No. 802,251. PATENTED OCT. 17, 1905.

S. S. ANDERSEN.

FASTENING MEANS FOR SKEES.

APPLICATION FILED FEB. 17, 1905.

Fig. 1.

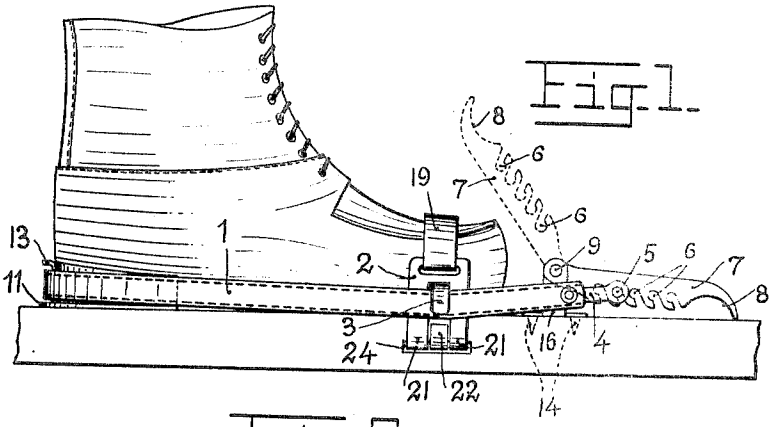


Fig. 2.

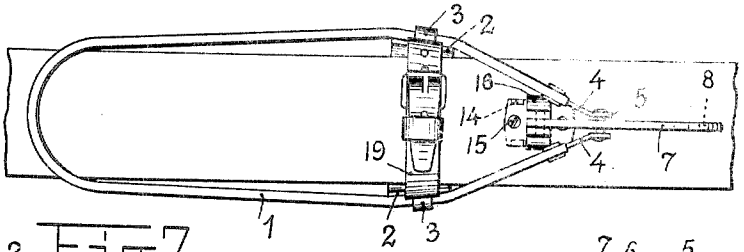


Fig. 7.

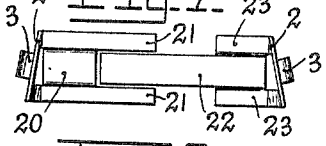


Fig. 4.

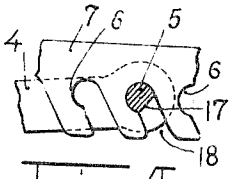


Fig. 8.

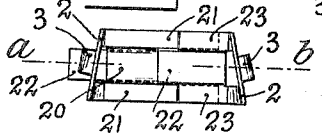


Fig. 9.

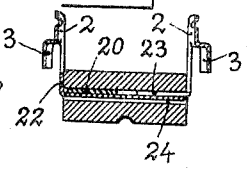


Fig. 3.

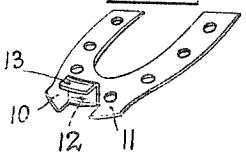


Fig. 5.

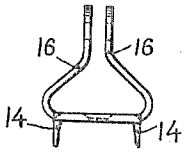
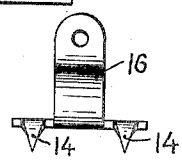


Fig. 6.



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UNITED STATES PATENT OFFICE

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FASTENING MEANS FOR SKEES.

No. 802,251. Specification of Letters Patent. Patented Oct. 17, 1905.

Application filed February 17, 1905. Serial No. 246,185.

To all whom it may concern:

Be it known that I, SIGURD SYR ANDERSEN, dentist, a citizen of Norway, residing at Drammensveien 16, Christiania, Norway, have invented new and useful Improvements in Fastening Means for Skees, of which the following is a specification.

My invention relates to the kind of sport devices consisting of two long and flat wooden bars adapted to be attached to the feet and which devices are known in Norway by the name of "ski" and are used for traveling over the snow.

In the usual means for fastening skees it is necessary for the boot or shoe of the wearer to be firmly pressed into the toe-strap by means of the rear heel-strap in order that the boot or shoe shall not move sidewise. On account of the great tension thereby placed upon the heel-strap it is very difficult to force the latter over the heel of the boot or shoe, especially when the leather is frozen hard. In a severe frost this inconvenience is increased, because it is very difficult to bring the fastening devices into the right position with the hands bare, and consequently very cold.

