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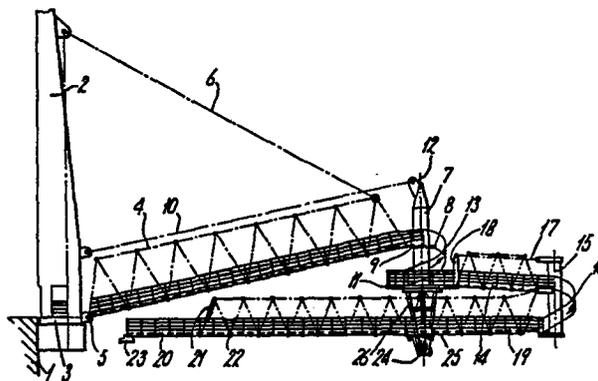
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⑤ **A device for transfer of persons and/or goods to and/or from a pelagic structure.**

⑥ A device for transfer of persons and/or goods to and/or from a pelagic structure (1), comprising a first bridge (4) which is in pivotal connection with said structure (1) and which at its free end, through a pivotal connection (7, 8, 9, 11), carries a second bridge (14), which at its free end, through a pivotal connection, is coupled to a third bridge (19), in such a manner that the vertical and horizontal distance between the highest point (5) and the lowest point (23) may be varied while maintaining the same angle of inclination relatively to a mean plane of all the footbridge elements. In order to achieve this the connection between the free end of said first bridge (4) and the second bridge (14) comprises a column (7) equipped with a disc (11) which is rotatable in its own plane about the longitudinal axis of said column (7), and said second bridge (14) is pivotable about an axis parallel to the plane of said disc (11). A piston/cylinder device (12), the length of which may be varied in the longitudinal direction of the column (7), is pivotally connected to a point (24) between the ends of said third bridge (19).



A DEVICE FOR TRANSFER OF PERSONS AND/OR GOODS
TO AND/OR FROM A PELAGIC STRUCTURE

1 The present invention relates to a device for transfer
of persons and/or goods to and/or from a pelagic structure,
said device being designed to permit a safe connection
between different kinds of structures, for instance a
5 gravity platform, a mobile platform or a vessel and a
floating or fixed member, such as a vessel or a quay.

 For this purpose different kinds of devices are
previously known, for instance a basket connected to
a crane, or a flexible, hose-like duct. Moreover, is
10 known an accommodation ladder, of which several ladder
sections are interconnected in such a manner that they
form a zigzag connection between a vessel and a quay.
Said device is, however, not appropriate in cases where
the two ends of the device perform mutual movements.
15 The most frequently used method of transfer is to use
a helicopter.

 The present invention relates to a device which
is stationary relatively to the pelagic structure, and
which comprises a first bridge being pivotally connected
20 to the pelagic structure, said bridge, through a pivotal
connection, carrying at its free end a second bridge,
said second bridge, through a pivotal connection at its
free end, being connected to a third bridge, whereby
is achieved a safe and comfortable transfer device permit-
25 ting variable differences of height between the two ends
of the device. The connection between the free end of
the first bridge and the second bridge comprises a column
equipped with a disc adapted to rotate in its own plane
about the longitudinal axis of said column. Said second
30 bridge is pivotally connected for movement about an axis

1 being parallel to the plane of said disc, and a piston/
cylinder device, the length of which may be varied in
the longitudinal direction of said column, is pivotally
connected to a point between the ends of said third bridge.

5 Further features of the device according to the
invention will appear from an embodiment of the invention,
which will be explained in connection with the accompanying
drawings, in which Figures 1 and 2 respectively show
side views of the device in two different positions.

10 In the drawings reference numeral 1 is a pelagic
structure, for instance a gravity platform or a mobile
platform adapted to be used in connection with subsea
production of hydrocarbons, or a deck of a vessel. The
structure 1 carries a tower 2, on which a bridge 4 is
15 pivotally mounted through a swivel ring 3 and a hinge
5, thus permitting the bridge to pivot in a vertical
and a horizontal plane. The bridge 4 is suspended from
the tower through a cable 6 or similar component deter-
mining the angular position of said bridge in a vertical
20 plane.

