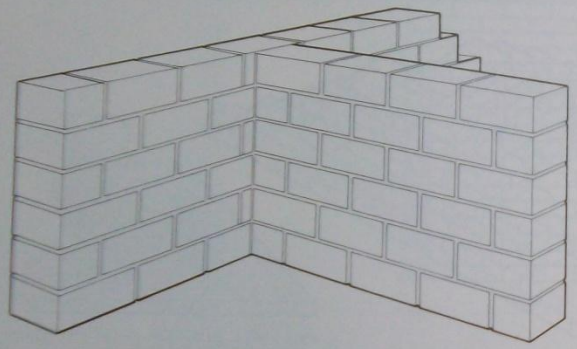
16.2.3 Exercise No 3

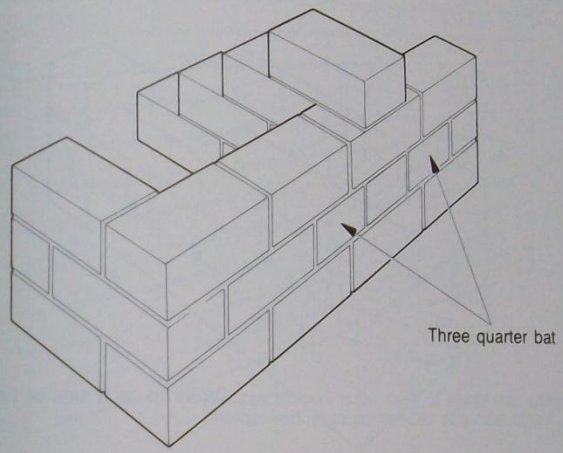
Construct a wall junction in stretcher bond 7 courses high in standard metric bricks 110 mm thick. The junction wall must be tied in each alternate course.



WALL JUNCTION EXERCISE

16.2.4 Exercise No 4

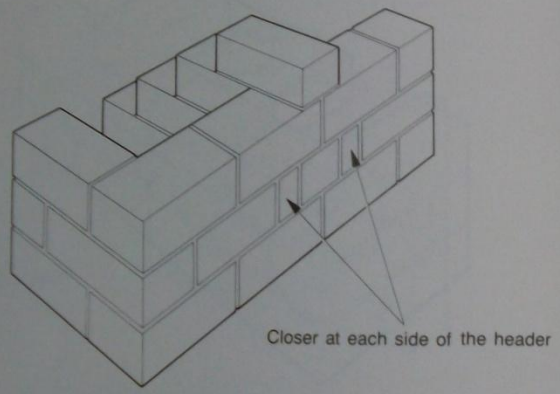
Construct a wall junction in stretcher bond 7 courses high in standard metric bricks 110 mm thick. The junction wall must be tied in each alternate course using a three quarter bat at each side of the header tie.



BONDING JUNCTION WALLS (EXERCISE)

16.2.5 Exercise No 5

Construct a wall junction in stretcher bond 7 courses high in standard metric bricks 110 mm thick. The junction wall must be tied in each alternate course using a closer at each side of the header tie.

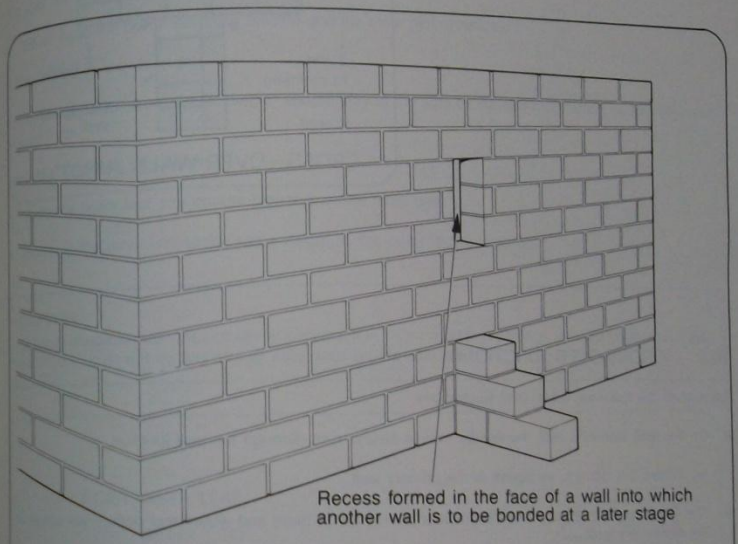


BONDING JUNCTION WALLS (EXERCISE)

16.2.6 Exercise No 6

The exercise consists of building a 110 mm wall in standard metric bricks indented with two stopped ends and consisting of thirteen courses.

