

Jan. 18, 1938.

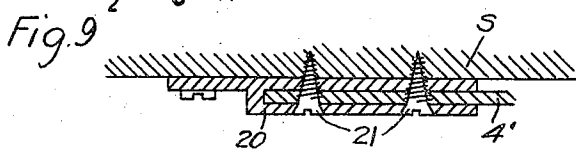
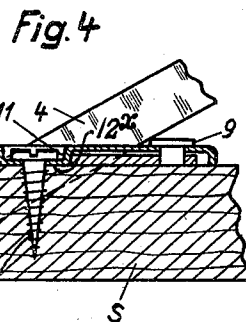
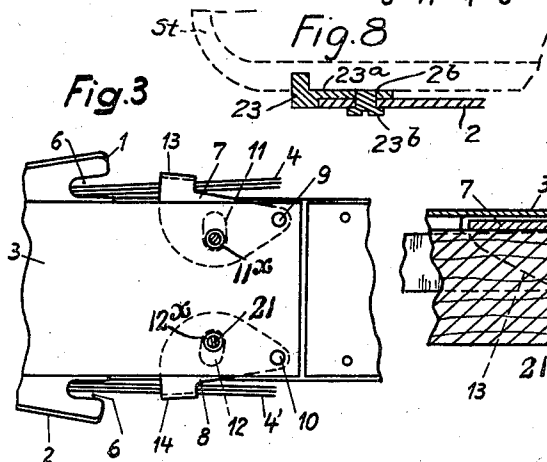
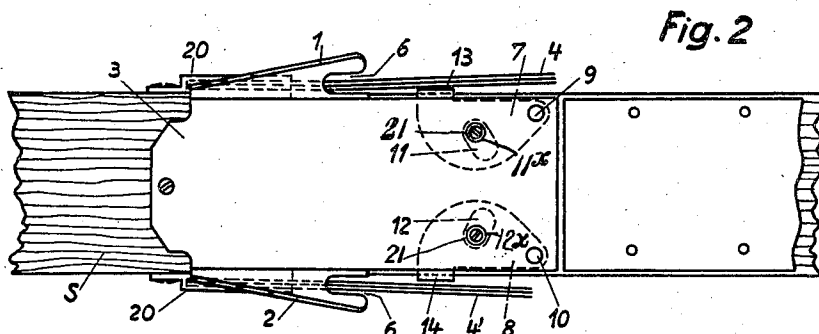
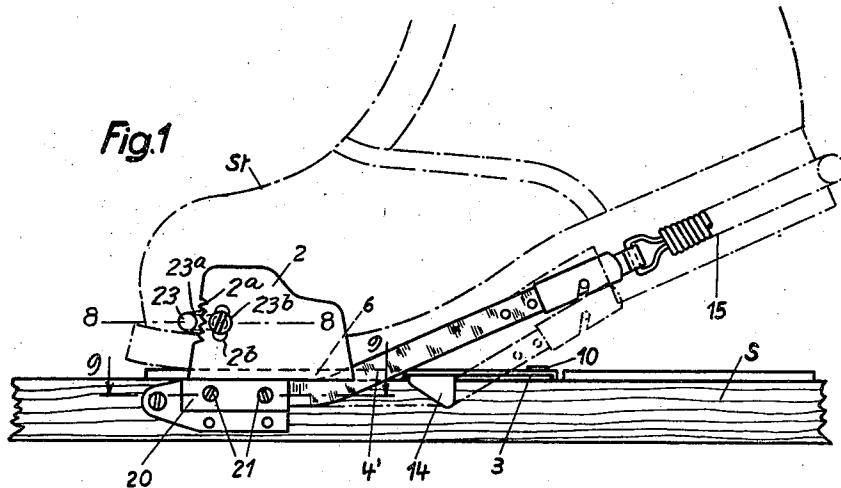
A. ATTENHOFFER

