Oct. 18, 1938. H. AUBERT 2,133,883

SKI CLAMP

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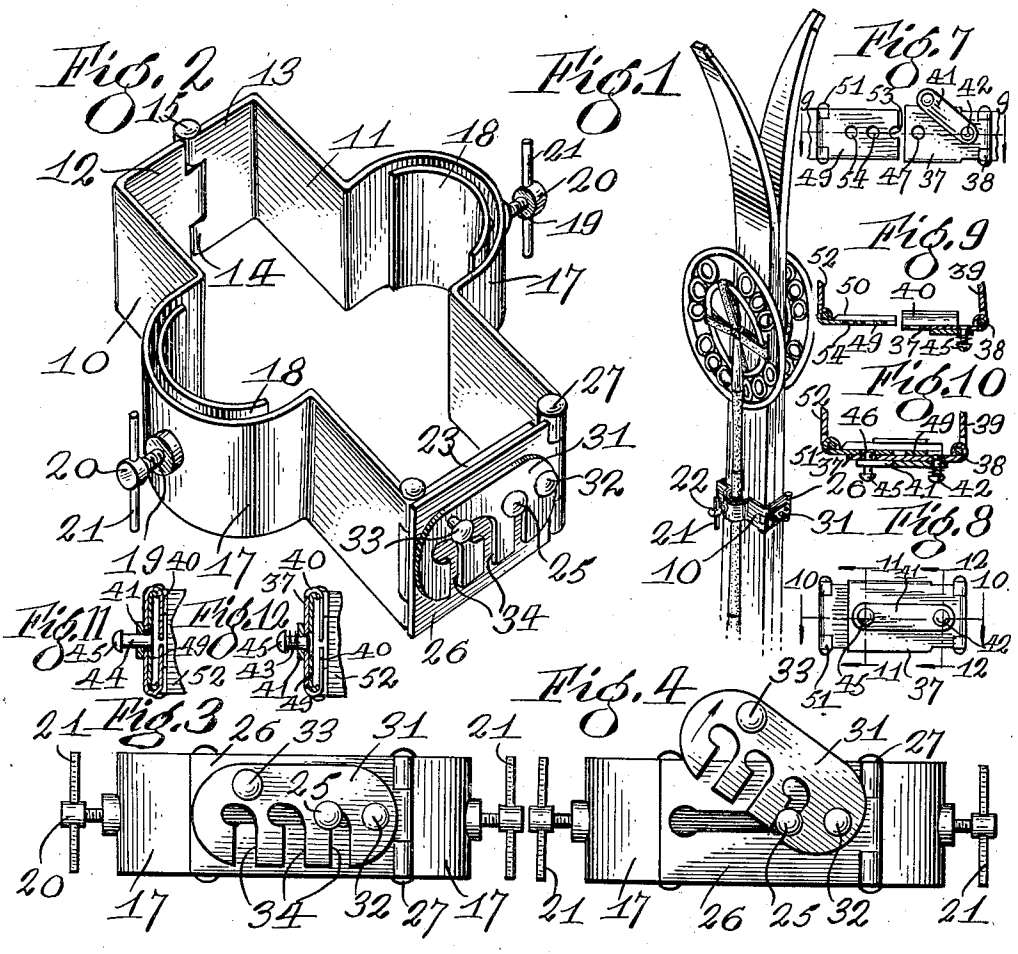

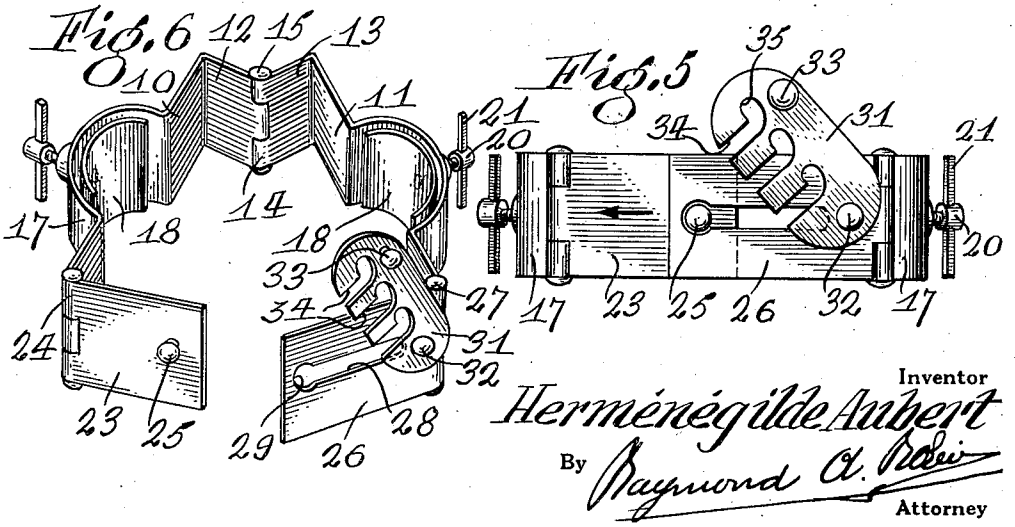

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SKI CLAMP

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7 Claims. (Cl. 280—11.37)

The present invention relates to improvements in clamps for fastening skis and the like.

