
Cranes — Vocabulary —

**Part 4:
Jib cranes**

*Appareils de levage à charge suspendue — Vocabulaire —
Partie 4: Grues à flèche*

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Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 8, *Jib cranes*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

A list of all parts in the ISO 4306 series can be found on the ISO website.

Cranes — Vocabulary —

Part 4: Jib cranes

1 Scope

The ISO 4306 series establishes a vocabulary of the most commonly used terms in the field of cranes.

This document defines the terms related to jib type cranes.

Mobile cranes, tower cranes, railway cranes, and offshore cranes are excluded.

[Annex A](#) contains a diagram showing the different types of jib cranes.

2 Normative reference

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <http://www.electropedia.org/>

3.1

portal slewing crane

travelling slewing crane mounted on a portal allowing or not allowing railcars, vehicles and equipment to pass under it

3.2

single-boom portal slewing crane

portal slewing crane (3.1) with a single boom pinned to the front of the rotating platform at its inner end and suspending load-handling device at its outer end, and of which load-handling device can move along nearly horizontal path by means of compensation methods during boom luffing

Note 1 to entry: See [Figure 1](#).

3.3

double link boom portal slewing crane

portal slewing crane (3.1) with a boom system consisting of boom, fly jib and tension bar, and of which the outer end of the fly jib can remain at a nearly constant height and the load-handling device moves along nearly horizontal path during boom luffing

Note 1 to entry: See [Figure 2](#).

3.4

portal slewing crane with slewing ring

portal slewing crane (3.1) with a slewing ring mounted between rotating platform and cylinder, and of which the vertical load, horizontal load and moment are borne by the slewing ring

Note 1 to entry: See [Figure 2](#).

3.5

portal slewing crane with rotary column

portal slewing crane (3.1) with a rotary column connected to the rotating platform and supported on the portal by roller wheels and bearings

Note 1 to entry: See [Figure 1](#).

3.6

kangaroo portal slewing crane

portal slewing crane (3.1) with a grab and a hopper to handle bulk cargo

Note 1 to entry: See [Figure 3](#).

3.7

container handling portal slewing crane

portal slewing crane (3.1) equipped with a spreader for handling containers

Note 1 to entry: See [Figure 4](#).

3.8

portal slewing crane for multipurpose use

portal slewing crane (3.1) equipped with a spreader and changeable hook and/or grab, handling various containers, general cargo and/or bulk cargo

Note 1 to entry: See [Figure 5](#).

3.9

semi-portal slewing crane

travelling slewing crane with a portal mounted on a rail track directly at one end and by legs at the other end, allowing railcars, vehicles and equipment to pass under it

Note 1 to entry: See [Figure 6](#).

3.10

high mast crane

jib crane with a tower pillar which has the lower hinge point of the single boom on the tower pillar and uses a hook or grab to handle articles, including rail-mounted high mast crane and rubber tyred high mast crane

Note 1 to entry: See [Figure 7](#) and [Figure 8](#).

3.11

fixed-base jib crane

jib crane fixed on a foundation or on any other stationary base

Note 1 to entry: See [Figure 9](#).

3.12

derrick crane mast crane

crane consisting of a mast or equivalent member held at the end by a guy or braces, with or without a boom and/or slewing mechanism, for use with a hoisting mechanism and operating ropes

3.13

fixed-base derrick crane

derrick crane (3.12) fixed on a foundation or on any other stationary base

3.14**A-frame derrick crane**

fixed-base derrick crane (3.13) with a boom which can swing around the hinge at the bottom under the control of a hauling rope (or other driving devices)

Note 1 to entry: See [Figure 10](#).

3.15**shear-leg derrick crane**

fixed-base derrick crane (3.13) with a boom which can operate luffing movement in front of the shear leg mast

Note 1 to entry: See [Figure 11](#).

3.16**gin pole derrick crane**

fixed-base derrick crane (3.13) with a mast that can serve as a jib

Note 1 to entry: See [Figure 12](#).

3.17**chicago boom derrick crane**

fixed-base derrick crane (3.13) taking the vertical member of buildings as its mast

Note 1 to entry: See [Figure 13](#).

3.18**movable derrick crane**

derrick crane (3.12) with a moving undercarriage

Note 1 to entry: See [Figure 14](#).

