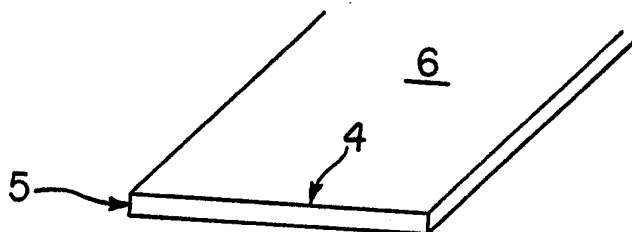




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(21) International Application Number: PCT/US92/02274 (22) International Filing Date: 18 March 1992 (18.03.92) (30) Priority data: 670,982 18 March 1991 (18.03.91) US (71)(72) Applicant and Inventor: LENZ, Carole, A. [US/US]; 6214 West 129th Place, Palos Heights, IL 60464 (US). (74) Agent: BURGAN, Jeffrey, B.; Leydig, Voit & Mayer, Two Prudential Plaza, Suite 4900, Chicago, IL 60601 (US).		(81) Designated States: AT (European patent), BE (European patent), CA, CH (European patent), DE (European patent), DK (European patent), ES (European patent), FR (European patent), GB (European patent), GR (European patent), IT (European patent), JP, LU (European patent), MC (European patent), NL (European patent), SE (European patent). Published <i>With international search report.</i>

(54) Title: FIGURE TOY CONSTRUCTION WITH FLAT HAIR FIBERS



(57) Abstract

A figure toy having a body and a head with a plurality of flat artificial hair fibers (6) on said head. The cross section of the artificial flat hair fibers has the largest dimension (4) between 0.01 in. and 0.25 in. and preferably between 0.01 in. and 0.1 in. Said fibers can be utilized for artificial hair for toy dolls and various other applications.

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FIGURE TOY CONSTRUCTION WITH FLAT HAIR FIBERS

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BACKGROUND OF THE INVENTION

1. Field of the Invention

10 The present invention relates to a toy figure construction and more specifically to a toy figure with a head having artificial hair fibers.

2. Description of the Prior Art

15 Use of synthetic hair for toys in general and dolls in particular is a well known art. In this regard, conventional doll hair fibers are manufactured in such a manner as to resemble natural hair as close to real as possible. Each fiber can be visualized as a long tubular object having a cross section in the shape of a circle as thin as possible. Generally, the cross section of such a fiber has a diameter of less than 20 0.015 in. and is preferably in the range between 0.002 in. and 0.004 in. These fibers are made of flexible and durable polymers such as polyolefins, polyesters, polyacrylonitriles, polyamides and polyvinyl chlorides.

25 It has been recently recognized that the hair look of a toy, such as a doll, is an important aesthetic feature which adds substantially to the commercial significance of the doll. Thus, U.S. patent 3,382,607 describes the use of doll hair fibers permanently impregnated with an indicator dye and capable of repeated and reversible color change. The color change 30 is achieved by contacting the hair with household liquids of different pH concentration. The play value of a doll can be substantially enhanced and tends to stimulate the imagination of children by hair which 35 glows in the dark, for example. Thus, U.S. patent 4,781,647 issued to Hasbro Inc. recently, describes the use and production of phosphorescent fibers made by the

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incorporation of phosphorescent agents to the synthetic fibers of the doll hair. The fascination of children playing with hair is the subject of yet another recent invention [U.S. 4,921,461], whereby training of the children in the use of scissors and in the modeling of hair styles of doll hair is described. Thus, the appearance of the hair in toys in general and dolls in particular plays a significant role in the commercial value of the toy.

Heretofore, hair used in dolls and other toys is made either of natural hair or plastic substitutes manufactured in such a manner as to resemble human hair as close as possible. Children, however, are fascinated by the illusion of abstract, bright, eye appealing objects, different in shape than the natural ones. The latter has not yet been achieved in the field of doll hair, where all synthetic fibers used tend to resemble natural hair as close to real as possible.

Objects and Advantages

Accordingly, it is the primary object of this invention to provide doll hair, which further stimulates the imagination of children.

Another object of this invention is to provide doll hair which reflects the light, substantially imparting the doll with a mystical pearlized look of an extraordinary lustrous appearance.

Another object of this invention is to provide doll hair with a wet shining look without the hair being wet, which can be used for mermaid dolls, for example.

Yet another object of this invention is to provide toy dolls with hair made by a more economical and easily accessible material.

Further objects and advantages of this invention will become apparent from a consideration of the drawings and ensuing description.

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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an enlarged elevational view of a fiber heretofore used for doll hair.

