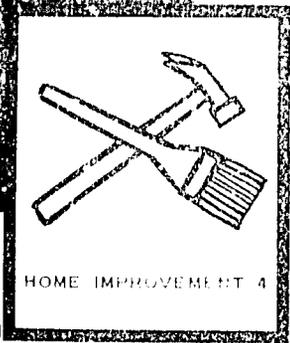


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MAKING A COTTON MATTRESS

Women in Rural Development
Agency for International Development
Home Improvement



*An Aid to Extension and Village Workers
in Many Countries*

FEDERAL EXTENSION SERVICE, U.S. DEPARTMENT OF AGRICULTURE,
IN COOPERATION WITH AGENCY FOR INTERNATIONAL DEVELOPMENT,
U. S. DEPARTMENT OF STATE.

**This is for
YOU
The Home Economics Extension Worker
or
Village Worker**

This booklet was prepared for use in countries cooperating with technical assistance programs of the Agency for International Development. You will find these directions simply written for teaching purposes.

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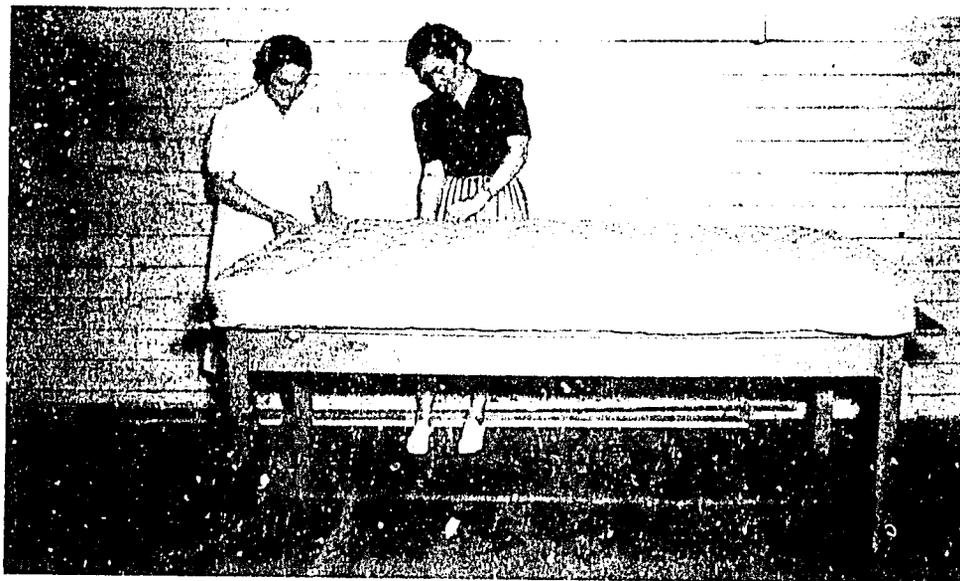
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Issued January 1966

Cover: Brazilian women with mattress they made.

MAKING A COTTON MATTRESS

You can make a good mattress at home. A mattress should be firm enough to support the body. It must be able to take hard wear because it is used one third of each day. It should be constructed of sturdy material and be carefully made.



WHERE TO MAKE A MATTRESS

Make your mattress outdoors if possible. The cotton stuffing is linty. Outdoors it will not bother you as much as in a closed room.

If you must make the mattress inside, ventilate the room. Do not have an open fire in the room. Do not let anyone smoke in the room. The fluffy cotton used in a mattress is easily set on fire.

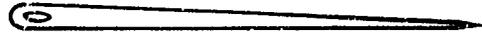
MATERIALS YOU NEED

For a bed 36 inches wide and 72 inches long you will need:

- (1) 8-ounce ticking or similar firm materials.
If material is 32 inches wide, you will need 9 yards.
If it is 36 inches wide you will need 7 yards.
If it is 40 inches wide you will need 5½ yards.
- (2) 35 pounds of dry cotton.
- (3) Two spools of white thread number 24.
- (4) Strong cord—110 yards.
- (5) 56 cotton tufts.

EQUIPMENT YOU NEED

- (1) One 16-inch tufting needle



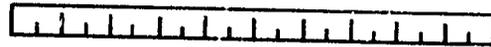
- (2) One 7-inch curved needle



- (3) Fine file to sharpen needles



- (4) Yardstick or tape measure

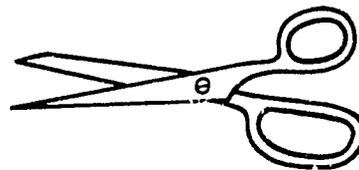


- (5) Pins

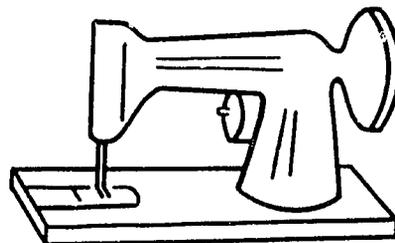
- (6) Crayon or pencil to mark positions of tufts

