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(54) **DEVICE FOR CONNECTING A SPORTS SHOE TO A SPORTS DEVICE, COMPRISISNG A LOCKING DEVICE**

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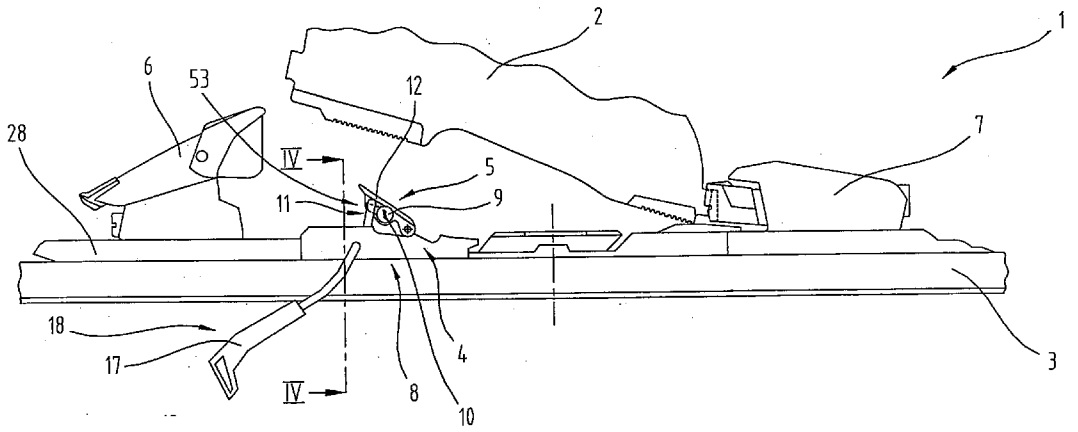
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(57) **ABSTRACT**

The invention describes a device (**1**) for connecting a sports shoe (**2**) with a sports device (**3**), in particular a shoe with a snowboard or a ski, or for braking a sports device (**3**), consisting of least one of the device parts (**4**), such as a toe piece (**7**), a heel piece (**6**), a binding plate (**8**), a brake device (**5**) and a locking mechanism (**9**) allocated to at least one of said device parts (**4**), which is arranged in one of said device parts (**4**) and comprises a locking bar (**14**), which can be displaced relative to a base part (**11**) of the device parts (**4**) and can be secured and locked at least in one of its end positions by a locking device (**10**). The locking bar (**14**) can be displaced from a position of rest (**15**) lying outside the user-defined movement space between the base part (**11**) and an adjusting element (**46**) of the device parts (**4**) or between at least one of the latter and the shoe, into a locked position (**16**) projecting in this movement space over at least one of the device parts (**4**) or its base or adjusting element (**11, 46**) and can be secured at least in the locked position by the locking device (**10**).



