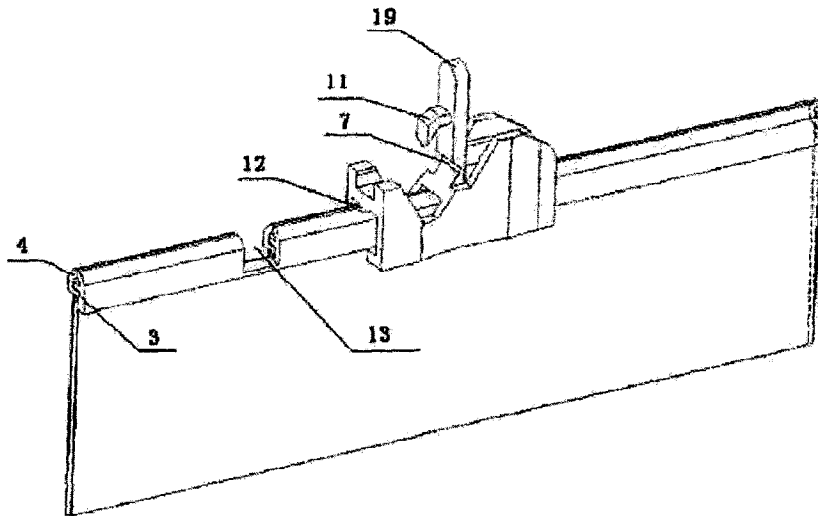




(86) Date de dépôt PCT/PCT Filing Date: 2015/05/08
 (87) Date publication PCT/PCT Publication Date: 2016/11/03
 (45) Date de délivrance/Issue Date: 2021/09/07
 (85) Entrée phase nationale/National Entry: 2017/08/14
 (86) N° demande PCT/PCT Application No.: CN 2015/078519
 (87) N° publication PCT/PCT Publication No.: 2016/172995
 (30) Priorité/Priority: 2015/04/30 (CN2015102156146)

(51) Cl.Int./Int.Cl. *B65D 33/25* (2006.01)
 (72) Inventeur/Inventor:
 CUI, JIASHENG, CN
 (73) Propriétaire/Owner:
 TAKEBISHI (DALIAN) INDUSTRIAL CO., LTD, CN
 (74) Agent: OYEN WIGGS GREEN & MUTALA LLP

(54) Titre : FERMETURE A GLISSIERE A BLOC CURSEUR DU TYPE A PROTECTION
 (54) Title: A PROTECTIVE SLIDER ZIPPER



(57) **Abrégé/Abstract:**

A protection type sliding block zipper, comprising a zipper (2) and a sliding block (1) configured to open and close the zipper (2), an upper part of the sliding block (1) being of a protective structure (19), a root part of the protective structure (19) being of a repeatedly-bended bending structure (7), and a first sliding block hand (11) being fixedly connected to a first working support surface (14) at one side of the protective structure (19); and the zipper (2) comprises a female strip (3) and a male strip (4), the female strip (3) and the male strip (4) being connected to and separated from each other by the sliding block (1). The protection type sliding block zipper can be easily opened by an adult, but cannot be opened by a child at will, thereby meeting the demand of child safety and prolonging the shelf life.

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局(43) 国际公布日
2016年11月3日 (03.11.2016)(10) 国际公布号
WO 2016/172995 A1

- (51) 国际专利分类号:
B65D 33/25 (2006.01)
- (21) 国际申请号: PCT/CN2015/078519
- (22) 国际申请日: 2015年5月8日 (08.05.2015)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (30) 优先权:
2015102156146 2015年4月30日 (30.04.2015) CN
- (71) 申请人: 竹菱(大连)实业有限公司 (TAKEBISHI (DALIAN) INDUSTRIAL CO., LTD) [CN/CN]; 中国辽宁省大连市金州区站前街道金泉路329号, Liaoning 116100 (CN)。
- (72) 发明人: 崔加胜 (CUI, Jiasheng); 中国辽宁省大连市金州区站前街道金泉路329号, Liaoning 116100 (CN)。
- (74) 代理人: 大连科技专利代理有限责任公司 (DALIAN TECHNICAL PATENT AGENCY CO., LTD); 中

国辽宁省大连市中山区人民路61号1511室佟蕊, Liaoning 116001 (CN)。

- (81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW。
- (84) 指定国 (除另有指明, 要求每一种可提供的地区保护): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), 欧亚 (AM, AZ, BY, KG, KZ, RU, TJ, TM), 欧洲 (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG)。

[见续页]

