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[54] **ICE SKATE SHARPENING DEVICE WITH A FLOATING SKATE GUIDING MEMBER**

[76] Inventor: **Arnold M. Thompson,** 181 Gary Ave., Wheaton, Ill. 60187

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[21] Appl. No.: **518,235**

[52] **U.S. Cl.** **51/102;** 51/228

[51] **Int. Cl.** **B24b 9/04**

[58] **Field of Search** ..... 51/102, 170 R, 170 PT, 51/228; 76/23

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Assistant Examiner—Nicholas P. Godici
Attorney, Agent, or Firm—Norman H. Gerlach

[57] **ABSTRACT**

A bench-mounted skate sharpening device embodying a base plate on which there is mounted an electric motor having a drive shaft which carries a rotary abrasive grinding wheel. A casing on the base plate encloses the grinding wheel and has an opening in its top wall which exposes a limited portion of the grinding wheel and renders the latter accessible for application thereto of a skate blade. A cradle member which is capable of limited oscillation within the opening adjustably receives thereon a skate blade guide assembly which defines a guide slot through which the skate blade to be sharpened is manually pushed longitudinally in order to draw the edge of the blade progressively and transversely across the periphery of the grinding wheel, the assembly being so designed that the lateral frictional thrust of the grinding wheel against the blade tends to bring the latter into coincidence with the general plane of the wheel. Micrometer-type adjustment is provided for shifting the skate blade guide assembly laterally on the cradle member in order to compensate for skate blades of varying thicknesses. The base plate, when loosely positioned on a bench or other subjacent supporting surface, is capable of limited rocking movement thereon and is spring-biased in a direction so that it will yield to the downward pressure exerted by the skate blade on the grinding wheel.

