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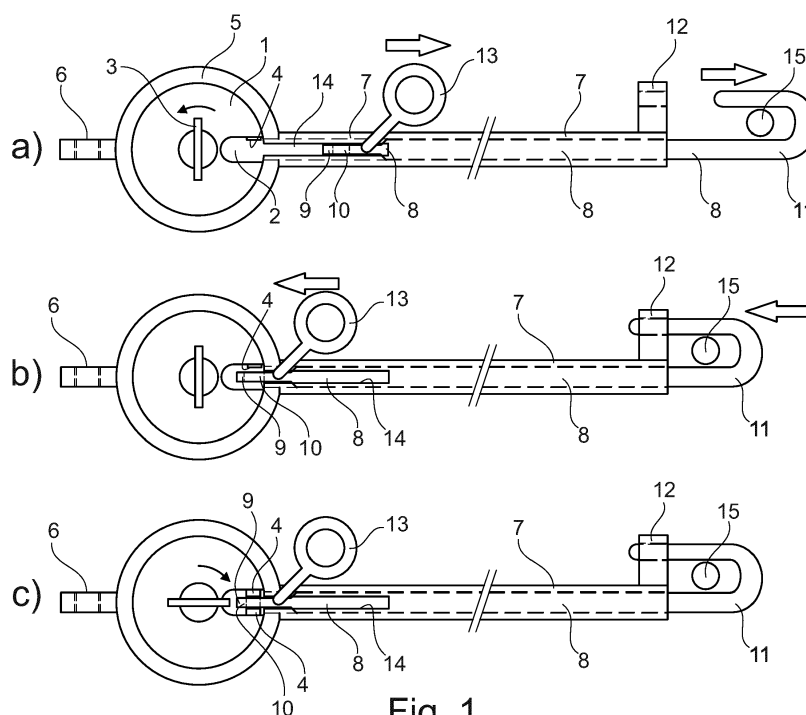
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(54) ELONGATE CONNECTING MEMBER LOCKABLE BY MEANS OF A LOCK

(57) Connecting member lockable by a lock, comprising a lock unit (1) with a locking area (2) and a locking bolt (4) which can be controlled by a key (3), and a lock frame (5) which is provided with a coupling element (6) and an elongate guide frame (7) for the purpose of guiding a slidable connecting element (8). The connecting element is provided with a striking plate (9) co-acting with the locking bolt in order to, depending on the position of the locking bolt, block or release the ability of the con-

necting element to slide. The connecting element is further provided with a first closing element (11) configured to co-act with a second closing element (12) whereby a fastening element (15) of for instance a boat can be coupled or uncoupled. The thus formed lockable connecting member is for instance highly suitable for use to enable lockable connection of a sailboat or motorboat to for instance a landing stage.

**Fig. 1****EP 3 779 106 A1**

Description

[0001] The invention relates to a device intended and configured as elongate connecting member lockable by means of a lock.

[0002] The present invention has for its object to provide a lockable connecting member which can for instance be used to enable lockable connection of a sailboat or motorboat to for instance a landing stage for theft prevention purposes, which has heretofore not been very simple: a lock, a chain or cable and a key are then for instance needed, and it involves hanging from the landing stage over the water in order to place a chain or cable through the eyebolt of the boat and then anchor this lock to the landing stage. A place which is difficult to reach, since the eyebolt is usually not at working height (in the case of small boats usually lower than the landing stage). It is often difficult to bridge the distance between the landing stage and the boat, resulting in lock, key, chain or the person him/herself falling into the water.

[0003] Client's invention provides a solution to this problem. The chain and the lock are now integrated into one so-called bar lock, which is elongate, whereby the distance between the landing stage and boat can be bridged in relatively simple manner and the boat can be locked with a simple operation.

[0004] In order to achieve the stated object the present invention proposes a device intended and configured as elongate connecting member lockable by means of a lock, comprising:

- a lock unit with a locking cavity and a locking bolt which can be controlled into and out of the locking area of the locking cavity by means of a reciprocally rotatable key;
- a housing or frame, referred to hereafter as lock frame, configured to accommodate and/or receive the lock unit, which lock frame is provided with a coupling element, for instance a fastening eye, and an elongate guide frame, for instance a guide tube, which extends substantially outward from the area of the locking cavity and is configured to guide a connecting element which can be slid inward and outward, which connecting element is provided at its outer end directed toward the locking cavity with a part or element co-acting with the locking bolt, which is referred to hereafter as striking plate and is configured to, depending on the position of the locking bolt of the lock unit, block or release the ability of the slidable connecting element to slide from inside to outside,

which connecting element is provided on its side remote from the locking cavity with a first closing element configured to co-act with a second closing element which is connected to the above-mentioned guide frame.

