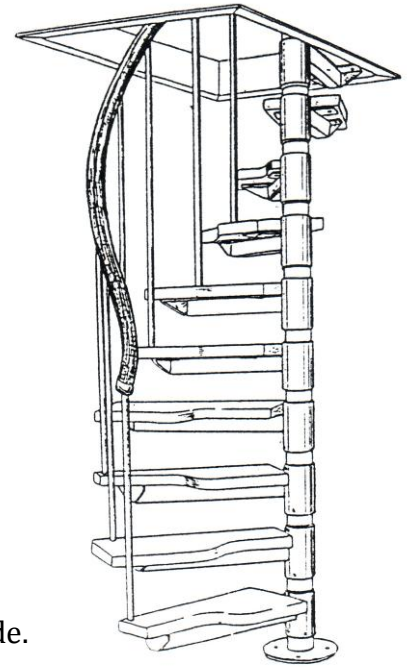


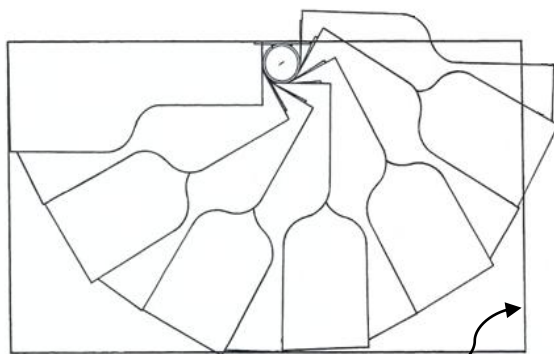
CHARLOTTE SPACE SAVING SPIRAL INSTALLATION INSTRUCTIONS

- A. Please read instructions carefully before starting installation.
- B. To save time and effort it is advisable to apply any finish required to the woodwork before assembly. Two or three coats of polyurethane varnish such as Ronseal is recommended for both sides of the treads.
- C. To prevent damage to the powder coating on the post:-
- i) Check that the bracket sleeves are clear from sharp edges inside.
 - ii) Insert a roll of paper in sleeve before sliding down post.
 - iii) If any damage to the paint work does occur, this can be simply repaired with an appropriate touch up paint.



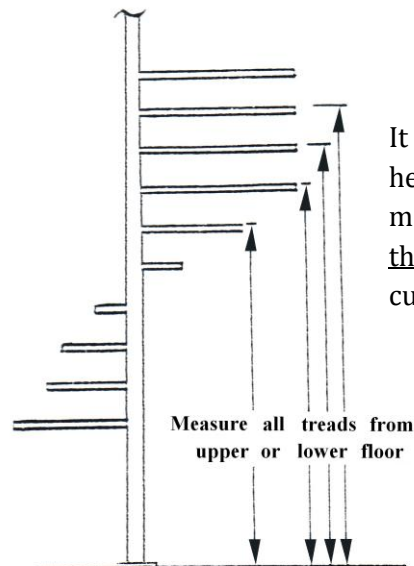
The opening for the stair should ideally be at least 80cm x 140cm, although it is possible to fit into a 75cm x 130cm. However, if the opening is made to this smaller size, the mid-point of the handrail will foul the sides and the baluster positions may have to be moved inward. Note that the outer corners of the treads also extend beyond this size.

Fig. (1)



Opening size indicated 140 x 75cm

Fig. (2)



It is critical that the fixed height of the tread is measured each time from the floor, to avoid cumulative errors occurring.

Measure all treads from upper or lower floor

1. Fix the supports to the underside of the treads in the locations shown, using No. 12 countersunk screws and the large cup washers supplied. Hardwood treads should be pilot-drilled to 4mm diameter.
Note - the top tread is always wide on the outer side.