An object of the invention is the provision of a clamping device constructed so as to compactly clamp skis and ski poles.

Another object of the invention is the provision of a clamp of the above character which may be readily secured in ski embracing position.

A further object of the invention is the provision of a clamp of the above character having closure means designed so that the clamp sections may be secured in any one of several closure positions.

Other objects and advantages of the invention will become apparent as the description progresses.

In the accompanying drawing forming a part of this specification and in which like reference characters are employed to designate corresponding parts throughout the same:

Figure 1 is a perspective view of a preferred form of the improved clamping device in position on a pair of skis,

Figure 2 is a perspective view of the same in closed position,

Figure 3 is an end elevational view of the same,

Figure 4 is a similar view with the closure means in partly open position,

Figure 5 is a similar view with the clamp sections in widely spread relation,

Figure 6 is a perspective view of the clamp structure in fully open position,

Figure 7 is a front elevational view of a modified form of closure means in open position,

Figure 8 is a similar view showing the closure in fully closed position,

Figure 9 is a section taken on the line 9—9 of Figure 7,

Figure 10 is a section taken on the line 10—10 of Figure 8,

Figure 11 is a section taken on the line 11—11 of Figure 8, and

Figure 12 is a section taken on the line 12—12 of Figure 8.

Referring to Figures 1 to 6 of the drawing, wherein for the purpose of illustration is shown a preferred embodiment of the invention, 10 and 11 generally designate each of a pair of clamp sections, preferably formed of sheet metal or the like, embodying an elongated body portion formed at one end with right angular inwardly directed arm portions 12 and 13. These arm portions are formed to provide interfitting hinge knuckles 14 joined by a hinge pin 15 so as to hingedly connect the sections at one end.

At the intermediate portions, each of the sections 10 and 11 is shaped to form an outwardly bowed semi-cylindrical portion 17, shown to advantage in Figures 2 and 6.

Within each of the bowed projecting portions 17 is disposed a correspondingly curved auxiliary clamping jaw 18 rotatably connected to the inner end of a screw 19 threaded through a bossed, interiorly threaded aperture in the projections 17. At the outwardly projecting ends of the screws 19 are formed round heads 20 through which is extended a transversely disposed turning pin 21.

At the free ends of the clamp sections 10 and 11 are provided fastening means for securing the sections in any one of a plurality of adjusted positions, that is, with the free end portions of the sections at variously spaced arrangement. With this in mind, a fastening member 23 is disposed so that one end is connected by a hinge joint 24 to the free end of the clamp section 10, this member preferably being in the form of a flat, elongated plate having attached to the outer end portion a stud 25 projecting from the outer face. The stud 25 embodies an exterior head of a diameter substantially greater than that of the shank portion. To the free end of the complementary clamp section 11 is connected a complementary fastening member 26 having one end thereof connected by a hinge 27 with the section. The fastening member 26 may also be in the form of an elongated plate corresponding substantially to the form of the plate 23 and is provided with a longitudinal slot 28 having an enlarged aperture 29 at the outer end portion.

Against the outer face of the fastening plate 26 is positioned a catch member 31 pivotally connected with the plate by a pivot pin 32 extended through the catch and plate adjacent the inner ends thereof, so as to assume a position parallel with the plate. Thus, the catch 31 may be swung about the pivot 32, through the medium of a knob 33 attached thereto, in a plane parallel with the fastening plate 26. This catch member 31, which may be advantageously formed of a sheet metal plate rounded at the ends, is provided with a plurality of, in the present instance three, transverse slots 34 extending inwardly at longitudinally spaced intervals from the bottom longitudinal edge, as shown to advantage at Figures 3 and 5. At the inner ends, the slots 34 are shaped to form right angular notches 35 so that the slots are generally in the form of what are known as bayonet slots.

In applying the clamp assembly to a ski outfit including a pair of skis and a pair of ski poles, the skis are disposed with the bottom faces together, as shown at Figure 1, and the ski poles are disposed longitudinally against the outer or top faces thereof. When thus arranged, the curved jaws 18 and the outwardly bowed projections 17 of the clamp will embrace the poles while the remainder of the clamp will extend about the skis.

