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(54) **A DEVICE FOR ADJUSTING A SKI BINDING**

VORRICHTUNG ZUR EINSTELLUNG EINER SKIBINDUNG

DISPOSITIF DE RÉGLAGE D'UNE FIXATION DE SKI

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## Description

### FIELD OF THE INVENTION

**[0001]** The present invention relates to a device for adjusting a ski binding, wherein the device comprises an elongated base portion, first and second binding engagement portions forming respective opposite first and second end portions of the base portion, and corresponding to toe and heel parts of a ski boot when engaging with the ski binding, wherein the first and second binding engagement portions comprise a movable binding engagement portion, which is movable relative to an intermediate portion of the base portion, and longitudinally of the base portion, to adjust the total length of the base portion.

### BACKGROUND OF THE INVENTION

**[0002]** When a ski binding, of the kind used, inter alia, for alpine skis is to be adjusted to fit with a particular size of ski boot, the traditional way of performing the adjustment is to fetch a ski boot of the desired size, make an initial adjustment of the binding, and try to push the boot into the binding to see if it fits. If it does not fit, the boot is removed, the binding is further adjusted, and another try with the boot is made. The work of adjusting ski bindings in this way is physically demanding, non-ergonomic and time consuming. In particular at facilities where a large number of ski bindings are adjusted during a working day, such as at a ski rental facility or a ski store, the procedure is both exhausting and inefficient. In order to facilitate the work of adjusting ski bindings, efforts have been made to construct a device which can be used instead of the boots.

**[0003]** The published patent application JP 2003135646 discloses a device for adjusting a ski binding of the kind mentioned above. It has a structure with two movable binding engagement portions which are connected with a central member having a drive mechanism. The drive mechanism has a wheel. When the wheel is rotated, the binding engagement portions move longitudinally, either away from or towards the central member, depending on the direction of rotation. The prior art device of JP 2003135646 has several drawbacks. For instance, a single device can only cover a minor part of the whole range of sizes, and the drive mechanism is cumbersome and slow to use.

### SUMMARY OF THE INVENTION

**[0004]** It would be advantageous to improve the device to facilitate the handling of the device.

**[0005]** To better address this concern, in a first aspect of the invention there is presented a device for adjusting a ski binding, the device comprising an elongated base portion, first and second binding engagement portions forming respective opposite first and second end portions of the base portion, and corresponding to toe and heel

parts of a ski boot when engaging with the ski binding, wherein the first and second binding engagement portions comprise a movable binding engagement portion, which is movable relative to an intermediate portion of the base portion, and longitudinally of the base portion, to adjust the total length of the base portion. The device further comprises a handle extending along the base portion at a distance from the base portion, and being connected with the base portion at opposite first and second ends of the handle, thereby forming an opening between the handle and the base portion. Furthermore, the device comprises a locking mechanism, which is operable between a locked state where the locking mechanism locks the longitudinal movement of the movable binding engagement portion, and an unlocked state where the locking mechanism admits the longitudinal movement of the movable binding engagement portion. The locking mechanism comprises an operation element for operating the locking mechanism between the locked and unlocked states, wherein the operation element is arranged at the handle. By means of the locking mechanism, the adjustment of the length of the base portion has been facilitated, and by means of the handle it is more convenient to push the device in place at a ski binding and to remove it from the ski binding. Thereby, the handling of the device has been facilitated.

**[0006]** In accordance with an embodiment of the device, the movable binding engagement portion comprises a longitudinal first bar, which is movably connected with the intermediate portion of the base portion, wherein the locking mechanism comprises a bar engagement element, which is arranged to, in the locked state, be engaged with the first bar to fix the position of the movable binding engagement portion relative to the intermediate portion, and to, in the unlocked state, be disengaged from the first bar, wherein the operation element is connected with the bar engagement element, and is arranged to operate the bar engagement element between the engagement with the bar and the disengagement from the bar. Thereby, a quick adjustment is possible.

**[0007]** In accordance with an embodiment of the device, the movable binding engagement portion comprises second and third longitudinal bars, which are guiding bars, movably connected with the intermediate portion at guiding portions thereof, and extending in parallel with the first bar and laterally displaced from the first bar at opposite sides thereof. Thereby an increased stability of the device is obtained.

**[0008]** In accordance with an embodiment of the device, the locking mechanism comprises a spring device, which is connected with the bar engagement element, and with the handle, at the first end of the handle, wherein the bar engagement element is spring biased, by means of the spring device, towards the engagement with the first bar. The spring biased bar engagement element facilitates the operation of the locking mechanism.

**[0009]** In accordance with an embodiment of the device, the bar engagement element is elongated and has

a first end portion, which is received at a seat of the intermediate portion enabling the first end portion to pivot within the seat, and an opposite second end portion, which is connected with the operation element. Thereby a simple yet reliable construction is obtained.

**[0010]** In accordance with an embodiment of the device, the bar engagement element extends through an aperture of the handle, which aperture extends between an inner surface of the handle at the opening defined by the handle and the base portion, and an outer surface of the handle opposite to the inner surface, wherein the operation element is arranged at the outer surface. Thereby, for instance, the operation element can be located on top of the handle to be comfortably operated by means of the thumb while holding the handle with the rest of the fingers.

**[0011]** In accordance with an embodiment of the device, the bar engagement element protrudes into the opening defined by the handle and the base portion, and wherein the operation element is arranged in the opening. Thereby, for instance, the operation element can be located below the handle to be comfortably operated by means of the fingers while simultaneously holding the handle with the rest of the fingers.

**[0012]** In accordance with an embodiment of the device, the bar engagement element comprises a hole through which the first bar extends.

**[0013]** In accordance with an embodiment of the device, the second binding engagement portion has an inclined end wall arranged to engage with the heel portion of the binding, the end wall sloping towards the first binding engagement portion in a downward direction. Thereby, when the device is pushed downwards into the binding, the entrance of the device into the binding is facilitated.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0014]** The invention will now be described in more detail and with reference to the appended drawings in which:

Fig. 1 is a perspective view of an embodiment of the device according to the present invention;

Fig. 2 is a cross-sectional view of the device of Fig. 1 in a locked position;

Fig. 3 is a cross-sectional view of the device of Fig. 1 in an unlocked position;

Fig. 4 is a cross-sectional view of another embodiment of the device according to the present invention in a locked state;

Fig. 5 is a cross-sectional view of the device of Fig. 4 in an unlocked state; and

Fig. 6 is a side view of another embodiment of the device according to the present invention.

