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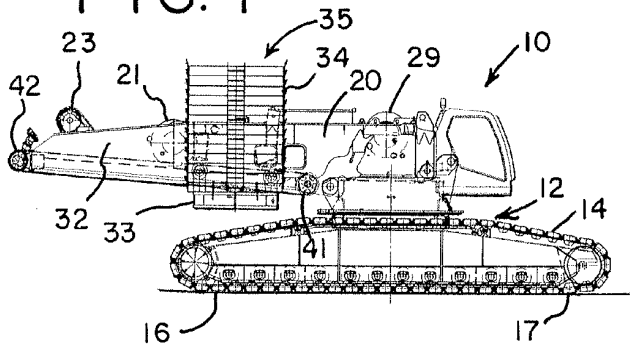
(54) LIFT CRANE WITH MOVABLE COUNTERWEIGHT

(57) The invention comprises a lift crane (410, 510) a carbody (412); moveable ground engaging members (14, 414) mounted on the carbody (412), allowing the crane (410, 510) to move over the ground; a rotating bed (420, 520) having a front portion and a rearmost fixed portion, the rotating bed (420, 520) being rotatably connected to the carbody (412) about an axis of rotation that provides a plane of rotation perpendicular to the axis; a boom (422, 522) pivotally mounted on the rotating bed (420, 520) and including a load hoist line for handling a load; wherein the rotating bed (420, 520) includes a counterweight support frame (432, 532) including a set of teeth (436) coupled directly to a first lower surface of the counterweight support frame (432, 532); a counterweight unit (435, 535) that includes a trolley (470, 570), the counterweight unit (435, 535) being supported on the counterweight support frame (432, 532) in a moveable relationship with respect to the rotating bed (420, 520); and a counterweight unit movement device configured to move the counterweight unit (435, 535) toward and away from the boom (422, 522), the counterweight unit movement device including at least one motor (472, 572) driving a gear (474, 574) connected to the trolley (470, 570), and in which the gear (474, 574) engages the set of teeth (436) on the counterweight support frame (432, 532) to move the trolley (470, 570) with respect to the rotating bed (420, 520) as the motor (472, 572) turns the gear (474, 574).

FIG. 1



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