

APPLEBY TRAVERSING TITAN 1896

Constructed by Peter Goddard

Researched by Bruce Ward

This crane, designed and built by “Appleby’s” for handling blocks, which were delivered by a barge, and not from under the Carriage - on Rail Trucks.

The crane must lift and lay blocks weighing up to 80 tons at any point up to 12 metres [39’4”], beyond the front of the carriage as well as through a range of 11metres [36”], across the face of the mole, and propel itself back for shelter and forward to follow the work. Later it was planned that the formation width was to be increased to 27 metres [98’6”], and provision was made for adding Sections into the carriage for this purpose.

Structure of Titan -

The carriage and traversing arm are built of mild steel, the latter carries the engines, boiler and machinery for transmitting power for lifting, cross traversing and jenneying, and for traveling the crane back and forth. Concrete blocks at the back end of the traversing arm counterbalance the overhanging weight and load.

Levers for motions and electric signals - are conveniently arranged in the engine room and controlled by one man. The engine room is located in the centre of the centre section, with the boiler behind it. The main hoist winch is located just in front of the engine, with the jenny out/return winch above the hoist drum.

Drive to Gantry

(a) The drive down from the engine-house in the top carriage only takes place at one position - when the top carriage is central. This shortens cross shaft to 50 feet per side so the torque load is reduced by say 4 times.

(b) It never travels with a load.

(c) The drive to the wheels is only on the front end. This is logical as thats where the most wheels are.

(d) The feed shafts go along under the Cantilever to a pickup gear out in front.

(e) where, when the cantilever is in the correct position, a gear wheel meshes with a contrate to the downshaft.

(f) at the bottom, the drive is split one to each side.

(g) at each drive wheel unit, the drive is worm driven, to ease “wind up”.

An Etching e-mailed on the 1st March 2009, followed up a week later with a 2nd etching was enough to get me ‘hooked’