3.19**cantilever crane with fixed pillar**

pillar jib crane with a cantilever which can rotate on a pillar fixed at its base to a foundation

Note 1 to entry: See [Figure 15](#).

3.20**cantilever crane with rotary pillar**

pillar jib crane with a cantilever which is secured to a pillar which can rotate in a support socket in its foundation

Note 1 to entry: See [Figure 16](#).

3.21**wall fixed crane**

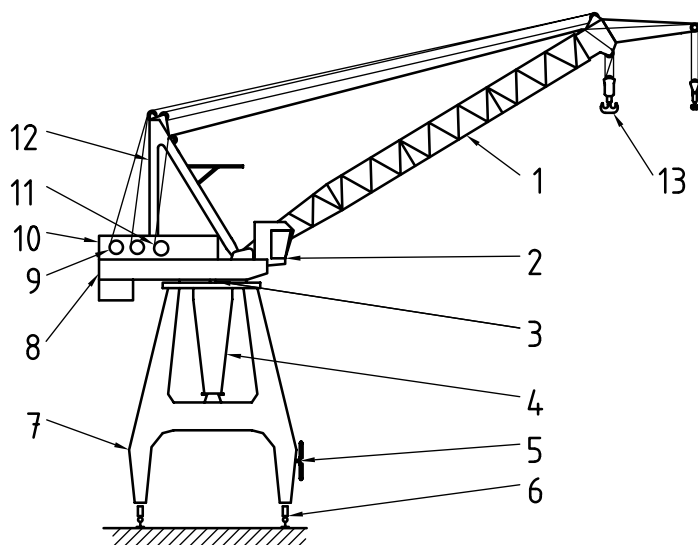
wall crane capable of rotating in a supported socket secured to a wall or bearing structure

Note 1 to entry: See [Figure 17](#).

3.22**wall travelling crane**

wall crane capable of travelling on elevated tracks secured to a wall or bearing structure

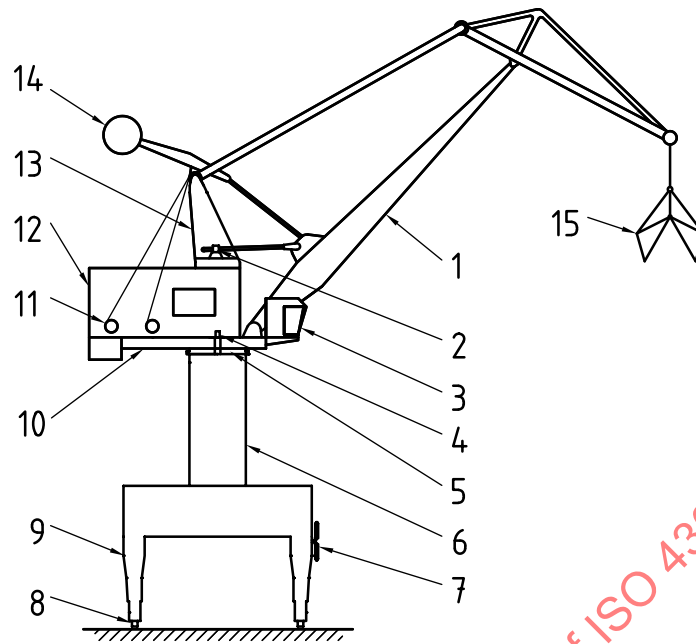
Note 1 to entry: See [Figure 18](#).



Key

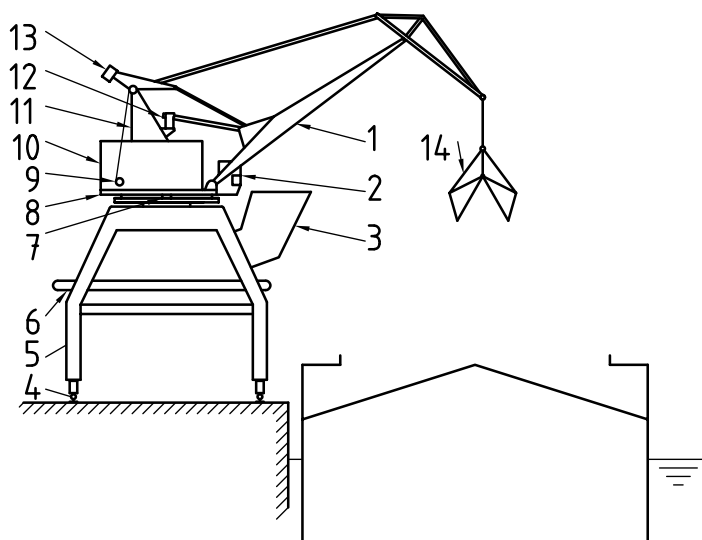
- | | | | |
|---|-------------------------|----|--------------------|
| 1 | single boom | 8 | rotating platform |
| 2 | cabin | 9 | luffing mechanism |
| 3 | slewing mechanism | 10 | machine house |
| 4 | rotary column | 11 | hoisting mechanism |
| 5 | crane cable reel device | 12 | A-frame |
| 6 | travelling mechanism | 13 | hook |
| 7 | portal | | |

