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(71) Applicants:
- **Jonsson, Hakan**
  645 93 Strängnäs (SE)
- **Bergman, Martin**
  111 27 Stockholm (SE)

(72) Inventors:
- **Jonsson, Hakan**
  645 93 Strängnäs (SE)
- **Bergman, Martin**
  111 27 Stockholm (SE)

(74) Representative: **Reyier, Ann-Mari**
Swea IP Law AB
Kopparbergsvägen 6
722 13 Västeras (SE)

(54) **A device for locking a sea vehicle including an elongated object for driving the vehicle**

(57) The present invention relates to a device (3) for locking a sea vehicle (1a) including an elongated object (5). The device comprises two elongated elements which are rotatably connected to each other so that a rotational axis is formed at a distance from the ends of the elongated elements. Two end parts of the elements on one side of the rotational axis are designed as a first clamping device for clamping the vehicle. The two end parts of the elements on an opposite side of the rotational axis are designed as a second clamping device for clamping the elongated object. The clamping devices are movable between an open position and a closed position upon rotation of the elongated elements. The locking member is arranged to enable locking of the elongated elements in a fixed position relative each other thereby locking the first and the second clamping devices in a fixed position and by that securing the elongated object to the sea vehicle.

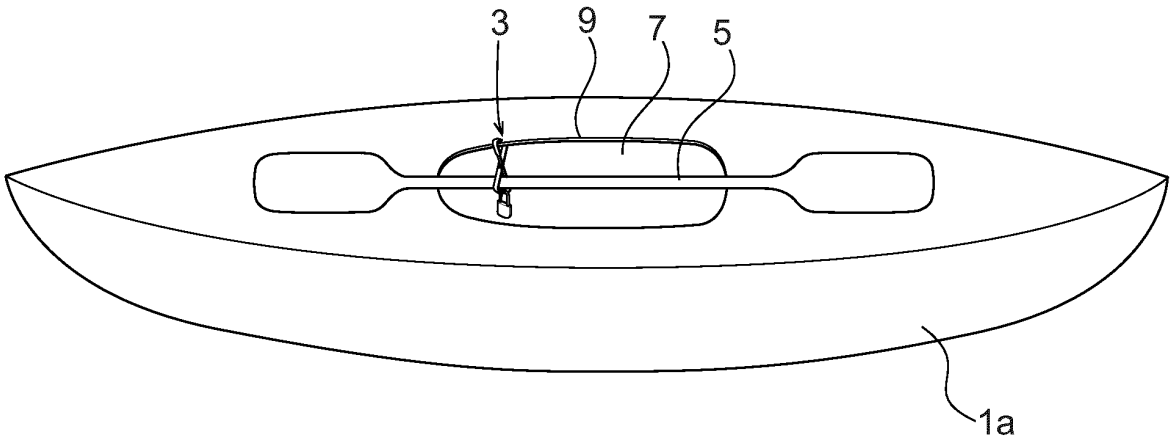

Fig. 1

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Description

Field of the invention

[0001] The present invention relates to a device for locking a sea vehicle of the canoe and kayak type, including an elongated object, such as a paddle or oar, for driving the vehicle.

Prior Art

[0002] There are sea vehicles, such as a kayak or a canoe, which are mainly used as a personal leisure on seas, lakes or rivers. The sea vehicles are driven by using a paddle or oar. The sea vehicles are occasionally placed at a shore for short time. It happens that the sea vehicles are leaved without observation during the time. Thus, there is a risk that somebody takes the sea vehicles and uses the paddle or oar to move the vehicle away from the place. However, it is difficult to find a locking device for the sea vehicle in the market which prevents from an unauthorized person from using the vehicle. Main types of the locking devices in the market are a chain or a cable in combination with a padlock. However, there is a risk that the chain or cable can damage a body of the sea vehicle.

