

Search history

Search [SP]: A device 1 for sharpening a cutting tool blade (2) of a knife type or the like, comprising at least two flexible disks (3) each having a grinding inner face (3a) with their disks The abrading faces (3a) face each other and are mounted to rotate in the same direction and at the same speed around the same axis (4), characterized in that the sharpening device (1) comprises: a pressure device (5) arranged on the outside and clamping the flexible disk (3) along a non diametric chord, a means (6) for applying a load on the inside of the disc and on the inner face (3a) of the disc (3), which is bounded by the chord and not traversed by the shaft (4) In the portion, the selection of the positioning of the internal device (6) relative to the pressure device (5) defines a sharpening angle (α). (Results 0)

Search FT=(sharp* and device and (knife or blade) and flexible and disk* and (abrasive or grind*)) and PD<20170207 and CPC=(B24B) (Results 2: 111)

Search FT=(sharp* and device and (knife or blade) and flexible and disk* and (abrasive or grind*)) and PD<20170207 and CPC=(B24B 3/54) (Results 0)

Search FT=(sharp* and device and (knife or blade) and flexible and disk* and (abrasive or grind*)) and PD<20170207 and CPC=(B24B3/54) (Results 14)

1) Family number: 52204093 (US2014057537A)

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Title: SHARPENING DEVICE FOR CUTTING BLADE

Priority: EP20110730071 20110420 WO2011B51710 20110420

Family:

Publication number	Publication date	Application number	Application date
DE602011014811 D1	20150430	DE201160014811T	20110420
EP2699384 A1	20140226	EP20110730071	20110420
EP2699384 B1	20150318	EP20110730071	20110420
US2014057537 AA	20140227	US20110112014	20110420
US9095949 BB	20150804	US20110112014	20110420
WO12143755 A1	20121026	WO2011B51710	20110420

Probable Assignee: MENEGON ENNIO

Assignee(s):(std): MENEGON ENNIO

Inventor(s):(std): MENEGON ENNIO

Agent(s): BERGAMINI SILVIO; THEMIS LAW

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B24B21/00 B24B21/02 B24B27/00 B24B3/54 (Advanced/Invention)

CPC: B24B3/54 B24B27/0076 B24B21/002

European class: B24B21/00C B24B3/54

US class: 1/1 451/302

[Classification Explorer](#)

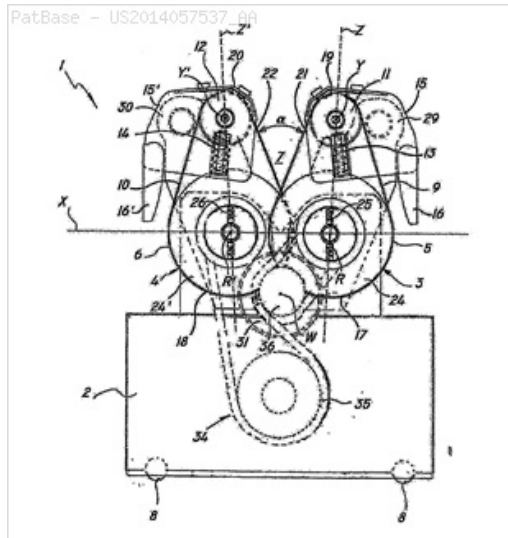
Cited documents: US8282448 BB, US7878753 BB, US7179157 BB, US7156728 BA, US5573450 A, US5407380 A, US5299659 A, US5168656 A, US4617763 A, US3526061 A, US2391322 A, US2319311 A, US2262401 A, US2222361 A, US2124593 A, US2124592 A, US2011136412 AA, US2007054608 AA, US2006041448 AA, US2004166774 AA, US2004132391 AA, GB961090 A, GB2168630 A1, EP2014414 A1, DE886254 A,

DE102008033547 A1

Forward Citations: WO17020350, US9914193, US9731395,

Abstract:

A sharpening device for cutting blades includes a support shell, at least two rollers rotatably mounted to the shell for rotating about respective substantially parallel first rotation axes and offset along a first substantially radial center-to-center direction, the rollers having respective contiguous grinding peripheral surfaces delimiting a working zone designed to receive a blade to be sharpened, the grinding surfaces being elastically yieldable to conform to the profile of the blade.

**2) Family number: 21549231** (DE1144613B)

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Title: ALS ZUSATZGERAET AN EINEN HOCHTOURIGEN ANTRIEBSMOTOR ANSCHLIESSBARER
MESSERSCHAERFER AS AN ZUSATZGERAET a high-speed DRIVE MOTOR connectable
MESSERSCHAERFER (Machine translation)

Priority: DE1957N013937 19570725

Family:	Publication number	Publication date	Application number	Application date
	DE1144613 B	19630228	DE1957N013937	19570725
	US2733553 A	19560207		00000000

Probable Assignee: NUTONE INC

Assignee(s):(std): NUTONE INC

Inventor(s):(std): SPEAR WALTER A ; SPRAGUE LINDOL H

International class
(IPC 8-9): B24B3/54 (Advanced/Invention);
B24B3/00 (Core/Invention)

CPC: B24B3/54

European class: B24B3/54

US class: 451/194 451/486

[Classification Explorer](#)

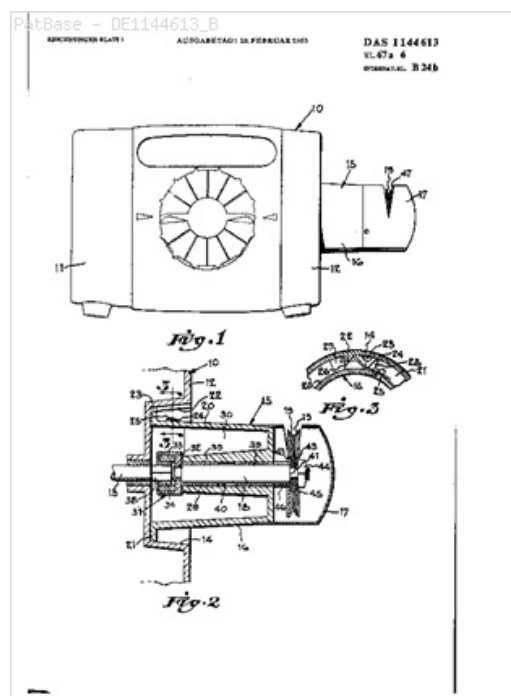
Cited documents: US945499 A, US726974 A, US466293 A, US288099 A, US2735247 A, US2646653 A, US2570564 A, US2420814 A, US2114106 A, US1955129 A, US1558194 A, US1415375 A, US1068973 A, FR1048942 A, DE850858 A,

Forward Citations: US5185959, US2008274675, JP2013233612, DE1174202,

Abstract:

Source: DE1144613B [DE] (Claim1) PATENTANSPRUCH: Als Zusatzgeraet an einen hochtourigen An triebsmotor anschliessbarer Messerschaerfer mit auf gemeinsamer Welle sitzendem Schaerfscheiben- paar, dessen Schleifraender ohne Seitenstuetzung symmetrisch zur Mittelebene eine V-Rille bilden, dadurch gekennzeichnet, dass die Schleifscheiben (19) aus elastischem Material gebildet sind und ihr V-foermiger Umfangsrand beim Umlauf unter Fliehkraftwirkung elastisch an die zu schleifende Klinge angepresst ist.

Machine translation: (Claim1) PATENT CLAIM: As accessory equipment characterized to a high-speed in impulse engine connectable more measurer-sharply also teeth grinder sitting on common wave few, whose edges of sharpening without side supporting form a V-groove symmetrically to the centre plane, by the fact that the grinding wheels (19) from flexible material are formed and are flexibly pressed against the blade their which can be sharpened V-shaped edge of extent with the circulation under centrifugal force effect.