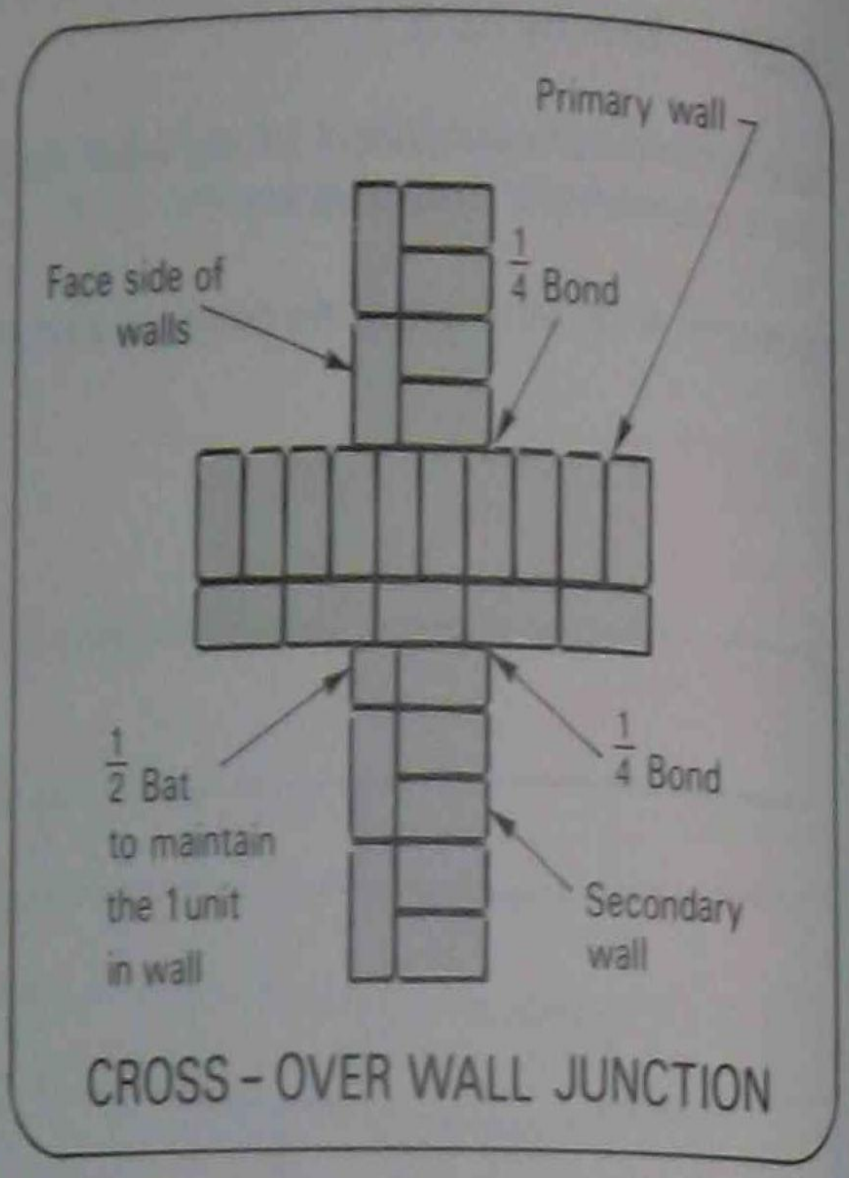
The indents are to serve later for the building of a junction wall in stretcher bond 110 mm thick.



INDENT

16.2.7 Exercise No 7

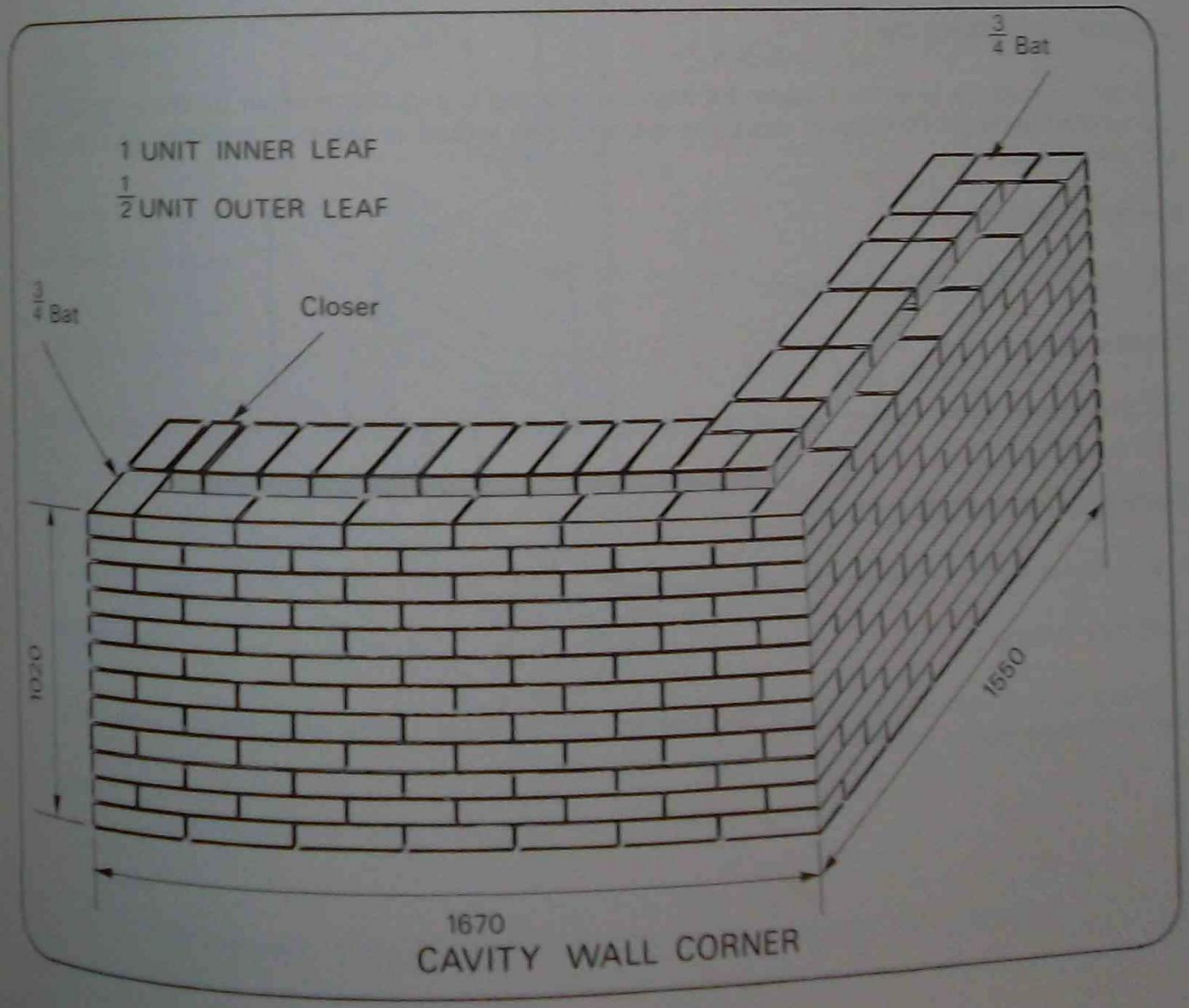
Finish the three walls shown in the illustration with stopped ends and 13 courses high.