[0003] US 4,526,125 discloses an example of a locking device for a sea vehicle, which includes a pair of annular hoops or rings arranged on each end part of the body of the sea vehicle. One cable is combined with one of the hoops, and another cable is combined with the other hoop. The cables are locked by a pad lock. The cables and the hoops have a function as a harness for the sea vehicle. A third cable, which is relatively long compared to the other cables, unites the hoops and a stationary body, such as a tree or a car bumper. Thereafter, the third cable is locked by another padlock. However, this technique requires a stationary support, which is sometimes difficult to find on a certain occasion. Further, a plurality of long cables and the two large hoops have to be carried and have to be placed in the elongated vehicle during usage of the sea vehicle. It is problematic since the sea vehicle has a limited space.

[0004] FR2640673 discloses an anti-theft device for boats of the canoe and kayak type. The device can be removably fitted to an opening of the boat and makes it possible to attach the boat to any support to make it unusable. The device includes two rigid sections. One section is a base section and another section covers and slides over the base section. The other section includes a groove in which there slides a locking stud in order to fix the base section. Both sections have corresponding holes in order to lock the boat. A fork section is arranged on one end of the base section. Another fork section is arranged on one end of the other section. The each fork section is designed to fit to a hatch coaming of the boat. A cable or a chain is inserted into the holes in order to lock the boat. However, this device requires a stationary support in order to secure the boat. It is sometimes difficult to find a suitable stationary support. Further, the device does not prevent the paddle from being stolen.

[0005] US2006/0032276 discloses a security device for locking a paddle or other item having a shaft to a land vehicle, such as a car, including a cuff that can be locked in a closed position using a cable and lock housing. The locking device is used for locking the paddle to a rack on a roof of a car during transportation of the paddle on the car. The locking device includes a cable to combine the cable with the rack on the vehicle roof. A cuff is provided to the locking device in order to fasten and to secure the paddle on the roof of the vehicle. This locking device secures the paddle to the rack and prevents the paddle from being stolen. This locking device cannot be used for preventing thefts of the sea vehicle.

Object and summary of the invention

[0006] The object of the present invention is to provide an improved device suitable for locking a sea vehicle, such as a kayak or canoe.

[0007] This object is achieved by a device as defined in claim 1.

[0008] The device comprises two elongated and rigid elements rotatably connected to each other so that a rotational axis is formed at a distance from the ends of the elongated elements, and two end parts of the elements on one side of the rotational axis are designed as a first clamping device for clamping a part of the vehicle, and two end parts of the elements on an opposite side of the rotational axis are designed as a second clamping device for clamping the elongated object, wherein the clamping devices are movable between an open position and a closed position upon rotation of the elongated elements, and a locking member arranged to enable locking of the elongated elements in a fixed position relative each other thereby locking the first and the second clamping devices in a fixed position and by that securing the elongated object to the sea vehicle.

[0009] The device only includes two elongated elements, and possibly a separate padlock. Thus, the device is simple and cheap to manufacture. Further, the device is easy to use. The device is elongated but thin, has a low weight and accordingly is easy to keep in a small elongated sea vehicle, such as a kayak or canoe. One end of the device is clamped to the vehicle, for example, to a seat of a boat or a canoe, or to a rim, a so called hatch coaming, of an opening to a kayak, and the other end is clamped to an elongated object for driving the vehicle, such as a paddle or oar. Thereafter the device is locked in a clamped position, for example, by means of a padlock. The device according to the invention makes it impossible for a thief to use the vehicle for two reasons: the elongated object used for driving the vehicle, such as a paddle or oar, is locked to the vehicle and therefore cannot be used, and the device blocks the opening of the vehicle and makes it difficult or even impossible for

the thief to enter the vehicle. The locking device according to the invention does not require any stationary support for securing the vehicle.

