

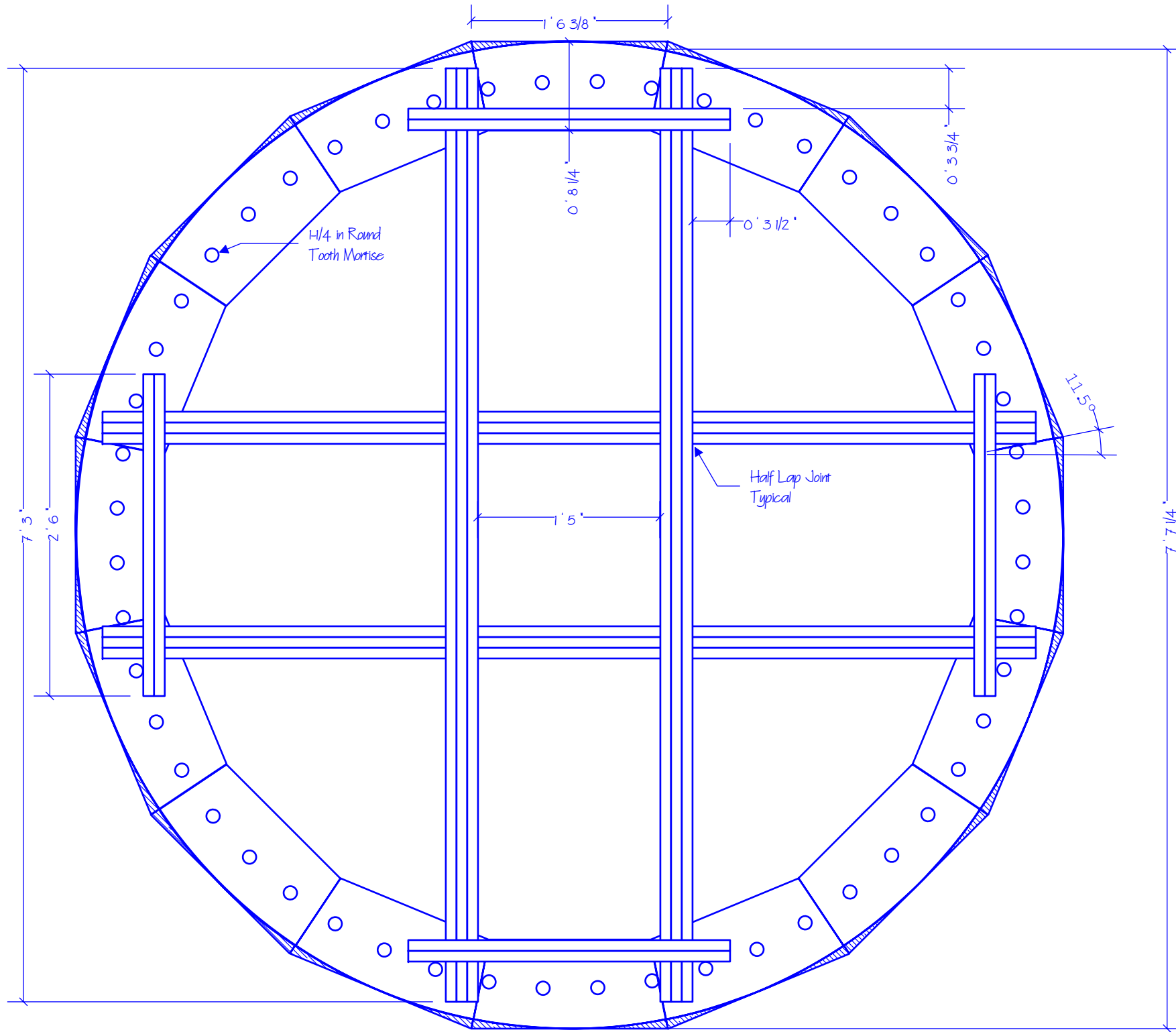
Brake Wheel with Clasp Arm Assembly

The Brake Wheel is mounted in the cap of the mill and transfers power from the Windshaft to the Mainshaft through the Wallower gear. This Brake Wheel is 7' - 8' in diameter and has a geared face with 52 wooden teeth. The teeth are mortised through the gear and are pinned on the inverse side.

