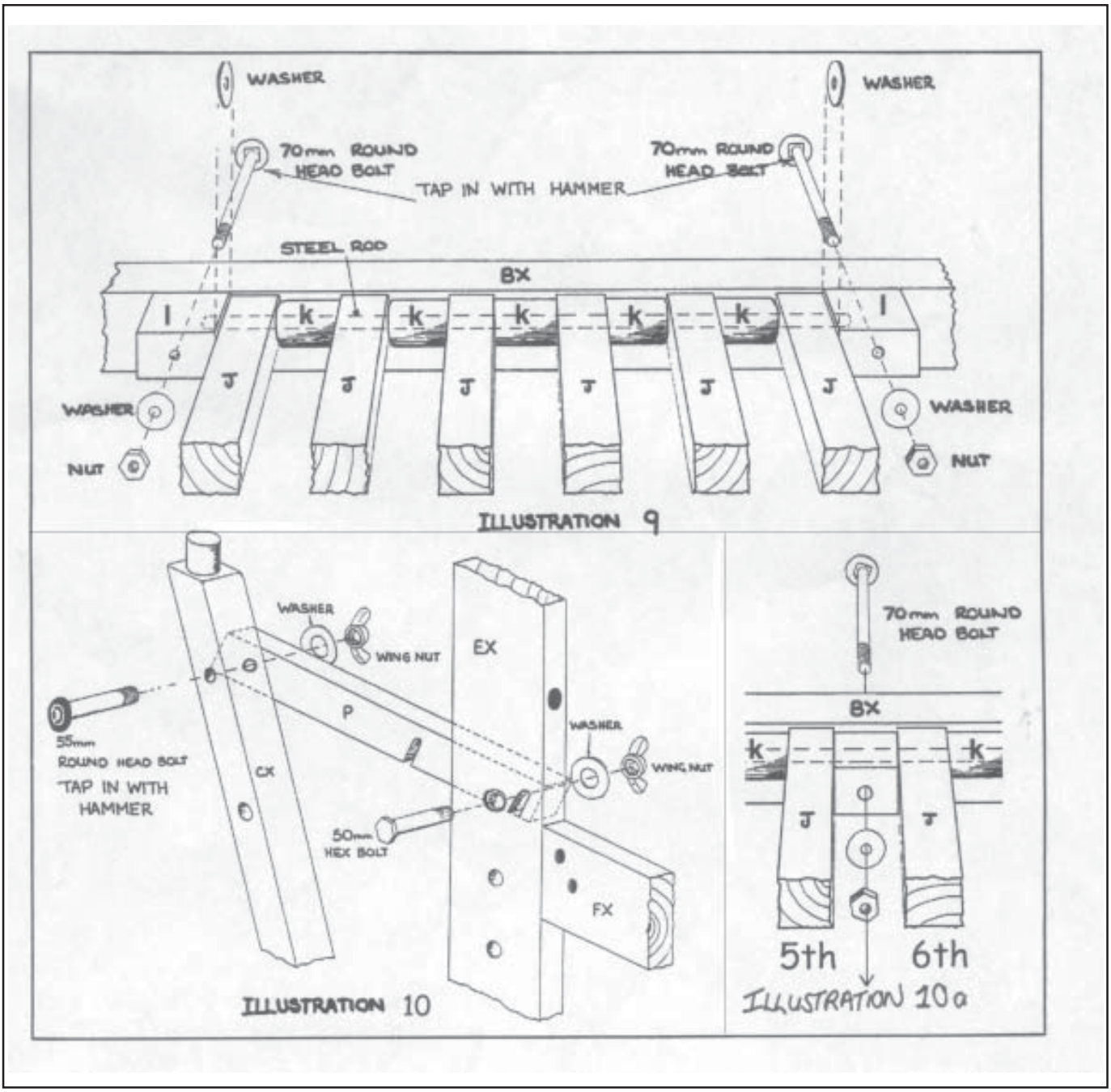
14 treadles four shaft looms:

With holes in slots to the bottom, place six treadles **J** onto the long steel rod with round wooden spacers **k** between. Place a large hole washer at each end followed by the treadle blocks **l**. **Note** that the rod holes in **l** must be towards the top. Bolt both blocks **l** to **BX** with 70 mm round head bolts, washers and nuts as shown in ***illustration 9***.

treadles eight shaft looms:

For the eight shaft loom an extra support block is bolted to the centre of **BX** and **5** treadles are located either side.

15 Tap a 50 mm hex bolt through the inside of castle side **EX** as shown in ***illustration 10*** and secure to a spacer **P** with a washer and wingnut. **Note** the middle slot is closer to the rear of the loom and is used to hold the back beam in the closed position.



16 Attach the hole end of **P** to the back upright **CX** with a 55 mm round head bolt, washer and wingnut.

17 Remove the wooden spacer **P** from the castle **E** to allow the warp roller **Z** to fit between the uprights without twisting them. Then place the warp roller between the back uprights **C** and **CX** by locating the shaft of the warp roller into the nylon bush in **CX**. Secure the warp roller by tapping a steel shaft **p** through the nylon bush in **C** and into **Z**. Repeat steps **16** and **17** for the other side.

18 Thread two screw hooks into the brake lever **W** and one screw hook into the hole underneath **FX** as shown in ***illustration 12***.

19 Push a 70 mm hex bolt and washer through the castle side **EX**. Place a washer, the brake lever **W**, a washer and then a nyloc nut onto the bolt. Tighten sufficiently with two spanners so the brake lever moves freely. See ***illustration 11***.