[0005] Either the first closing element or the second closing element can have substantially the form and/or

function of a locking hook, while respectively the second closing element or the first closing element then preferably has substantially the form and/or function of a locking eye configured to co-act with the locking hook. The first and second closing element are preferably configured to be able to form a substantially form-closing or form-closed mutual connection.

[0006] The lock unit can comprise a padlock, preferably of the disc lock type, or a cylinder lock with a lock pin which protrudes into a keyhole-shaped recess or opening in the connecting element and which can be moved into an unlocked position and a locked position by turning a key. The lock frame and the lock unit can be connected non-releasably to each other, wherein the lock frame forms for instance an integrated whole with a housing of the lock unit. The lock frame and the lock unit can in principle also be connected releasably to each other, at least in unlocked situation of the lock unit, wherein the lock frame then does not form an integrated whole with a housing of the lock unit.

[0007] The invention will now be further discussed with reference to the figure description below.

Figure 1 shows schematically a first exemplary embodiment of a device according to the invention, drawn in three operational positions.

Figure 2 shows schematically a second exemplary embodiment of a device according to the invention. Figure 3 shows a cross-sectional view of a detail of the lock of figure 2.

Figures 4A and 4B show schematically the device in unlocked and locked situation.

[0008] Figure 1 shows schematically a first exemplary embodiment of a device according to the invention, intended and configured as elongate connecting member lockable by means of a lock, drawn in three operational positions (figures 1a-c).

[0009] The shown device comprises a lock unit 1 with a locking cavity 2 and a locking bolt 4 which can be controlled into and out of the locking area of locking cavity 2 by means of a reciprocally rotatable key 3.

[0010] The device further comprises a housing or frame, referred to hereafter as lock frame 5, which is configured to accommodate and/or receive lock unit 1, which lock frame 5 is provided with a coupling element 6, for instance a fastening eye, and with an elongate guide frame 7, for instance a guide tube, which extends substantially outward (to the right in the drawings) from the area of locking cavity 2 and is configured to guide a connecting element 8 which can be slid inward and outward.

[0011] Connecting element 8 is provided at its outer end directed toward locking cavity 2 with a (couplable) part or element co-acting with locking bolt 4, which is referred to hereafter as striking plate 9 and is configured to, depending on the current position of the locking bolt 4 of lock unit 1, block or release the ability of the slidable connecting element 8 to slide from inside to outside. In

the shown embodiment connecting element 8 is blocked from being slidable outward (to the right in the drawings) when locking bolt 4 is turned into a cavity 10 in striking plate 9 by means of turning of key 3.

[0012] Connecting element 8 is provided on its side remote from locking cavity 2 with a first closing element 11 configured to co-act with a second closing element 12 which is connected to guide frame 7.

[0013] First closing element 11 has substantially the form and function of a locking hook, while the second closing element 12 has substantially the form and function of a locking eye 12, configured to co-act with locking hook 11 in form-closing or form-closed manner. The functional operation will of course be substantially the same if, vice versa, the first closing element were to have the form and function of a locking eye and the second closing element the form and function of a locking hook, likewise preferably configured for form-closing or form-closed mutual co-action.

[0014] In the embodiment shown in figure 1 the lock unit comprises a padlock of the disc lock type (see for instance also www.abus.com/nl/Huisbeveiliging/Hangsloten/Diskus-R).

[0015] Lock frame 5 and lock unit 1 are preferably connected (more or less) non-releasably to each other. The lock frame can optionally form an integrated whole with a housing of lock unit 1. If desired, lock frame 4 and lock unit 1 can be connected, at least in unlocked situation of lock unit 1, (more or less) releasably to each other (for instance by means of bolt connections), wherein lock frame 4 then does not form an integrated whole with the (own) housing of lock unit 1.

[0016] In order to be able to slide the elongate connecting element 8 in guide frame 7 (taking a tubular form in figure 1) connecting element 8 is provided with an operating handle 13 which protrudes outward (for instance slightly forward) via a slot 14 in guide frame 8. Connecting element 8 can be slid outward (to the right in the drawings) by means of this operating handle 13, wherein the hook-shaped closing element 11 can be arranged round for instance a fastening element 15, for instance a fastening rod or eye, of for instance a boat (see above) (see figure 1a).

