Oct. 6, 1964 J. MARCHAND 3,151,875

SKI POLE

Filed June 16, 1961

FIG. 1

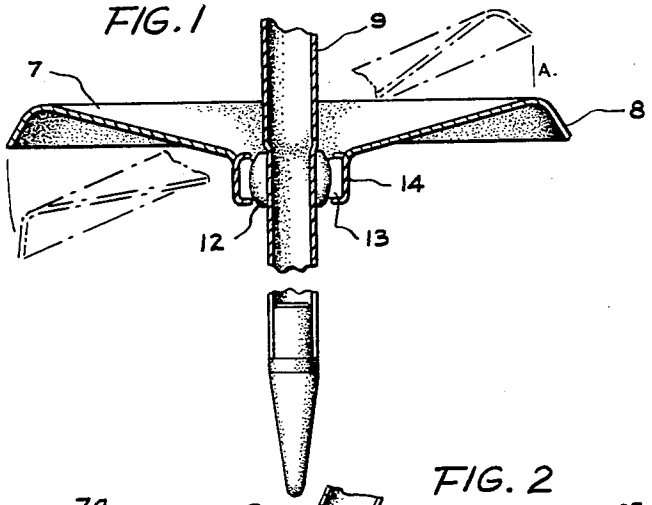


FIG. 2

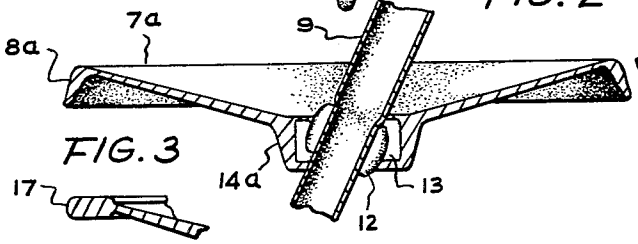


FIG. 3

FIG. 5

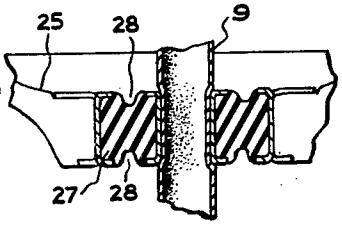


FIG. 4

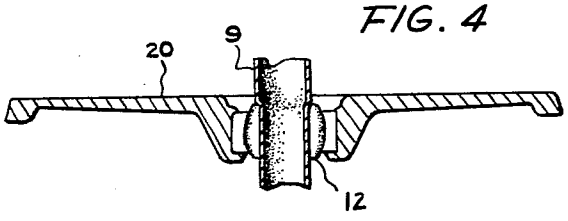
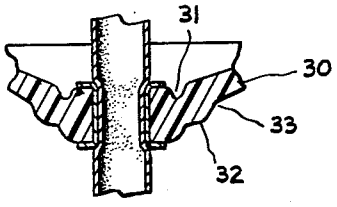


FIG. 6



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SKI POLE

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This invention relates to ski poles. An object of the invention is the provision of a ski pole improved as to safety. Another object is to provide a pole having an improved weight-sustaining quality. A further object is to provide an improved joint between the pole and its disk. The usual ski pole disk consists of a circular ring having opposite points connected by crossing flexible bands or strips, which leave open spaces therebetween. One defect of such construction is that the disk sometimes gets caught in branches, stones, or the like. In that event, since the skier's wrist is held in a looped strap at the upper end of the pole, it has happened many times that skiers' wrists have been sprained or broken. The disk herein shown avoids the mentioned defect by making the disk of a solid unperforated sheet.

Another feature of the invention is the provision of a rubber joint between the pole and the disk, in lieu of the usual ball joint. Also, instead of employing a flexible joint between the pole and disk, I may have a rigid joint and construct the disk, near the pole, so that it flexes relative to the pole. I have found that, by making the disk proper so that its undersurface rises radially from the center to the periphery, the weight-sustaining quality is increased, if also the disk is imperforate, and that this quality is further improved if the joint connecting the disk to the pole is placed below the center of the disk proper. Either of these features may be used alone to improve a ski pole, but both together make a substantial advance in the art.

