United States Patent

[11] **3,580,394**

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[54] **ARTICLE HOLDER**
6 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **211/60,** 248/37.6
[51] **Int. Cl.** **A47f 7/00**
[50] **Field of Search** ..... 211/60, 89, 60 K; 248/37.6

[56] **References Cited**

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ABSTRACT: A holder for knives or the like implements, serving to maintain them with their cutting edges in a protected enclosed position, and permitting ready selective insertion and removal of the knife, or the like from the holder. The holder is formed by a block member having an interior vertically extending channel therein defined by a vertically extending surface spaced from an inclined surface, with the lower end of the inclined surface closer to the vertically extending surface. A locking member is loosely positioned in said channel for sliding between said surfaces, and a stop member at the lower end of said channel limits the downward movement of said locking member to prevent its being wedged into a jammed position between said surfaces, whereby a knife or the like inserted into said channel will be engaged by said locking member against said vertical surface. The locking member is formed with a chamfered leading edge serving the twofold function of implementing insertion of the knife blade and permitting honing of the blade.

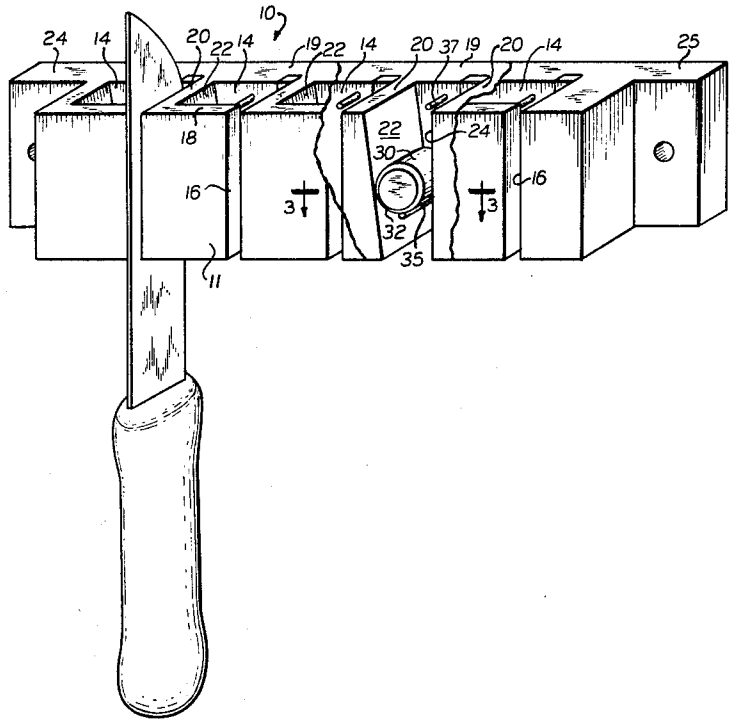


FIG. 1.