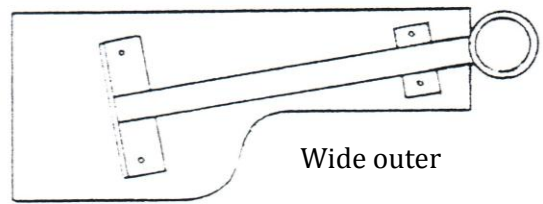


Fig. (3)

The Space Saver Spiral is designed to be assembled to ascend either clockwise or anti-clockwise from the same kit.

The arrangement shown in Fig. (3) is for anti-clockwise ascent. Invert treads for clockwise ascent.

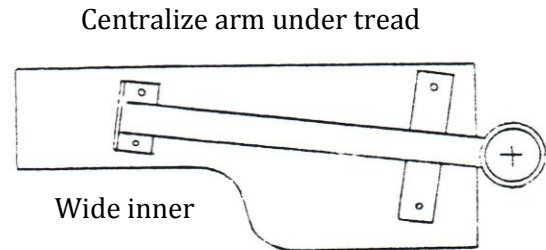
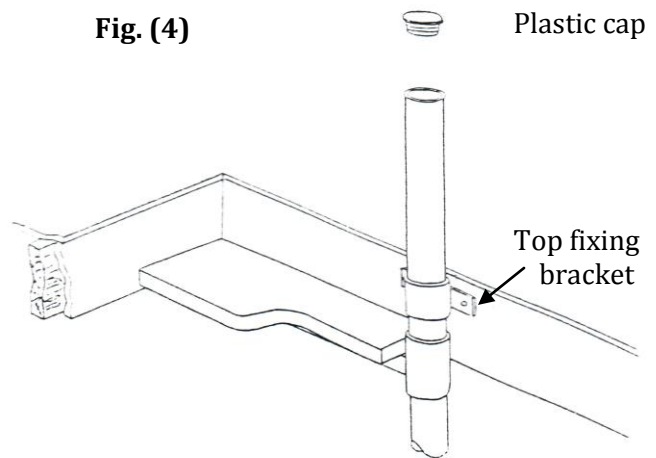


Fig. (4)

2. Slide all the assembled treads carefully down the post in position in the opening. The top tread is fixed temporarily in its position in the corner of the prepared opening to enable the post to be correctly located, as shown in Fig. (4).
The upper post bracket is now screwed to the joist using the coach screws provided. Check that the post is vertical, and fix the base plate.



Temporarily fix top tread to locate post.

3. The upper tread may now be slackened and lowered to just above the remaining stacked treads, but vertically below its original position. In this position the treads can be spread out to determine their angular positions, and the hole centres for the balusters.

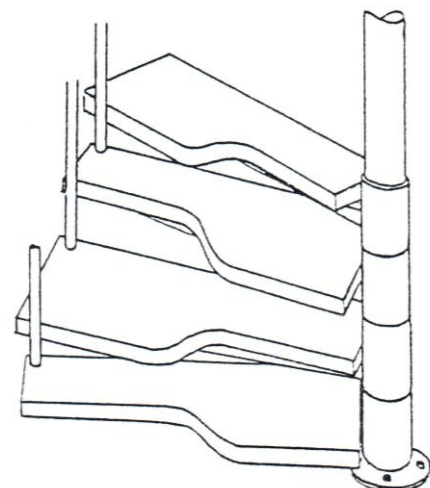


Fig. (5)

4. If a different layout is required, then the hole centres should be determined after arranging the treads. This is done by holding a baluster against the front of the tread and marking its base on the tread below, as shown in Fig. (5)

Spread treads out at ground level to determine shape using balusters as guide.

- The baluster position controls the angle and the overlap of the treads. To achieve a layout similar to that shown in Fig. (1) on page 1, the 9mm holes for the balusters should be drilled as shown with a '+' in Fig. (6). It is important that the radial position of each baluster measured from the post is similar.

Infill balusters (optional)

If the balustrading is required to conform to the 100mm rule, infill balusters will need to be fitted. The 220mm dimension, as shown in Fig. (6), is used, and the 12.7mm dia. Infill baluster is subsequently fitted midway between the two balusters on the wide outer tread.

