

Nov. 26, 1968

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3,412,508

SKI SHARPENER

Filed Feb. 16, 1966

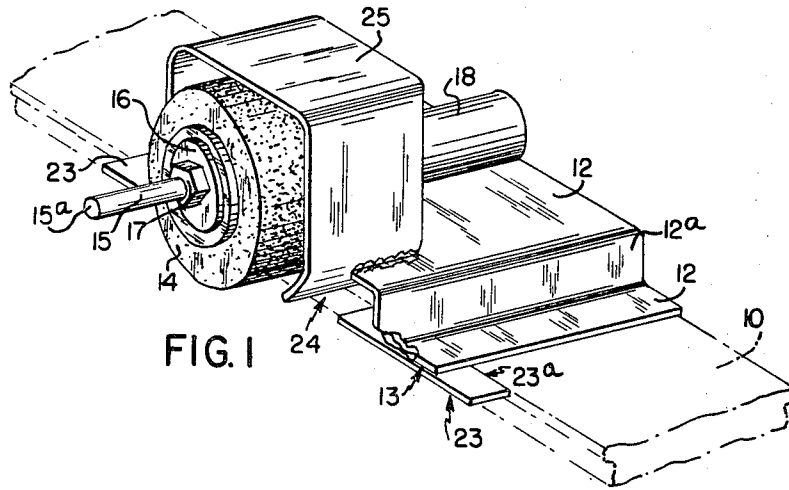


FIG. 1

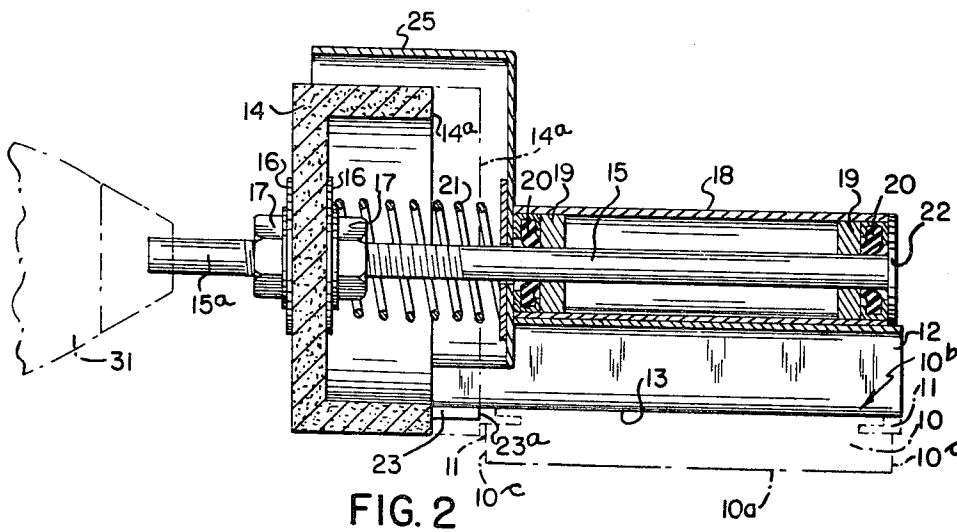


FIG. 2

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SKI SHARPENER

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Filed Feb. 16, 1966, Ser. No. 527,964

2 Claims. (Cl. 51-170)

ABSTRACT OF THE DISCLOSURE

A grinding wheel for sharpening the running edge of a ski is mounted on a base which is slidable longitudinally of the bottom of an upturned ski, the wheel being mounted on the base for rotation and for axial reciprocation longitudinally of the wheel shaft for advance and withdrawal of the grinding face of the wheel relative to the running edge, and stop means is provided for controlling the engagement of the grinding face with the edge to be sharpened. The grinding wheel shaft extends beyond the grinding wheel away from the base sufficiently to be engaged by the chuck of a portable drill by means of which the wheel may be rotated and may be reciprocated toward the base against the action of the urging means so as to cause the grinding face to engage the running edge of the ski in a sharpening operation.

This invention relates to improvements in a device for sharpening a running edge of a ski.

One of the objects of the present invention is to provide a device which may be slid longitudinally of the bottom of a ski turned upside down while a rotating grinding wheel which is carried by a base has its grinding face presented to the running edge with a slight pressure. Present devices for sharpening skis are cumbersome or require a great deal of manual labor or are otherwise unsatisfactory. It is an object of the present invention to provide a simple device which will accomplish the purpose very quickly and efficiently and without involving cumbersome apparatus.

Other objects and advantages of this invention will be apparent from the accompanying drawings and specifications and the essential features thereof will be set forth in the appended claims.

In the drawings—

FIG. 1 is a perspective view of an embodiment of the invention; while

FIG. 2 is a central sectional view, enlarged, of the device of FIG. 1.

As clearly seen in FIG. 2 the ski 10 has a normally upper surface 10a and a bottom 10b which in the drawings is shown in an upside down position for sharpening. The ski also has two opposite vertical sides 10c and a running edge of metal 11 is provided at the junction of the ski bottom 10b and each of vertical sides 10c. It is the sharpening of this edge to which this invention is directed.

