Mining Headframe
And
Connecting Gantry

The head frames or poppet legs is a structure built over a vertical shaft to carry the rope wheels at their top most part, which changes the direction of the haulage rope from the winding engine to hang vertical down the shaft. The head frame is constructed to such a height, as to allow the ore to be conveyed in the ore trucks on a slight down hill grade to the crushing batteries or in the case of waste rock to form a mullock heap, at sufficient height to lesson the area covered by same. Most head frames in Gympie ranged in height from 12.2m (40ft) to 30.5m (100ft).

This head frame, which has been reconstructed by the Society, was built with 15.2m (50ft) poles, approximately 1.5m (5ft) set into the ground. Just below the rope wheels on the head frame. The rope passes through metal safety hook thimbles. Should the engine driver overwind and the safety hook attached between the rope and the cage pass through this thimble, the rope becomes disconnected from the cage causing no damage to the head frame or winding engine.

The cage as seen on the ground level is known as a safety cage, being fitted with swivelled metal covers and cam grippers. The covers are to protect miners riding on the cage from any falling rocks or other objects. If at anytime an overwind or rope failure occurs, then the guide or skid cam grippers immediately grip the timber skids, preventing the cage from plummeting to the bottom of the shaft. The mechanism of this safety device is arranged so that when the weight of the cage is suspended on the rope, the gripping cams are held free of the skids, but immediately rope failure occurs, the cams being activated by springs, immediately grip the timber skids and so are designed in their shape to be self energising- that is, the more downward force applied the more the grippers bite into the timber skids.

The ore trucks, taken from the cage are turned on the flanges of their wheels, on a flat sheet to be either trucked to the batteries or taken to the mullock heap.

The gantry or overhead trolley way was a structure running from the stage on the headframe to a position behind the crushing batteries, so that the gold-bearing ore could be tipped into hoppers or bins to feed the stampers. This structure had a fall of approximately 1cm (1/2 in) in 3.6m (12ft) to allow for easy pushing of loaded ore trucks to the mill. The ore trucks were taken from the headframe and returned by manpower.

This headframe and gantry constructed by the Society, stands directly over the original 2 South Great Eastern east shaft. The gantry follows a similar route to the original, to convey the ore to the crushing batteries. The original headframe would probably have been 6m (20ft) or more higher and the gantry probably 3m (10ft) to 3.5m (15ft) higher.

Usually two haulage chambers were used in the Gympie mines, thus as one cage was being hauled up, the other cage was descending to balance the workload on the winding engine.

At ground level, in one of the chambers can be seen a bailing tank. When the shaft was not required for other purposes, bailing tanks would be fitted to each rope and the winding engine would then be used to keep the water level in the mine to an acceptable level.