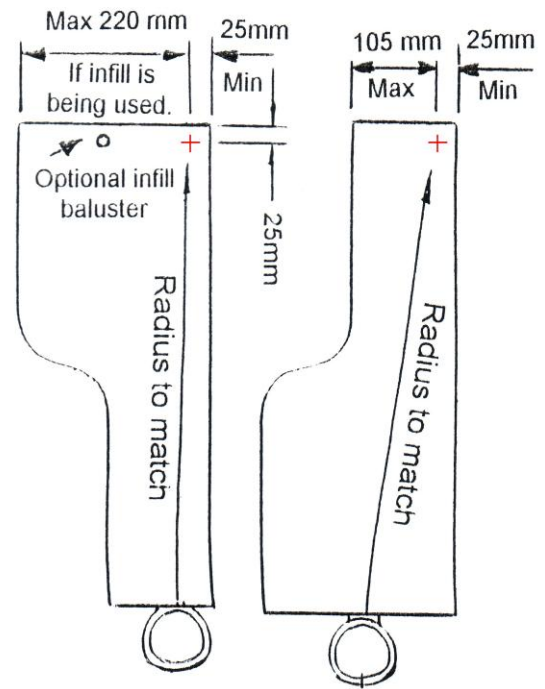


Fig. (6)

- Once drilled, assembly is started simultaneously with each tread and its baluster.
- Assemble the M8x60 bolt and washer in the drilled tread hole as shown in Fig. (7).

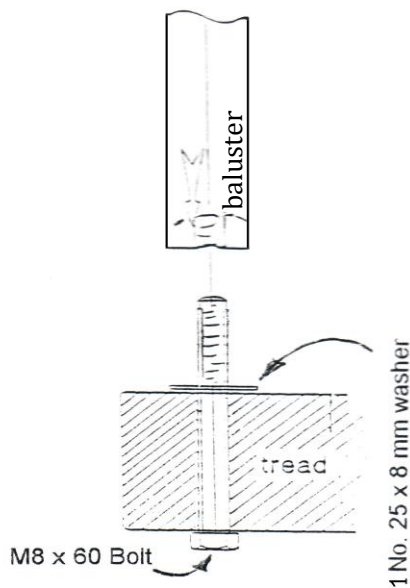


Fig. (7)

- The baluster is turned onto the bolt ensuring that the bolt is tightened, as shown in Fig. (7).

- The top tread is positioned and fixed using the grub screws supplied.

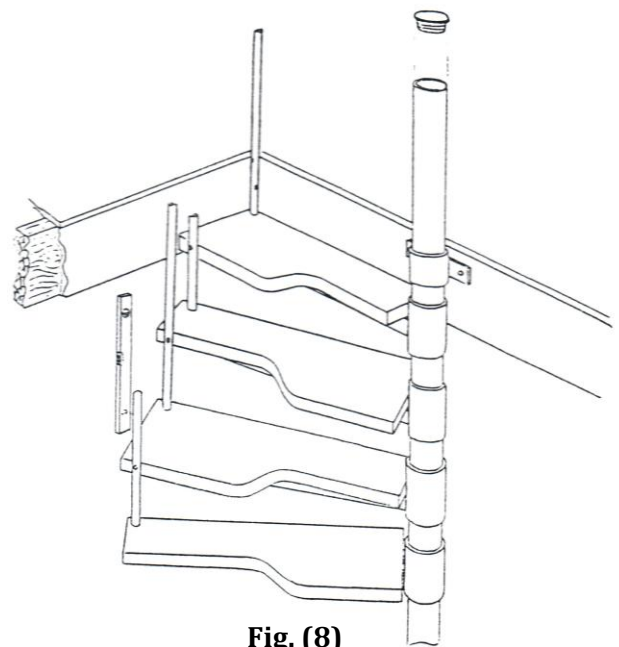


Fig. (8)

- The top baluster is fixed vertically to the lining in two positions, by drilling and screwing through at right angles, as shown in Fig. (8). Check using a spirit level.

