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APPARATUS FOR SHARPENING SKATES

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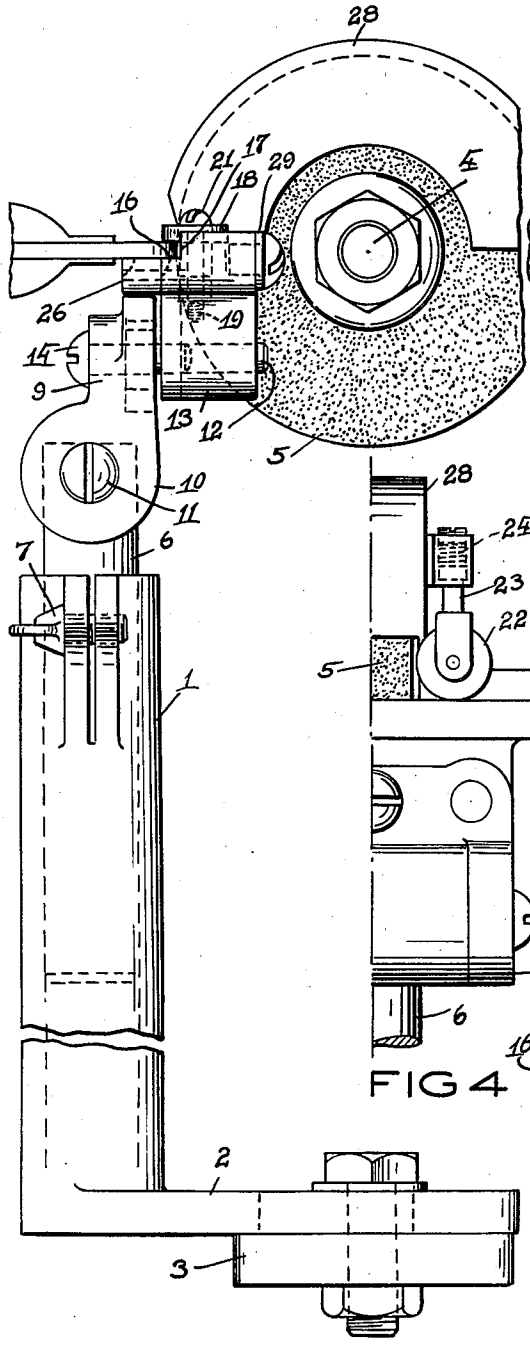


FIG 1

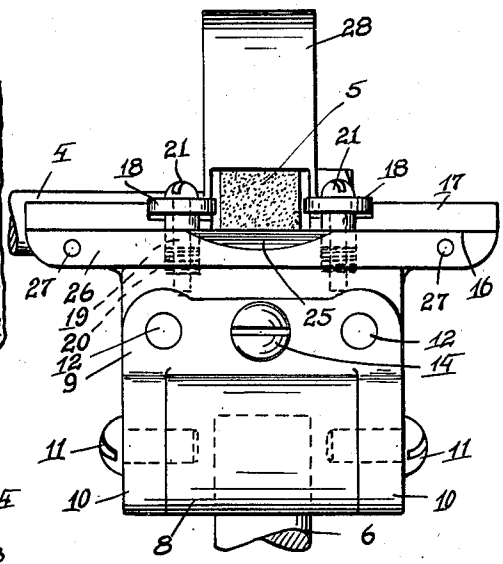


FIG 2

FIG 4

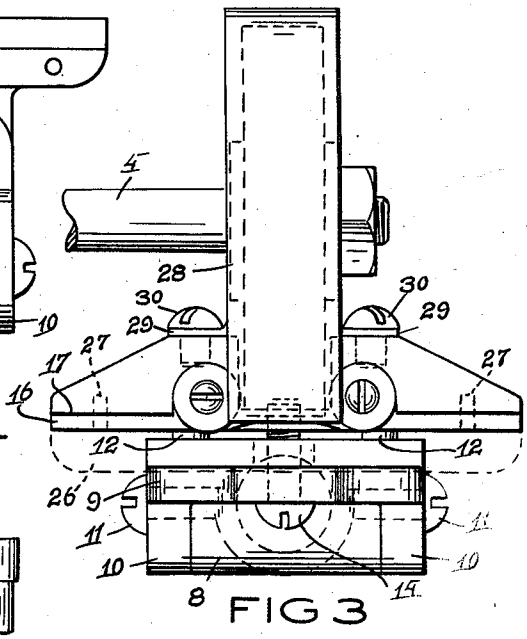


FIG 3

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APPARATUS FOR SHARPENING SKATES

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6 Claims. (Cl. 51—102)

This invention relates to grinding apparatus for skates and its principal object is to provide a novel construction which may form a complete grinding apparatus or an attachment for a grinding apparatus with which the runners of skates may be quickly and efficiently sharpened.

Another object of this invention is to provide the apparatus with novel gauging and guiding means for properly locating and guiding the runners of the skates to enable the operator to properly locate and guide the runners relative to the grinding wheel.

A further object of this invention is to provide the apparatus with a combination of adjustments for the supporting, guiding and gauging means for the skate runners.

These and other objects and attendant advantages of the invention will become more readily apparent from the detailed description thereof which follows, reference being had to the accompanying drawing in which

Figure 1 is a side elevation of my novel skate sharpening apparatus.

Figure 2 is a front elevation of the skate supporting, guiding and gauging portion of the sharpening apparatus.

Figure 3 is a top plan view of the sharpening apparatus.

Figure 4 is a partial front elevation of the upper portion of the apparatus equipped with modified guide members for the runner of the skates.

As illustrated in the several figures of the drawing the apparatus comprises the hollow upright 1 which is provided with a suitable base 2 with which it may be adjustably mounted on a bracket 3 of a shoe repair outfit or otherwise adjustably supported relative to the spindle 4 which carries the grinding or sharpening wheel 5.

