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(54) Hockey stick

(57) A hockey stick (10) includes a head (20) and a handle (30). The head (20) has a batting face (22). The handle (30) has five through holes (32). The axes of the through holes (32) extend parallel to a normal direction of the batting face (22) of the head (20). Thus, the air passes the through holes (32) of the handle (30) when user waves the hockey stick (10) so as to reduce the resistance to the air and enhance the flexibility of the handle (30).

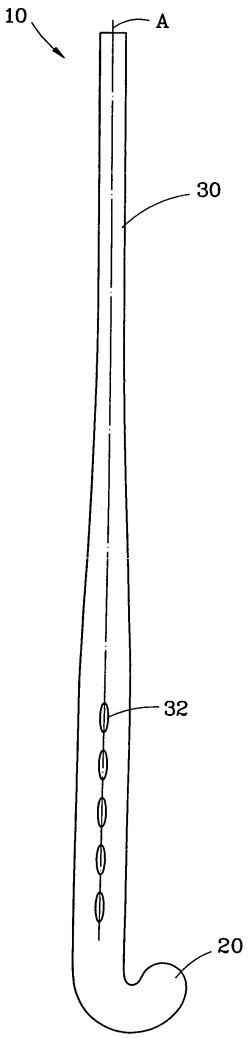

FIG. 1

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Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates to sports good and more particularly to such a hockey stick with reduced resistance to the air and improved flexibility.

2. Description of the Related Art

[0002] A conventional hockey stick has a handle for holding by the user, and a head for batting the ball. The resistance to the air when the user waves the hockey stick is not small due to the predetermined width of the handle and the head. Thus, it becomes a topic for research as how to reduce the resistance to the air when the user waves the hockey stick, and increase the waving speed of the hockey stick.

SUMMARY OF THE INVENTION

[0003] The primary objective of the present invention is to provide a hockey stick with reduced resistance to the air.

[0004] The other objective of the present invention is to provide a hockey stick with improved flexibility.

[0005] The foregoing objectives of the present invention are attained by the hockey stick includes a handle and a head connected with each other. The handle has at least a through hole disposed at a location near the head. The axis of the through hole of the handle extends substantially parallel to a normal direction of a batting face of the head so as to reduce the resistance to the air when the user waves the hockey stick.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006]

FIG. 1 is a front view of a first preferred embodiment of the present invention.

FIG. 2 is a side view of the first preferred embodiment of the present invention.

FIG. 3 is an enlarged view of part of the FIG. 1.

FIG. 4 is a front view of a second preferred embodiment of the present invention.

FIG. 5 is a front view of a third preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0007] Referring to FIGs. 1-3, a hockey stick **10** in accordance with the first preferred embodiment of the present invention is shown comprising a head **20** and a handle **30** integrally connected with the head **20.** The hockey stick **10** of this embodiment is used at the grass field.

[0008] The head **20** is a circle plate and provided with a batting face **22** at one side thereof.

[0009] The handle **30** is a rod extends along an axis **A.** The handle **30** is provided with five through holes **32** at a location near the head **20.** The through holes **32** each have an axis **322** which extends substantially parallel to a normal direction of the batting face **22** of the head **20.** Besides, each of the through holes **32** is elliptic hole with a long axis **L** and a short axis **S.** The long axes **L** of the through holes **32** are substantially parallel to the axis **A** of the handle **30.**

[0010] Thus, the air passes the handle **30** through the through holes **32** during the user waves the hockey stick **10** so as to reduce the resistance to the air and facilitate the waving of the hockey stick **10** or increase the waving speed of the hockey stick **10.** Furthermore, under the prerequisite that the hockey stick **10** has enough structural strength, the flexibility of the handle **30** is improved by the existence of the through holes **32** so that the hockey stick **10** has enhanced power to hit the ball.

[0011] The extension direction of the axes **322** of the through holes **32** has other alternatives. As shown in FIG. 4, a hockey stick **40** in accordance with the second preferred embodiment of the present invention is shown comprising a head **42** and a handle **44.** The hockey stick **40** is characterized in that the extension direction of the axes **444** of the through holes **442** of the handle **44** is substantially parallel to the batting face **422** of the head **42.** Thus, when the user waves the hockey stick **40** left and right to intercept the ball for instance, the resistances to the air are reduced. In fact, the extension direction of the axes **444** of the through holes **442** of the handle **44** can be changed according to the user's demand without departure from the spirit of the present invention.

[0012] The spirit of the present invention can be applied to the hockey stick for used indoor. As shown in FIG. 5, a hockey stick **50** in accordance with the third preferred embodiment of the present invention is shown comprising a head **52** and a handle **54** separately connected with the head **52.** The head **52** has a batting face **522,** and the handle **54** has five through holes **542.** The through holes **542** are circle holes with axes extending parallel to a normal direction of the batting face **522** of the head **52.** The through holes **542** of the handle **54** are disposed at a section near the head **52** so that the section of the handle **54** is easier to deform under outer force and has improved flexibility. Thus, the hockey stick **50** has enhanced power to hit the ball.