10 Claims, 7 Drawing Figures

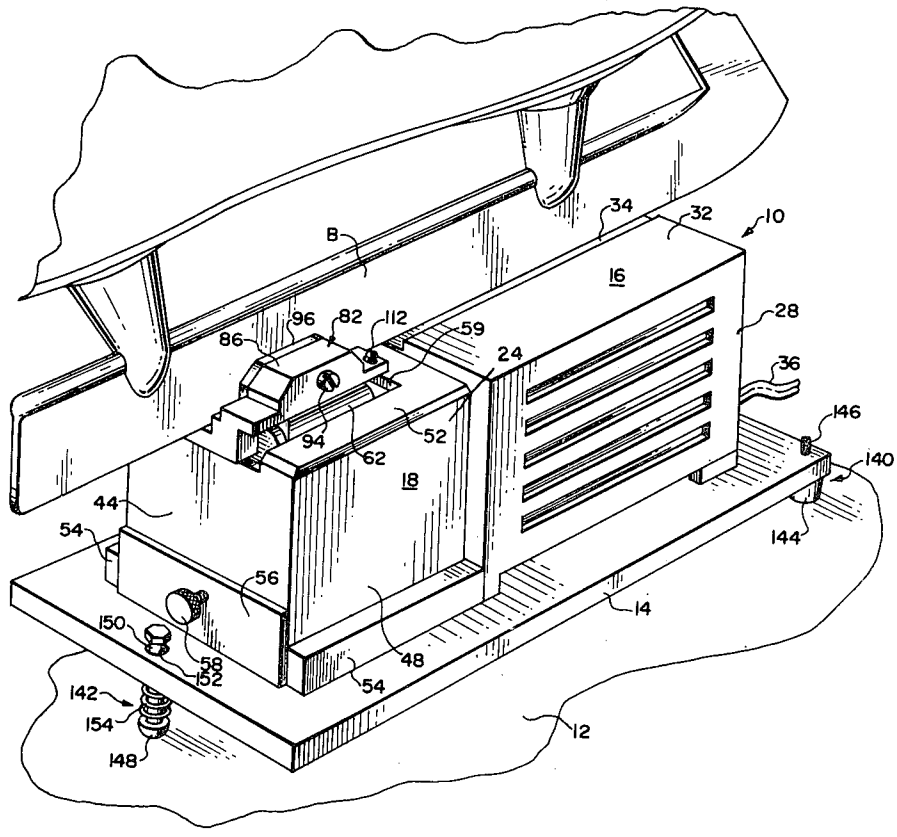

FIG. 1

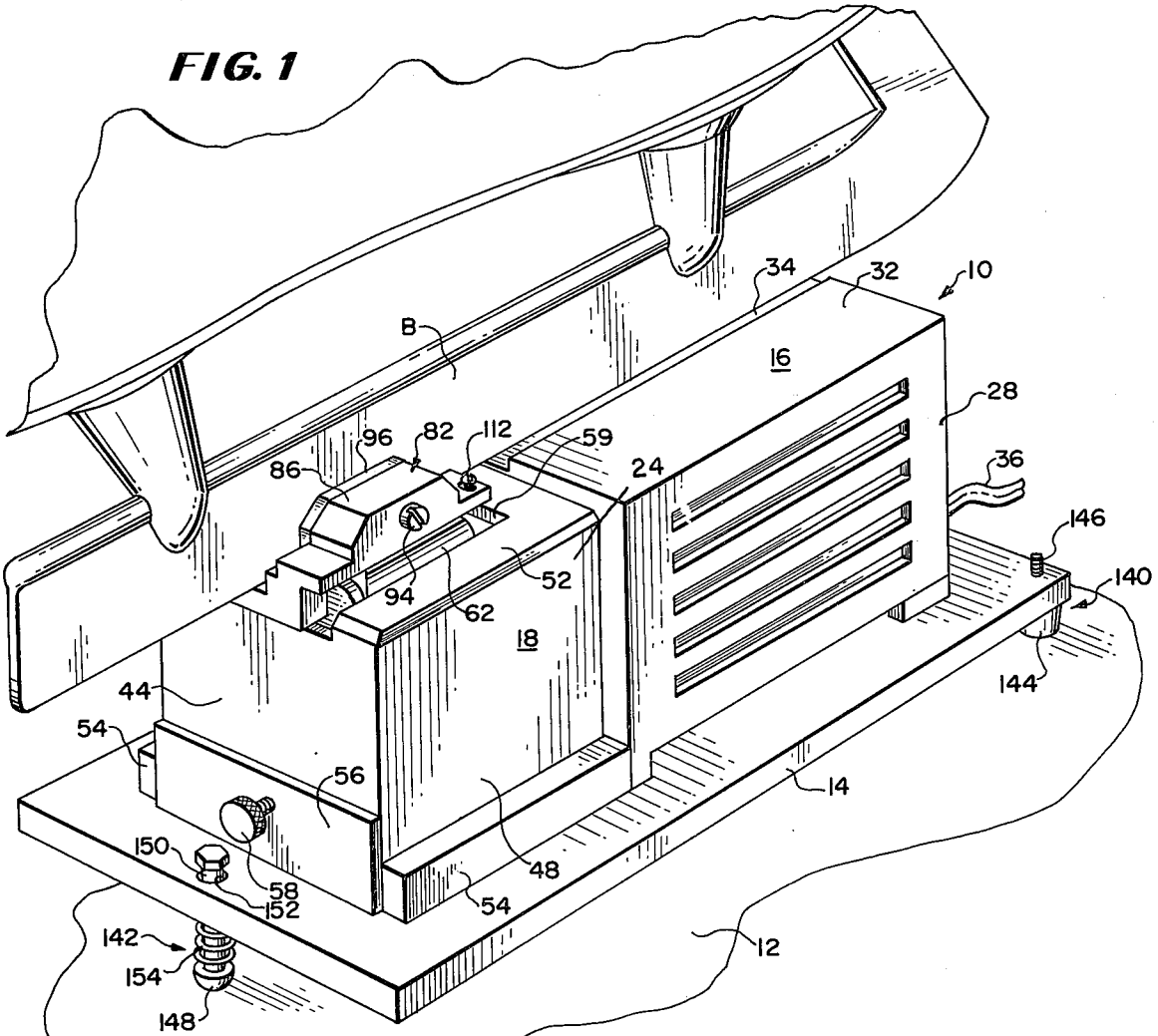
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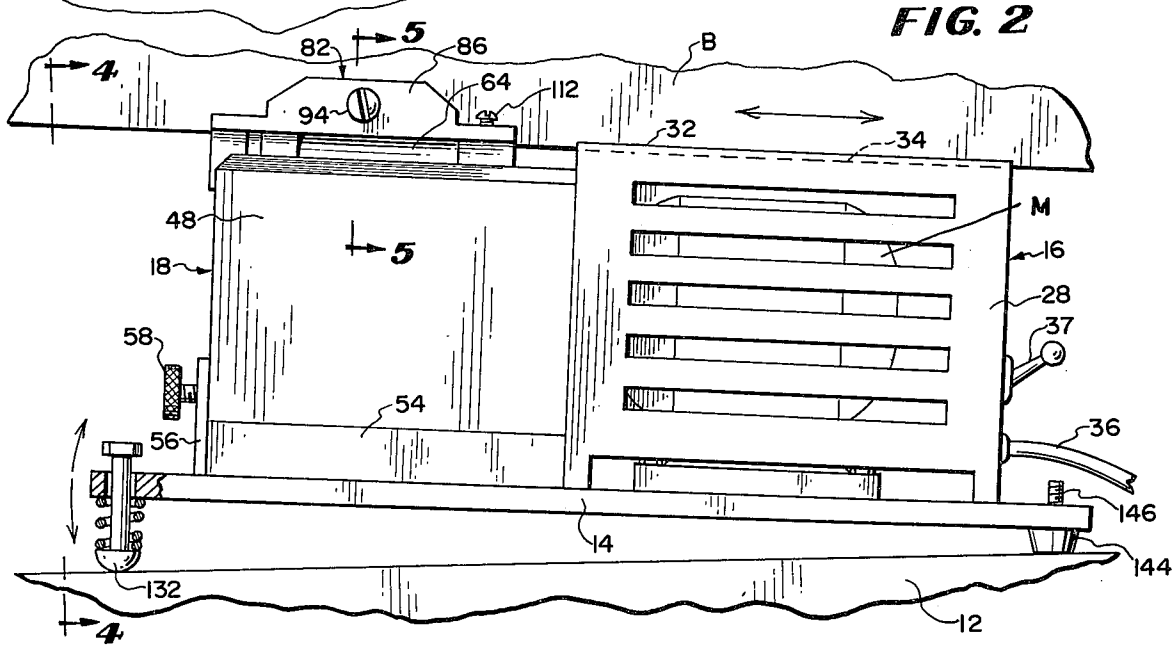
