



BSI Standards Publication

## **Cranes — Control layout and characteristics**

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Part 5: Bridge and gantry cranes

# INTERNATIONAL STANDARD

**ISO**  
**7752-5**

Second edition  
2021-06

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## **Cranes — Control layout and characteristics —**

### **Part 5: Bridge and gantry cranes**

*Appareils de levage — Organes de service — Disposition et  
caractéristiques —*

*Partie 5: Ponts roulants et ponts portiques*



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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 96, *Cranes*, Subcommittee SC 9, *Bridge and gantry cranes*.

This second edition cancels and replaces the first edition (ISO 7752-5:1985), which has been technically revised.

The main and minor changes compared to the previous edition are as follows:

- in the Scope, "cab driving" has been changed to "cab movement";
- old [Clause 4](#) has been moved to [Annex A](#);
- old subclause 4.2 has been removed;
- the word "driver" has been changed to "operator" to reflect the terminology used in ISO 7752-1;
- new [Clause 3](#) Terms and definitions has been added;

A list of all parts in the ISO 7752 series can be found on the ISO website.

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](http://www.iso.org/members.html).

# Introduction

To reduce operator confusion or their incorrect control movement, this document unifies controls for certain types of cranes.

ISO 7752-1 establishes the general principles for all kinds of cranes.





# Cranes — Control layout and characteristics —

## Part 5: Bridge and gantry cranes

### 1 Scope

This document establishes the arrangement, requirements and direction of movement of the basic controls for travelling, traversing, slewing, cab movement and load hoisting and lowering operations for all cab-operated, overhead travelling cranes and portal bridge cranes, as defined in ISO 4306-1 and ISO 4306-5.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 4306-1, *Cranes — Vocabulary — Part 1: General*

ISO 4306-5, *Cranes — Vocabulary — Part 5: Bridge and gantry cranes*

ISO 7752-1, *Cranes — Control layout and characteristics — Part 1: General principles*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4306-1, ISO 4306-5 and ISO 7752-1 apply.

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 <https://www.electropedia.org/>

### 4 General requirements

The controls for the crane shall comply with ISO 7752-1.

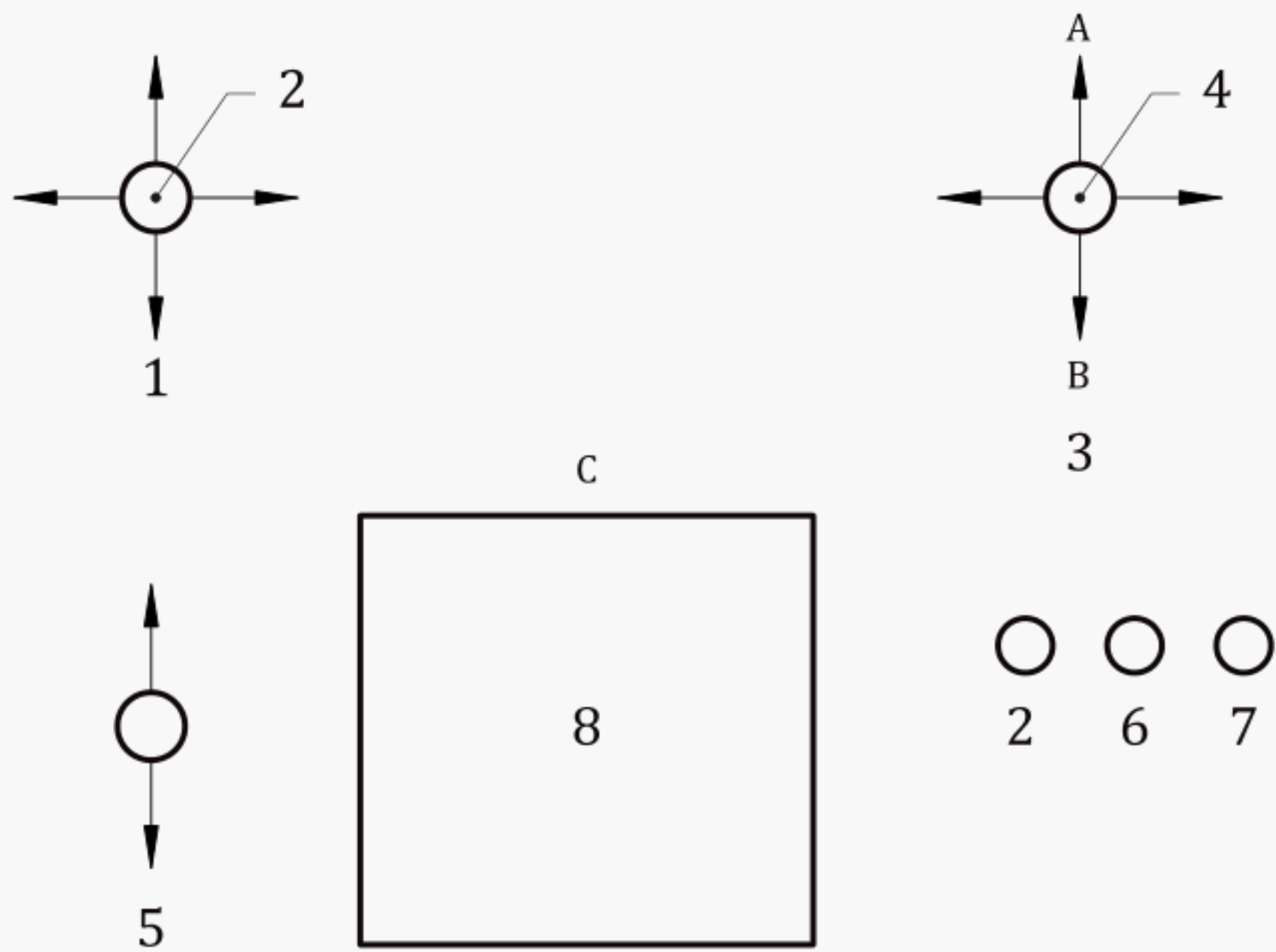
NOTE [Annex A](#) provides examples of basic control arrangements.