- (7) Sewing needles, No. 6 size

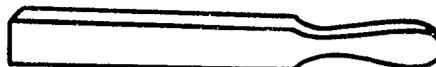
- (8) Scissors



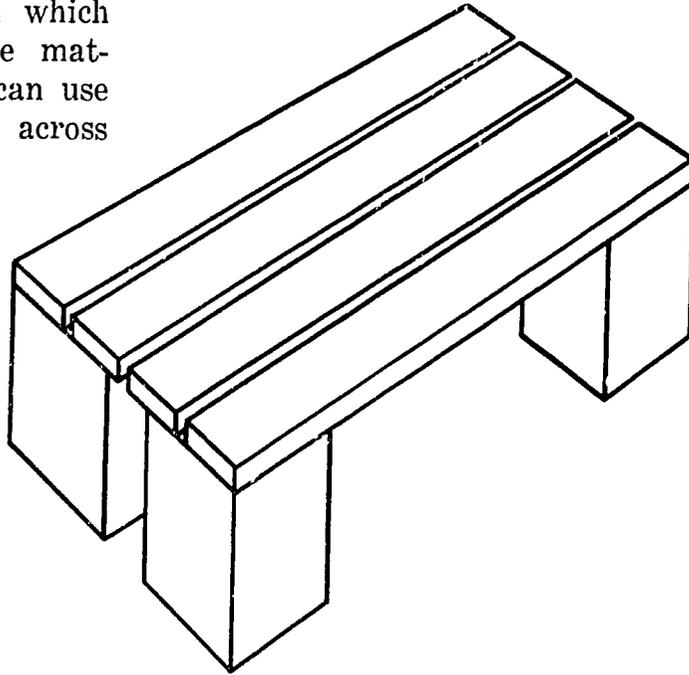
- (9) Sewing machine



- (10) Flail (about 4 feet long)

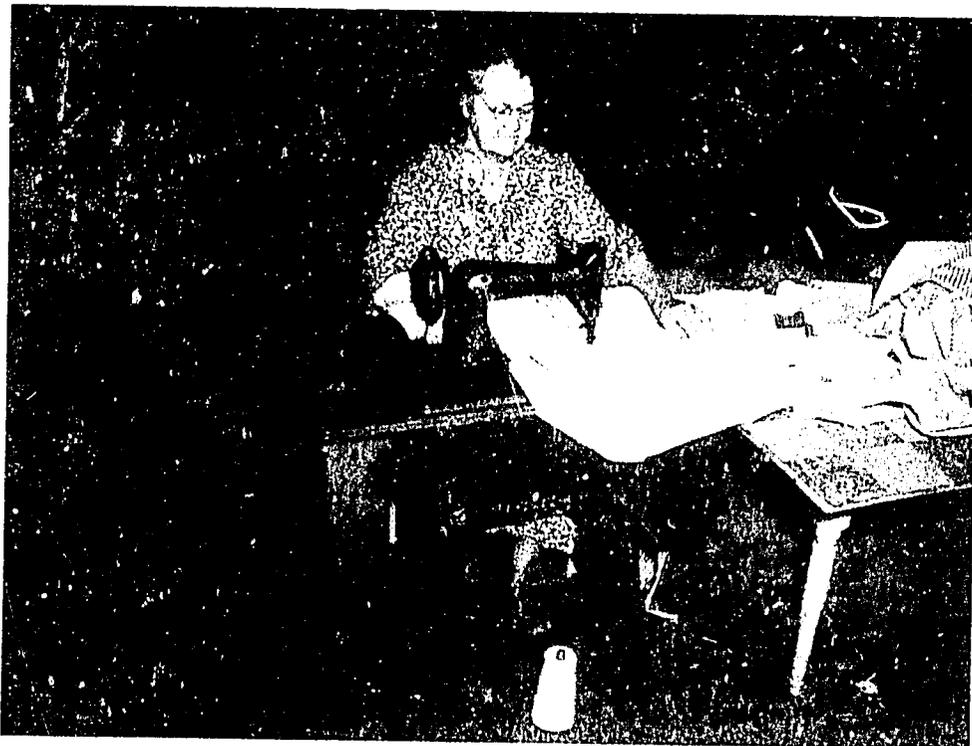


- (11) Platform on which to make the mattress (You can use boards set across boxes)



MAKING THE TICK

The tick is the cloth covering for the mattress.



Size of the Tick

Measure inside your bed frame. That decides the size of the tick. Measure lengthwise from head to foot. Also measure crosswise from rail to rail. Add $1\frac{1}{2}$ inches for every foot in length. Add $1\frac{1}{2}$ inches for every foot in width. This allows for the roll on the edge of the mattress and for seams.

We will make a mattress for a bed 72 inches long by 36 inches wide. To find out how long a tick you will need, change the inches into feet. Seventy-two inches is six feet long. Now add $1\frac{1}{2}$ inches for each foot. That is nine inches. This makes a total of 81 inches in length. Figure out the width the same way. You need ticking at least 40 inches wide for this mattress.

Cutting the Tick

Make sure the ticking is straight across the end. From your ticking cut the pieces for your mattress tick. You will need the following:

- 2 pieces 81 inches long and $40\frac{1}{2}$ inches wide. These are for the top and bottom of the tick. If your material is not at least 40 inches wide, you will have to sew pieces of cloth together to make it wide enough. Allow $\frac{1}{2}$ inch extra for seams on each piece you must join to another.

- 1 piece of ticking 244 inches long and 5 inches wide. This is for the boxing. You may need to sew pieces together to make this length.

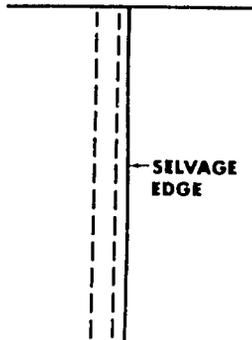
- 4 pieces, 5 inches long and 5 inches wide for the handles.

Make Top and Bottom of Tick

You will probably have to join two pieces of ticking together to make the top or bottom pieces 81 inches by 40 inches. Most materials are not 40 inches wide. If you have 32-inch ticking, you will need to join two pieces. One will be 32 inches wide and the other 9 inches wide.

Lap one selvage edge of the 32-inch piece of material $\frac{1}{2}$ -inch over the selvage edge of the 9-inch piece. Pin them together. Place pins crosswise. Baste. Stitch by machine near the selvage edge on one side. Turn over and stitch near edge of selvage on the other side. This makes a lapped seam with two rows of stitching. See diagram.

The top of your tick will look like this. Repeat for bottom of tick.



Mark Position for Tufts

Spread the bottom of the tick on a large table or scaffolding. This must be large enough to spread the bottom of the tick flat.