[0010] According to an embodiment of the invention, one of the elongated elements is provided with a waist and the other elongated element is provided with an opening for receiving said waist of the other element thereby rotatably connecting the elements to each other. The elements are rotational relative each other about a rotational axis through the elements. By this arrangement, the elements are rotatably connected in a simple way, without the need of any further part, such as a shaft. Further, it is easy and fast to dismount the elements when the locking device is not in use, and easy to mount the elements when the locking device is to be used. By dismounting the elements, the space needed for storing the locking device is reduced.

[0011] According to an embodiment of the invention, the end parts of the first clamping device are provided with protruding parts for facilitating gripping of the vehicle. For example, the ends of the first clamping device are inwardly bent in a direction towards each other. Preferably, the protruding parts are designed as hooks for facilitating gripping of the vehicle.

[0012] According to an embodiment of the invention, the end parts of the second clamping device are provided with protruding members extending towards each other for enclosing the elongated object. The protruding parts contribute to keeping the elongated object in a clamped position. In an embodiment of the invention, the protruding members are parts of the locking member. The locking member may further comprise a padlock for locking the protruding members to each other.

[0013] According to an embodiment of the invention, the protruding members are provided with through holes for receiving a lock, such as a padlock, thereby locking the elements in a fixed position relative each other.

[0014] According to an embodiment of the invention, one of said protruding members is provided with at least one through hole and the other member is provided with a plurality of through holes, to enable adjustment of the size of the space between the end parts of the second clamping device when the second clamping device is in a locked position. The width of a shaft of the paddle or ore may differ between different types of paddles and ores. This embodiment makes it possible to fit the second clamping device to the width of the elongated object.

[0015] According to an embodiment of the invention, the elongated elements are made of aluminum. Aluminum is lightweight and relatively easy to shape. Thus, this embodiment makes the locking device lightweight and cheap to produce. Alternatively, the device can be made of a fiber enforced polymer.

Brief description of the drawings

[0016] The invention will now be explained more closely by the description of different embodiments of the invention and with reference to the appended figures.

Fig. 1 shows a perspective view of a kayak with a paddle and a device according to an embodiment of the invention, which locks the paddle to the kayak.

Fig. 2 shows a perspective view of a canoe with a paddle and a device according to an embodiment of the invention, which locks the paddle to the canoe.

Fig. 3 shows a perspective view of the device shown in fig. 1 and fig. 2 arranged in an open position.

Fig. 4 shows a perspective view of the device in fig. 1 and fig. 2 arranged in a closed position.

Fig. 5 shows a perspective view of a first elongated element of the device in fig. 3 and fig.4.

Fig. 6 shows a perspective view of a second elongated element of the device in fig. 3 and fig.4.

Detailed description of preferred embodiments of the invention

[0017] Fig. 1 shows a perspective view of a first sea vehicle 1a and a locking device 3 for locking an elongated object 5 to the sea vehicle 1 according to an embodiment of the invention. The sea vehicle 1a in the disclosed example is a kayak having an opening 7 in the center of the vehicle 1a. The opening 7 is defined by an edge part 9, such as a hatch coaming. In this example the elongated object 5 is a paddle provided with two flat parts for driving the vehicle 1. The two flat parts are connected by a rod. The locking device 3 is used for locking the paddle 5 to the edge part 9 of the opening 7. Thereby, the paddle 5 is securely fastened to the vehicle 1a and the paddle 5 is prevented from being removed from the vehicle 1a such as by wind or theft.

[0018] Fig. 2 shows a perspective view of a second sea vehicle 1b. The sea vehicle 1b in the disclosed example is a canoe and the figure shows how the locking device 3 can be used for locking a paddle 5 to the canoe. The canoe has a large opening 7. The canoe 1b has a plurality of sitting bars 10 that extends between opposite sides of the canoe. The locking device 3 is used for locking the paddle 5 to one of the sitting bars 10. Thereby, in the same way as in fig 1, the paddle 5 is securely fastened to the vehicle 1b.