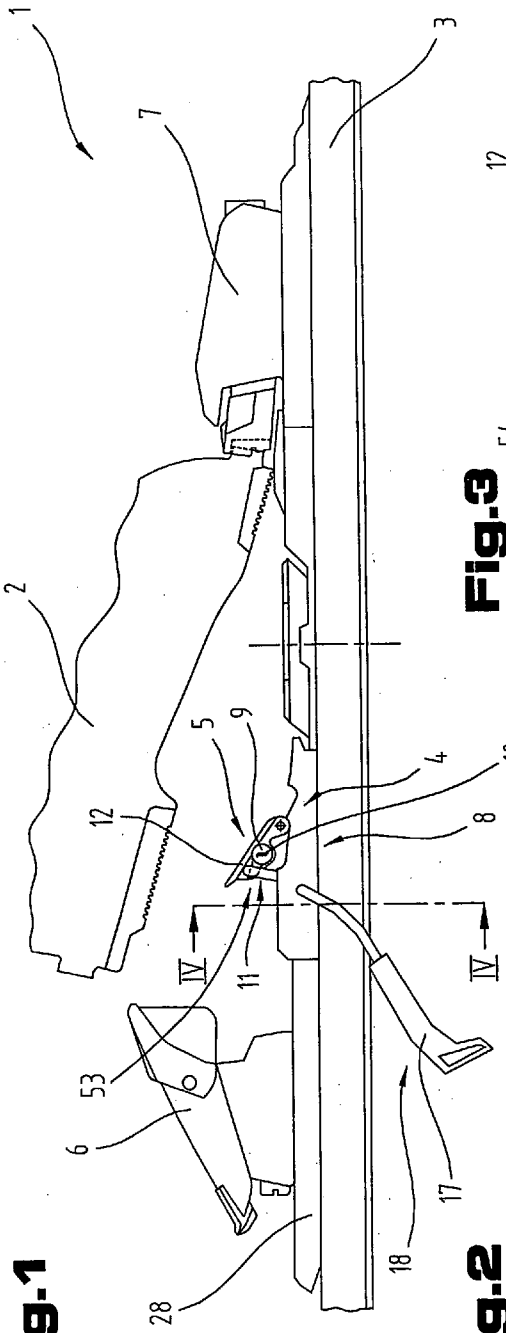


Fig.1

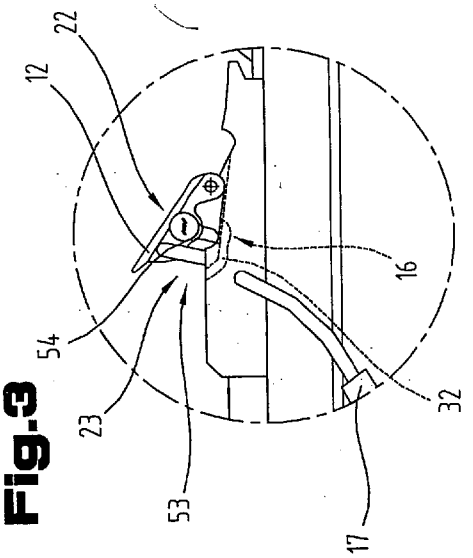


Fig.3

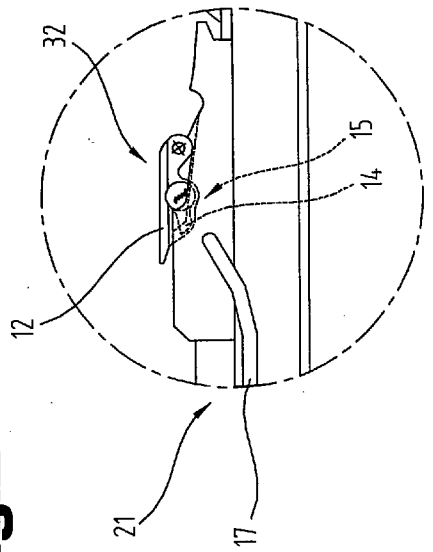
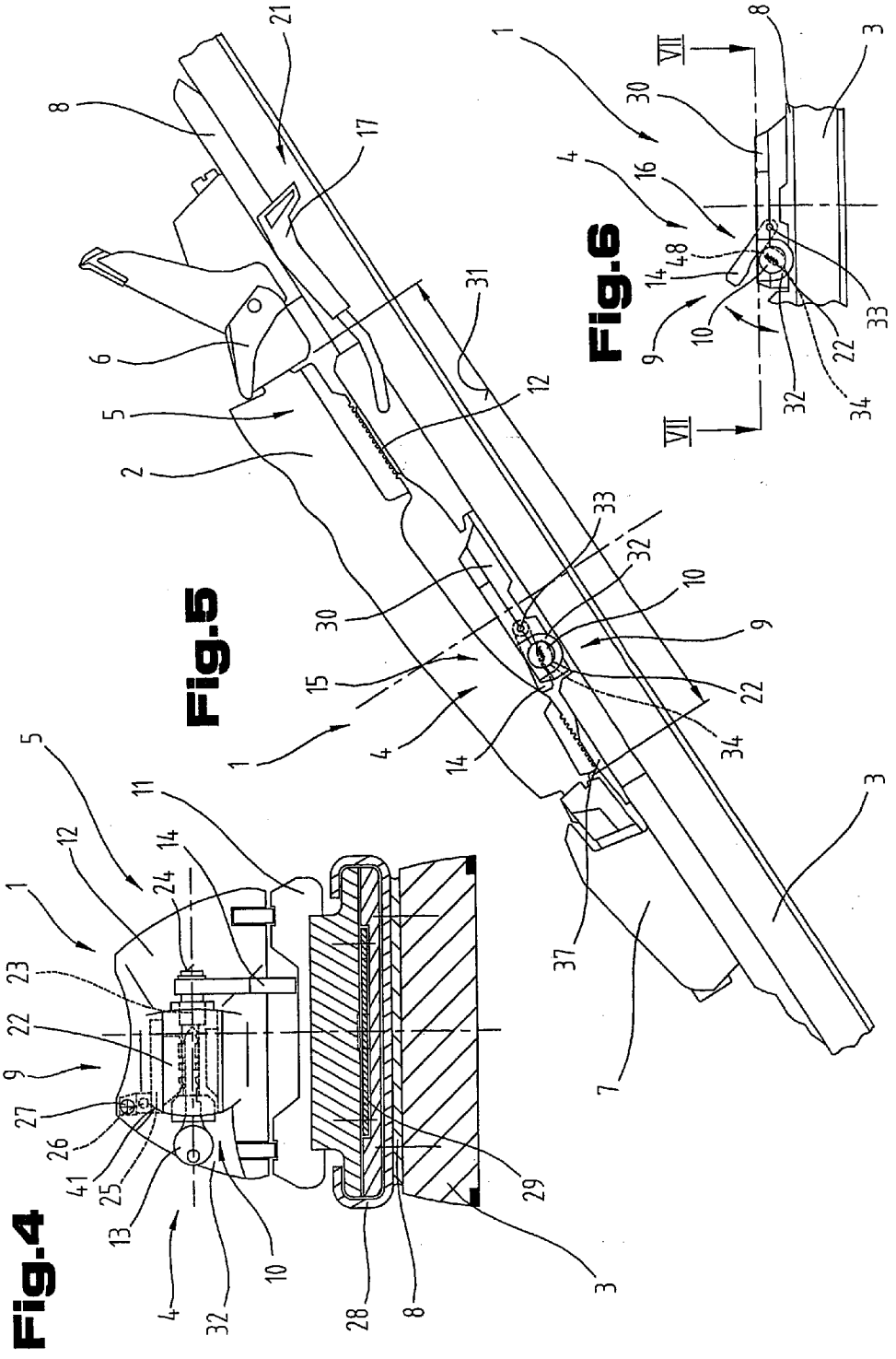