[0017] Operating handle 13 is then slid inward (to the left in the drawings), whereby closing elements 11 and 12 close around fastening element 15 (see figure 1b).

[0018] Finally, locking bolt 4 is turned through the opening 10 of striking plate 9 by turning of key 3, whereby connecting element 8 is locked and closing elements 11 and 12 are locked relative to each other in their (form-)closed situation (see figure 1c), whereby a locked connection has been brought about between coupling element 6 (on the left in the drawings) and the fastening element 15 of the object to be secured (such as a boat).

[0019] The present invention thus provides a lockable connecting member which is for instance highly suitable for use to enable lockable connection of a sailboat or motorboat to for instance a landing stage for theft pre-

vention purposes.

[0020] Figure 2 shows schematically a second exemplary embodiment of a device 20 according to the invention. This embodiment 20 corresponds largely with the embodiment according to figure 1, and the same components are therefore designated with the same reference numerals.

[0021] Lock frame 5 has a cylinder lock 21 with a lock pin 22 which can be turned to an unlocked position and locked position by turning of key 23 (see also figures 4A and 4B). Lock pin 22 can thus be turned through a key-hole-shaped opening or recess 24 (see figure 3) in the slidable connecting element 8, whereby connecting element 8 is locked and closing elements 11 and 12 are locked relative to each other in their (form-)closed situation, whereby a locked connection is brought about.

[0022] Device 20 is further provided with a handle 24, whereby it can be easily handled.

[0023] Figure 3 shows cylinder lock 21 and lock pin 22 in more detail. Slidable connecting element 8 has a key-hole-shaped opening or recess 24 into which the outer end of lock pin 22 protrudes. The outer end of lock pin 22 has a rectangular cross-section (see figures 4A and 4B) and can slide into the slot-like part of opening 24 when the outer end is parallel to the slot-like part. By sliding the slidable connecting element 8 relative to lock frame 5 the outer end of lock pin 22 comes to lie in the round part of opening 24, so that lock pin 22 can be turned and the device is locked.

Claims

1. Device, intended and configured as elongate connecting member lockable by means of a lock, comprising:

- a lock unit (1) with a locking area (2) and a locking bolt (4) which can be controlled into and out of the locking area by means of a key (3);
- a housing or frame, referred to hereafter as lock frame (5), configured to accommodate and/or receive the lock unit, which lock frame is provided with a coupling element (6) and an elongate guide frame (7) which extends substantially outward from the vicinity of the locking area and is configured to guide a connecting element (8) which can be slid inward and outward,

which connecting element is provided at its outer end directed toward the locking area with a part or element co-acting with the locking bolt, which is referred to hereafter as striking plate (9) and is configured to, depending on the position of the locking bolt of the lock unit, block or release the ability of the slidable connecting element to slide from inside to outside, which connecting element is provided on its side remote from the locking area with a first closing ele-

ment (11) configured to co-act with a second closing element (12) which is connected to the above-mentioned guide frame.

2. Device according to claim 1, wherein the first closing element or the second closing element has substantially the form and/or function of a locking hook. 5
3. Device according to claim 2, wherein respectively the second closing element or the first closing element has substantially the form and/or function of a locking eye. 10
4. Device according to any one of the foregoing claims, wherein the first and second closing element are configured to be able to form a substantially form-closing or form-closed mutual connection. 15
5. Device according to any one of the foregoing claims, wherein the lock unit comprises a padlock, preferably of the disc lock type (1-4), or a cylinder lock with a lock pin which protrudes into a keyhole-shaped opening or recess in the connecting element and which can be moved into an unlocked position and a locked position by turning a key. 20 25
6. Device according to any one of the claims 1-5, wherein the lock frame and the lock unit are connected non-releasably to each other or wherein the lock frame forms a whole with a housing of the lock unit. 30
7. Device according to any one of the claims 1-5, wherein the lock frame and the lock unit are connected releasably to each other, at least in unlocked situation of the lock unit. 35