The object of my invention is to provide a fastening device for skees in which the difficulty above referred to is obviated by the use of mechanism whereby the heel-strap can by a very simple manipulation be instantaneously pressed against the boot or shoe and released from the same and which manipulation can be equally well effected with bare hands or with the hands covered by gloves or mittens.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation illustrating the application of my fastening device. Fig. 2 is a plan of the same. Fig. 3 is a perspective view of a heel-plate serving to secure the heel-strap in the desired position. Fig. 4 is an elevation showing the means whereby the pivot-pin of the heel-strap is prevented from accidentally passing out of its notch or hole. Figs. 5 and 6 are respectively an end view and a side elevation of the bracket carrying the tension-lever. Fig. 7 is a plan view of the two heel-strap guides with the adjacent parts. Fig. 8 is a similar view showing the same parts in their correct relative position; and Fig. 9 is a cross-section on the line *a b*, Fig. 8, showing the parts mounted on the skee.

The drawings illustrate, as an example, a fastening device of that kind in which a part of the toe-strap consists of stiff metal lugs. According to my invention the rear strap 1 is movable in the longitudinal direction of the skee and is passed under two guides 3, attached to the toe-strap. In the example shown these guides preferably form a part of the metal lugs or loops 2. The ends of the heel-strap extend forwardly beyond the toe of the boot and are provided with connecting-pieces 4, which unite the two ends of the strap by means of a pivot-pin 5. This pin engages in notches 6, formed in a lever 7, attached hingewise to the upper side of the skee and adapted to be easily grasped at 8 in order to be moved up and down upon its pivot by hand. When in its upturned position, (shown by the dotted lines in Fig. 1,) the heel-strap 1 is moved so far rearward that it can be easily passed over the heel of the boot by simply lowering the heel. When the lever 7 is then swung down, the pin 5 in the notch 6 will move forward together with the whole of the heel-strap 1, which will thereby be efficiently pressed against the heel, it being only necessary to use a small amount of force in order to swing the lever down. The notches 6 are so arranged that when the lever is in its lowered position, as shown, they are located below the level of the pivot-pin 9 of the lever 7. The tension put on the heel-strap 1 will therefore act to lock the lever 7.

The point to which the strap 1 is moved forward during the turning of the lever 7 may be varied by placing the pin 5 in different notches 6, so that the fastening device may suit different sizes of boots or shoes. The whole lever 7 may preferably be made of iron and is slightly inclined downward at the fore end, so that it shall not be raised by contact with snow or other obstacles.

The usual buckles at the heel part of the boot or shoe cause considerable waste of time and are inconvenient to manipulate in frost. I dispense with this buckle and preferably secure the heel-strap 1 in position by means of an iron plate, Fig. 3, which is nailed to the under side of the heel. This plate is at its rear part provided with two noses 10 and 11 projecting straight to the rear and also with a part 12, which is turned upward and the upper end of which is bent rearward, as shown at 13. Between the noses 10, 11, and 13 the heel-strap 1 is placed, when the lever 7 is in its upturned position, and the strap 1 is securely held in place by these noses during the exercise.

The pivot-pin 9 of the lever 7 is carried by a bracket, Figs. 5 and 6, which is attached to the upper side of the skee by means of four spikes 14 and two screws 15, Fig. 2. The bracket is provided with two branches 16, which are turned upward and bent together, and between the upper ends of the said branches the lever 7 is placed. The whole bracket is stamped out of a single piece of metal. The spikes 14 are bent down at the sides and will withstand any horizontal strain caused by the tension of the strap 1. The screws 15 therefore may be made relatively weak, because they mainly serve to hold the bracket with its spikes in place against the action of the slight strains in a vertical direction.

In order to prevent the pin 5 from accidentally passing out of its notches 6, the arrangement shown in Fig. 4 may be used. The full diameter of the notches 6 is the same as that of the pin 5; but the slot 18, or entrance into each notch, is somewhat narrower than the said diameter in order to prevent the passage of the full-diameter pin 5. In order to enable the pin to pass in and out it is filed off at one side, as shown at 17; but this filing is arranged so that the pin can only pass through the entrance-slot 18 when the lever 7 is completely swung back, (still farther back than indicated by the dotted lines in Fig. 1.)

The guides 3 serve to prevent the heel-strap 1 from being lifted up at the part where the toe-strap 19 is situated during the exercise. These guides 3 are in the example shown stamped out of the iron lugs or loops 2. The horizontal parts 20 21 and 22 23, respectively, of the said lugs are inserted from the sides in the hole 24 passing through the skee, and both of the said lugs are held securely in position by bending up the projecting end of the middle part 22. (See Figs. 8, 9, and 1.) The parts 21 and 22 are in the same plane beneath the plane of the parts 20 and 23. The parts, therefore, guide each other. In this manner the lugs 2 and guides 3 can be held fast in the hole 24 without the use of wedges and screws.