Fig.2


Fig.4
Fig.5
Fig.6
VII
VII

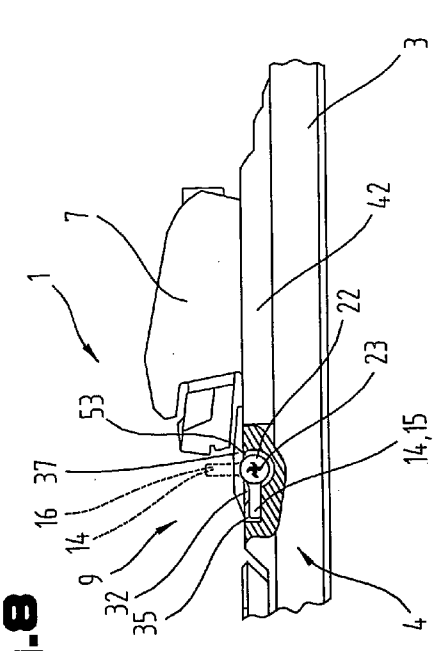


Fig.8

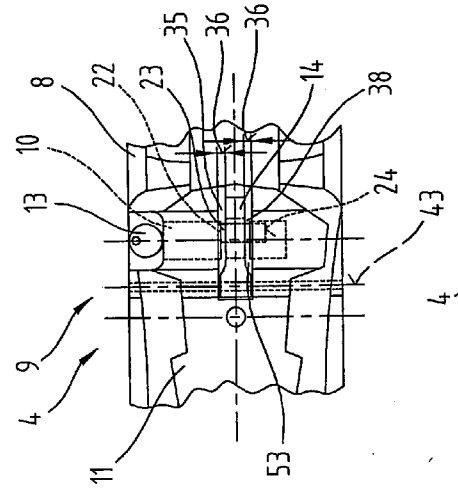


Fig.7

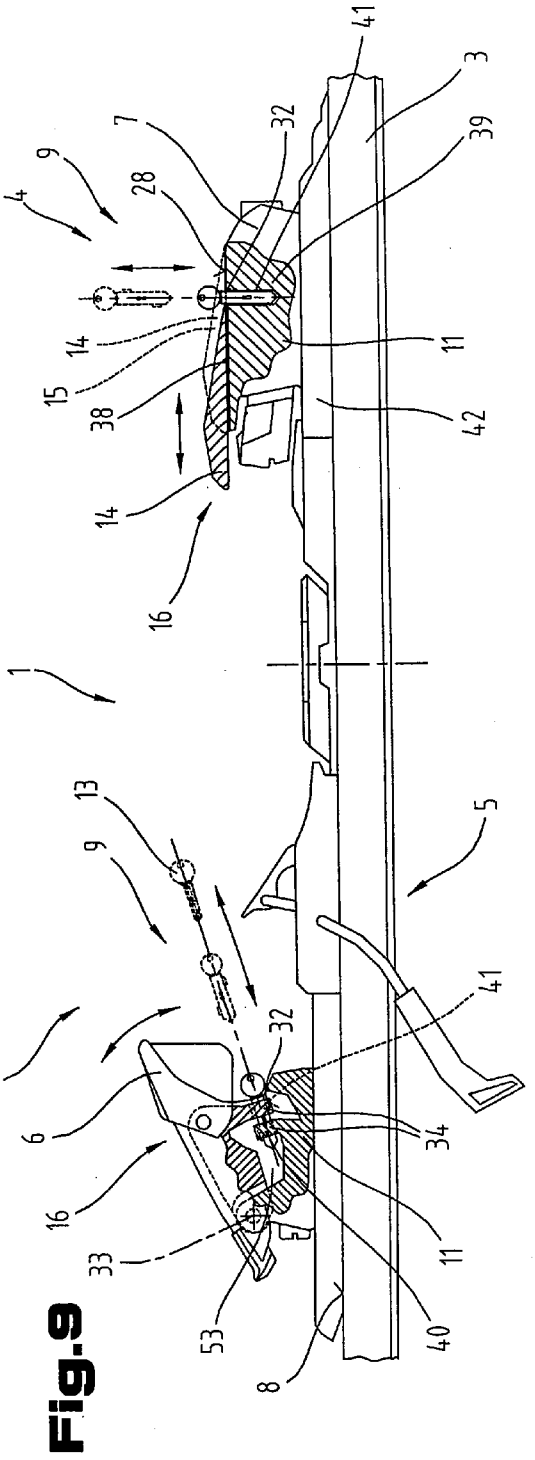


Fig.9

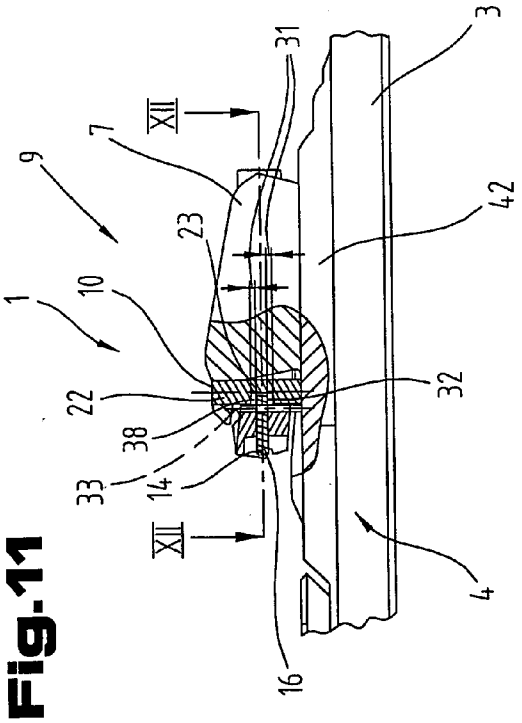


Fig.11

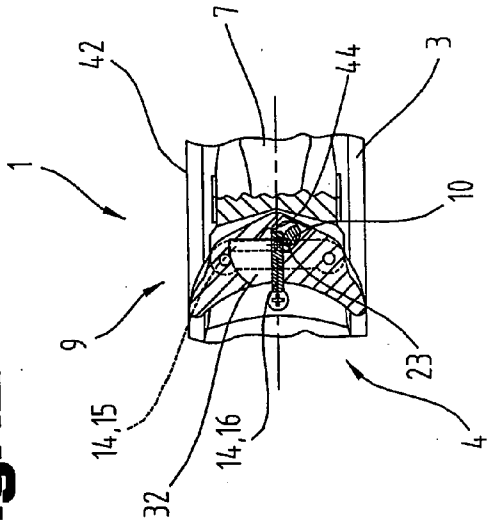


Fig.12

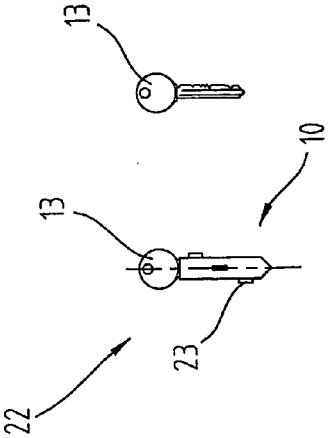


Fig.10

Fig.13

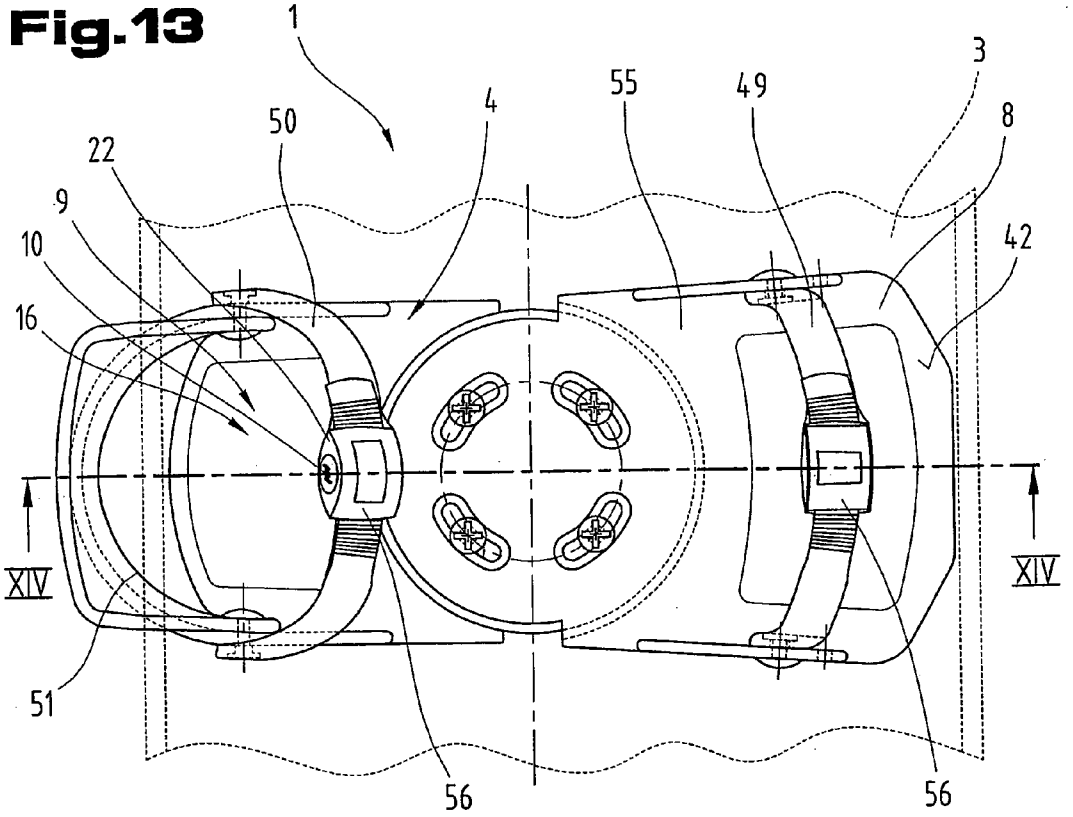

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Fig.14

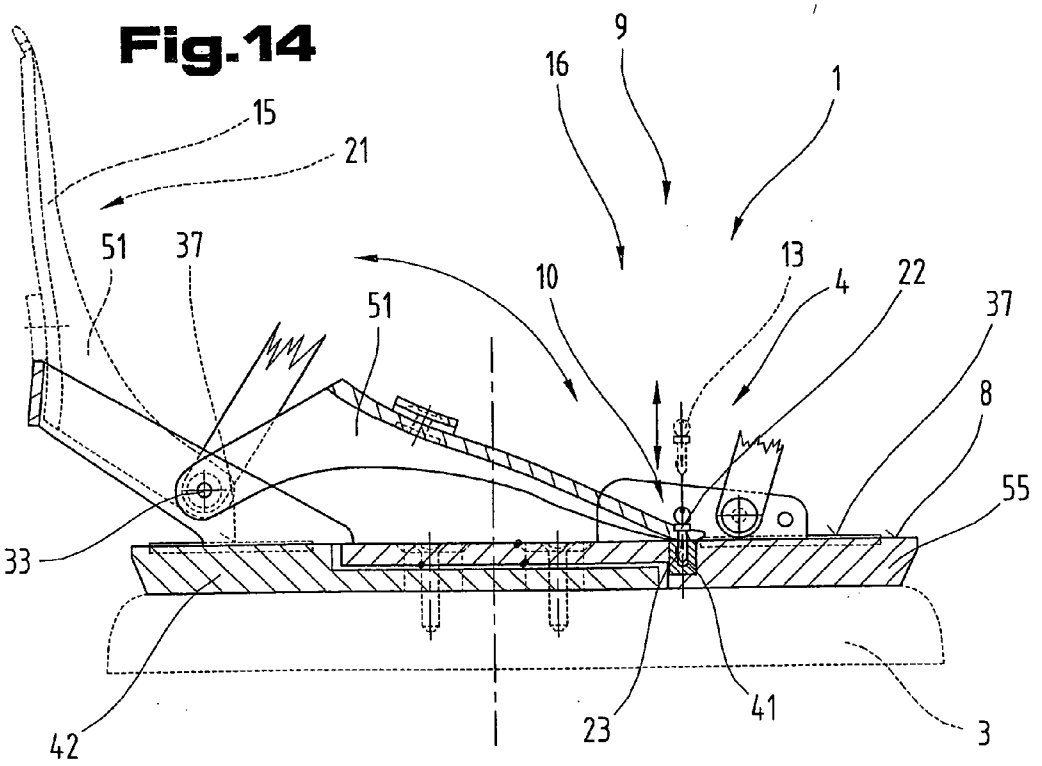

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Fig.15

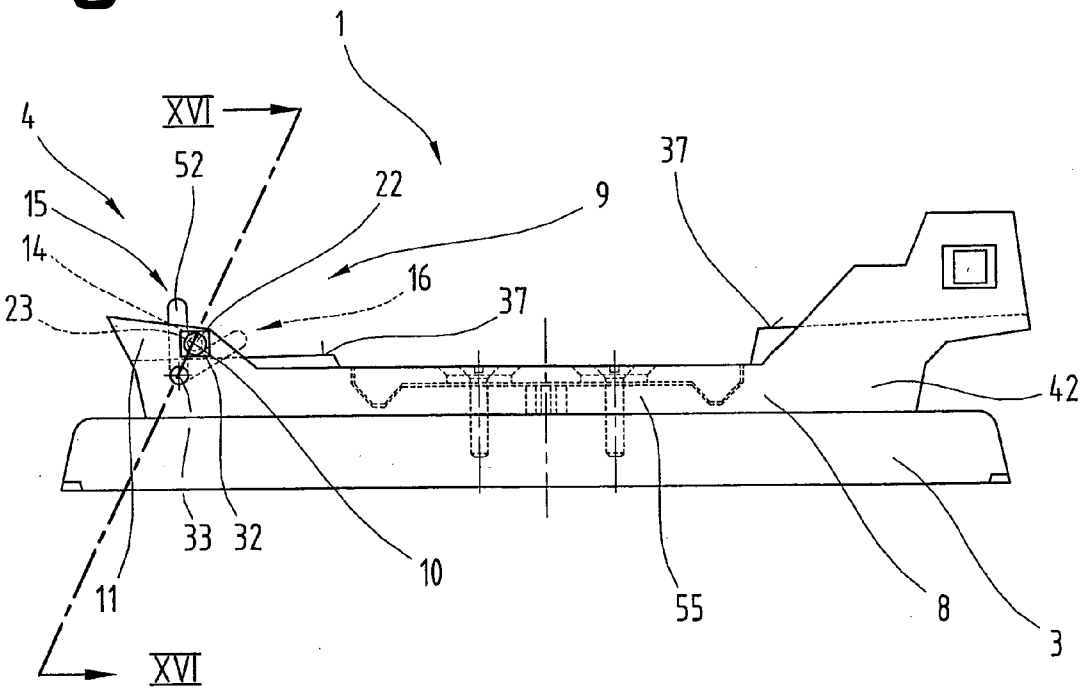
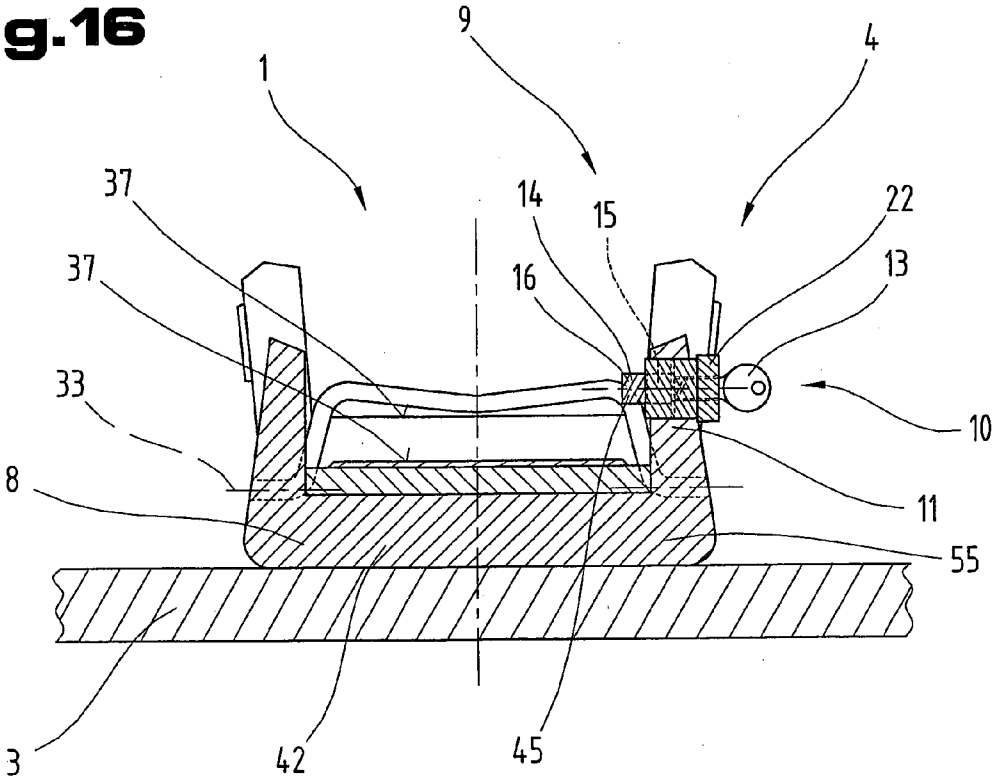

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Fig.16


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DEVICE FOR CONNECTING A SPORTS SHOE TO A SPORTS DEVICE, COMPRISISNG A LOCKING DEVICE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The invention relates to a device, as described in the preamble of claim **1**.

[0003] 2. Prior Art

[0004] A ski binding with a lock and a locking mechanism for securing a winter sports device is already known—WO 01/95985 A—, in which the locking mechanism is fixed onto a winter sports device in the form of a ski, ski binding, ski stick, snowboard or the like, and the locking mechanism is accommodated on or in a cavity of a component belonging to a winter sports device and operates independently of fixed structures (ski-holders, guard rails or the like). The disadvantage of this embodiment is that the locking mechanism is arranged in a cavity of the binding parts of a ski binding, and therefore neither the locking mechanism nor the locking bar are accessible from the outside. If after use or whilst the ski is locked liquid collects or freezes in the locking mechanism or between the locking bar and the individual binding parts it is very difficult even for a legitimate user to use the winter sports device again.

[0005] Further embodiments known from the prior art which comprise a locking mechanism for securing a winter sports device are found for example in DE 101 28 556 A1 or DE 103 30 429 A1 or DE 103 39 132 A1.

OBJECTIVES AND ADVANTAGES OF THE INVENTION

[0006] The objective of the invention is to install a securing device in a device for connecting a sports shoe to a sports device, in particular a shoe to a snowboard or a ski to avoid theft, which permits reliable operation in all operating conditions.

[0007] This objective of the invention is achieved by means of the features described in the characterising part of claim **1**. It is an advantage in this case that the lock element is displaced in its locked position in a position projecting beyond the device part, so that a visual control of the lock is possible in a simple manner, in particular it is not possible to climb in or out of the binding, and also by securing the locking bar its mobility can be restored again by a rapid accessibility.