3) Family number: 20887244 (FR1490737A)

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Title: APPAREIL POUR AFFUTER ET AIGUISER EN PARTICULIER DES OBJETS DE QUINCAILLERIE, TELS QUE COUTEAUX, CISEAUX ET ANALOGUES APPARATUS FOR GRINDING AND GRINDING IN PARTICULAR HARDWARE ITEMS, SUCH AS KNIVES, SCISSORS AND SIMILAR (Machine translation)

Priority: FR19660066814 19660624

Family:	Publication number	Publication date	Application number	Application date
	FR1490737 A	19670804	FR19660066814	19660624

Probable Assignee: CALOR APP ELECTRO DOMESTIQUES

Assignee(s):(std): CALOR APP ELECTRO DOMESTIQUES

Assignee(s): CALOR APPAREILS ELECTRO DOMESTIQUES

International class (IPC 8-9): B24B3/54 (Advanced/Invention); B24B3/00 (Core/Invention)

International class (IPC 1-7): B24B3/36

CPC: B24B3/54

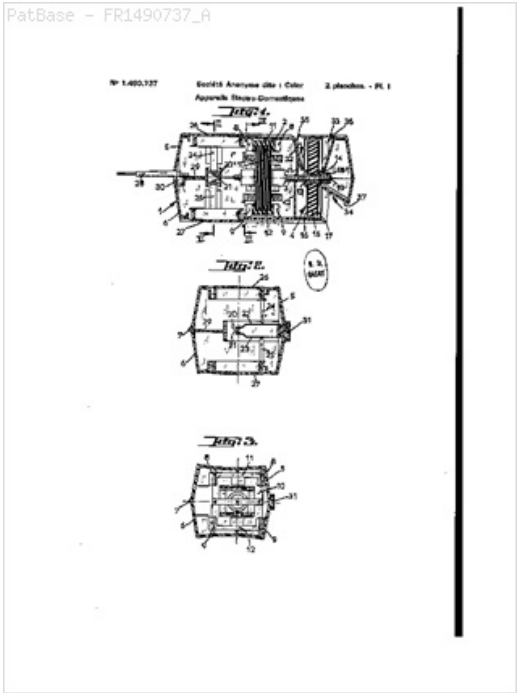
European class: B24B3/54

[Classification Explorer](#)

Abstract:

Source: FR1490737A [FR] [Source: Claim 1] 1.RESUME L'invention a essentiellement pour objet un appareil pour affuter et aiguiser en particulier des objets de quincaillerie, tels que des couteaux, ciseaux et analogues, comprenant un boîtier et un moteur électrique a l'intérieur dudit boîtier qui entraîne en rotation un disque de meulage, ledit appareil étant remarquable notamment par les caractéristiques suivantes, considérées sepa rement ou en combinaison a. Le disque de meulage comprend une ame- support centrale en un matériau souple, par exemple en caoutchouc relativement rigide, et au moins une feuille mince abrasive, telle qu'une feuille de papier de verre ou une toile emeri par exemple, qui recouvre l'une au moins des deux faces dudit support; b. Le disque de meulage est monte en bout libre d'axe d'entraînement du moteur entre un epaulement fixe solidaire dudit axe et un écrou qui se visse sur l'extrémité libre filetée de l'axe; c. Le moteur est positionné a l'intérieur du boîtier au moyen de nervures prévues sur la paroi interne du boîtier et qui viennent enserrer, en position de fermeture du boîtier, le bloc statorique du moteur, avec interposition de moyens amortisseurs, tels que des tampons en caoutchouc par exemple; d. Le boîtier comprend deux demi-coquilles qui sont articulées autour d'une charnière; des moyens de verrouillage tels que clavettes ou pinces élastiques sont prévus pour maintenir normalement le boîtier fermé; e. Lesdites demi-coquilles sont moulées en une matière synthétique, de préférence du type thermoplastique injectée, telle que polypropy- lène; f. Lesdites demi-coquilles sont moulées en une seule pièce, ladite charnière étant constituée par une partie de moindre épaisseur réunissant les deux demi-coquilles; g. Le boîtier comprend des échancrures en regard du disque de meulage, ainsi que des portées convenablement inclinées par rapport à la surface du disque pour recevoir et appuyer l'objet à affuter; lesdites échancrures et portées sont prévues sur chaque demi-coquille opposée du boîtier, pour recevoir des objets de formes différentes, par exemple des ciseaux d'un côté du boîtier et des couteaux de l'autre; en posi tion d'utilisation, le boîtier repose sur l'une ou l'autre de ses demi-coquilles; h. Sur chaque demi-coquille du boîtier est formé un bouton interrupteur pour l'alimentation du moteur; i. Lesdits boutons viennent de matière avec le boîtier auquel ils sont réunis par une partie de moindre épaisseur; ils sont chacun solitaires d'une bequille appuyant sur une lame flexible ou analogue, qui porte l'un des contacts mobiles de deux contacts en regard formant interrupteur pour l'alimentation du moteur; j. Lesdits boutons sont disposés symétrique ment par rapport au plan d'ouverture du boîtier. **Machine translation:** [Source: Claim 1] 1.Summary The invention essentially relates to a device for sharpening and honing especially hardware objects such as knives, scissors and the like, comprising a housing and an electric motor within said housing which rotates a grinding wheel, said apparatus being remarkable in particular by the following characteristics, regarded with separately or in combination. The grinding wheel comprises a Ame- central support in a flexible material, such as relatively rigid rubber, and at least one abrasive foil, such as a sheet of sandpaper or emery cloth, for example, which covers the at least one of two faces of said support; b. The grinding disc is mounted on the end free engine drive shaft of A fixed shoulder of said pin and a nut which screws onto the threaded extremity free the axis; c. The engine is positioned within the housing by means of ribs provided for on the inner wall of the housing and which will clasp, in case of the closed position, the stator block of the engine with the interposition of damping means, such as buffers in eg rubber; d. The housing comprises two half shells which are hinged around a hinge; locking means such as pins or elastic clips are provided for normally maintaining the strong housing; e. Said half-shells are molded from a synthetic material, preferably of thermoplastic injected type, such as polypropylene; f. Said half-shells are molded in one piece, said hinge being constituted by a section of lesser thickness connecting the two half-shells; g. The case includes indentations facing the grinding wheel and suitably INCLINE litters compared to the disk surface to receive and support the object sharpen; said indentations and litters are planned on each half shell opposite

side of the housing, for receiving objects of different shapes, such as scissors from one side of the box and knives on the other; in position of use, the housing rests upon one or the other of its half-shells; h. On each half-shell of the casing is shaped a switch button for powering the motor; i. Said buttons are integral with the housing to which they are joined by a portion of lesser thickness; they are each integral with a crutch pressing a flexible blade or the like, which carries one of the movable contacts of two opposite contacts forming a switch for the motor power supply; j. Said buttons are arranged symmetrical ment compared to the opening plane of the case.



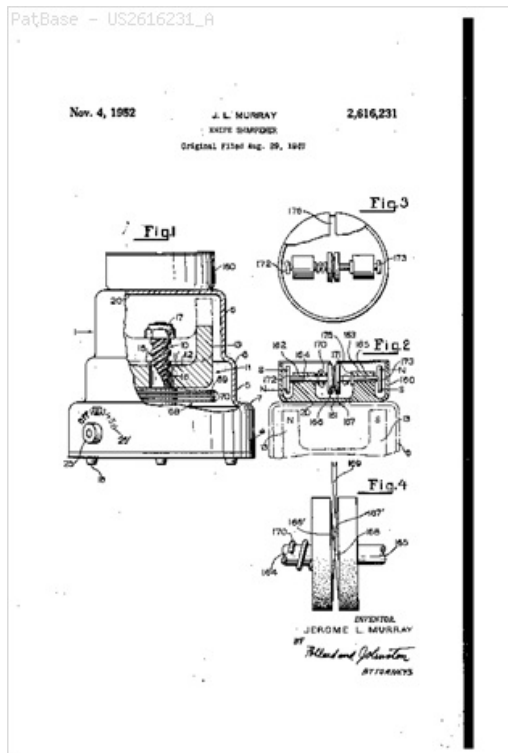
4) Family number: 22189346 (US2616231A) © PatBase

