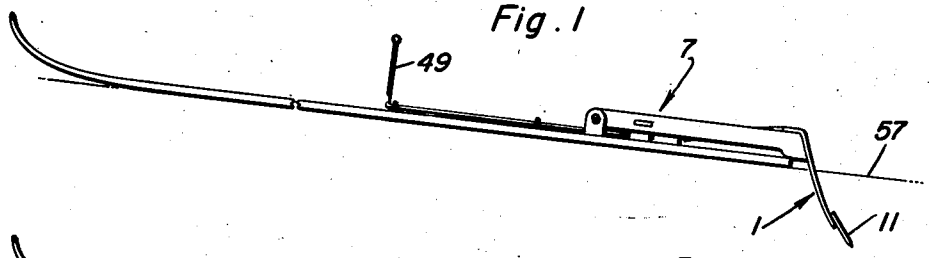
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BRAKE ATTACHMENT FOR SKIS

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Fig. 1



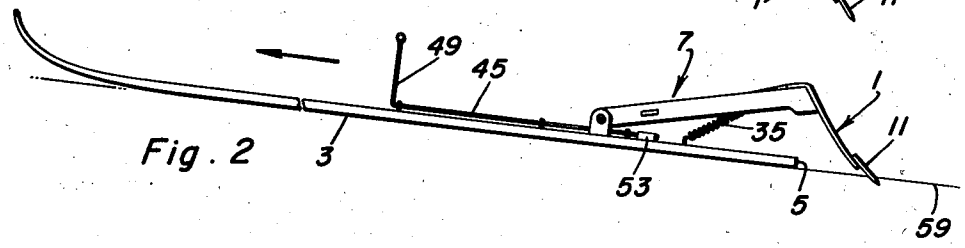


Fig. 2

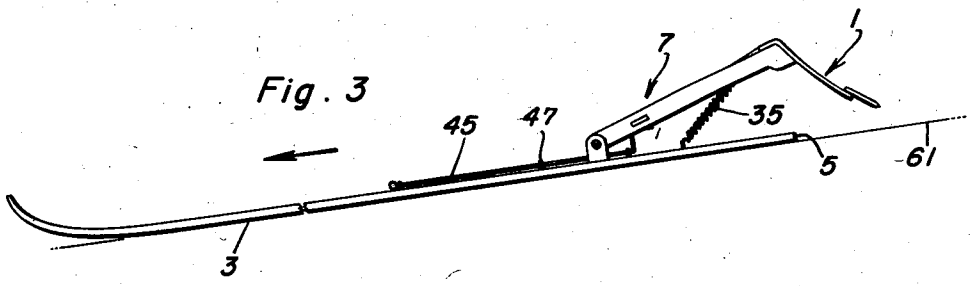


Fig. 3