[0008] According to a development in claim **2** it is an advantage that the lock element is pivoted in a free space between the moveable locking part and the fixed base part and is thereby accessible to the user via this free space. If after locking the locking device freezing occurs between the locking bar and the adjacent device part or the sports device, the latter is easily accessible and the frozen parts can be quickly eliminated by mechanical means or by the direct application of heat or suitable de-icing fluids.

[0009] The embodiment variant according to claim **3** also ensures that the locking part secures the adjusting part of the device parts in one of its end positions and thereby makes it impossible to climb into the usable movement area. Because the locking bar lies or bears in its end position on the base part there is no possibility of entering the usable movement area by force. Furthermore, due to the lifted brake element there is sufficient free space, which is easily accessible from all sides and thus can be easily released if stuck. In this instance it is possible to proceed using mechanical as well as releasing means.

[0010] The additional embodiment according to claim **4** has the advantage that the sports device is held by its device and its brake device in a brake position, whereby it is impossible to move away with the sports device, as in order to use the sports device the brake device would need to be in drive position.

[0011] Furthermore, the arrangement in the region of the brake has the advantage of being a simple additional arrangement, in that the housing of the complex structured device parts, such as the toe piece and the heel piece, is not needed for installation and its complicated structure is not made even more complex.

[0012] The external locking device also has the advantage that in the case of damage or vandalism it can be very easily replaced. The internal arrangement of the locking device has the advantage that suitable lubrication means and the like can be provided, which prevent the freezing and sticking of the locking device even at extreme temperatures.

[0013] The additional design according to claim **5** has the advantage that the locking bar in its locked position projects over the binding plate into the one for inserting the ski shoe or the usable movement area between the toe and heel piece, and thus makes it impossible to climb into the required movement area. The locking bar can in this case be arranged on the entire device, which does not permit the insertion of the shoe. This is also achieved by means of the features according to claim **6**.