FIG. 2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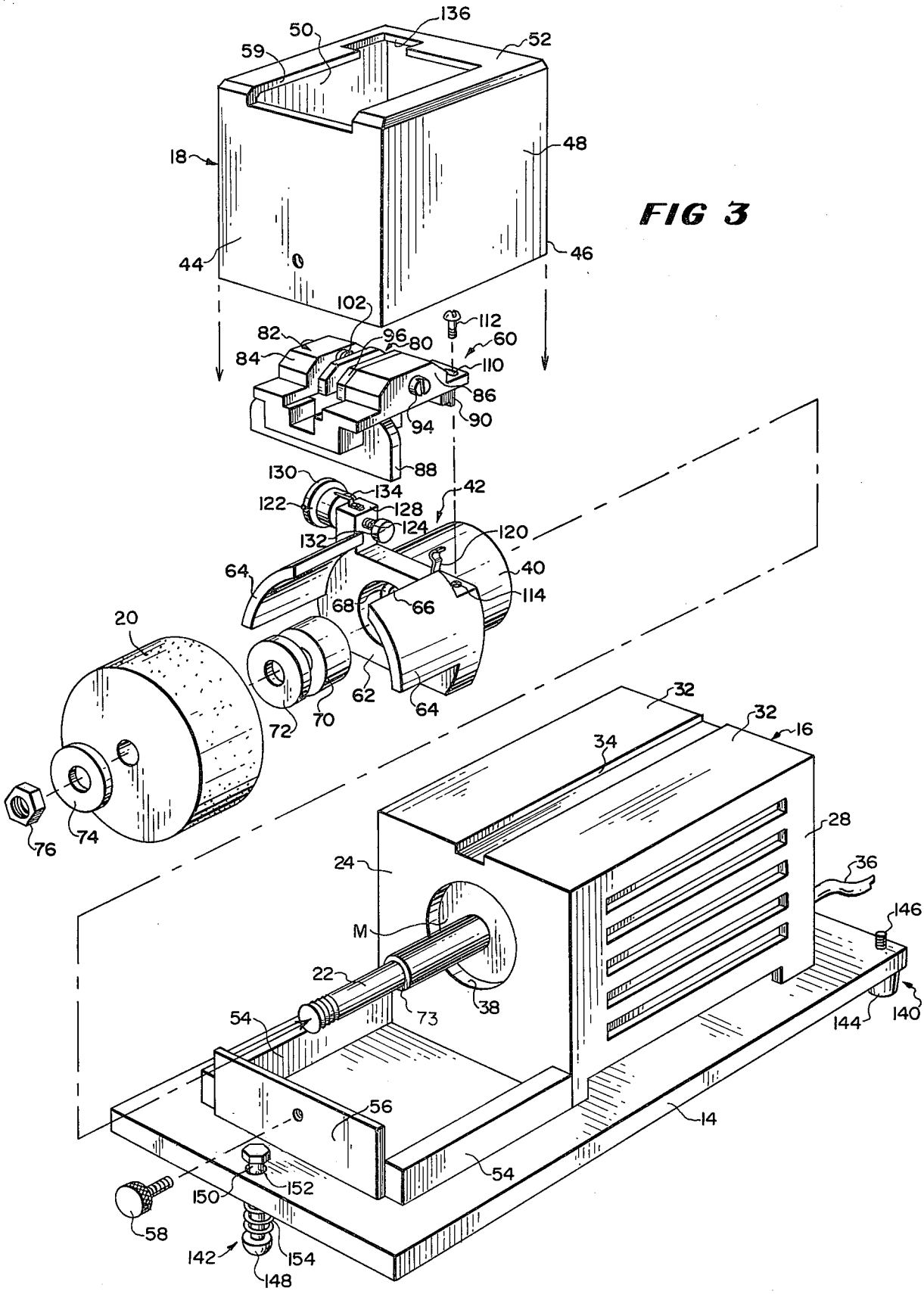
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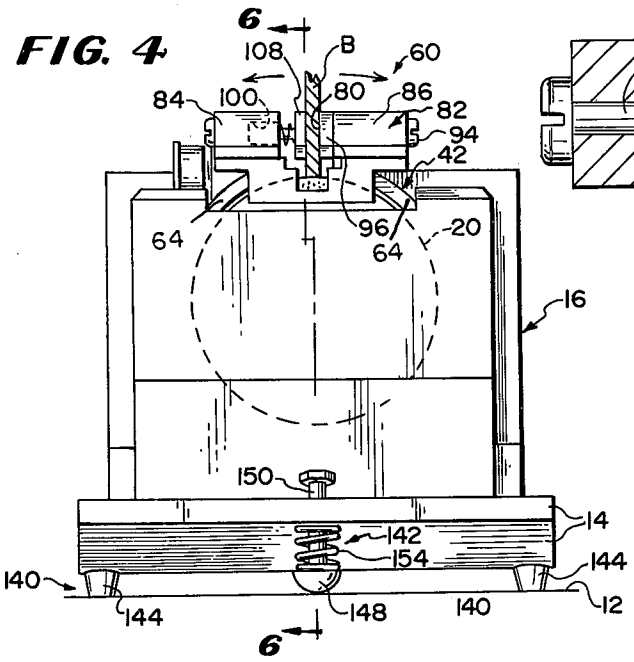
FIG 3