(54) Title: PROTECTION TYPE SLIDING BLOCK ZIPPER

(54) 发明名称: 保护型滑块拉链

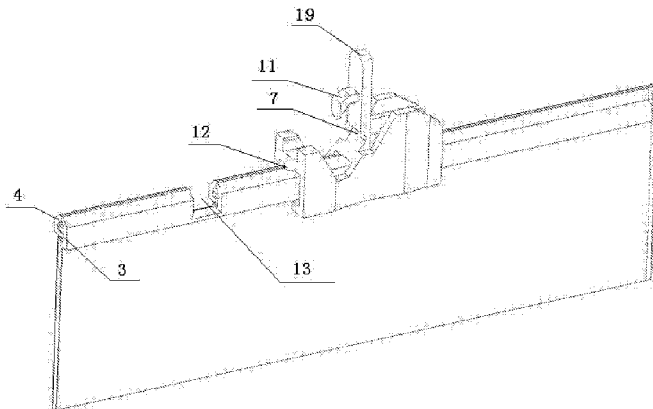


图1

(57) Abstract: A protection type sliding block zipper, comprising a zipper (2) and a sliding block (1) configured to open and close the zipper (2), an upper part of the sliding block (1) being of a protective structure (19), a root part of the protective structure (19) being of a repeatedly-bended bending structure (7), and a first sliding block hand (11) being fixedly connected to a first working support surface (14) at one side of the protective structure (19); and the zipper (2) comprises a female strip (3) and a male strip (4), the female strip (3) and the male strip (4) being connected to and separated from each other by the sliding block (1). The protection type sliding block zipper can be easily opened by an adult, but cannot be opened by a child at will, thereby meeting the demand of child safety and prolonging the shelf life.

(57) 摘要: 保护型滑块拉链, 包括拉链(2)和开关拉链(2)的滑块(1), 滑块(1)上部为保护结构(19), 保护结构(19)根部为可反复弯折的弯折结构(7), 保护结构(19)一侧第一工作支撑面(14)上固定连接第一滑块手(11); 拉链(2)包括母条(3)和公条(4), 母条(3)和公条(4)通过滑块(1)连接和分离。保护型滑块拉链成人能够轻松的打开, 而儿童不能随便打开, 满足了对儿童安全方面的需求, 同时又能延长保质期。



WO 2016/172995 A1

WO 2016/172995 A1 

本国际公布:

- 包括国际检索报告(条约第 21 条(3))。

A PROTECTIVE SLIDER ZIPPER

FIELD OF THE INVENTION

The invention relates to the technical fields of structural design and application of zippers, and particularly provides a protective slider zipper.

BACKGROUND OF THE INVENTION

Plastic packing bags are widely applied to food storage and many other areas in daily life. While the application of an opening-closing strip provides convenience for plastic bags which are cyclically opened, the invention of the slider zipper enables the opening-closing strip to open and close more easily. The opening-closing strip comprises two side strips which are respectively located at two ends of each plastic bag for closing the plastic bag.

Diverse foods can be stored in the plastic bags. Some stored goods include packaged goods, such as granules and power. These packaged goods may include sugar, salt, baby milk, coffee, cookies and the like. When these goods are poured out, the situation that the zipper cannot be closed due to residues frequently occurs; with the residues, the side strips at the two ends of the zipper cannot be closed together; as a result, the zipper cannot be closed.

Currently speaking, the packing bag with the slider zipper is only provided with the slider zipper at the unsealed part; such structure is very poor in air-tightness on the bag body, and the goods in the bag body are easily affected with damp or are polluted by other factors, so that the substances in the bag body go bad. No protective device is provided for the slider and the zipper, and if the packing bag is applied to chemical industry, medicines, healthcare products and other granules, powder and solid mixtures, as well

as the products which children are prohibited to eat or touch in the absence of adult supervision, the food poisoning in children is easily incurred.

People are eager to obtain the protective slider zipper with excellent technical effects.

OBJECT AND SUMMARY OF THE INVENTION

The invention aims at providing the protective slider zipper, which can prevent the condition that the zipper cannot be closed due to the fact that the residues are left on the zipper when the goods are poured out, and can prevent the children from eating or touching a toxic product in the absence of adult supervision.

A protective slider zipper, which comprises a zipper and a slider for opening and closing the zipper, wherein the upper part of the slider is in a protection structure; the root part of the protection structure is in a bending structure capable of being repeatedly bent; a first work support surface at one side of the protection structure is fixedly connected with a first slider hand; the zipper comprises a female strip and a male strip; and the female strip is connected with and separated from the male strip through the slider.

The protective slider zipper, which comprises the zipper and the slider for opening and closing the zipper, wherein the protection structure is connected with the slider through a rotating shaft; the first work support surface at one side of the protection structure is fixedly connected with the first slider hand; the zipper comprises the female strip and the male strip; and the female strip is connected with and separated from the male strip through the slider.

The female strip is connected to a first side surface; and the male strip is connected to a second side surface.

A second work support surface and a work positioning step for fixing the protection structure are arranged at one end of the slider; a second slider hand is arranged at the inner side of the lower part of the second work support surface; a second protection support surface and a protection positioning step for fixing the protection structure are arranged at the other end of the slider; the protection structure is pushed back and forth by hands; when a first protection support

surface at one side of the protection structure contacts the second protection support surface on the slide block, the protection positioning step fixes the protection structure on the second protection support surface, and prevents the protection structure from loosening to play a positioning role, and the slider is in a protected state; and when the first work support surface at one side of the protection structure contacts the second work support surface on the slider, the work positioning step fixes the protection structure on the second work support surface, and prevents the protection structure from loosening to play a positioning role, and the slider is in a working state.