Figure 1 — Example of single-boom portal slewing crane (with rotary column)

**Key**

- | | |
|---------------------------|--------------------------|
| 1 boom system | 9 portal |
| 2 luffing mechanism | 10 rotating platform |
| 3 cabin | 11 hoisting mechanism |
| 4 slewing mechanism | 12 machine house |
| 5 slewing ring | 13 upper frame |
| 6 cylinder | 14 boom balancing system |
| 7 crane cable reel device | 15 grab |
| 8 travelling mechanism | |

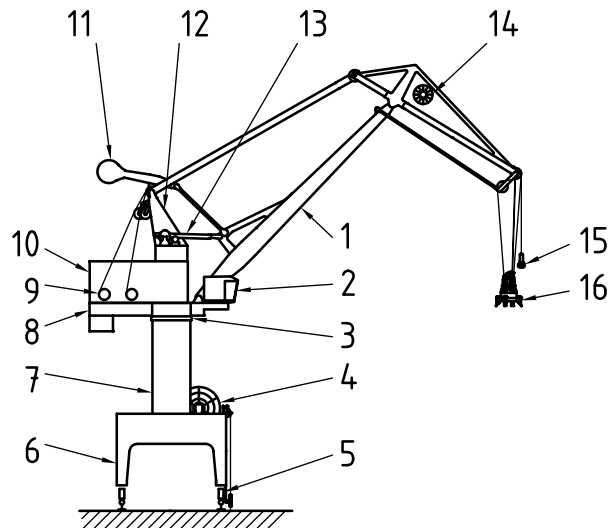
Figure 2 — Example of double link boom portal slewing crane (with slewing ring)



Key

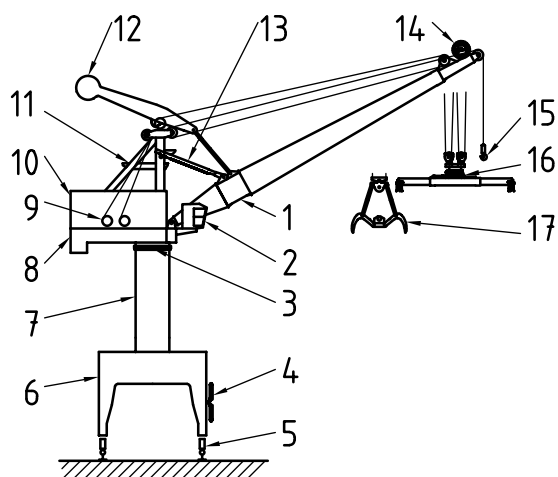
- | | |
|------------------------|--------------------------|
| 1 boom system | 8 rotating platform |
| 2 cabin | 9 hoisting mechanism |
| 3 hopper | 10 machine house |
| 4 travelling mechanism | 11 upper frame |
| 5 portal | 12 luffing mechanism |
| 6 belt conveyor | 13 boom balancing system |
| 7 slewing mechanism | 14 grab |

Figure 3 — Example of kangaroo portal slewing crane

**Key**

- | | |
|---------------------------|-------------------------------|
| 1 boom system | 9 hoisting mechanism |
| 2 cabin | 10 machine house |
| 3 slewing mechanism | 11 boom balancing system |
| 4 crane cable reel device | 12 upper frame |
| 5 travelling mechanism | 13 luffing mechanism |
| 6 portal | 14 spreader cable reel device |
| 7 cylinder | 15 hook |
| 8 rotating platform | 16 spreader |

