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BARNHART

Innovation Description

What is the innovation?

The Barnhart Tip-Stick is a device born of the need for a lifting scheme that deals with both changing and unknown center of gravity on various types of equipment being lifting. The infinitely adjustable "lifting point" of the Tip Stick also make it quite useful for acting as a cantilever lifting beam where a load can be lifting under obstructions using the principle of "counter-balance" with the beam. The Tip-Stick is essentially a 150 ton capacity lift beam that has a hydraulically powered lifting lug that can move along the length of the beam on a powered screw jack. This feature allows for some of the finest and safest rigging techniques in the industry.

What has it changed or replaced?

The Tip Stick is an improvement on the cantilever lift beam. Though it has unique applications not previously capable with a traditional lifting beam.

Where and when it originated, has been used and is expected to be used in the future?

The name "tip stick" comes from the project that initiated the design of this highly flexible tool. This project required handling of 100t hydroelectric "runners" or water turbines that would be delivered to the lift site in a horizontal position but would need to be turned 90 degrees prior to being lowered into the hydroelectric dam using an overhead crane. The hydraulic Tip Stick allowed the runner to be rotated completely by remote control while hanging from the hook of the overhead crane. The Tip Stick has also been used as more traditional cantilever configuration when two 110' long 300 ton Moisture Separator Reheaters had to be removed from its housing unit. In order to create an opening in the building for the MSRs the tip stick was deployed to remove a wall section at 90' above grade. The Tip Stick allowed the team to account for the shifting center gravity with the beam as the wall section was added to the load during transfer. The Tip Stick can be used in any similar situation where counterbalance is an issue.