This invention comprises a base 12 having a bottom surface 13 adapted to slide along the ski bottom 10b during the use of this device. A grinding wheel 14 is rotatably mounted on the base with its axis of rotation parallel to the ski bottom. Various means may be utilized to mount the grinding wheel on the base but in the present embodiment shown in FIGS. 1 and 2, a shaft is fixed axially of the grinding wheel by means of washers 16 and nuts 17. The shaft 15 is rotatably and axially slidably received in a tubular formation 18 which may be welded to the base 12 or may be formed integrally with the base 12 if desired. Suitable bearings 19 inside the tubular member 18 support the shaft 15 for rotation and for a slight sliding movement axially of the shaft. Preferably, at the ends of the tubular member 18 seals 20 are provided to pre-

vent the entrance of the debris of the grinding operation being carried into the tubular member 18.

Means is provided normally urging the wheel 14 for axial movement relative to the edge 11 and this is here shown as a helical spring 21 held between the tubular member 18 and the wheel 14 normally urging the wheel away from the ski.

It will be noted in the drawings that the grinding wheel, supported as described, has a grinding face 14a in a plane at right angles to its axis of rotation so as to engage in a vertically flat relationship against the running edge to be ground as clearly seen in broken lines in FIG. 2. The action of spring 21 in forcing the grinding wheel away from the ski is limited by a collar 22 fixed to the shaft 15 so that it bears against the end of the tubular member 18 farthest away from the grinding wheel and so limits the movement.

Guide means 23 is provided fixed to the base 12 and below the bottom surface 13 thereof providing a flat surface 23a at right angles to the plane of the grinding wheel axis and adapted to engage the edge 11 when the grinding face 14a engages the edge 11 so as to grind a true linear edge on the running edge 11. In FIGS. 1 and 2, the guide means comprises a pair of small plates or shoes welded to the underside of the base 12. It will be noted in FIG. 1 that a space 24 is left between the guide shoes 23 to accommodate the grinding wheel 14.

Preferably, the base 12 is bent upwardly as indicated at 12a to more easily accommodate the grinding operation.

Usually, a guard or shield 25 is required to protect the grinding wheel and I have shown one in FIGS. 1 and 2 welded to the upper side of the base 12 and embracing the grinding wheel. Incidentally, this member 25 also serves as a handle to guide the sharpening device in movement lengthwise of the ski during the grinding operation. Of course, other handle means might be provided if desired.

Means is provided by which to cause rotation of the grinding wheel 14. Conceivably, this might be manually operated but obviously a power drive is preferred. In FIGS. 1 and 2, I have shown an extension 15a of the shaft 15 to which the chuck of a portable drill 31 may be applied during a grinding operation.

The operation of this invention should now be clear. The operator places the device on the upturned bottom of the ski with the base 12 engaging the ski bottom and with the guide shoes 23 flat against the running edge 11. At this time the spring 31 is urging the grinding wheel face away from the running edge of the ski. The operator engages the chuck of a portable drill 31 with the shaft extension 15a, utilizing one hand, while he grasps the sharpening device with the other hand engaging the protective guard 25. In this position, it is simple to move along the ski pressing the face of the grinding wheel, against the urging of spring 21 with the proper pressure against the edge 11 and in a few moments the entire length of the running edge is sharpened in a linear manner.

It will be noted that hooks or clamps attached to the ski need not be removed to use this improved sharpening device.

It is obvious that the sharpening device of this invention might be fixed and the ski moved relative thereto during the sharpening operation.

What is claimed is:

1. A device for sharpening a running edge at the junction of a ski bottom and a ski vertical side, comprising a base having a bottom surface adapted to slide along side ski bottom, a grinding wheel and drive shaft assembly mounted on said base for rotation and axial reciprocation with the shaft axis of rotation parallel to said ski bottom, said shaft journaled in said base and supporting said

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wheel to one side of said base, said wheel having a grinding face in a plane at right angles to said axis, means normally urging said wheel and shaft assembly axially away from said edge, guide means on said base below said bottom surface thereof providing a flat surface at right angles to the plane of said wheel axis adapted to engage a portion of said ski vertical side when said grinding face engages said running edge, and said shaft extending beyond said grinding wheel sufficiently to be engaged by the chuck of a portable drill by which to cause rotation of said wheel, and by which said wheel and shaft assembly may be moved toward said base against said urging means whereby to cause said grinding face to engage said running edge.

2. A device as defined in claim 1 wherein said mounting of said wheel and shaft assembly includes bearings

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on said base mounting said shaft for axial reciprocation, and means limiting the urging means in moving said wheel away from said base.

References Cited

UNITED STATES PATENTS

2,522,942	9/1950	Gillen	51—128
2,726,690	12/1955	Schacher	144—137

FOREIGN PATENTS

359,371	2/1962	Switzerland.
519,364	2/1931	Germany.
567,384	2/1945	Great Britain.
906,037	9/1962	Great Britain.

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