The second slider hand penetrates into a first outline for clearing the residues in the male strip when the zipper is closed from top to bottom in general.

An aileron is arranged at the upper part of each of the female strip and the male strip; and the two ailerons are fastened to each other to prevent dust from entering when the zipper is locked.

The protection structure is connected with the slider through the bending structure or the rotating shaft.

A slider groove is formed in one end of the zipper; the slider is moved to the slider groove; the protection structure is pushed to the second work support surface; the slider is in a working state; and the first slider hand enters the slider groove and is lightly pulled towards the other end of the zipper, so that the bag can be opened.

A reinforcing rib is arranged at the open part of the zipper to prevent other substances from entering the bag when the zipper is at the open part.

The top end of the protection structure is higher than two ends of the slider when fastened to the second work support surface and the second protection support surface on the slider.

The protective slider zipper meets the requirements of consumers on safety of children, and is simple and convenient to operate. The protective slider zipper can be easily opened by a simple action of 'wrenching, pressing and pulling'. The protective slider zipper is very easy to open for adults and old people, but is very challenging for children with the ages of five or below.

The protective slider zipper is applicable to the plastic packing bag which can be cyclically opened,

and particularly is applicable to a slider zipper device which improves the opening-closing strip or the zipper applied to the plastic bag and can be prevented from being opened by children. The protective slider zipper can be ideally applied to packages of any products, including home nursing, chemical industry, medicines, healthcare products and other granules, powder and solid mixtures, as well as the products which children are prohibited to eat or touch in the absence of adult supervision. A flexible package with the protective slider zipper is also applicable to the packages of medicinal cannabis foods due to the facts that the medicinal cannabis foods need to be prevented from being touched by children, and meanwhile, the shelf life needs to be prolonged as much as possible.

The protective slider zipper can be easily opened by adults, but cannot be opened by children at random, meets the requirements on safety of children, simultaneously can prolong the shelf life and has relatively great economic value and the social value.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is the application diagram of the protective slider zipper on the bag;

Figure 2 is the application diagram of the protective slider zipper on the bag;

Figure 3 is the diagram of locking of the male strip and the female strip;

Figure 4 is the application diagram of the second slider hand on the zipper in the open state;

Figure 5 is the diagram of the slider with the bending structure;

Figure 6 is the diagram of the slider of the rotating shaft;

Figure 7 is the main view of the slider with the bending structure;

Figure 8 is the left view of the slider with the bending structure;

Figure 9 is the right view of the slider with the bending structure;

Figure 10 is the diagram of the protective slider zipper in the protected state; and

Figure 11 is the diagram of the protective slider zipper in the working state.

What the numbers stand for: a slider (1), a zipper (2), a female strip (4), a first side surface (5), a second side surface (6), a bending structure (7), a rotating shaft (8), a second work support surface (9), a first protection support surface (10), a first slider hand (11), a second slider hand (12), a slider groove (13),

a first work support surface (14), a reinforcing rib (15), a protection positioning step (16), a second protection support surface (17), a work positioning step (18), a protection structure (19) and ailerons (20).

DETAILED DESCRIPTION OF THE EMBODIMENTS

A protective slider zipper, which comprises a zipper (2) and a slider (1) for opening and closing the zipper (2), wherein the upper part of the slider (1) is in a protection structure (19); the root part of the protection structure (19) is in a bending structure (7) capable of being repeatedly bent; a first work support surface (14) at one side of the protection structure (19) is fixedly connected with a first slider hand (11); the zipper (2) comprises a female strip (3) and a male strip (4); and the female strip (3) is connected with and separated from the male strip (4) through the slider (1).

The protective slider zipper, which comprises the zipper (2) and the slider (1) for opening and closing the zipper (2), wherein the protection structure (19) is connected with the slider (1) through a rotating shaft (8); the first work support surface (14) at one side of the protection structure (19) is fixedly connected with the first slider hand (11); the zipper (2) comprises the female strip (3) and the male strip (4); and the female strip (3) is connected with and separated from the male strip (4) through the slider (1).

The female strip (3) is connected to a first side surface (5); and the male strip (4) is connected to a second side surface (6).

A second work support surface (9) and a work positioning step (18) for fixing the protection structure (19) are arranged at one end of the slider (1); a second slider hand (12) is arranged at the inner side of the lower part of the second work support surface (9); a second protection support surface (17) and a protection positioning step (16) for fixing the protection structure (19) are arranged at the other end of the slider (1); the protection structure (19) is pushed back and forth by hands; when a first protection support surface (10) at one side of the protection structure (19) contacts the second protection support surface (17) on the slide block, the protection positioning step (16) fixes the protection structure (19) on the second protection support surface (17), and prevents the protection structure (19) from loosening to play a positioning role, and the slider (1) is in a protected state; and when the first work support surface (14) at one side of the protection structure (19) contacts the second work support surface (9) on the slider (1), the

work positioning step (18) fixes the protection structure (19) on the second work support surface (9), and prevents the protection structure (19) from loosening to play a positioning role, and the slider (1) is in a working state.