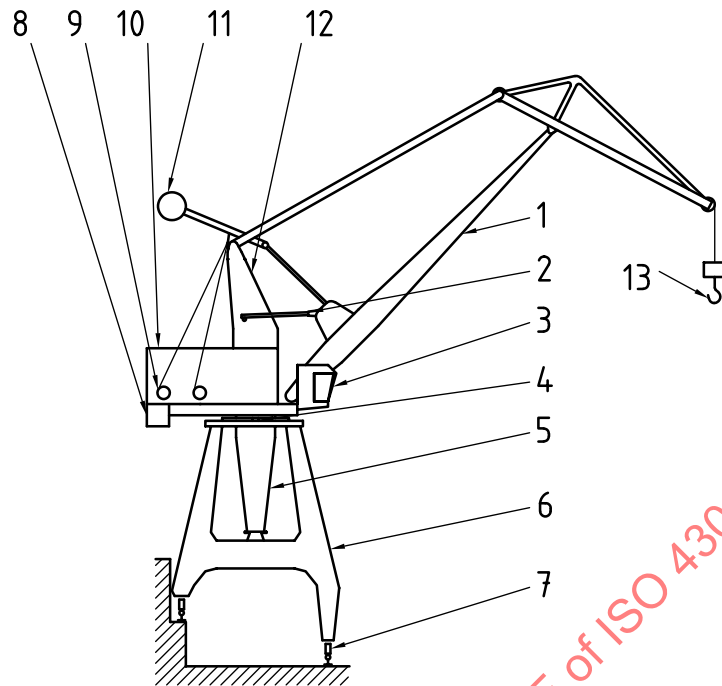
Figure 4 — Example of container handling portal slewing crane



Key

- | | |
|---------------------------|-------------------------------|
| 1 boom | 10 machine house |
| 2 cabin | 11 A-frame |
| 3 slewing mechanism | 12 boom balancing system |
| 4 crane cable reel device | 13 luffing mechanism |
| 5 travelling mechanism | 14 spreader cable reel device |
| 6 portal | 15 hook |
| 7 cylinder | 16 spreader |
| 8 rotating platform | 17 grab |
| 9 hoisting mechanism | |

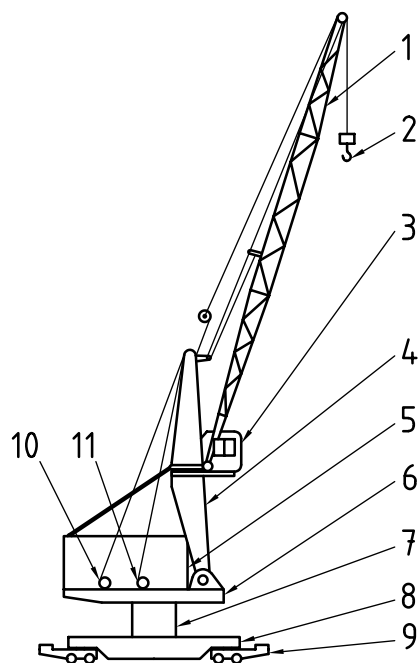
Figure 5 — Example of portal slewing crane for multipurpose use



Key

- | | |
|------------------------|--------------------------|
| 1 boom system | 8 rotating platform |
| 2 luffing mechanism | 9 hoisting mechanism |
| 3 cabin | 10 machine house |
| 4 slewing mechanism | 11 boom balancing system |
| 5 rotary column | 12 upper frame |
| 6 semi-portal | 13 hook |
| 7 travelling mechanism | |