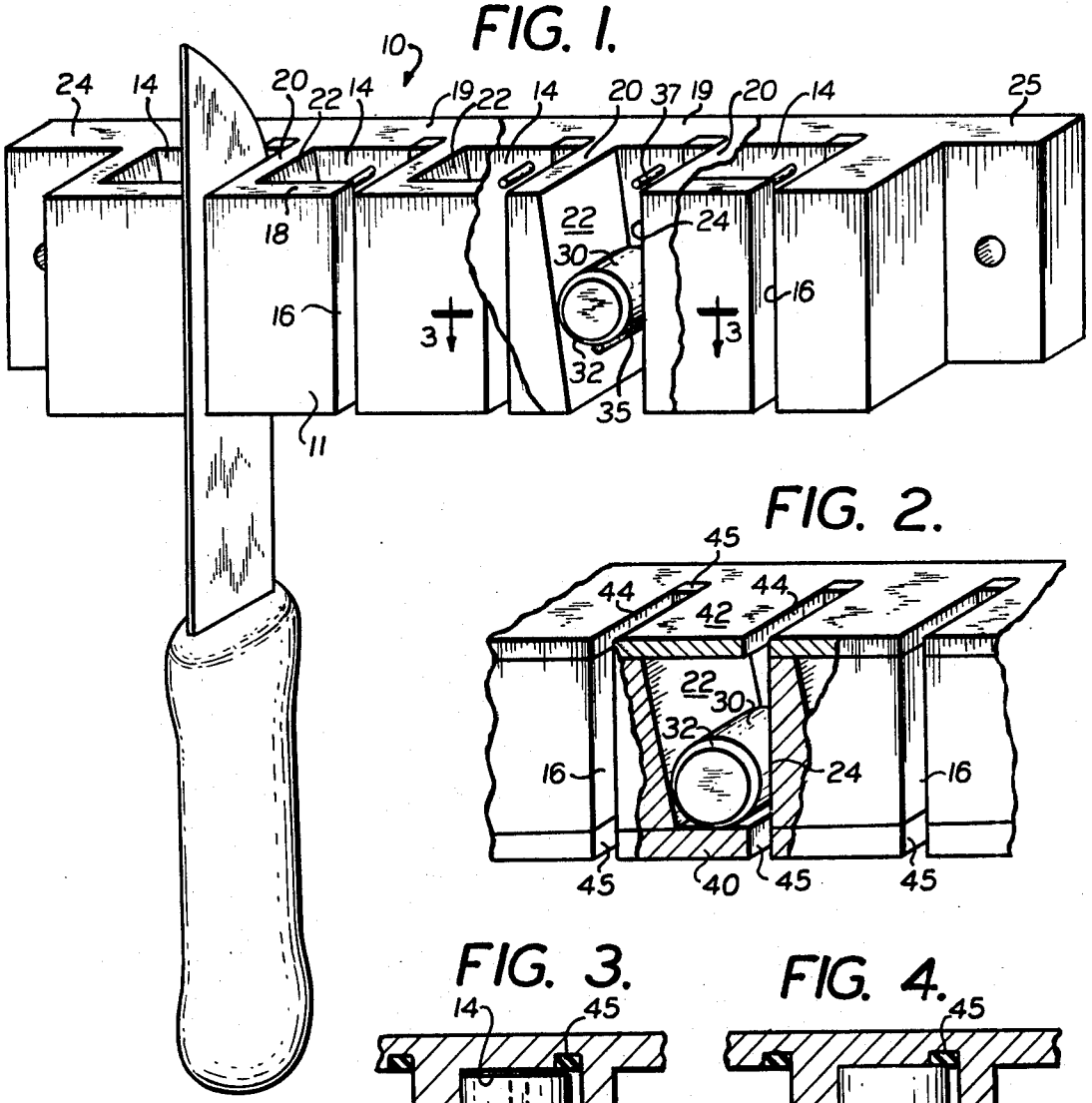


FIG. 2.

FIG. 3.

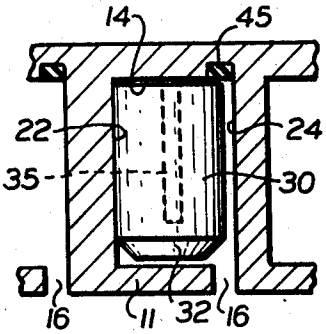
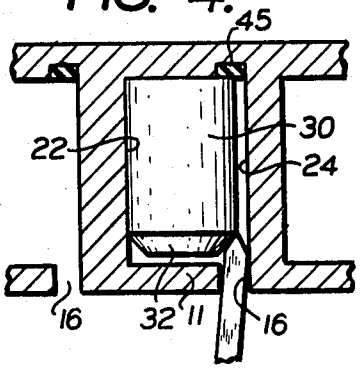


FIG. 4.



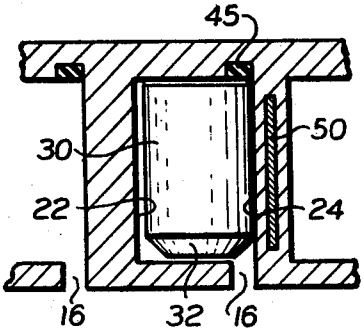


FIG. 5.

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ARTICLE HOLDER

BACKGROUND OF THE INVENTION

This invention relates to the art of article holders, and more particularly to an article holder for protectively and decoratively maintaining bladed articles such as knives or the like with the blade maintained in a protected enclosed position, and with the knife or the like available for selective removal or positioning in the holder.

The storage of bladed articles such as knives or the like requires that the knife be supported in a position so that the blade is kept from contacting other surfaces which may have a dulling effect thereupon, and further that the knife be so positioned that though the handle is readily accessible for gripping by a user, the blade is maintained in a position minimizing the likelihood of inadvertent contact therewith by the hands of the user. To this end, a variety of knife holders or knife racks have been evolved in which a knife may be positioned with its handle exposed, but with the blade maintained in a relatively protected position remote from the hands of the user.