2,106,110

SKI ATTACHING DEVICE

Filed Oct. 25, 1935

2 Sheets-Sheet 1



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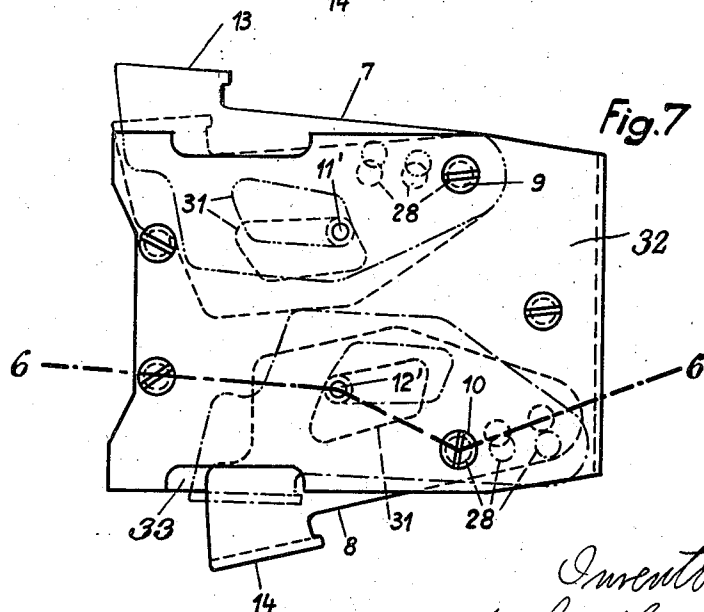
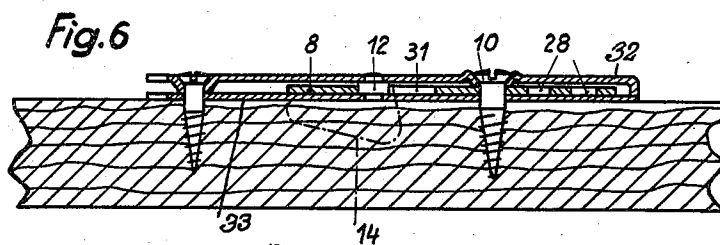
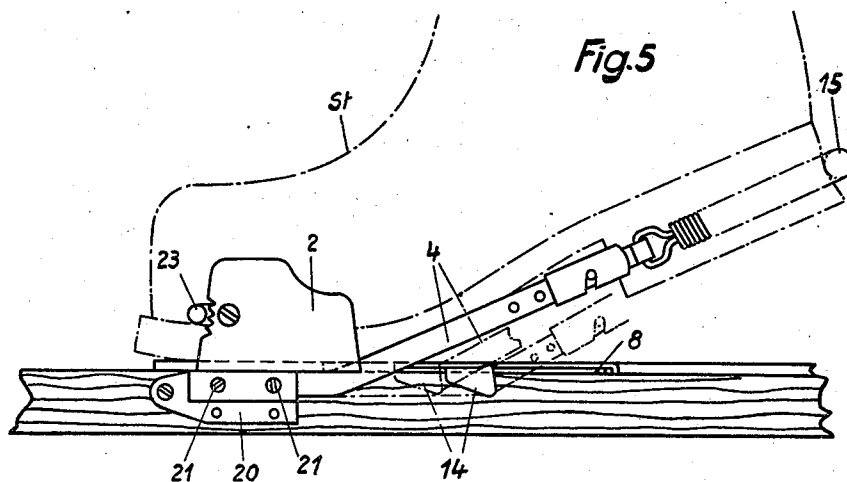
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A. ATTENHOFER
SKI ATTACHING DEVICE

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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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SKI ATTACHING DEVICE

Adolf Attenhofer, Zurich, Switzerland

Application October 25, 1935, Serial No. 46,700
In Switzerland October 31, 1934

13 Claims. (Cl. 280—11.35)

The invention relates to a ski attaching device with a resilient heel pulling device of which the resilient ski diagonal pulling component can be adjusted selectively.

5 In connection with ski attaching devices it is desirable to allow the foot to move as free from obstruction as possible when walking uphill. The foot should be attached to the ski so as to be capable of being tilted upwardly easily. During downhill travel, jumping and so forth it is, how-
10 ever, of considerable advantage when the ski is drawn effectively by the attaching device to the sole of the boot. Endeavours have already been made to obtain this result by the provision of
15 rigid supporting points for the heel pull at the ski cheeks. The heel pulling member was then fitted into the corresponding supporting point according to the action required. This construction, however, is associated with a series of considerable disadvantages of which the principal
20 one resides in the fact that the supporting points constantly project laterally of the ski cheeks, whether they are used or not, and obstruct the ski in its travel. In addition it is extremely inconvenient, as is well known, to have laterally projecting metal parts in the vicinity of the attachment of the ski. These are easily liable to cause injuries or at least easily damage the boot.

25 These disadvantages are adapted to be eliminated by the ski attachment according to the invention. This is characterized in that the guide parts for the heel pulling device can be moved into the path of the heel pulling device and out of this when not required. In order to enable the strength of the diagonal pull to be
30 adjusted the guide parts may also be adjusted in the longitudinal direction of the ski.

Two examples of construction of the subject of the invention are shown in the accompanying
40 drawings, wherein:—

Fig. 1 shows the first form of construction of the attachment in elevation.

Fig. 2 shows a plan thereof,

Fig. 3 is a detail plan view of a portion of the
45 invention.