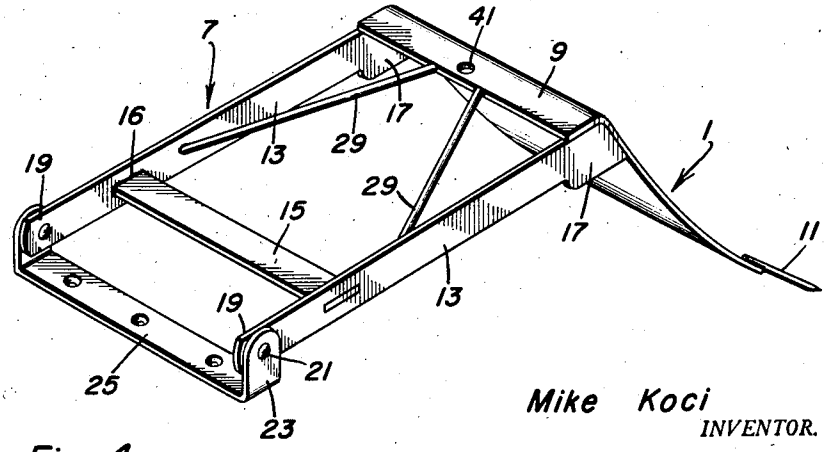


Fig. 4

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Fig. 5

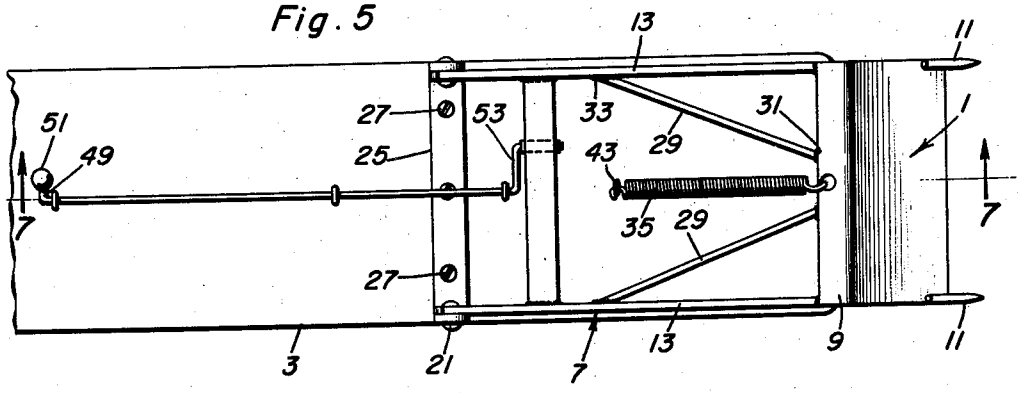


Fig. 6

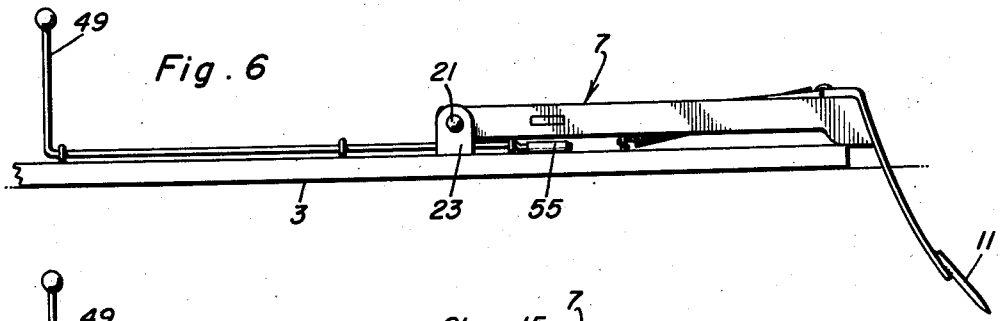


Fig. 7

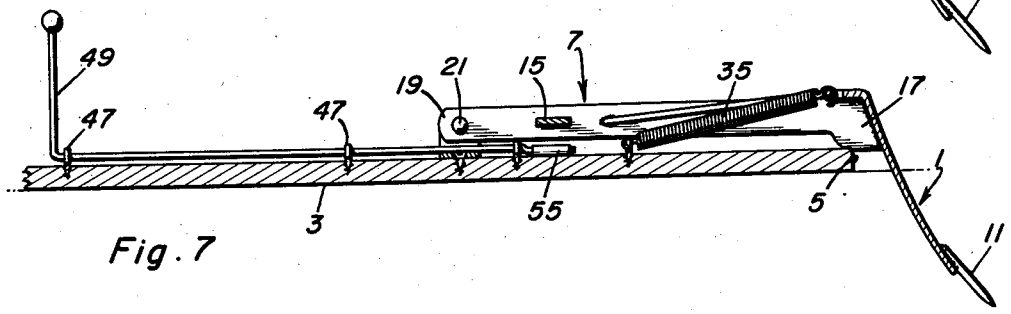
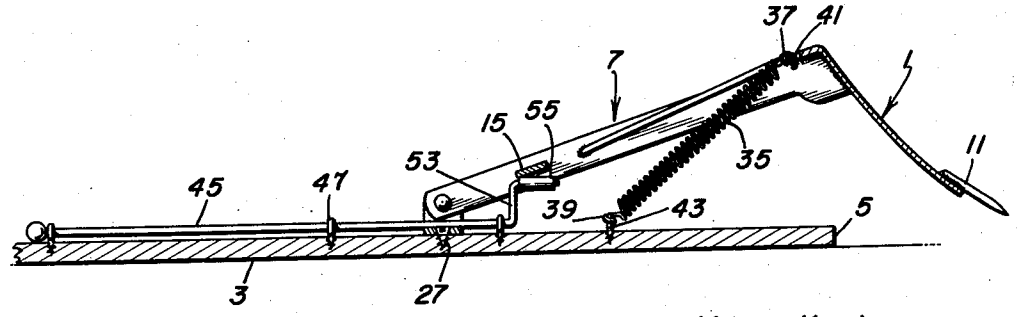