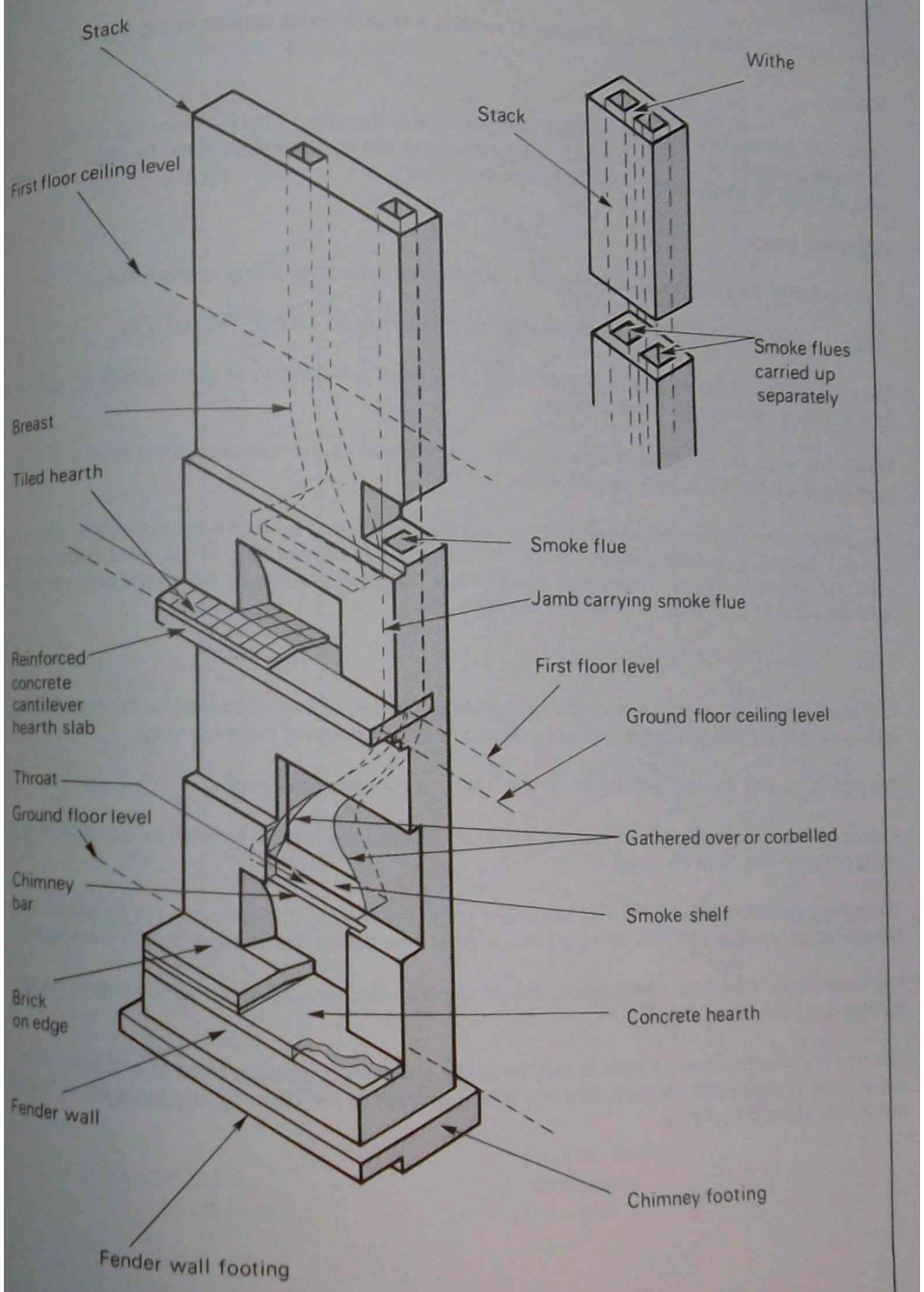
CROSS - OVER WALL JUNCTION

CAUTION:

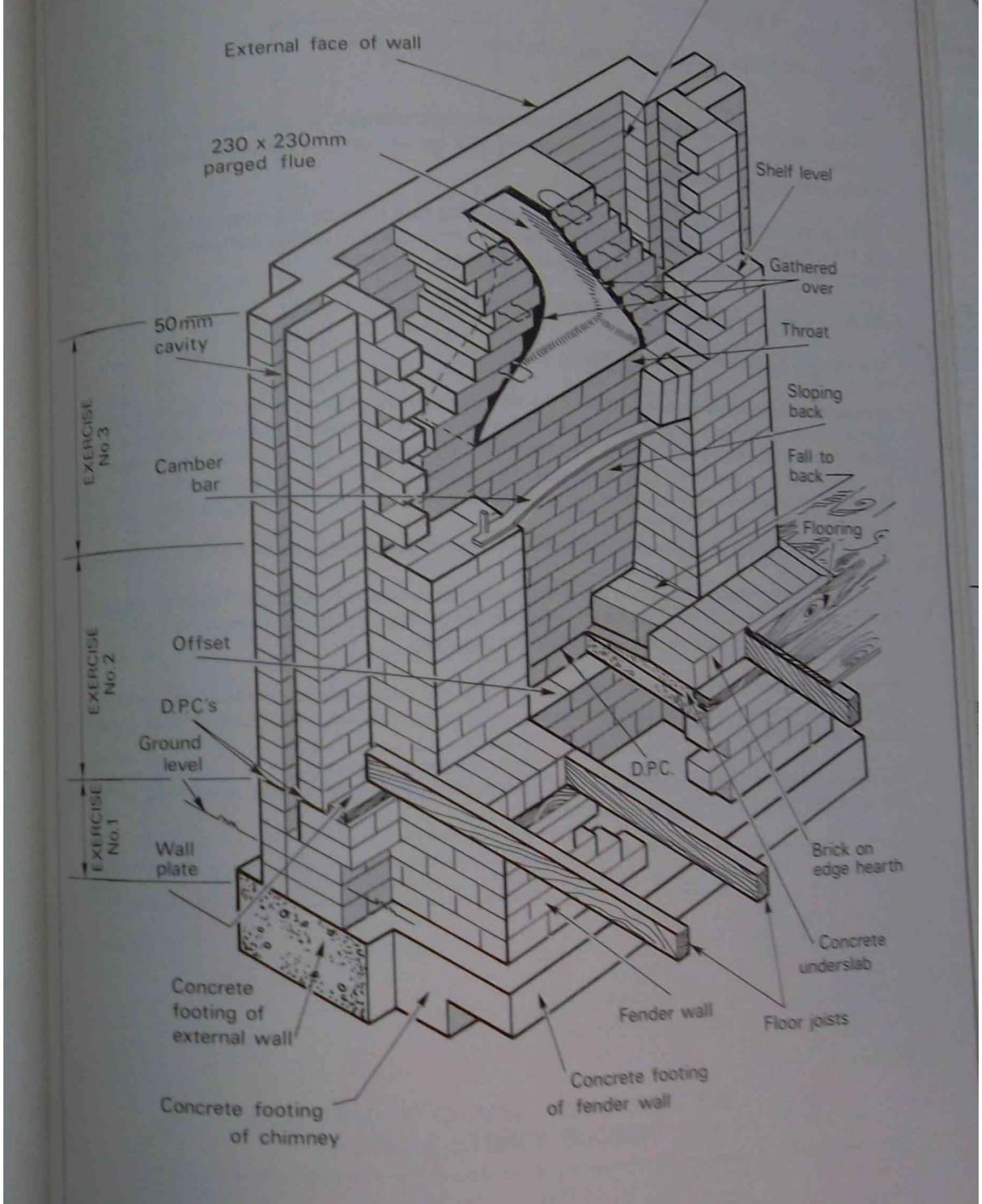
Observe absolute neatness of cavity construction — no mortar droppings, or joints not smoothed out. There must not be any mortar droppings on the wall ties.