The second slider hand 12 penetrates into a first outline for clearing the residues in the male strip (4) when the zipper is closed from top to bottom in general.

An aileron (20) is arranged at the upper part of each of the female strip (3) and the male strip (4); and the two ailerons (20) are fastened to each other to prevent dust from entering when the zipper (2) is locked.

The protection structure (19) is connected with the slider (1) through the bending structure (7) or the rotating shaft (8).

A slider groove (13) is formed in one end of the zipper (2); the slider (1) is moved to the slider groove (13); the protection structure (19) is pushed to the second work support surface (9); the slider (1) is in a working state; and the first slider hand (11) enters the slider groove (13) and is lightly pulled towards the other end of the zipper (2), so that the bag can be opened.

A reinforcing rib (15) is arranged at the open part of the zipper (2) to prevent other substances from entering the bag when the zipper (2) is at the open part.

The top end of the protection structure (19) is higher than two ends of the slider (1) when fastened to the second work support surface (9) and the second protection support surface (17) on the slider (1).

The protective slider zipper meets the requirements of consumers on safety of children, and is simple and convenient to operate. The protective slider zipper can be easily opened by a simple action of 'wrenching, pressing and pulling'. The protective slider zipper is very easy to open for adults and old people, but is very challenging for children with the ages of five or below.

The protective slider zipper is applicable to the plastic packing bag which can be cyclically opened, and particularly is applicable to a slider zipper device which improves the opening-closing strip or the zipper applied to the plastic bag and can be prevented from being opened by children. The protective slider zipper can be ideally applied to packages of any products, including home nursing, chemical industry, medicines, healthcare products and other granules, powder and solid mixtures, as well as the products which children are prohibited to eat or touch in the absence of adult supervision. A flexible package with

the protective slider zipper is also applicable to the packages of medicinal cannabis foods due to the facts that the medicinal cannabis foods need to be prevented from being touched by children, and meanwhile, the shelf life needs to be prolonged as much as possible.

The protective slider zipper can be easily opened by adults, but cannot be opened by children at random, meets the requirements on safety of children, simultaneously can prolong the shelf life and has relatively great economic value and the social value.

WHAT IS CLAIMED IS:

1. A protective slider zipper, comprising:

a zipper and a slider for opening and closing the zipper,

wherein:

an upper part of the slider is a protection structure pivotally coupled to a lower part of the slider;

the protection structure has a first work support surface and a first slider hand fixed to the first work support surface;

the lower part of the slider has first and second opposed longitudinal ends, the slider has a work positioning step proximate to the first end in relation to the second end and a protection positioning step proximate to the second end in relation to the first end, the work positioning step and the protection positioning step each defining a channel for receiving the protection structure;

a slider groove is provided in the zipper;

the work positioning step has a second work support surface and a second slider hand is arranged at an inner side of a lower part of the second work support surface;

the zipper comprises a female strip and a male strip;

the female strip is connected with and separated from the male strip by the slider;

the protection structure is convertible between a working state and a protected state,

wherein:

at the working state, the work positioning step secures the protection structure so that the first slider hand can enter the slider groove and engage with the zipper to separate the male strip from the female strip; and

at the protected state, the protection positioning step secures the protection structure to prevent the first slider hand from engaging with the zipper.

2. The protective slider zipper as defined in claim 1, comprising a bending structure capable of being repeatedly bent pivotally connecting the protection structure to the lower part of the slider.

3. The protective slider zipper as defined in claim 1, comprising a rotating shaft pivotally connecting the protection structure to the lower part of the slider.

4. The protective slider zipper as defined in any one of claims 1 to 3, wherein the female strip is connected to a first side surface; and the male strip is connected to a second side surface.

5. The protective slider zipper as defined in any one of claims 1 to 3, wherein an aileron is arranged at an upper part of each of the female strip and the male strip; and the two ailerons are fastened to each other when the zipper is locked.

6. The protective slider zipper as defined in any one of claims 1 to 3, wherein the slider groove is formed in one end of the zipper.

7. The protective slider zipper as defined in any one of claims 1 to 3, wherein a reinforcing rib is arranged adjacent to the slider groove.

8. The protective slider zipper in claim 1, wherein a top end of the protection structure is higher than the first and second longitudinal ends of the lower part of the slider when fastened to any one of the second work support surface and the second protection support surface.