Title:	Knife sharpener				
Priority:	US19470771176 19470829		US19490122810 19490916		US19490122812 19490916
Family:	Publication number		Publication date	Application number	Application date
	 US2610663 A	19520916	US19490122812	19490916	
	 US2616231 A	19521104	US19490122810	19490916	
	 US2655354 A	19531013	US19470771176	19470829	
Probable Assignee:	POLLARD AND JOHNSTON				
Assignee(s):(std):	MURRAY JEROME L ; POLLARD AND JOHNSTON				
Inventor(s):(std):	MURRAY JEROME L				
International class	A47J19/02 A47J43/046 A47J43/07 B01F13/08 B24B3/54 (Advanced/Invention);				
IPC 8-9):	A47J19/00 A47J43/04 B01F13/00 B24B3/00 (Core/Invention)				
International class	A47J19/02 A47J43/08 B24B3/36				
IPC 1-7):					
CPC:	A47J43/0465 A47J43/07 B01F13/0827 B24B3/54 A47J19/02				
European class:	A47J19/02 A47J43/046A A47J43/07 B01F13/08D B24B3/54				
US class:	174/35R 174/394 310/104 310/67R 310/74 310/78 366/205 366/274 366/318 416/3 417/420 451/294 451/438 99/501				

[Classification Explorer](#)

Cited documents:	US936400 A, US890658 A, US871672 A, US682642 A, US644649 A, US616909 A, US591395 A, US589195 A, US457902 A, US288099 A, US2549121 A, US2469834 A, US2466468 A, US2428784 A, US2416833 A, US2416300 A, US2404342 A, US2373609 A, US2366562 A, US2356784 A, US2354563 A, US2350534 A, US2241082 A, US2211377 A, US2182469 A, US2168596 A, US213807 A, US2120919 A, US2012167 A, US1993337 A, US1960324 A, US1950810 A, US1938040 A, US1921039 A, US1887284 A, US1863854 A, US1834934 A, US1827608 A, US1708493 A, US1536203 A, US1533208 A, US1487523 A, US1420774 A, US1420773 A, US1389454 A, US1319332 A, US1104793 A,
Forward Citations:	WO9011126, US9924824, US8807022, US8801502, US8740120, US8596190, US8387520, US8065974, US7481572, US5547280, US4911556, US3591309, US2964301, US2954652, US2866303, US2798345, US2791831, US2774803, US2711306, US2710035, US2702571, US2013225055, US2010157725, US2010024665, US2005002274, EP2561965, EP2328445, EP2328445, EP2328445, EP0226696,

Abstract:
(Claim 1) 1. A knife sharpening unit adapted to removably rest upon the top of a magnetic, -driving device of the type having a driving shaft rotatable beneath the said top, the unit comprising a frame having, at the bottom thereof, a pair of aligned shafts journaled in the frame in a plane substantially parallel to the said bottom of the driving device,, a pair of aligned shafts journaled in the frame in a plane substantially parallel to the said bottom of the driving device,, a pair of aligned shafts journaled in the frame in a plane substantially parallel to the said bottom of the driving device,, sharpening disks mounted on adjacent ends of the aligned shafts in abutting relationship, said driven magnetic members'iii6u_nted on the other ends of the aligned shafts, the magnetic driven members having north- and south poles, the driven members being so positioned when said unit is on said top so that said poles interact with the poles of the rotating driving magnet to rotate the sharpening disks as the driving magnet is rotated.



5) Family number: 17737354 (DE29610704U1)

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Title: With high number of revolutions working precision sharp device MIT HOHER DREHZAHL ARBEITENDE PRAEZISIONSSCHAERFVORRICHTUNG

Priority: DE19962010704U 19960618

Family:	Publication number	Publication date	Application number	Application date
	DE29610704 U1	19961128	DE19962010704U	19960618

Probable Assignee: EDGECRAFT CORP

Assignee(s):(std): EDGECRAFT CORP

Assignee(s): EDGECRAFT CORP AVONDALE PA US

International class B24B3/54 (Advanced/Invention);
(IPC 8-9): B24B3/00 (Core/Invention)

International class B26D7/12
(IPC 1-7):

CPC: B24B3/54

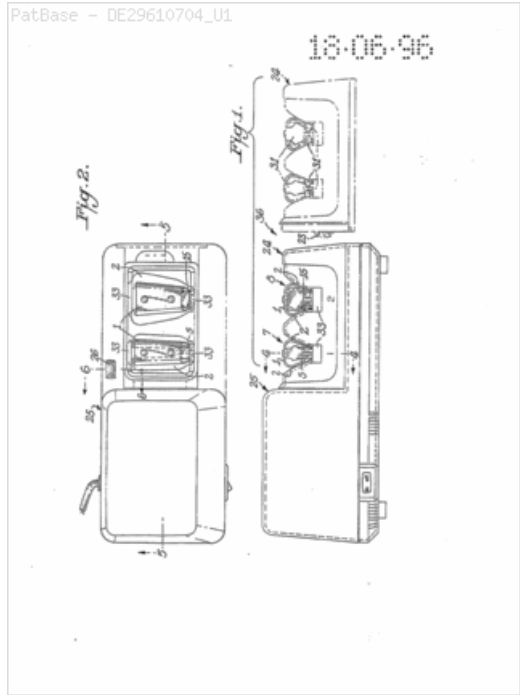
European class: B24B3/54

[Classification Explorer](#)

Abstract:

Source: DE29610704U1 [DE] (Claim 1) 1. Schaerfvorrichtung fuer Klingen mit einer l anggestreckten Schneidkante und mit Facetten benachbart zu jeder Seite der Schneidkante, wobei folgendes vorgesehen ist: Mindestens eine Scheibe mit einer Oberflaeche, die mit einem freiliegenden Abriebmittel beschichtet ist, wobei die Scheibe auf einer Welle zur Drehung um eine Horizontalachse angeordnet ist, um die mit Abriebmittel beschichtete Oberflaeche ueber und wecr von der Schneidkante zu fuehren, wenn die Klinge in Beruehrung mit der Oberflaechebewegt wird, eine K l ingenfuehrungsOber fl a eche benachbart zurScheibe, wobei die KlingenfuehrungsOberflaeche unter einem bestimmten Vertikalwinkel bezueglich einer Vertikallinienormal zur Drehachse der Scheibe angeordnet ist, und wobei die KlingenfuehrungsOber fl aeche in einer Ebene liegt, die die mit Abriebmittel beschichtete Oberflaeche s chneidet, um als eine Winkelfuehrung fuer die Klinge zu wirken, wenn diese an der FuehrungsOberflaeche angeordnet ist, um die Klinge in Beruehrung mit der mit Abriebmittel ueberzogenenOberflaeche anzuordnen, eine Kantenfuehrung angeordnet an der Scheibe, wobei die Kantenfuehrung eine Kontaktstelle mit der Klingevorsieht, wenn die Klinge in Beruehrung mit der Abriebmittel ueberzogenen oder beschichteten Oberflaeche bewegt wird, wobei die Beruehrungsstelle nach vorne gegenueber der mit Abriebmittel beschichteten Oberflaeche liegt, und wobei die Kantenfuehrung eine freiliegende Oberflaeche fuer die Kontaktstelle besitzt, die aus einem nicht abreibenden Material besteht und in der Lage ist, eine Nut darinnen ausgebildet zu haben, um die Schneidkante und die beiden Facetten der Klinge aufzunehmen, und wobei die Nut in und ueber die erwaehte Fuehrungskante verlaeuft, um eine Fuehrungsbahn fuer die Schneidkante vorzusehen, und zwar zur Zusammenarbeit mit der Win- kelfuehrung, wenn die Klinge ueber die sich drehende mit Abriebmittel beschichtete Oberflaeche bewegt wird, um so die Klinge ordnungsgemaess gegen die mit Abriebmittel beschichtete Oberflaeche anzuordnen. 5