#### DESCRIPTION OF EMBODIMENTS

**[0015]** In a first embodiment of the device for adjusting a ski binding, as shown in Figs. 1-3, the device 1 comprises an elongated base portion 2, first and second binding engagement portions 3, 4 forming respective opposite first and second end portions of the base portion 2, a handle 5, and a locking mechanism 6. The device 1 has an adjustable length, which is adjusted according to the desired boot size that the binding is meant to fit with. For the purposes of this description, the base portion 2 is defined to be elongated in a horizontal direction, which refers to the usual position the device is placed in during use thereof, the first binding engagement portion is considered to be positioned at a front portion of the device 1, and the second binding engagement portion 4 is considered to be positioned at a rear portion of the device 1.

**[0016]** The first and second binding engagement portions 3, 4 respectively correspond to toe and heel parts of a ski boot when engaging with the ski binding. The first and second binding engagement portions 3, 4 comprise a movable binding engagement portion, which in this first embodiment is the first binding engagement portion 3, which is movable relative to an intermediate portion 7 of the base portion 2. More particularly, the first binding portion is movable longitudinally of the base portion 2 to adjust the total length of the base portion 2.

**[0017]** The handle 5 extends along the base portion 2 at a distance from the base portion 2, here above the base portion 2, and is connected with the base portion 2 at opposite first, or front, and second, or rear, end portions 8, 9 of the handle 5, thereby forming an opening 10 between the handle 5 and the base portion 2. The locking mechanism 6 is operable between a locked state, as shown in Fig. 2, where the locking mechanism 6 locks the longitudinal movement of the first binding engagement portion 3, and an unlocked state, as shown in Fig. 3, where the locking mechanism 6 admits the longitudinal movement of the first binding engagement portion 3.

**[0018]** Furthermore, the locking mechanism 6 comprises an operation element 11 for operating the locking mechanism 6 between the locked and unlocked states, wherein the operation element 11 is arranged at the handle 5. In this first embodiment the operation element 11 is a knob arranged on top of the handle 5. At least a rear portion of a top surface 43 of the handle 5, constitutes a push surface 44, which provides support for the hand when pushing the device 1 down in place at the binding. The push surface 43 thereby enhances the ergonomics of the device 1. Additionally, the push surface 44 can be arranged to slope downwards at a small angle in a rearward direction. In order to advantageously position the push force and to increase the area of the push surface 44, the handle 5 protrudes to the rear of a rear end of the second binding engagement portion 4. Furthermore, at the rear end portion 9 of the handle 5 it comprises a sloping portion 45 extending upwards and obliquely rearwards, forming an acute angle A with a top portion 46 of

the handle 5, which top portion 46 includes said push surface.

**[0019]** The first binding engagement portion 3 comprises a longitudinal first, second and third bars 12, 13, 14, which are movably, and more particularly slidably, connected with the intermediate portion 7 at guiding portions 15, thereof, and extend in parallel with each other. The second and third bars 13, 14 are laterally displaced from the first bar 12 at opposite sides thereof. Furthermore, the first binding engagement portion 3 comprises a toe block 40, which is attached to the first, second and third bars 12-14 at front ends thereof. The toe block 40 has a lip portion 41 at a front end thereof, which lip portion substitutes the toe portion of a ski boot. The second binding engagement portion 4 is rigidly connected with the intermediate portion 7, and can be integral therewith. The second binding engagement portion 4 has a shoulder portion 42 at a rear end thereof, which substitutes a corresponding shoulder portion of a ski boot. The locking mechanism 6 comprises a bar engagement element 16, which is arranged to, in the locked state, be engaged with the first bar 12 to fix the position of the first binding engagement portion 3 relative to the intermediate portion 7, and to, in the unlocked state, be disengaged from the first bar 12, wherein the operation element 11 is connected with the bar engagement element 16, and is arranged to operate the bar engagement element 16 between the engagement with the first bar 12 and the disengagement from the first bar 12.

**[0020]** The locking mechanism 6 comprises a spring device 17, which is connected with the bar engagement element 16, and with the handle 5, at the first end portion 8 of the handle 5, wherein the bar engagement element 16 is spring biased, by means of the spring device 17, towards the engagement with the first bar 12. The bar engagement element 16 is elongated and has a first end portion 22, which is received at a seat 23 of the intermediate portion 7 enabling the first end portion 22 to pivot within the seat 23. Furthermore, the bar engagement element 16 has an opposite second end portion 24, which is connected with the operation element 11. In the shown embodiments the bar engagement element 16 is constituted by an elongated metal plate. The spring device 17 comprises a spring 26 received in a boring 27 of the handle 5, and a guide pin 28 attached to the bar engagement element 16. The guide pin 28 protrudes towards the first end portion 8 and into the spring 26. The spring is biased to exert a force on the bar engagement element 16 in rearward direction, i.e. towards the second end portion 9 of the handle 5. In other words, the spring is pre-compressed.

**[0021]** In this first embodiment, the bar engagement element 16 extends through an aperture 18 of the handle 5, which aperture 18 extends between an inner surface 19 of the handle 5, at the opening 10, and an outer surface 20 of the handle 5 opposite to the inner surface 19, wherein the operation element 11 is arranged at the outer surface 20.

**[0022]** Furthermore, the bar engagement element 16 comprises a hole 25 through which the first bar 12 extends. The bar engagement element 16 is arranged to engage with the first bar 12 by being inclined relative to the first bar 12, thereby gripping the first bar 12 with edge portions of the hole 25. The engagement between the first bar 12 and the edges of the hole 25 becomes strong enough to keep the longitudinal setting of the first bar 12 during the operation of adjusting the ski binding accordingly. Preferably, the bars 12-14 are provided with a friction surface, i.e. the surface of the metal bars 12-14 has been treated to make it non-even, or at least non-glossy, to provide an even better grip at relatively low spring force in the locked position. One way of preparing the friction surface is to use steel for the bars, and harden the steel. However, a rougher surface can be provided if necessary, such as by machining the surface.

**[0023]** The intermediate portion 7 is provided with a ruler 29, shown in Fig. 1. The ruler 29 indicates a range of shoe sizes S covering at least a range from the smallest to the largest size that the device can be set at. The shoe size S is presented in some appropriate quantity, such as millimetres. The currently set size S, i.e. the length from the front end to the rear end of the device 1, is indicated by means of a size indicator 30 on the second bar 13, such as a vertical stripe, which is visible below the ruler 29. Preferably, there is a ruler 29 at each side of the device 1, in order to make it equally suitable for both right-handed and left-handed persons.