20 Push the 55 mm round head bolt through the upright **CX**. Then locate a washer, brass bush, loop of the brake cable, washer and hex nut onto the bolt. Now wind the cable around the brake drum and attach the turnbuckle to the screw hook at the end of the brake lever **W**. See ***illustration 11***.

NOTE: When folding the loom the turnbuckle MUST be loosened.

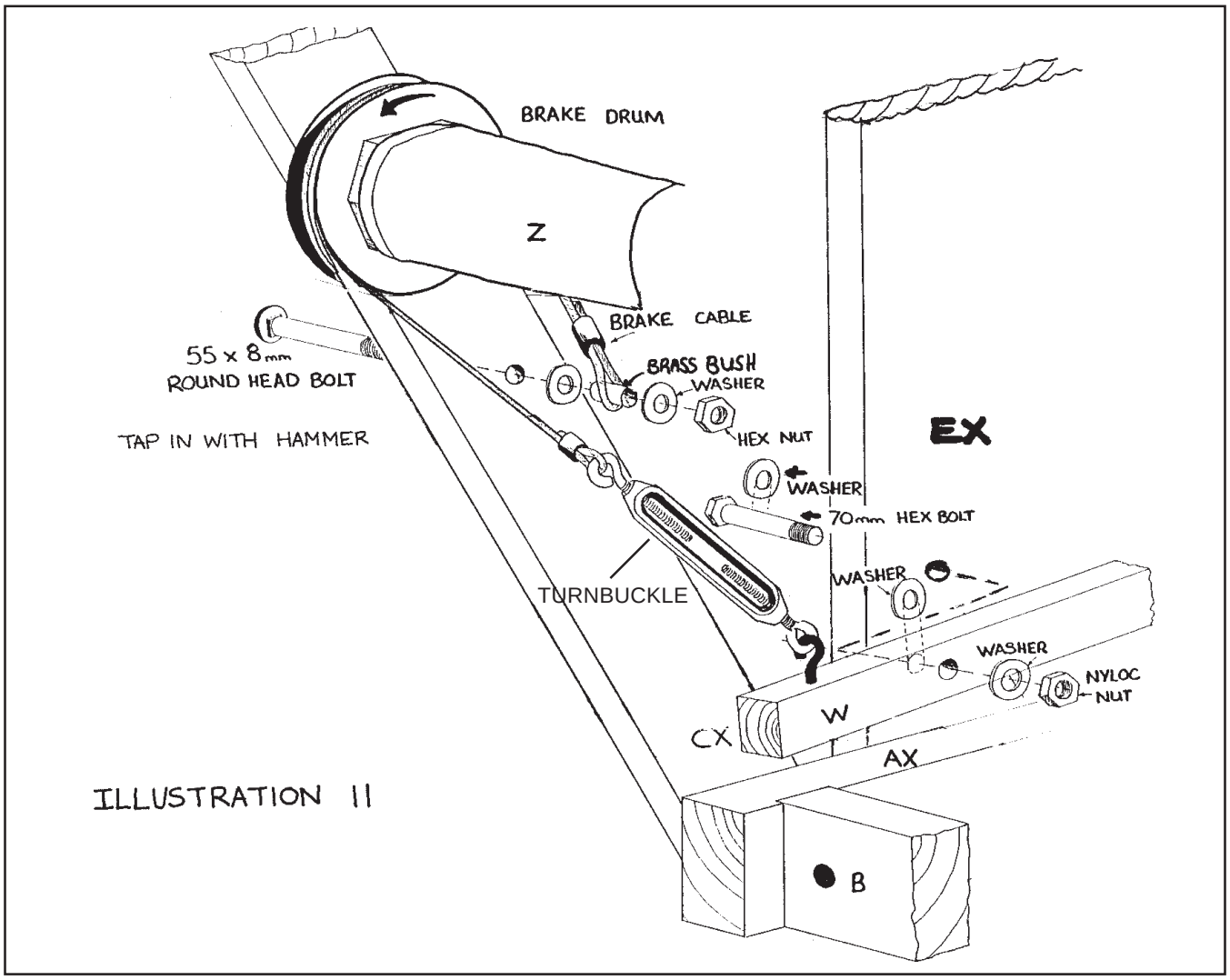


ILLUSTRATION 11

21 Locate the spring between the screw hooks in **FX** and brake lever **W**. ***See illustration 12.***

NOTE: If the brake does not easily release check the following:

A) Adjust the turnbuckle so there is about 30 mm of sideways movement in wire rope.

B) That the wire rope is wound evenly on the brake drum and is not crossed over.

C) When the brake drum is manufactured and zinc plated, a rough finish can occur which may need to be smoothed off with either a fine file or emery paper.

D) A drop of light lubrication oil on the brake drum may assist the brake to function properly.

22 Attach the handle **f** to the crank **G** with a 100 mm round head bolt by threading the bolt through **f** and **G** and locking it with a hex nut. Then locate crank **G** onto the shaft of warp roller **Z** and lock in place with a split pin **e**. Spread the ends of the pin to prevent it falling out. ***See illustration 12.***

NOTE: The cloth and warp roller must rotate in the direction shown. ***See illustration 12a.***