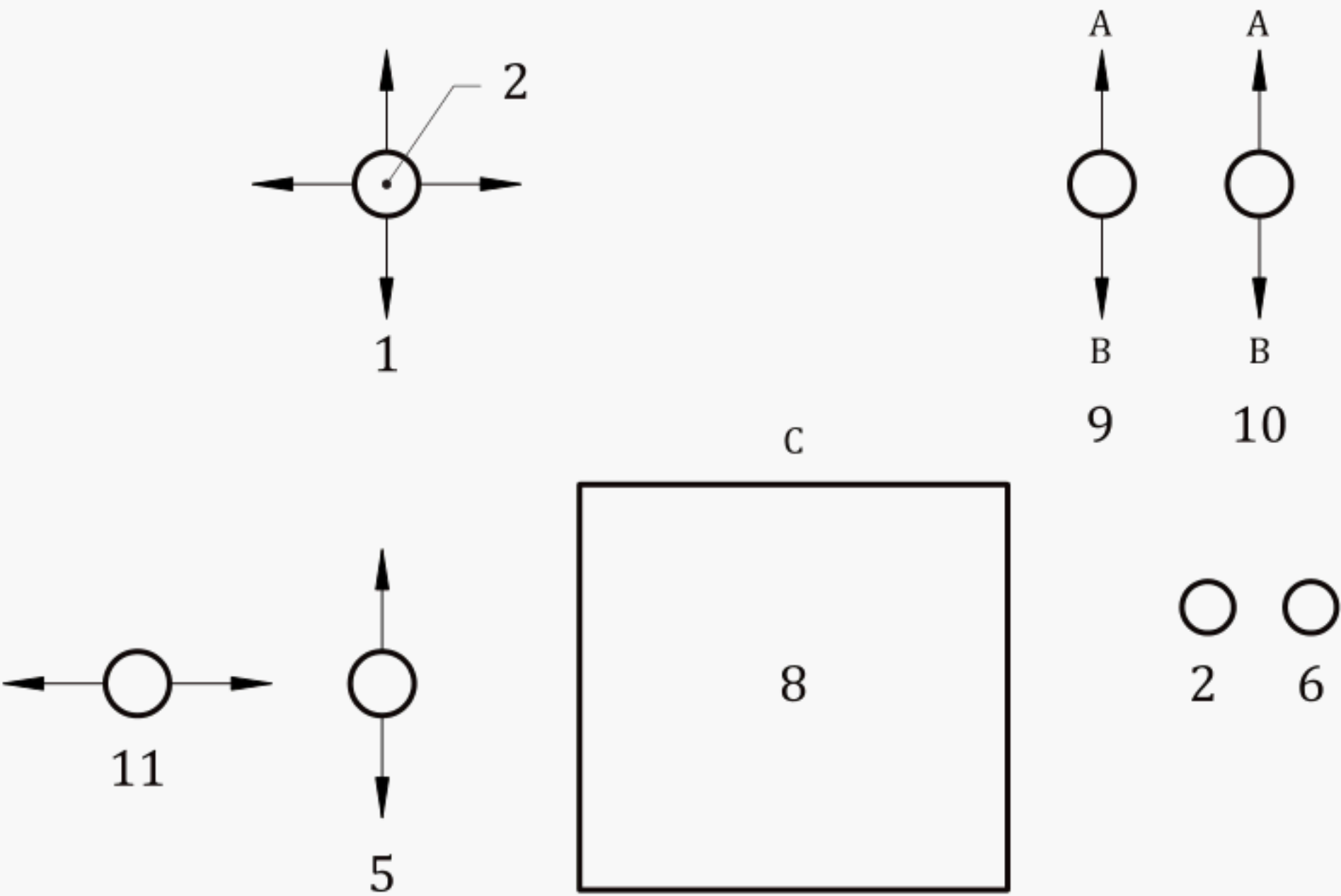
**Annex A**  
(informative)

**Examples for basic control arrangement**

Cabin controls, remote control and radio control, when applicable, should be arranged around and in front of the operator as shown from [Figure A.1](#) to [Figure A.10](#).



