United States Patent

[11] 3,604,706

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[45] Patented **Sept. 14, 1971**

[54] **RACKET PRESS AND COVER**
2 Claims, 8 Drawing Figs.

[52] **U.S. Cl.** **273/74,** 273/DIG. 2, 273/DIG. 12
[51] **Int. Cl.** **A63b 49/14,** A63b 49/16
[50] **Field of Search** ..... 273/74; 220/31 SR

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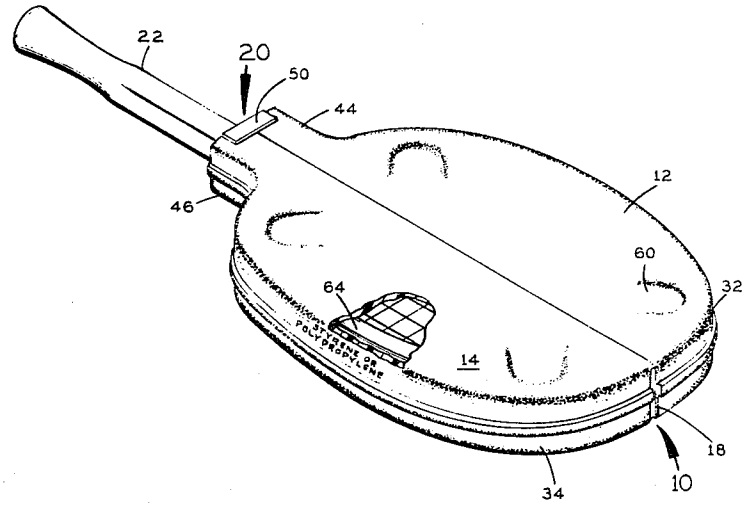
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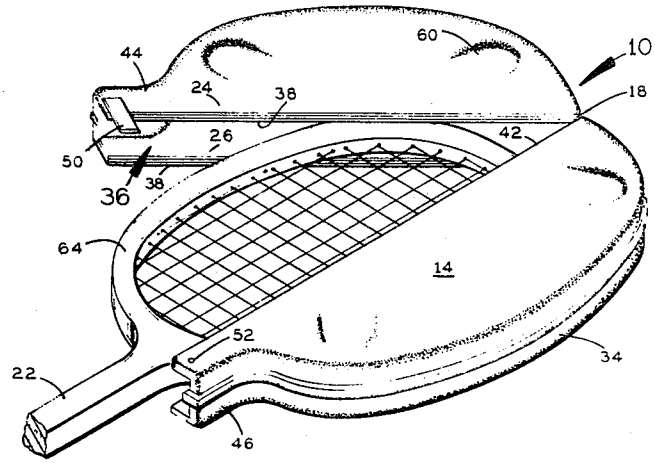
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Primary Examiner—Richard C. Pinkham
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ABSTRACT: A racket press and cover including two shell halves pivotally connected together to be opened and closed so that the head of a tennis racket may be inserted therein and removed therefrom. The shell halves and the pivot connection are, in the illustrated embodiment, molded from plastic. The shell halves have indentations therein which yield resiliently when engaged with the frame of the racket to maintain the frame against warping.