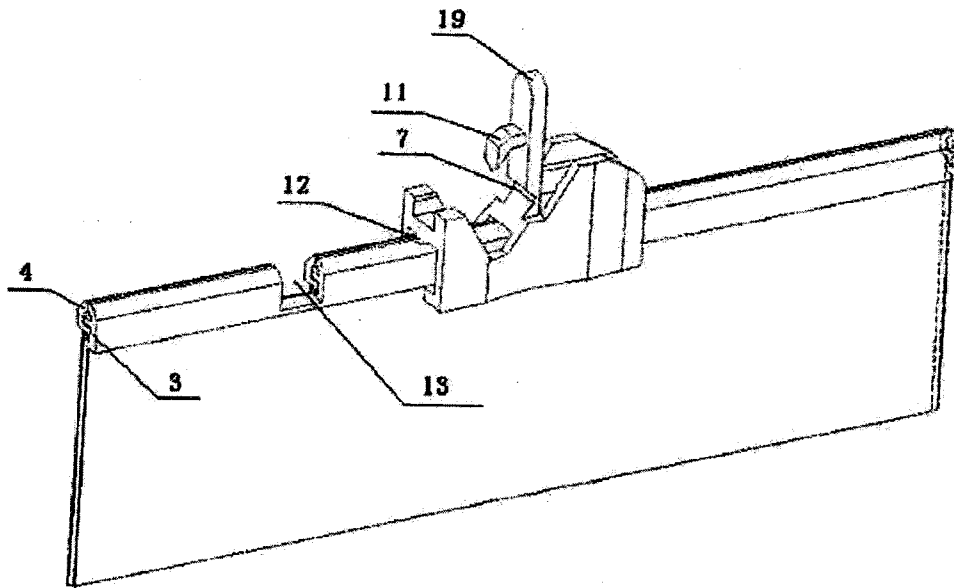


FIG. 1

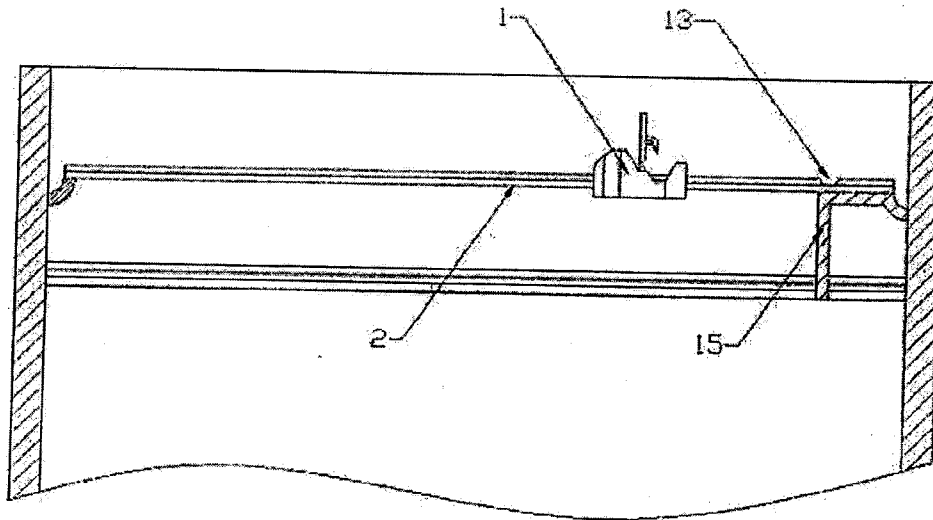


FIG. 2

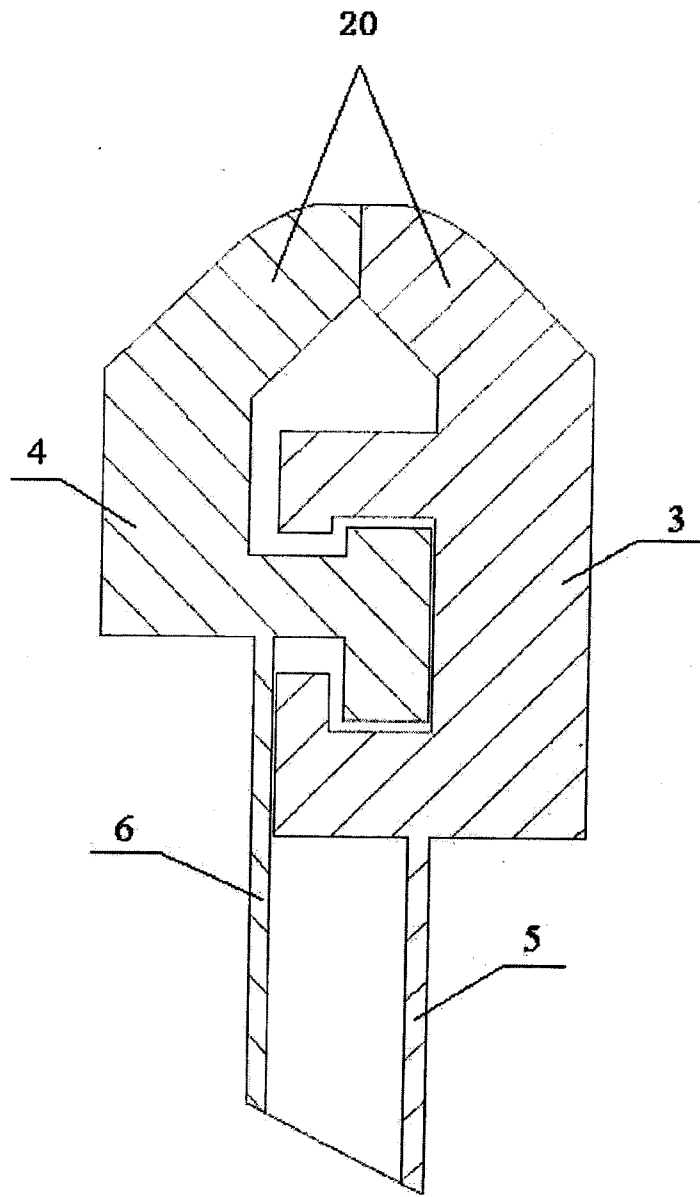