[0014] The design according to claim **7** has the advantage that the locking mechanism with its locking device is designed to be adjustable between a position of rest and a locked position, i.e. by swivelling the locking bar into a locked position it is not possible to enter in the locked state, but in the position of rest it is possible to climb into and use the device without any difficulty.

[0015] The design according to claim **8** is also advantageous. In this case locking elements are allocated to the locking bar with its locking device which permit additional securing at least in its locked position. In this way the locking mechanism becomes even more secure.

[0016] In the design according to claim **9** it is an advantage that the locking bar is overlapped by locking elements and in this way additional security is provided when locking and against unwanted removal.

[0017] In an embodiment according to claim **10**, it is an advantage that the installation of the locking device into the device parts can be performed easily, the latter being highly secure in a locked state against attempted removal or attempted theft.

[0018] The embodiment according to claim **11** has the advantage that the lock element can be kept very small if the locking elements stick out or protrude.

[0019] A further embodiment according to claim **12** provides a heating element which can be activated in case of

emergency and can easily be activated if the binding has become frozen or stuck and the locking mechanism can be released despite the ice.

[0020] An additional advantageous embodiment is achieved by the features in claim **13** as here a heating element is allocated to the locking bar which permits the correct use of the winter sports device.

[0021] In the embodiment according to claim **14** the simple operation of the heating element by means of a push button or a screw is advantageous.

[0022] In a development according to claim **15** it is advantageous that by means of the material used any sticking of the locking device or freezing of the parts of the device is prevented. Furthermore, by means of special lubricants which are brought into contact with said parts the adhesion of snow and ice is reduced and thereby freezing is prevented at very low temperatures.

[0023] The development according to claim **16** and claim **17** has the advantage that the arrangement of the locking device in the brake pedal has sufficient space and is easily accessible from all sides, and therefore the installation can be made easier without great effort and greater accessibility can also be achieved.

[0024] The embodiment according to claim **18** is advantageous, since as the locking bar of the locking mechanism sits on the base part of the brake device in a locked state, the brake device cannot be moved into the desired drive position. As the brake device is held in a locked state in brake position, operation as well as entry into this device is made impossible. Of course, the lock element can also be arranged on the base part, so that the locking bar acts on the brake pedal, whereby the same effect is achieved.

[0025] The embodiments according to claim **19** and **20** have the advantage that here a freely accessible locking mechanism is created, which is accessible through several free spaces and therefore operability can be restored at any time in cases of freezing or sticking and in case of damage it can be easily removed and replaced by a new locking mechanism.

[0026] The embodiment according to claim **21** is advantageous, as by providing several locking bars security against forced opening is considerably increased.

[0027] The embodiment according to claim **22** has the advantage that the locking bar is arranged in its groove-shaped depression with a relatively large spacing on all sides. The free space obtained in this way means that the locking mechanism is easily accessible and in the case of sticking can easily be released both mechanically and by de-icing means. Furthermore, this embodiment can be very small and space-saving in all areas of the device.

[0028] By means of the embodiment according to claim **23** the design of the locking mechanism can be made secure and stable, so that it can also not detached even by the effect of extreme force.

[0029] It is advantageous according to claim **24** that the locking mechanism or the external lock element is only used for locking into the device, whereby during the use of the sports device the device is reduced by the weight of the lock part.

[0030] As the external lock element is carried on the body or in a trouser pocket, the latter is exposed to the body temperature of a person, which can be useful in itself for releasing the locking device to start with. Also when the locking mechanism is in a locked position the key can be heated by means of a lighter or the like to release the lock.

[0031] The embodiment variants according to claims **25** and **26** make it possible for the lock element to be arranged in the whole binding area. The position of locking mechanism can be selected as desired by the inventor. It is important that it is easy to operate and if necessary is easily accessible.

[0032] The embodiment according to claim **27** permits a further advantageous design of the locking mechanism, as due to the possible mounting the mechanism parts do not have a more complex structure and this is avoided.

[0033] An embodiment according to claim **28** is advantageous. Here entry into the device or setting and/or adjusting the holding elements is prevented. In this way the latter in the locked state cannot be fitted onto the foot of a user or with too short a distance it is not possible to climb into the device.

[0034] In a further embodiment according to claim **29** it is an advantage that by pushing the lock element through the hole of the pivoted calf support into the bore of the binding plate after locking, the pivoting of the calf support is made impossible.

[0035] The embodiment according to claim **30** makes it possible for the holding stirrup on the toe piece in a locked position to prevent unauthorised persons from entering into the binding.

[0036] An additional advantage is achieved according to claim **31** in that the locking mechanisms are allocated covers in order to prevent the penetration of snow and ice, even melted snow from the outset.

[0037] The developments according to claim **32** or **33** are advantageous, as thereby the lock element can be kept in a frost free environment when not in use.

BRIEF DESCRIPTION OF THE FIGURES

[0038] The invention is explained in more detail in the following with reference to the exemplary embodiments illustrated in the drawings. These show:

[0039] FIG. **1** a device according to the invention on a sports device, forming a ski binding, with a locking mechanism arranged in the brake device, in side view and in a much simplified representation;

[0040] FIG. **2** a part of the ski binding according to FIG. **1**, in a position of rest, in side view and in a simplified representation;

[0041] FIG. **3** a part of the ski binding according to FIGS. **1** and **2**, in locked position, in side view, in a much simplified and slightly enlarged representation;

[0042] FIG. **4** the sports device with the device according to the invention in side view, in cross section along the lines IV-IV of FIG. **1**;

[0043] FIG. **5** a ski binding mounted on the sports device with a different embodiment of a device according to the

invention, in a position of rest, side view and in a much simplified, schematic representation;

[0044] FIG. **6** a partial area of the sports device according to FIG. **5** in locked position, in side view and in a much simplified schematic representation;

[0045] FIG. **7** the sports device with the device according to the invention, in a position of rest, in plan view, in cross section along the lines VII-VII of FIG. **6**;

[0046] FIG. **8** a further variant of a device according to the invention in the front partial area of the sports device in side view and in a much simplified schematic representation;

[0047] FIG. **9** a device according to the invention with a locking mechanism in the heel piece or in the toe piece, in side view and in partial cross section according to FIG. **1**;

[0048] FIG. **10** the locking mechanism according to FIG. **9** in a much simplified schematic representation;

[0049] FIG. **11** a different variant of the device according to the invention in which the locking device is arranged in the toe piece, in side view, in partial cross section and in a much simplified schematic representation;

[0050] FIG. **12** the device in plan view, in cross section along the lines XII-XII of FIG. **11**;

[0051] FIG. **13** a different kind of device according to the invention mounted on the sports device like a snowboard binding in plan view, in a much simplified schematic representation;

[0052] FIG. **14** a different variant of the device according to the invention, formed by a snowboard binding mounted on the sports device in side view with a removable lock element, in a simplified schematic representation;

[0053] FIG. **15** a different embodiment of the device according to the invention for a snowboard binding in side view and in a much simplified schematic representation;

[0054] FIG. **16** the snow board binding according to FIG. **15**, in front elevation, in cross section along the lines XVI-XVI in FIG. **15** and in a much simplified schematic representation.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

[0055] Firstly, it should be noted that in all of the various described embodiment the same parts are given the same reference numbers and same component names, whereby the disclosures contained throughout the description can be applied to the same parts with the same reference numbers or same component names. Also the details on position used in the description such as e.g. top, bottom, side etc. refer to the figure currently being described and shown at the time and if there is a change in position these should be changed to relate to the new position. Furthermore, individual features or combinations of features of the embodiments shown and described represent in themselves independent, inventive solutions according to the invention.

[0056] The invention relates to a device **1** shown in FIGS. **1** to **4** for connecting a sports shoe **2** with a sports device **3**. Preferably, the device **1** is used for connecting a sports shoe **2** with a sports device **3** such as a snowboard or ski. Devices **1** of this kind usually comprise device parts **4** which can include a brake device **5**, a heel piece **6**, a toe piece **7**, a binding plate **8** or the like.