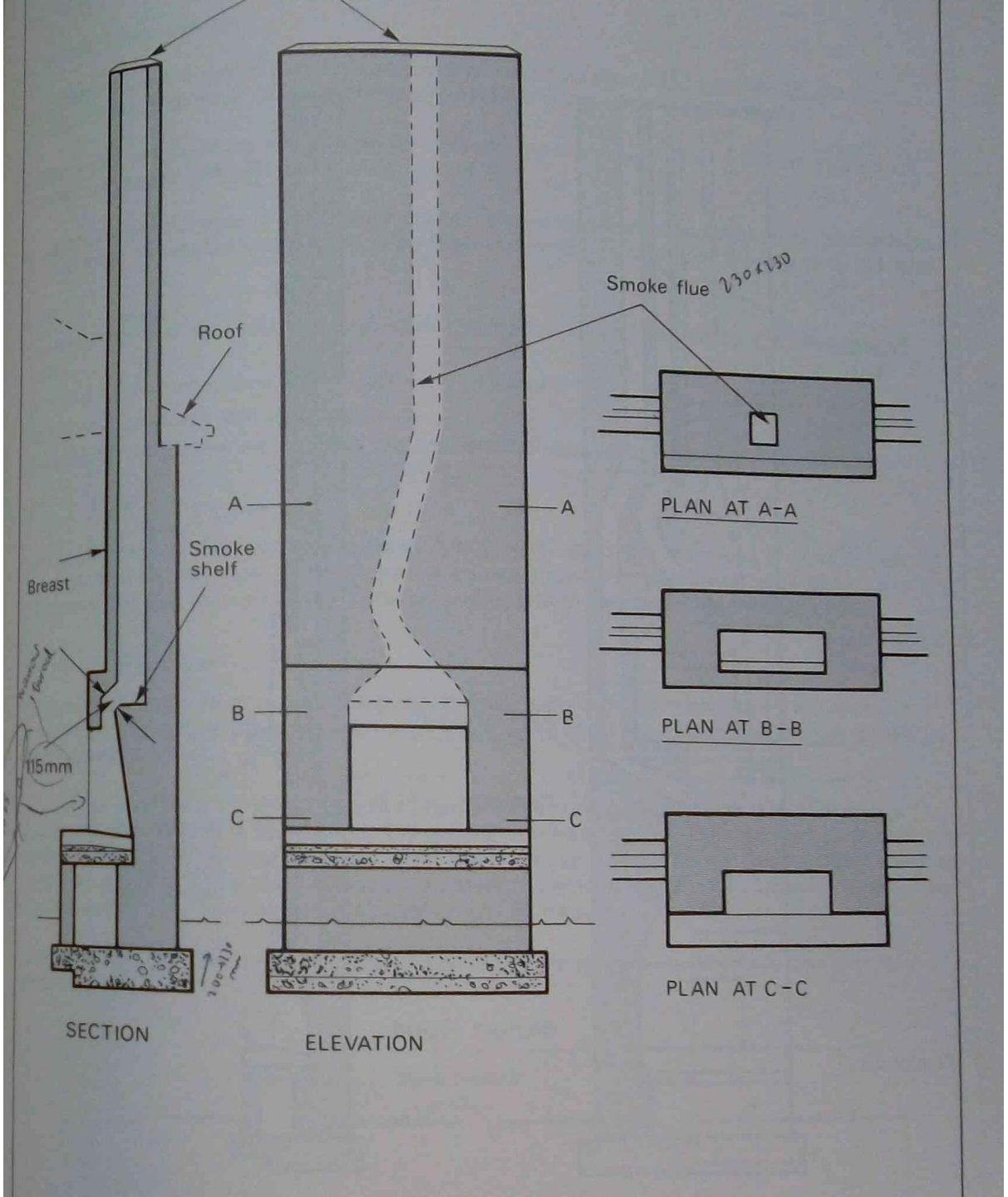


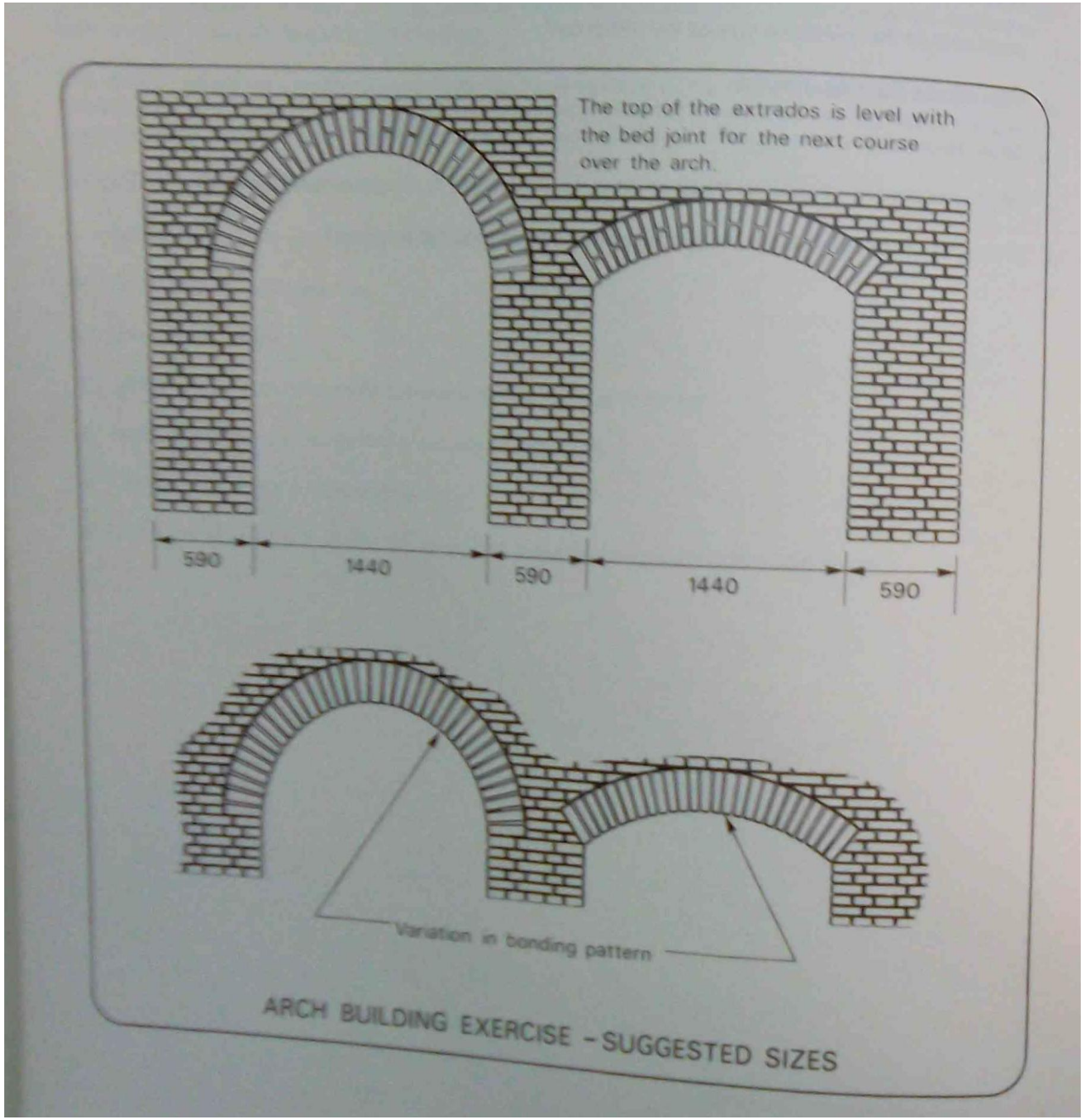
CAVITY WALL CORNER



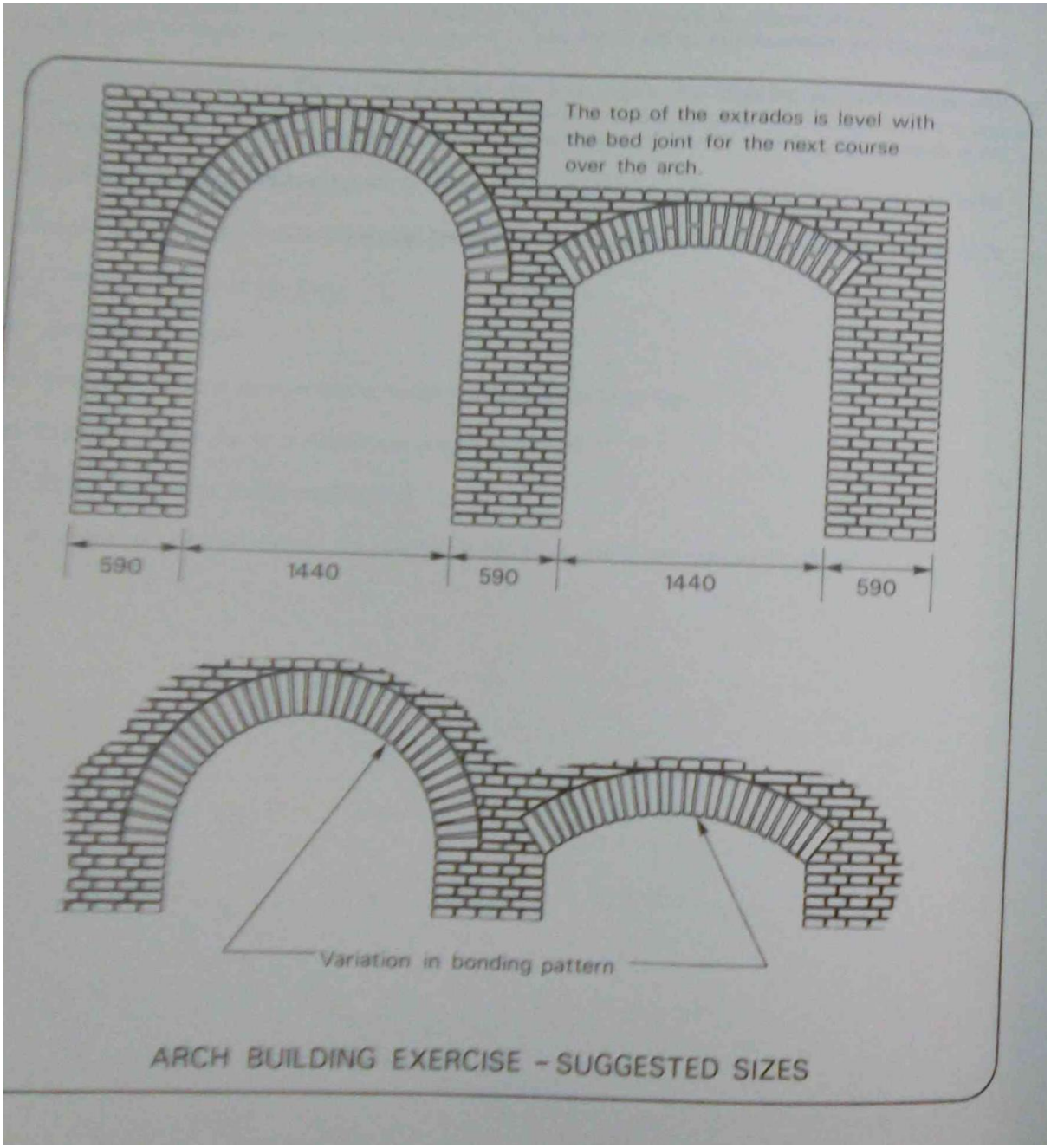
CHIMNEY CONSTRUCTION FOR TWO STOREY BUILDING


External face of wall
230 x 230mm parged flue
Shelf level
Gathered over
Throat
50mm cavity
Sloping back
Fall to back
Camber bar
Flooring
EXERCISE No.3
EXERCISE No.2
EXERCISE No.1
Offset
D.P.C's
Ground level
D.P.C.
Wall plate
Brick on edge hearth
Concrete underslab
Concrete footing of external wall
Fender wall
Floor joists
Concrete footing of fender wall
Concrete footing of chimney

