BALANCING COMET WINDMILLS

Because all Comet mills operate on the direct acting principle, it is possible to lessen the starting load by balancing the weights of the mill rods, connections and pump plungers by setting the balance weights on the wheel arms. The Comet therefore, has a very important advantage over the geared mills with which the weights of the rods etc, cannot be balanced.

A properly loaded and correctly balanced Comet mill will start pu1nping in very light breezes. It is the first to start and the last to stop and that means more pumping hours per day and consequently a greater pumping capacity. On the other hand, an incorrectly balanced mill may result in a much reduced output. It will therefore be realised that it is important to correctly balance all Comet mills.

METHOD OF BALANCING

The positions for the balance weights can be accurately calculated when the weights of the reciprocating parts are known, but a common practicable method is as follows. Unfortunately, it is only practicable on a dead calm day before the sails have been bolted to the wheel.

Pull the mill out of the wind. If there is a screwed stuffing box on a syphon pump or column pipe, the gland nut must be removed and the packing loosened to eliminate frictional resistance to the movement of the plunger rod.

Loosely place the balance weights on the two wheel arms which are on the opposite side of the driving shaft to the crankpin so that when the crankpin is moving upwards the balance weights are moving downwards. Turn the wheel so that the crankpin is at the 9 o'clock position when looking at it from the rear end of the mill, lightly holding the wheel to prevent it from being moved by the weights of the pump rods etc.

Gradually move each of the balance weights an equal amount out towards the ends of the wheel arms until the crankpin just starts to move upwards - say 1/16". On the wheel arms mark the position of the outer ends of the balance weights with chalk, pencil, etc.

Return the crankpin to the 9 o'clock position and gradually move the balance weights in towards the driving shaft until the crankpin just starts to move downwards. Again, mark the positions of the balance weights on the wheel arms. Mark a point on the arms midway between the other two marks and then firmly clamp on the balance weights several inches outwards from that centre mark. The extra distance depends upon the size of the mill, and it may be from 6” to 8ft mills to 12" for 22ft mills.

AUSTRALIA’S LEADING MILL SINCE 1879

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