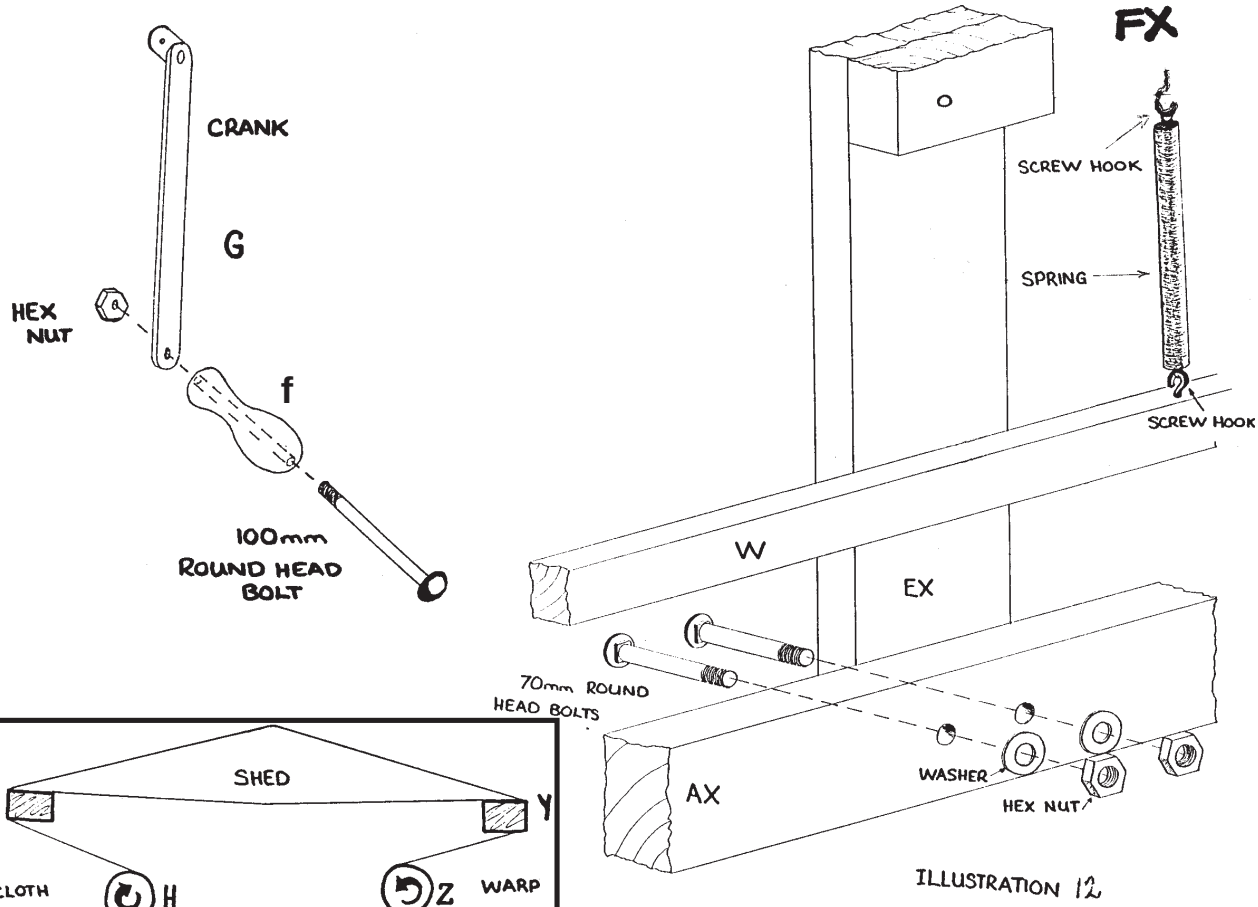


ILLUSTRATION 12

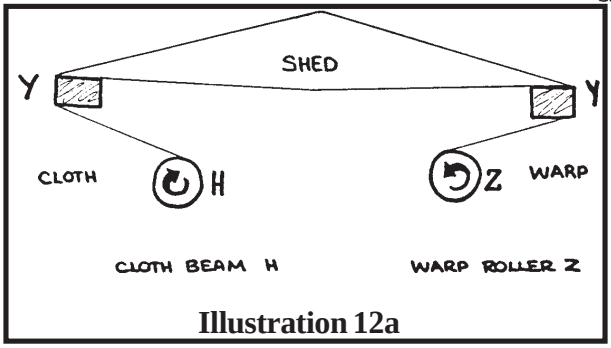
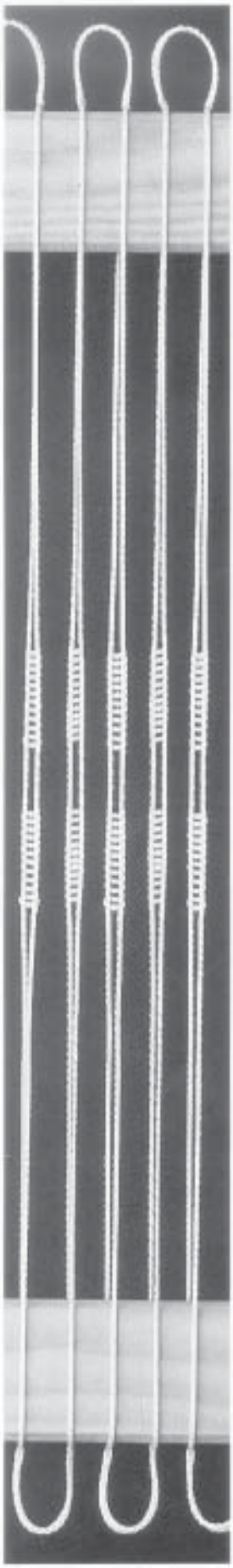


Illustration 12a



Heddles of knotless, non-stretching, durable polyester. Heddles stay equal length. Eyes are always on the same level.