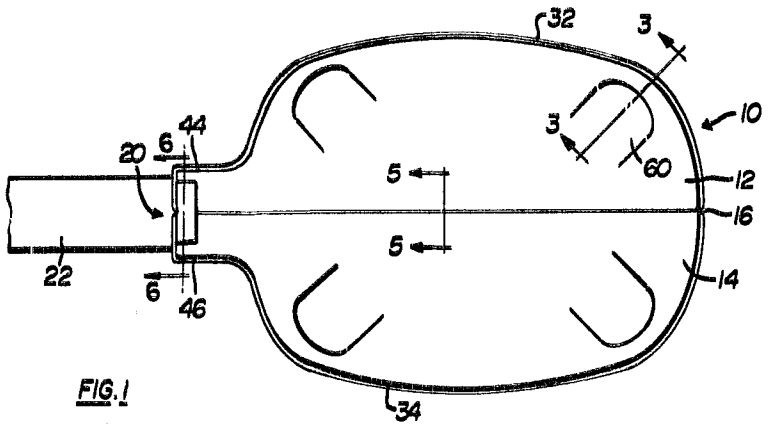


FIG. 1

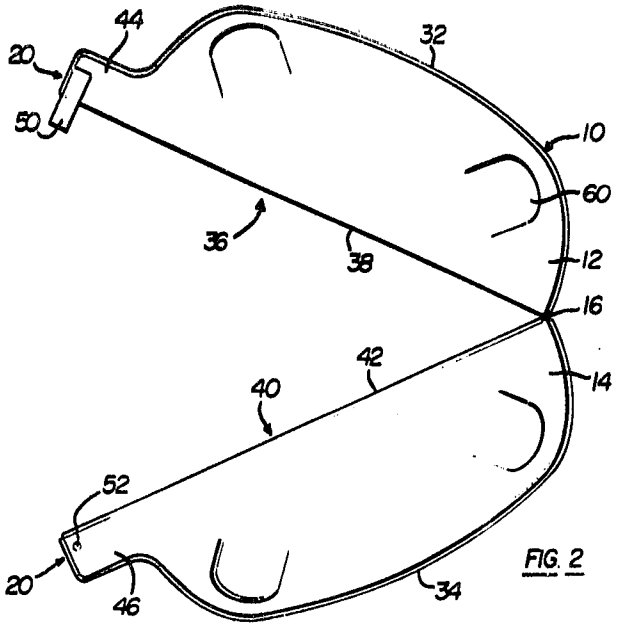


FIG. 2

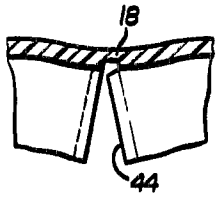


FIG. 4

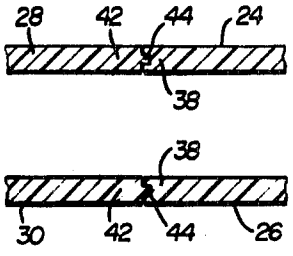


FIG. 5

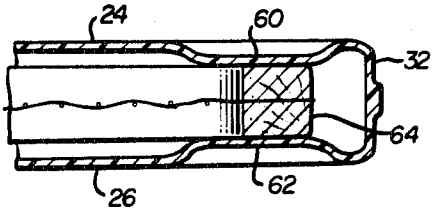


FIG. 3

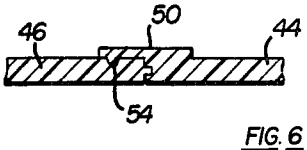


FIG. 6

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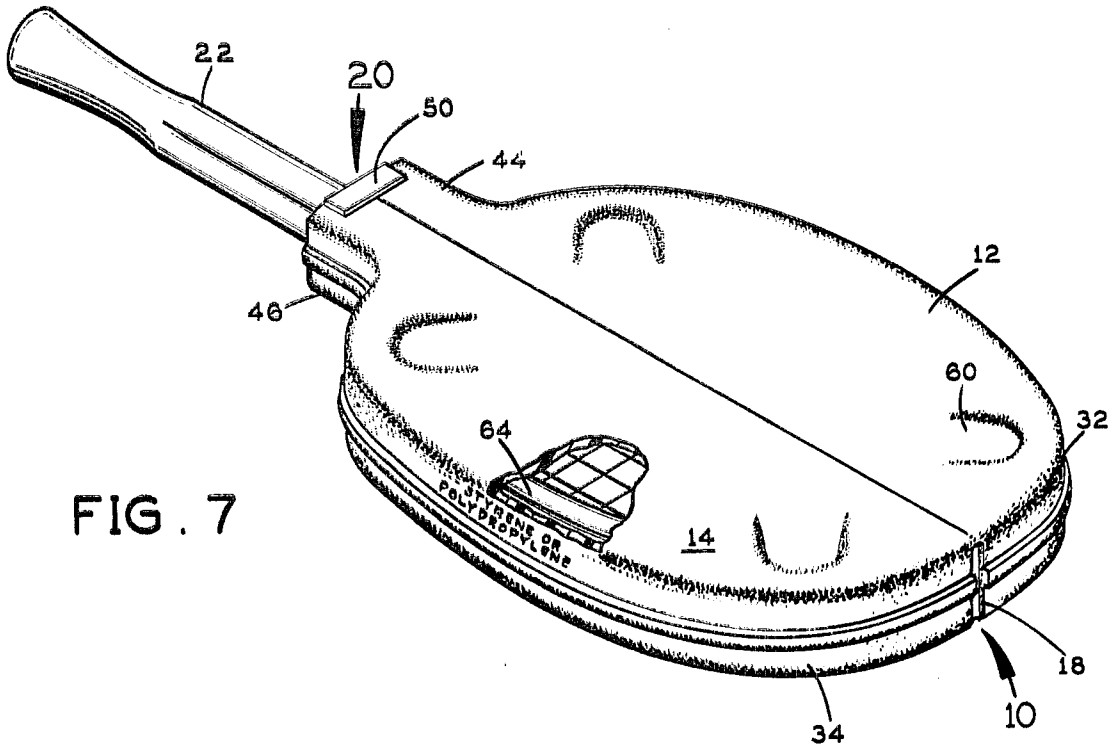