A post 6 is telescopingly mounted in the upright 1 and is adjustably held in place therein by means of the clamping nut 7 to provide for the vertical adjustment of the combined supporting, locating and guiding mechanism relative to the center of the grinding wheel. The post carries at the top a boss 8 which pivotally supports the bracket 9. For this purpose the ears 10, 10, depending from the bracket, embrace the boss 8 to have suitable pivot bolts 11, 11 which pass therethru engage the ends of the boss to provide combined pivot and clamping means for the swinging adjustment of the bracket 9 on the post 6 toward and away from the grinding wheel.

The bracket 9 carries a pair of parallel guide pins 12, 12 which project rearwardly thereof to support the runner supporting member 13 for movement relative to the grinding wheel. A feed screw 14 is freely rotatable in the bracket 9 and is held against endwise movement thereon between the guide pins 12 to cause its threaded engagement with the runner supporting member to move the runner supporting member on the guide pins on the rotation thereof. In this way the runner supporting member may be accurately adjusted in a straight line movement for the support of the runner relative to the grinding wheel as will hereinafter appear.

The grinding wheel 5 extends into the recess 15 at the back of the runner supporting member in order that the grinding surface of the wheel may project into a cut away portion of the supporting ledge 16 in the middle thereof. In this way movement of the supporting member 13 on the guide pins 12, 12 by means of the feed screw 14 causes the grinding wheel to variably project into the cut away portion of the supporting ledge for the desired grinding contact with the runner of a skate which is supported thereon.

A shoulder 17 at the back of the supporting ledge serves as a guide rail against which the runner of the skate is held while being moved over the supporting ledge in contact with the grinding wheel during the sharpening operation.

A pair of adjustable guide rollers 18, 18 are mounted in the supporting member so as to freely rotate thereon and engage and hold the runner against the supporting ledge in the proper grinding position during its movement past the grinding wheel. Each of the guide rollers is mounted on a suitable pivot stud 19 which is threaded into the supporting member with a spring 20 surrounding the stud to cause the roller to be yieldingly held elevated against the head 21 of the pivot stud. The pivot stud may thus be adjusted to raise or lower the guide rollers to accommodate different thicknesses of runners of ice skates in order to have the overhanging flange of the roller engage the side of the runner while the edge of the runner rolls over the reduced cylindrical portion of the rollers in its movement over the supporting ledge.

In Figure 4 I have illustrated a modified form for the guide rollers on each side of the grinding wheel. In this modified form the roller 22 is normally held in yielding contact with the supporting ledge by its stem 23 and a spring 24. For the grinding operation the runner of the skate is forced under the roller as it is moved over the supporting ledge and is yieldingly held thereagainst as the result thereof.

To provide clearance for one side of the end of the tubular member in which the runner of the skate is mounted when the curved end of the runner is moved past the grinding wheel, the supporting ledge is cut away or beveled at **25**. A similar cut away portion is also provided in the extension ledge **26** which is removably supported on the supporting member by means of the pins **27, 27** when the runner of the skate has a greater width than can be efficiently held in place on the supporting ledge proper.

The grinding wheel is covered by the guard housing **28** which is attached to the supporting member **13** by means of the lugs **29, 29** and bolts **30, 30.**

I claim:

1. In a skate sharpening apparatus adapted for use with a spindle and a grinding wheel carried by said spindle, the combination of an upright, a bracket supported by said upright, guide means spacedly held by said bracket on each side of said grinding wheel, a supporting member movable on said guide means while spacedly embracing a portion of said grinding wheel, a supporting ledge on said supporting member, said supporting ledge having a recess therein, and a feed screw revolvably mounted in said bracket and in threaded engagement with said supporting member to provide for the movement of said supporting member toward and away from said grinding wheel and cause said grinding wheel to adjustably project into the recess of said supporting ledge.

2. In a skate sharpening apparatus adapted for use with a spindle and a grinding wheel carried by said spindle, the combination of an upright, a bracket on said upright, guide means carried by said bracket, a supporting member movable on said guide means and arranged thereon to spacedly embrace a portion of said grinding wheel in its movement on said guide means, a supporting ledge on said supporting member with a recess extending transversely thereinto, a shoulder at the back of said supporting ledge on each side of said recess, and combined holding and guiding means overhanging said ledge from said shoulder so as to hold and guide the runner of a skate on said supporting ledge on each side of said recess in the movement of the runner on said ledge and over said recess in grinding contact with said grinding wheel.

3. In a skate sharpening apparatus as set forth in claim 2 in which said bracket is mounted to swing on said upright axially parallel to said spindle.

4. In a skate sharpening apparatus adapted for use with a spindle and a grinding wheel carried by said spindle, the combination of a hollow upright, a post adjustable in said upright, a bracket on said post, guide means spacedly held by said bracket on each side of said grinding wheel, a supporting member movable on said guide means and arranged thereon to spacedly embrace a portion of said grinding wheel in its movement on said guide member, a supporting ledge on said supporting member with a recess extending transversely thereinto, a pair of guide rollers revolvably mounted and vertically adjustable on said supporting member relative to said supporting ledge, one on each side of said recess, an overhanging flange carried by each of said rollers so as to overhang said supporting ledge in a plane parallel thereto and a feed screw revolvably mounted in said bracket and in threaded engagement with said supporting member for movement of said supporting member toward and away from said grinding wheel.

5. In a skate sharpening apparatus as set forth in claim 4 including an extension ledge removably mounted on said supporting member in front of said supporting ledge.

6. In a skate sharpening apparatus as set forth in claim 2 including a base for said upright and means for adjustably mounting said upright on said base.

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