[0019] Fig. 3 shows the device 3 in an open position and Fig. 4 shows the device 3 in a closed position. The device 3 comprises a first rigid elongated element 20 with a first longitudinal axis L1 and a second rigid elongated element 22 with a second longitudinal axis L2. The first elongated element 20 comprises a first end part 24a and a second end part 25a. The second elongated element 22 comprises a first end part 24b and a second end part 25b. The two elongated elements 20, 22 are rotatably

connected to each other so that a rotational axis R is formed. The rotational axis R is located at a distance from the first end parts 24a-b and the second end part 25a-b of the elongated elements and extends through both of the elongated elements. The rotational axis R may be located at equal distance from each of the first end parts 24a, 24b and the second end parts 25a, 25b of the first and the second elongated elements. The elongated elements 20, 22 are removably connected to each other to make it easy to disassemble the device when it is not used, for example, during transportation, and thereby reducing the space needed for housing the device.

[0020] The elongated elements 20, 22 are made of a light-weight material, such as aluminum, stainless steel, a composite material, such as glass fiber reinforced polymer or carbon fiber. An inner surface of the elongated elements 20, 22 may include a protective layer of an elastic material for protecting the elongated object 5 and the edge of the vehicle 1 from wear. The elastic layer is, for example, a rubber material, fabric material etc.

[0021] The two end parts 25a-b on one side of the rotational axis R are designed as a first clamping device 26 are designed for clamping a part of a vehicle, such as the edge or the sitting bar. Thereby, the device 3 is fixedly attached to the vehicle 1a-b. The two end parts 24a-b on an opposite side of the rotational axis R are designed as a second clamping device 27 for clamping the elongated object 5, such as a paddle, oar, etc. Thereby, the device 3 is fixedly attached to the elongated object. The clamping devices 26, 27 are movable between an open position, as shown in figure 3, and a closed position, as shown in figure 4, upon rotation of the elongated elements 20, 22 about the rotational axis R.

[0022] The end parts 25a, 25b of the first clamping device 26 are provided with protruding parts 28a-b, for example designed as hooks, for gripping the vehicle. The protruding parts may be achieved by bending the outer ends of the elongated elements 20, 22. The protruding parts 28a-b protrude away from the first and the second longitudinal axis L1, L2.

[0023] The end parts 24a-b of the second clamping device 27 are provided with protruding members 29a-b extending towards each other for enclosing the elongated object. The protruding members 29a-b protrude away from the first and the second longitudinal axis L1, L2. In this embodiment, the protruding member 29b extends a longer distance from the elongated element 22 than the protruding member 29a extends from the elongated element 22 to enable the protruding members to overlap each other in the closed position to facilitate locking of the device. In the closed position, the protruding members 29a-b of the second clamping device are extending towards each other, thereby enclosing the elongated object 5. The protruding members 29a-b are provided with one or more through holes 30 adapted to receive a lock, for example a pad lock and to lock the positions of the first end parts 24a, 24b of the second clamping device 27 when the device is in the closed position as shown in Fig. 4. Thereby, also the position of the second end parts 25a, 25b of the first clamping device 26 is locked. Thus, in cooperation the first clamping device 26 and the second clamping device 27 attach the elongated element 5 to the vehicle 1a-b.

[0024] The protruding members 29a-b form a locking member arranged to allow locking of the elongated elements in a fixed position relative each other, thereby locking the first and the second clamping devices in a closed position. It shall be understood that other types of the locking members can be used.

[0025] In the closed position, both the end parts of the first and the second clamping device are extending towards each other, thereby enclosing the elongated object 5 and the edge of the vehicle 1a-b.

[0026] In the disclosed embodiment, the first end part 24a is provided with one through hole and the second end part 24b is provided with three through holes 30 to enable adjustment of the distance between the end parts in the closed position and thereby make it possible to fit to paddles of different sizes. It shall be understood that the end parts 24a, 24b may be provided with different numbers of through holes 30 for locking the first and the second clamping devices 26, 27.