Fig. 4 is a detail sectional view taken on the line 4—4 of Fig. 3.

Fig. 5 is an elevation of an attachment wherein the guide members are adjustable in the longitudinal direction of the ski, whilst,

Fig. 6 is a section on the line 2—2 of Fig. 7.

Fig. 7 is a plan view of the attachment shown in Fig. 5.

Fig. 8 is a sectional view taken on the line 8—8
55 of Fig. 1, and

Fig. 9 is a sectional view taken the line 9—9 of Fig. 1 on an enlarged scale.

The attachment shown in Figs. 1 to 4 consists of adjustable toe cheeks 1, 2. Underneath the toe cheeks 1, 2, substantially at the point at which is
5 located the pivot of the boot St, heel pulling straps 4, 4' are secured to the wood of the ski S, for example by means of screws, nails or the like. In order to prevent premature wear of the leather straps 4, 4', at their points of attachment, which
10 are particularly subjected to wear by reason of rough usage or by tilting by the skier, a protecting casing 20 is secured at this point by screws 21. In order to permit of unobstructed upward
15 rocking of the boot the horizontal limb parts of the toe cheek parts 1, 2 are provided with recesses 6. On a metal part, for example the cover plate 3, are provided means for the application of guide means for the heel pulling member. In the form of construction shown these guide means
20 consist of levers 7, 8 which can be rocked about the pins 9, 10. The amplitude of movement of the levers 7, 8 is limited by the slots 11, 12 with which stops 11', 12' on the cover plate 3 engage. The levers 7, 8 are bent downwardly at right
25 angles at their free lateral ends to form lugs 13, 14.

The use of the device described is such that when walking uphill, that is to say when a strong diagonal pull is not desired, the heel pulling straps 4, 4' have no obstruction in its upward
30 tilting path and can be moved up and down freely between the recesses 6 without being obstructed in its tilting path. When travelling downhill and when jumping, when a strong diagonal pull is very desirable, the levers 7, 8 are moved into the
35 position of use so that their lugs 13, 14 project over and outside of the heel pulling straps 4, 4', as shown in Fig. 3. When not required for use, the levers 7, 8 are simply returned by hand directly against the ski cheeks so that only their
40 lugs 13, 14 project from under the cover plate 3.

Instead of mounting the pivoted levers 7, 8 on the cover plate 3 itself they may be pivoted on the screw 10 which passes through the cover plate 32 and the base plate 33, see Fig. 6.

The attachment shown in Figs. 5 to 7 also preferably consists of toe cheeks in which the boot St for example is held by sole holders 23 consisting of lugs that project upwardly over the flange of the shoe sole. Underneath the horizontal supporting limbs of the toe cheeks there is provided
50 a casing 20 in which are located the free ends of the heel pulling strap 4, 4' secured to the ski wood by screws 21, as shown in Fig. 9 of the drawings.

Fig. 8 shows the toe cheek 2 having teeth 2^a which engage the toe holder 23. 23 holds the sole of the boot St down against the cover plate 3, thus 23 takes the place of a toe strap. The toe holder 23 is carried by a plate 23^a which is threaded to receive the screw 23^b. The toe cheek 2 is slotted at 2^b to receive the screw 23^b.

As described in connection with Figs. 1 to 4 guide members 7, 8 are provided in the path of the heel pulling straps 4, 4' which are pivotally mounted in such a manner that they can be rocked into or out of the path of the heel pulling strap. In order to enable the magnitude of the diagonal pull to be adjusted the guide members 7, 8, are made adjustable in the longitudinal direction of the ski. As shown particularly in Fig. 7 the guide members 7, 8 are provided with a number of holes 28, one behind the other, through which screws 9, 10 can be screwed into the ski wood. According as to whether the screws 9, 10 are passed through the front, middle or rear one of the three holes 28 the guide members 7, 8 come to lie more or less near the heel of the boot St, whereby the diagonal pull can be substantially varied.

In Fig. 7 the lower half of the attachment shows the guide member 8 in the rearmost position and the upper part shows the member 7 in the foremost position. In order to prevent the members 7, 8 from being swung outwardly too far stops 11', 12' are provided which project into recesses 31 of the parts 7, 8.

In combination with the heel pulling straps 4, 4' there is again preferably used a resilient strap 15.

In Fig. 5 the dotted lines show the position of the heel pulling member 4 in various positions of the guide members 7, 8. From this figure it will be seen that the diagonal pull can be varied within wide limits.

It will be understood that any suitable number of holes 28 may be provided in order to obtain a large range of adjustability and a possibility of fine adjustment.

It should be understood that various modifications and changes in the details of construction and arrangement of parts can be made without departing from the spirit of the invention and the scope of the appended claims.