At its free end said bridge 4 carries a column
7, being connected to said bridge through an annular
platform 8 and a hinge 9. Said column 7 is connected
to said tower 2 through a cable, rod or similar component
25 10 in such a manner that the longitudinal axes of the
tower 2 and the column 7, respectively, are always mutu-
ally parallel, independently of the angular positions
of the bridge 4.

Said column 7 carries at its lower end a rotatable
30 disc 11, and is interiorly equipped with a pneumatic

1 or hydraulic piston/cylinder device 12, which in the
drawing is merely indicated by means of a dot/dash line.

Between the platform 8 and the column 7 is provided
a curved stair 13 having its axis in the axis of the
5 column. Moreover, said disc 11 carries a second bridge
14, and a second column 15 is provided at the free end
of said second bridge 14 and carries a curved stair 16
having its axis parallel with the column 15. By means
of cables, rods or similar components 17 and a gate 18
10 the second column 15 is always kept parallel with the
column 7 and the tower 2. The lower end of the stair
16 is connected to a third bridge 19, which is extended
at its free end by means of a ladder 20, which by means
of hydraulic means 21 may pivot about a hinge 22 on the
15 bridge 19. The free end of said ladder may be supported
against a quay, a deck of a vessel or other pelagic struc-
ture by means of a guide member 23.

At a location 24 between the ends of the bridge
19, said bridge is suspended in the free end of the piston
20 rod 25 of the piston/cylinder device 12. The rod 25
is guided in a guide 26 on the underside of the disc
11 on the column 7, in order to permit adjustment of
the angle between the bridge 19 and the bridge 14.

The bridges 4, 14 and 19 are designed in such a
25 manner as to form footbridges for persons or bridges
for the transportation of goods.

When the device comprising said bridges has been
brought properly in place by means of the different adjust-
ment means and the free end of the ladder 20 is supported
30 on a support structure, the various bridges are able

1 to follow the possible movements of said support structure,
in that the guide member 23 by means of suitable connecting
means, such as for instance ropes or similar, or cybernetics,
controls the effective length of the cable 6 and the
5 hydraulic devices 12 and 21, in such a manner that the
various bridges assume approximately the same angle of
inclination, while the columns 7 and 15 maintain their
vertical positions, and simultaneously the horizontal
distance between the structure 1 and the end of the ladder
10 20 may vary, while maintaining continuous footbridges,
all of which having the same angle of inclination.

CLAIMS

- 1 1. A device for transfer of persons and/or goods to
and/or from a pelagic structure, comprising a first bridge
(4) being pivotally connected to said structure (1) and
carrying at its free end, through a pivotal connection
5 (7,8,9,11), a second bridge (14), said second bridge
being, at its free end, connected to a third bridge (19)
through a pivotal connection characterized in that the
connection between the free end of the first bridge (4)
and the second bridge (14) comprises a column (7) equipped
10 with a disc (11) adapted to rotate in its own plane about
the longitudinal axis of said column (7), said second
bridge (14) being pivotally connected for movement about
an axis being parallel to the plane of said disc (11),
and that a piston/cylinder device (12), the length of
15 which may be varied in the longitudinal direction of
said column (7), is pivotally connected to a point (24)
between the ends of said third bridge (19).
2. A device according to claim 1, characterized in that
the connection between the second bridge (14) and the
20 third bridge (19) comprises a second column (15) being
connected to said disc (11) by means of cables, rods
or similar (17).
3. A device according to claim 1, characterized in that
the disc (11) on the first column (7) comprises a guide
25 (26) for the piston rod (25) of the piston/cylinder device
(12), said third bridge (19) being suspended on said
rod (25).
4. A device according to any of claims 1 to 3, character-
ized in that the first column (7) is connected to the
30 pelagic structure (1) by means of at least one cable,
rod or similar component (10), in such a manner that
the axis of said first column (7) is always kept parallel
to an axis of said pelagic structure (1).