5 Fig. 2 is an enlarged side elevation of the fiber in accordance with the instant invention.

DESCRIPTION AND SUMMARY OF THE INVENTION

10 Fig. 1 represents a tubular fiber for a typical doll hair which has a cross section 3 in the shape of a circle with a diameter less than 0.015 in. and preferably in the range between 0.004 in. and 0.002 in.

15 Fig. 2 represents a hair fiber of this invention, which is flat with a cross section having a rectangular shape, for example. The shorter dimension 5 is significant only in the sense that provides flexibility to the fiber and can be extremely thin. However, dimension 4 is important, since it provides a flat surface where light can be substantially reflected. Dimension 4 can vary significantly between 0.0125 in. to 20 0.25 in. However, a range between 0.015 in. and 0.1 in. is preferred. This preferred range is approximately 10-30 times larger than the preferred cross section of the heretofore commonly used hair fiber. The fiber of this invention can be made of any flexible and durable 25 polymers such as polyolefins, polyesters, polyacrylonitriles, polyamides and polyvinyl chlorides. Especially suitable are fibers of this invention which have been metallized or treated chemically by well known methods which impart a metallic-like look to the fiber with high reflectance. Especially suitable for the hair 30 of this invention are the well known plastic strands of icicles used on Christmas trees, for example.

Such strands are sold by Union Webbing Company, Pawtucket, R.I. under the name of Ice Luster, by Tinsel 35 Company of America, Wisconsin under the name of Crystal Ice and others. These strands are approximately .05 in. wide and are made of metallized polyvinyl chloride.

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Said strands are flame resistant, waterproof, sparkling and come in various colors such as silver, pink, red, yellow, etc.

5 The doll hair fibers of this invention can be attached permanently to the head of the doll or can be converted to wigs for dolls by common methods, well known in the art.

10 Thus the reader will see that the flat fibers described in the present invention provide a highly desirable, light reflective, sparkling material extremely suitable for use as doll or toy hair, yet it is economical and easily accessible.

15 While the above description contains many specifications, these should not be construed as limitations on the scope of this invention, but rather as an exemplification of one preferred embodiment thereof. Accordingly, the scope of the invention should be determined not by the embodiment illustrated, but by the appended claims and their legal equivalents.

20

What is claimed is:

5 1. A figure toy having a plurality of substantially flat synthetic hair fibers defining a visible portion or portions thereof.

10 2. The figure toy of claim 1 wherein said toy is a doll and said fibers define the visible hair portion of the head thereof.

15 3. The figure toy of claim 2 wherein said fibers have a cross section with the longest dimension in the range of 0.01 in. to 0.25 in. and preferably in the range of 0.01 in. to 0.1 in.

 4. The figure toy of claim 2 wherein said hair fibers are permanently affixed on the head to define the hair of the doll.

20 5. The figure toy of claim 2 wherein said fibers are not permanently affixed on the head of the doll but form a wig thereof.

25 6. The figure toy of claim 1 wherein said hair fibers are a substantial mixture of said flat fibers and heretofore used hair fibers.

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FIG. 1

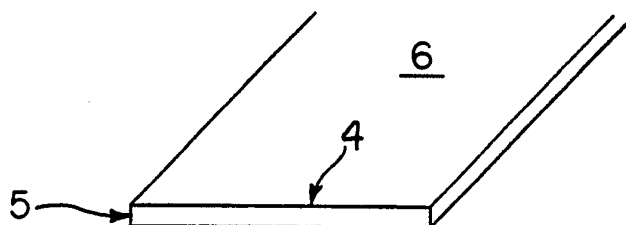


FIG. 2

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INTERNATIONAL SEARCH REPORT

International Application No. PCT/US92/02274

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC		
IPC(5): A63H 3/44; A41G 3/00		
US CL : 446/394		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System :	Classification Symbols	
U.S.	446/394, 385, 319, 372, 27, 26 132/56, 53; 2/171, 175, 186, 185r, 199, 198, 209.1, 202, 200, 192	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹		
Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
X Y	"SPECTRA," Mattel Catalog No. 3692, 1987 Pages 3-6, Hawthorne, CA 90250	1-4, 6 5
Y	US, A, 2,165,475 (GRENEKER) 11 July 1939, See entire document.	1-6
Y	US, A, 2,835,259 (GOODMAN) 20 May 1958, See the entire document.	1-6
Y	US, A, 4,302,491 (PAPAGEORGIOU) 24 November 1981, See the entire document.	1-6
* Special categories of cited documents: ¹⁰ "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. "&" document member of the same patent family		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search	Date of Mailing of the International Search Report	
22 June 1992	15 JUL 1992	
International Searching Authority	Signature of Authorized Officer	
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