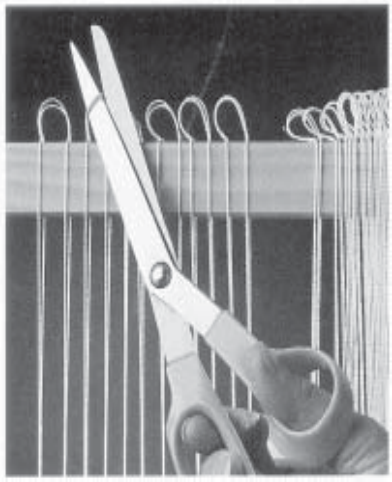
23 assembly of the shafts

Your Ashford Jack Loom has been supplied with Texsolv Heddles. Each bundle contains 100 heddles which enable you to use 200 per shaft on a **four shaft loom** and 100 per shaft on an **eight shaft loom**.

To load the heddles:

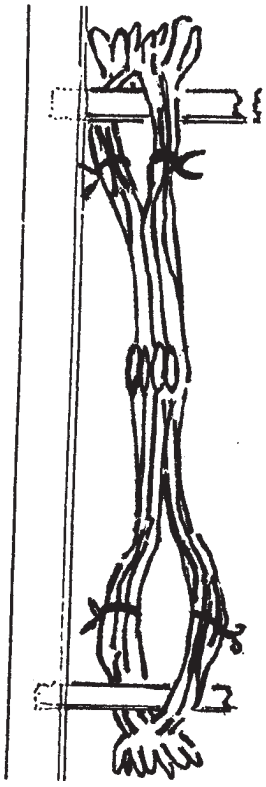
Take a bundle of heddles **(DO NOT REMOVE THE PINK TIES)** Thread the flat steel bars *(see note at bottom of page if you have a 800mm loom)* through the bundle top and bottom as illustrated in ***illustration 14b***. Then carefully spring the steel bars into the slots in the shafts taking care not to bend the bars.

THEN remove the ties and spread the heddles. Extra Texsolv heddles for finer threadings may be obtained from your Ashford dealer.



The heddles can be used connected or cut. (Use sharp scissors.) Cutting is best when the heddles are hanging on the harness.

Illustration 14b.



PLEASE NOTE:

If your loom is an 800mm loom, the steel bars are round and please omit step 24 and go straight to step 25.

24 Each shaft one hole on either side. Fit one hook **v** into one side of each shaft. Secure by pressing a dome cap **w** onto the hook. It may be easier to do this when the hook **v** is sitting across the corner of a table. Spread the heddles evenly either side of the hook and then clip the stainless steel bar over the hook. The hooks prevent the bars from sagging when being raised. See ***illustrations 13, 13 A and 14***.

25 Rub candlewax on the ends of the shafts before loading them into the nylon guides. Load the shafts and locate the jack pin into the hole in the shaft. If any of the shafts are curved, load them so that the curves are all in the same direction. Load the harnesses so that if any are bent, to avoid them rubbing on each other put the bends all in the same direction

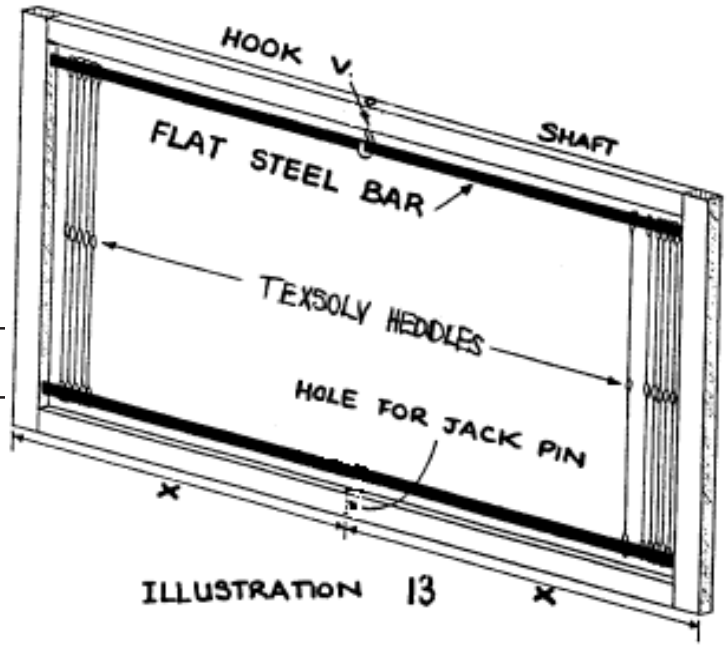


ILLUSTRATION 13

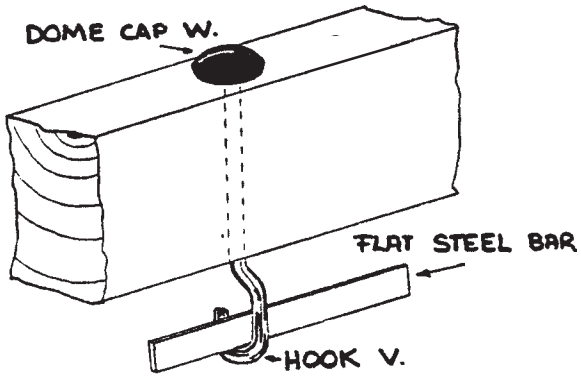


ILLUSTRATION 13 A

ILLUSTRATION 14

26 Attach the castle top rails **T** to the castle sides **E** and **EX** with 40 mm screws. Locate the shelf **V** onto the castle. It is easily removable for access to the shafts. See ***illustration 15***.

27 Locate the front and back beams **Y** onto the tenons of uprights **C**, **CX** and **D**, **DX**. The beams are easily removable to allow access to the shafts when warping.