FIG. 4



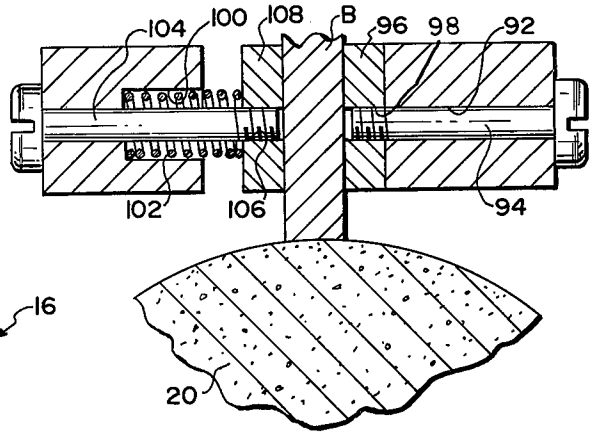
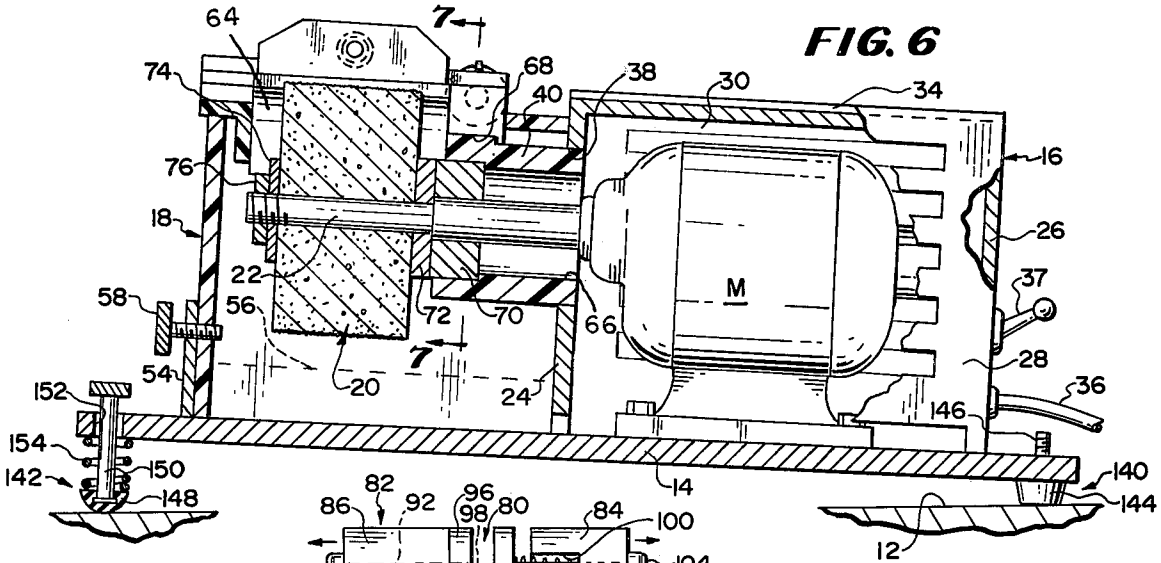


FIG. 5

FIG. 6



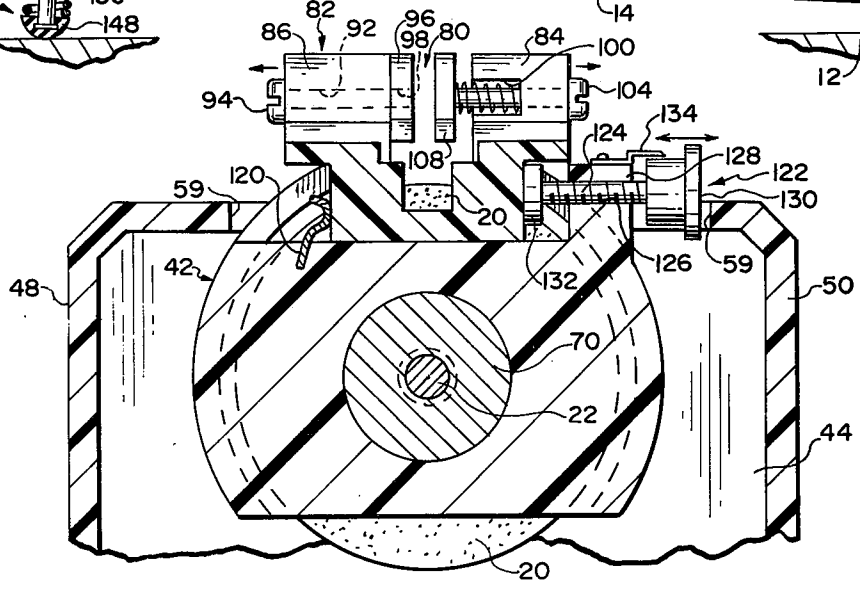


FIG. 7

ICE SKATE SHARPENING DEVICE WITH A FLOATING SKATE GUIDING MEMBER

The present invention relates to ice skate sharpening device and has particular reference to a novel bench-mounted device embodying a skate blade positioning or guiding assembly of the general type which is described in U.S. Pat. No. 3,812,626, granted to me on May 28, 1974, and entitled "ICE SKATE SHARPENING DEVICE." However, in the present ice skate sharpening device, the skate blade positioning or guiding assembly is adjustably mounted on a floating oscillatable cradle member which is possessed of limited circumferential movement in either direction about the axis of the grinding wheel to the end that the skate blade positioning or guiding assembly itself is similarly oscillatable and to the further end that said assembly may be effectively clamped in any selected position of adjustment on the cradle member in order to center the skate blade to be sharpened and bring it into coincidence with a diametric plane of the grinding wheel during skate blade sharpening operations.

In the skate sharpening device of my aforementioned patent, the function of the aforementioned skate blade postioning or guiding assembly, when considered as a unit, is to define a skate blade guide slot through which the skate blade undergoing sharpening is adapted to be drawn in a lengthwise direction and which, when so drawn, maintains the skate blade properly addressed to the grinding wheel so that there will be neither angular tilting of the blade within the slot nor lateral displacement of the blade within such slot. In either event, angular tilting or lateral displacement of the blade would result in obliteration of one of the two sharp longitudinal edges of a properly hollow ground skate blade. The blade-receiving guide slot of both the patented device and the device of the present invention is established by the provision of a pair of wear plates which straddle the skate blade and one of which is yieldingly biased against the skate blade. The tendency of such yieldingly biased wear plate is to urge the skate blade toward an erect position where the general plane of the skate blade coincident with the plane of the grinding wheel where skate blades of varying width are concerned, it is necessary to maintain an inventory of different width wear plates and to effect wear plate substitution whenever a change in the thickness of a skate blade which is to be sharpened is encountered. Stated otherwise, in the patented device, assuming that a given pair of wear plates, when installed in the skate blade positioning or guiding device, will function properly to maintain a given skate blade not only erect, but also to cause its general plane to coincide with that of the grinding wheel, then a uniform and symmetrical hollow grind will obtain on the skate blade. These same wear plates will thereafter function properly for skate blade erection purposes, providing that the thicknness of successive skate blades undergoing sharpening is not changed. Assuming now that a wider skate blade is to be sharpened, if such blade is forced into the slot defined by the opposed wear plates, skate blade erection will take place, but because only one of the wear plates is yieldable, the skate blade will become offset laterally by a distance equal to one-half the thickness differential between the original skate blade and the wider skate blade. The extent of this later offset, although relatively small and on the order of only five-thousandths

of an inch, nevertheless is of sufficient magnitude as to shift one of the two sharp skate blade skating edges on opposite sides of the previously formed hollow grind directly onto the periphery of the grinding wheel, thereby eradicating such sharp skating edge altogether. For this reason, it is necessary with the patented device to make a substitution of wear plates, utilizing wear plates which are of lesser thickness.