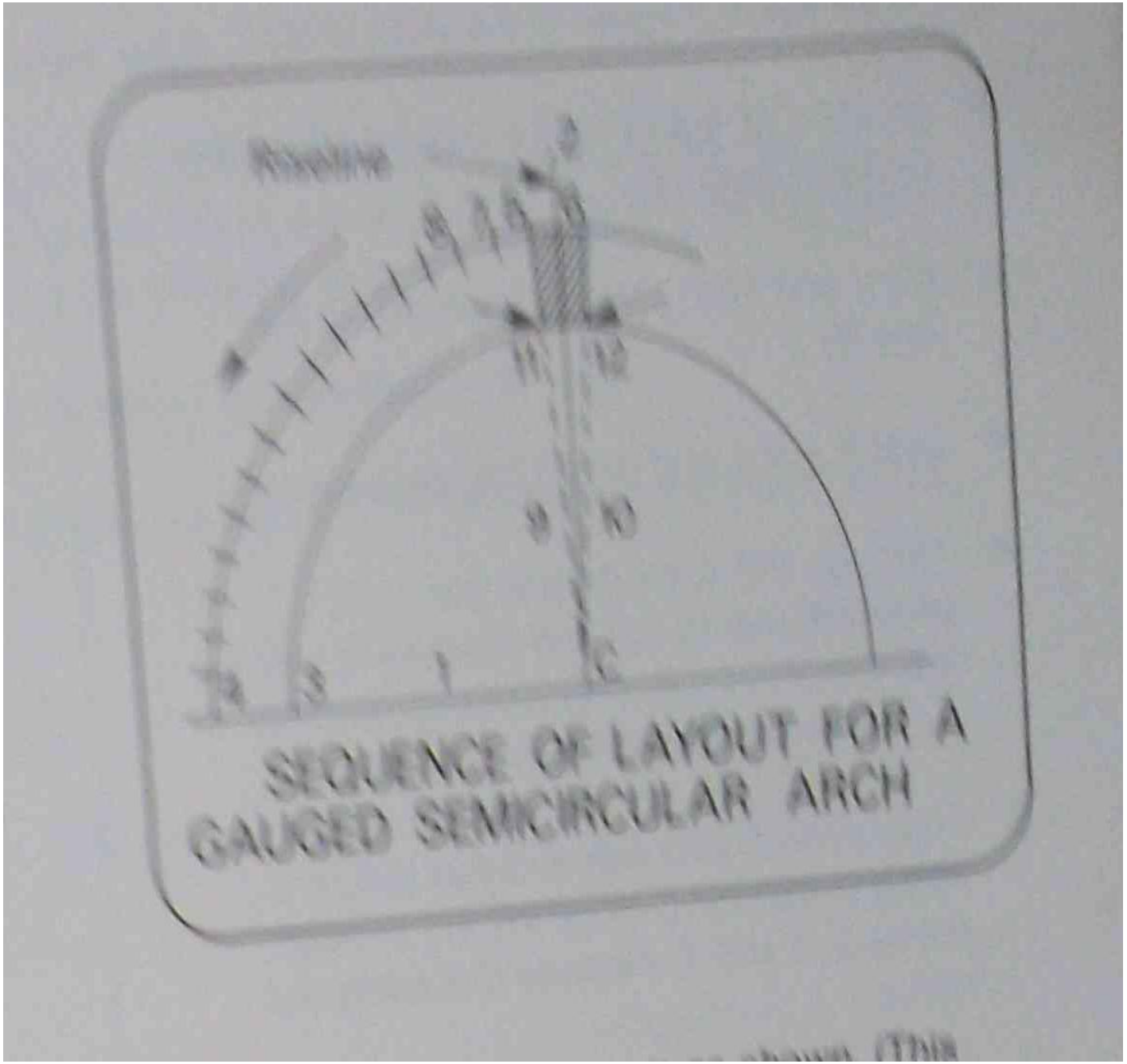

Smoke flue 230x230
Roof
A
A
Smoke shelf
Breast
B
B
115mm
C
C
PLAN AT A-A
PLAN AT B-B
PLAN AT C-C
SECTION
ELEVATION



ARCH BUILDING EXERCISE - SUGGESTED SIZES



ARCH BUILDING EXERCISE - SUGGESTED SIZES

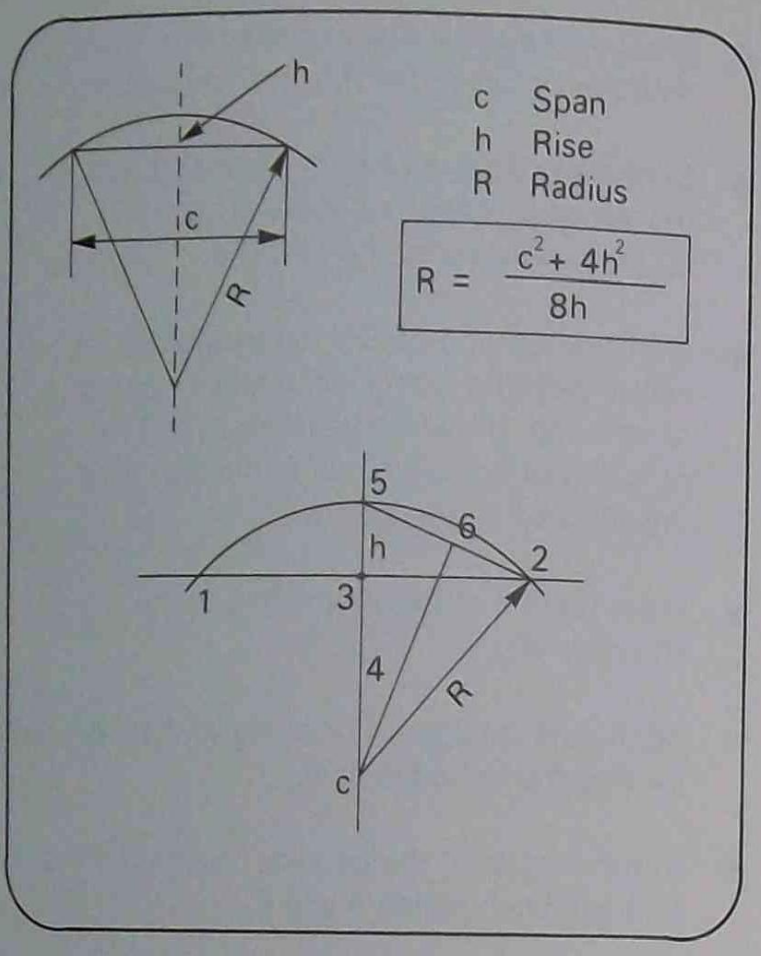


SEQUENCE OF LAYOUT FOR A GAUGED SEMICIRCULAR ARCH

Given the span and the rise, we can find the centre of the circle and therefore the radius R which, if circled from C, will go through the springing points and the crown.