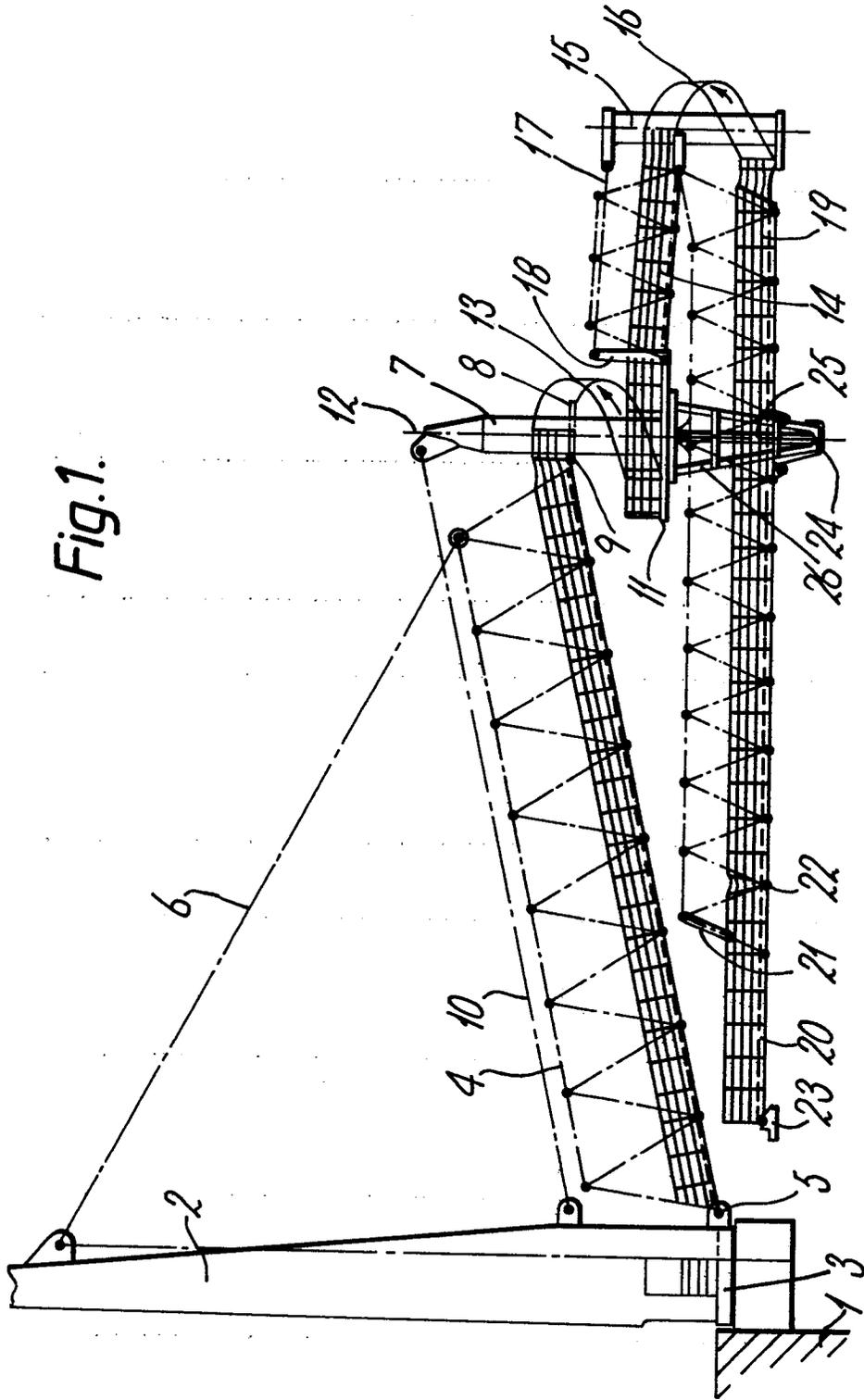


Fig. 1.