My fastening device for skees possesses the further advantage that it can be very easily undone in case the wearer should fall in deep snow, for instance. It is then only necessary for him to turn up the lever 7 without taking off his gloves and without exerting any considerable force.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A device for attaching skees to the feet consisting of a strap movably attached to the skee and adapted to pass round the heel of the boot or shoe, and tension means connected to the skee beyond the toe of the boot or shoe for locking said strap in position.

2. In a device for attaching skees to the feet, the combination of a looped heel-strap movably attached to the skee in the longitudinal direction thereof, a pin uniting the extended fore ends of the heel-strap, a hinged lever provided with notches, in one of which the pin is inserted, and a pin serving as a fulcrum for the said lever and attached to the skee substantially as set forth.

3. In a device for attaching skees to the feet, the combination of a looped heel-strap movably attached to the skee in the longitudinal direction thereof, a pin uniting the extended fore ends of the said strap and having a rabbet at one side, a hinged lever provided with notches and slots, in one of which the pin is inserted by passing through one of the slots which are narrower than the diameter of the said notches and of said pin and which slots are so located in relation to the rabbeted portion of the said pin, that the latter can only pass into the notch in a certain position of the lever, and a pin serving as a fulcrum for the said lever and attached to the skee, substantially as set forth.

4. In a device for attaching skees to the feet, the combination of a looped heel-strap movably attached to the skee in the longitudinal direction thereof, a pin uniting the extended fore ends of the heel-strap, a hinged lever provided with notches, in one of which the pin is inserted, a pin serving as a fulcrum for the said lever, a bracket having two upwardly-extending branches for carrying the said lever-pin, a number of spikes on the bracket, which spikes are bent downward and forced into the upper side of the skee, and screws serving to securely hold the bracket with its spikes on the skee, substantially as set forth.

5. In a device for attaching skees to the feet, the combination of a looped heel-strap movably attached to the skee in the longitudinal direction thereof, a pin uniting the extended fore ends of the said strap and having a rabbet at one side, a hinged lever provided with notches and slots, in one of which the pin is inserted by being passed through one of the slots which are narrower than the diameter of the said notches and of the said pin and which slots are so located in relation to the rabbet of the said pin, that the latter can only pass into the notch in a certain position of the lever, a pin serving as a fulcrum for the said lever, a bracket having two upwardly-extending branches for carrying the said lever-pin, a number of spikes on the bracket, which spikes are bent downward and forced into the upper side of the skee, and screws serving to securely hold the bracket with its spikes on the skee, substantially as set forth.

6. In means for attaching skees to the feet, the combination of a heel-strap passing round the heel of the boot or shoe, a plate adapted to be attached to the under side of the heel, and rear projections on the said plate, between which projections the strap is placed in order

to be held securely in position on the heel during the exercise, substantially as set forth.

7. In means for attaching skees to the feet, the combination of a looped heel-strap movably attached to the skee in the longitudinal direction thereof and extending beyond the toe-strap, a toe-strap, means attached to the toe-strap and serving to guide the movable heel-strap, and a tension mechanism connected with the fore ends of the heel-strap for locking the same in position, substantially as set forth and for the purpose described.

8. In means for attaching skees to the feet, the combination of a heel-strap movable in the longitudinal direction of the skee and extending forwardly beyond the toe-strap, a heel-piece connected to said skee and adapted to hold the rear of the strap in position, stiff metal lugs rigidly attached to the skee and forming part of the toe-strap, guides stamped out of each of the metal lugs and guiding the movable heel-strap and a tension mechanism connected with the fore ends of the heel-strap so that the whole heel-strap by a simple manipulation of the said mechanism is first moved backward in order to facilitate the insertion of the boot or shoe in the said strap and is then moved forward and locked in position, substantially as set forth and for the purpose described.

9. In means for attaching skees to the feet, the combination of a heel-strap movable in the longitudinal direction of the skee and extending forwardly beyond the toe-strap, a heel-plate for holding the rear of the strap in position, stiff metal lugs rigidly attached to the skee and forming part of the toe-strap, guides stamped out of each of the metal lugs and guiding the movable heel-strap, horizontal parts 20, 21 and 22, 23 on the said lugs, said skee having a hole therein in which said parts are inserted from the sides and securely held in the said hole by bending up the end of the part 22 projecting out of the hole on the opposite side to that, from which the said part is inserted, and a tension mechanism connected with the fore ends of the heel-strap so that the whole heel-strap by a simple manipulation of the said mechanism is first moved backward in order to facilitate the insertion of the boot or shoe in the said strap and is then moved forward and locked in position, substantially as set forth and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIGURD SYR ANDERSEN.

Witnesses:
HENRY BORDEWICH,
MICHAEL ALGER.