

HOW TO MAKE



AN EYEBROW WINDOW

Method of Framing "Eyebrow" Window in Roof.

This style of window has become popular for many of the Queen Anne and colonial bungalows and cottages; therefore general understanding of the structure of an eyebrow window should be known to all carpenters.

The development and use of the eyebrow window is a result of efforts to secure more graceful and pleasing sky lines in roofs for:

- Light (a lower sash may be used to permit closer nesting to the roof)
- Ventilation
- Conservation of architectural intent
- Proportional conforming to roof dimensions

NOTE: Although eyebrow type of windows are pleasing architecturally, they are relatively more expensive to build and repair due to curvature, intersecting shingles, and intricate detailing.

STEP 1. In fig. E2, let AB, be length of window, 6 feet long, draw the center line DEC, and the two perpendicular end lines from A, and B, and square to the level sill line AB.

NOTE: All rafter lengths are measured down the middle of the top edges theoretically. On the square cornered roof, measurements of hip or valley rafters may be made from the long point without further reduction in length providing a 2" thick ridge is used. Jacks need no further reduction in length on a square cornered building provided the hips or valleys are of the same thickness, as the jacks and the measurements are made from the long points of the jacks. otherwise allowable reductions must be made for rafter and ridge thickness.

STEP 2. Next trace the curved eyebrow outline ACB, also the parallel lines denoting the projections of the window frame casings sash as shown in fig. E2.

NOTE: Tracing the curved eyebrow outline must be copied from the architect's design.

STEP 3. Next proceed to lay out the section by drawing the house rafter at its pitch as represented in fig. E1. At the fixed distance up from the eaves or wall plate line draw in the 2 X 6 inch pitched window sill and measure up the height as indicated, 3 feet. Assuming the short rafters of this window should be concave or of hollow curvature as seen.

STEP 4. Strike the short rafter out from one pattern at a radius of 8 feet. Locate the intersection point C, in fig. E2, where the covering of the window roof meets that of the main house roof. Now divide the eyebrow curve into any number of equal parts and transfer them over to fig. E1, with the foot center radius and patterns, draw the curves of all the rafters according to the number desired right and left.

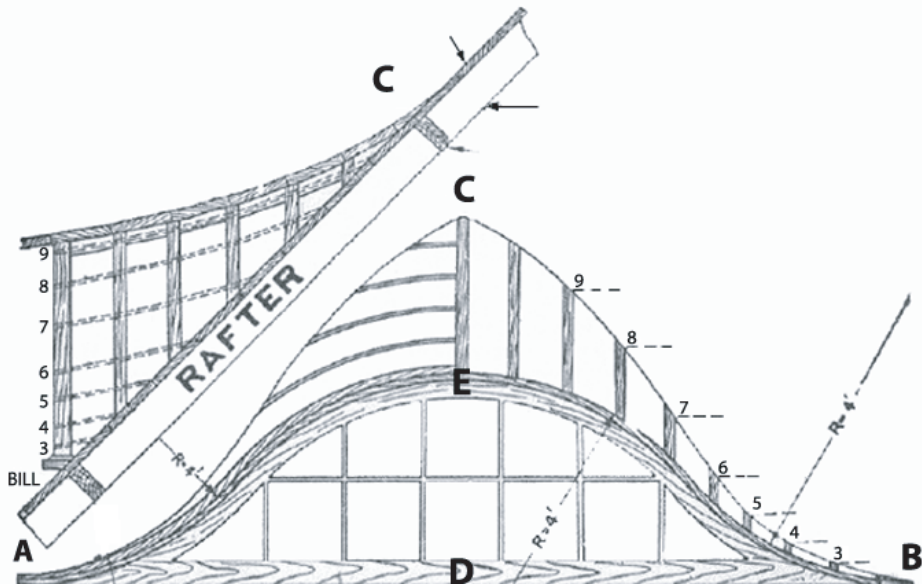
EXAMPLE: If the roof is to be boarded horizontally, as 1, 2, 3, 4, 5, 6, 7, 8, etc., which will be the curve and length of each and be set up in place as shown on the right side of fig. E2.