Machine translation: (Claim 1) 1 Schaerfvorrichtung for blades with a l anggestreckten Schneidkante and facets adjacent to each side of the cutting edge, with the following vorgesehen ist: At least one disc with a surface that is coated with an exposed abrasives, the disc is mounted on a shaft for rotation about a horizontal axis, to using abrasives coated surface over and wecr to lead from the cutting edge when the blade is in contact with the Oberflaechebewegt, a K l ingenfuehrungsOber fl a surface adjacent zurScheibe, with the KlingenfuehrungsOberflaeche is below a predetermined vertical angle positioned relative to a vertical line normal to the rotation axis of the disc and wherein the KlingenfuehrungsOber EXT fl lies in a plane, the chneidet the coated abrasives surface S, in order for to act as a Winkelfuehrung the blade when it is arranged at the FuehrungsOberflaeche to the blade in contact with the ueberzogenenOberflaeche with abrasives to order a Kantenfuehrung arranged on the disk, the Kantenfuehrung a contact point with the blade of the case where the blade is moved into contact with abrasives coated or uncoated surfaces, the Beruehrungsstelle opposite forward lies with abrasives coated surface undwobei the Kantenfuehrung an exposed surface for the contact point has, which consists of a non-abrasive material and is able, have formed a groove in it to the Schneidkante und the two facets to take the blade and the groove in and beyond the aforementioned Fuehrungskante verlaeuft, a Fuehrungsbahn for the provide cutting edge, and indeed to work with the Win- kelfuehrung when the blade over the rotating mit Abriebmittel coated surface is moved, so properly the blade against the coated surface with abrasives to order. 5



6) Family number: 12981495 (US5611726A)

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Title: High speed precision sharpening apparatus

Priority: US19950431497 19950428

Family:

Publication number	Publication date	Application number	Application date
US5611726 A	19970318	US19950431497	19950428
US5611726 C1	20090210	US19950431497	19950428

Probable Assignee: EDGE CRAFT CORP

Assignee(s):(std): EDGE CRAFT CORP

Inventor(s):(std): BIGLIANO ROBERT P ; FRIEL DANIEL D

International class
(IPC 8-9): B24B3/54 (Advanced/Invention);
B24B3/00 (Core/Invention)

International class
(IPC 1-7): B24B9/00

CPC: B24B3/54

European class: B24B3/54

US class: 451/177 451/259 451/267 451/282 451/293

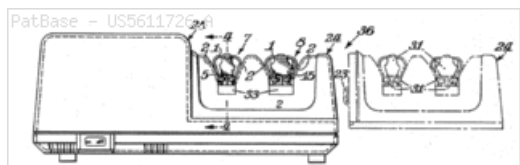
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Forward Citations: WO16115341, WO04037491, WO04037491, USRE43884, USD875496, USD813004, USD803648, USD773913, USD763650, USD754514, USD721937, USD705625, USD699534, USD688545, USD680399, USD669755, USD665647, USD652284, USD651887, USD641226, USD641225, USD640909, USD640523, USD632153, USD620332, USD614009, USD605918, USD575124, USD567611, USD543430, USD542616, US9956662, US9849556, US9656372, US9649749, US9333613, US9242331, US9168627, US9138850, US8721399, US8696407, US8678882, US8585462, US8491356, US8430720, US8267750, US8043143, US7740522, US7686676, US7517275, US7494403, US7488241, US7465220, US7452262, US7287445, US7235004, US6997795, US6863600, US6802763, US6113476, US6083088, US6012971, US2016207172, US2012015590, US2011201257, US2011136412, US2009233530, US2009209177, US2009181602, US2008261494, US2008215410, US2008127780, US2007281590, US2007197148, US2007077872, US2006276110, US2006073779, US2006040598, US2005283412, US2005250428, US2005037700, US2004198198, US2004116055, US10124458, EP3130428, EP3130428, EP2259898, EP2259898, EP2259898, EP1606077, CN107405750, CN107405750, CN103659550, CN101913107,

Abstract:

A high speed knife sharpening apparatus where the surface of a first rotating abrasive element is that of a truncated cone and forms a first facet with microgrooves and a microburr. A second stage is a novel composite cone shaped honing wheel made up of a micro abrasive imbedded in an epoxy matrix. The honing wheel refines the edge developed in the first stage, into an erect triangular shape with a radius of curvature, at the apex (edge), of typically several microns or less depending on the hardness of the knife steel. A unique blade holding system constrains the blade to a precisely defined angle relative to each of the grinding (first) and honing (second) stages. Proportionately larger grinding forces are developed for thicker knife blades, thus sharpening times are approximately the same over the common range of knives from small paring knives (6"), large chef's knives (10") up to kitchen cleavers.



7) Family number: 30661576 (US2004116055A)

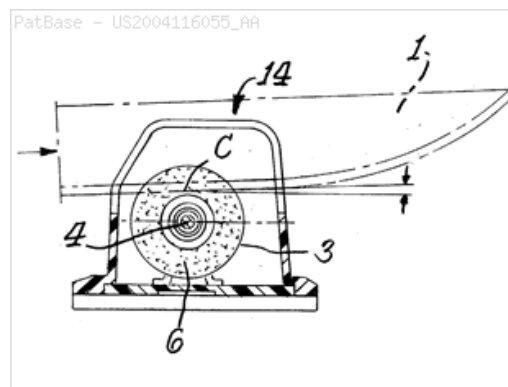
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Title: APPARATUS FOR PRECISION EDGE REFINEMENT OF METALLIC CUTTING BLADES**Priority:** US20020321019 20021217

Family:	Publication number	Publication date	Application number	Application date
	US2004116055 AA	20040617	US20020321019	20021217
	US6863600 BB	20050308	US20020321019	20021217

Probable Assignee: EDGE CRAFT CORP**Assignee(s):(std):** EDGE CRAFT CORP ; FRIEL DANIEL D**Assignee(s):** NORTHPORT TRS LLC COLLATERAL AGENT AS ; PNC BANK NATIONAL ASSOCIATION ; TCW ASSET MANAGEMENT CO LLC**Inventor(s):(std):** FRIEL DANIEL D ; FRIEL SR DANIEL D**Inventor(s):** DANIEL D FRIEL**International class (IPC 8-9):** B24B3/54 (Advanced/Invention);
B24B3/00 (Core/Invention)**International class (IPC 1-7):** B24B7/00**CPC:** B24B3/54**European class:** B24B3/54**US class:** 451/234 451/259 451/282 451/293 451/54[Classification Explorer](#)**Cited documents:** US6113476 A, US6012971 A, US5761947 A, US5704829 A, US5611726 A, US4285253 A, US2692457 A,**Forward Citations:** WO14165626, WO11017185, USRE43884, USD813004, USD803648, USD754514, USD721937, USD705625, USD699534, USD688545, USD680399, USD669755, USD665647, USD652284, USD651887, USD641226, USD641225, USD632153, USD620332, USD567611, USD543430, USD542616, US9656372, US9649749, US9333613, US9302364, US9242331, US9168627, US8721399, US8678882, US8585462, US8430720, US8267750, US8043143, US7854650, US7686676, US7517275, US7494403, US7488241, US7452262, US7287445, US7273409, US7235004, US7229345, US6997795, US2013324014, US2013267153, US2012082525, US2012015590, US2009233530, US2009181602, US2008261494, US2008176496, US2008127780, US2007281590, US2007197148, US2007077872, US2006276110, US2006046620, US2006040600, US2006040598, US2006018782, US2005279430, US2005250428, US2005197053, US2005037700, US2004198198, US2002078813, GB2531437, GB2448104, EP3245026, EP2259898, EP2259898, EP2259898, CN102941514, CN102941514, CN102481676, CN102481676,**Abstract:**

A finishing apparatus modifies the physical structure along the edge of a metal knife blade wherein the edge is formed at the junction of two edge facets presharpened with abrasives. The finishing apparatus consists of at least one precision angular knife guide that positions the edge of the blade into contact with the rigid surface of a driven moving member and positions the plane of the adjacent edge facet at a precise predetermined angle relative to the plane of the rigid surface that is harder than the metal of the knife and is without tendency to abrade.

