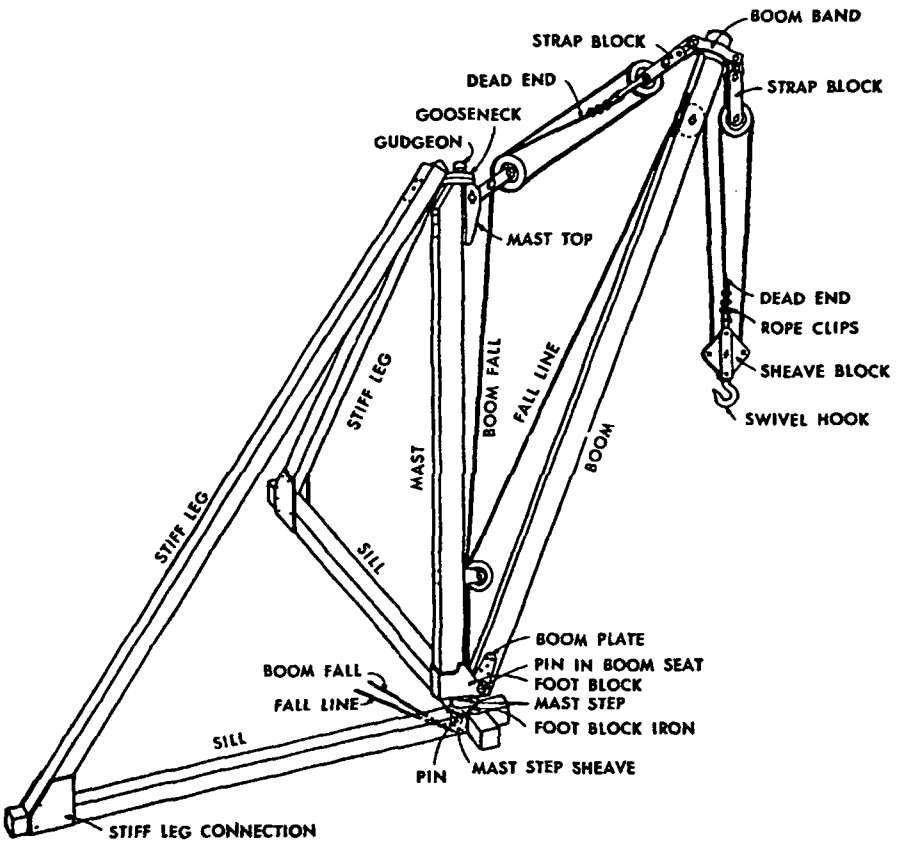



FIG 20–14 — Diagram of stiff-leg derrick shows names of various parts

*Courtesy Travelers Insurance Co*

load on the boom, sandbags, cast iron weights, or concrete blocks are used to hold down the stiff-legs

The hoist engines for both stiff-leg and A-frame derricks usually are bolted to the sills or ground members On smaller derricks, the suspended loads may be slewed by being pushed manually The boom of a large derrick may be swung by a "bull-wheel" to which cables from another drum on the hoist engine are attached

Since a loaded cable may whip considerably and cause severe injury, the horizontal cables between the hoist engine and the boom hinge should be barricaded, and workmen should be prohibited from crossing over or under them

The guy derrick (Fig 20–15) is used largely for erection of the structural steel of tall buildings, especially those over 10 stories high that cannot be reached by the boom of a crawler crane operating on the ground Such derricks usually are of latticed steel and have an odd number of equally spaced wire rope guys, each equipped with a turnbuckle and attached to the steel beams or columns on the erection floor (Fig 20–16)

If the derrick is erected on the ground, the guys should be secured to heavy steel anchors buried deep in the ground, with additional weights placed on the anchorages

Heavy timbers, 12 by 12 in or 12 by 16 in , should be placed on the floor beams to support the foot of the mast These foot blocks must be braced against the stubs of the building columns to prevent their being "kicked" out of position when a heavy load is picked up with the boom at a low angle