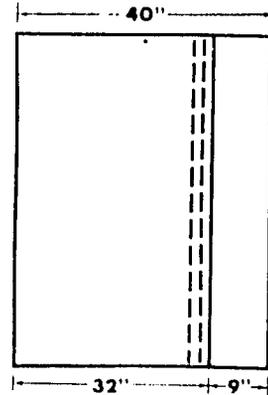
Lay the top of the tick on the bottom of the tick with *wrong* sides together. Have one seam on top of the other if it has to be pieced.

Start at one corner and measure 10 inches from the side and 10 inches from the end. Where the lines cross make a small mark. This is A on the following diagram. Locate each corner tuft in the same way. These are B, C, and D, on the diagram. Find the point halfway between A and C, and B and D. Make marks at these points. They are E and F on the diagram. These will give you the end tufts for 3 rows of tufts.

Between A and C put 4 marks equal distances apart. Repeat between B and D, and E and F. This will make 3 rows of marks for 18 tufts.

These tufts will form a series of squares. Within each square locate the center spot. Mark another tuft

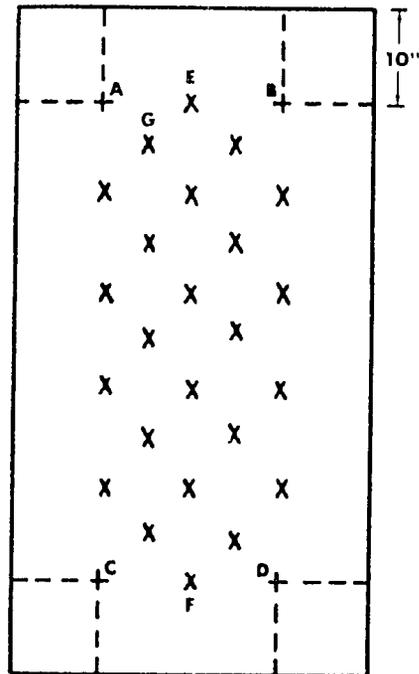
If you do not have a sewing machine, backstitch all seams by hand.



here. This is G on the diagram. This will make a total of 28 tufts.

At the point where you marked the tufts stick pins through both pieces of material. Turn the tick over. Mark the bottom of the tick each place a pin sticks through. This marks the place for tufts on this side.

Turn the tick over again and remove all pins.

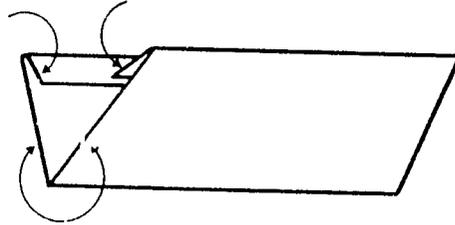


Mark Corners on Tick

Use the corner pattern on page 19. With the top and bottom of tick still spread out on the table, lay the pattern on each corner of the tick. Cut around the curve. Mark a notch in the exact center of each corner.

Make Handles for Mattress

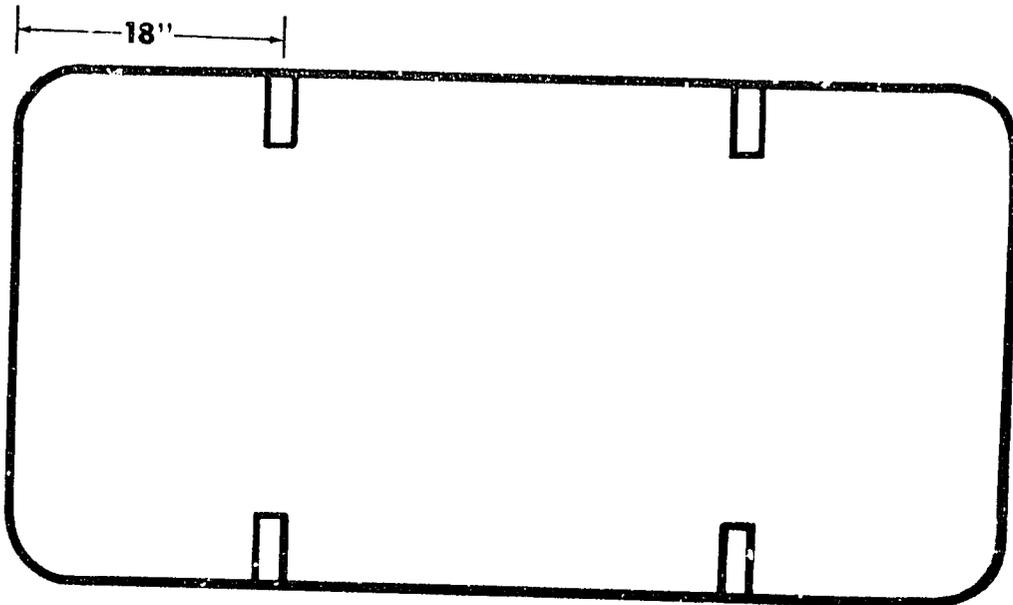
Make 4 handles for the mattress. For each handle take one of the pieces 5 inches by 5 inches. Fold over a half-inch on 2 edges, lengthwise of the material. Fold the strip lengthwise through the middle, bringing the two folded edges together. Stitch along both sides.



Mark Location for Handles

Measure along the sides of the tick 18 inches from both ends and mark with pencil or crayon. Mark on both top and bottom of tick.

Pin 4 handles to top of tick. Lay the handles on the tick at the points you have marked. Be sure the end of each is carefully lined up with the cut edge of the tick. Be sure it lies at right angles to the edge of the tick. Pin carefully.



Make Boxing

Join pieces of boxing to make a strip 244 inches long.

Lay the *right* side of the boxing to the *right* side of the top of the tick. Hold the top of the tick next to you and the boxing away from you. Pin edges together for a $\frac{1}{2}$ -inch seam. Place pins at right angles to edge. Continue pinning entirely around the mattress top.