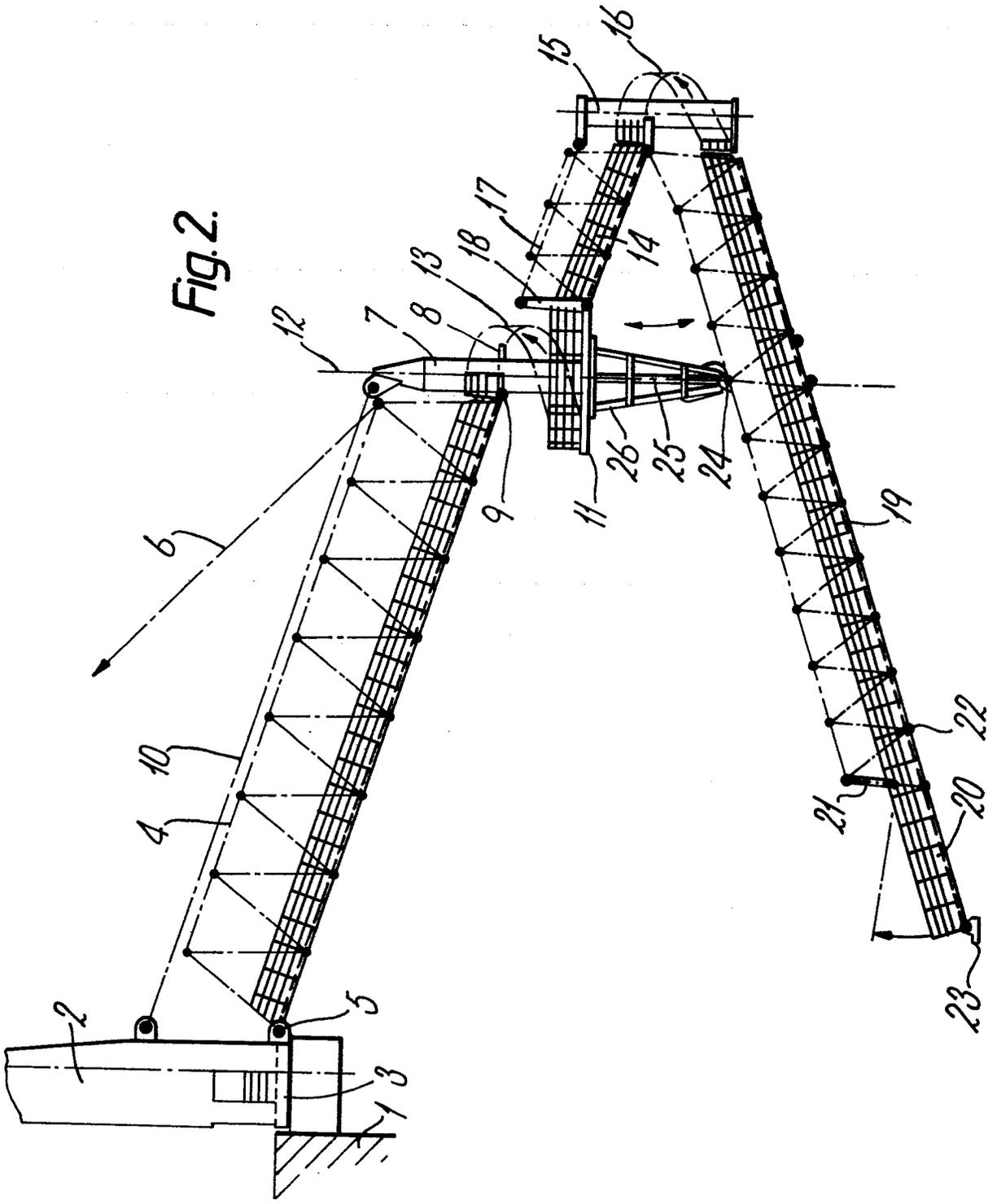


FIG. 2.