**[0024]** The device 1 is operated as follows. When a ski binding is to be adjusted to a particular size S, an operator sets the device 1 to that size S by gripping the device 1 by the handle 5 with one hand and pushing the operation element 11 forward with the thumb to the unlocked position. Then, the operator grips the first binding engagement portion 3 and pulls it further out or pushes it in until the size mark 30 is positioned at the desired size S. This size setting operation is quick due to the design of the device 1, taking but a few seconds or less. When the operator lets go of the operation element 11 the bar engagement element 16 is pushed to the locked position by the spring 29 and locks the first binding engagement portion 3 in the set position. After having adjusted the binding to a presumed position, the operator pushes the device 1 into the binding, as would he/she have done with a ski boot. If the binding needs some further adjustment, the operator releases the device 1 from the binding, adjusts the binding and applies the device 1 once more, etc. until the binding is correctly adjusted. The handle 5 facilitates the operation in several ways. It is easy to carry/hold the device 1, to push the device into and pull it out of the binding. When pushing the operation element 11 forward, the hand can find good support by abutting against an inner surface of the sloping portion at the rear end portion.

**[0025]** A second embodiment of the device 31, shown in Figs. 4 and 5, corresponds with the first embodiment except for the locking mechanism. In this second embod-

iment, the locking mechanism 32 comprises a bar engagement element 33, which is similarly arranged in the seat 23 at a first end portion 34 of the bar engagement element 33, has a similar engagement with the first bar 12, and protrudes into the opening 10 defined by the handle 5 and the base portion 2, but not further through an aperture of the handle 5. To the contrary, the bar engagement element 33 ends in the opening 10, and the operation element 35 is arranged in the opening 10 and is attached to an upper end portion 36 of the bar engagement element 33. More specifically, the operation element 35 is constituted by an elongated pin, which extends rearwards from the bar engagement element 33 approximately longitudinally of the base portion 2 and beneath the handle 5.

**[0026]** In order to operate the device 31 from the locked state to the unlocked state, the operator grips the handle 5 including the operation element 35, and clamps the operation element 35, i.e. lifts it up, towards the inner surface 19 of the handle 5.

**[0027]** In a third embodiment of the device 37, as shown in Fig. 6, the second binding engagement portion 38 has an end wall 39, at least a part of which is inclined. Thereby, the entrance of the end wall 39 into the heel portion of the binding is facilitated, i.e. the inclination makes it easier to push the device 37 into the binding. More particularly, the inclined part of the end wall 39 is sloping towards the first binding engagement portion 3 in a downward direction. It should be noted that the whole end wall 39 is inclined in Fig. 6. If merely a lower portion of the end wall is inclined, then the rest of it is vertical, as is the whole end wall in the other embodiments. Furthermore, the angle of the inclination shown in Fig. 6 is merely an example and other angles are useful as well.

**[0028]** While the invention has been illustrated and described in detail in the drawings and foregoing description, such illustration and description are to be considered illustrative or exemplary and not restrictive; the invention is not limited to the disclosed embodiments.

**[0029]** For instance, the first binding engagement portion can be provided with a sloping bottom surface, which slopes slightly downwards in a rearward direction from its front end.

**[0030]** Other variations to the disclosed embodiments can be understood and effected by those skilled in the art in practicing the claimed invention, from a study of the drawings, the disclosure, and the appended claims. In the claims, the word "comprising" does not exclude other elements or steps, and the indefinite article "a" or "an" does not exclude a plurality. The mere fact that certain measures are recited in mutually different dependent claims does not indicate that a combination of these measures cannot be used to advantage. Any reference signs in the claims should not be construed as limiting the scope.

## Claims

1. A device for adjusting a ski binding, the device (1) comprising an elongated base portion (2), first and second binding engagement portions (3, 4) forming respective opposite first and second end portions of the base portion, and corresponding to toe and heel parts of a ski boot when engaging with the ski binding, wherein the first and second binding engagement portions comprise a movable binding engagement portion (3), which is movable relative to an intermediate portion (7) of the base portion, and longitudinally of the base portion, to adjust the total length of the base portion, wherein it comprises a handle (5) connected with the base portion, and a locking mechanism (6), which is operable between a locked state where the locking mechanism locks the longitudinal movement of the movable binding engagement portion, and an unlocked state where the locking mechanism admits the longitudinal movement of the movable binding engagement portion, wherein the locking mechanism comprises an operation element (11) for operating the locking mechanism between the locked and unlocked states, wherein the operation element is arranged at the handle, **characterised in that** the handle extends along the base portion at a distance from the base portion, and is connected with the base portion at opposite first and second end portions of the handle, thereby forming an opening between the handle and the base portion.
2. The device according to claim 1, wherein the movable binding engagement portion (3) comprises a longitudinal first bar (12), which is movably connected with the intermediate portion (7) of the base portion (2), wherein the locking mechanism (6) comprises a bar engagement element (16), which is arranged to, in the locked state, be engaged with the first bar to fix the position of the movable binding engagement portion relative to the intermediate portion, and to, in the unlocked state, be disengaged from the first bar, wherein the operation element is connected with the bar engagement element, and is arranged to operate the bar engagement element between the engagement with the first bar and the disengagement from the first bar.
3. The device according to claim 2, wherein the movable binding engagement portion (3) comprises longitudinal second and third bars (13, 14), movably connected with the intermediate portion, and extending in parallel with the first bar (12) and laterally displaced from the first bar at opposite sides thereof.
4. The device according to claim 2 or 3, wherein the locking mechanism (6) comprises a spring device (17), which is connected with the bar engagement

element, and with the handle (5), at the first end of the handle, wherein the bar engagement element is spring biased, by means of the spring device, towards the engagement with the first bar (12).