**a) Overhead travelling crane, Portal bridge crane, semi-portal bridge crane**

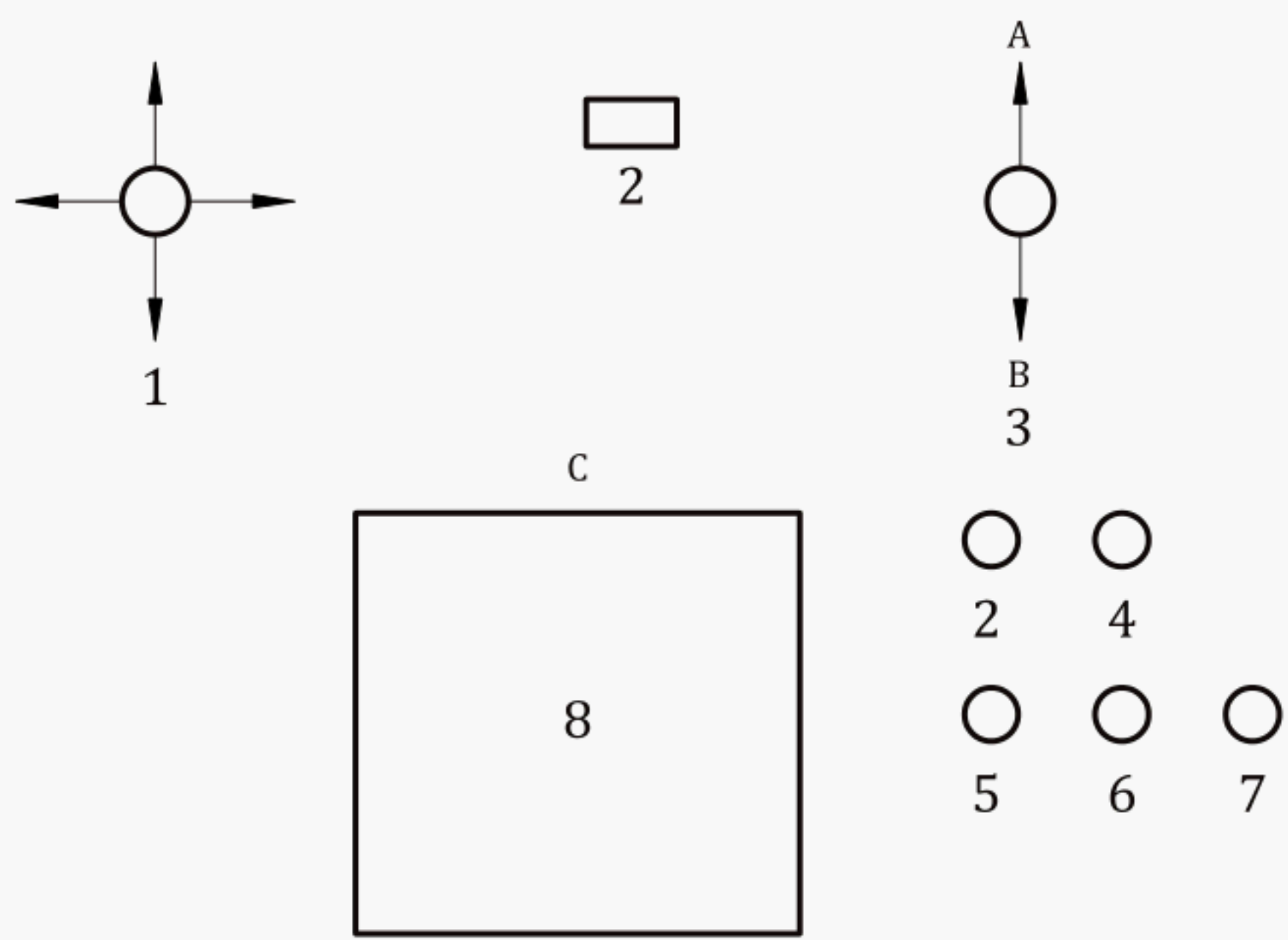


**b) Overhead travelling crane, Portal bridge crane, semi-portal bridge crane with tilting hoist**

**Key**

- 1 travelling and traversing [handle (joy stick) directions are the same as directions of movements]
- 2 alarm (in handle of joy stick, alternative locations)
- 3 main hoist and slewing [handle (joy stick) directions are the same as directions of movements]
- 4 radio 2 way (in handle of joy stick)
- 5 cab movement [handle (joy stick) directions are the same as directions of movements]
- 6 emergency stop
- 7 hoist selector where multiple hoists/trolleys are fitted
- 8 operator
- 9 main hoist
- 10 auxiliary hoist
- 11 slewing [handle (joy stick) directions are the same as directions of movements]
- A lower
- B raise
- C front

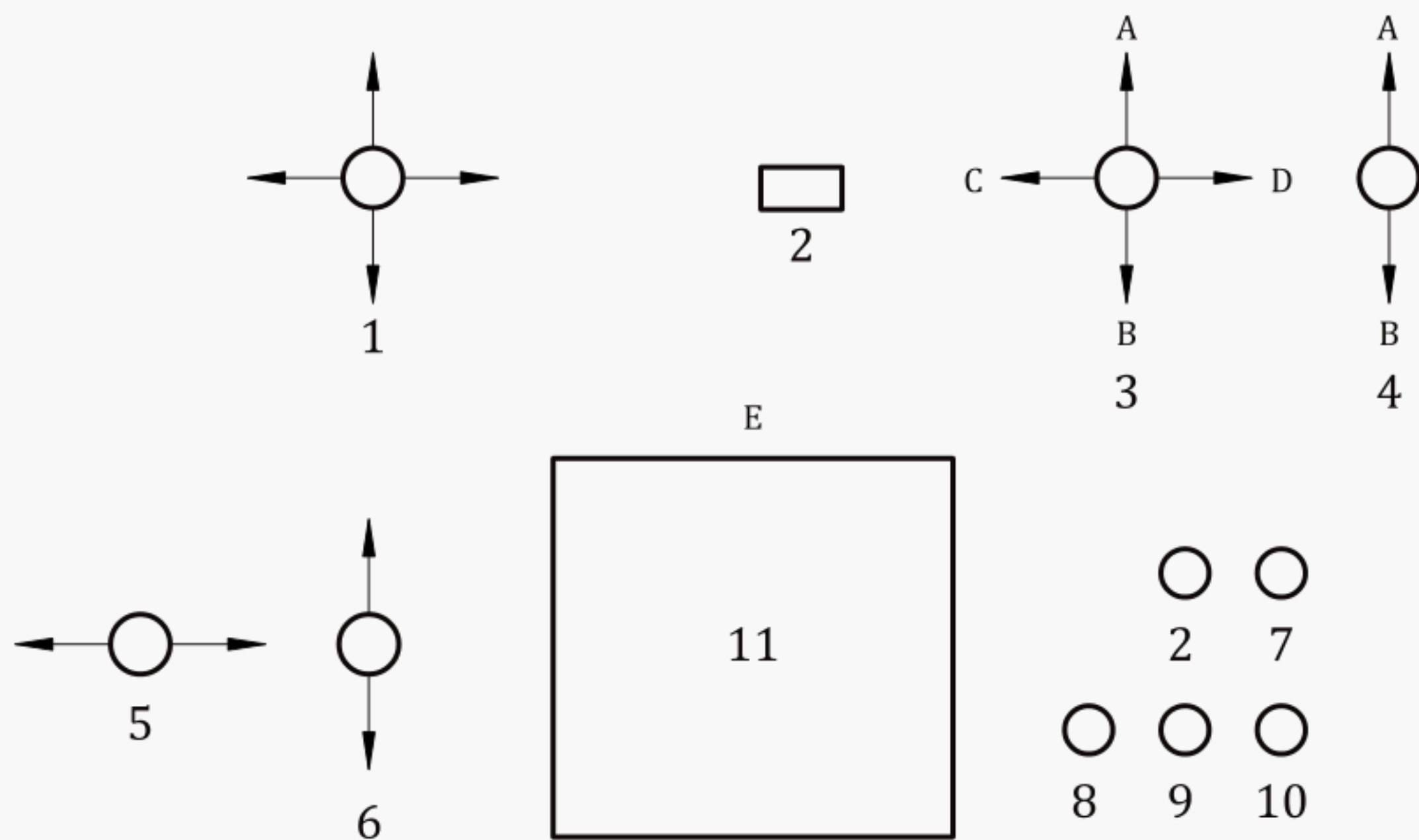
**Figure A.1 — Basic control arrangement 1 a) and 1 b)**



- Key**
- 1 travelling and traversing [handle (joy stick) directions are the same as directions of movements]
  - 2 alarm (alternative locations)
  - 3 hoist
  - 4 emergency stop
  - 5 boom up
  - 6 boom stop
  - 7 boom down
  - 8 operator
  - A lower
  - B raise
  - C front