28 Tap the beater stops **j** into the castle sides **E** and **EX**. Note the lead holes for the screws face out. Then attach the rubber buffers to the stops with 16 mm screws.

29 Assemble the beater by joining the sides **Q** to the bottom rail **R** with 80 mm hex head bolts, washers and barrel nuts **n**. Note the shuttle race faces forward. See ***illustration 16***.

30 Place the reed into the groove in the bottom rail **R**. Secure the top beater rail **S** to the sides with 75 mm round head bolts, washers and wing nuts.

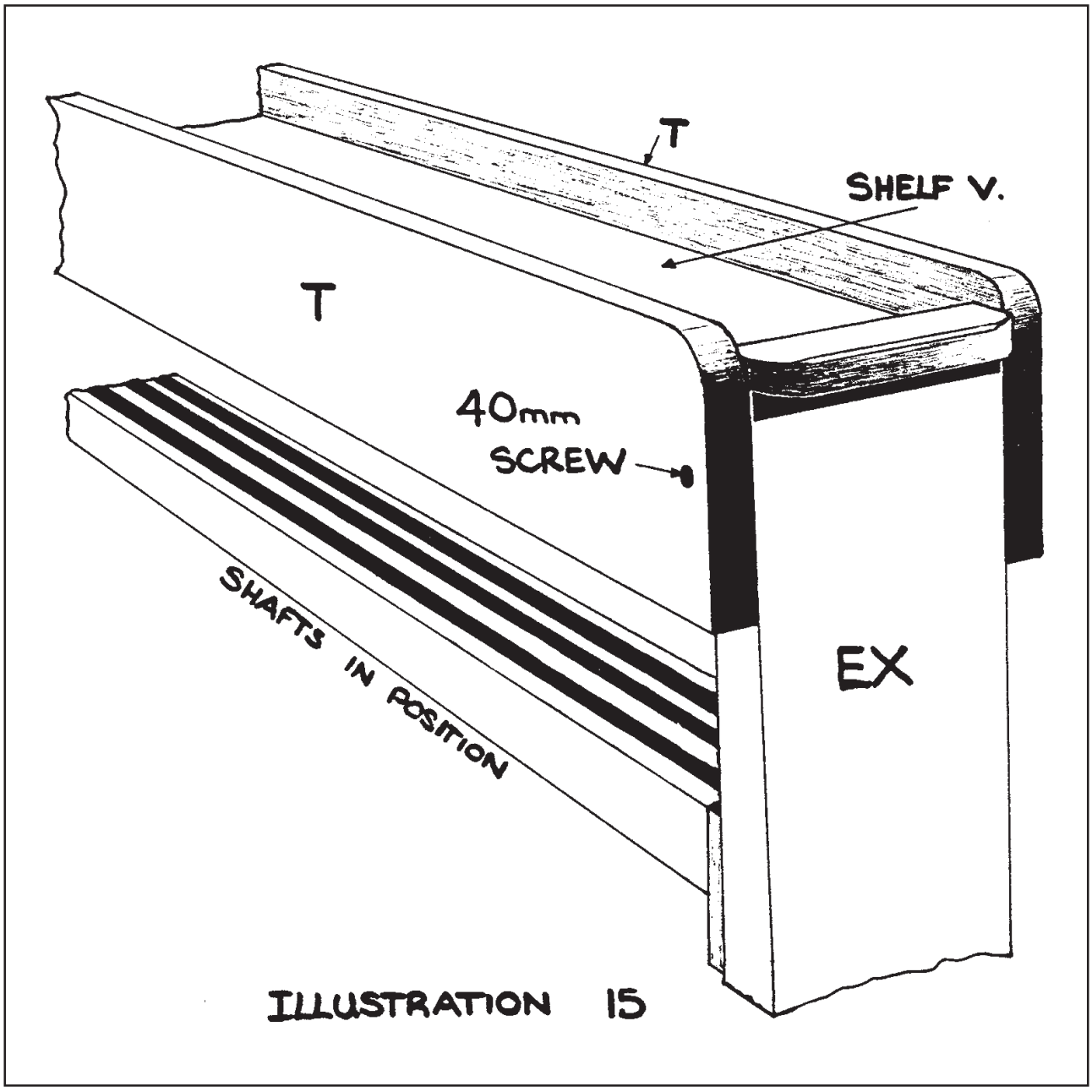
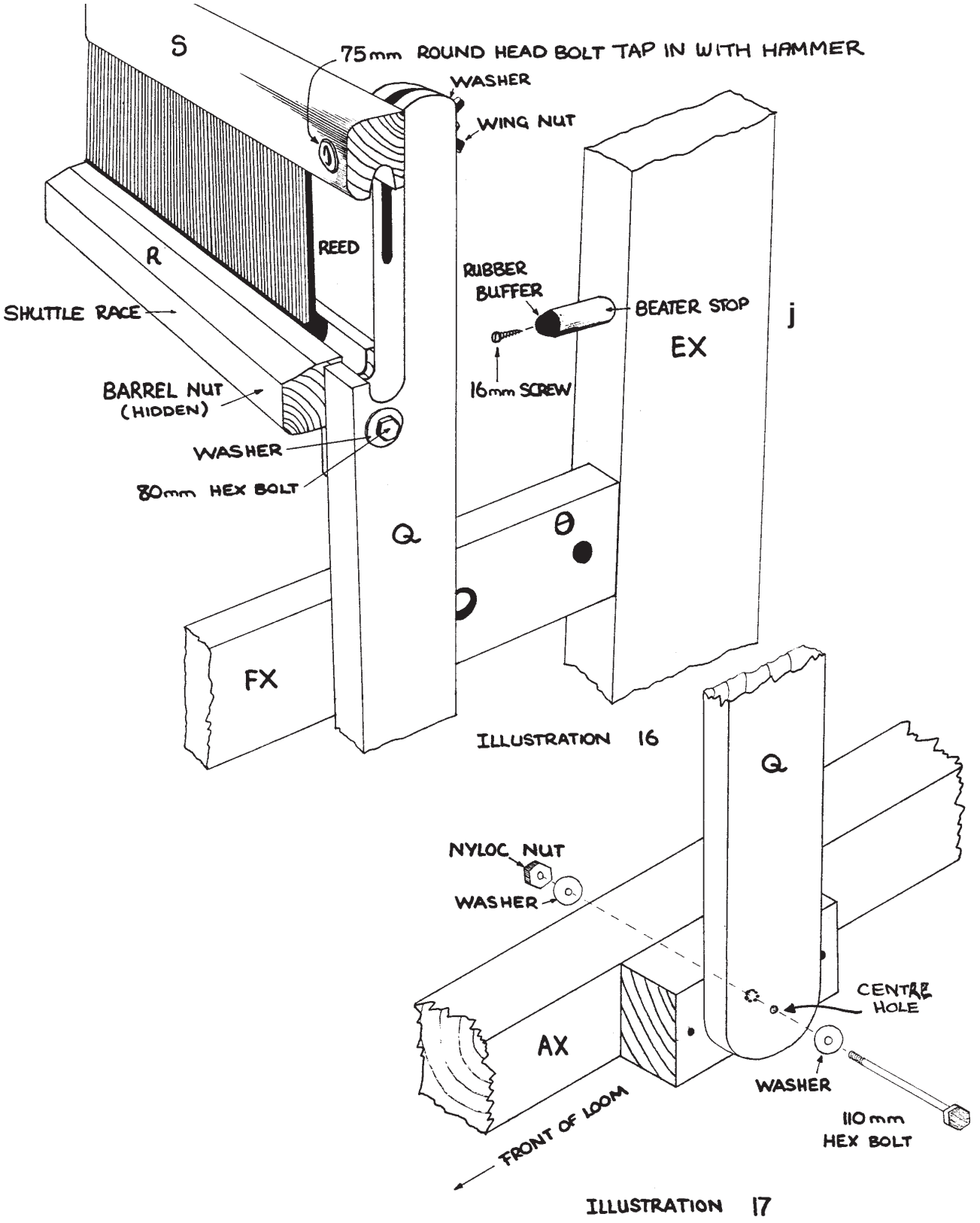