FIG. 7

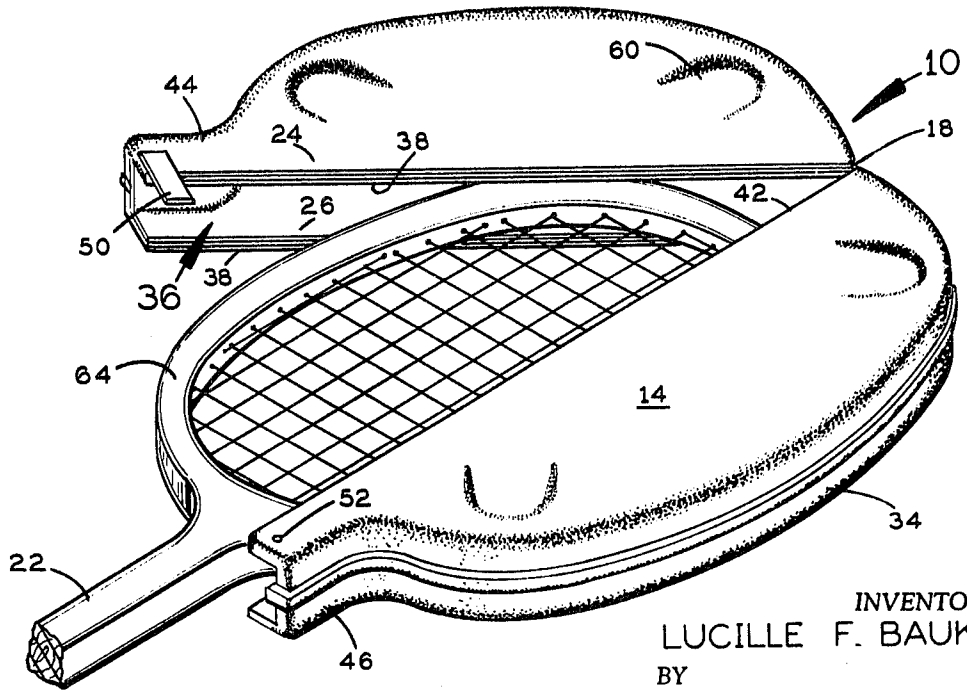


FIG. 8

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RACKET PRESS AND COVER

BACKGROUND OF THE INVENTION

A combined racket press and cover is described and claimed in U.S. Pat. No. 3,343,838 issued to the present inventor. Although that racket press and cover has been manufactured and has definite advantages over the prior art, it also has certain drawbacks. One is that the shell and closure of the cover, as described in the aforementioned patent, can only be molded from plastic with multiple molding steps, and more than one mold is required. Another drawback is that the pivotal connection for the closure of the cover and press as described in said patent is not as reliable as may be desired.

SUMMARY OF THE INVENTION

The combined racket press and cover of the present invention includes two shell halves which are substantially equal in size and may be identical, thus simplifying the molding of the shell halves from plastic. If desired, both shell halves may be molded with a single mold, although this is not essential. In a preferred embodiment, the shell halves are pivotally connected together by a flexible plastic strap hinge which can be molded integrally with the shell halves. The strap hinge is preferably oriented polypropylene plastic. In this embodiment, a throat opening is provided at the end of the cover and press opposite the hinge. Adjacent this opening, a tab is molded integrally with one shell half and a recess is formed in the other shell half, the tab being resilient and having a protrusion which snaps into the recess to hold the shell halves in closed position. The shell halves have edges of a tongue and groove construction to interfit so as to help keep moisture out of the interior of the cover and press.