5. The device according to any one of claims 2 to 4, wherein the bar engagement element (16) is elongated and has a first end portion (22), which is received at a seat (23) of the intermediate portion (7) enabling the first end portion to pivot within the seat, and an opposite second end portion (24), which is connected with the operation element (11).
6. The device according to claim 5, wherein the bar engagement element (16) extends through an aperture (18) of the handle (5), which aperture extends between an inner surface (19) of the handle at the opening (10) defined by the handle and the base portion (2), and an outer surface (20) of the handle opposite to the inner surface, wherein the operation element (11) is arranged at the outer surface.
7. The device according to claim 5, wherein the bar engagement element protrudes into the opening defined by the handle and the base portion, and wherein the operation element is arranged in the opening.
8. The device according to any one of claims 2 to 7, wherein the bar engagement element comprises a hole through which the first bar extends.
9. The device according to claim 8, wherein the bar engagement element is arranged to engage with the first bar by being inclined relative to the first bar, thereby gripping the first bar with edge portions of the hole.
10. The device according to any one of the preceding claims, wherein the intermediate portion is provided with a ruler.
11. The device according to any one of the preceding claims, wherein the second binding engagement portion has an end wall, at least a part of which is inclined such that it is sloping towards the first binding engagement portion in a downward direction.

#### Patentansprüche

1. Vorrichtung zum Einstellen einer Skibindung, wobei die Vorrichtung (1) einen länglichen Basisabschnitt (2), einen ersten und zweiten Bindungseingriffsabschnitt (3, 4) umfasst, die jeweils gegenüberliegende erste und zweite Endabschnitte des Basisabschnitts bilden und einem Zehen- und Fersenteil eines Skischuhs entsprechen, wenn er mit der Skibindung in Eingriff kommt, wobei der erste und zweite Bin-

dungseingriffsabschnitt einen bewegbaren Bindungseingriffsabschnitt (3) umfassen, der relativ zu einem Zwischenabschnitt (7) des Basisabschnitts und längs des Basisabschnitts bewegbar ist, um die Gesamtlänge des Basisabschnitts einzustellen, wobei sie einen Griff (5), der mit dem Basisabschnitt verbunden ist, und einen Verriegelungsmechanismus (6), der zwischen einem verriegelten Zustand, in dem der Verriegelungsmechanismus die Längsbewegung des bewegbaren Bindungseingriffsabschnitts verriegelt, und einem entriegelten Zustand, in dem der Verriegelungsmechanismus die Längsbewegung des bewegbaren Bindungseingriffsabschnitts zulässt, betätigbar ist, umfasst, wobei der Verriegelungsmechanismus ein Betätigungselement (11) zum Betätigen des Verriegelungsmechanismus zwischen dem verriegelten und entriegelten Zustand umfasst, wobei das Betätigungselement an dem Griff angeordnet ist, **dadurch gekennzeichnet, dass** sich der Griff entlang des Basisabschnitts in einem Abstand von dem Basisabschnitt erstreckt und mit dem Basisabschnitt an gegenüberliegenden ersten und zweiten Endabschnitten des Griffs verbunden ist, wodurch eine Öffnung zwischen dem Griff und dem Basisabschnitt gebildet ist.

2. Vorrichtung nach Anspruch 1, wobei der bewegbare Bindungseingriffsabschnitt (3) eine erste Längsstange (12) umfasst, die mit dem Zwischenabschnitt (7) des Basisabschnitts (2) bewegbar verbunden ist, wobei der Verriegelungsmechanismus (6) ein Stangeneingriffselement (16) umfasst, das angeordnet ist, um im verriegelten Zustand mit der ersten Stange in Eingriff zu stehen, um die Position des bewegbaren Bindungseingriffsabschnitts relativ zu dem Zwischenabschnitt zu fixieren, und um im entriegelten Zustand aus dem Eingriff mit der ersten Stange freigegeben zu werden, wobei das Betätigungselement mit dem Stangeneingriffselement verbunden ist und angeordnet ist, um das Stangeneingriffselement zwischen dem Eingriff mit der ersten Stange und der Eingriffsfreigabe von der ersten Stange zu betätigen.
3. Vorrichtung nach Anspruch 2, wobei der bewegbare Bindungseingriffsabschnitt (3) eine zweite und dritte Längsstange (13, 14) umfasst, die mit dem Zwischenabschnitt bewegbar verbunden sind und sich parallel zu der ersten Stange (12) erstrecken sowie seitlich von der ersten Stange an gegenüberliegenden Seiten davon verschoben sind.
4. Vorrichtung nach Anspruch 2 oder 3, wobei der Verriegelungsmechanismus (6) eine Federvorrichtung (17) umfasst, die mit dem Stangeneingriffselement und dem Griff (5) an dem ersten Ende des Griffs verbunden ist, wobei das Stangeneingriffselement mittels der Federvorrichtung hin zu dem Eingriff mit der ersten Stange (12) federvorgespannt ist.

5. Vorrichtung nach einem der Ansprüche 2 bis 4, wobei das Stangeneingriffselement (16) länglich ist und einen ersten Endabschnitt (22), der an einem Sitz (23) des Zwischenabschnitts (7) aufgenommen ist, was es dem ersten Endabschnitt ermöglicht, innerhalb des Sitzes zu schwenken, und einen gegenüberliegenden zweiten Endabschnitt (24), der mit dem Betätigungselement (11) verbunden ist, aufweist.
6. Vorrichtung nach Anspruch 5, wobei sich das Stangeneingriffselement (16) durch eine Apertur (18) des Griffs (5) erstreckt, wobei sich die Apertur zwischen einer inneren Fläche (19) des Griffs an der Öffnung (10), die durch den Griff und den Basisabschnitt (2) definiert ist, und einer äußeren Fläche (20) des Griffs gegenüber der inneren Fläche erstreckt, wobei das Betätigungselement (11) an der äußeren Fläche angeordnet ist.
7. Vorrichtung nach Anspruch 5, wobei das Stangeneingriffselement in die Öffnung vorsteht, die durch den Griff und den Basisabschnitt definiert ist, und wobei das Betätigungselement in der Öffnung angeordnet ist.
8. Vorrichtung nach einem der Ansprüche 2 bis 7, wobei das Stangeneingriffselement ein Loch umfasst, durch das sich die erste Stange erstreckt.
9. Vorrichtung nach Anspruch 8, wobei das Stangeneingriffselement angeordnet ist, um mit der ersten Stange in Eingriff zu kommen, indem es relativ zu der ersten Stange geneigt wird, wodurch es die erste Stange mit Kantenabschnitten des Lochs greift.
10. Vorrichtung nach einem der vorhergehenden Ansprüche, wobei der Zwischenabschnitt mit einem Lineal bereitgestellt ist.
11. Vorrichtung nach einem der vorhergehenden Ansprüche, wobei der zweite Bindungseingriffsabschnitt eine Endwand aufweist, von der mindestens ein Teil derart geneigt ist, dass sie hin zu dem ersten Bindungseingriffsabschnitt in einer Abwärtsrichtung abfällt.