**Figure A.2 — Basic control arrangement 2 — Dual (Single) hoist ship-to-shore container crane**

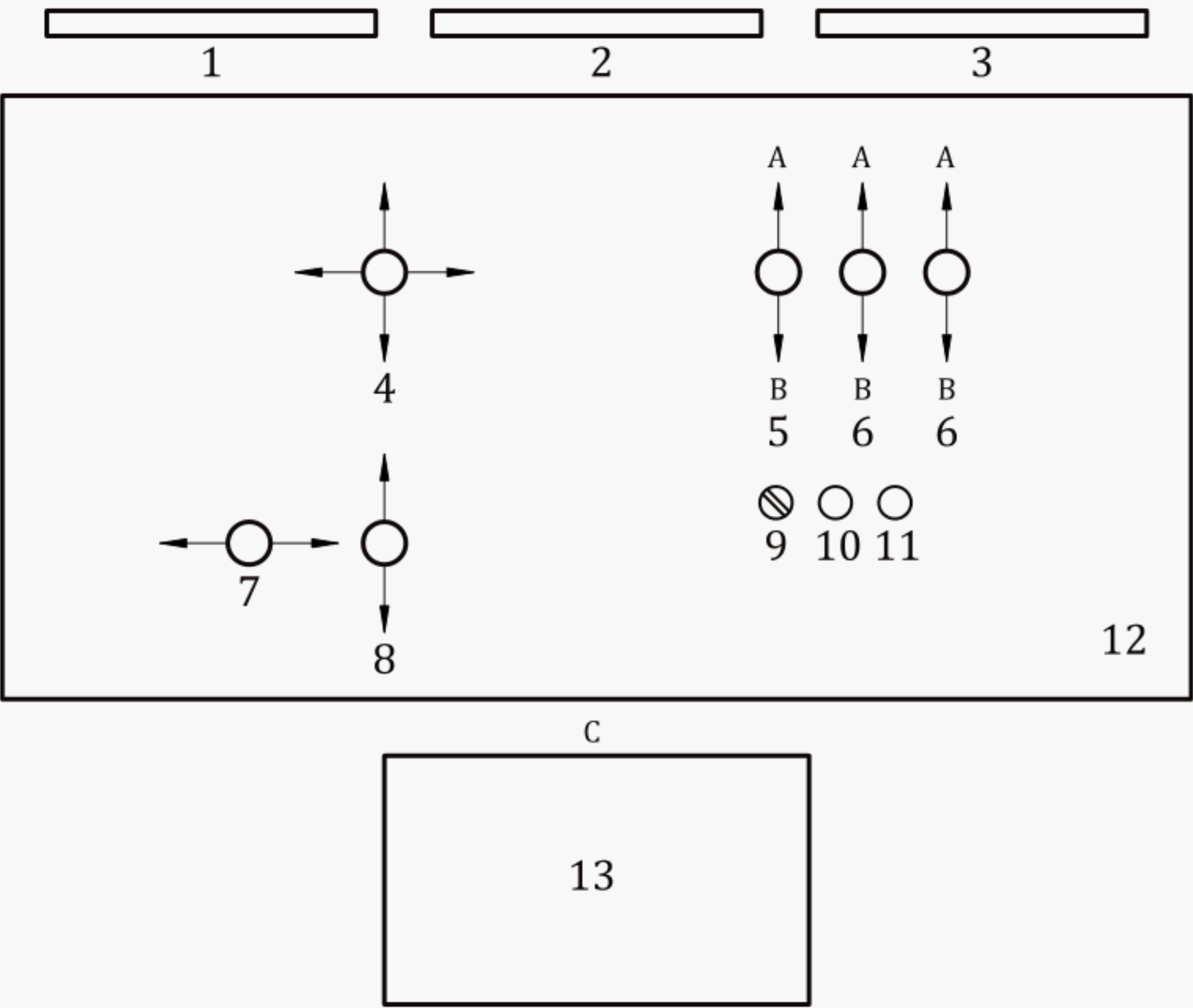




**Key**

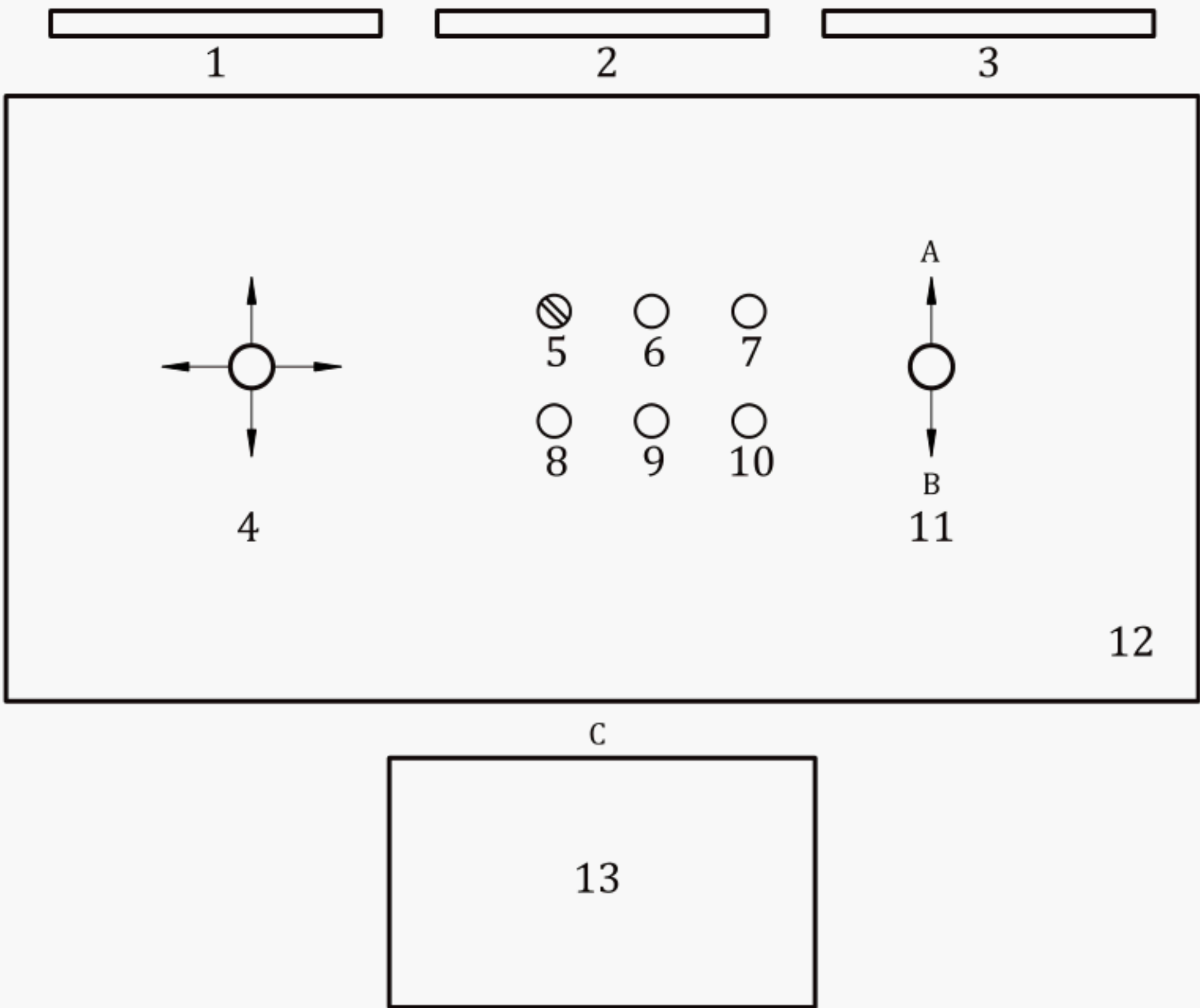
- 1 travelling and traversing [handle (joy stick) directions are the same as directions of movements]
- 2 alarm (alternative locations)
- 3 main hoist
- 4 auxiliary hoist (optional)
- 5 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
- 6 cab movement [handle (joy stick) directions are the same as directions of movements]
- 7 emergency stop
- 8 boom up
- 9 boom stop
- 10 boom down
- 11 operator
- A lower
- B raise
- C grab close (or other load-handling device function)
- D grab open
- E front