[0057] Of course, this can relate also to high backs, base plates, straps or other parts of such a device **1** for connecting a sports shoe **2** with a sports device **3**, such as a ski binding, cross-country binding, touring or snowboard binding. A locking mechanism **9** is allocated to at least one of these device parts **4**. Said locking mechanism **9** or its locking device **10** is in the present embodiment installed into a pivotable brake pedal **12** mounted on the sports device **3**.

[0058] The locking mechanism **9** is formed by a locking device **10** that can be activated by a key **13** and the like, the locking bar **14** of which can be adjusted by means of the locking device **10**, for example by means of a rotating locking pin **45** activatable by key **13** and the like from a position of rest **15** represented by dashed lines into the locked position **16** shown by solid lines.

[0059] As can already easily be seen in the illustrated representation, the brake pedal **12**, i.e. the moving adjusting element **46** of the brake device **5**, can no longer be moved up out of the position of rest shown by dashed lines in FIGS. **1** and **2**, in which the brake pedal **12** is lifted from a top side **47**, for example the binding plate **8** or the sports device **3**, and the locking bar **14** is in a locked position **16**, into the drive position **21** in the direction of the sports device **3**. In this way it is not possible to pivot the brake arms **17** out of the shown brake position **18**—in FIG. **3** in solid lines—into the drive position **21** indicated by dashed lines—in FIG. **2**. This is prevented by the locking bar **14** in its locking position **16** shown in FIGS. **3** and **4**.

[0060] In this way the sports device **3**, for example board, snowboard or ski, can no longer be used and therefore removal is only possible manually. This can attract great attention in ski areas and can be easily monitored by lift personnel or suitable control means, and in this way there is a high degree of security against theft.

[0061] Usually, a locking mechanism **9** of this kind with which the locking bar **14** is secured and locked in its locked position **16** is sufficient to prevent the theft of the sports device **3**.

[0062] Of course, it is also possible however to provide similar or other locking mechanisms **9** on other device parts **4** in addition to or instead of the arrangement with the brake device **5**. As can be shown in detail in FIG. **4**, the locking device **10** is installed in the brake pedal **12**.

[0063] Here the lock element **22** is inserted into a recess **32**, for example screwed into an internal thread of the brake pedal **12**. The lock element **22** that can be locked by key **13** has a locking element **23**, which in the present embodiment can be pivoted about a pivot axis **33** on which the locking bar **14** is fixed via the end section **24** projecting over the lock element **22**.

[0064] Of course, it is also possible however for the locking device **10** to use conventional locking cylinders and to install the latter into recesses **32** of the brake device **5** or other device parts **4**. The locking cylinder can here be used at the same time as a locking bar **14** but it is also possible to assign a separately activatable locking bar **14** to this locking cam.

[0065] Of course, it is also possible to use other conventional locking devices which can be secured by adhesion, screws, pressing or the like into the device parts **4** or the brake device **5**.

[0066] It is however also possible to use conventional padlocks, for example with number codes, which by use in different positions of the locking bar **14** permit or prevent the use of the device **1** or can be used to secure device parts **4** in the locked position **16**.

[0067] For this the adjustable device part is locked for example by a padlock in the locked position **16**.

[0068] As indicated schematically, the locking device **10** or the lock element **22** is allocated a heating device formed by a heating element **25**, in particular a heat cartridge **25**, which is pushed for example into a bore **41** of the brake pedal **12** and can be activated by a power storage element **26**, if necessary by screwing in a holding screw **27** or pushing in a pushbutton.

[0069] By means of this heating element **25** the locking device **10** can be heated briefly in order to permit the release of the brake pedal **12** even at extremely low outside temperatures by thawing and/or prevent the icing up of the locking device **10**.

[0070] Preferably, it is also possible to arrange the heating element **25** so that any ice formed between the locking bar **14** and the base part **11** can be removed.

[0071] It is of course also advantageous, if in particular the locking bar **14** is made from a material with low adhesive strength for ice, for example Teflon. This also applies to the surface parts of the base part **111** facing the locking bar **14**. As also seen in FIG. **4**, said base part **111** can be displaced in longitudinal direction in a C-shaped guide track **28** fixed to the sports device **3** and guided according to the height and side, and if necessary a connecting element **29** is provided for mounting the toe piece and/or heel piece **6**, **7**.

[0072] Because the locking bar **14** with the locking device **10** can be moved from the position of rest **15** shown by dashed lines in FIG. **2** into the locked position **16** shown by solid lines in FIG. **4**, the movement of the brake pedal **12** in the direction of the base part **11** is prevented—as required for the correct use of the sports device **3**. In this way by blocking the movement of the brake pedal **12** the unauthorised use of the sports device is prevented.

[0073] As the locking bar **14** projects into the space **53** accessible from the outside between the brake pedal **12** and the base part **11** of the brake device **5** it is also possible, in the case of icing up or sticking of the locking bar **14** on the base part **11** due to freezing, to detach the latter easily by mechanical action or by spraying on a de-icing means or the like, so that a high degree of operational reliability can be achieved even in extreme conditions of use, as is the case with sports devices **3**, but in particular with winter sports equipment.

[0074] In FIGS. **5** to **7** a further embodiment variant of a device **1** for connecting the sports shoe **2** with a sports device **3** is shown. A ski binding on a ski is used as an example of the device **1**, whereby the individual components and device parts **4** of this device **1** correspond to those according to FIGS. **1** to **4** and are denoted by the same reference numbers as in FIGS. **1** to **4** accordingly, even if they are not described in detail.

[0075] One of the device parts **4** of the device **1**, in particular the ski binding shown can be a central holding part **30**, by means of a which a distance **31** can be set and fixed between the toe piece **7** and the heel piece **6**, i.e. in principle the length of the shoe sole of the shoe **2**. The holding part **30** is designed, for example also as an independently acting holding device without adjusting screws, is known in various different embodiments from the prior art, and therefore it can be designed as in any of the known embodiments.

[0076] In the present embodiment the locking mechanism **9** is arranged inside said holding part **30** or on the latter. For this the locking device **10** is inserted into a recess **32** in said holding part **30**. This can be achieved in that the opening **48** can be formed by a bore **41** with an internal thread, in which the locking device **10** is screwed with an external thread. However, any other type of securing is possible, for example by pressing in or securing with securing means or by suitable adhesives.

[0077] The locking mechanism **9** comprises as well as the locking device **10** a locking bar **14**, which in its position of rest **15**—shown in a partly dashed lines in FIG. **5**—is located within the external periphery of the holding part **30**. If the locking bar **14** is to be used to prevent the incorrect use of the device **1** the locking bar **14** can be pivoted up about a pivot axis **33** from the position of rest shown in partly dashed lines in FIG. **5** into the locked position **16** shown partly by solid lines. In this locked position **16** the locking element **23** of the locking device **10**, for example can be formed by a locking pin displaceable in longitudinal direction of the locking device **10**, which can be advanced into an opening **48** in a securing tab **34**, and thereby the locking bar **14** is secured in its locked position **16** from pivoting back into the position of rest **15** and is locked by the locking device **10** in this position. After removing the key **13** shown in FIG. **8**, the locking bar **14** is fixed by the locking element **23** in its locked position **16** and prevents the incorrect use of the device **1**.

[0078] It is also shown in FIG. **7** that the locking bar **14** is mounted in a groove-shaped depression **35** at a sufficient distance **36** from the side walls of the groove shaped depression **35**, so that it is easily accessible from the outside at any time and any ice which would prevent the activation of the locking bar **14** can easily be removed.

[0079] For this purpose the groove shaped depression **35** is also deeper than the corresponding depth of the locking bar **14**, in order to prevent undesired sticking of the locking bar **14** in the depression **35** caused by freezing or hard pressed snow.

[0080] Here too, the selection of an ice-repelling material can be very advantageous.