Another and important feature of the present invention resides in the provision of a floating support for the entire device, such support being in the form of a spring mounting for the forward end of the elongated base plate on which the operative skate sharpening instrumentalities are effectively mounted. The rear end region of the base plate is tiltably or pivotally supported directly on the bench or other subjacent surface which supports the device while the front end region of the base plate is floatingly supported by means of a compression spring which yields under the weight of the device, as well as under the downward thrust which is exerted on the grinding wheel during skate-sharpening operations. By such an arrangement, unequal or varying downward thrust of the skate blade on the grinding wheel during skate blade traverse is equalized and a more uniform hollow grind of the skate blade is obtained.

The provision of a skate blade sharpening device such as has briefly been outlined above constitutes the principal object of the present invention.

Another object of the invention is to provide an ice skate sharpening device which is generally of new and improved construction and is characterized by ease and high efficiency of operation.

Further objects and advantages of the invention, not at this time enumerated, will readily suggest themselves as the nature of the invention is better understood from a consideration of the following detailed description.

The invention consists in the several novel features which are hereinafter set forth and are more particularly defined by the claims at the conclusion hereof.

In the accompanying three sheets of drawings forming a part of this specification, one illustrative embodiment of the invention is shown.

In these drawings:

FIG. **1** is a perspective view of an ice skate sharpening device embodying the principles of the present invention, such view showing a skate blade in the process of being sharpened;

FIG. **2** is a side elevational view of the device of FIG. **1**;

FIG. **3** is an enlarged exploded perspective view of the major operating components of the device;

FIG. **4** is a front end elevational view of the device of FIG. **2**, the skate blade being shown in transverse section;

FIG. **5** is an enlarged fragmentary sectional view taken on the line **5—5** of FIG. **2**;

FIG. **6** is a longtitudinal sectional view taken on the line **6—6** of FIG. **4**; and

FIG. **7** is an enlarged transverse sectional view taken on the line **7—7** of FIG. **6**.

Referring now to the drawings in detail and in particular to FIGS. **1** and **2**, a skate sharpening device embodying the principles of the present invention is designated in its entirety by the reference numeral **10**, the device being essentially a bench model type, which is to say that, when it is being used for skate-sharpening

purposes, it is adapted to be positioned on a bench, table top, or other planar horizontal supporting surface such as that which is designated by the reference numeral **12** in FIGS. **1** and **2.** Functionally, the device **10** is of the general type wherein a skate blade which is to be sharpened is drawn longitudinally through a slot which is defined by a skate blade positioning, guiding and supporting assembly, and the skate blade, in so moving, has its edge drawn progressively and transversely through the slot and over the periphery of a rapidly rotating grinding wheel.

Referring additionally to FIGS. **4** and **6** of the drawings, the device **10** involves in its general organization a rectangular base plate **14** on which there is fixedly mounted a housing **16** for an electric motor M. The base plate **14** also has mounted thereon a casing **18** which is located directly in front on the housing **16** and defines an enclosure for a grinding wheel **20,** the latter being mounted on the forward projecting end of the shaft **22** of the motor M. The housing **16** is of rectangular box-like configuration and includes front and rear walls **24** and **26,** louver-equipped side walls **28** and **30,** and a top wall **32,** the latter being provided with a centrally disposed longitudinally extending groove **34** (see in particular FIG. **3**) which serves a function that will be made clear presently.

The bottom portion of the box-like housing **16** is open so that the base portion of the motor M may seat directly on the base plate **14** as clearly shown in FIG. **6.** An electric lead-in cable **36** extends through the rear wall **26** of the housing **16** and said rear wall serves to support the usual off-on switch **37** for effecting manual control of the motor M. The front wall **24** of the housing is provided with a circular opening **38** therethrough and the front end portion of the motor shaft **22** projects forwardly through this opening. The latter is appreciably larger in diameter than the diameter of the motor shaft **22** by reason of the fact that it serves rotatably to receive therein the rear projecting end of a tubular extension **40** (see also FIG. **3**) which is provided on a circumferentially shiftable or oscillatable floating cradle member **42,** the nature and function of which will be described in detail hereafter.

As best shown in FIG. **3** of the drawings, the casing **18** is preferably formed of a suitable plastic material, if of box-like configuration, and includes a front wall **44,** side walls **48** and **50,** and an interrupted top wall **52,** the bottom and rear end portions of the casing being open. The lower rim of the casing **18** is adapted to seat on the upper face of the base plate **14** with the rear open end portion of the casing abutting against the front wall **24** of the housing **16** so that the housing and casing assume a contiguous relationship on the base plate **14.** The casing **18** is maintained in its longitudinally centered position on the base plate by means of a pair of side members **54** and an end plate **56,** these members and plate, in combination with the front wall **24** of the housing **16,** providing in effect a pilot space for the lower rim region of the casing **18.** A locking screw **58** with a knurled head extends through the end plate **56** and serves releasably to secure the casing **18** in a fixed position on the base plate.