Among the more satisfactory holders are those employing a rolling member movable on an inclined plane towards a vertical surface to sandwich the article to be held between the rolling member and the vertical surface. Thus Hanschar in U.S Pat. No. 3,071,252 discloses a holder for bladed implements in which a ball is arranged in an inclined cylindrical bore, with the bore having a lower opening intersecting a vertical slot, so that the ball moving under the action of gravity to the lower extremity of the bore will wedge against a vertical wall of the slot to sandwich an article in the slot.

Similarly, Grottola in U.S. Pat. No. 3,294,350 discloses a cylinder arranged to slide on an inclined plane towards a vertical surface so that an article positioned adjacent the vertical surface will be sandwiched thereagainst by the action of the roller.

Problems arise in utilizing holder devices of the above-described type in that the locking member, be it a ball or a cylinder tends to wedge under the action of gravity at the lower ends between the inclined surface and the vertical surface, with the locking member often being frozen into a position at its lower end preventing insertion of an article into the holder.

Additionally, where it is desired to support a bladelike element, such as a knife or the like, the use of a cylindrical ball as a locking member produces a line contact in a direction axially of the blade axis, so that a downward pull on the knife with respect to the holder produces a scoring of the blade. Where a cylindrical locking member is employed, as disclosed by Grottola, problems are encountered in positioning the knife between the cylinder surface and the vertical surface which may become tightly wedged.

Further problems arise in utilizing holders of the aforedescribed type in connection with knives in that the sharp edge of the knife blade tends to become dulled as a result of its contact with the holder surfaces.

BRIEF DESCRIPTION OF THE INVENTION

It is with the above considerations in mind, that the present improved article holder has been evolved permitting the utilization of a locking member moving over an inclined surface against a vertical surface to wedge an article between the locking member and the vertical surface, without the heretofore encountered problems of having the locking member "freeze" in a locked position, and implementing use of the article holder for bladed articles such as knives or the like.

It is accordingly among the primary objects of this invention to provide an improved article holder employing a locking member sliding over an inclined surface against a vertical surface to sandwich an article to be retained between a locking member and the article surface.

Another object of the invention is to provide an article holder of the above-described type in which freezing of the locking member is prevented.

A further object of the invention is to provide an article holder of the above-described type in which insertion of a bladed article such as a knife or the like between the vertical surface and the locking member is facilitated.

Another object of the invention is to provide an article holder of the above-described type particularly adapted for use in holding knives in which the cutting edge of the blade is protected from dulling.

These and other objects of the invention which will become hereafter apparent are achieved by forming the holder with channels therein. The channel is defined by a vertically extending surface, and an inclined surface spaced from said vertically extending surface, with the inclined surface angled upwardly and outwardly with respect to the vertical surface so that the lower end of the inclined surface is closer to the vertical surface and the upper end of the inclined surface. A vertically extending slot is formed in the block member extending adjacent the vertical surface, and a locking member is movably mounted in said channel. According to the invention, the locking member is preferably in the shape of a right circular cylinder arranged with its axis perpendicular to the axis of the channel so that the cylinder may roll on the inclined surface of the channel. A stop member is formed at the lower end of the channel to limit the downward movement of the locking member so as to insure clearance between the vertical surface and the locking member, thereby preventing "freezing" of the locking member in the channel. This stop member may take the form of a pin extending into the channel, or the channel may be formed with a bottom wall limiting movement of the locking member.

A feature of the invention resides in the fact that the locking member formed in the shape of a right circular cylinder is provided with a chamfered edge at the end thereof adjacent to the slot of the channel so as to implement sandwiching of a knife or the like between the locking member and the vertical surface.

Another feature of the invention resides in the fact that the chamfered edge of the cylinder may serve to permit honing of the knife by reciprocation of the knife blade with respect to the chamfered edge of the cylinder.

A further feature of the invention resides in the formation of the block or locking member of a magnetic material, or the insertion of a magnetic insert into the block or a locking member so as to insure retention of a ferromagnetic knife blade in the holder, aiding the holding action of the locking member.

A further feature of the invention resides in the provision of a cushioning member at the rear surface of the channel opposite to the entry slot to cushion the cutting edge of the knife inserted therein.