[0081] As shown schematically in FIG. **8**, instead of the embodiment of the locking mechanism **9** shown in FIGS. **5** to **7**, in which the latter is arranged, the holding part **30** can be arranged in the region of a standing plate **37** in the area of the toe piece **7**. The arrangement of the locking mechanism **9** in a depression **35** formed in the standing plate **37** is achieved according to the above embodiments with corresponding play with the locking bar **14** in order to permit the action according to the invention.

[0082] The locking bar **14** is shown lying in its position of rest **15** indicated by solid lines and in its locked position **16** by dashed lines.

[0083] In FIGS. **8**, **9**, and **10** a further embodiment of the locking mechanism **9** according to the invention is shown by way of a single device **1** for connecting a sports shoe **2** with a sports device **3**, for example a ski binding. For this both in the toe piece **7** and in the heel piece **6** a locking mechanism **9** is arranged, whereby it is of course possible to provide both such locking mechanisms **9** on a single device **1** or to select one of the two.

[0084] The lock element **22** shown in FIG. **10** and on an enlarged scale partly in cross section in FIG. **9** comprises at least one locking element **23**, and the lock element **22** is inserted into the locking mechanism **9** and is removable and by means of a key **13** can be locked in its position inserted into the device element **4**. The locking bar **14** is mounted displaceably in a guide track **28** formed by a guiding slot **38** in the longitudinal direction of the device **1** or the sports device **3** on a housing part **39** of the toe piece **7**. In the housing part **39** an external, optionally used locking device **10** of the locking mechanism **9** is installed, the locking element **23** of which secures for example a pivotable or retractable pin or locking arm, in the locked position shown in the present FIG. **9** against movement in the position of rest **15**—shown by dashed lines. For this the housing of the locking device **10** can lock the front side of the locking bar **14** facing the latter, if it is inserted into a recess **32** and is locked or secured by activating the key **13** in the latter.

[0085] After locking the locking element **23** by means of the locking device **10** by the key **13** and after removing the latter, the device **1** is protected from unauthorised use.

[0086] Here too the parts of the locking bar **14** lie on the top of the toe piece **7** and in this way simple operation can be achieved.

[0087] A different embodiment of the device **1** is shown in the region of the heel piece **6** in FIG. **9**. In this case the locking mechanism **9** consists of a cylindrical, external and if necessary removable locking device **10** in which a locking element **23** that is rotatable relative to its housing **40** is arranged. After pushing the cylindrical housing **40** into a bore **41** of the base part **11** by means of the key **13** the locking element **23** can be pivoted into a recess **32** inside the base part **11** and locked there. After removing the key **13** the locking device **10** is arranged so that the housing **40** thereof projects into the area which is normally required for mounting the ski shoe in the heel piece **6**. In this way the device **1** cannot be used and because the locking device **10** is used firstly immediately prior to use in the heel piece **6** it is possible to keep the latter warm in the intervening time, e.g. it can be carried in ski clothing so that the insertion and locking is possible without any problems caused by ice or the like.

[0088] In FIGS. **11** and **12** a different embodiment of the device **1** for connecting a sports shoe **2** with a sports device **3**, for example a snowboard binding, is shown in a schematically shown toe piece **7**.

[0089] The device **1** is allocated a locking mechanism **9** by means of which the use of the device **1** can be prevented.

[0090] For this a locking bar **14** pivotable about a pivot axis **43** is arranged on the toe piece **7**. The locking bar **14** is formed by a pivot arm which is divided by the pivot axis **33** into a longer and shorter lever part. The longer lever part is provided for pivoting into the free space required for inserting the shoe **2** into the device **1**—as shown by solid lines in the locked position **16**—against which the shorter part of the locking mechanism **9** or the locking device **10** is allocated. Said locking device **10** comprises a cylindrical rotatable locking pin, which on one of its longitudinal sides is provided with a flattened part **44** in partially an eccentric. By pivoting the locking element **23** into the position shown in solid lines in the locked position **16** the locking bar **14** is prevented from pivoting back from the locked position **16** shown by solid lines into the position of rest **15** shown by dashed lines.

[0091] For adjustment the locking element **23** needs to be pivoted so that the flattened part **44** faces the locking bar **14**, after which the latter can be pivoted into its position of rest **15**—shown by dashed lines. After pivoting back the locking bar **23** into the original position the locking bar **14** is prevented from pivoting into the free space for mounting the shoe in the device **1**.

[0092] Because the locking bar **14** lies as a whole outside the housing of the toe or heel piece **7**, **6** a perfect actuation and also an operationally reliable operation is achieved in difficult environmental conditions such as very low temperatures with the risk of ice.

[0093] In FIG. **13** a different embodiment of a locking mechanism **9** is shown in the region of the rear holding element **50** of a device **1** designed as a snowboard binding. Said device **1** is composed of the base plate **55**, the housing elements **49**, **50** for a sports shoe **2**, the calf support, the locking coupling **56** and other device parts **4**.

[0094] The locking mechanism **9** can be arranged on one of the holding elements **49**, **50** in the locking device to fix a sports shoe **2**, or in a different area of the holding elements **49**, **50**.

[0095] These holding elements **49**, **50** designed as holding bands are composed of two mutually telescopic adjustable bands, whereby a coupling device or the like is allocated to one of the holding bands **49**, **50** and a counter coupling device is allocated to the opposite band. The locking device shown here is known like many similar ones from the prior art.

[0096] The holding bands **49**, **50** comprise detent couplings **56**, which engage in locking teeth, which is arranged on the opposite holding band. The holding band with the locking teeth is guided by the detent coupling **56** of the other holding band and by means of the latter the sports shoe **2** is fixed into the device **1**. By means of this detent arrangement a fine adjustment can be achieved for each size of sports shoe **2**. The locking mechanism **9** is provided in one of the detent couplings **56** on the front or rear holding elements **49**, **50**.

[0097] By arresting the holding bands **49**, **50** via the detent coupling **56** and the subsequent locking of the locking mechanism **9** the latter can no longer be separated from one another. In this way it is impossible to climb into the device **1** as it can no longer be fitted to the foot of a user. The unnoticeable theft of the device **1** is therefore made more difficult.

[0098] Here too external lock parts **22**, such as attachable locking mechanisms **9** can be provided, e.g. a padlock, the lock stirrup of which is guided through bores in the overlying holding elements **49**, **50**.

[0099] FIG. **14** shows a different embodiment of a device **1**, in particular a soft binding for a snowboard, consisting of a base plate **55**, the holding elements **49**, **50**, the calf support **51** and additional device parts **4**.

[0100] Here the pivotable calf support is used and provided with a locking mechanism **9**. An external lock element **22** can be inserted into a bore in the calf support. The lock element passes through the calf support **51** in the pivoted away position of the highback and is secured into a bore **41** of the base plate **55**. If the locking mechanism **9** is locked the calf support is prevented from pivoting and covers the area of use for a sports shoe **2** of the device **1**, so that the latter cannot be used, as shown by solid lines.

[0101] FIGS. **15** and **16** show a further embodiment of a device **1**, in particular a step-in binding or a so-called hard boot binding for snowboards, as already known from the prior art. With the latter the front holding stirrup **52** can be adjusted by the pivot axis **33** into a lowered position and locked by means of a locking mechanism **9**, from which a retractable pin projects in the locked state—as shown by solid lines. Thus it is not possible to pivot the holding stirrup **52** out of its lowered position. Because of the relatively short distance **26** in the installation of this locking mechanism **9** and due to the easy accessibility from both sides this locking device **10** can also be easily released if one of the parts becomes stuck.

[0102] As the installation of this locking mechanism **9** mostly does not occur in a plastic housing, but in a metal housing, made in particular of titanium or alloy metals, it is possible, in the case of freezing or sticking, to heat the latter slightly with a lighter and the like and thus melt the ice.

[0103] In the individual embodiments according to FIGS. **1** to **16** the locking mechanism **9** can also be welded into, welded onto, adhered onto, adhered into, screwed or pressed etc. into the device **1**.

[0104] Lastly, for form's sake it should be noted that for a better understanding of the structure of the device **1**, the latter and its components have been shown partially untrue to scale and/or enlarged and/or reduced in size.