STEP 5. Now transfer from fig. E1 to fig. E2, section to elevation, the points where the curved eyebrow window rafters die into the main roof, and up square from division points on curve. The intersection of these lines will give the curve CB, which will be the shape of the valley at the main roof.

NOTE: If desired the vertical curved rafters can be sheathed with one-half inch pine strips bent round in two thicknesses, well nailed to each rafter and breaking joint in each thickness.

Another way by which this attic roof may be framed would be to use horizontal instead of vertical curved rafters, each following the outline of the front elevation of the window and dying into the main roof as it curves upward.

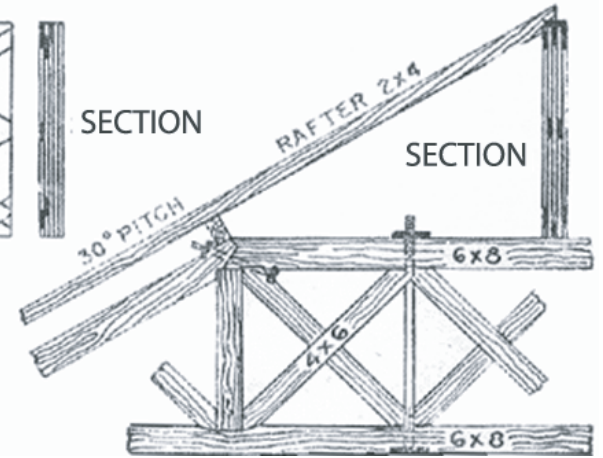
Regarding slating or shingling these roofs, of course the first projecting course must follow the curvature of the eyebrow and diminish shingle by shingle to the point C, at the apex or top, this will take time, patience and skill.



Figs. E1 and E2-Layout for eyebrow window framed in roof.



LATTICE PURLIN OR TRUSS



Figs. E4. and E5.-Trussed roof construction showing Howe truss and lattice truss purlin. On one side the lattice is spiked or nailed to the chords, first all the strips one way and then the others crossing on opposite angle. On the other side is nailed the vertical or upright pieces nailed at all crossings with right thickness.

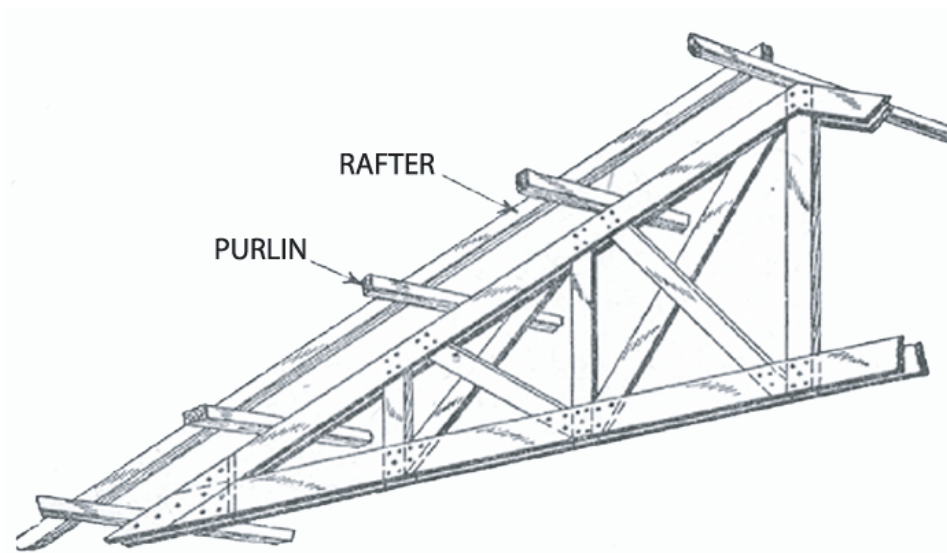


FIG. E3.-Double stringer internal brace truss construction.