ILLUSTRATION 15



31 Place the beater in position on the loom frame and push a 110 mm hex bolt and washer through the side **Q**, the front hole in the spacer blocks attached to the sides **A** and **AX** and secure with washer and nyloc nut. The two holes in the spacer blocks allow the beater to be moved forwards or backwards to suit the weaving. See ***illustration 17***. **Do not tighten bolts. Beater must move backwards and forwards freely.**

32 Flame the ends of the nylon cords to prevent fraying. Then tie a knot in the cords and connect the treadles **J** to the parallel lams. See ***illustration 18***.

NOTE: There are four parallel lams and four slots in each treadle on the **four shaft loom**, and eight lams and eight slots in each treadle on the **eight shaft loom**. After determining the pattern required, connect the cord from each lam to the slot in the treadle directly beneath it. The knots in the cords locate into the holes in the underside of the treadles.

Illustration 19 is one of many alternative tie ups for the **four shaft loom** with treadles one and six for tabby weave.

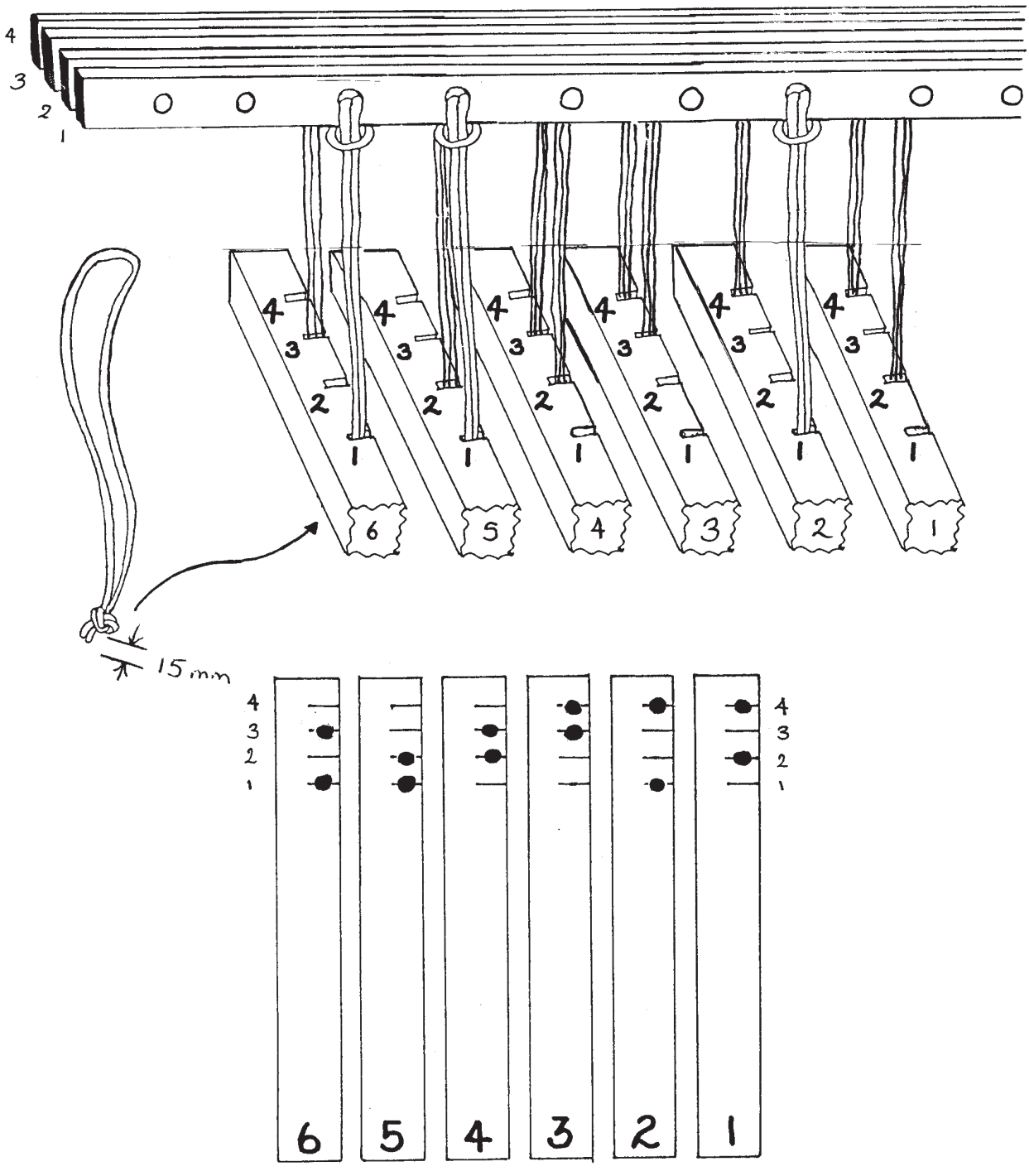
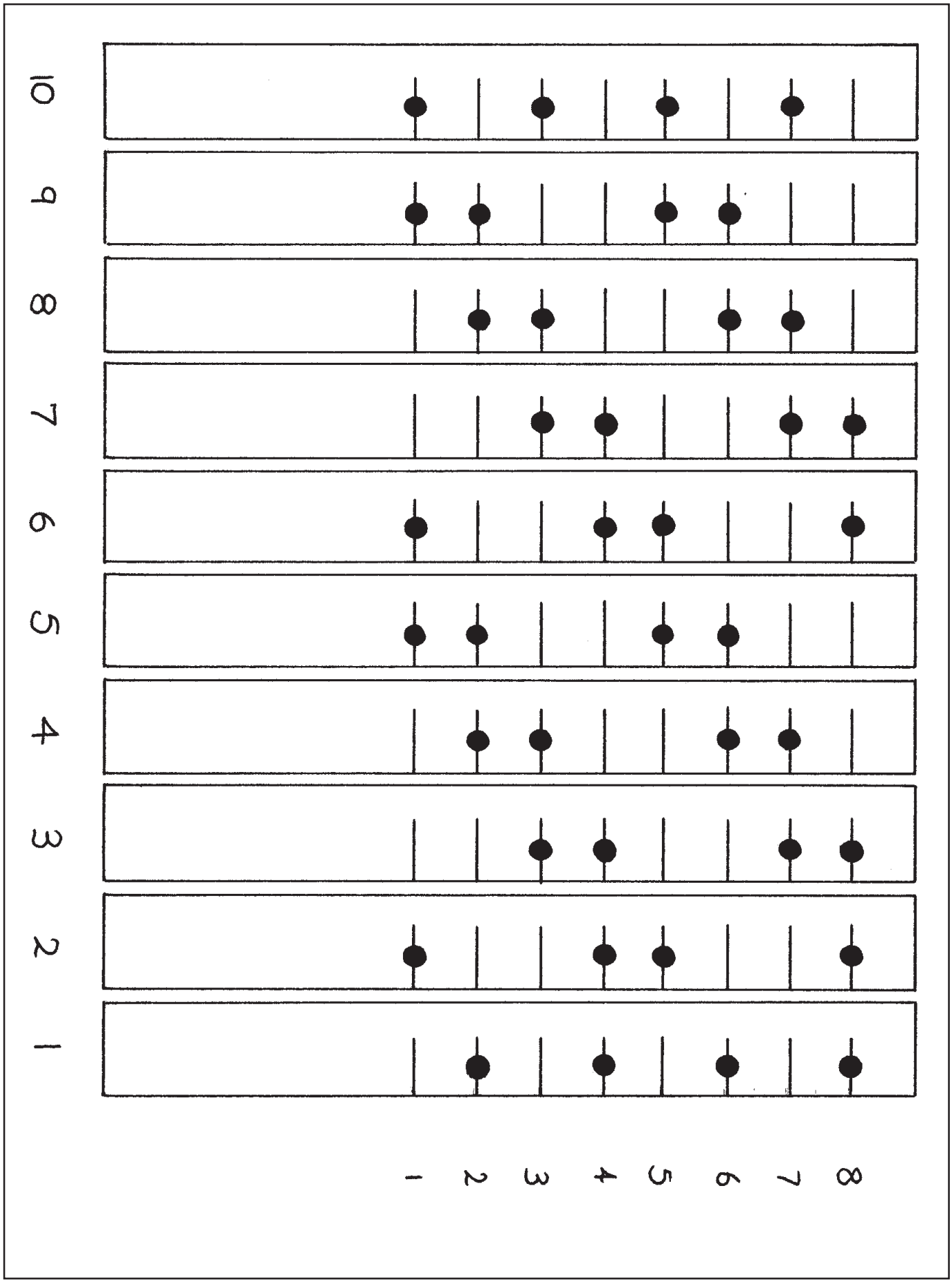


