

UNITED STATES PATENT OFFICE

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SKI FASTENING DEVICE

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The present invention relates to ski fastening devices of the kind, wherein two iron ears attached to the ski form bearings for pins passing from outside through the ears to their inner side in order to enter into a yielding locking engagement with the shoe sole.

According to this invention each of the said ski irons is made as a horizontal guide for the shoe sole and is provided with an inwardly directed portion which contacts with the top surface of the sole edge or with the top surface of a metallic mounting attached to the sole.

The ski is fixed simply by pushing the shoe forward in between the two guides, whereby the pins will firstly be forced aside and then snap in again into engagement with the shoe sole.

When the ski is to be removed, the two pins are released in well-known manner. In order that this may be performed easily, the device according to the invention is so constructed that the two pins which pass from outside inwards through the guides constitute the two ends of a springy wire bow adapted to be swung forward into contact with the ski upperside, and on the exterior side of the guides projecting inclined members are provided, their shape being thus that the bow branches are in contact with the inclined planes of said members during the swinging up of the bow and are forced thereby so far outwards opposite the spring action that the bow pins are released from their engagement with the shoe sole.

An embodiment of the invention is illustrated in the accompanying drawing, wherein Fig. 1 is an elevation of the fastening device and parts of shoe and ski. Fig. 2 is a plan view corresponding thereto. Fig. 3 is a cross sectional view on the line III—III of Fig. 2 looking in the direction of the arrows at the section line. Figs. 4-7 are perspective views showing different forms of a shoe mounting.

To the ski 1, preferably on its top surface, two horizontal guides 2 of U-shaped cross section are attached (see Fig. 3), said guides proper being located above each lateral side

of the ski. These guides are located inclined to the ski middle line in such a manner (see Fig. 2) that the sole 4 of the shoe 3 may be pushed horizontally in between and into them as clearly shown in the drawing. The lateral edges of the sole will thereby pass in between the guides, so that the upper int-turned top edge 5 thereof will contact with the top surface of the sole edge on a suitable length.

In order to retain the shoe in the guides a pin 6 is arranged for each guide. This pin passes from outside through a hole in the guide and tends by spring action to take its innermost position (Figs. 2, 3), wherein the pins 6 project a suitable distance beyond the inside of the guides and are retained in engagement with the shoe sole 4 or preferably with a metallic mounting 10 attached thereto.

According to Figs. 1-4 this mounting which is fastened in any suitable manner is so designed that an upper and a lower horizontal edge portion 7 and 8 respectively thereof project around the sole edge. Each mounting is provided with a hole or bore 9 of such a location that the pins 6 will automatically snap into these bores or holes 9 when the shoe 3 is pushed into the guides 2.

Consequently, the pins 6 serve only to prevent the shoe from being pulled backwards out from the guides, whereas the top edges 5 prevent the shoe 3 from moving upwards.

It will be obvious that the holes 9 and the pins 6 may be arranged at any height in relation to the shoe sole 4. According to Fig. 5 the holes 9 are substituted by an open notch 11 on the top side of the sole 4 or of the mounting 10. According to Fig. 6 the notch 12 is arranged on the bottom side. Finally, according to Fig. 7 the hole is widened upwards and downwards, whereby the mounting 10 is formed by two separate parts 10a, 10b leaving a vertical slot 13 between them. In this case the mounting part 10a may be totally removed, if the parts are so adjusted that the mountings 10b have moved past the pins 6, just at the moment the inclined or converging guides 2 are stopping the shoe in its foremost position.

The two pins 6, according to the invention,

are made as in-turned ends of a springy wire-bow 14 which extends forwards in front of the shoe 3 and preferably engages the ski topside loosely. In this position either of the bow portions just before the pins 6 engages a projection 15 forming an inclined plane on the exterior side of the respective guide. As the two bow branches tend to move towards one another by the spring-action of the wire, the said inclined planes will have the effect to press the bow down upon the ski. The inclined planes on the projections 15 are so shaped and located that the two bow branches, when the bow 14 is swung up into inclined position as indicated by dash-and-dot lines in Fig. 1, are ascending the inclined planes and are forced to move together with the pins 6 horizontally outwards. In this position each bow branch falls into a small recess 16 made in the respective projection 15 and is thereby retained in this definite position, wherein the pins are retracted so much as to be without engagement with the shoe sole 4 or its mountings. The shoe may then without any hindrance be pulled out again from the guides 2.

Claims.

1. Ski fastening device comprising two spaced irons attached to the ski so as to constitute lateral guides for the shoe, an in-turned portion forming an integral part of each iron and making contact with the upper side of the opposite shoe sole edge portions when the shoe is in position on the ski so as to guide the shoe horizontally and prevent its upward movement relatively to the ski when the shoe is pushed into the guides, in combination with spring-acted pins passing from outside through either iron into engagement with the shoe sole when the same is in position in the device.

2. Ski fastening device comprising two spaced irons attached to the ski so as to constitute lateral guides for the shoe, an in-turned portion on each iron making contact with the upper side of opposite metallic mountings attached to the shoe sole when the shoe is in position on the ski so as to guide the shoe horizontally and prevent its upward movement relatively to the ski when the shoe is pushed into the guides, and spring-acted pins passing from outside through either iron into engagement with the shoe sole mountings, when the shoe is in position in the device.

3. Ski fastening device comprising two spaced irons attached to the ski so as to constitute lateral guides for the shoe, a springy wire bow having in-turned ends forming pins passing from outside through holes in said irons and to thereby enter into engagement with the shoe when the same is in position on the ski, members arranged on the outside of each iron and adapted to co-operate with portions of the bow branches in such a manner as to force the pins out from engagement

with the shoe sole during an upward swinging of the bow about the pins as a fulcrum.

4. Ski fastening device comprising two spaced irons attached to the ski so as to constitute lateral guides for the shoe, a springy wire bow having in-turned ends forming pins passing from outside through holes in said irons and to thereby enter into engagement with the shoe when the same is in position on the ski, members arranged on the outside of each iron and provided with inclined planes co-operating with portions of the bow branches in such a manner as to force the pins out from engagement with the shoe sole during an upward swinging of the bow about the pins as a fulcrum.

5. Ski fastening device comprising two spaced irons attached to the ski so as to constitute lateral guides for the shoe, a springy wire bow having in-turned ends forming pins passing from outside through holes in said irons and to thereby enter into engagement with the shoe when the same is in position on the ski, members arranged on the outside of each iron and provided with inclined planes co-operating with portions of the bow branches in such a manner as to force the pins out from engagement with the shoe sole during an upward swinging of the bow about the pins as a fulcrum, each inclined plane having a recess of such a location as to constitute a retaining bearing for the bow in the position, wherein the pins are retracted from engagement with the shoe.

6. Ski fastening device comprising two spaced irons attached to the ski so as to constitute lateral guides for the shoe, a springy wire bow having in-turned ends forming pins passing from outside through holes in said irons and to thereby enter into engagement with the shoe when the same is in position on the ski, members arranged on the outside of each iron and provided with inclined planes co-operating with portions of the bow branches in such a manner as to force the pins out from engagement with the shoe sole during an upward swinging of the bow about the pins as a fulcrum, each inclined plane having such a shape as to tend to press the foremost portion of the bow down upon the ski topside when the pins are in engaging position.

In testimony whereof I have signed my name to this specification.

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