The drawings illustrate the invention, and in these:

FIGURE 1 shows a sectionalized perspective of a dished, imperforate disk on a pole shown fragmentarily;

FIGURE 2 is similar to FIGURE 1 except that the thickness of the disk and its peripheral flange are tapered and made of cast metal and the pole and disk are not in right angle relation;

FIGURE 3 is a fragmentary view showing the disk of FIGURE 2 with a peripheral reinforcement in lieu of a downwardly extending flange;

FIGURE 4 shows in section a modified form of imperforate disk, in which only the undersurface rises from the center to the periphery of the disk proper;

FIGURE 5 shows a rubber joint between the disk and the pole; and

FIGURE 6 shows a disk of a synthetic resinous plastic material so formed as to be flexible near its center.

Referring to the drawings for a detailed description, and at first to FIGURE 1, the numeral 7 indicates a dished, circular, imperforate disk, both the lower and upper surfaces of which rise from its center to its periphery. A downwardly and outwardly extending flange 8 extends from the periphery of the disk, and serves to penetrate snow. The ski pole 9 is connected to the disk below the lower surface of the disk. The reason for having the undersurface of the disk at a rising angle, and of connecting the pole below the center of the disk, is that thereby the disk better turns from an oblique position relative to the pole, which it frequently assumes, to a position

at right angles to the pole when the latter is pushed into the snow, in which position the disk provides the best sustaining eeffct. This can be shown by the greater projected area of the disk from that half of the latter which is closest to the point of the pole and which forms an acute angle with that part of the pole below the disk. The mentioned joint is a ball joint formed by the ball 12, which surrounds the pole and is held in a race 13, the latter being held in a casing 14 which depends from the central part of the disk.

FIGURE 2 shows a disk 7*a* similar to that of FIGURE 1, except that it tapers from a thicker center to a thinner periphery and the depending flange 8*a* also tapers to a thinner end and the whole disk is die cast. The construction of the ball joint connecting the disk and the pole, and its position, are similar to FIGURE 1, the casing containing the joint being labelled 14*a*. FIGURE 3 shows a modified peripheral portion of disk 7*a* of FIGURE 2, wherein a reinforcing rim 17 is substituted for flange 8*a*.

FIGURE 4 shows a modified disk 20 in which the upper surface, with the exception of a depressed central portion, is flat, but the lower surface, like that of disks 7 and 7*a*, rises from the central area to the periphery. The construction and disposition of the joint connecting the disk to the pole is similar to that of FIGURES 1 and 2.

FIGURE 5 shows the pole 9 connected to a rigid dished disk 25 by a joint of rubber or other resilient material. The rubber 27 is an annulus surrounding the pole and has circular upper and lower grooves 28 to improve up and down flexibility, said annulus being rigidly secured to the disk and the pole. This joint also is disposed below the central area of the disk.

FIGURE 6 shows a dished disk 30 connected to the pole. The disk is, in general, rigid, but is made flexible near its junction with the pole by reason of the circular groove 31 formed in its upper surface and the annular bead 32 on its lower surface, below the groove 31, and a little offset therefrom, to form the angle 33. The groove and angle constitute two different bending joints. The disk bends at the groove on one half of the disk, and at the angle in the other half, when the pole is driven into the snow at an angle. The two bending joints provide a longer wear for the disk. The disk, which may be of a synthetic resinous plastic, is rigidly connected to the pole below the main part of the disk.

What is claimed is:

The combination of: a rigid ski pole disk having a central aperture, the lower surface of the disk rising from its center to its periphery, and a ski pole passing through said aperture, and means connecting the pole to the disk and providing a pivotal connection permanently located below the overall resisting surface area of the disk, the latter being imperforate except for said central aperture.

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