[0013] Although particular embodiments of the invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. For example, the shape of the through holes

of the handle may change to rectangular, triangular or other geometrical or irregular shape. The number of the through holes of the handle may be changed. The objectives of the present invention can be achieved by at least one through holes, three through holes preferably, disposed at the handle.

Claims

1. A hockey stick comprising:

   a head (20) having a batting face (22); and
   a handle (30) connected to the head (22) and extending along an axis (A); wherein the hockey stick is **characterized in that** the handle (30) is provided with at least a through hole (32).

2. The hockey stick as claimed in claim 1, which is **characterized in that** the through hole (32) is an elliptic hole.

3. The hockey stick as claimed in claim 2, which is **characterized in that** the through hole (32) has a long axis (L) and a short axis (S), wherein the long axis (L) is substantially parallel to the axis (A) of the handle (30).

4. The hockey stick as claimed in claim 1, which is **characterized in that** the handle (30) is provided with at least three said through holes (32).

5. The hockey stick as claimed in claim 1, which is **characterized in that** the through hole (32) is disposed at a location near the head (20).

6. The hockey stick as claimed in claim 1, which is **characterized in that** an axis (322) of the through hole (32) of the handle (30) extends substantially parallel to a normal direction of the batting face (22) of the head (20).

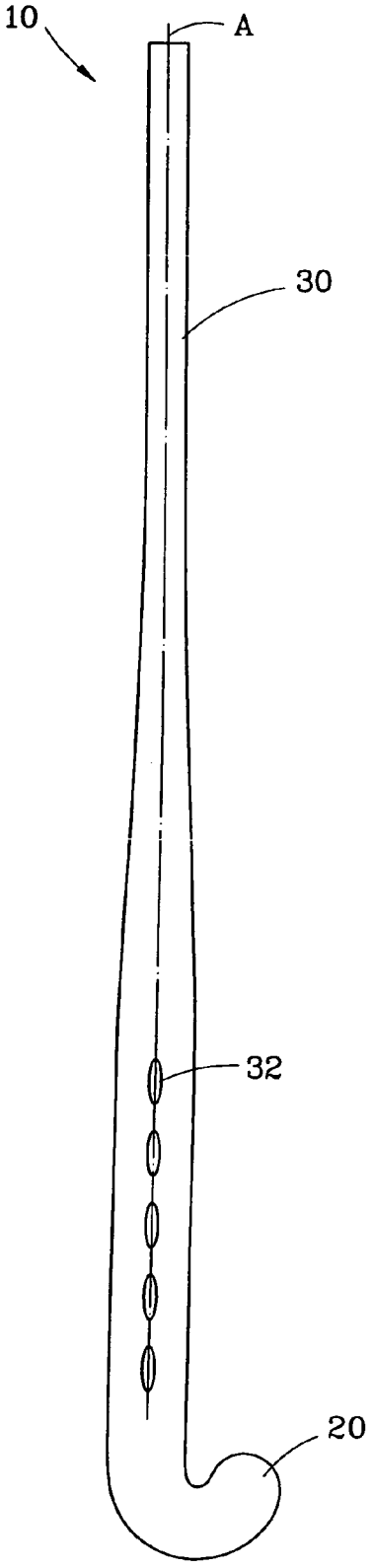

FIG. 1

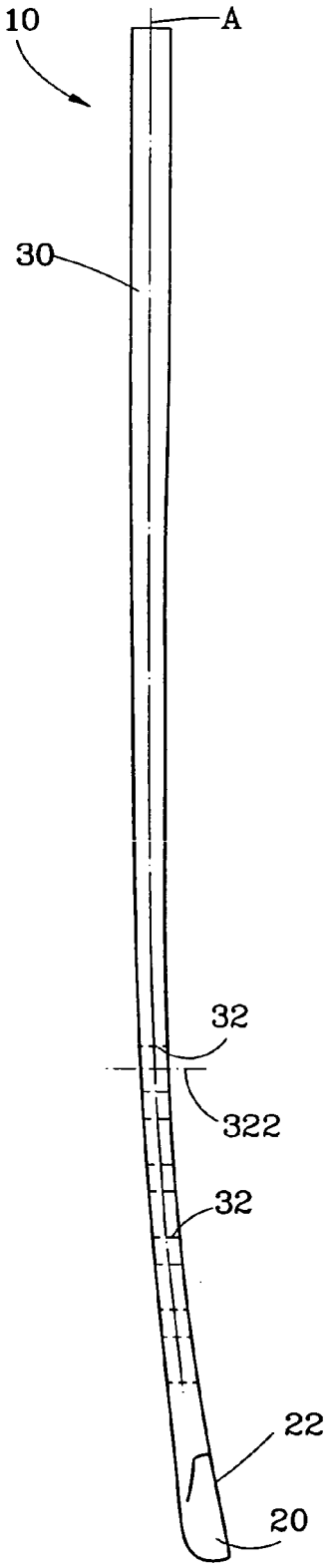

FIG. 2

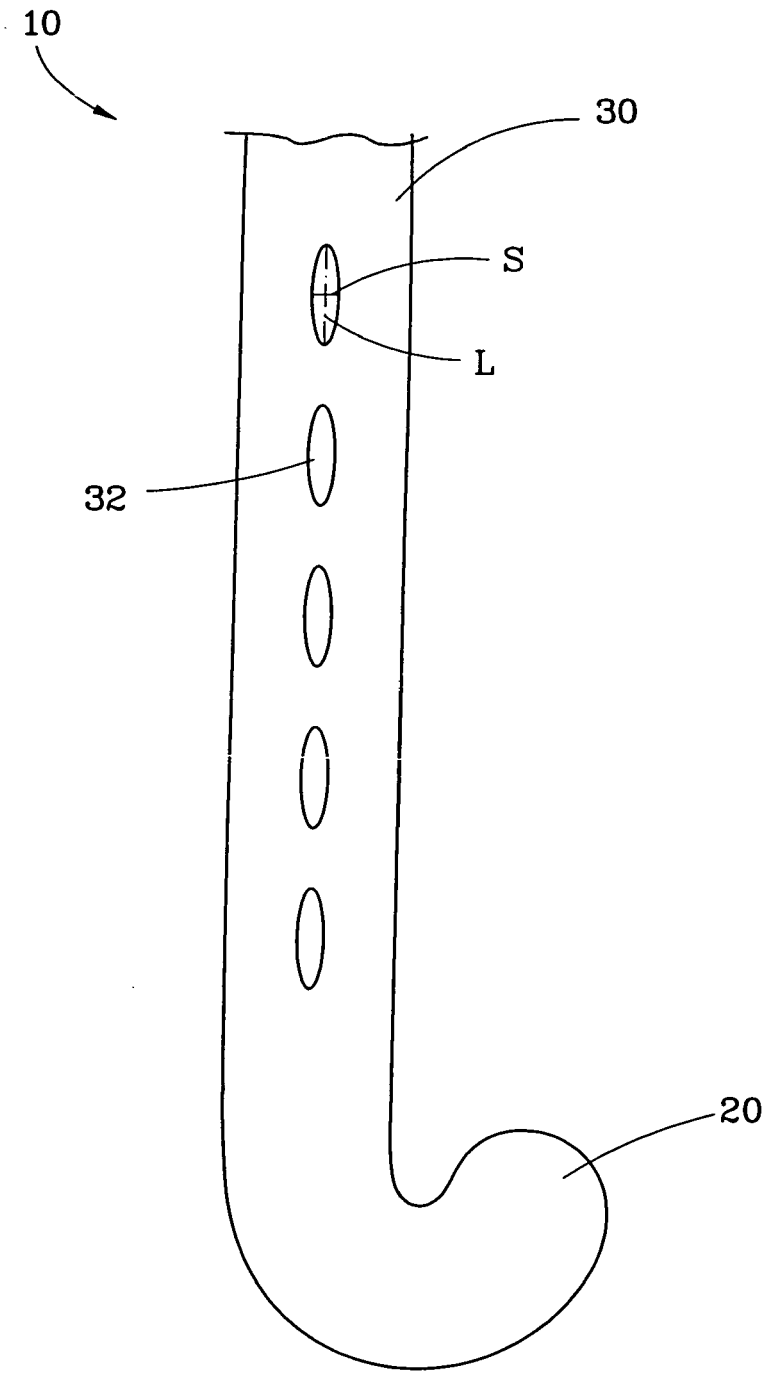

FIG. 3

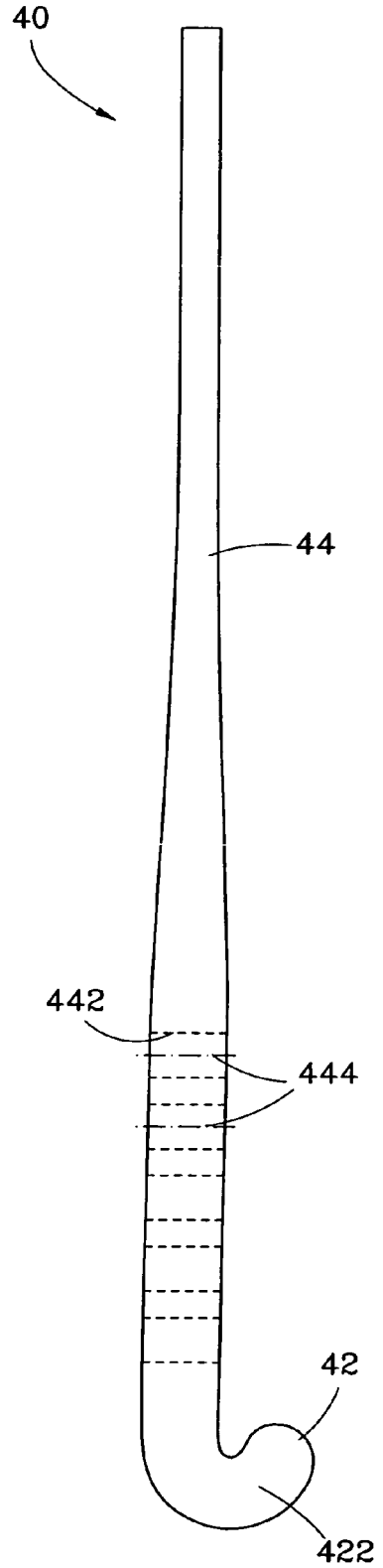

FIG. 4

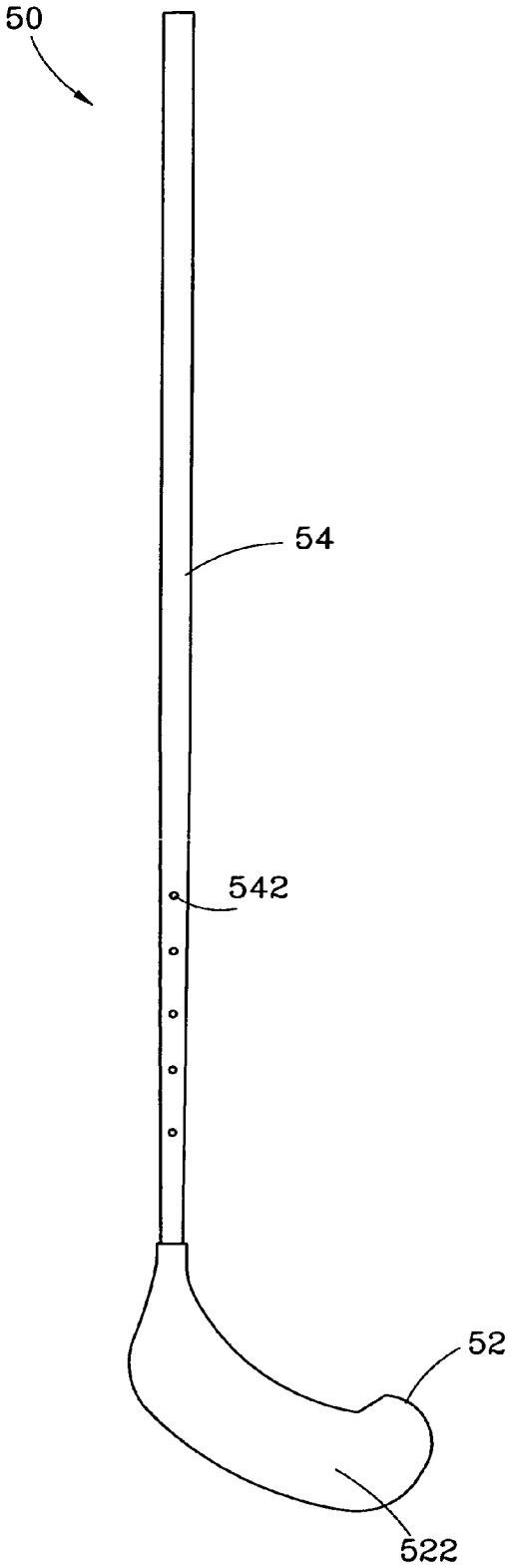

FIG. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 06 01 4485

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y	US 2005/153798 A1 (RIGOLI MICHAEL [US]) 14 July 2005 (2005-07-14) * paragraph [0037] - paragraph [0043]; claims 66-77; figures 2,5-7a,10 *	1,4-6 2,3	INV. A63B59/00 A63B59/12 ADD. A63B59/14
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X	GB 1 121 051 A (CARLTON TYRE SAVING COMPANY LT) 24 July 1968 (1968-07-24) * page 1, line 83 - page 2, line 13; figures 2,5,6 *	1,4	
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A	US 2 040 132 A (ADAM HALL ZACHARIAH) 12 May 1936 (1936-05-12) * column 2, line 25 - line 30; figure 2 *	1,4,6	TECHNICAL FIELDS SEARCHED (IPC) A63B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	21 February 2007	Levert, Corinne

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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21-02-2007

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82