FIG. 3

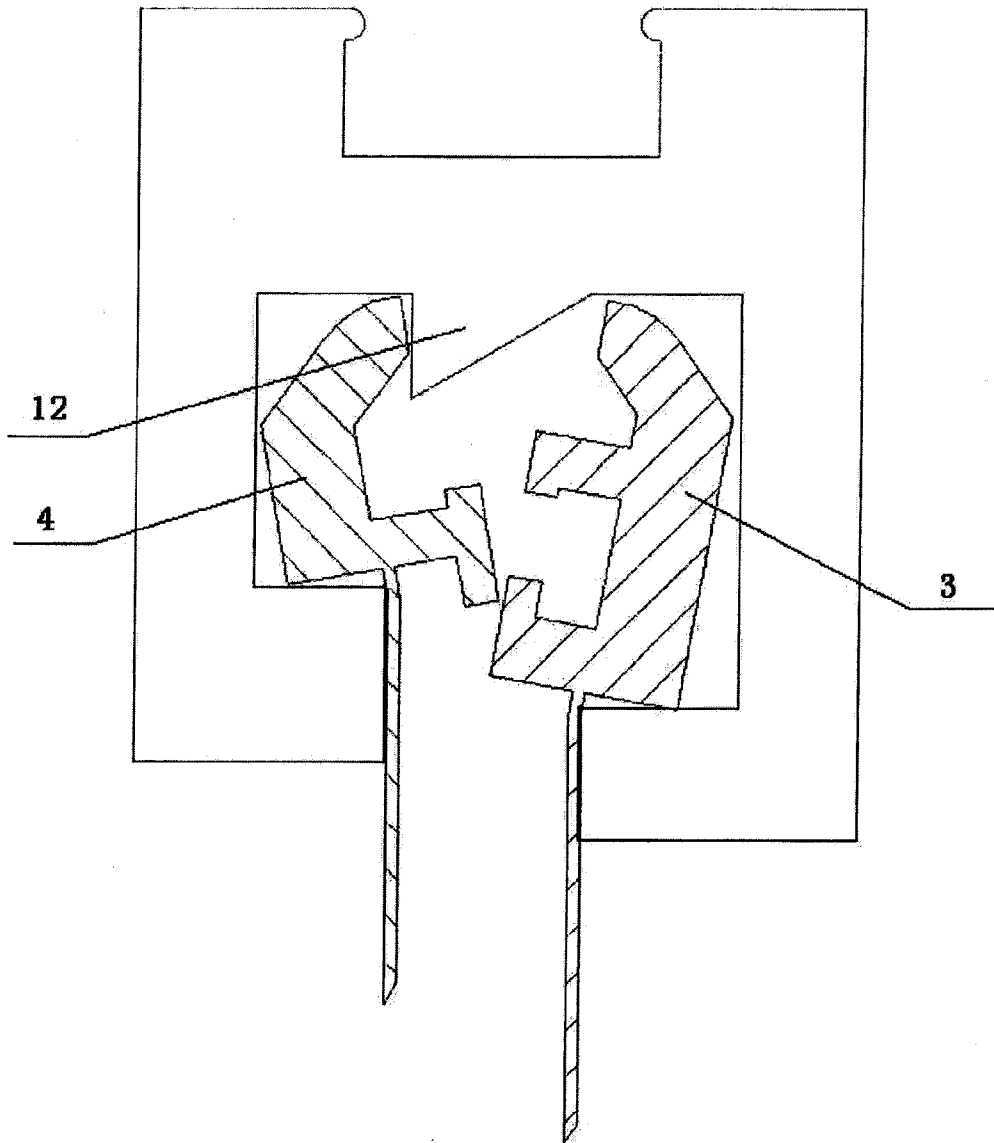


FIG. 4

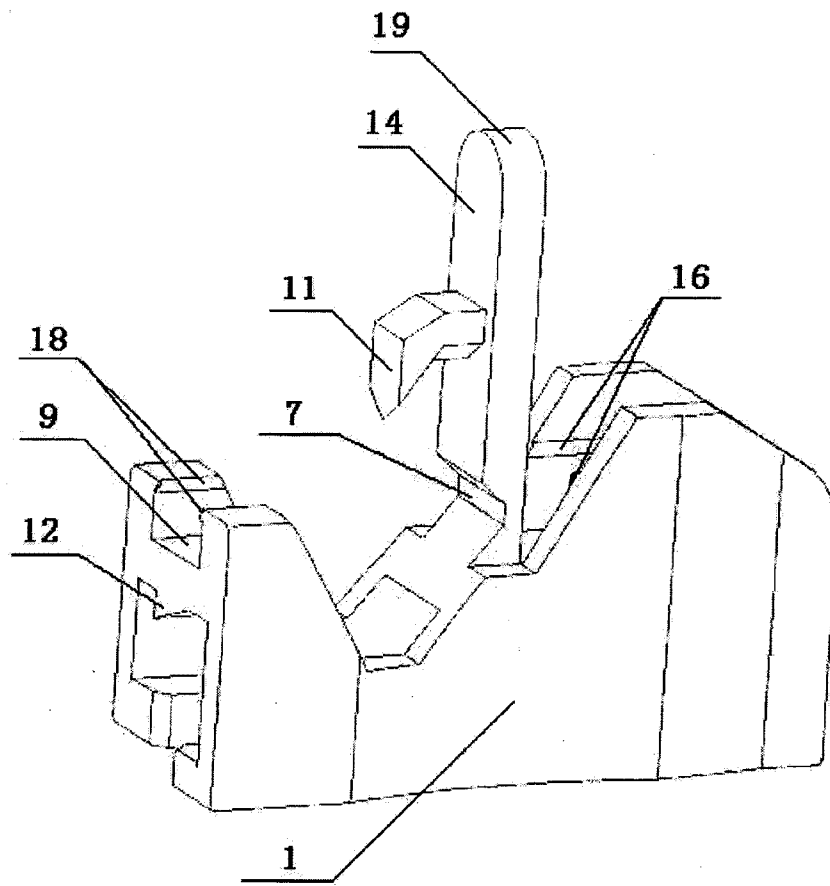


FIG. 5

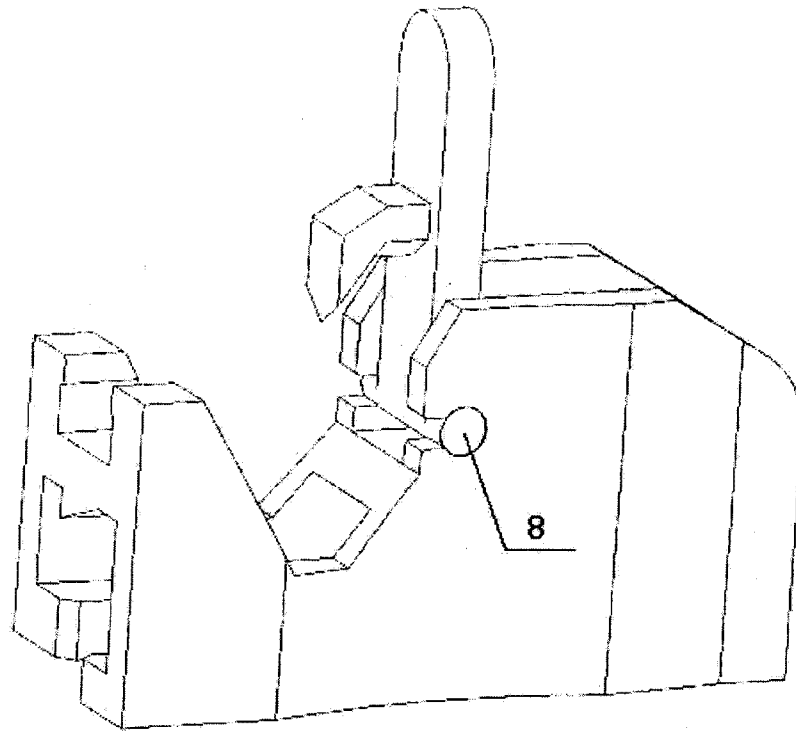