- Draw line 1-2 equal to the span width.
- Bisect that line (3) and through it draw the perpendicular (4).
- On it and from point 3, mark off 'h' the rise (5).
- Join 5 and 2 and bisect the distance (6).
- Through this point draw a line perpendicular to 5-2 and produce it until it intersects line 3-4. This establishes point C, the centre of the circle.
- From point C and with a radius rod or a string pivoted at C draw the arc through points 2, 5 and 1, distance C-2 being the radius.
- From then on you can proceed as for the semi-circular arch in determining the number of bricks required and their size.

Calculation method



Calculation method

With this method, you still would have to draw up line 1-2, 3-4 and establish point 5. Now, using the formula, and for example 1440 mm as span and 250 mm as rise, we would get:

$$R = \frac{C^2 + 4h^2}{8h} = \frac{(1440)^2 = 4 \times (250)^2}{8 \times 250}$$

$$= \frac{2\,073\,600 + 4 \times 62\,500}{2000}$$

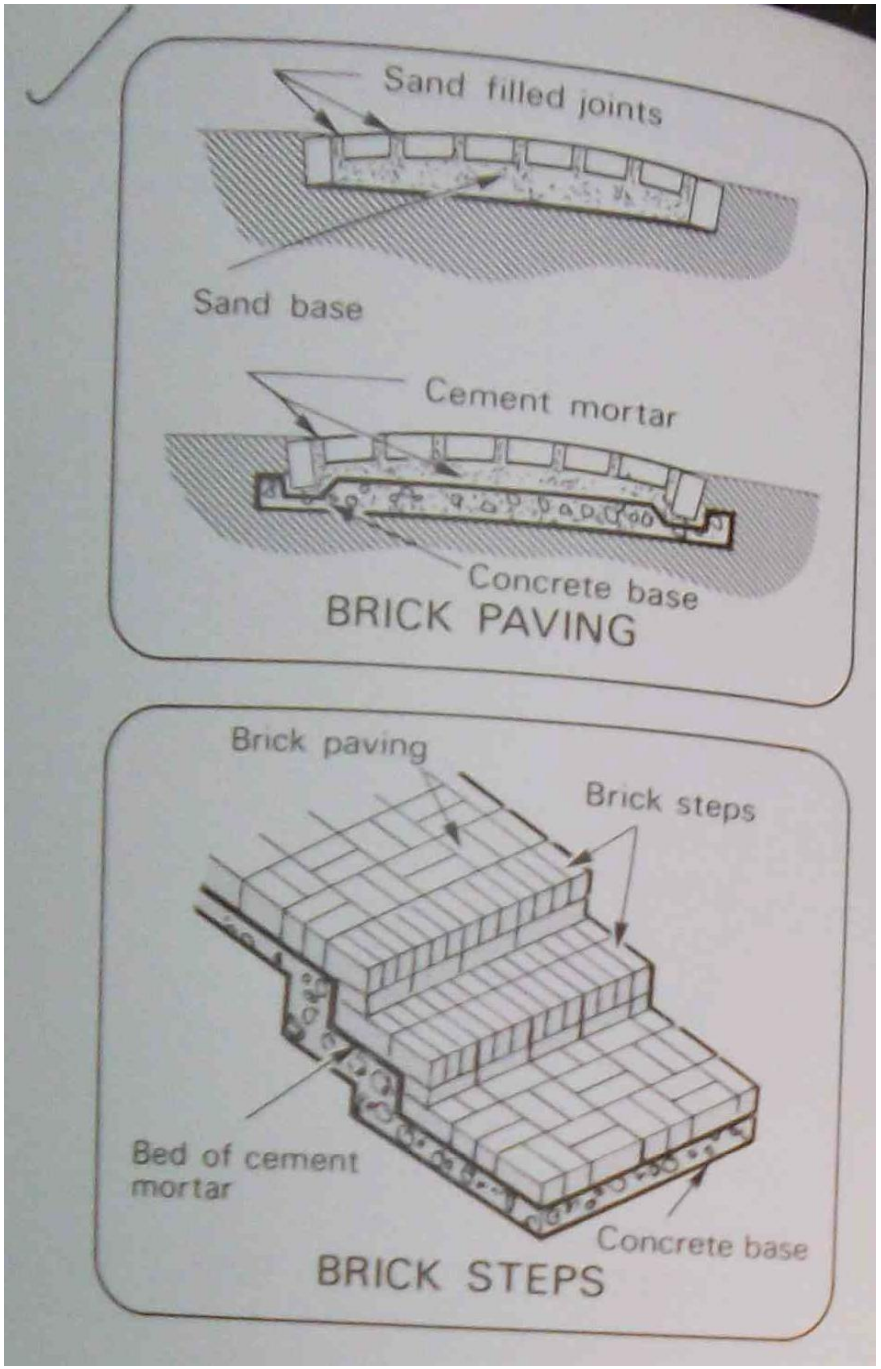
$$= \frac{2\,073\,600 + 250\,000}{2000}$$

$$= \frac{2\,323\,600}{2000}$$

$$= \frac{23\,236}{20} = 1161.8 \text{ mm}$$
(say 1162 mm)

From either point 2 or point 1 circle this distance until it intersects the line 3-4; this gives point C, the centre of the circle and from there draw the arc through 2, 5 and 1 with the radius found.

After that, the process is the same as for the semi-circular arch for arriving at the number of bricks and their size.


Sand filled joints
Sand base
Cement mortar
Concrete base
BRICK PAVING
Brick paving
Brick steps
Bed of cement mortar
Concrete base
BRICK STEPS