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(54) ZIPPER STRUCTURE

(57) The present invention discloses a zipper structure, relates to the field of bags, and is composed of at least one group of zipper. The zipper comprises pull pieces and a pull head; one end of the pull pieces is matched with a box lock for locking, characterized in that limiting structures matched with each other are arranged between the pull pieces of the zipper; and the pull pieces are limited through the matching of the limiting structures. In this way, when one end of the pull head of a group of zipper is closed and one end of the pull pieces is matched and locked with the box lock, the pull pieces of the group of zipper are closed with each other. Because the limiting structures matched with each other are also arranged between the pull pieces, a pair of pull pieces that are closed with each other are limited jointly by the box lock and the limiting structures under the limit of the limiting structures. In this way, one end of the pull head cannot be moved, thereby achieving the effect that one end of the pull head cannot be pulled after the zipper is matched and locked with the box lock.

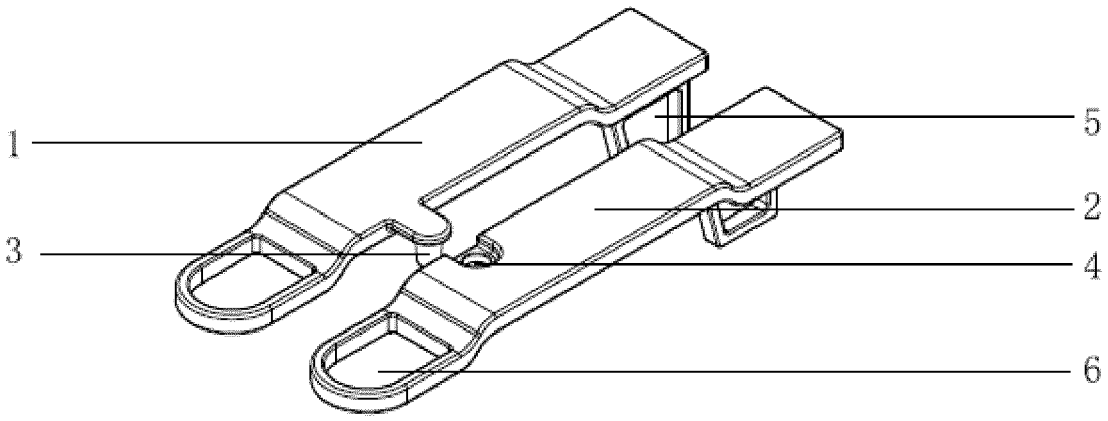

Fig. 1

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Description

Technical Field

[0001] The present invention relates to the field of bags, and particularly relates to a zipper structure.

Background

[0002] In the current bag industry, to ensure the safety of articles in trunks, most of the trunks are provided with a group of zipper and also provided with a password lock. A burglarproof function is realized through matching and locking between the password lock and pull pieces of the zipper. However, because one end of a pull head of the zipper is still movable, one end of the pull head still can be pulled by a certain gap after the zippers of most of the trunks are matched and locked with the password lock. Although the gap is small, the gap may be used by criminals to put drugs, causing potential safety hazards.

Summary

[0003] To solve the above technical problem, the purpose of the present invention is to provide a zipper structure which prevents one end of the pull head from being pulled after the matching locking with a box lock of a trunk.

[0004] To achieve the above purpose, the present invention adopts the following technical solution: a zipper structure is composed of at least one group of zipper; the zipper comprises pull pieces and a pull head; one end of the pull pieces is matched with a box lock for locking, characterized in that limiting structures matched with each other are arranged between the pull pieces of the zipper; and the pull pieces are limited through the matching of the limiting structures.

[0005] By adopting the above technical solution, when one end of the pull head of a group of zipper is closed and one end of the pull pieces is matched and locked with the box lock, the pull pieces of the group of zipper are closed with each other. Because the limiting structures matched with each other are also arranged between the pull pieces, a pair of pull pieces that are closed with each other are limited jointly by the box lock and the limiting structures under the limit of the limiting structures. In this way, one end of the pull head cannot be moved, thereby achieving the effect that one end of the pull head cannot be pulled after the zipper is matched and locked with the box lock.

[0006] Preferably, the pull pieces comprise a pull piece A and a pull piece B; an extension section is arranged on one side of the pull piece A; the extension section is downward provided with a convex structure; the upper surface of one side of the pull piece B is provided with a depression matched with the extension section; a hole matched with the convex structure is formed in the depression; and the pull piece A and the pull piece B are inserted into the hole through the convex structure to realize the matching and limiting.

[0007] By adopting the above technical solution, when a user locks the trunk, the user only needs to match and lock the pull piece B and the box lock at first, and then insert the convex structure of the pull piece A into the hole of the matched pull piece B to realize the matching and limiting of the pull pieces. Because the pull pieces form a whole, one end of the pull piece A matched with the box lock will also be snapped into the box lock at the same time to realize the matching and locking with the box lock. The matching between the extension section of the pull piece A and the depression of the pull piece B can ensure better fit between the pull pieces.

[0008] Preferably, the length of the convex structure is 0.5-1.5 CM.