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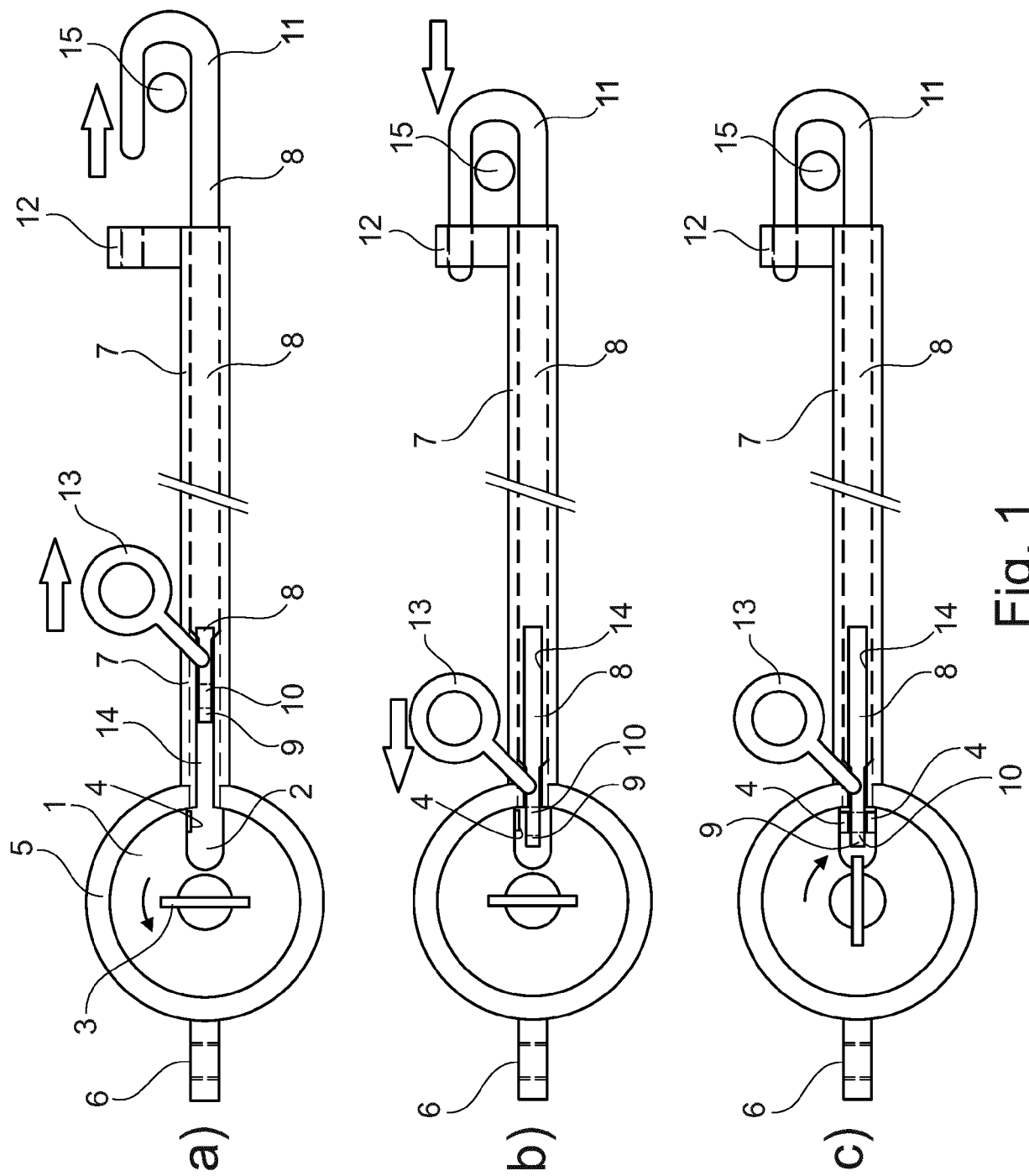
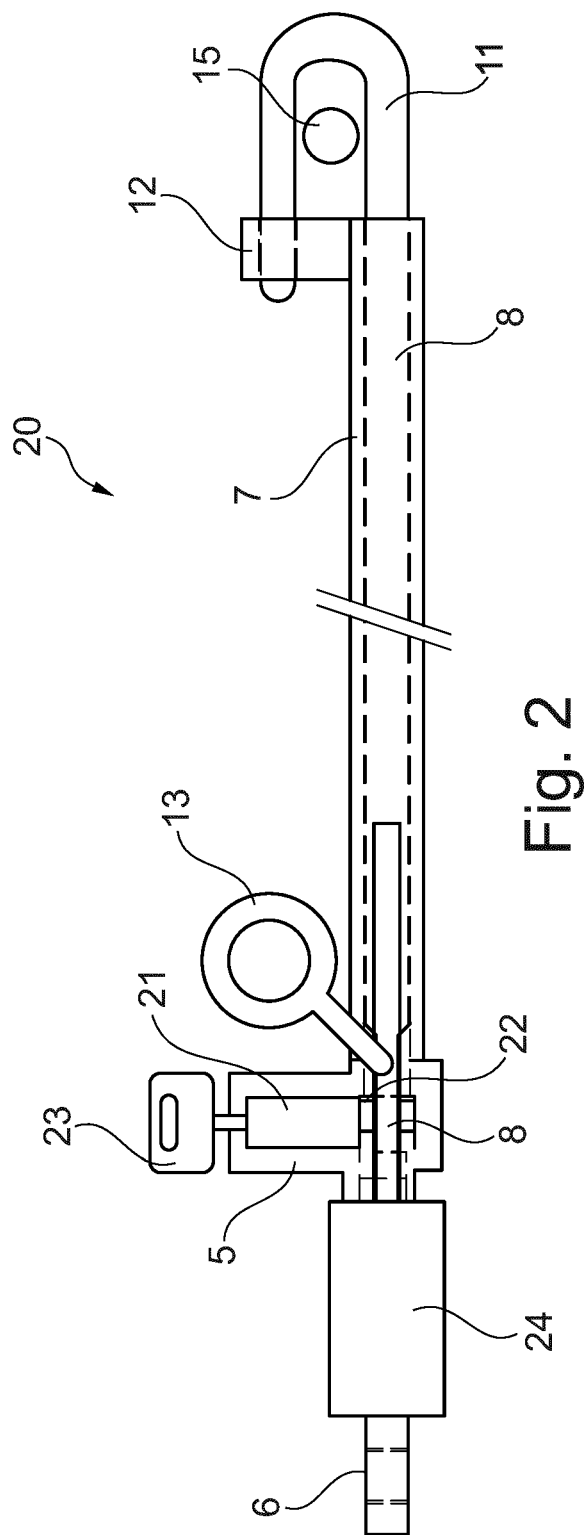