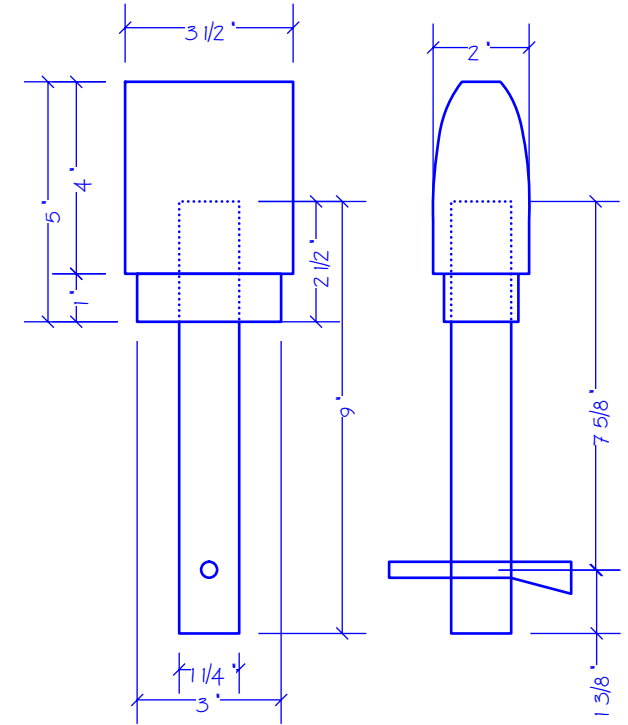
The Clasp Arm Construction is designed to accommodate a 17 inch square wind shaft that extends through the cap to support the whips and wind vanes. The connection of the clasp arm to the brake wheel is strengthened by the addition of a reinforcing bar that helps distribute torque evenly from the wind shaft to the wheel.

Half lap joints are typical at each intersection within the clasp arm assembly. The clasp arms and the reinforcement bars are attached to the wheel using screws, glue and pegs.

The actual dimensions of the clasp arms are 3' x 6' x 87" and they are let-in to the interior of the wheel by 3" and extend outward 5". The reinforcement bars are 1/2" and are surface mounted to the wheel.



Brake Wheel of the Yorktown Windmill

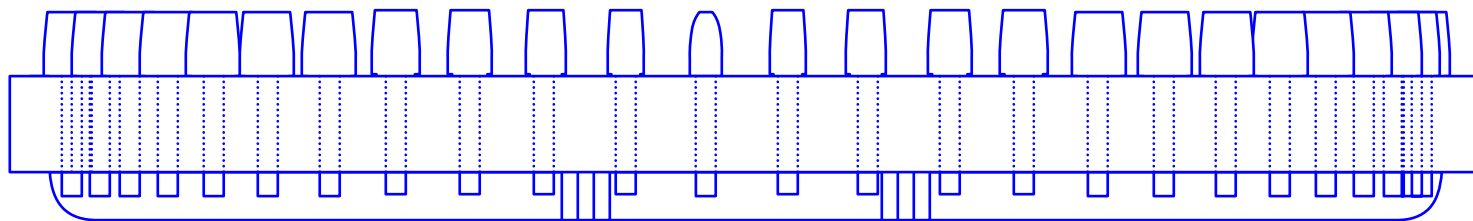


Detail of Tooth (Alt Scale: 1:4)

Brake Wheel with Teeth Installed

The Brake Wheel Assembly is composed of 6 laminations of 1" thick white oak that are affixed using glue, screws and pegs. Each lamination is composed of 16 segments that are bound using glue and biscuits.

As each lamination is added to the assembly it is rotated by 11.25 degrees so that no two adjacent layers have overlapping glue joints. This increases the overall strength and stability of the wheel at no additional cost.



SCALE 1" = 1'-0" (1:12)