**Figure A.3 — Basic control arrangement 3 — Bridge type grab ship unloader**



- Key**
- 1 crane management system (CMS)
  - 2 video display (detail view)
  - 3 video display (crane general view)
  - 4 travelling and traversing
  - 5 main hoist
  - 6 auxiliary hoist (optional)
  - 7 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
  - 8 cab movement [handle (joy stick) directions are the same as directions of movements]
  - 9 auto/manual
  - 10 alarm
  - 11 emergency stop
  - 12 desk
  - 13 operator
  - A lower
  - B raise
  - C front

**Figure A.4 — Basic control arrangement 4 — Remote (overhead travelling crane, portal bridge crane, semi-portal bridge crane)**

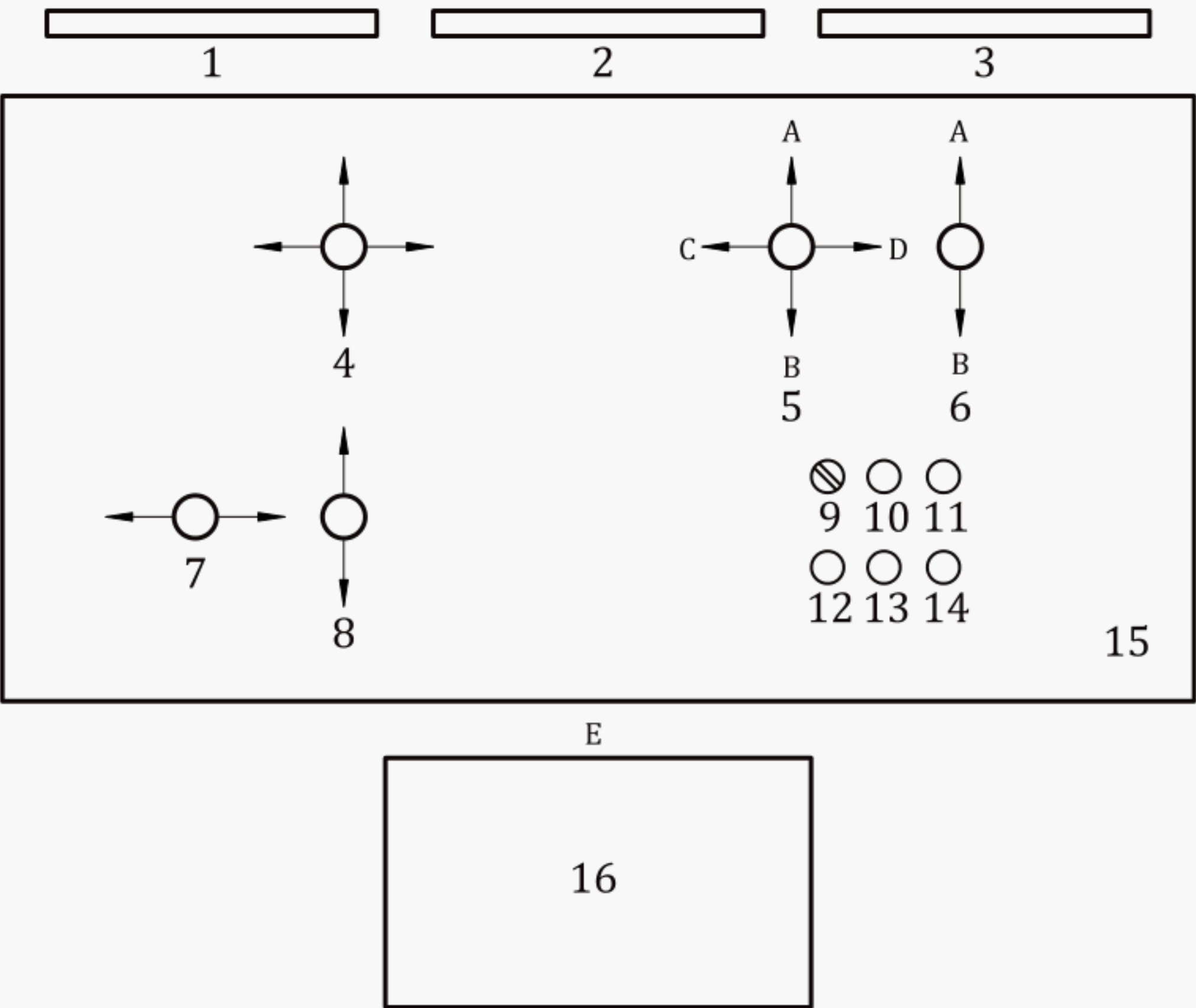


**Key**

- 1 crane management system (CMS)
- 2 video display (spreader twistlock view)
- 3 video display (crane general view)
- 4 travelling and traversing
- 5 auto/manual
- 6 alarm
- 7 emergency stop
- 8 boom up
- 9 boom stop
- 10 boom down
- 11 hoist
- 12 desk
- 13 operator
- A lower
- B raise
- C front