**8) Family number: 11988745** (US6012971A)

© PatBase

Title: Sharpening apparatus**Priority:** US19970040766P 19970314 US19980039128 19980313

Family:	Publication number	Publication date	Application number	Application date
	DE19811339 A1	19980917	DE19981011339	19980316
	JP10309671 A2	19981124	JP19980065733	19980316
	JP3290398 B2	20020610	JP19980065733	19980316
	US6012971 A	20000111	US19980039128	19980313

Probable Assignee: EDGE CRAFT CORP**Assignee(s):(std):** EDGE CRAFT CORP**Assignee(s):** PNC BANK NATIONAL ASSOCIATION ; NORTHPORT TRS LLC COLLATERAL AGENT AS ; EDGE CRAFT CORP AVONDALE PA US**Inventor(s):(std):** BIGLIANO ROBERT P ; FRIEL JR DANIEL D ; FRIEL SR DANIEL D ; FRIEL SEN DANIEL D ; FRIEL JUN DANIEL D**Inventor(s):** FRIEL JUN ; FRIEL SEN**International class (IPC 8-9):** B24B3/36 B24B3/54 B24B33/08 B24D15/06 B24D18/00 B24D3/28 B24D3/34 B24D7/18 B29C45/00 B29C45/14 (Advanced/Invention)**International class** B24B1/00 B24B3/36 B24D15/06 B24D3/00 B24D3/28 B24D7/18 C08J5/14 C09G1/02 C09K3/14

(IPC 1-7):

CPC: B24B3/54 B24B33/081 B24B33/085 B24D3/28 B24D3/34 B24D7/18 B24D15/06 B24D18/0009 B29C45/0013 B29C45/14

European class: B24B3/54 B24B33/08B B24B33/08G B24D15/06 B24D18/00B B24D3/28 B24D3/34 B24D7/18 B29C45/00E B29C45/14

US class: 451/282 451/293 451/45 451/541 451/548 51/295 51/298

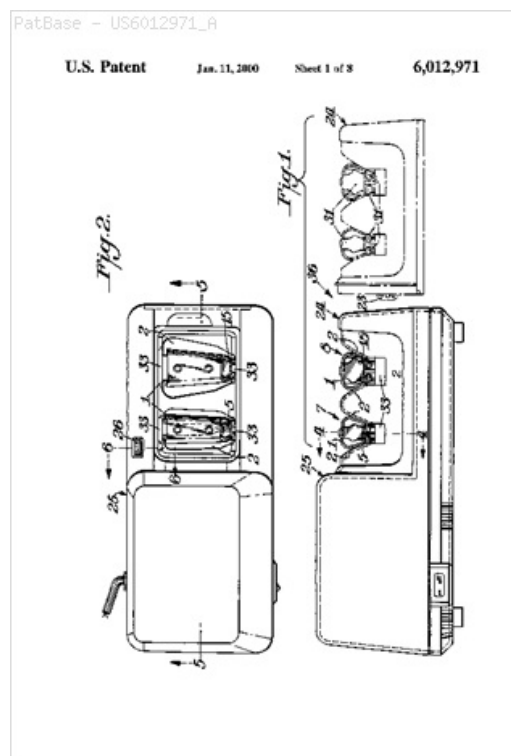
[Classification Explorer](#)

Cited documents: US5611726 A, US5582535 A, US5390431 A, US5245791 A, US5018310 A, US5005319 A, US4915709 A, US4807399 A, US4716689 A, US4504283 A, US4128972 A, US3332173 A, US2841926 A, US1172860 A, JP6254769, JP60170621, JP56027782, JP53005490, JP3073275, JP1234169, EP0417004 A1,

Forward Citations: WO15138682, WO13096537, WO13096537, WO04087379, WO04087379, USRE43884, USD813004, USD803648, USD754514, USD721937, USD705625, USD699534, USD688545, USD680399, USD669755, USD665647, USD652284, USD651887, USD641226, USD641225, USD632153, USD620332, USD575124, USD567611, USD543430, USD542616, US9656372, US9649749, US9440325, US9333613, US9242331, US9168627, US9138850, US8864554, US8721399, US8678882, US8627747, US8585462, US8491356, US8430720, US8267750, US8074535, US8043143, US7740522, US7722443, US7686676, US7517275, US7494403, US7488241, US7465220, US7452262, US7287445, US7235004, US7198558, US7121937, US6997795, US6932683, US6875093, US6863600, US6802763, US6709320, US6435951, US2015147945, US2013095736, US2012103139, US2012015590, US2011201257, US2010223792, US2009233530, US2009209177, US2009181602, US2009124181, US2009081931, US2008280540, US2008261494, US2008127780, US2007281590, US2007197148, US2007077872, US2006276110, US2006211345, US2006040600, US2005250428, US2005037700, US2004198198, US2004185762, US2004116055, US2004077296, US2003236061, US2003171083, JP6408600, JP6091276, JP6010137, JP2017507796, JP2015504011, JP2013233597, JP2013197597, EP3130428, EP3130428, EP2794184, EP2794184, EP2259898, EP1606077, CN108025421, CN106102994, CN104185536, CN104185536, CN102941514, CN102941514,

Abstract:

An abrasive material contains abrasive particles in the range of 50 to 80 percent by weight in an olefinic thermalplastic resin system which is based on ethylene copolymer. The material may be incorporated on a substrate structure to be used as a stropping or honing material or may be shaped by an injection molding process or may be injection molded over a rigid insert or molded over a rigid wheel or disk inserted in the mold. The material may be used for polishing and finishing of crystalline materials, ceramics, silicon and semi-conductor wafers.



9) Family number: 31032795 (US2004198198A)

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Title: PRECISION MEANS FOR SHARPENING AND CREATION OF MICROBLADES ALONG CUTTING EDGES

Priority: US20030457933P 20030327 US20030457993P 20030327 US20040803419 20040318
WO2004US08489 20040318 US20040568839P 20040506 EP20050747954 20050506
EP20100013214 20050506 WO2005US16258 20050506 US20050123959 20050506
US20060464611 20060815 US20070839650 20070816 US20090399176 20090306
US20100872457 20100831 US20110175369 20110701

Family:	Publication number	Publication date	Application number	Application date
	BRPI0408818 A	20060404	BR2004PI08818	20040318
	BRPI0408818 B1	20140318	BR2004PI08818	20040318
	CN1771109 A	20060510	CN200480008353	20040318
	CN1771109 B	20110921	CN200480008353	20040318
	DE602004017437 D1	20081211	DE200460017437T	20040318
	DE602005033043 D1	20120503	DE200560033043T	20050506
	DE602005042466 D1	20140220	DE200560042466T	20050506
	EP1606077 A2	20051221	EP20040758164	20040318
	EP1606077 A4	20070228	EP20040758164	20040318
	EP1606077 B1	20081029	EP20040758164	20040318

EP1748868 A2	20070207	EP20050747954	20050506
EP1748868 A4	20070926	EP20050747954	20050506
EP1748868 B1	20120307	EP20050747954	20050506
EP2308647 A1	20110413	EP20100013214	20050506
EP2308647 B1	20140108	EP20100013214	20050506
HK1089997 A1	20061215	HK20060110743	20060927
HK1089997 A3	20061215	HK20060110743	20060927
HK1089997 B	20120525	HK20060110743	20060927
US2004198198 AA	20041007	US20040803419	20040318
US2005250428 AA	20051110	US20050123959	20050506
US2006276110 AA	20061207	US20060464611	20060815
US2007281590 AA	20071206	US20070839650	20070816
US2009181602 AA	20090716	US20090399176	20090306
US2010323597 AA	20101223	US20100872457	20100831
US7235004 BB	20070626	US20040803419	20040318
US7287445 BB	20071030	US20050123959	20050506
US7517275 BB	20090414	US20070839650	20070816
US8267750 BB	20120918	US20100872457	20100831
US8430720 BB	20130430	US20090399176	20090306
USRE43884 E	20130101	US20110175369	20110701
WO04087379 A2	20041014	WO2004US08489	20040318
WO04087379 A3	20050922	WO2004US08489	20040318
WO05108011 A2	20051117	WO2005US16258	20050506
WO05108011 A3	20070607	WO2005US16258	20050506

Probable Assignee: EDGE CRAFT CORP

Assignee(s):(std): LEIBSON ABRAHAM ; FRIEL SR DANIEL D ; FRIEL DANIEL D SR ; FRIEL DANIEL D JR ; FRIEL DANIEL D ; BIGLIANO ROBERT P ; BIGLIANO LEGAL REPRESENTATIVE ANGELA ; BIGLIANO ANGELA ; FRIEL JR DANIEL D ; EDGE CRAFT CORP ; WEINER SAMUEL