FIG. 6

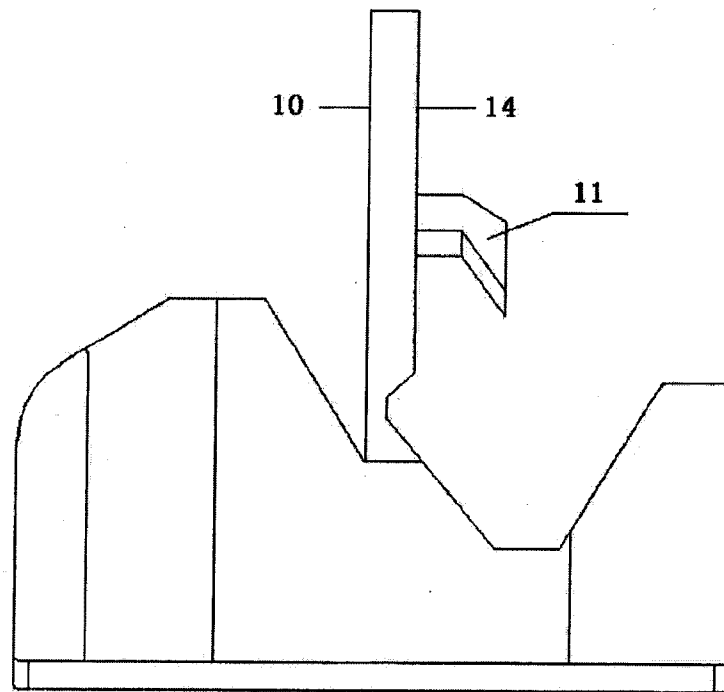


FIG. 7

5/8

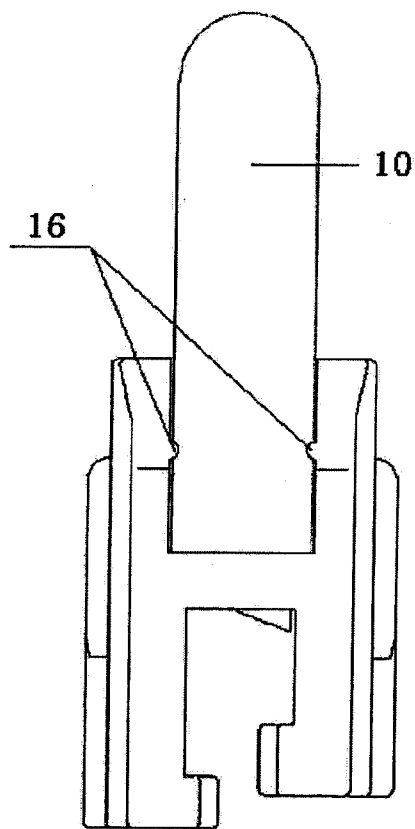


FIG. 8