[0027] In Fig. 5 and Fig. 6, a perspective view of the first elongated element 20 and the second elongated element 22 are shown separated from each other. The first elongated element 20 comprises an opening 32 in the form of a through hole arranged between the first end part 24a and the second end part 25a. The opening 32 is designed for receiving the second elongated element 22. The length of the opening 32 is slightly larger than width of the second elongated element to enable the first elongated element to be entered through the opening. The second elongated element 22 comprises a waist 34 between the first end part 24b and the second end part 25b. The width of the opening 32 is slightly larger than the width of the waist and less than the width of the end parts 25b, 24b to keep the second elongated element 22 in its position in the hole. This design makes it easy to assemble and disassemble the device.

[0028] The first elongated element 20 and the second elongated element 22 is adapted to be brought together so that the opening 32 of the first elongated element 20 receives the waist 34 of the second elongated element. Thereby, the elongated elements 20, 22 are rotatably connected with each other, forming the rotational axis R as shown in figure 3 and 4.

[0029] The present invention is not limited to the embodiments disclosed but may be varied and modified within the scope of the following claims. For example, the two elongated elements can be rotatably connected to each other in other ways to form a rotational axis between them, for example, by providing a shaft through the elongated elements.

Claims

1. A device for locking a sea vehicle (1a-b) including an elongated object (5) for driving the vehicle (1a-b), **characterized in that** the device (3) comprises:

   - two elongated elements (20, 22) rotatably connected to each other so that a rotational axis (R) is formed at a distance from the ends of the elongated elements, and two end parts (25a-b) of the elements (20, 22) on one side of the rotational axis (R) are designed as a first clamping device (26) for clamping a part of the vehicle (1a, 1b), and two end parts (24a-b) of the elements (20, 22) on an opposite side of the rotational axis (R) are designed as a second clamping device (27) for clamping the elongated object, wherein the clamping devices (26, 27) are movable between an open position and a closed position upon rotation of the elongated elements, and
   - a locking member (29a-b) arranged to enable locking of the elongated elements in a fixed position relative each other thereby locking the first and the second clamping devices in a fixed position and by that securing the elongated object to the sea vehicle.

2. The locking device according to claim 1, wherein one of the elements (22) is provided with a waist (34) and the other element (20) is provided with an opening (32) for receiving said waist of the other element thereby rotatably connecting the elements to each other.

3. The locking device according to claim 1 or 2, wherein the end parts (25a-b) of the first clamping device (26) are provided with protruding parts (28a-b) for gripping the vehicle.

4. The locking device according to claim 3, wherein said protruding parts (28a-b) are designed as hooks.

5. The locking device according to any of the previous claims, wherein end parts (24a-b) of the second clamping device (27) are provided with protruding members (29a-b) extending towards each other for enclosing the elongated object.

6. The locking device according to claim 5, wherein the said protruding members (29a-b) are provided with through holes (30) for receiving a lock, thereby locking the elements in a fixed position relative each other.

7. The locking device according to claim 5, wherein one of said protruding members (29a) is provided with at least one through hole (30) and the other member (29b) is provided with a plurality of through holes (30), to enable adjustment of the size of the space between the end parts (24a-b) of the second clamping device (27) when the second clamping device (27) is in a locked position.

8. The locking device according to claim 5, wherein said locking member comprises a padlock.

9. The locking device according to any of the previous claims, wherein said elongated elements (20, 22) are made of aluminum.