9. Raise the next tread into position according to the baluster. See Fig. (2), page 1. Allow for the saddle washer if used. Tighten grub screws on centre post. Check baluster using spirit level and drill 4mm diameter through tube into the front of the tread. (Protect tube with masking tape.) Hardwood treads should also be pilot drilled 4mm to full depth. Fix baluster as shown in Fig. (9) using No. 12 countersunk screw and medium cup washer, which will deform around baluster.

This process continues until all treads and balusters are fixed.

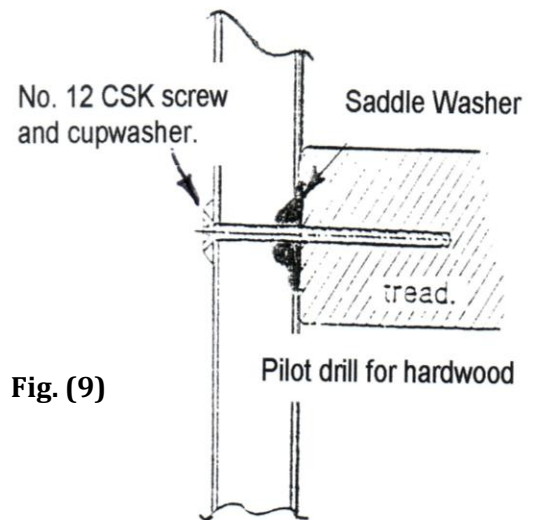


Fig. (9)

10. All the balusters should now be checked and tightened, as should the grub screws securing the tread support and the top post fixing.

11. Position baluster sleeves on all balusters.

12. Offer up handrail and temporarily attach to baluster clips using sticky tape or nylon ties.

Adjust position of handrail and baluster tops until neat continuous alignment is achieved.

Secure handrail using No.6 countersink screws and cupwashers, as shown in Fig. (10).

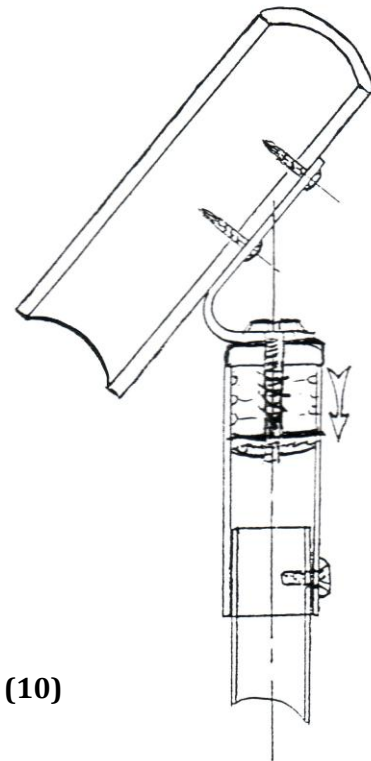


Fig. (10)

13. Drill through pilot holes in sleeves and into baluster using 4.5mm drill. Insert thread forming screw and cup washer, as shown in Fig. (10), and tighten fully home.

14. Infill balusters (optional)
Drill a base hole 12.7mm dia. x 10mm deep, midway between the two balusters on the wide outer tread.

N.B. Ensure that the radial distance from the centre post matches other balusters.

Cut infill baluster to length and screw into underside of handrail as above.

HANDRAIL CAPS -

Cut handrail to required length. Place caps in very hot water for 30 seconds, before pushing onto end of handrail. Once in place it will not be possible to remove them.

15. After checking all fixings, the 6mm pilot hole, which is predrilled in the rear of each support sleeve, is drilled right through the centre post. A 'Spirol' pin is driven in flush to secure the completed assembly.