Dec. 22, 1959 C. W. CHENEY 2,918,321

HASP FOR EXPANSIBLE MEMBERS

Filed Feb. 26, 1957

Fig. 1.

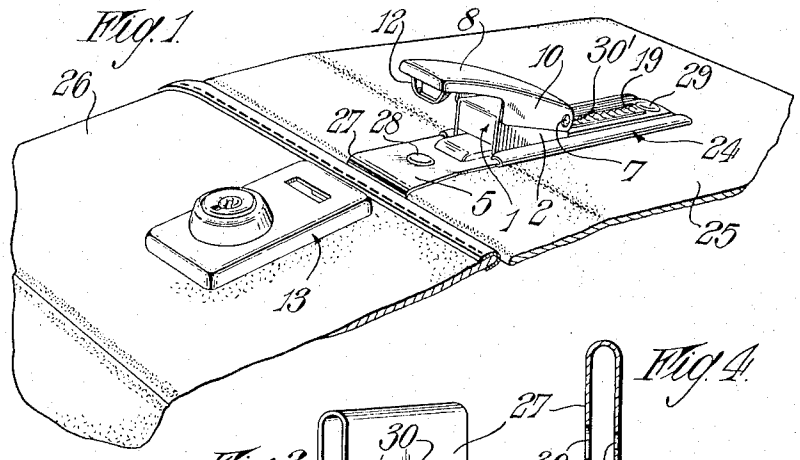


Fig. 3

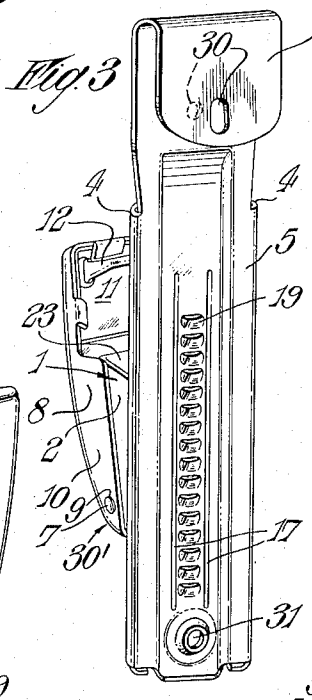


Fig. 4.

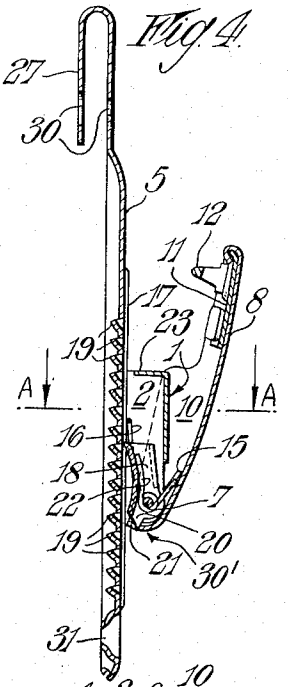


Fig. 2.

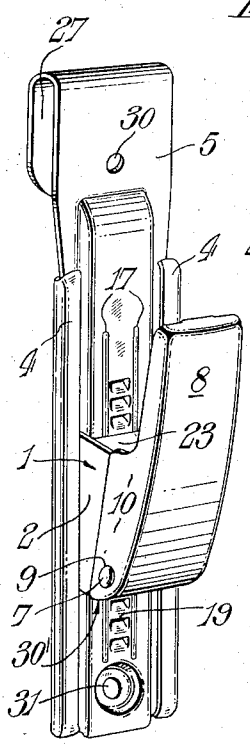
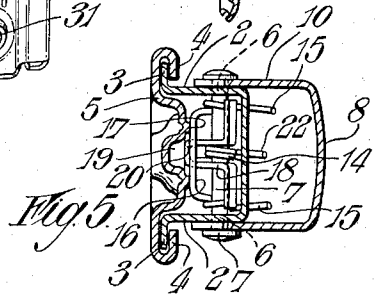


Fig. 5.



INVENTOR:
CHARLES WILLIAM CHENEY
By
Richardson, Davis and Nordin
Attys.

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HASP FOR EXPANSIBLE MEMBERS

Charles William Cheney, Hockley, Birmingham, England

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8 Claims. (Cl. 292—281)

The present invention relates to an adjustable hasp fitting for boxes, luggage and similar receptacles comprising a body part and a lid part which are arranged for relative movement for opening and closing the receptacle.

The fitting, in accordance with the invention, comprises an attachment plate which is provided with longitudinally directed guides and ratchet teeth, a slide member engaging said guides, a spring-loaded hasp hinged to said slide so that the hasp can swing under the action of the spring away from the attachment plate into a predetermined angular position, and can be moved against its spring close to the attachment plate, the former position permitting the slide to move freely in either direction in the said guides, whereas in the latter position a one way ratchet mechanism between the slide and the attachment plate is brought into operation and movement of the slide in one direction is arrested. A box provided with fittings of the above specified kind permits the parts of the box, when the hasp is in its closed position for fastening by the usual sliding catch, to be telescoped to reduce the box capacity, whereas expansion of the parts is prevented. Thus when the hasp is fastened to a cooperating lock member, the lid part of the box can be moved in the closing direction towards the body part by virtue of the ratchet mechanism, but it cannot be moved in the opposite or opening direction until the hasp is disengaged from the lock member.