Fig. 8



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2,828,135

BRAKE ATTACHMENT FOR SKIS

Mike Koci, Dow City, Iowa

Application July 24, 1956, Serial No. 599,720

2 Claims. (Cl. 280—11.13)

My invention relates to improvements in brake attachments for skis to enable the wearer of skis to safety climb snow and ice covered slopes.

The primary object of my invention is to provide an improved form of spur blade at the rear end of a ski which will hold a ski from sliding backwards on snow or ice covered slopes regardless of whether the ice or snow is soft or hard frozen or thick or thin, together with means of simple form and inexpensive construction for attaching the blade to a ski for lowering and raising the blade into and from working positions, and lever and crank means attachable to the ski in readily accessible and easily operative position for coaction with the blade attaching means to raise and lock the blade in an idle position, such that it will not interfere with normal skiing.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a view in side elevation partly broken away of my improved brake attachment applied to a ski with the blade lowered into working position for climbing on slopes covered with deep snow;

Figure 2 is a view similar to Figure 1, but illustrating the spur blade in working position for climbing on slopes covered with ice;

Figure 3 is a view similar to Figures 1 and 2, but illustrating the spur blade raised and locked in idle position for normal skiing;

Figure 4 is an enlarged perspective view of the spur blade and attaching means therefor;

Figure 5 is an enlarged fragmentary plan view of the brake attachment applied to a ski with the spur blade positioned as in Figure 1;

Figure 6 is a fragmentary view in side elevation of the same;

Figure 7 is a fragmentary view in longitudinal section taken on the line 7—7 of Figure 5; and

Figure 8 is a fragmentary view in longitudinal section taken on the same line as Figure 7, but with the spur blade raised and locked in idle position, as in Figure 3.

Referring to the drawings by numerals, the spur blade, designated generally by the numeral 1, and which is rectangular in shape and of suitable metal, is carried in upright position transversely of the ski 3, rearwardly of the rear end 5 of the ski, by attaching means designated generally by the numeral 7 and presently described, said spur plate 1 being curved downwardly and rearwardly in cross-section, provided with a longitudinal, forwardly projecting flange 9 at its upper edge, and with a pair of depending, needle-pointed spurs 11 at the lower corners thereof inclining downwardly and rearwardly.

The attaching means 7 comprises a pair of parallel metal bars 13 extending forwardly from the spur plate 1 over the rear portion of the ski 3, parallel with opposite sides of the ski, and connected intermediate the ends

thereof by a cross bar 15 set into and welded, as at 16, to said bars.

The bars 13 carry the spur plate 1 on rear ends 17 thereof in depending position, with the flange 9 overlying said ends 17, and said ends suitably connected to said flange 9 and to said plate at opposite side edges of the plate by welding, not shown. The front ends 19 of the bars 13 are pivoted, as at 21, between vertical ears 23 on opposite ends of an attaching cross bar 25 which is secured on the ski 3 transversely thereof by screws 27, so that bars 13 are vertically swingable on the attaching bar 25 to raise and lower the spur blade 1 into idle and working positions, respectively. Diagonal brace rods 29 are welded, as at 31, 33, to the flange 9 and to the side bars 13.

A tension spring 35 provided with end hooks 37, 39, one of which is engaged in the central aperture 41 in the flange 9 and the other of which is engaged in eye screw 43 on the ski 3, urges the spur plate 1 downwardly.