Assignee(s): NORTHPORT TRS LLC COLLATERAL AGENT AS ; EDGE CRAFT CORP AVONDALE ; PNC BANK NATIONAL ASSOCIATION ; TCW ASSET MANAGEMENT CO LLC

Inventor(s):(std): FRIEL DANIEL D JR ; FRIEL DANIEL D SR ; FRIEL DANIEL D SR BIGLIANO ROB ; FRIEL JR DANIEL D ; FRIEL SR DANIEL D ; LEIBSON ABRAHAM ; WEINER SAMUEL ; BIGLIANO ANGELA ; BIGLIANO LEGAL REPRESENTATIVE ANGELA ; FRIEL DANIEL D ; DANIEL D SR FRIEL ; BIGLIANO ROBERT P

Inventor(s): BIGLIANO ROBERT P WILMINGTON ; LEIBSON ABRAHAM LAMBERTVILLE ; FRIEL DANIEL DSR ; FRIEL DANIEL D SR AVONDALE ; FRIEL DANIEL D JR KENNETT SQUARE ; ROBERT P BIGLIANO ; SR DANIEL D ; FRIEL DANIEL D SR BIGLIANO ROBERT P ; FRIEL DANIEL D SR GREENVILLE ; FRIEL DANIEL DJR ; BIGLIANO ROBERT ; DANIEL D FRIEL SR ; FRIEL ; FRIEL DANIEL

Agent(s): WAGNER AND GEYER PARTNERSCHAFT PATENT U RECHTSANWALTE; EMDE ERIC; GEYER ULRICH F; WAGNER KARL H; NTD PATENT AND TRADE MARK AGENCY LTD; CONNOLLY BOVE LODGE AND HUTZ LLP; CONNOLLY BOVE; CONNOLLY BOVE LODGE AND HUTZ; NOVAK DRUCE CONNOLLY BOVE AND QUIGG LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

International class (IPC 8-9): B21K11/02 B21K5/12 B24B B24B1/00 B24B23/00 B24B3/00 B24B3/36 B24B3/54 B24B7/00 B24B9/00 B24B9/04 B24D15/00 B24D15/06 B24D15/08 D21K5/12 (Advanced/Invention); B24B23/00 B24B3/00 B24B7/00 B24B9/02 B24D15/00 (Core/Invention); B24B (Subclass/Invention)

International class (IPC 1-7): B24B1/00 B24B23/00 B24B9/00 B24D B24D15/00

CPC: B24B3/54 B24D15/065 B24D15/08

European class: B24B3/54 B24D15/06D B24D15/08

US class: 451/112 451/112S 451/198 451/198P 451/234 451/234P 451/260 451/260S 451/267 451/349 451/349P 451/370 451/371 451/45 451/45P 451/524 451/524S 451/555 451/555P 451/65 76/81 76/82 76/84

[Classification Explorer](#)

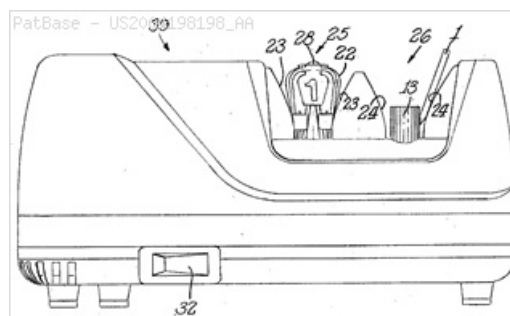
Cited documents: WO05108011 A2, WO04087379 A2, WO0170464 A1, USD567611 S1, USD543430 S1, USD542616 S1, USD410185 S1, USD409891 S1, USD408304 S1, USD408254 S1, USD388304 S1, USD368217 S1, USD357395 S1, USD348598 S1, USD342033 S1, USD342003 S1, USD328847 S1, USD328410 S1, USD316662 S1, USD310620 S1, USD303209 S1, US961010 A, US80341904, US7517275 BB, US7467991 BB, US7287445 BB, US7235004 BB, US7052385 BA, US690172 A, US6881137 BB, US6875093 BB, US6863600 BB, US6817269 BA, US6769327 BB, US6752702 BA, US6726551 BB, US6711791 BB, US6547656 BA, US6393946 BA, US6371841 BA, US6267652 BA, US6168509 BA, US6168509 B1, US6113476 A, US6059645 A, US6048262 A, US6012971 A, US5954571 A, US5868611 A, US586611 A, US5667427 A, US5655959 A, US5636556 A, US5611726 A, US5586647 A, US5582542 A, US5582535 A, US5547419 A, US5540953 A, US5461785 A, US5458534 A, US5449315 A, US5440953 A, US5431070 A, US5404679 A, US5390431 A, US5363602 A, US5357717 A, US5245791 A, US5199225 A, US5189848 A, US5185958 A, US5163251 A, US5148634 A, US5138801 A, US5046385 A, US5040435 A, US5005319 A, US4934110 A, US4928343 A, US4912885 A, US4912881 A, US4897965 A, US4807399 A, US4799335 A, US4777770 A, US4751795 A, US4747235 A, US4716689 A, US4714239 A, US4627194 A, US4611437 A, US4602531 A, US4538382 A, US4512112 A, US4502254 A, US4486982 A, US4450653 A, US4441279 A, US4404873 A, US4320892 A, US4285253 A, US4231194 A, US4216627 A, US4197677 A, US4170343 A, US409891 A, US4094106, US4090418 A, US408254 A, US3894362 A, US388304 A, US3819170 A, US368217 A, US3619955 A, US357395 A, US348598 A, US342003 A, US3332173 A, US328410 A, US3280514 A, US310620 A, US303209 A, US2897640 A, US2896482 A, US2795975 A, US2753670 A, US2751721 A, US2674072 A, US2653667 A, US2652667 A, US2645066 A, US2588089 A, US2559273 A, US2557093 A, US2528943 A, US2461690 A, US2249218 A, US2191899 A, US2098530 A, US2009298401 AA, US2009233530 AA, US2007101826 AA, US2006276110 AA, US2004116055 AA, US2003150121 AA, US2002144410 AA, US1957278 A, US1936990 A, US1909743 A, US1860404 A, US1681763 A, US1496728 A, US1223127 A, US1181161 A, US1158048 A, US1152321 A, US1100418 A, US1075690 A, GB621715 A,

Forward Citations: WO16115322, WO09114507, WO09114507, WO08130900, WO07101008, WO07101008, WO05108011, USRE43884, USD885158, USD884449, USD813004, USD803648, USD773913, USD763650, USD754514, USD721937, USD705625, USD699534, USD688545, USD680847, USD680399, USD669755, USD665647, USD652284, USD651887, USD641226, USD641225, USD640909, USD640523, USD620332, USD605918, USD605826, US9980613, US9914193, US9808902, US9731395, US9669507, US9656372, US9649749, US9469014, US9452508, US9358654, US9333613, US9333612, US9302364, US9266009, US9242331,

US9168627, US9138850, US9061391, US8998680, US8944894, US8864554, US8785193, US8721399, US8683905, US8678882, US8616937, US8585462, US8491356, US8430720, US8342915, US8267750, US8267749, US8043143, US7740522, US7686676, US7517275, US7494403, US7467991, US7465220, US7452262, US7287445, US2018001443, US2017312890, US2017014001, US2016207171, US2015143955, US2015099430, US2015053054, US2015031274, US2014120812, US2014113529, US2013324014, US2013167704, US2013095736, US2012015590, US2011201257, US2011104436, US2009325473, US2009233530, US2009209177, US2009181602, US2009056503, US2008261494, US2008127780, US2007281590, US2007197148, US2006141916, US2006040600, US2005250428, US10562155, US10195719, US10099336, KR101083650, JP2011025401, GB2448104, EP3415271, EP3283259, EP2308647, EP2308647, EP2308642, EP2259898, EP2259898, EP2259898, EP2146819, EP2146819, EP2146819, DE112007000451, DE112007000451, CN107206576, CN106102994, CN102941514, CN102941514, CN102481676, CN102481676, CN101913107, AU2013101515,

Abstract:

A knife-edge conditioning apparatus comprises at least one precision angled knife guide with one face of the knife blade maintained in sustained sliding or rolling contact and which guides the elongated edge of the blade into sustained contact with the hardened surface of an object and positions the plane of the adjacent edge facet at a precise predetermined angle relative to the contact plane of the hardened surface made of a material of equal or greater hardness than the metal of the knife blade without any tendency to abrade as the blade face is moved along the guide with its elongated edge in sustained contact with the hardened surface.