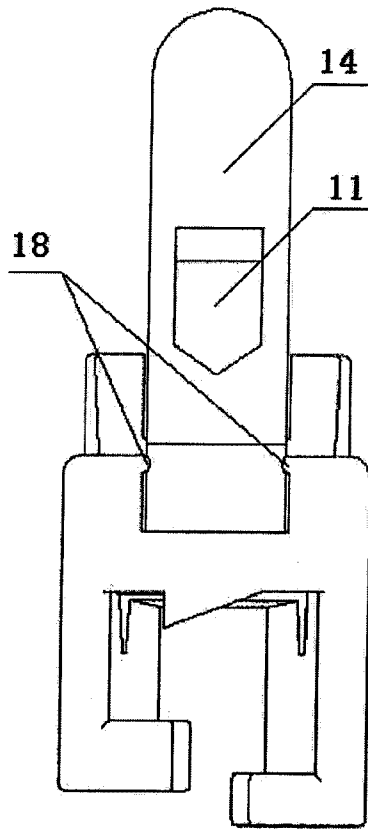


FIG. 9

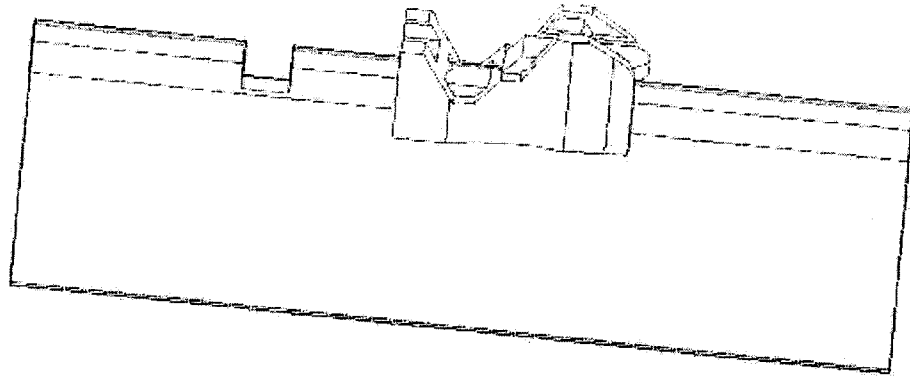


FIG. 10

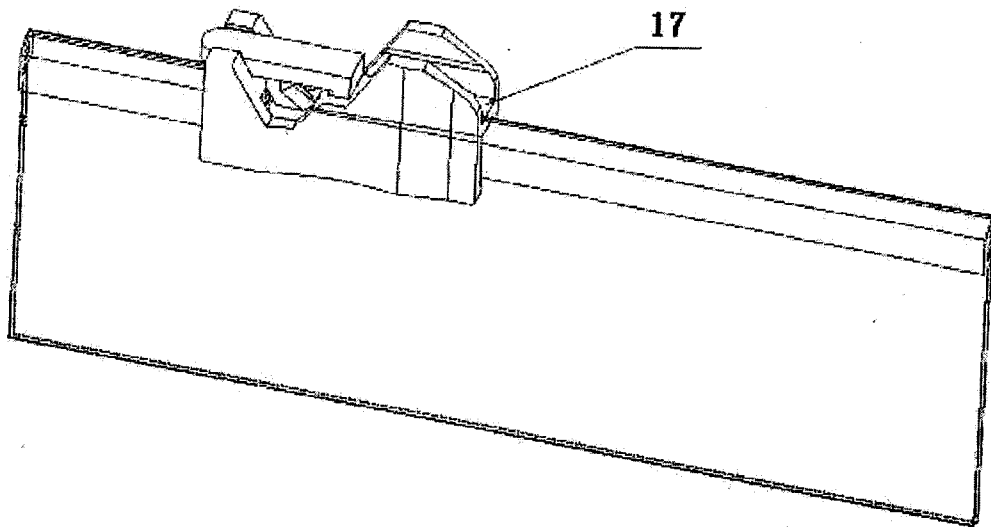


FIG. 11