BRIEF DESCRIPTION OF THE DRAWINGS

The specific details of a preferred embodiment of the invention, and their mode of functioning will be particularly pointed out in clear, concise and exact terms in conjunction with the accompanying drawings wherein:

FIG. 1 is a perspective elevational view of a holder made in accordance with the teachings of the invention, showing a knife in operative position with respect to the holder, and with parts broken away to reveal the details of the locking member, stop member and channel of the holder;

FIG. 2 is a partial perspective view, with parts broken away to reveal the details of another embodiment of the invention and particularly adapted for formation by plastics molding techniques;

FIG. 3 is a cross-sectional view taken on line 3–3 of FIG. 1, on an enlarged scale to reveal the spacing between the locking member and the vertical surface of the channel; and

FIG. 4 is a cross-sectional view similar to FIG. 3 indicating the honing action provided by the bevel edge on the locking member; and

FIG. 5 is a cross-sectional view similar to FIG. 4 showing a magnetic insert arranged within a component of the holder when the holder is not made of a magnetic material.

DESCRIPTION OF PREFERRED EMBODIMENTS OF THE INVENTION

Referring now more particularly to the drawings, like numerals in the various figures will be employed to designate like parts.

As illustratively shown in FIG. 1, the holder 10 made in accordance with the teachings of the invention is formed of a block member 11 having an interior vertically extending channel 14, and a vertically extending slot 16 extending through the front surface of block 11 from the interior of the channel 14 to the exterior of the block 11, and from the top to the bottom thereof.

The channel 14 which is open at top and bottom is defined by a front wall 18, a rear wall 19 and spaced sidewalls 20. One side of the sidewall 20 (to the right as viewed in FIG. 1) is formed with a downwardly inclined surface 22, as best seen in the broken away portion in FIG. 1, and the other side of sidewall 20 (to the left as viewed in FIG. 1) is formed with a vertically extending surface 24.

According to the illustrated embodiment of the invention, the block 11 is formed with a plurality of channels 14 so as to facilitate accommodation of a plurality of knife members or the like. It will be understood by those skilled in the art that the number of channels in the block 11 may be varied dependent on the uses to which the holder 10 is to be put. In Order to facilitate mounting of the holder 10 onto a wall surface, flanges 24 and 25 are extended at each side of the block 11.

A locking member 30 is formed in accordance with the teachings of the invention in the shape of a right circular cylinder, as best seen in FIGS. 1 and 2 with a chamfered edge 32, for a purpose to be hereinafter described.

In the embodiment of the invention illustrated in FIG. 1, a lower stop member in the form of pin 35 is positioned at the bottom of channel 14 at a point such that the locking member 30 is limited in its downward movement to a position such that there will be clearance between the surfaces of the sidewalls of the channel 14 and the cylindrical surface of the locking member 30, to prevent freezing of the locking member in the channel. In the FIG. 1 embodiment of the invention, the upper limit of movement of the locking member is limited by an upper pin 37.

In the embodiment of the invention illustrated in FIG. 2, an arrangement has been shown facilitating fabrication of the holder 10 of plastics materials by the utilization of conventional plastics molding techniques. The block 11, and channels 14 are as above described in connection with the FIG. 1 embodiment of the invention, as is the locking member 30. In order to facilitate molding, and simplify production costs, in lieu of the stop members 35 and 37, the channel is provided with a bottom plate 40 and a top plate 42 which are substantially identical and formed with slots 44 and 45 respectively aligned with the slot 16 in the front wall of the block. The spacing between the lower ends of inclined surface 22 and vertical surface 24 in the FIG. 2 embodiment of the invention is such that when the bottom wall 40 is in position as illustrated, it acts as a stop member limiting the downward movement of the locking member 30 to a position such that there will be clearance between the cylindrical surface of the locking member 30 and the surfaces 22 and 24 as above described in connection with stop member pin 35 as seen in FIG. 3.

In order to minimize the likelihood of dulling of a knife edge against the rear wall 19 of the block, a cushion formed of a resilient material, such as foamed rubber, polyurethane, or any relatively resilient material having a nonabrasive surface is provided in the form of cushions 45 arranged in slots aligned with slots 16 and formed in the rear wall 19.

Though the entire holder may be made of a ferromagnetic material which is magnetized to implement the engagement with the ferromagnetic blade of the knife, it is found that security of holding of an article may be implemented by embedding a magnetic insert 50 adjacent the vertical surface 24, as best seen in FIG. 5.

OPERATION

The aforedescribed holder 10 may be satisfactorily fabricated of any one of a wide variety of materials such as metal, wood, plastic, or the like depending on the production facilities available, the economies to be effected, and/or the aesthetic results to be obtained. Any one of the embodiments of the invention may be fabricated of any one of the materials above discussed.