[0105] The embodiments show possible embodiment variants of a device **1**, whereby at this point it should be noted than the invention is not restricted to the specifically shown embodiments, but rather diverse combinations of the individual embodiments are possible and this possibility of variation lies within the ability of a person skilled in this technical field on the basis of the teaching on technical procedure. Thus, all conceivable embodiments which are possible by combining individual details of the shown and described embodiments are covered by the scope of protection.

[0106] Most of all, the individual embodiments shown in FIGS. **1** to **16** can form the subject matter of independent solutions according to the invention. The objectives and solutions according to the invention can be taken from the detailed descriptions of the figures.

LIST OF REFERENCE NUMBERS

[0107]

1	Device
2	Sports shoe
3	Sports device
4	Device part
5	Brake device
6	Heel piece
7	Toe piece
8	Binding plate
9	Locking mechanism
10	Locking device
11	Base part
12	Brake pedal
13	Key
14	Locking bar
15	Position of rest
16	Locked position
17	Brake arms
18	Brake position
21	Drive position
22	Lock part
23	Locking element
24	End part
25	Heating element/heating cartridge
26	Power storage element
27	Holding screw
28	Guide track
29	Connecting element
30	Holding part
31	Distance
32	Recess
33	Pivot axis
34	Securing tabs
35	Groove-shaped depression
36	Distance
37	Standing plate
38	Guiding slot
39	Housing part
40	Housing
41	Bore
42	Base blade
43	Pivot axis
44	Flattened part
45	Locking pin
46	Adjusting element
47	Top side
48	Opening
49	Front holding element
50	Rear holding element
51	Calf support
52	Holding stirrup
53	Free space
54	Adjusting element
55	Base plate
56	Detent coupling

1. Device (**1**) for connecting a sports shoe (**2**) with a sports device (**3**), in particular a shoe with a snowboard or a ski, or for braking a sports device (**3**), consisting of at least one of the device parts (**4**), such as a toe piece (**7**), a heel piece (**6**), a binding plate (**3**), a brake device (**5**) and a locking mechanism (**9**) allocated to at least one of said device parts (**4**), which is arranged in one of said device parts (**4**) and comprises a locking bar (**14**), which can be displaced relative to a base part (**11**) of the device parts (**4**) and can be secured and locked at least in one of its end positions by a locking device (**10**), wherein the locking bar (**14**) can be displaced from a position of rest (**15**) lying outside the user-defined movement space between the base part (**11**) and an adjusting element (**54**) of the device parts (**4**) or between

at least one of the latter and the shoe, into a locked position (**16**) in this movement space projecting over at least one of the device parts (**4**) or its base or adjusting element (**11**, **54**) and can be secured at least in the locked position by the locking device (**10**).

2. Device (**1**) according to claim 1, wherein the locking bar (**14**) in the locked position (**16**) is arranged in a free space (**53**) accessible from the outside between the device parts (**4**) or the parts of the device parts (**4**) that are adjustable relative to one another, such as the base part (**11**), the adjusting part (**54**) or the like.

3. Device (**1**) according to claim 1, wherein the locking bar (**14**) secures the adjusting element (**54**) of the device parts (**4**) in one of its end positions

4. Device (**1**) according to claim 1, wherein the locking bar (**14**) of the locking mechanism (**9**) in its locked position (**16**) secures the adjusting element (**54**) of the brake device (**5**) in its brake position (**13**).

5. Device (**1**) according to claim 1, wherein the locking bar (**14**) of the locking mechanism (**9**) in its locked position (**16**) projects via the binding plate (**3**) into the movement area required for inserting a ski shoe (**2**) between the toe and heel pieces (**7**, **6**).

6. Device (**1**) according to claim 1, wherein the locking bar (**14**) of the locking mechanism (**9**) in its locked position (**16**) projects over the device parts (**4**) into the movement area required for inserting the shoe and is secured.

7. Device (**1**) according to claim 1, wherein the locking bar (**14**) with the locking device (**10**) can be designed to be adjustable between its position of rest and locked position (**15**, **16**).

8. Device (**1**) according to claim 1, wherein the locking bar (**14**) is secured at least in its locked position (**16**) to a locking element (**23**) of the locking device (**10**).

9. Device (**1**) according to claim 1, wherein the locking element (**23**) partly overlaps the locking bar (**14**).

10. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) consists of a lock element (**22**), the locking elements (**23**) with a locking device (**10**) and is arranged in one of the device parts (**4**).

11. Device (**1**) according to claim 1, wherein the lock element (**22**) of the locking device (**10**) is arranged in one of the device parts (**4**), and its locking element (**23**) projects over the latter up to the locking bar (**14**).

12. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) and/or the locking device (**10**) or at least its lock element (**22**) or locking elements (**23**) is allocated a heating element (**25**).

13. Device (**1**) according to claim 1, wherein a heating element (**25**) is allocated to the locking bar (**14**).

14. Device (**1**) according to claim 1, wherein a switch in the form of a push button or a screw is allocated to the heating element (**25**).

15. Device (**1**) according to claim 1, wherein at least the locking element (**23**) or the locking bar (**14**) is made from a material with low adhesive strength for snow and/or ice.

16. Device (**1**) according to claim 1, wherein the locking bar (**14**) is arranged between the brake pedal (**12**) and the base part (**11**) of the brake device (**5**).

17. Device (**1**) according to claim 1, wherein the locking device (**10**) for the locking bar (**14**) is incorporated into the brake pedal (**12**).

18. Device (**1**) according to claim 1, wherein the locking device (**10**) is arranged for arresting and locking the locking bar (**14**), at least in the base part (**11**) of the brake device (**5**).

19. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) with its locking device (**10**) is arranged in the holding part (**30**).

20. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) with its locking device (**10**) in the holding part (**30**) is provided with a recess (**32**) that is freely accessible from the outside.

21. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) comprises several locking bars (**14**).

22. Device (**1**) according to claim 1, wherein the locking bar (**14**) is arranged in a groove-shaped depression (**35**).

23. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) with its locking device (**10**) consists of an external lock element (**22**) with its locking elements (**23**) and its key (**13**).

24. Device (**1**) according to claim 1, wherein a position in a locking mechanism (**9**) is determined for the external lock element (**22**) by a bore (**41**) and said lock element (**22**) is inserted into the latter for locking.

25. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) with its locking device (**10**) and its lock element (**22**) is arranged in either the heel piece (**6**) and/or the toe piece (**7**).

26. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) with its locking device (**10**) and its lock element (**22**) is arranged in one of the sections between the heel piece (**6**) and the toe piece (**7**).

27. Device (**1**) according to claim 1, wherein the locking device (**10**) can be mounted onto one of the device parts (**4**).

28. Device (**1**) according to claim 1, wherein the locking mechanism (**9**) can be pivoted, adjusted, fixed and locked by the device (**1**) onto one of the holding elements (**49**, **50**) for a sports shoe (**2**) on a base plate (**55**).

29. Device (**1**) according to claim 1, wherein the lock element (**22**) of the locking mechanism (**9**) in its locked position projects through a calf support (**51**) hinged pivotably on a base plate (**55**) of the device (**1**) and turned towards the latter into a bore (**41**) in the binding plate.

30. Device (**1**) according to claim 1, wherein the base plate (**55**) in the front region of the device (**1**) for a sports shoe (**2**) is allocated a holding stirrup (**52**), which is pivotably mounted about a pivot axis (**33**), and the latter is prevented from opening by means of a locking mechanism (**9**) in the front lateral web of the device (**1**).

31. Device (**1**) according to claim 1, wherein preferably an adjustable cover is allocated to the locking mechanisms (**9**).

32. Device (**1**) according to claim 1, wherein the external lock element (**22**), that can be inserted if necessary into one of the device parts (**4**), is locked when the locking bar (**14**) in the device part (**4**) is in the locked position (**16**).

33. Device (**1**) according to claim 1, wherein the lock element (**22**) with the locking bar (**14**) in the position of rest (**15**) can be removed from the device part (**4**).

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