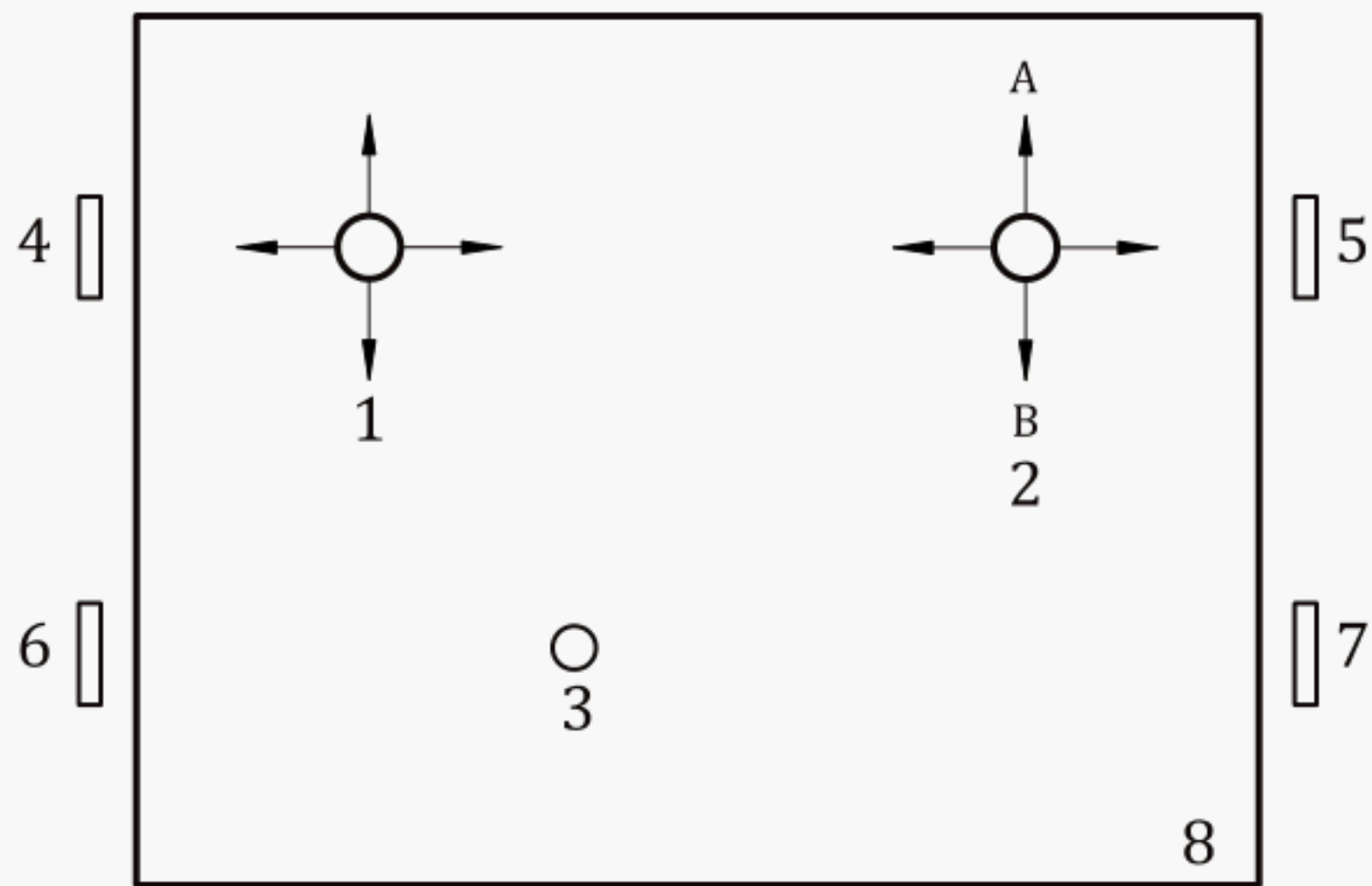
**Figure A.5 — Basic control arrangement 5 — Remote [dual (single) hoist ship-to-shore container crane]**