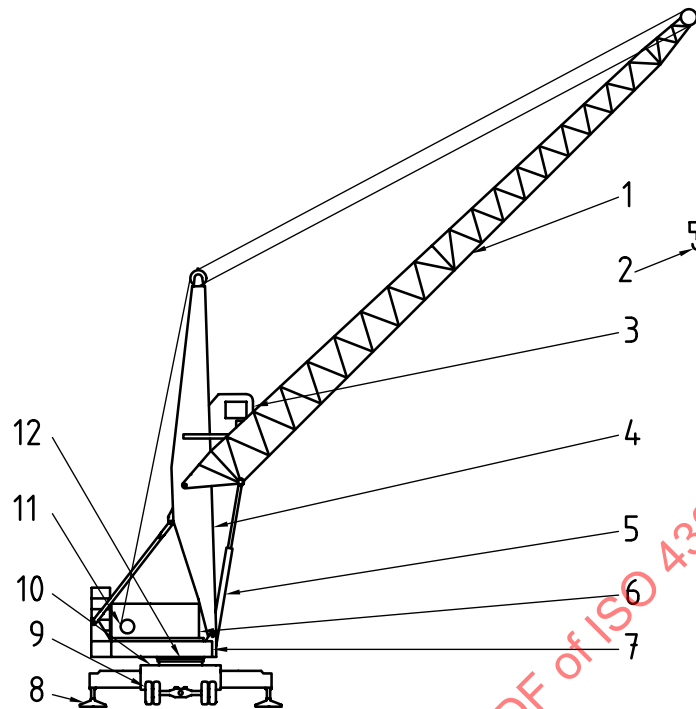
Figure 6 — Example of semi-portal slewing crane



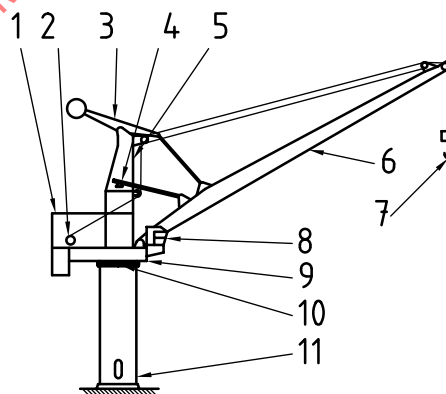
Key

- | | |
|---------------------|------------------------|
| 1 boom | 7 cylinder |
| 2 hook | 8 pedestal |
| 3 cabin | 9 travelling mechanism |
| 4 high mast | 10 luffing mechanism |
| 5 machine house | 11 hoisting mechanism |
| 6 rotating platform | |

Figure 7 — Example of rail-mounted high mast crane

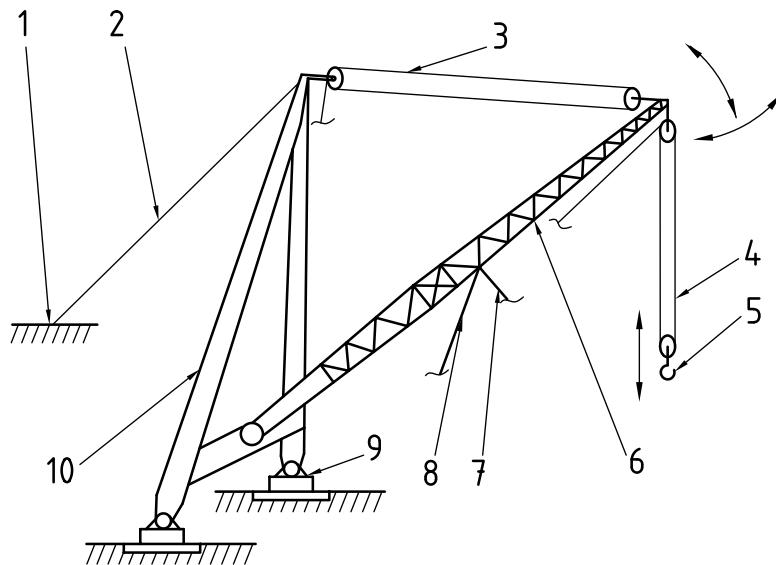
**Key**

- | | |
|---------------------|------------------------|
| 1 boom | 7 rotating platform |
| 2 hook | 8 outrigger |
| 3 cabin | 9 travelling mechanism |
| 4 high mast | 10 undercarriage |
| 5 luffing mechanism | 11 hoisting mechanism |
| 6 machine house | 12 slewing mechanism |

Figure 8 — Example of rubber tyred high mast crane**Key**

- | | |
|-------------------------|----------------------|
| 1 machine house | 7 hook |
| 2 hoisting mechanism | 8 cabin |
| 3 boom balancing system | 9 rotating platform |
| 4 luffing mechanism | 10 slewing mechanism |
| 5 upper frame | 11 cylinder |
| 6 boom | |