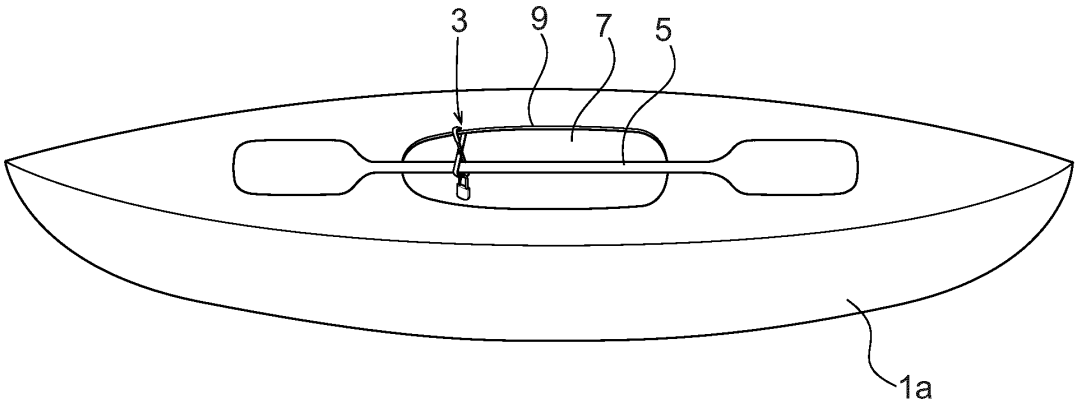

Fig. 1

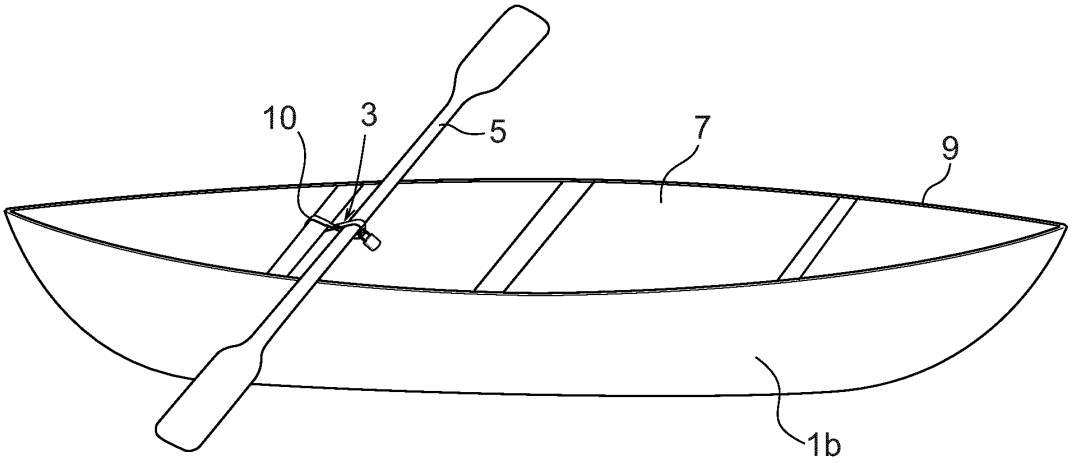

Fig. 2

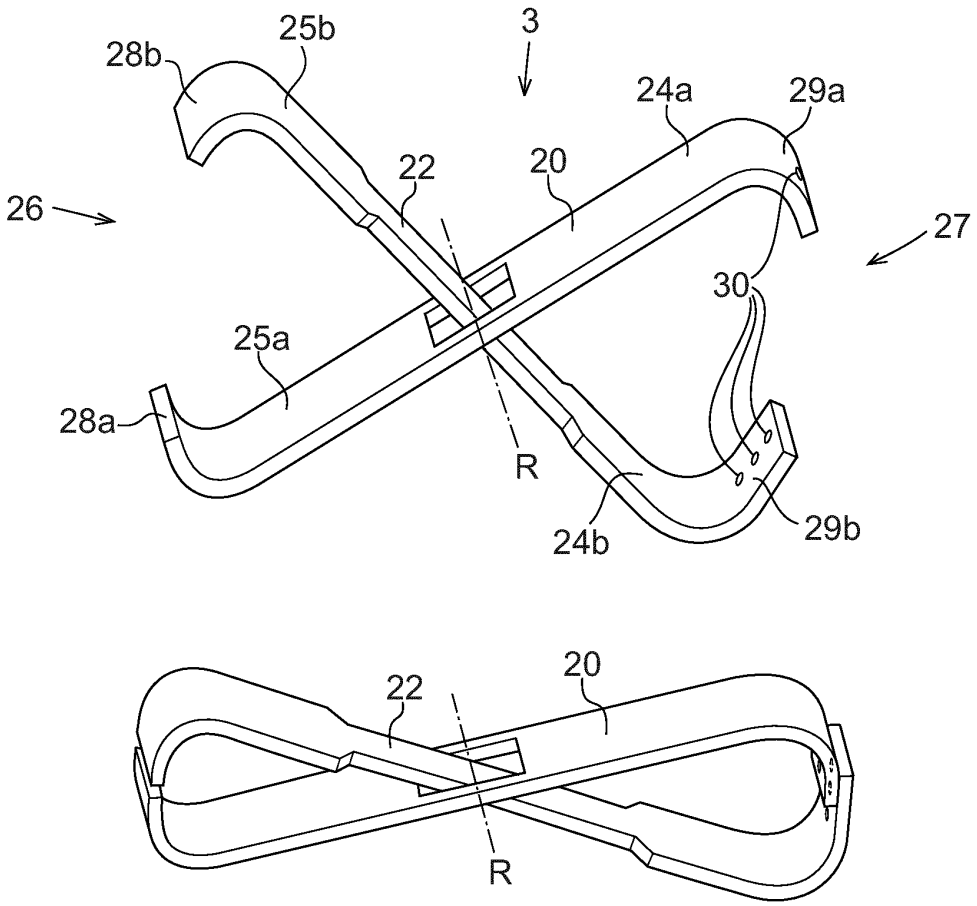

Fig. 4