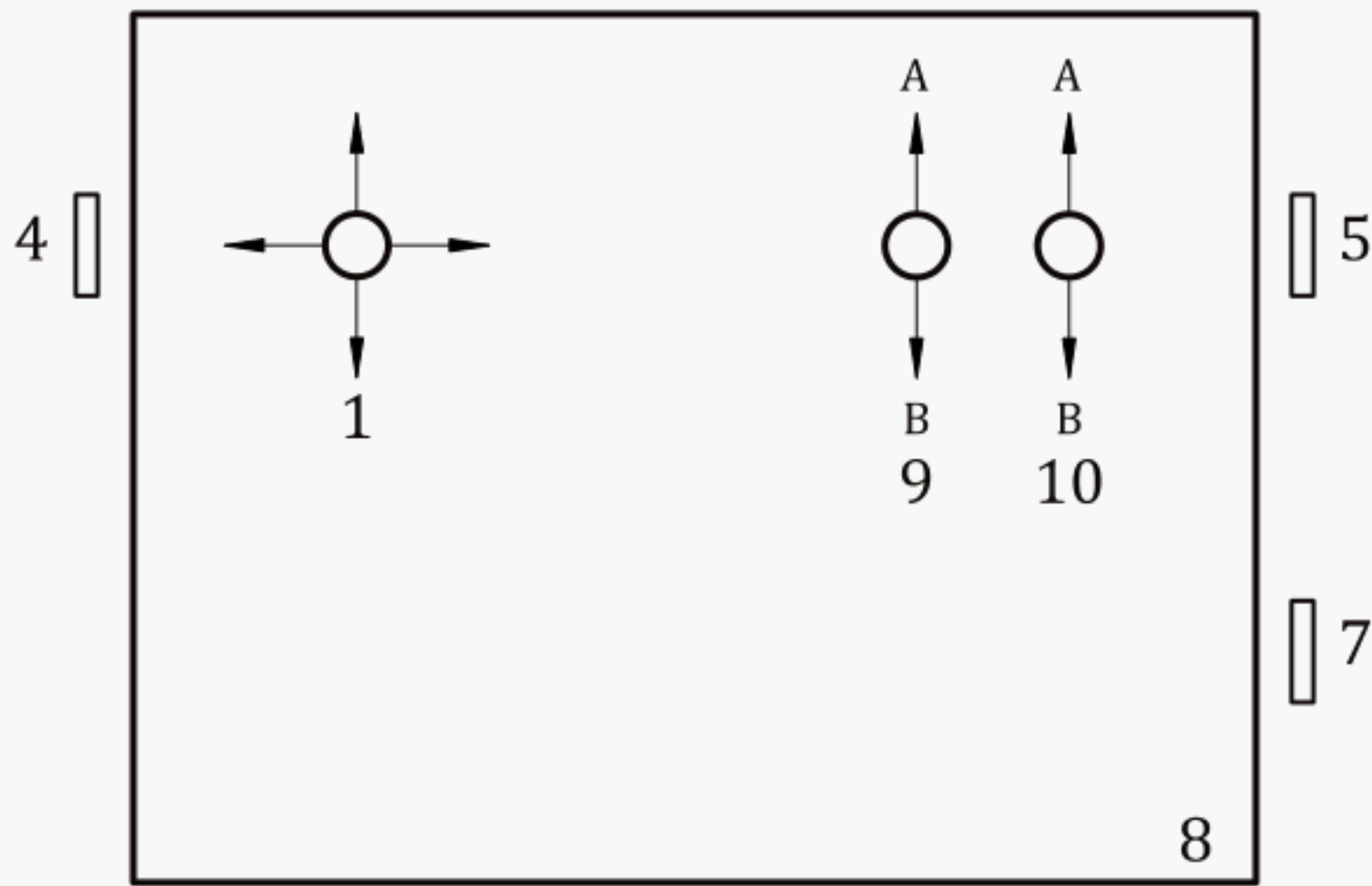


- Key**
- 1 crane management system (CMS)
  - 2 video display (detail view)
  - 3 video display (crane general view)
  - 4 travelling and traversing
  - 5 main hoist
  - 6 auxiliary hoist (optional)
  - 7 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
  - 8 cab movement [handle (joy stick) directions are the same as directions of movements]
  - 9 auto/manual
  - 10 alarm
  - 11 emergency stop
  - 12 boom up
  - 13 boom stop
  - 14 boom down
  - 15 desk
  - 16 operator
  - A lower
  - B raise
  - C grab close (or other load handling device function)
  - D grab open
  - E front

**Figure A.6 — Basic control arrangement 6 — Remote (bridge type grab ship unloader)**



**a) Radio (overhead travelling crane, portal bridge crane, semi-portal bridge crane)**

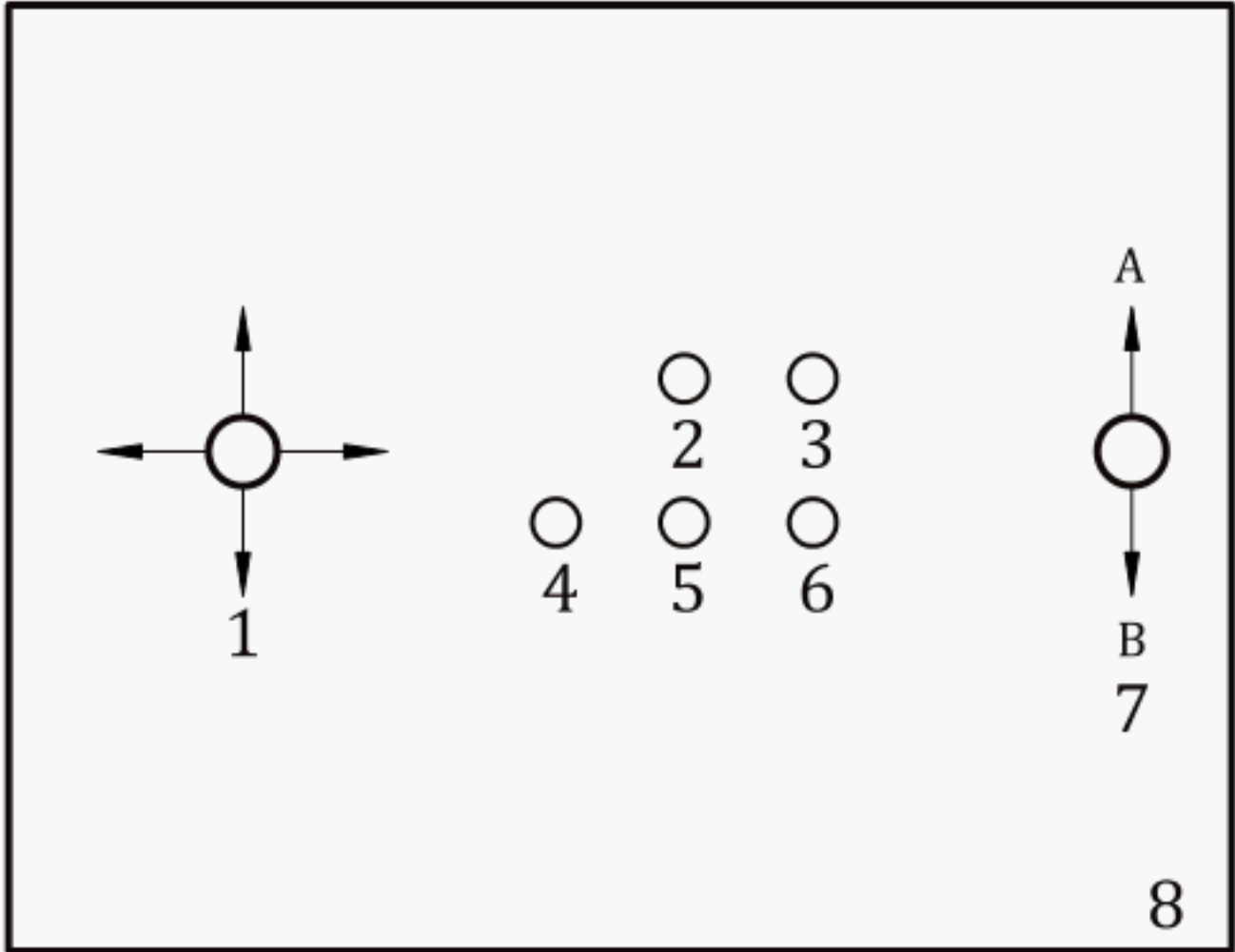


**b) Radio (portal bridge crane, semi-portal bridge crane) with tilting hoist**

**Key**

- 1 travelling and traversing
- 2 main hoist and slewing (or grab)
- 3 hoist selector (stay put) and hoist combination selector
- 4 alarm
- 5 start
- 6 additional (safety) grab open
- 7 emergency stop
- 8 radio control housing
- 9 main hoist
- 10 auxiliary hoist (tilting hoist)
- A lower
- B raise