Pin and stitch ends of boxing together where they meet.

Baste boxing to top of tick.

Stitch boxing to top of tick $\frac{1}{2}$ -inch from edge, all the way around. Place material under the presser foot of the sewing machine with the boxing underneath the mattress top. Stitch a second time for more strength.

When stitching the second time, retrace across each handle. This will make 4 stitchings across handles. If you do not have a sewing machine, backstitch by hand.

At each corner make a fold across the boxing at the point where it joins the notch of the mattress top. Mark the end of this fold with pencil or crayon. Mark it not more than $\frac{1}{2}$ -inch from cut edge so the mark will be included in the seam. This will show you where the boxing should join the corner notch of the bottom of the mattress.

Lay *right* side of bottom of tick to *right* side of top. Pin corner marks of boxing to corner notches of tick bottom. Pin across one end of the tick. Allow a $\frac{1}{2}$ -inch seam. Baste across this end between notches. Stitch twice as before.

MAKING COTTON TUFTS

Make 56 cotton tufts. These will go under the twine used to tie the mattress in the places marked. Tufts are placed on both sides of the mattress.

To make a tuft take a piece of cotton about 1 inch wide and several inches long. Roll it tightly into a roll $\frac{1}{2}$ to $\frac{3}{4}$ inches thick. The tuft must be heavy enough so that the twine will not pull through it.

FILLING THE TICK



It will take about 35 pounds of cotton to fill the tick.

Spread the tick on a table. The top of the tick is spread out flat with the *right* side down.

Turn the bottom of the tick back over a chair or some other support.

Spread the cotton over the tick in layers. However small the pieces of cotton are, they must be spread in layers. Otherwise the mattress may be lumpy. Never stuff the cotton or wad it.

Have the edges of the pieces of cotton meet but do not let them overlap.

Alternate the joinings of the pieces of cotton.

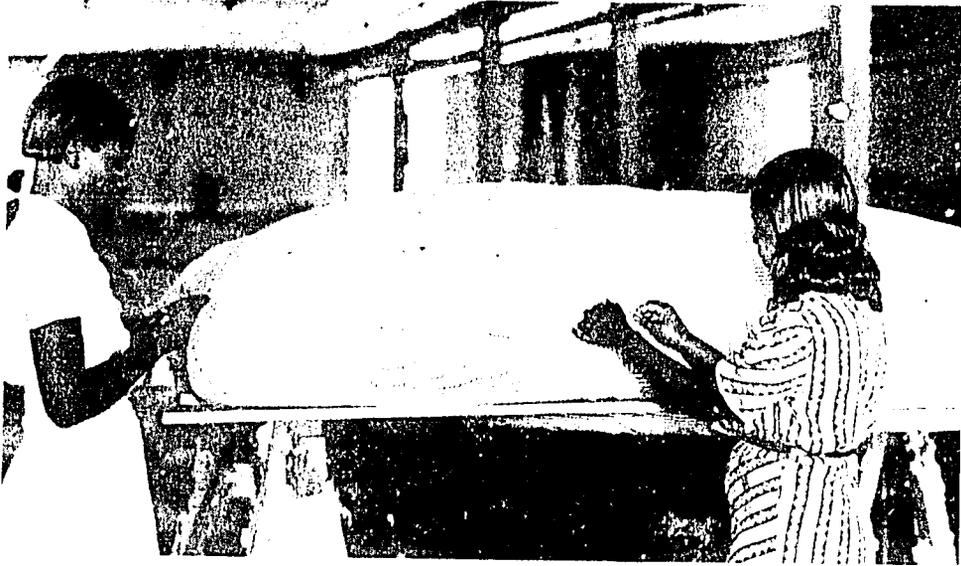
Each layer should completely cover the surface. Joinings should not come at the same places as in the layer below.

After you add each layer test to see if the cotton is distributed evenly. To do this, place one hand under the tick and one on the cotton. Try to find thin places. If you find thin places, add enough cotton in a small layer to make it even.

You may have to build up the corners and sides, as cotton is apt to be pushed to the center. While you are packing the cotton into the tick, test for uniformity a number of times.

Now, bring the bottom of the tick over the cotton. Pin with safety pins or have several people hold the edges together while two people beat the mattress gently with flails. Be careful not to beat the mattress hard or the cotton will be disarranged. After beating, turn the tick back and continue placing layers of cotton in place until the 35 pounds of cotton are used.