Referring now to FIGS. **4** and **6** of the drawings, it will be observed that the elevation of the motor shaft **22** above the base plate **14** and the diameter of the grinding wheel **20** are such that the periphery of the grinding wheel lies slightly below the horizontal level of the upper face of the top wall **32** of the motor housing **16.** The top wall **52** of the casing **18** lies slightly below the level of the top wall **32** of the housing **16,** while the peripheral region of the grinding wheel **20** projects upwardly through a generally rectangular opening **59** (see FIG. **3**) which is formed in the top wall **52** (see FIGS. **1** and **3**) where it is exposed for skate blade-sharpening purposes.

The aforementioned cradle member **42,** of which the tubular extension **40** forms a part, is best illustrated in FIG. **3** and is preferably but not necessarily formed of a suitable plastic material. This cradle member **42** functions as a rocking support for a skate blade-positioning or guide assembly **60,** the latter being adjustably mounted on the cradle member in a manner and for a purpose that will become clear presently. The cradle member **42** is in the form of a metal casting and has a body portion **62** from which there projects forwardly a pair of wing-like shields **64** (see FIGS. **3** and **7**) which straddle the upper region of the grinding wheel **20.** The aforementioned tubular extension **40** of the cradle member **42** has formed therein a central cylindrical bore **66** (see FIGS. **3, 6** and **7**) through which the front end portion of the motor shaft **22** projects and this bore is provided with a forward counterbore **68** which receives therein a bearing sleeve **70.** The latter surrounds the motor shaft **22** and constitutes a means for rockably supporting the cradle member **42** on the shaft for limited swinging movement from side to side throughout a small arc of movement. A washer **72** is disposed immediately forwardly of the sleeve **70,** bears against an annular shoulder **73** of the shaft **22,** and cooperates with a clamping washer **74** and a nut **76** on the forward end of the shaft fixedly to secure the grinding wheel on the shaft.

The aforementioned skate blade guide assembly **60** is adjustably mounted on the cradle member **42** for limited sliding movement in a generally tangential direction with respect to the periphery of the grinding wheel **20.** This assembly, when secured in any selected position of adjustment on the cradle member **42,** is thereafter movable bodily with such cradle member as the latter is oscillated in either circumferential direction under the influence of manual skate blade movements during a skate sharpening operation. As will become readily apparent when the nature of the skate blade guide assembly **60** is set forth, this assembly defines an adjustable width blade-receiving slot **80** (see FIGS. **3,** 4 and **7**) through which a skate blade, such as the blade B of FIGS. **1, 2, 4** and **5,** is adapted to be drawn longitudinally, while at the same time such blade is maintained in frictional contact with the upper peripheral portion of the grinding wheel **20.** The width of the slot **80** is adjustable to accommodate skate blades of varying widths. It is obvious that, regardless of skate blade width, it is essential when skate blade-sharpening operations are in progress, that the plane of the skate blade be maintained in true diametric relationship with respect to the rotating grinding wheel **20** so that the sharp skating edges of the hollow grind which is created in the skate blade edge will lie in the same horizontal plane when the skate blade is vertical. This necessitates that for any given width of the slot **80,** the medial plane of the skate blade must coincide with a diameter of the grinding wheel. The function of the skate blade guide assembly **60** is to inhibit angular inclination of the skate blade from side to side, while the function of the cradle

member 42 is to center the skate blade so that, as aforesaid, it will be coincident with a diametric plane of the rotating grinding wheel 20 during skate blade-sharpening operations.

Accordingly, and as best illustrated in FIG. 3, the skate blade guide assembly 60 involves in its general organization a rigid one-piece guide block 82 having two substantially identical, laterally spaced, arched side wings 84 and 86, the latter being connected together near their ends by a front base strut 88 and a rear base strut 90. The side wing 86 has formed therein a smooth bore 92 (see FIGS. 5 and 7) which receives a horizontally extending adjusting screw 94 by means of which a shoe-like wear plate 96 having a tapped hole 98 therein may be fixedly clamped to the inside face of the side wing 86. The side wing 84 has formed therein a horizontally extending socket 100 within which there is seated one end of a helical compression spring 102. The other end of the spring 102 projects a small distance outwards of the open end of the socket 100. A horizontally extending screw 104 projects loosely through a hole in the inner end wall of the socket 100 and has its left-hand end as viewed in FIG. 5 received in a tapped hole 106 in a second shoe-like wear plate 108. The other end of the screw 104 has an enlarged kerf-equipped head which abuts against the outer side face of the side wing 84. The spring 102 maintains the wear plate 108 spaced from the inside face of said side wing 84 of the guide block 82 and in opposed relationship with respect to the wear plate 96.

As best shown in FIG. 7 of the drawings, when the two wear plates 96 and 108 are assembled on the guide block 82, they assume spaced apart positions between the two arched side wings 84 and 86 with the wear plate 96 fitting against the inside face of the side wing 86 and with the wear plate 108 assuming a position slightly spaced from the inside face of the side wing 84. In this assembled position, the two wear plates 96 and 108 define therebetween the aforementioned blade-receiving slot 80 through which the skate blade is adapted to be drawn in a longitudinal direction during skate blade sharpening opertions while the edge of the blade contacts the upper portion of the periphery of the rotating grinding wheel 16 as shown in FIG. 5.

The arrangement of parts thus far described insofar as the guide block 82 and its associated movable and fixed wear plates 108 and 96 are concerned is substantially identical with the guide block assembly of the skate sharpening device of my aforementioned U.S. Pat. No. 3,812,626 and no claim is made herein to any novelty associated with such assembly per se, the novelty of the present invention residing to a large extent in the mounting of such assembly on an oscillatable cradle member, such as the member 42, in order to allow for limited freedom of side sway of the guide block assembly during skate blade-sharpening operations, thus inhibiting any tendency of the skate blade B undergoing sharpening to tilt out of the general or medial plane of the grinding wheel.