## Revendications

1. Dispositif pour régler une fixation de ski, le dispositif (1) comprenant une partie de base allongée (2), des première et deuxième parties de mise en prise de fixation (3, 4) formant des première et deuxième parties d'extrémité opposées respectives de la partie de base, et correspondant à des parties d'orteils et de talon d'une chaussure de ski lors de la mise en prise avec la fixation de ski, dans lequel les première

et deuxième parties de mise en prise de fixation comprennent une partie de mise en prise de fixation mobile (3), laquelle est mobile par rapport à une partie intermédiaire (7) de la partie de base, et longitudinalement à la partie de base, pour régler la longueur totale de la partie de base, dans lequel il comprend une poignée (5) reliée à la partie de base, et un mécanisme de verrouillage (6) qui est actionnable entre un état verrouillé où le mécanisme de verrouillage verrouille le déplacement longitudinal de la partie de mise en prise de fixation mobile et un état déverrouillé où le mécanisme de verrouillage admet le déplacement longitudinal de la partie de mise en prise de fixation mobile, dans lequel le mécanisme de verrouillage comprend élément d'actionnement (11) pour actionner le mécanisme de verrouillage entre les états verrouillé et déverrouillé, dans lequel l'élément d'actionnement est disposé au niveau de la poignée, **caractérisé en ce que** la poignée s'étend le long de la partie de base, à une distance de la partie de base, et est reliée à la partie de base au niveau de première et deuxième parties d'extrémité opposées de la poignée en formant de la sorte une ouverture entre la poignée et la partie de base.

2. Dispositif selon la revendication 1, dans lequel la partie de mise en prise de fixation mobile (3) comprend une première barre longitudinale (12) reliée de manière mobile à la partie intermédiaire (7) de la partie de base (2), dans lequel le mécanisme de verrouillage (6) comprend un élément de mise en prise de barre (16) lequel, dans l'état verrouillé, est étudié pour se mettre en prise avec la première barre pour fixer la position de la partie de mise en prise de fixation mobile par rapport à la partie intermédiaire et, dans l'état déverrouillé, pour être mis hors de prise d'avec la première barre, dans lequel l'élément d'actionnement est relié à l'élément de mise en prise de barre, et est étudié pour actionner l'élément de mise en prise de barre entre la mise en prise avec la première barre et la mise hors de prise d'avec la première barre.

3. Dispositif selon la revendication 2, dans lequel la partie de mise en prise de fixation mobile (3) comprend des deuxième et troisième barres longitudinales (13, 14) reliées de manière mobile à la partie intermédiaire, et s'étendant en parallèle à la première barre (12) et déplacées latéralement de la première barre sur des côtés opposés de celle-ci.

4. Dispositif selon la revendication 2 ou 3, dans lequel le mécanisme de verrouillage (6) comprend un dispositif à ressort (17) qui est relié à l'élément de mise en prise de barre et à la poignée (5), à la première extrémité de la poignée, dans lequel l'élément de mise en prise de barre est précontraint par ressort au moyen du dispositif à ressort en direction de mise

en prise avec la première barre (12).