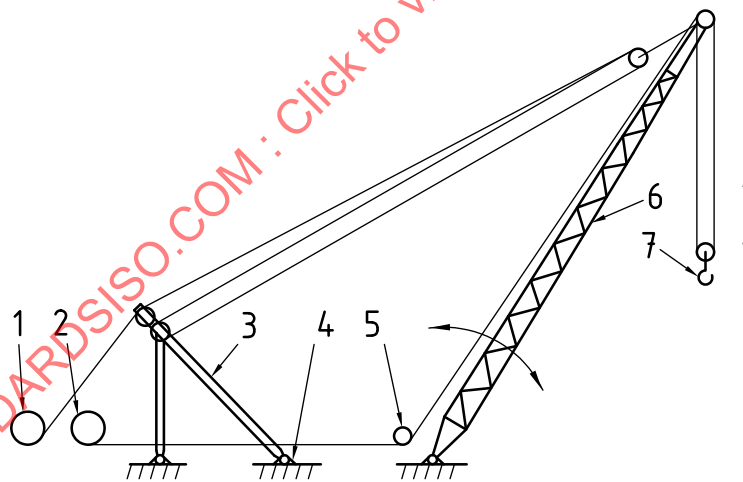
Figure 9 — Example of fixed-base jib crane



Key

- | | | | |
|---|--------------|----|------------------|
| 1 | guy anchor | 6 | boom |
| 2 | guy rope | 7 | left drag rope |
| 3 | luffing rope | 8 | right drag rope |
| 4 | hoist medium | 9 | support-pedestal |
| 5 | hook | 10 | A-frame |

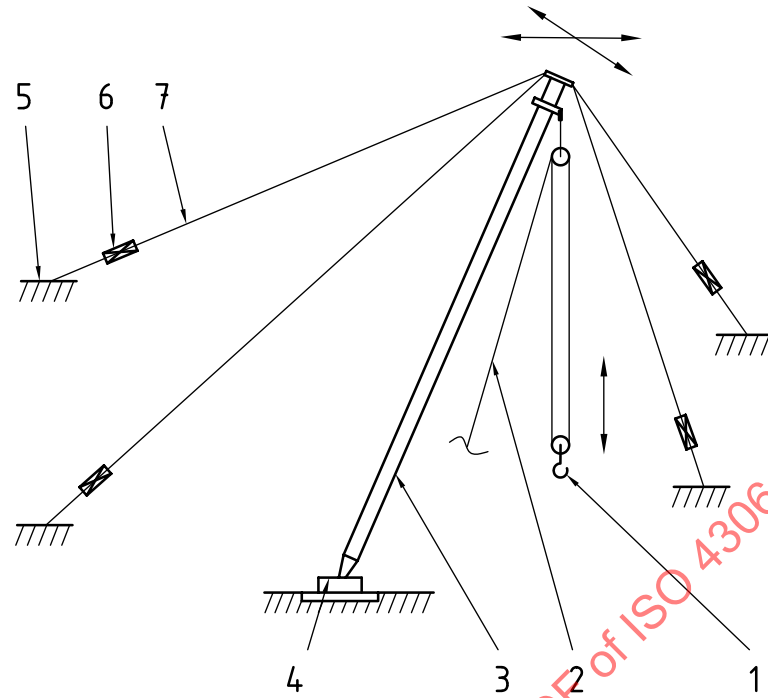
Figure 10 — Example of A-frame derrick crane



Key

- | | | | |
|---|--------------------|---|--------------|
| 1 | luffing mechanism | 5 | guide pulley |
| 2 | hoisting mechanism | 6 | boom |
| 3 | shear leg | 7 | hook |
| 4 | support-pedestal | | |