It is an object of the present invention to provide an improved combination cover and press for a tennis racket having two equal shell halves pivotally connected together and constructed such that the shell halves maintain the frame of the tennis racket against warping.

Another object of the invention is to provide a combination cover and press for a tennis racket with a plastic hinge which can be molded into shell portions of the press-cover.

A further object of the invention is to provide a plastic racket press and cover which lends itself to plastic molding better than known articles of this type.

Still another object of the invention is to provide a racket press and cover having pivotal parts with a simple and yet effective latch.

Other objects of this invention will appear in the following description and appended claims, reference being had to the accompanying drawings forming a part of this specification wherein like reference characters designate corresponding parts in the several views.

ON THE DRAWINGS

FIG. 1 is a plan view of a racket press and cover in accordance with one embodiment of the invention, the press and cover as shown here having the head of a tennis racket enclosed therein;

FIG. 2 is a plan view of only the racket press and cover of FIG. 1 in an open position.

FIG. 3 is a fragmentary sectional view taken along line 3—3 of FIG. 1;

FIG. 4 is a fragmentary sectional view of a hinge portion of the press-cover;

FIG. 5 is a fragmentary sectional view taken along lines 5—5 of FIG. 1, the racket being omitted in this view;

FIG. 6 is a fragmentary sectional view of a latch for the press and cover taken along line 6—6 of FIG. 1;

FIGS. 7 and 8 are perspective views of the racket and press, FIG. 7 showing the press closed and FIG. 8 showing the press open.

Before explaining the present invention in detail, it is to be understood that the invention is not limited in its application to the details of construction and arrangement of parts illustrated in the accompanying drawings, since the invention is capable of other embodiments and of being practiced or carried out in various ways. Also, it is to be understood that the phraseology or terminology employed herein is for the purpose of description and not of limitation.

AS SHOWN ON THE DRAWINGS

The racket press and cover **10** has two shell halves **12** and **14** pivotally connected together at **16** by a plastic strap hinge **18**. Thus, the shell halves **12** and **14** can be opened as shown in FIG. **2** to allow insertion of the head of a tennis racket therein and closed as shown in FIG. **1** to confine the head of the racket. When closed, the shell halves **12** and **14** form an enclosure for the head of the racket, the enclosure having a throat opening at **20** which receives the neck of the racket and from which the handle **22** of the racket projects.

Shell half **12** has an upper wall **24** and a lower wall **26** which are spaced apart and generally parallel to each other. Similarly, shell half **14** has an upper wall **28** and a lower wall **30** which are spaced apart and generally parallel to each other. Portions of these walls are shown in FIG. **5**. Walls **24** and **26** are connected together marginally by a curved marginal wall **32**, and walls **28** and **30** are connected together marginally by a curved marginal wall **34**. The walls of the shell halves are spaced and shaped so as to closely confine the frame of a racket when enclosed therein, but to allow variation in the size and shape of the frame of the racket. Walls **24**, **26** and **32** are preferably molded as one piece and walls **28**, **30** and **34** are likewise preferably molded as one piece. The two shell halves **12** and **14** are preferably identical in size. It is possible to mold the two shell halves with a single mold, but this is not essential. In any event, molding of the shell halves is greatly facilitated by making them equal in size as shown in the drawings.

The shell halves are preferably molded from plastic material such as styrene or polypropylene. The walls of the shell halves should be relatively rigid, but they should have some resiliency for clamping purposes as will be explained further.

Shell half **12** has an open mouth at **36** and an endless edge **38** circumscribing this mouth. Likewise, shell half **14** has an open mouth at **40** and an endless edge **42** circumscribing this mouth. The shell halves have extended throat portions **44** and **46** which define the throat opening **20**, and, of course, the edges **38** and **42** also extend around this throat opening.

Referring to FIG. **5**, the upper and lower portions of edge **42** have tongues **44** projecting therefrom which are received in matching grooves in the upper and lower portions of edge **38**. This tongue and groove construction helps to keep water or other liquid out of the cover and press when it is closed, but it may be noted that the cover and press is not sealed because there is a throat opening **20**.