5. Dispositif selon l'une quelconque des revendications 2 à 4, dans lequel l'élément de mise en prise de barre (16) est allongé et a une première partie d'extrémité (22) qui est reçue au niveau d'un siège (23) de la partie intermédiaire (7) permettant à la première partie d'extrémité de pivoter avec le siège, et une deuxième partie d'extrémité opposée (24) qui est reliée à l'élément d'actionnement (11). 5  
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6. Dispositif selon la revendication 5, dans lequel l'élément de mise en prise de barre (16) s'étend à travers une ouverture (18) de la poignée (5), laquelle ouverture s'étend entre une surface intérieure (19) de la poignée, à l'ouverture (10) définie par la poignée et la partie de base (2), et une surface extérieure (20) de la poignée opposée à la surface intérieure, dans lequel l'élément d'actionnement (11) est disposé à la surface extérieure. 15  
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7. Dispositif selon la revendication 5, dans lequel l'élément de mise en prise de barre fait saillie dans l'ouverture définie par la poignée et la partie de base, et dans lequel l'élément d'actionnement est disposé dans l'ouverture. 25
8. Dispositif selon l'une quelconque des revendications 2 à 7, dans lequel l'élément de mise en prise de barre comprend un trou à travers lequel la première barre s'étend. 30
9. Dispositif selon la revendication 8, dans lequel l'élément de mise en prise de barre est étudié pour se mettre en prise avec la première barre en étant incliné par rapport à la première barre en saisissant de la sorte la première barre avec des parties de bord du trou. 35
10. Dispositif selon l'une quelconque des revendications précédentes, dans lequel la partie intermédiaire est dotée d'une règle. 40
11. Dispositif selon l'une quelconque des revendications précédentes, dans lequel la deuxième partie de mise en prise de fixation a une paroi d'extrémité dont au moins une partie est inclinée de manière à être en pente vers la première partie de mise en prise de fixation dans une direction vers le bas. 45  
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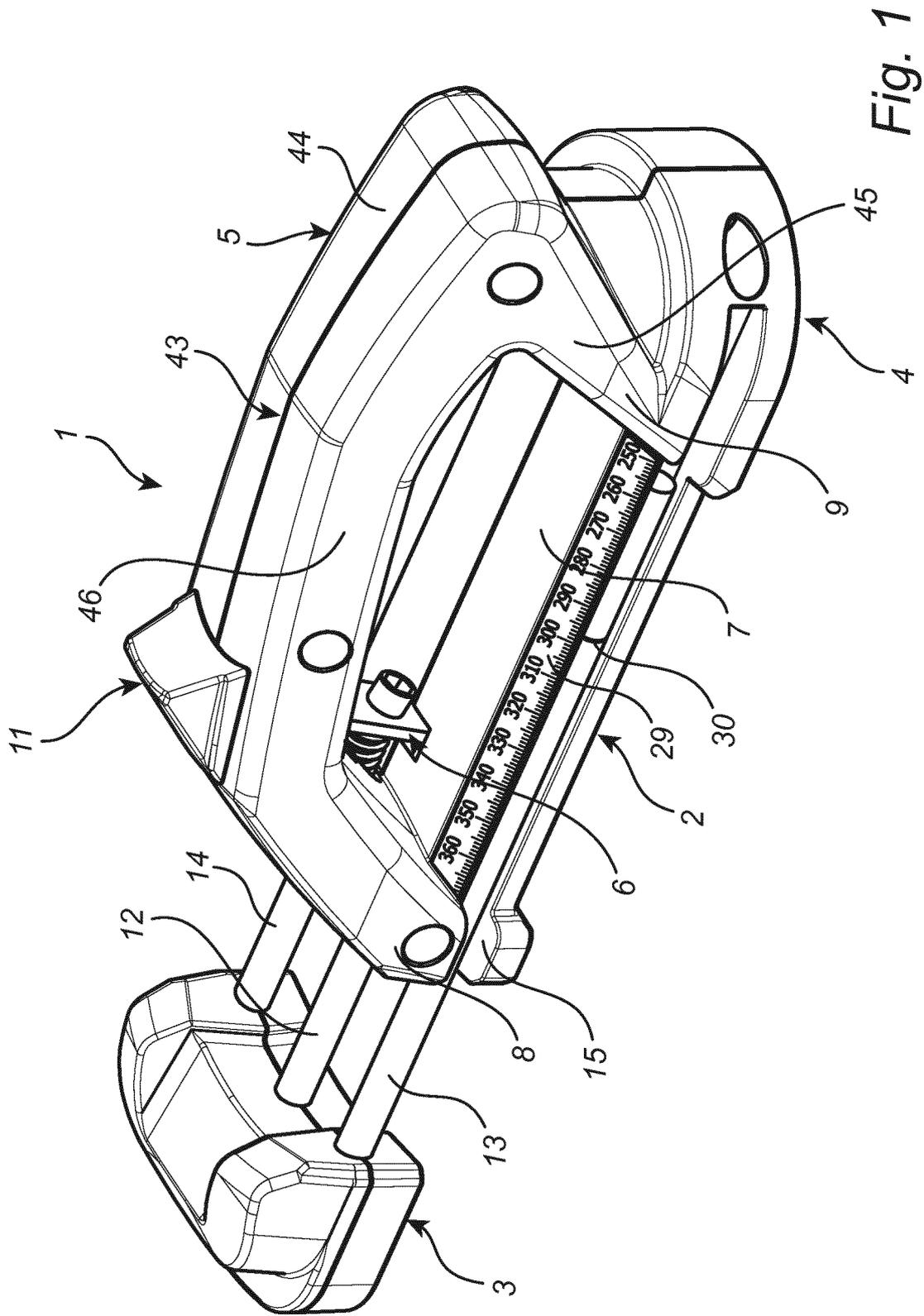
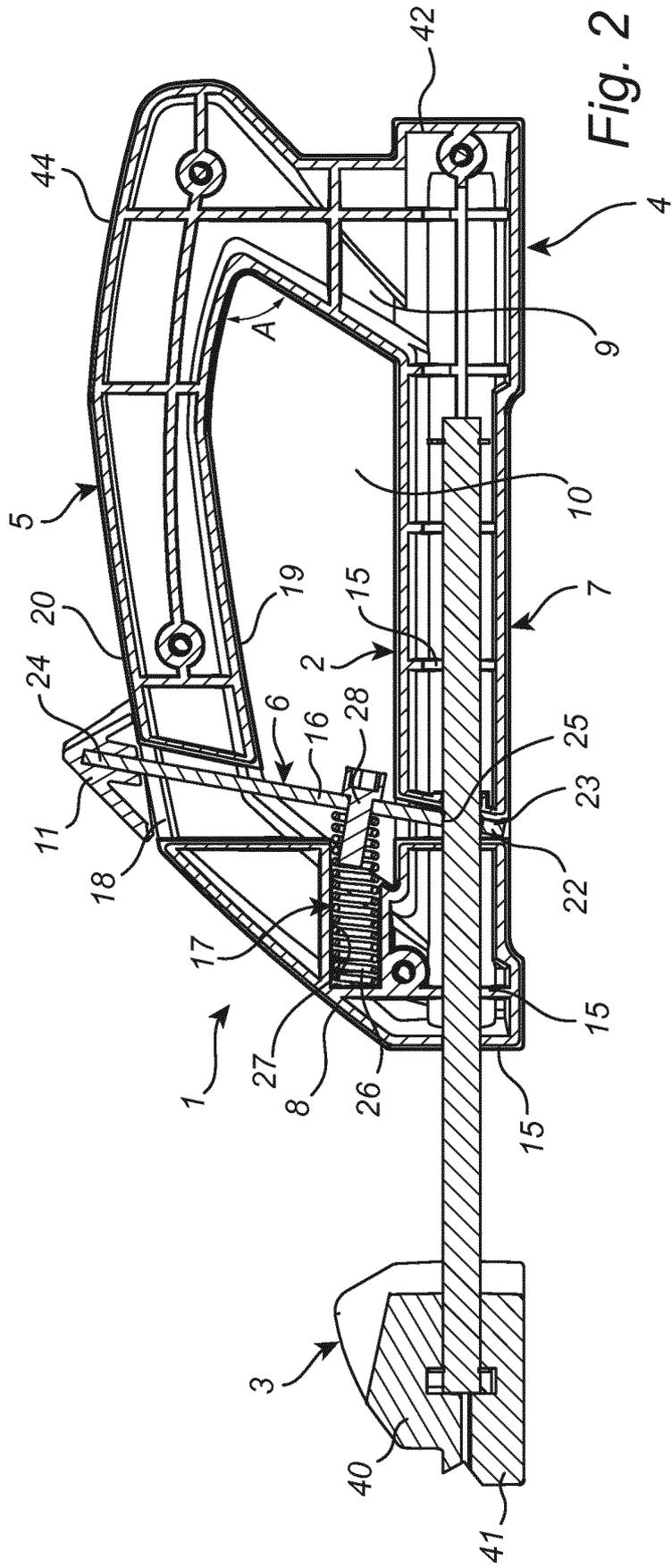
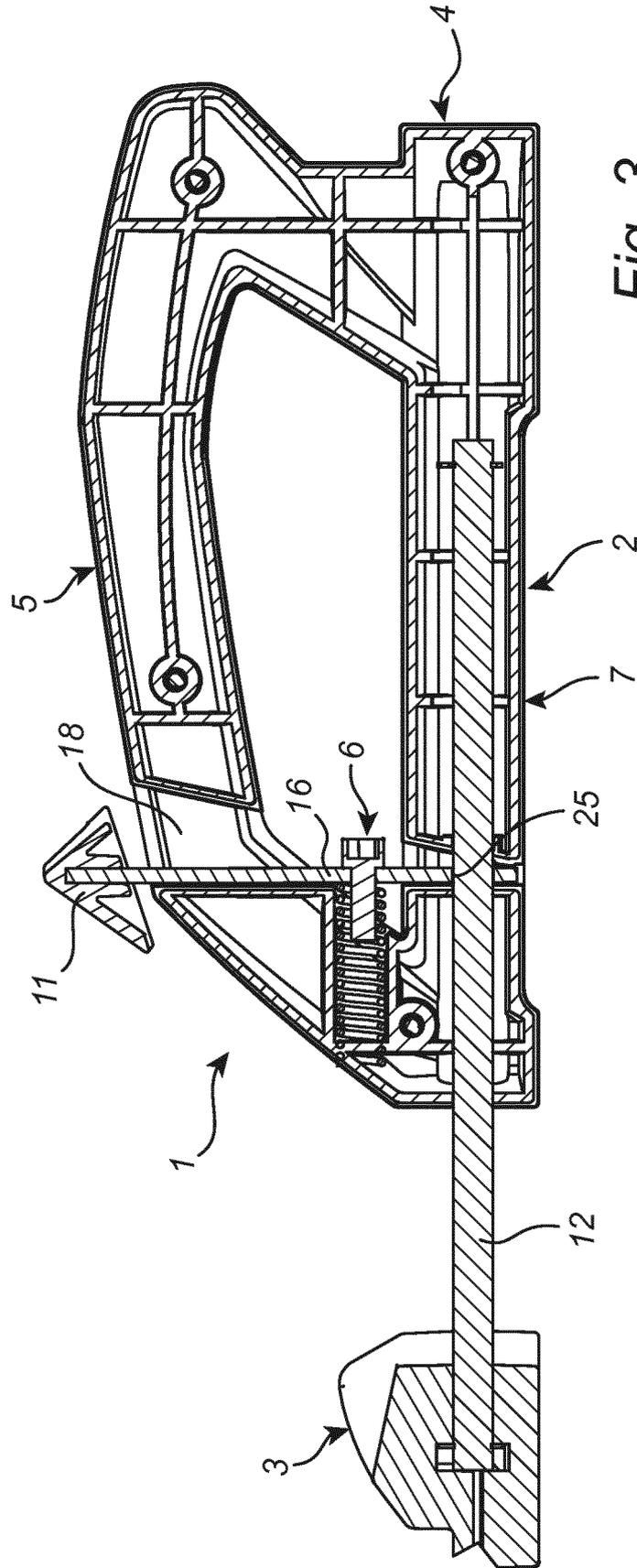