What I claim is:

1. In a device for attaching a ski to footwear, the combination with a resilient heel pulling member of a pair of guide members pivotally mounted on the ski, said guide members being capable of being moved into and out of the path of the heel pulling member to selectively vary the diagonal pull of said heel pulling member.

2. In a device for attaching a ski to footwear, the combination with a resilient heel pulling member of a pair of guide members pivotally mounted on the ski, said guide members being capable of being moved into and out of the path of the heel pulling member and means for adjusting said guide members in the longitudinal direction of said ski to selectively vary the diagonal pull of said heel pulling member.

3. In a device for attaching a ski to footwear, the combination with a resilient heel pulling member of a pair of guide members being capable of being moved into and out of the path of the heel pulling member and means for adjusting and locking said guide members in the longitudinal direction of the ski to selectively vary the diagonal pull of said heel pulling member.

4. In a device for attaching a ski to footwear,

the combination with a resilient heel pulling member, a pair of pivots on the top of the ski, a pair of guide members pivotally mounted one on each of said pivots, and downwardly extending lugs on said guide members said guide members being adapted to be moved into and out of the path of the heel pulling means to selectively vary the diagonal pull of said heel pulling member.

5. In a device for attaching a ski to footwear, the combination with a resilient heel pulling member of a pair of guide members pivotally mounted on the ski, said guide members being capable of being moved into and out of the path of the heel pulling member, and means for limiting the pivotal movement of said guide members to selectively vary the diagonal pull of said heel pulling member.

6. In a device for attaching a ski to footwear, the combination with a resilient heel pulling member of a pair of guide members pivotally mounted on the ski, said guide members being capable of being moved into and out of the path of the heel pulling member, said guide members having slots therein, and pins on the ski, said pins being adapted to engage with said slots for limiting the pivotal movement of said guide members to selectively vary the diagonal pull of said heel pulling member.

7. In a device for attaching a ski to footwear, the combination with a resilient heel pulling member of a pair of guide members pivotally mounted on the ski, said guide members being capable of being moved into and out of the path of the heel pulling member, each of said guide members having therein a plurality of spaced holes arranged in alignment, and a pair of pins on said ski, said pins being adapted to engage one with one of the holes of each of said guide members so as to form the pivotal point therefor to selectively vary the diagonal pull of said heel pulling member.

8. In a device for attaching a ski to footwear, the combination with a resilient heel pulling member of a pair of guide members pivotally mounted on the ski, said guide members being capable of being moved into and out of the path of the heel pulling member, each of said guide members having therein a plurality of spaced holes arranged in alignment, and a pair of pins on said ski, said pins being adapted to engage one with one of the holes of each of said guide members so as to form the pivotal point therefor, each of said guide members having an enlarged opening therein, and a second pair of pins on the ski, said latter pins being adapted to engage one with each of said openings for limiting the pivotal movement of said guide members to selectively vary the diagonal pull of the heel pulling member.

9. A device for attaching a ski to footwear comprising a pair of toe cheeks adapted to be secured to the ski, a cover plate, a resilient heel strap, a pair of casings secured to the ski adjacent said toe cheeks one casing for each end of said strap, and a pair of guide plates pivotally mounted on the cover plate for restricted pivotal movement into the path of said strap.

10. The combination with a ski having toe cheeks and a resilient heel pull anchored to the ski adjacent the toe cheeks and passing rearwardly to embrace the heel of a shoe when the latter is in position on the ski, of at least one laterally shiftable guide member under which, when it is shifted laterally outward from the ski

into the path of the heel pull, the heel pull may be placed, said guide member when shifted laterally toward the ski lying against the same out of the path of the heel pull.

5 11. The combination with a ski having toe cheeks and a resilient heel pull anchored to the ski adjacent the toe cheeks and passing rearwardly to embrace the heel of a shoe when the latter is in position on the ski, of at least one laterally shiftable longitudinally adjustably mounted guide member under which, when it is shifted laterally outward from the ski into the path of the heel pull, the heel pull may be placed, said guide member when shifted laterally toward the 10 ski lying against the same out of the path of the heel pull. 15

12. An attachment for skis having cheek plates and a resilient heel strap anchored adjacent said cheek plates, said attachment comprising at least one guide element movably mounted on the ski to the rear of said cheek plates and shiftable laterally into and out of the path of said heel strap, for purposes described. 5

13. An attachment for skis having cheek plates and a resilient heel strap anchored adjacent said cheek plates, said attachment comprising at least one guide element movably mounted on the ski to the rear of said cheek plates and shiftable laterally into and out of the path of said heel strap, and means to mount said guide element for adjustment longitudinally of the ski. 10 15

ADOLF ATTENHOFER.