The lever and crank means comprises a rod 45 rotatably attached on top of the ski 3 to extend longitudinally thereof by eye screws 47 in said ski, said rod being provided at its front end with a right angled handle 49 terminating in a hand grip 51. The rod 45 terminates at its rear end in a crank 53 provided with a tubular roller 55 and underlying the bar 15 for rotation to raise said bar 15 and the bars 13 to raise the spur blade 1. The crank 53 lies in a plane oblique to the handle 49 for the purpose presently seen.

Referring now to the use and operation of the brake attachment, when climbing in deep snow, indicated generally at 57 in Figure 1, the handle 49 is swung into upright position in which the crank 53 is rotated to lie flat against the ski 3, with the handle 49 inclining slightly toward the side of the rod 45 from which the crank 53 projects, and as shown in Figure 5. The spring 35 tends to pull the spur blade 1 downwardly into the snow until the rear ends 17 of the bars 13 engage the ski 3, as shown in Figure 1, said blade embedding in the snow prevent the ski 3 from sliding backwards. As the wearer of the ski 3 walks forwardly, the spur blade 1 tends to rise out of the snow because of its downward and rearward curvature. On the other hand, when the spur blade 1 is lowered into the snow, and because of said curvature thereof, it tends to dig deeper into the snow when ski 3 tends to slide backwards.

In climbing on an ice covered slope, indicated at 59 in Figure 2, with the handle 49 in the described position, the spur blade is lowered by the spring 35 to dig the spurs 11 into the ice, and as the wearer of the ski 3 walks forwardly, the spurs 11 are pulled out of the ice because of the described inclination thereof. When the spurs dig into the ice, and because of the described inclination thereof, they tend to dig deeper into the ice when the ski 3 tends to slip backwards.

In normal skiing, on a slope indicated at 61 in Figure 3, the handle 49 is rotated toward the left side of the ski 3 until it engages said ski flatly. This rotates the crank 53 into the upstanding position shown in Figures 3 and 8, so that said crank lifts the cross bar 15 to lift the bars 13 into upwardly and rearwardly inclined position to lift the spur plate above the snow or ice into idle position. In the idle position of the spur blade 1, the cross bar 15 in response to the pull of the spring 35 exerts downward pressure against the crank 53 to maintain the handle 49 flat against the top of the ski 3 and the crank 53 and handle 49 project from the same side of the rod 45, so that they cannot rotate under the pressure of the bar 15 against the crank, and whereby the bars 13 are locked in upwardly and rearwardly inclined position and the spur blade 1 locked in raised idle position.

The rod 45, handle 49 and crank 53 are as described

in the foregoing when the attachment is applied to a left foot ski, shown in the drawings. When the attachment is applied to a right foot ski, the handle 49 and crank 53 are raised for locking operation by rotation of the handle 49 toward the right hand side of the right foot ski. The bars 13 are to be spaced apart to overlie different widths of skis adjacent the sides of the skis.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A brake attachment for a ski to prevent backward sliding thereof on snow comprising a rectangular blade adapted to be disposed behind a ski in vertical position transversely of said ski, a pair of laterally spaced bars adapted to extend forwardly over the rear end portion of said ski, said bars having rear ends attached to said plate at opposite side edges of the blade, a cross bar connecting said pair of bars, an attaching bar for said pair of bars attachable on a ski transversely thereof, means pivotally connecting said pair of bars on said attaching bar for vertical swinging to lower and raise said blade into or out of snow, a rod adapted to be rotatably attached on said ski to extend longitudinally thereof and extending longitudinally above and across said attaching bar, a handle on one end of said rod for rotating the same, and a crank on the other end of said rod beneath and engageable with said cross bar to lift said cross bar and thereby swing said pair of bars for raising said blade in response to rotation of said rod.

2. The combination of claim 1, said handle being rotatable into engagement with said ski to rotate said crank in upright position to engage and lift said cross bar and swing said pair of bars upwardly for raising said blade, the upright position of said crank being established by engagement of said handle with said ski to lock said blade in raised position.

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