Fig. 1





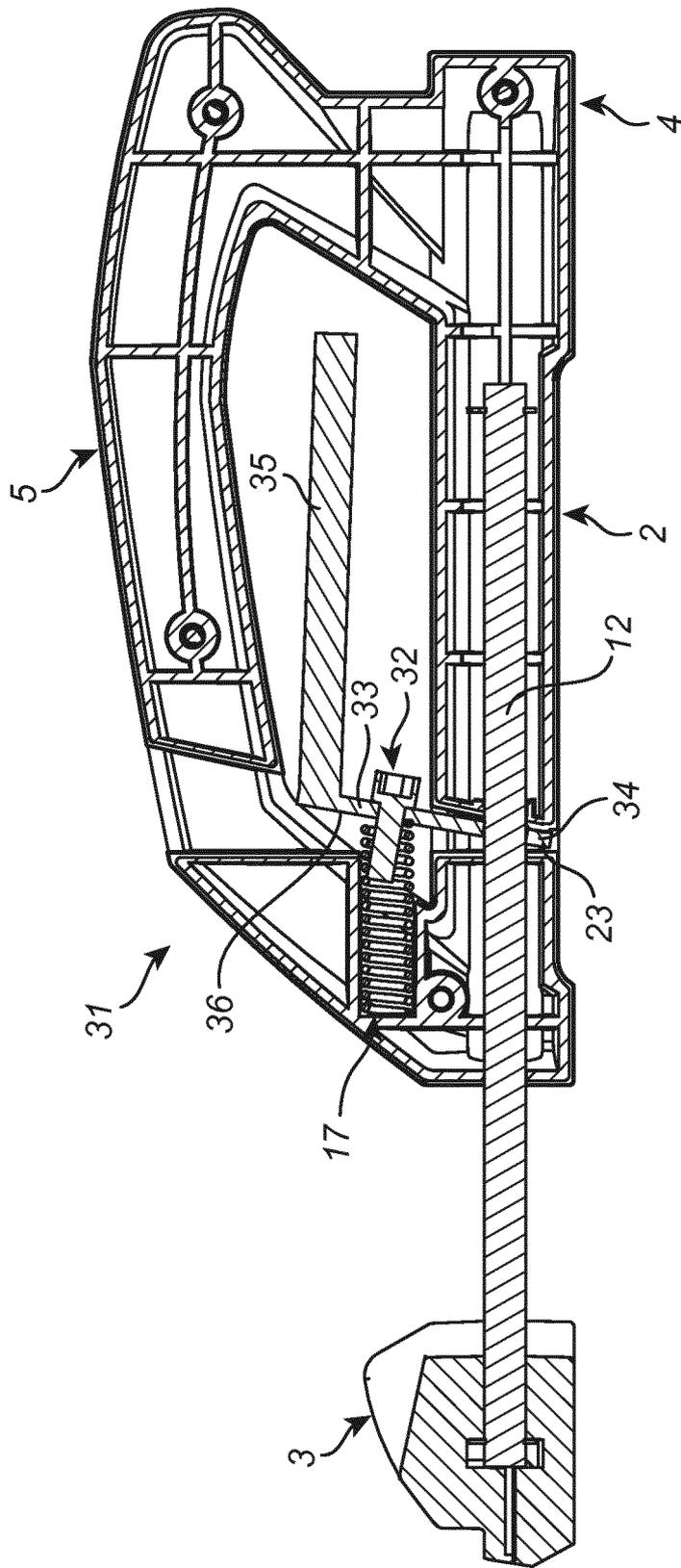


Fig. 4

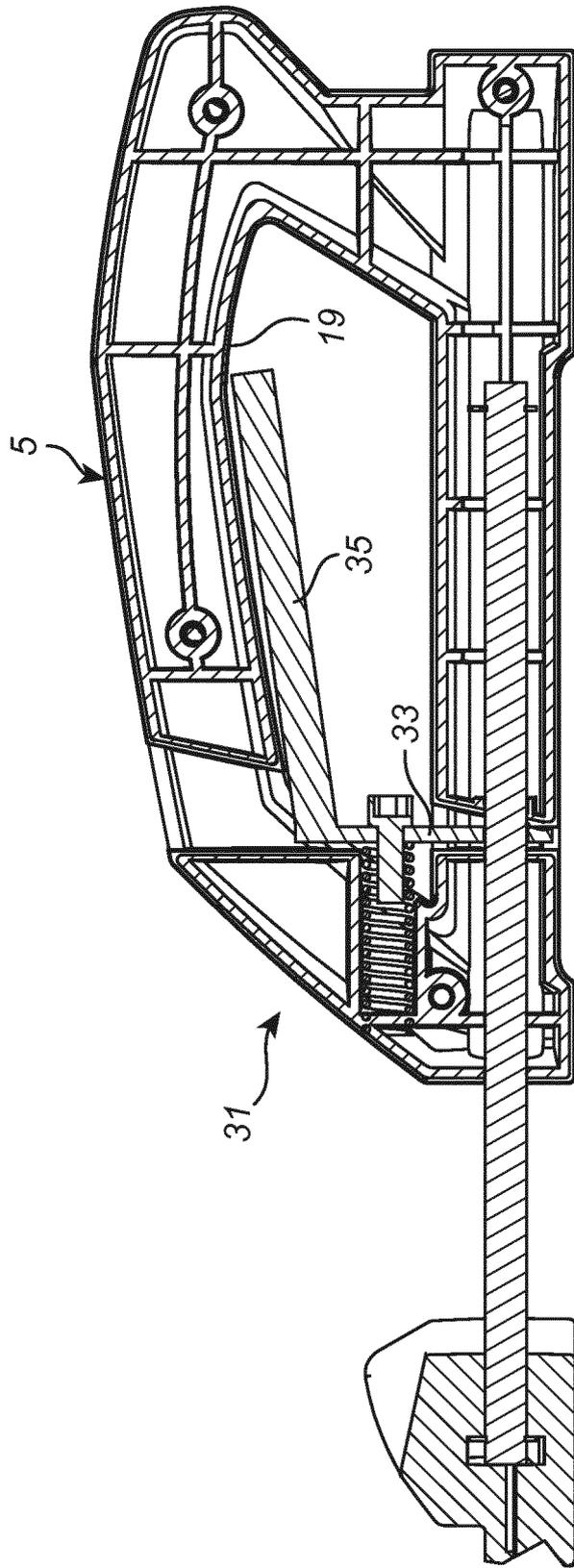
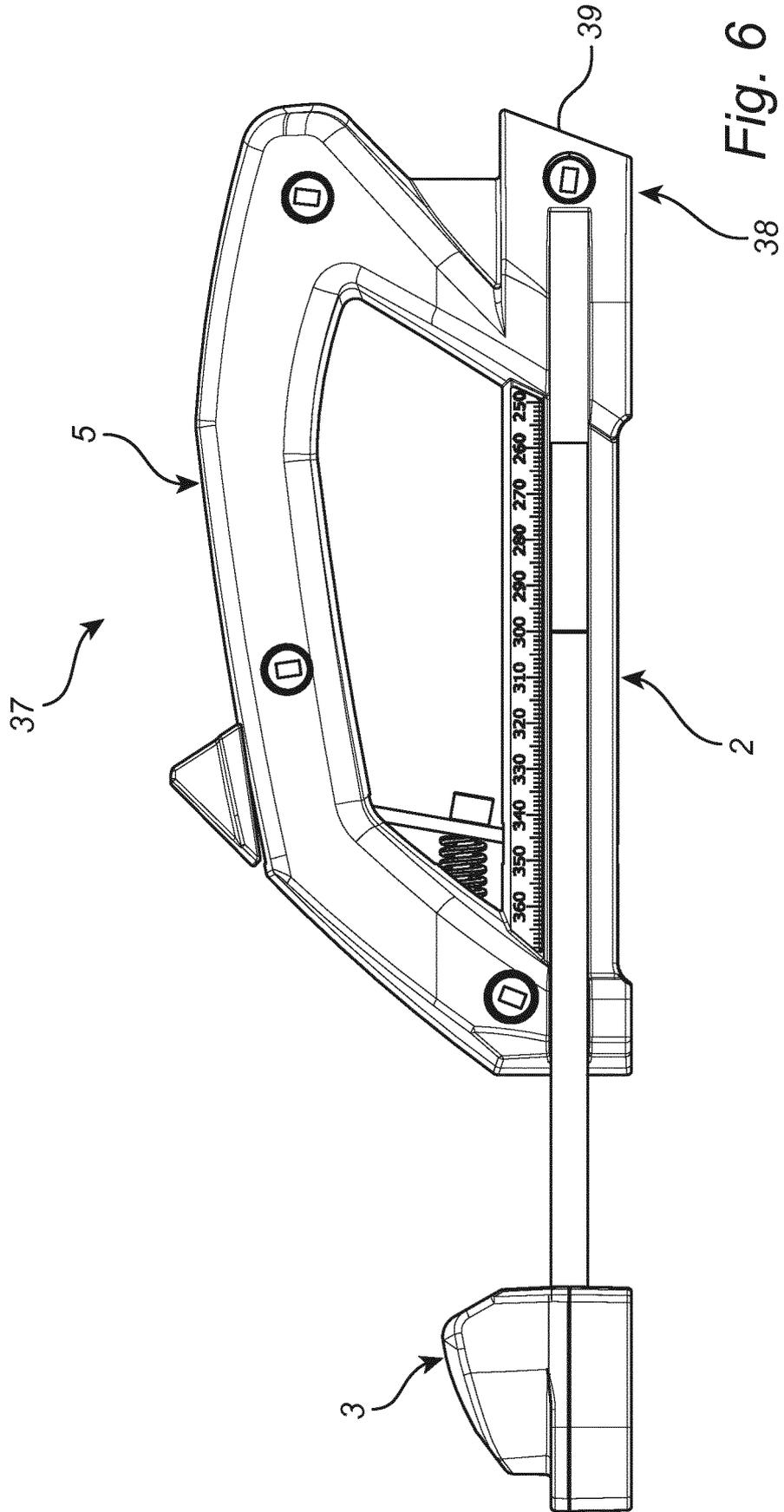


Fig. 5



**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

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