[0009] By adopting the above technical solution, the convex structure of this length is most suitable to be inserted into the hole to match with the hole for limiting, may not protrude too short and may not affect the aesthetics due to excessive length.

[0010] Preferably, one end of the pull pieces is provided with a locking ring; and the locking ring can be matched with the box lock for locking.

[0011] By adopting the above technical solution, the locking ring can effectively realize the matching and locking with the box lock.

[0012] Compared with the prior art, the present invention has the advantages that: after the zipper and the box lock of the trunk are locked, one end of the pull head of the zipper cannot be moved, thereby avoiding possible potential safety hazards after the zipper is pulled by a gap.

Brief Description of the Drawings

[0013]

Fig. 1 is a structural schematic diagram of a pull piece of the present invention.

Fig. 2 is a structural schematic diagram of a zipper of the present invention.

[0014] In the figures: 1 pull piece A; 2 pull piece B; 3 convex structure; 4 hole; 5 locking ring; 6 pull ring; 7 box lock; 8 pull head.

Detailed Description

[0015] The present invention is further described below in detail in combination with the drawings and embodiments.

Embodiment 1

[0016] A zipper structure, shown in Fig. 1 and Fig. 2, is composed of a group of zipper through matching. The zipper mainly comprises pull pieces; one end of the pull pieces is provided with a pull ring 6; the pull pieces can

be connected with a pull head 8 through the pull ring 6; the opposite side of the pull ring 6, i.e., the bottom of the pull pieces, is provided with a locking ring 5; and the locking ring 5 can be matched with the box lock 7 of the trunk for locking. The pull pieces of the group of zipper can be divided into a pull piece A1 and a pull piece B2. When the group of zipper is pulled and closed, that is, the trunk needs to be locked, one side of the pull piece A1 and one side of the pull piece B2 are fitted, and the locking rings 5 of both are matched and locked with the box lock 7 of the trunk.

[0017] In order that the pull piece A1 and the pull piece B2 are closed, and one end of the pull head 8 cannot be moved when the locking rings 5 of the pull pieces are matched and locked with the box lock 7, in the present embodiment, the limiting structures matched with each other for limiting are arranged between the pull piece A1 and the pull piece B2. The pull piece A1 and the pull piece B2 are limited jointly by the box lock 7 and the limiting structures under the effect of the limiting structures. In this way, one end of the pull head cannot be moved, thereby achieving the effect that one end of the pull head cannot be pulled after the zipper is matched and locked with the box lock and avoiding possible potential safety hazards after one end of the pull head 8 is pulled by a gap.

[0018] In the present embodiment, the pull piece A1 and the pull piece B2 are matched and limited through the limiting structures matched with each other. Specifically, an extension section is arranged on the upper surface of the side where the middle section of the pull piece A is fitted to the pull piece B2; and a depression matched with the extension section is arranged in the position of the upper surface corresponding to the pull piece B. The bottom of the extension section is provided with a convex structure 3. A hole 4 matched with the convex structure 3 is formed in the depression of the pull piece B2. In this way, when the pull piece A is fitted to the pull piece B, the convex structure 3 at the bottom of the extension section of the pull piece A can be inserted into hole 4 of the pull piece B to realize the matching and limiting, so that the pull head 8 cannot be pulled. The extension section of the pull piece A1 extends from the upper surface to one side, and has a thickness matched with the depression of the pull piece B2. In this way, when the user needs to lock the trunk, the user only needs to pull the zipper of the pull piece B2 to a corresponding position at first, enable the pull piece B2 to realize matching and locking with the box lock 7 through the locking ring 5, then to pull the zipper of the pull piece A1 to close with the zipper of the pull piece B and then to insert the convex structure 3 of the pull piece A into the hole of the corresponding pull piece B2. At the same time, the extension section of the pull piece A is fitted with the depression of the pull piece B2 to realize fitting, so that the appearance is more beautiful. The locking ring 5 of the pull piece A1 is also snapped into the box lock 7 to realize matching and locking. After matched and locked with the box lock 7, the pull piece A1 and the pull piece B2 cannot be moved horizontally under the limit of the limiting structures; and the pull piece A1 and the pull piece B2 cannot be moved vertically under the locking of the box lock 7. Thus, after the zipper and the box lock 7 are matched and locked, one end of the pull head of the zipper cannot be moved, thereby avoiding possible potential safety hazards after the zipper is pulled by a gap.

[0019] In the present embodiment, the box lock 7 is a password lock.

[0020] In the present embodiment, the length of the convex structure 3 is 1 CM.

Embodiment 2

[0021] The present embodiment is different from embodiment 1 in that: in the present embodiment, the length of the convex structure 3 is 0.5 CM.

Embodiment 3

[0022] The present embodiment is different from embodiment 1 in that: in the present embodiment, the length of the convex structure 3 is 1.5 CM.

[0023] Although preferred embodiments of the present invention are described in detail above, it should be clearly understood that for those skilled in the art, various variations and changes can be made to the present invention. Any modification, equivalent replacement, improvement, etc. made within the spirit and the principle of the present invention shall be included within the protection scope of the present invention.