Figure 11 — Example of shear-leg derrick crane

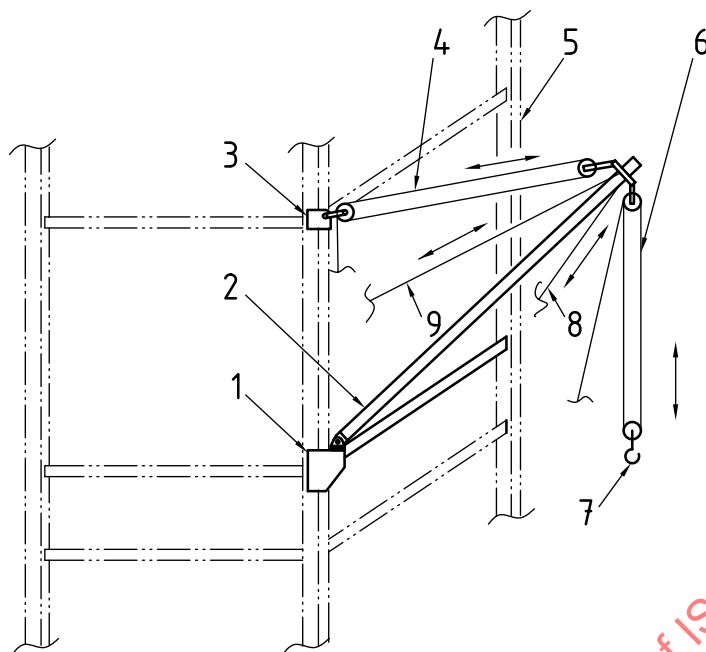


Key

- 1 hook
- 2 hoist medium
- 3 mast
- 4 support-pedestal

- 5 guy anchor
- 6 tightener
- 7 guy rope

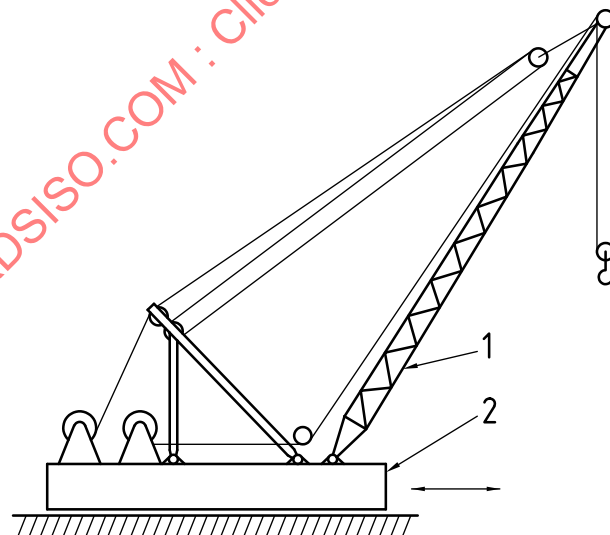
Figure 12 — Example of gin pole derrick crane



Key

- | | |
|------------------------------|-------------------|
| 1 boom support-pedestal | 6 hoist medium |
| 2 boom | 7 hook |
| 3 back stay support-pedestal | 8 left drag rope |
| 4 luffing rope | 9 right drag rope |
| 5 building | |

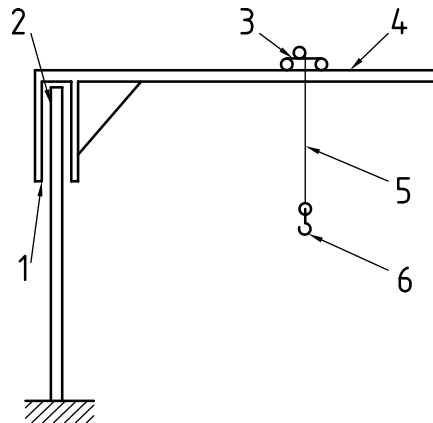
Figure 13 — Example of Chicago boom derrick crane



Key

- | |
|----------------------------|
| 1 fixed-base derrick crane |
| 2 moving undercarriage |

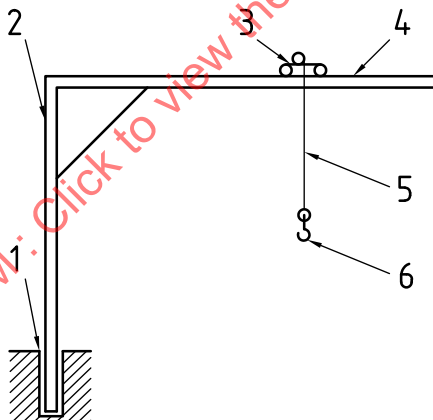
Figure 14 — Example of movable derrick crane



Key

- 1 slewing mechanism
- 2 pillar
- 3 crab or hoist
- 4 cantilever
- 5 hoist medium
- 6 hook

Figure 15 — Example of cantilever crane with fixed pillar



Key

- 1 slewing mechanism
- 2 pillar
- 3 crab or hoist
- 4 cantilever
- 5 hoist medium
- 6 hook

Figure 16 — Example of cantilever crane with rotary pillar