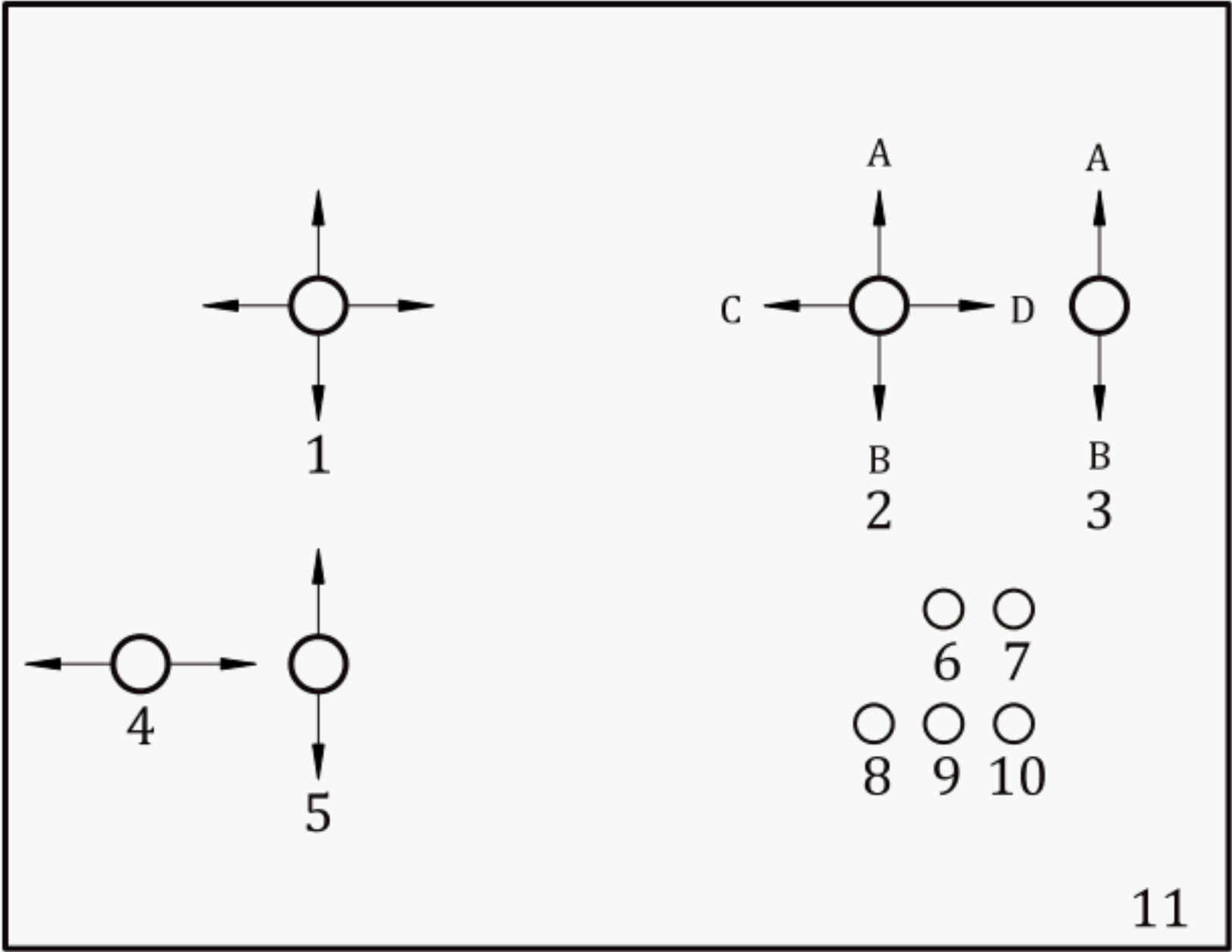
**Figure A.7 — Basic control arrangement 7 — Radio**



- Key**
- 1 travelling and traversing
  - 2 alarm
  - 3 emergency stop
  - 4 boom up
  - 5 boom stop
  - 6 boom down
  - 7 hoist
  - 8 radio control housing
  - A lower
  - B raise

**Figure A.8 — Basic control arrangement 8 — Radio [dual (single) hoist ship-to-shore container crane]**

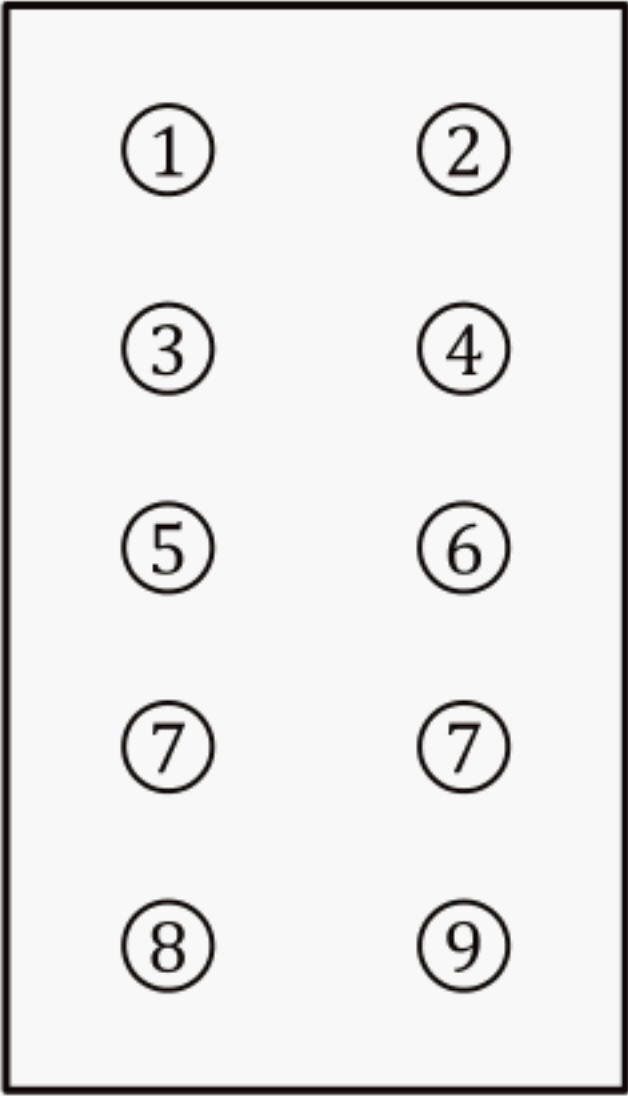




**Key**

- 1 travelling and traversing
- 2 main hoist
- 3 auxiliary hoist (optional)
- 4 slewing [handle (joy stick) directions are the same as directions of movements (optional)]
- 5 cab movement [handle (joy stick) directions are the same as directions of movements]
- 6 alarm
- 7 emergency stop
- 8 boom up
- 9 boom stop
- 10 boom down
- 11 radio control housing
- A lower
- B raise
- C grab close (or other load handling device function)
- D grab open

**Figure A.9 — Basic control arrangement 9 — Radio (bridge type grab ship unloader)**



- Key**
- 1 lower
  - 2 raise
  - 3 left
  - 4 right
  - 5 forward
  - 6 reverse
  - 7 multi-function
  - 8 start/alarm
  - 9 emergency stop

**Figure A.10 — Basic control arrangement 10 — Pendent style radio (remote) - bridge cranes**





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