The manner in which the skate blade guide assembly 60 is adjustably clamped to the cradle member 42 and the manner in which it may be adjusted in its positional relationship on such cradle member 42 is best shown in FIG. 3. The end portion of the arched side wing 86 which is nearer the housing 16 is provided with a transverse slot 110 which receives therethrough a clamping screw 112, the lower end of which is threadedly received in a tapped hole 114 in that portion of the body portion 62 which is directly beneath the slot 110. The rear end portions of each of the two side wings 84 and 86 rests squarely on the flat upper surface of said body portion 62 of the cradle member 42 and, when the clamping screw 112 is tightened, this screw constitutes the sole means for retaining the guide block 82 in position in its adjusted position on the cradle member.

In order to adjust the position of the guide block 82 on the cradle member 42, an upstanding leaf spring 120 (see FIGS. 3 and 7) is provided and this projects upwardly from the flat upper surface of the body portion 62 of the cradle member 42, the lower portion of the leaf spring being suitably embedded in the material of which the cradle member is formed. The upper portion of the leaf spring 120 bears against one end portion of the rear base strut 90 of the guide block 82 and receives the reaction thrust of a horizontally extending micrometer-type adjustment screw 122. The latter has a threaded shank portion 124 which passes through a horizontally extending threaded bore 126 in an upstanding post 128 which is formed on the body portion 62 of the cradle member 42. At one end the adjustment screw 122 is provided with an enlarged indicia-bearing head 130, and its other end the adjustment screw is provided with a circular thrust plate 132 which bears against the side of the body portion 62 of the cradle member 42 that is opposite the leaf spring 120. A pointer 134 which is fastened to the upstanding post 128 overlies the indicia on the cylindrical body of the head 130 and cooperates with the same in the usual manner of micrometer adjusting members. The post 128 is offset laterally and outwardly of the body portion 62 of the cradle member 42 and a correspondingly offset cut-out or notch 136 (see FIG. 3) is associated with the opening 59 in order to accommodate such post when the various heretofore mentioned parts are assembled.

Generally speaking, the blades of commercially available ice skates are made in three widths representing figure skates, racing skates, and hockey skates. The difference between the widest blades of these skates and the narrowest is approximately three-tenths of an inch and the adjusting screw 94 for the wear plate 96 is so designed that it will accommodate the transition of the width of the slot 80 from one width blade to another.

In order that after a change in the adjustment of the width of the slot 80 has been effected, such change will offset the slot, and consequently, the skate blade B which is drawn through the slot by a distance which is equal to one-half of the difference between the change in skate blade and slot width. To compensate for this, and also to bring the centerline of the slot 80 into coincidence with a vertical diametric plane of the grinding wheel, it is necessary to loosen the clamping screw 112 and actuate the micrometer adjustment screw 122 accordingly, after which the clamping screw 112 is adapted to be retightened in order to cause the various parts to remain in the respective adjusted positions. The adjustment of the micrometer adjusting screw 122 is a relatively small one, the change from one size thickness of skate blade to the next larger or smaller size being only on the order of five-thousandths of an inch. Therefore, only three indicia marks need be applied to the indicia-bearing head 130 of the micrometer-type adjusting screw 122, there being one indicia for each type of skate blade.

It has been pointed out that the heretofore described rocking cradle member **42** by means of which limited side-to-side oscillation of a skate blade being pulled for forced through the slot **80** is made possible, constitutes another principal feature of the present invention. The micrometer adjustment of the skate guide block **82** on the cradle member **42** constitutes another principal feature of the invention. A third and important feature of the invention resides in the provision of a floating mounting for the base plate **14,** and consequently, for the entire skate sharpening device. This floating mounting is established by the provision of a three point suspension for the base plate **14** wherein the rear end region of the base plate is tiltably or pivotally supported by way of a pair of rear fixed foot members **140** (see FIGS. **1, 2, 3** and **6**) at the two rear corners of the rectangular base plate, and the front end region of the base plate is yieldingly supported by way of a single floating plunger-like front foot member **142.** Each rear foot member is in the form of a rubber or other elastomeric pad **144** having an upstanding metal shank **146** which is threadedly received in one of the rear corners of the base plate **14.** The front foot member **142** includes an elastomeric button-like pad **148** and an upstanding headed shank **150** which passes loosely through a vertically extending opening **152** in the central portion of the front end region of the base plate **14.** A helical compression spring **154** encompasses the shank **150,** is interposed between the base plate and the pad **148,** and serves to assimilate the weight of the forward end region of the entire skate sharpening device. By reason of the floating front foot member **142,** the downward thrust which is transmitted to the base plate **14** due to downward pressure on the skate blade when the latter is manually drawn through the slot **80** and against the grinding wheel **20** is assimilated by the compression spring **154,** the arrangement being such that sudden changes in downward pressure against the grinding wheel are dissipated in the spring **140,** thereby tending to distribute the abrasive action which is applied to the skate blade undergoing sharpening equally along its longitudinal extent. It is comtemplated that in the use of the skate sharpening device **10,** the operator will not exert undue downward pressure on the grinding wheel in excess of that which ordinarily would cause the compression spring to go solid.

In the operation of the herein described skate sharpening device **10** preparatory to performance of the sharpening operation on any given skate, the type of skate blade to be sharpened will be noted and the adjusting screw **104** will be manipulated to regulate the width of the skate blade-receiving slot **80** accordingly. Thereafter, if necessary and in order to center the slot **80** with respect to the grinding wheel **20,** i.e., to insure that a diametric plane of the grinding wheel passes centrally and radially through the slot, the clamping screw **112** will be loosened and the micrometer adjusting screw **122** will be manipulated in the proper direction to slide the entire skate blade guide assembly **60** laterally on the cradle member **42** to a centered position, after which the clamping screw **112** will be again tightened. The device **10** is then conditioned for the commencement of skate blade-sharpening operations.