However, the FIG. 1 embodiment of the invention is found particularly suitable for wood or metal fabrication, where conventional milling equipment is available. The block 11 is formed with desired channels 14 as described and illustrated with slots 16 extending from the front surface of the block into the channel adjacent the vertically extending wall 24. Stop members 35 are positioned at the lower end of the channel at a position selected such as to insure the fact that the blocking members 30 will have clearance with respect to the channel sidewalls when these locking members 30 are against the stop members 35. The locking members 30 may similarly be fabricated of any material. Brass or white nylon have been found to produce eminently satisfactory aesthetic results. These locking members 30 are oriented in the channel with the chamfered edge 32 adjacent the front wall of the channel, as viewed in FIG. 3, and top locking members 37 are secured in position. It will of course be obvious to those skilled in the art that in lieu of a top locking pin 37, a cover plate similar to top wall 42 of the FIG. 2 embodiment may be employed.

Similarly, though the FIG. 2 embodiment of the invention has been particularly designed to facilitate plastic molding, it will be apparent that the same construction may be fabricated of other material such as wood or metal. In lieu of the stop pins 35, the stop members are formed by the bottom wall 40 arranged to limit the downward movement of the locking member 30 to a position such as to insure clearance between the cylindrical surface of the locking member 30 and the sidewalls of the channel when the locking member is at its lowest position, as illustrated in FIG. 2.

In use, the holder is mounted on a wall or any other suitable surface where it may be desired to store knives or the like, and mounting is facilitated by virtue of the mounting flanges 24 and 25, through which appropriate fasteners such as screws or the like are extended.

The knife is to be held is brought up against the face of the block with the sharp edge of the knife blade aligned with slot 16, and the handle of the knife slightly below the block at a distance such as to permit upward movement of the knife with respect to the block. The knife is brought into contact with the chamfered edge of the locking member 30 and rolled upwardly as viewed in FIG. 1 so as to bring the locking member 30 to a position in the channel such that the clearance between the locking member 30 and the vertical surface 24 is sufficient to accommodate the knife blade. In moving the knife blade into the channel, it will be apparent, as viewed in FIG. 4 that a honing action is provided by the chamfer of the locking member against the cutting edge of the blade. The chamfered edge additionally functions to provide an entry guide for the blade. The blade when fully moved into the channel contacts the cushioning surface 45 and is prevented for being dulled.

Where additional holding action is desired, the entire block may be made of a ferromagnetic material and magnetized, or a magnetic insert 50 may be employed. By the utilization of this magnetic insert, or magnetization of the entire block, in the event that the locking member should become jammed in the channel, desired holding action may still be obtained as a result of the magnetic action of the insert 50.

It will be apparent to those skilled in the art that gravity will normally tend to move the locking member **30** downwardly over the inclined surface **22** serving to wedge or sandwich the knife blade between the cylindrical surface of the locking member **30** and the vertical surface **24**, thus providing a secure holding action against the knife blade or the like.

I claim:

1. A holder for knives or the like articles, said holder comprising: a block member having an interior vertically extending channel therein, a vertically extending surface defining one wall of said channel, and an inclined surface spaced from said vertically extending surface defining the other wall of said channel, said inclined surface spaced apart further from said vertical surface at the top of said channel than at the bottom of said channel, said channel having a slot adjacent said vertical surface extending from top to bottom of said block, permitting insertion of a knife or the like into said channel; a locking member movably mounted in said channel between said inclined and vertical surfaces downwardly movable under the action of gravity in said channel towards said vertical surface, said locking member in the form of a right circular cylinder arranged with its axis perpendicular to the axis of said channel and formed with a chamfer at the end of said cylinder adjacent the slot in said channel; and a stop member at the lower end of said channel limiting the downward movement of said locking member at a lower limiting position providing clearance between the locking member and at least one of said surfaces of the channel whereby said locking member cannot jam in said channel.

2. A holder as in claim **1** in which said stop member comprises a pin extending into said channel.

3. A holder as in claim **1** in which at least a portion of said holder is formed of a magnetized magnetizable material, the magnetic field of which is effective within said channel.

4. A holder as in claim **1** in which means are provided limiting the upward movement of said locking member in said channel.

5. A holder as in claim **1** in which said locking member comprises a cylinder having a chamfer at the end thereof adjacent the slot in said channel; said chamfer having an angle with respect to the cylindrical surface at least as great as the blade angle of a knife to be held.

6. A holder as in claim **1** in which a cushioning member is arranged in said channel at the rear thereof opposite the slot in said channel.