When the shell halves **12** and **14** are closed, walls **24** and **28** jointly form a generally oval upper wall of the enclosure, and walls **26** and **30** jointly form a generally oval lower wall for the enclosure. It may be seen that the enclosure is split transversely at edges **38** and **42** to divide the enclosure into two equal halves, the split bisecting the throat opening **20**.

The plastic strap hinge **18** can be molded into the shell halves either as an insert or in the same molding operation in which the shell halves are molded. If the shell halves are made of polypropylene, it is convenient to mold the hinge **18** in the same molding step in which the shell halves are molded. The hinge **18** is preferably oriented polypropylene plastic. The orientation of the hinge **18** may be accomplished in different ways, but one is to flex the hinge while it is still hot from the molding operation so as to stress material of the hinge beyond its yield point, thus orienting the polymer molecules. Such a hinge has excellent flex strength. The hinge may be somewhat necked down as a result of the post mold flexing described above.

The throat portions 44 and 46 are provided with a latch consisting of a tab 50 affixed to one throat portion and a recess 52 formed into the other throat portion. In the illustrated embodiment, the tab 50 is molded into throat portion 44, and the recess 52 is formed in throat portion 46. Tab 50 has a small protrusion or projection 54 which is engageable with recess 52. Tab 50 is slightly resilient and is engageable with throat portion 46 so that when the shell halves 12 and 14 are closed, tab 50 initially bends to snap projection 54 into recess 52. The tab 50 may be molded integrally with one of the shell halves in a single molding operation if desired. When tab 50 and hinge 18 are molded integral with the shell halves, a different mold setup is required than when identical shall halves are molded separately with a single mold.

The illustrated embodiment of the press and cover has eight indentations for clamping the frame of a tennis racket. These indentations are arranged in opposed pairs as shown in FIG. 3. It may be seen there that upper wall 24 has an indentation 60, and lower wall 26 has an indentation 62 opposite indentation 60, the indentations being spaced to be engaged by and spread slightly by the frame 64 of a tennis racket when inserted into the press and cover. As previously mentioned, the walls 24 and 26 as well as walls 28 and 30 are relatively rigid but still sufficiently resilient to allow indentations 60 and 62 to spread and apply pressure to the frame of the racket. The other pairs of indentations are substantially identical to indentations 60 and 62. Thus, when the press and cover is closed as in FIG. 1, the pairs of indentations clamp the frame of the racket securely to maintain it against warping. Shell half 12 has two pairs of indentations making a total of four indentations and shell half 14 also has two pairs of indentations making another total of four indentations. Thus, each shell half firmly clamps the frame of the racket and the overall effect is to prevent or greatly reduce warping of the frame of the racket.

Having thus described my invention, I claim:

1. A combined press and cover for a stringed racket comprising a rounded shell consisting of two shell halves substantially equal in size and made substantially entirely of plastic material, said shell halves each having an upper wall and a lower wall which are generally parallel to each other and a curved marginal wall connecting said upper and lower walls together to marginally confine the head of a racket, said upper and lower walls extending inwardly from said marginal walls to completely cover the strings of a racket with each shell half having an edge at the inner terminus of the upper and lower walls thereof forming a mouth in which the racket head may be inserted, said edges having overlapping portions fitting together when the shell halves are closed to form an enclosure to reduce the risk of moisture entering said enclosure, a pivot connection at one end of said mouths pivotally connecting said shells together to allow opening and closing of said shells, said pivot connection comprising an oriented polypropylene plastic strap hinge molded into said marginal walls and flexing when the shell halves are opened and closed to provide pivoting action, said hinge including a strap portion extending between said shell halves and parallel thereto which strap portion has a stress treated neck section molecularly oriented in the direction of bending when closing and opening said shell halves to provide a long life hinge, said shell halves forming an opening at the end of said mouths opposite said pivot connection for receiving the neck of a stringed racket, means at said opening for releasably retaining said shell halves closed, and said upper and lower plastic walls having indentations adjacent said marginal walls arranged in opposed upper and lower pairs of indentations which are very slightly resiliently yieldable to engage the frame of a racket to inhibit warping thereof, each shell half having at least two opposed pairs of said indentations.

2. The combined press and cover as claimed in claim 1 in which said edges at said mouths are of a tongue and groove construction.