After the switch **37** has been shifted to its "on" position and the electric motor M has become energized to cause rapid rotation of the grinding wheel **20,** the skate blade B will be introduced into the slot **80** between the two wear plates **96** and **108** and brought to the substantially horizontal position in which it is shown in FIG. **1,** the slot **34** affording a clearance region so that the housing **16** for the motor M will not interfere with free movement of the skate blade back and forth longitudinally through the slot **80.** During such back and forth longitudinal movement of the skate blade B, the sides of the elongated slot **34** will, to a large measure, preclude any tendency for the operator to twist the skate blade horizontally out of the general plane of the grinding wheel **20.**

It has previously been stated that the skate blade guide assembly **60** is substantially identical with the guide block assembly which is disclosed in my U.S. Pat. No. 3,812,626, and that its function remains substantially the same. For a full description of such function, reference may be had to such patent, the entire disclosure of which, insofar as it is consistent with the present disclosure, is hereby incorporated in and made a part of the present specification. Briefly, however, it is pointed out that an unskilled operator, usually a child, will push the skate blade B into the slot **80** and and apply the same to the grinding wheel **20** in a manner that will give him the least resistance. The net result of this is an initial angular application of the blade to the grinding wheel. Ordinarily, a continuance of sharpening operations on this angular bias would result in the obliteration of one of the two sharp skating edges of the hollow grind which it is intended shall be preserved and sharpened. By reason of the particular skate blade guide assembly **60** which includes the spring-biased wear plate **108,** the tendency for the skate blade is to erect itself to a position of coincidence with the general plane of the grinding wheel. With the skate blade thus erect, the floating oscillatable cradle member **42,** which is capable of limited circumferential motion about the axis of the motor shaft **22** due to the bearing sleeve **70** and the rotational fit of the tubular extension **40** in the circular opening **30** in the front wall **24** of the housing **16,** may freely follow any side-to-side displacement of the skate blade, thus further inhibiting any tendency for the operator to incline the skate blade and insuring that the latter at all times lie in the general plane of the grinding wheel **20.**

As previously described, the front floating foot member **142** allows for a limited rocking movement of the entire skate-sharpening device **10** about the horizontal axis subtended by the two fixed foot members **140,** thereby tending to equalize the application of downward force against the grinding wheel by the skate blade.

The invention is not to be limited to the exact arrangement of parts shown in the accompanying drawings or described in this specification as various changes in the details of construction may be resorted to without departing from the spirit or scope of the invention. Therefore, only insofar as the invention is particularly pointed out in the accompanying claims is the same to be limited.

Having thus described the invention what I claim as new and desire to secure by Letters Patent is:

1. A skate blade sharpening device adapted to hollow grind the effective supporting edge of a skate blade and comprising a base plate adapted for positioning on a bench top or the like, an electric motor mounted on said base plate and having a drive shaft projecting forwardly therefrom, a circular abrasive grinding wheel

fixedly mounted on the forward end of said shaft, a casing emcompassing said wheel and a portion of the shaft, the upper region of said casing being provided with an opening which exposes a limited peripheral region of the wheel for transverse application thereto of the skate blade at such time as the supporting edge of the latter is drawn progressively and longitudinally through the slot, a floating cradle member at least in part encompassing said shaft and capable of limited free oscillation about the axis of the shaft, and a blade-positioning and guide assembly defining a blade-receiving slot for sliding reception therein of the skate blade and adjustably mounted on the cradle member for small increments of lateral adjustment in a generally tangential direction with respect to the grinding wheel.

2. A skate blade sharpening device as set forth in claim **1** and wherein one side wall of said blade-receiving slot is laterally yieldable and normally serves to displace the skate blade and compress the same against the opposite side wall of the slot, said latter side wall being fixed with respect to the blade-positioning and guide assembly.

3. A skate blade sharpening device as set forth in claim **2** and wherein said blade positioning and guide assembly is slidable bodily on said cradle member, and means are provided for releasably clamping said assembly in selected positions of lateral adjustment.

4. A skate blade sharpening device as set forth in claim **3** and wherein a micrometer adjusting screw is provided for adjusting the position of the blade-positioning and guide assembly on said cradle member when the clamping means is released.

5. A skate blade sharpening device as set forth in claim **4** and wherein bearing means are interposed between said motor shaft and floating cradle member and are effective at least in part movably to support the latter on the motor shaft during rotation of the latter.

6. A skate blade sharpening device as set forth in claim **5** and wherein a housing is provided for the electric motor and is mounted on the base plate, the housing includes a front wall having a circular opening therein, and the cradle member includes a rearward tubular extension which projects loosely into said circular opening, said tubular extension and circular opening constituting additional bearing means for movably supporting the cradle member.

7. A skate blade sharpening device as set forth in claim **6** and wherein said housing for the motor is provided with a top wall the general plane of which is horizontal and is disposed approximately in tangential relationship with respect to the grinding wheel, and an elongated longitudinally extending clearance slot is formed in said top wall for guiding the skate blade through said blade-receiving slot.

8. A skate blade sharpening device as set forth in claim **7** and wherein spring means are provided for yieldingly supporting said base plate on said bench top, said spring means being designed to assimilate the downward thrust of the skate blade on the grinding wheel during skate-sharpening operations.

9. A skate blade sharpening device as set forth in claim **8** and wherein said spring means is effective between the forward end region of the base plate and the bench top, whereby when the rear end region of the base plate is effectively positioned on the bench top, the base plate is supported on the latter for limited fore and aft rocking movement.

10. A skate blade sharpening device as set forth in claim **1** and wherein spring means are provided for yieldingly supporting said base plate on the bench top, said spring means comprising a plunger-like foot member projecting through an opening adjacent to the forward end region of the base plate, and a compression spring encompassing said foot member and yieldingly urging the latter downwardly.

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