Claims

1. A zipper structure, composed of at least one group of zipper, wherein the zipper comprises pull pieces and a pull head (8); one end of the pull pieces is matched with a box lock (7) for locking, **characterized in that** limiting structures matched with each other are arranged between the pull pieces of the zipper; and the pull pieces are limited through the matching of the limiting structures.

2. The zipper structure according to claim 1, **characterized in that** the pull pieces comprise a pull piece A(1) and a pull piece B(2); an extension section is arranged on one side of the pull piece A(1); the extension section is downward provided with a convex structure (3); the upper surface of one side of the pull piece B(2) is provided with a depression matched with the extension section; a hole (4) matched with the convex structure (3) is formed in the depression; and the pull piece A(1) and the pull piece B(2) are inserted into the hole (4) through the convex structure (3) to realize the matching and limiting.

3. The zipper structure according to claim 2, **characterized in that** the length of the convex structure (3) is 0.5-1.5 CM.

4. The zipper structure according to claim 1, **characterized in that** one end of the pull pieces is provided with a locking ring (5); and the locking ring (5) can be matched with the box lock (7) for locking.

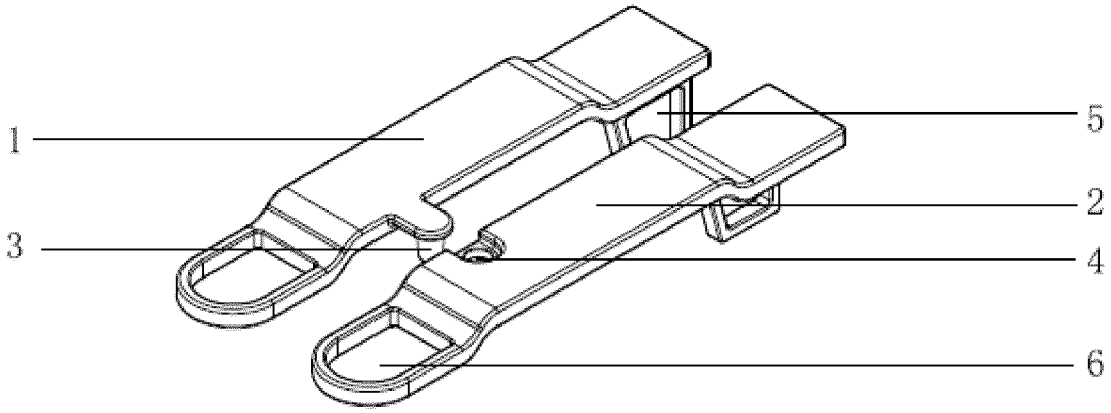

Fig. 1

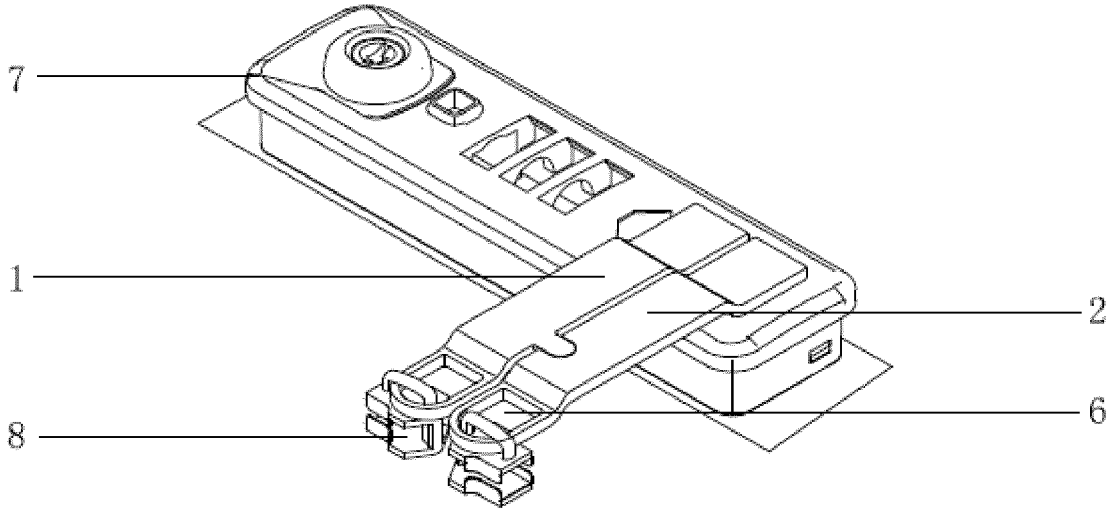

Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 20 15 2634

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	EP 2 926 679 A1 (SAMSONITE IP HOLDINGS SARL [LU]) 7 October 2015 (2015-10-07) * figures 2-4 * -----	1-4	INV. A44B19/26 A45C13/10
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TECHNICAL FIELDS SEARCHED (IPC)

A44B
A45F
A45C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	19 May 2020	van Voorst, Frank

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 20 15 2634

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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