The closure structure of the clamp is assembled by bringing the complementary closure elements 23 and 26 together and extending the head of the stud 25 through the enlarged aperture 29, enabling sliding connection of these elements inasmuch as the stud shank is free to slide longitudinally through the slot 28. The final fastening connection is effected by swinging the pivoted catch member 31 from its raised position downwardly so that one of the plurality of bayonet slots 34 therein will engage the shank of the stud 25 to releasably lock the same and fasten the closure end of the clamp sections in selectively adjusted position. This furnishes a plurality of fastening adjustments at the closure end of the clamp to accommodate skis of varying size and thickness and enables tight clamping thereof.

A modified form of the fastening or closure means, shown at Figures 7 to 12 inclusive, embodies a closure element 37 connected by a hinge 38 to one clamp section 39 and consisting of an elongated plate having side extensions which are bent over to form angular guide channels 40 at the inner side of the plate. At the outer face of the plate 37 is provided a lever bar 41 pivotally connected thereto by a pin 42 about which is positioned a coil spring 43 disposed to yieldingly urge the lever against the plate. Adjacent the free end of the lever is secured a transversely arranged pin 44 having a head 45 at its outer end to form an actuating knob while the inwardly projecting portion provides a stud 46 adapted, when the lever is in fastening position, to extend through an aperture 47 in the plate.

The complementary closure element 49 is in the form of a similarly shaped plate having the longitudinal edge portions bent inward to form flanges 50, and is connected by a hinge 51 to the complementary clamp section 52. The plate 49 is provided with a notch 53 and a pair of longitudinally spaced apertures 54 and is adapted to slide telescopically within the element 37.

This form of the closure is assembled by slidably uniting the complementary elements 37 and 49 and disposing one of the apertures 54 in registration with the aperture 47. The lever 41 is then swung from its open angular position, as shown at Figure 7, to its longitudinal closing position, as shown at Figure 8, so that the stud 46 thereon will extend through the aperture 47 and the aligned aperture 54 to lock the elements in selectively adjusted arrangement. The elements may be released by pulling the stud carrying end of the lever, through the instrumentality of the knob 45, away from the plate, against the action of the coil spring, so that the elements may be readily detached for opening the clamp sections.

It is to be understood that the forms of my invention herein shown and described are to be taken as preferred examples of the same, and that various changes as to the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:—

1. A clamp of the character described comprising a pair of clamp sections pivotally connected at one end, a pair of co-acting fastener elements connected to the free ends of the respective clamp sections and adapted for slidable engagement, and a locking member connected to one of the fastener elements for locking the said elements in one of a plurality of adjusted positions.

2. A clamp of the character described comprising a pair of complementary clamp sections pivotally connected at one end, a pair of slidably engageable fastener elements pivotally connected to the free ends of the respective clamp sections, the said elements having apertures therein, and a catch member pivotally connected to one of the fastener elements adapted to lock the elements by stud and aperture engagement for adjustably fastening the clamp sections.

3. A clamp of the character described comprising a pair of complementary clamp sections pivotally connected at one end, a pair of co-acting fastener elements connected to the free ends of the respective clamp sections adapted to slidably engage by stud and slot connection, and a catch member pivotally connected to one of the fastener elements engageable with the stud to secure the free ends of the clamp sections in a plurality of adjusted positions.

4. In a clamp of the character described, a pair of complementary clamp sections pivotally connected at one end, a pair of complementary fastener elements pivotally connected to the free ends of the respective clamp sections adapted to engage in overlapping positions by stud and slot connection, and a slotted catch member pivotally connected to one of the fastener elements engageable with the stud for adjustably fastening the clamp sections.

5. In a clamp of the character described, a pair of complementary clamp sections hingedly connected at one end, a fastening element connected to the free end of one of the sections and having a stud projecting therefrom, a co-acting fastening element connected to the free end of the complementary clamp section having a slot slidably engageable with the stud, and means attached to the slotted fastening element operable to engage the stud in varying positions relative to the slotted element for fastening the clamp sections in selectively adjustable positions.

6. In a clamp of the character described, a pair of complementary clamp sections hingedly connected at one end, a fastening element pivotally connected to the free end of one clamp section, a stud secured to and projecting from the said fastening element, a complementary fastening element pivotally connected to the free end of the complementary clamp section disposed to overlap the first fastening element and having a slot therein for slidably engaging the stud, and a catch member pivotally connected to the slotted fastening element provided with a plurality of spaced angular slots engageable with the stud for fastening the clamp sections in adjusted positions.

7. In a clamp of the character described, a pair of clamp sections hingedly connected at one end, a fastening element pivotally connected to the free end of one clamp section, a lever pivotally mounted on the said fastening element, means for yieldingly forcing the said lever against the said fastening element, a stud at the free end portion of the lever adapted to extend through an aperture in said fastening element when the lever is in locking position, and a complementary fastening element pivotally connected to the free end of the complementary clamp section slidably engageable with the first fastening element and provided with a plurality of spaced apertures engageable by the said stud for locking the elements in adjusted positions.

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