10) Family number: 21060859 (US1909883A)

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Title: SHARPENING MACHINE

Priority: US19280247420 19280117

Family:	Publication number	Publication date	Application number	Application date
	US1909883 A	19330516	US19280247420	19280117

Probable Assignee: GILLETTE SAFETY RAZOR CO

Assignee(s):(std): GILLETTE SAFETY RAZOR CO

Assignee(s): GILLETTE SAFETY RAZOR COMPANY

Inventor(s):(std): EMERY NICKERSON WILLIAM

Inventor(s): NICKERSON WILLIAM EMERY

International class (IPC 8-9): B24B3/54 (Advanced/Invention); B24B3/00 (Core/Invention)

International class (IPC 1-7): B24B3/40

CPC: Y10S409/903 B24B3/54

European class: B24B3/54

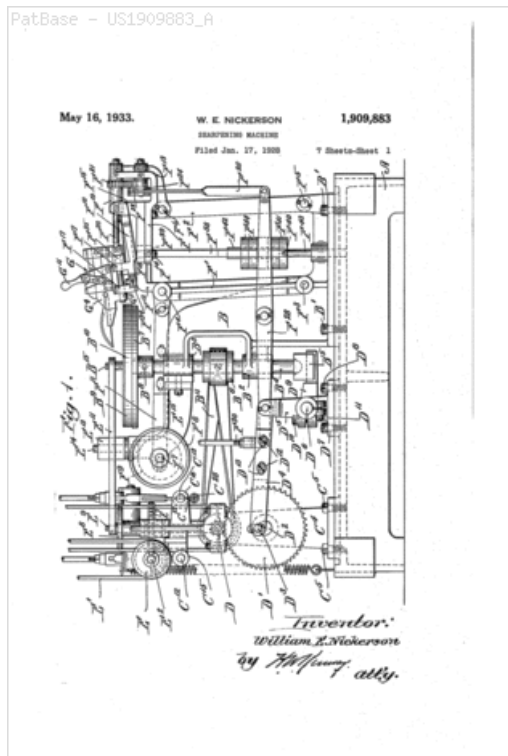
US class: 409/903 451/119 451/159 451/160 451/264

[Classification Explorer](#)

Forward Citations: WO06024536, US3393475, US2008188164,

Abstract:

1. In a blade sharpening machine, a rotary disc, an abrading disc resting loosely thereon and adapted to be rotated therapy, means for holding a blade against the abr - ing disc, and means for imparting to the abrading disc during its rotation and relaf tive to said rotary disc a uniform bodily movement transversely of its rotary axis.

**11) Family number: 24793889** (US2798345A)

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Title: KNIFE SHARPENER
Priority: US19540472602 19541202
Family:

Publication number	Publication date	Application number	Application date
BE559537 A	00000000		00000000
GB816274 A	19590708	GB19570022531	19570716
US2798345 A	19570709	US19540472602	19541202

Probable Assignee: NUTONE INC
Assignee(s):(std): NUTONE INC
Inventor(s):(std): SPRAGUE LINDOL H ; SPEAR WALTER A
International class (IPC 8-9): B24B3/54 (Advanced/Invention); B24B3/00 (Core/Invention)
International class (IPC 1-7): B24B3/54 B24D15/08
CPC: B24B3/54
European class: B24B3/54
US class: 451/178 451/262 451/415 451/510

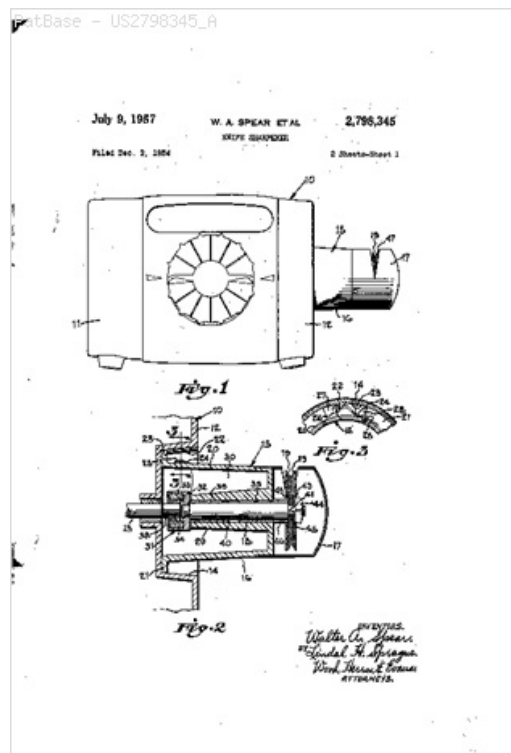
[Classification Explorer](#)

Cited documents: US594320 A, US440948 A, US2616231 A, US2504194 A, US2146548 A, US2129538 A, US1983011 A, US1664896 A,

Forward Citations: WO19143976, WO18142046, US9302364, US3303044, US3071899, US2900768, US2013324014, FR3062329, DE1174202,

Abstract:

816,274. Universal joints. NUTONE Inc. July 16, 1957, No. 22531/57. Class 80 (2). [Also in Group XXIII] A flexible coupling 31 for connecting the driven shaft 18 of a knife-sharpener (see Group XXIII) to a drive-shaft 13 comprises a drive cup 32 which may be secured to the shaft 18 by swaging over a square end on the shaft after its insertion into a corresponding aperture in the cup. A resilient collar 33 and a drive coupler 34 formed with a flange 35 are both mounted within the drive cup 32 and a rim 36 thereon is swaged into engagement with the flange. The coupler 34 may be formed with a hexagonal socket for engagement with the drive-shaft 13.



12) Family number: 20200917 (FR1099247A)

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Title: Procédé pour aiguiser des couteaux et machine pour la mise en oeuvre de ce procédé Method for sharpening knives and machine for the implementation of this process (Machine translation)

Priority: 19540329

Family:

Publication number	Publication date	Application number	Application date
FR1099247 A	19550831		19540329

Inventor(s):(std): VOR DE

International class B24B3/54 (Advanced/Invention);
(IPC 8-9): B24B3/00 (Core/Invention)

International class B24B3/36
(IPC 1-7):

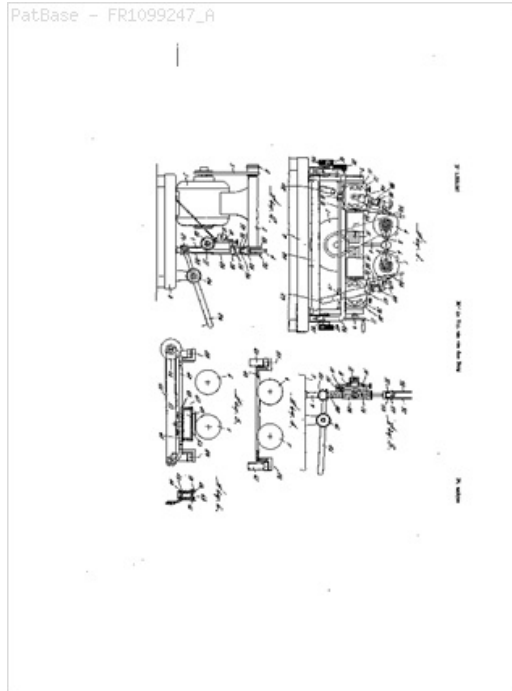
CPC: B24B3/54

European class: B24B3/54

[Classification Explorer](#)

Abstract:

Source: FR1099247A [FR] [Source: Claim 1] RESUME La presente invention a pour objet 10 Un procede pour aiguiser a la main des cou teaux et ciseaux sur un disque de meulage tour nant, les lames de ces couteaux ou ciseaux ayant une section transversale variant dans le sens de leur longueur, caracterise en ce qu'on utilise une machine comprenant un systeme mobile de moyens de support de lames, la vitesse de ce systeme dans le plan contenant le disque de meulage ayant une valeur telle par rapport a la vitesse d'avance de tra verse du couteau qu'a tout endroit de contact instan tane entre la lame et le disque de meulage la place de cette lame soit adaptee a la forme de sa section transversale. 20 Une machine a aiguiser pour la mise en oeuvre du procede designe au paragraphe 10 ci-dessus carac terisee par les points suivants consideres isolement ou en combinaison a. Elle comprend un systeme mobile manuelle ment de moyens de support de lames, ce systeme etant susceptible d'etre deplace a la vitesse requise; b. Elle comprend deux disques de meulage situes dans le meme plan et pouvant tourner en sens oppose, et au moins un moyen de support de lames qui est monte de facon a avoir un mouvement symetrique par rapport a ces disques de meulage; c. Le systeme de moyens de support de lames comprend deux supports pour le dos d'une lame et deux supports pour le bord tranchant d'une lame, la disposition etant telle que les supports pour le dos et/ou pour le bord tranchant d'une lame peu vent encadrer un disque de meulage; d. Au moins un support pour le dos d'une lame et un support pour le bord tranchant d'une lame sont reunis pour former un galet se trouvant a cote d'un disque de meulage; e. Elle comporte une poignee pour deplacer les moyens de support de lames a un endroit eloigne du poste de meulage, la maniere dont cette poignee est actionnee etant la meme pour les deux disques de meule. **Machine translation:** [Source: Claim 1] [0005] The present invention relates to a method to sharpen the hand of the neck 10 teaux and scissors on a disk grinding tower nant, the blades of the knives or scissors having a cross section that varies in the direction of the length thereof, wherein use is made of a machine comprising a mobile system of support of blades, the speed of this system in the plane containing the grinding disc having a value such as compared to the rate of advance of tra poured the knife that anywhere Contact Forums between the blade and the grinding disc instead of this blade is adapted to the shape of its Cross section. 20 a machine to sharpen for the implementation of the method referred to in paragraph 10 above char terisee by the following points considered insulation or in combination a. It includes a system element manual mobile support of blades, this system is likely to be moved to the required speed; b. It comprises two grinding discs located within the same plane and can rotate in the opposite direction, and at least one means for supporting blades that is mounted such that it has a movement symmetrical with respect to these grinding discs; c. the system of support of blades comprises two brackets to the back of a blade and two supports for the sharp edge of a blade, the provision being such that the supports for the back and/or to the cutting edge of a little wind blade guide a disk grinding; d. At least one support for the back of a blade and a mounting for the sharp edge of a blade are joined to form a roller located proximate to a grinding disc; e. It includes a handle to move the support of blades to a location away from the grinding position, the manner in which this handle is actuated being the same for both wheel drives.

**13) Family number: 16950969** (DE29620423U1)

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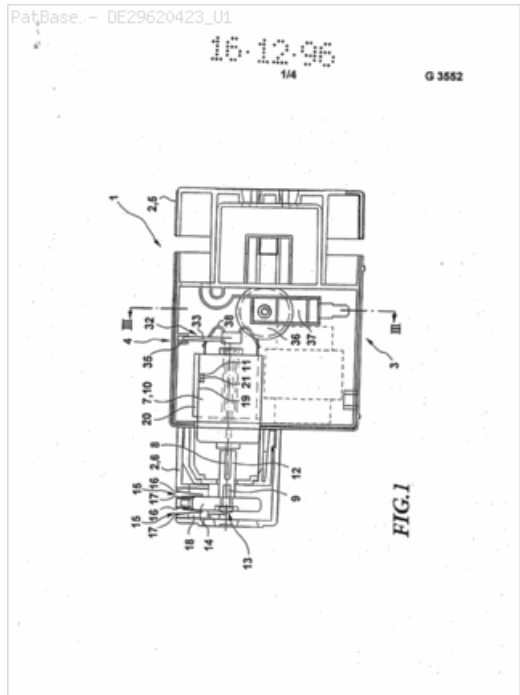
Title: Grinding fixture SCHLEIFVORRICHTUNG**Priority:** DE19962020423U 19961122

Publication number	Publication date	Application number	Application date
DE29620423 U1	19980507	DE19962020423U	19961122

Probable Assignee: HOHLFELDT PETRA ELECTRIC**Assignee(s):(std):** HOHLFELDT PETRA ELECTRIC**Assignee(s):** PETRA ELECTRIC PETER HOHLFELDT GMBH AND CO ; PETRA ELECTRIC PETER HOHLFELDT GMBH AND CO 89331 B ; PETRA ELECTRIC PETER HOHLFELDT GMBH AND CO 89331 BURG AU DE**International class (IPC 8-9):** B24B3/54 (Advanced/Invention); B24B3/00 (Core/Invention)**International class (IPC 1-7):** B24B3/54**CPC:** B24B3/54**European class:** B24B3/54[Classification Explorer](#)**Cited documents:** GB2123323 A1, EP0154967 A2, DE3442253 A1, DE3422882 A1, DE3422294 C2,**Abstract:**

Source: DE29620423U1 [DE] (Claim 1) 1. Schleifvorrichtung mit einem eine Klingenfuehrung aufweisenden Gehaeuse (2) und einem in dem Gehaeusedrehfest angeordneten Antriebsmotor (7), mit einer Antriebswelle (8) auf der eine gegenueber derKlingenfuehrung axial verschiebbare Schleif s cheibe drehfest angeordnet ist, dadurch gekennzeichnet/ dass die Schleif s cheibe in axialer Richtung fest mit der Antriebswelle verbunden ist un d dass der Antriebsmotor(7) gegenueber dem Gehaeuse (2) axial verschieb li ch gelagert und durch eine Vorspanneinrichtung (32) ineiner Ruhestellung gehalten ist, aus der er waehrend des S c h l e i f v o r g a n g e s durch eine gegen die Schleif s cheibeanliegende Messerklinge auslenkbar ist.

Machine translation: (Claim 1) 1 Grinder with a one Klingenfuehrung having enclosures (2) and arranged in the Gehaeusedrehfest drive motor (7), arranged with a drive shaft (8) on the one opposite derKlingenfuehrung axially movable loop fs bugger rotation is characterized by / the loop bugger fs axial direction is connected with the drive shaft an d that the drive motor (7) relative to the housing (2) axially displaceable li stored ch and held by a biasing means (32) ina resting position from which he during the S chl an f v o r g a n g it can be deflected by a fs against the demolition cheibeanliegende knife blade.



14) Family number: 35081976 (WO08102033A1)

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Title: SHARPENING DEVICE DISPOSITIF D'AFFILAGE DISPOSITIVO AFILADOR

Priority: ES20070000355 20070220 ES20070000355U 20070220

Family:	Publication number	Publication date	Application number	Application date
	ES1064850 UA	20070501	ES20070000355U	20070220
	ES1064850 Y1	20070801	ES20070000355U	20070220
	WO08102033 A1	20080828	WO2008ES00084	20080215

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Agent(s): GONZALVEZ CRESPO CARMEN

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

International class (IPC 8-9): B24D13/02 B24D13/16 (Advanced/Invention); B24D13/00 (Core/Invention)

CPC: B24B3/54 B24D13/16

European class: B24B3/54 B24D13/16

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Cited documents: US4504283 A, US2907147 A, JP2003117842 A2,

Abstract:

Sharpening device, comprising a disk (1) shaped from a slightly conical rigid support (2), covered on the outer face (3) thereof with oblique sheets (4) of abrasive material, overlapping each other; intercalated and fastened to a padded surface (5). When the blade (6) to be sharpened is applied on the surface (3), the resulting deformation creates a concavity (7) which determines the sharpening angle of said blade (6). The disk (1) is suitable for passing the blades (6), both with the blade upwards and with the blade downwards.