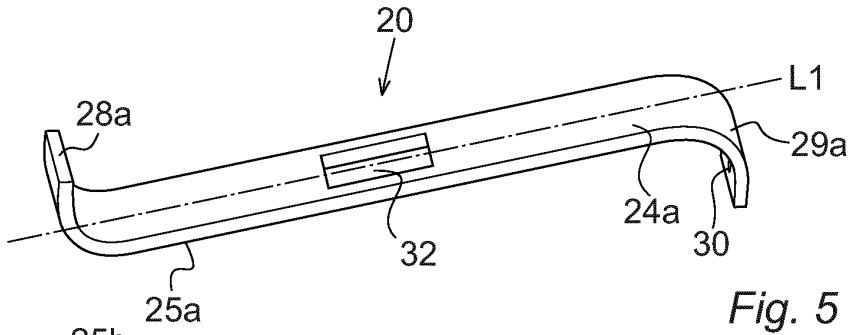

Fig. 5

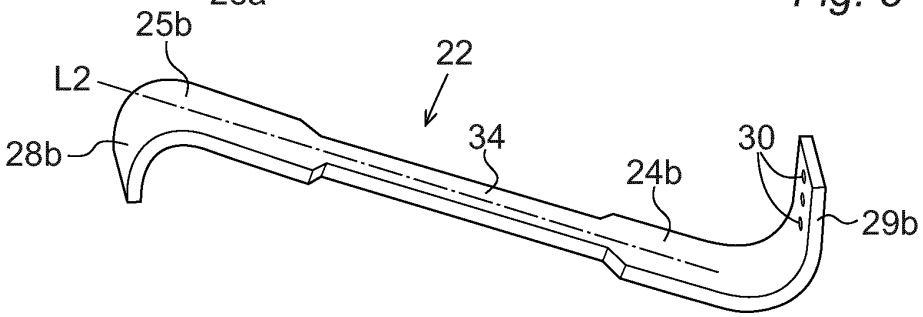

Fig. 6

REFERENCES CITED IN THE DESCRIPTION

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