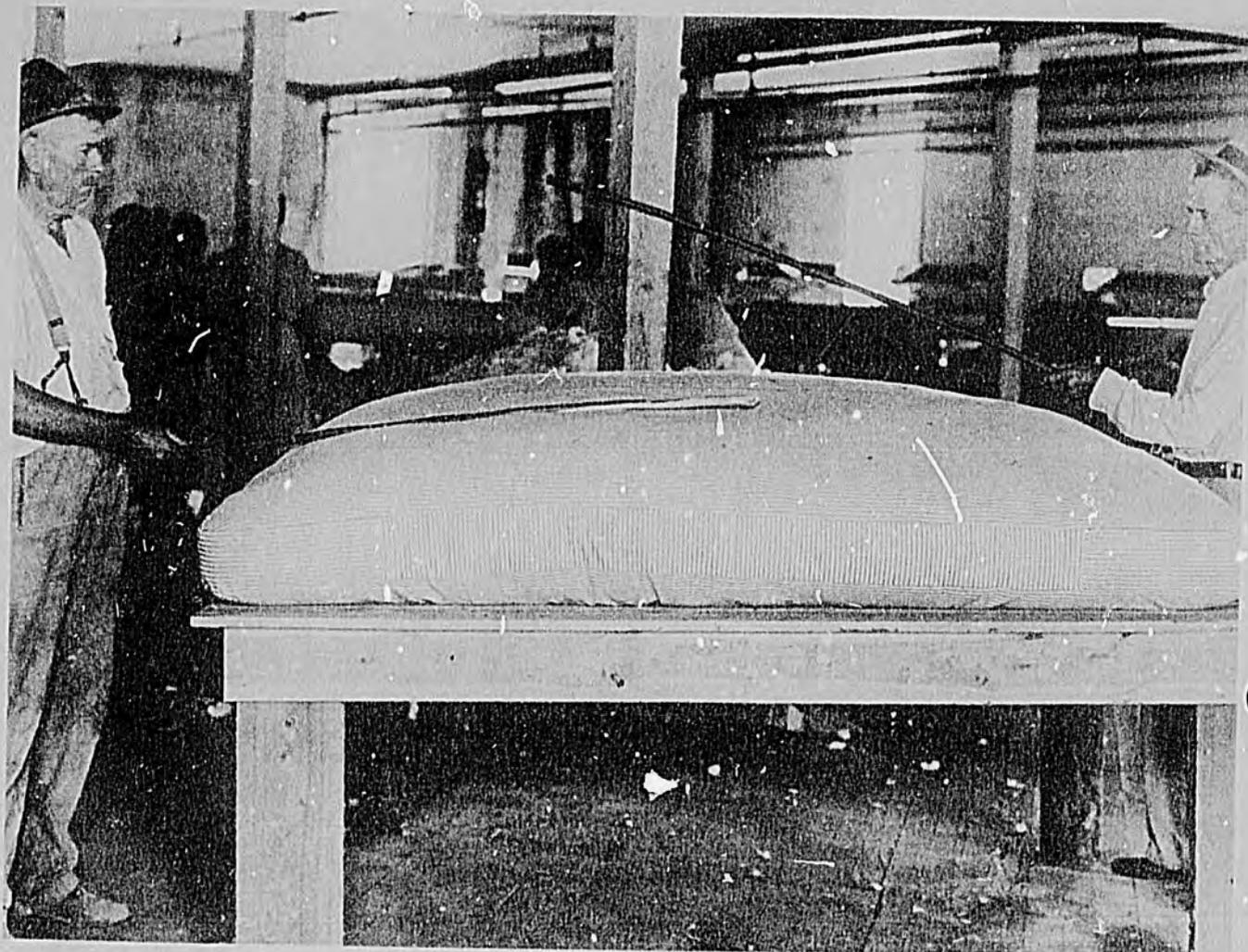
SEW THE TICK SHUT



After all the cotton is in place, bring the bottom of the tick back over the cotton. Pin edges of boxing to it to anchor it. Match notches on corners with pencil marks on boxing. Carefully pin the handles in place at point marked on the tick. Fold in edges of tick and boxing $\frac{1}{2}$ -inch.



Sew together with small overhand stitches. Use strong thread. Have the thread double. Give special attention to the places where the handles are attached.



BEATING THE MATTRESS

If the cotton was placed in smooth layers there may be no reason to beat the mattress again. However, there may be low places. If there are you will need to beat it. Look carefully for low places. Notice the corners particularly.

To beat the mattress, start at the highest part. Hit the mattress with the edge of the beater. With driving strokes gently move the cotton from the highest to the lowest parts. Only a few strokes should be needed. Continue, however, until mattress looks level.

After it is level, be very careful not to lean against it. Do not put the slightest pressure on the mattress or you may move the cotton.

SHARPEN NEEDLES

Keep mattress needles very sharp so they can go through the cotton easily. Use a very fine stone or file to sharpen the needles.

