Claims

1. Extendable lattice type crane boom for a crane, the boom comprising a lattice type base boom section and at least one lattice type telescopic boom section, wherein the at least one telescopic boom section is adjustable with respect to the base boom section between a retracted position, in which the telescopic boom section is substantially inside of the base boom section, and an extended position, in which the telescopic boom section is at least partly outside of the base boom section,
further comprising a locking system configured to lock the at least one telescopic boom section with respect to the base boom section in at least the extended position, wherein said locking system includes a plurality of pins, each pin being configured to extend, in at least the extended position of the boom, at least partly through a corresponding pin receiving aperture provided in one of the base boom section and the at least one telescopic boom section, wherein a size of at least one of said pin receiving apertures is substantially larger than a cross-sectional dimension of a corresponding one of said plurality of pins for engaging in the pin receiving aperture.

2. Extendable lattice type crane boom according to claim 1, wherein said locking system comprises a support structure from which the plurality of pins extend, optionally, wherein said support structure is provided at a distal end of the base boom section.

3. Extendable lattice type crane boom according to any of the preceding claims, wherein the corresponding pin receiving aperture is provided at a chord of the telescopic boom section, preferably at a proximal

end of the telescopic boom section, more preferably of every chord of the telescopic boom section.

4. Extendable lattice type crane boom according to any of the preceding claims, wherein the locking system comprises a secondary set of pins and corresponding pin receiving apertures provided at a lower side of the base boom section and of the telescopic boom section, wherein preferably at least one of the pin receiving apertures has a size which is substantially larger than a cross-sectional dimension of the corresponding pin to be received.

5. Extendable lattice type crane boom according to any of the preceding claims, comprising a guiding system configured to guide a movement of the telescopic boom section along the base boom section, optionally, wherein said guiding system is provided on a chord of the base boom section and/or the telescopic boom section under an angle of substantially 45° with respect to an upper or a lower side of the boom.

6. Extendable lattice type crane boom according to any of the preceding claims, further comprising a measuring system configured to detect a position of the telescopic boom section with respect to the base boom section.

7. Extendable lattice type crane boom according to any of the preceding claims, further comprising a telescopic system arranged to adjust the at least one telescopic boom section between said retracted position and

said extended position, wherein said telescopic system comprises at least one reeving system, optionally, wherein the telescopic system comprises two reeving systems, each provided on an opposite side of the base boom section, preferably on lateral sides of the base boom section.

8. Locking system for an extendable lattice type crane boom according to any of the preceding claims, wherein said locking system is arranged to lock, at least in an extended position of the boom, a base boom section or a telescopic boom section of the extendable boom with respect to a contiguous telescopic boom section of the extendable boom, wherein said locking system includes a plurality of pins, each pin being configured to extend, in at least the extended position of the boom, at least partly through a corresponding pin receiving aperture provided in the contiguous telescopic boom section, wherein a cross-section of at least one of said pin receiving apertures is substantially larger than a cross-section of the corresponding one of said plurality of pins.

9. Extendable lattice type crane boom according to any of the preceding claims 1-7, comprising a plurality of telescopic boom sections, wherein each telescopic boom section is lockable with a contiguous telescopic boom section via a locking system according to claim 8.

10. Crane comprising

- an extendable lattice type crane boom according to any of the preceding claims 1-7 or 9, wherein said lattice type boom is movable between a transit position, in which said lattice type boom is

in a substantially retracted and substantially horizontal position, and a working position, in which the lattice type boom is extendable;

- a crane base to which said extendable lattice type boom is pivotably connected;
- a boom hoisting system arranged to move the extendable boom between said transit position and said working position;
- a load hoisting system configured to hoist a load.

11. Crane according to claim 10, wherein the boom hoisting system is connected to a distal end of the base boom section as well as to a distal end of the telescopic boom section.

12. Crane according to any of the preceding claims 10-11, wherein the crane base is mountable around a leg of a jack up platform.

13. Method of operating a crane including an extendable lattice type crane boom, preferably a boom according to any of the preceding claims 1-7 or 9, and preferably a crane according to any of the preceding claims 10-12, wherein the extendable lattice type boom comprises a lattice type base boom section and at least one lattice type telescopic boom section, the method comprising the steps of:

- operating a boom hoisting system to bring the extendable lattice type boom from a transit position to a working position;
- operating a telescopic system to adjust the at least one telescopic boom section with respect to the base boom section from a retracted position, in which the telescopic boom section is substantially inside of the base boom section, to an extended position, in which the telescopic boom section is substantially outside of the base boom section;

- inserting at least one primary pin least partly through a corresponding pin receiving aperture to substantially determine a position of the telescopic boom section with respect to the base boom section;
- adapting an angular position of the telescopic boom section with respect to the base boom section until a secondary pin receiving aperture corresponds with a secondary pin;
- inserting at least one secondary pin in a corresponding secondary pin receiving aperture.

14. Method according to claim 13, wherein during operation of the telescopic system to extend or retract the telescopic boom section with respect to the base boom section, the boom hoist system is controlled to follow the telescopic system to facilitate the movement of the telescopic boom section.

15. Method according to any of the preceding claims 13-14, wherein during operation of the telescopic system, a crane boom angle is approximately 80 degrees.

16. Method according to any of the preceding claims 13-15, wherein during operation of the telescopic system, a measurement system determines an actual position of the telescopic crane boom section with respect to the base boom section, optionally, wherein the measurement system provides output of a determined actual position to an output module.

17. Method according to any of the preceding claims 13-16, wherein, upon approaching a desired extended position, the measurement system controls a speed reduction of the telescopic system.

18. Method according to any of the preceding claims 13-17, wherein upon reaching a desired extended position, the at least one primary pin is inserted in the at least one primary aperture after visual inspection by an operator and/or after determination of a final position of the pin receiving aperture by the measurement system.

19. Jack up platform including a crane according to any of the preceding claims 10-12.

20. Jack up platform according to claim 19, wherein the crane base is mounted around a leg of the jack up platform.