ILLUSTRATION 19

tie up for 8 shaft jack loom



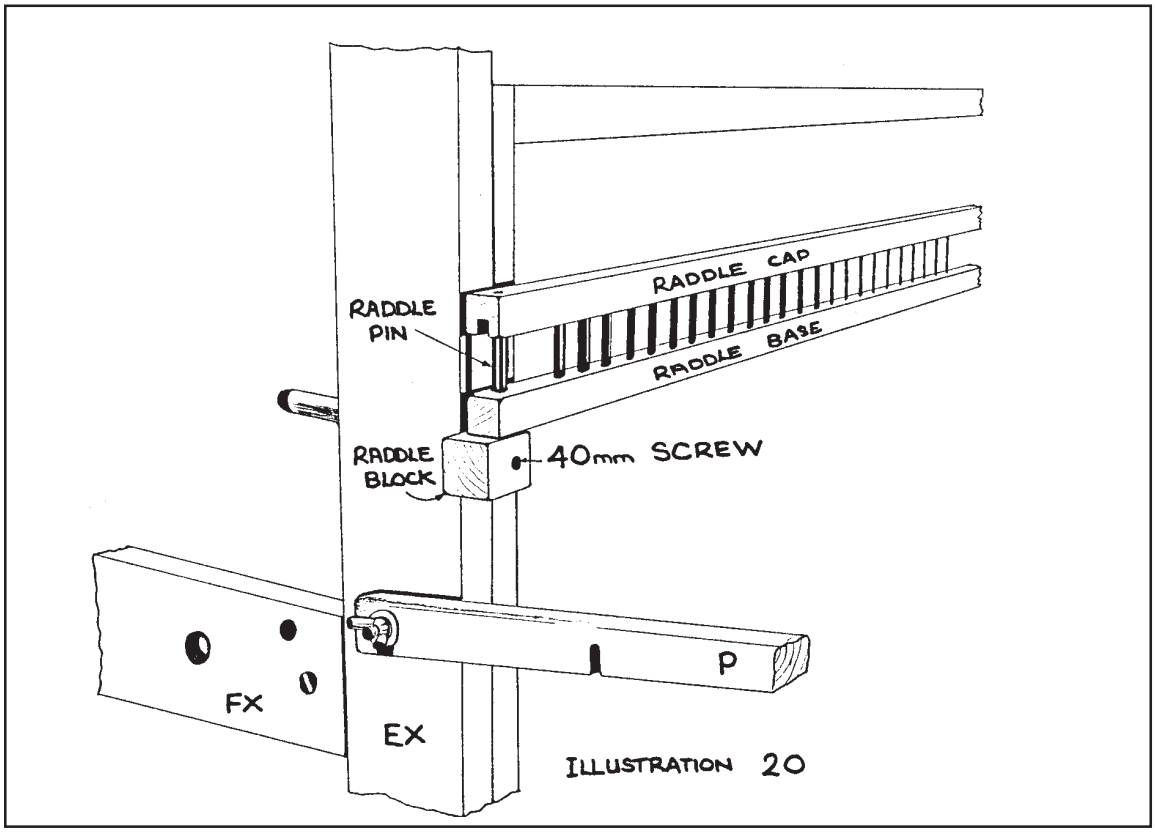


ILLUSTRATION 20

33 Attach the raddle blocks to the castle sides **E** and **EX** with 40 mm screws. Then locate the raddle pins into these blocks and sit the raddle in position. See ***illustration 20***.

34 Slide the round apron sticks into the pockets sewn into the end of the cloth aprons. Tie the round warp sticks parallel to the apron sticks with the cut pieces of string as shown in ***illustration 21***.

illustration 21.

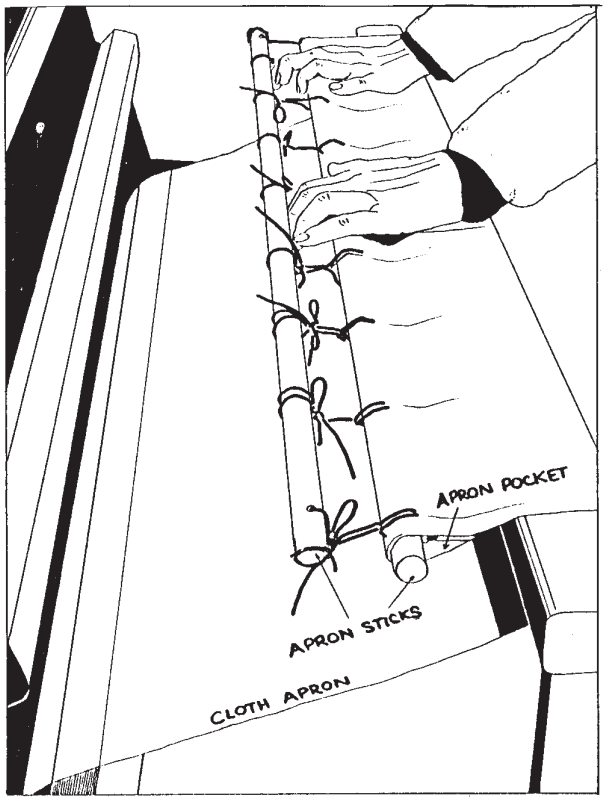


ILLUSTRATION 21.

The loom is now ready to be warped. Refer to the LEARN TO WEAVE booklet for more information.