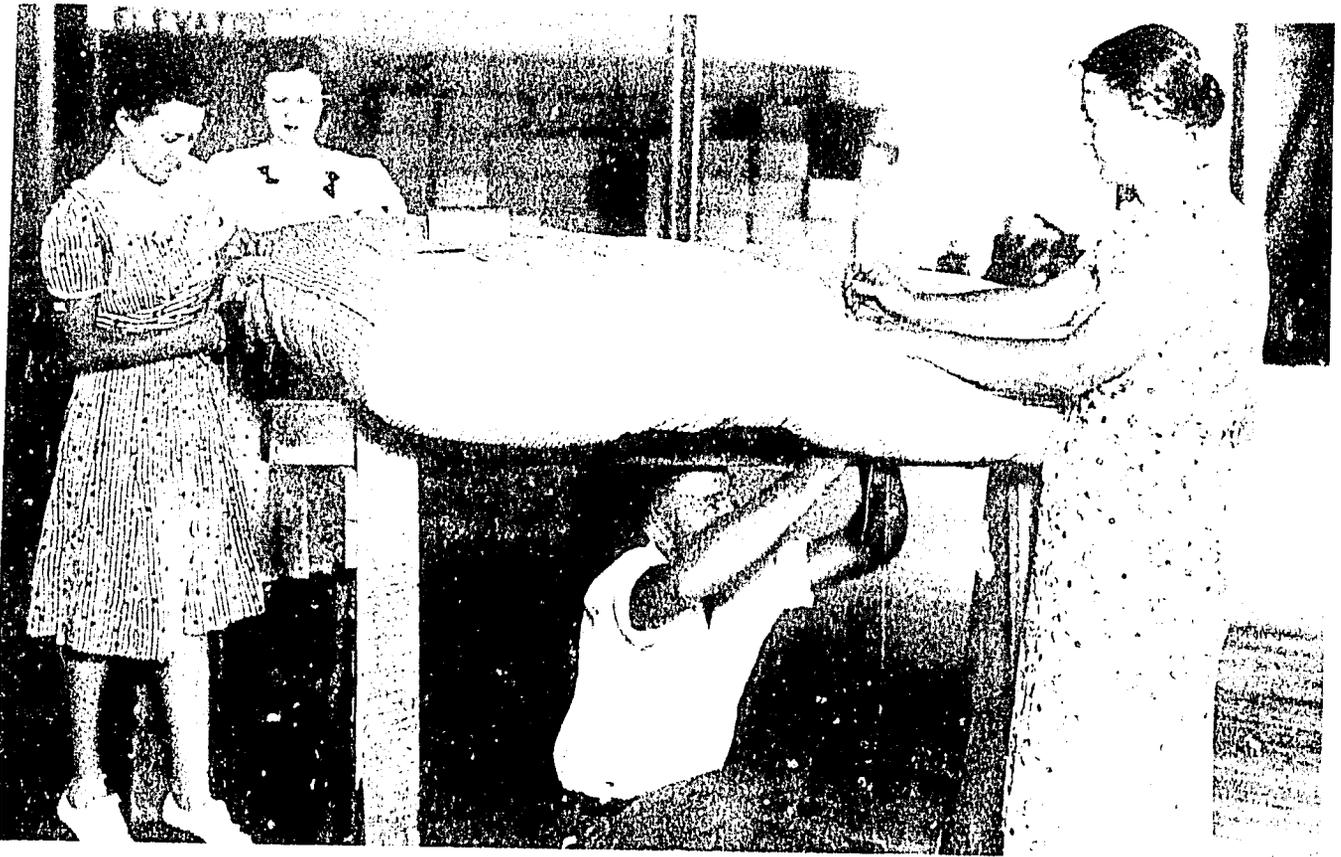
LACING THE MATTRESS

Lacing is a temporary sewing of the mattress to hold the cotton in place while you make the roll edge.

Thread a tufting needle with 4 yards of strong cord and make a large knot in one end. Leave 4 inches extending beyond the knot.

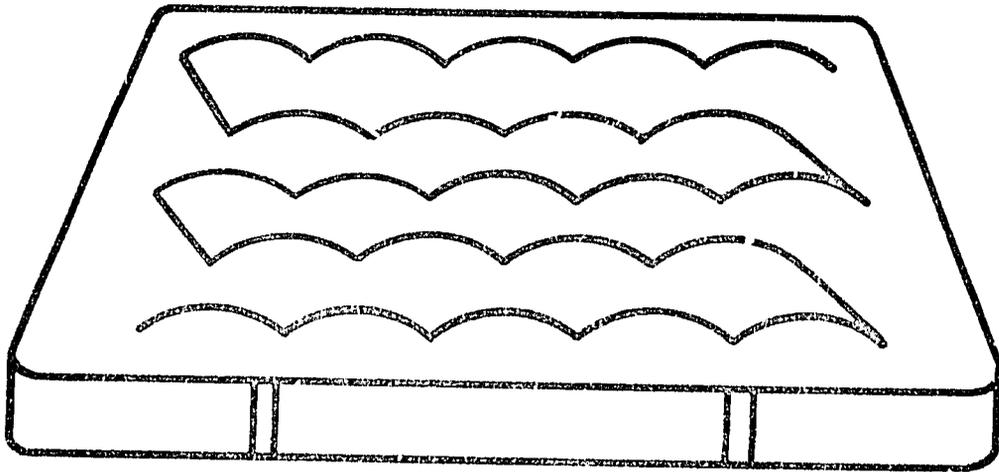
Begin at one of the corner tuft marks. Stick the needle straight down through the mattress and out again at the corresponding mark in the bottom side.

Another worker under the platform then inserts the needle 1½-inch from where it came out. Put a cotton tuft in the loop of the twine before drawing up the twine. Do not draw the twine tight enough to pull the mattress. Don't cut the twine. Insert the needle at the point indicated for the next tuft.



When the length of twine is used, tie another 4-yard length to it, using a square knot. There must be no break in the twine either between tufts or between rows of tufts.

After you make the roll edges, you will cut the lacing and tie the tufts permanently in place.



Use Needles Carefully

The points of these needles are very sharp. Handle them carefully.

Store them carefully when they are not in use. Put them up out of reach of small children. *They are dangerous tools.*

In lacing the mattress and making the roll edge, insert the needle *only* where a stitch is to be made. The sharp points of the needles cut the material. Don't make any more holes than you need to.

MAKING THE ROLL EDGE

The roll edge keeps the cotton in place and reinforces the boxing seams.

Measure $2\frac{1}{4}$ inches in from the edge seam on the mattress top. Mark a faint line entirely around the mattress.

Then measure $\frac{1}{2}$ -inch below the seam on the boxing and mark a faint line.



Thread the curved needle with 3 yards of the twine. Tie a large knot in the end of the twine, leaving a 5-inch end to join to another twine.

Insert needle into the mattress on the line drawn on the boxing. Push the needle straight in and bring it out through the line on the top of the mattress.

Make stitches about $\frac{1}{2}$ -inch apart. Continue on around mattress.

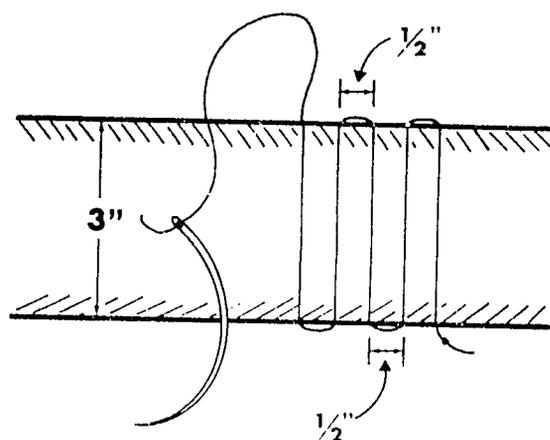
With each stitch work in enough cotton to make a firm roll.

Keep the same amount of cotton in each part of the roll. Keep the roll straight.

Draw the thread tight from below the roll after making a few stitches.

In rounding corners, take shorter stitches on top of the roll than on the bottom. Make stitches closer on the corners.

When you use one length of twine, tie another 3-yard length to it and continue.



Hide all knots on the underside of the roll.