Fig. 1



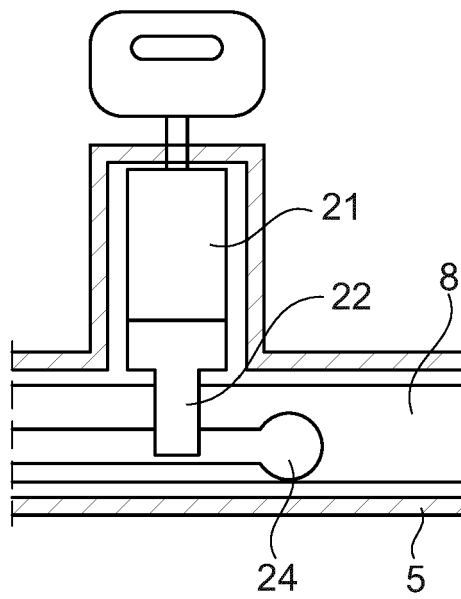


Fig. 3

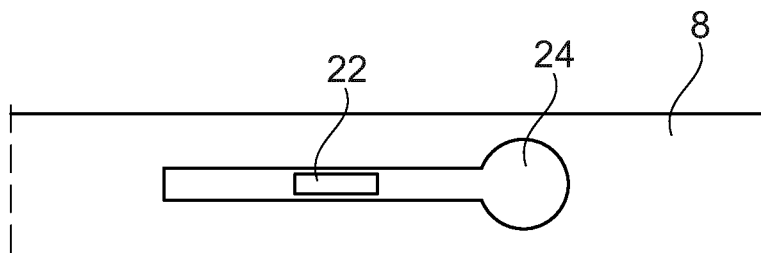


Fig. 4A

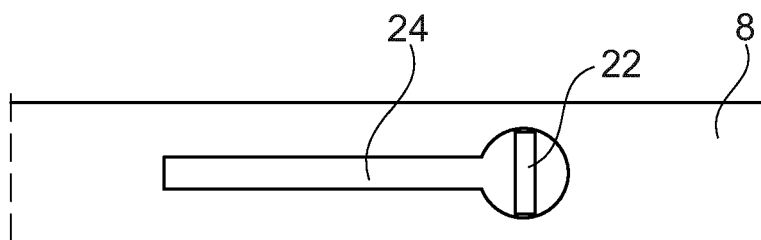


Fig. 4B



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Application Number
EP 20 17 5564

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Place of search The Hague		Date of completion of the search 30 October 2020	Examiner Pérez Méndez, José F
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03.82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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