Sew through the handles to make them stronger. Be sure to take a stitch over the edge of each handle so it is held securely in place.

After the first roll edge is made, turn the mattress over and make the roll on the other side the same way.

TYING THE TUFTS

Tie the tufts carefully to make a smooth mattress. This also helps hold the cotton in place.

To have a smooth mattress, tie all of the tufts with the same amount of tightness. If one tuft is tied loosely and the next one is tight, the surface of the mattress will be uneven.

If the center of the mattress is higher than the edges, tie the center row first. If the edges are higher, tie the side row first and work toward the center. This will help make a smooth mattress.

Use two narrow boards slightly longer than the mattress is wide. Place one narrow board crosswise under the mattress alongside the row of tufts you plan to tie first. Place the second board on top of the mattress directly over the bottom board.

Have two persons press down on the top board while the tufts are being tied.

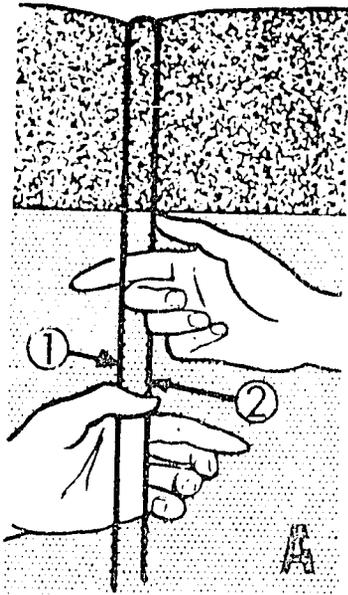
Clip the lacing halfway between each tuft and tie two ends of the twine using the tufting knot. (See drawings.) Place a cotton tuft under the twine and draw the knot securely.

Clip the ends of the twine, leaving the ends about 1 inch long.

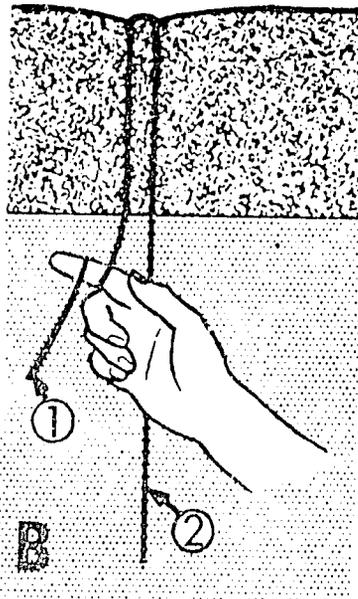
After the first row of tufts is tied, move the boards up to the next row and continue until all the rows are completed.

The Tufting Knot

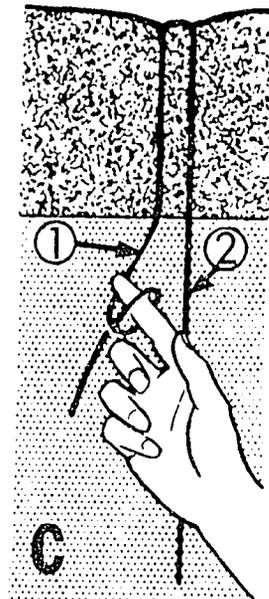
Hold both ends of the cord in left hand between thumb and index finger.



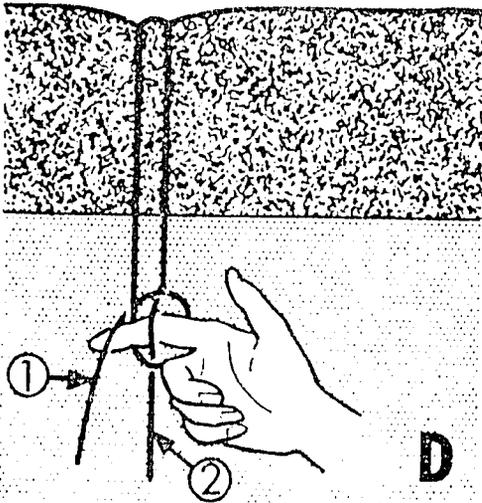
A. Bring index finger of right hand over cord number 2 and under cord number 1.



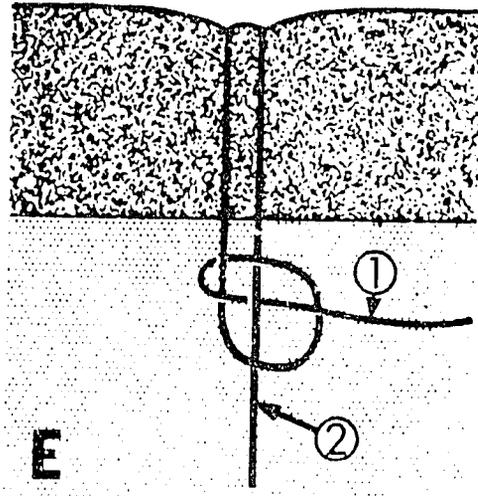
B. Loop cord number 1 around index finger.



C. Complete loop around index finger.



D. Bring cord number 2 through loop formed on index finger, forming a second loop.



E. Hold end of cord number 2 in left hand and complete knot by bringing end of cord number 1 through loop made by cord number 2 and still held on index finger of right hand. Holding the end of cord number 2 in left hand, slip knot that has been made down to position for tuft. Put a tuft under knot and complete knot by jerking cord number 1. If knot slips away from mattress it has not been tied correctly.

TAKE GOOD CARE OF YOUR MATTRESS

A good mattress should have good care. Otherwise it will become soiled and worn. It is much easier to prevent soil and wear than to try to make repairs after the damage is done. It is hard to clean a mattress thoroughly. It is equally hard to restore it to its original shape after months of careless use.

Air and sun regularly

Air and sun your mattress. A mattress can be aired every few days. Sunning outside will depend on the weather. Every three or four months try to put the mattress on a flat surface in the sun. Beat it to fluff the cotton. Then turn it to the other side and beat it on that side.

Turn mattress once a week

Each week turn the mattress. The first week turn it over. The next week turn it end for end. This will help give all parts of the mattress equal wear. This will help prevent it's becoming hard or hollowed in the center.

Carry mattress by handles

The handles were put on the mattress to help you carry it and turn it. Always use the handles when you move the mattress.

Make a cover for the mattress

To keep the mattress clean, make a cover for it. It is easier to remove a cover and wash it than to try to clean the mattress.

A mattress cover is a case made so it fits snugly over the mattress, yet is loose enough to slip on and off easily.

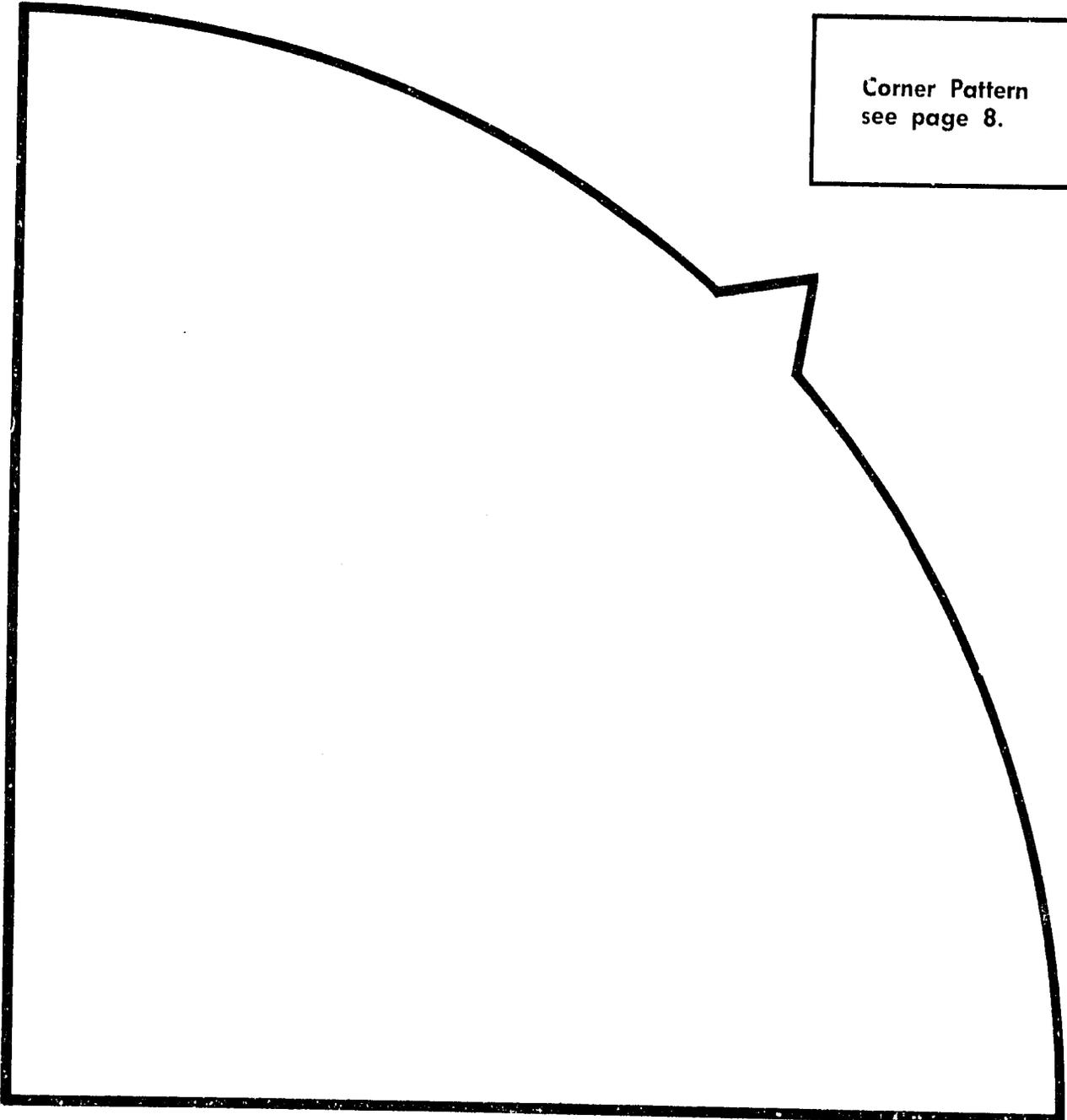
A mattress cover may be made of medium or lightweight material.

OTHER MATERIALS FOR STUFFING

These directions tell how to make a mattress with cotton. Other materials such as straw, corn husks, hay, banana or palm leaves have been used.

Use the same general directions given here for other stuffing materials.

If you do not use cotton you will need to substitute some other material for the tufts. Small pieces of felt or doubled squares of ticking cut into a round shape make good substitutes.



Corner Pattern
see page 8.

CHECK YOUR MATTRESS

This sheet will help you find out how well you have made your mattress. Answer each of the following questions by placing a check mark (✓) in the proper column.

Questions	Yes	No
1. Does the mattress feel soft and springy?		
2. Does it feel smooth—no lumps or hollows in the cotton?		
3. Does the mattress look level?		
4. Are all the tufts the same tightness?		
5. Is the tick well stitched?		
6. Are the corners of the tick rounded evenly?		
7. Is the overhand seam sewed firmly with small stitches?		
8. Are the roll edges firm and even?		
9. Are the stitches in the roll edge even?		
10. Are the edges of the mattress smooth and even?		
11. Are the corners full and free from wrinkles?		
12. Are the tufts firmly rolled and even in size?		
13. Is the mattress free from unnecessary needle holes?		
14. Is the mattress free from unnecessary pencil marks?		
15. Is the mattress clean?		