These hasp fittings are mass produced by sheet metal blanking and forming operations and are assembled by unskilled labour in order to satisfy public demand for the articles at an economic price. These fittings on luggage are subject to and will withstand rough usage.

When the hasp member of a conventional fitting is in the released position, its sole support is a hinge pin by which it is hinged either to the attachment plate or to the slide member. This single hinge pin type of support has been found to be a serious disadvantage in practical use because the hasp member, which in certain cases is several inches long and provides a long lever arm capable of applying shearing stresses to the hinge pin, has become forced out of alignment with the attachment plate and the lock member; sometimes the hinge pin has been strained, or the slide has become difficult to move in the guides, or the ratchet action has been impaired, with the result that for one reason or another, the usual fittings may become either useless or inefficient.

It is, therefore, most desirable to find, and it is an object of this invention to provide, a simple solution to the problem, whereby the risk of damage to the hasp by rough usage can be prevented or considerably reduced without increasing the manufacturing cost.

According to the present invention, a hasp fitting of the kind hereinbefore specified includes a supporting member which has spaced parallel flat side walls which project above the outer face of the attachment plate and which fit within and are engaged by corresponding side walls of the hasp, whereby the side walls on the attachment plate are embraced by the hasp and serve as opposing abutments which prevent lateral displacement of the hasp with respect to its pivotal axis whatever its angular position.

It will be appreciated therefore, that the supporting member with its side walls may be part of a slide which is relatively moveable on the attachment plate or the supporting member may be fixed to the attachment plate.

According to the present invention, a hasp fitting of the hereinbefore specified kind has its slide which includes a supporting member projecting above the outer face of the attachment plate, the supporting member being provided with side walls which fit within corresponding side walls of the hasp which is hollow and is pivoted to the slide, whereby the side walls of the slide serve as abutments to the hasp and operate to prevent angular displacement of the pivotal axis of the hasp whatever its angular position of displacement about said axis.

Preferably, the slide includes a channel section enclosure which constitutes the supporting member and houses a pawl for releasable engagement with the ratchet teeth of the attachment plate and also a spring which normally urges the hasp away from the slide to a predetermined extent.

According to another aspect of the invention, expansible luggage or a similar receptacle is provided with at least one hasp fitting of the hereinbefore specified kind secured to the body part of the box, a releasable latch for fastening the securing element of the hasp, being mounted on the lid part of the box.

The said enclosure or supporting member may also house a spring which normally urges the pawl into resilient engagement with the said ratchet teeth, except when the hasp is in its open position, where a part of the hasp engages with a part of the pawl to hold the latter out of contact with the ratchet teeth.

In order that the invention may be fully understood and more readily carried into practice, we have caused to be appended hereunto a drawing illustrating a constructional example of the invention.

Referring to the drawing:

Figure 1 is a fragmentary, perspective view of a hasp fitting and sliding catch, each mounted on a part of expansible luggage.

Figure 2 is a front perspective view of the hasp fitting itself.

Figure 3 is a rear perspective view thereof.

Figure 4 is a side view in medial section of Figure 2 and

Figure 5 is a plan view in section taken on line A—A of Figure 4.

Referring to the drawings, in the construction shown therein, the hasp fitting has a slide designated generally as **1** consisting of a sheet metal stamping of approximately channel cross section providing spaced parallel flat side walls **2** whose lower edges are bent outwardly to provide tongues **3** for sliding engagement with guides **4** of an attachment plate **5**. The guides **4** define spaced parallel confronting grooves in which the tongues **3** are freely slidably received. The walls **2** are provided near one end with coaxial holes **6** for the hinge pin **7** of a hasp member **8**. The latter consists mainly of a channel section stamping provided at one end with coaxial holes **9** in walls or ears **10** which embrace and engage the walls **2** of the slide **1**. The other end of the hasp **8** has a tongue **11** on which a staple **12** is mounted to engage a cooperating locking member **13** having a sliding catch and lock of known form. The hinge pin **7** passes through the coaxial holes **6**, **9** and a helical torsion spring **14** mounted on and partially surrounding the pivot pin **7** has arms **15**, **16** which act respectively on the inner side of the hasp **8** and on ribs **17** provided on the exterior

of the attachment plate 5. The arm 16 frictionally engages the ribs 17. The pin 7 also form a mounting for a spring loaded pawl 18 arranged so as to be engageable with a series of indentations forming a central line of teeth 19 on the attachment plate 5. The pawl 18 has a tail 20 accommodated in a central groove 21 in a hooded end 30^1 of the hasp 8, the floor of the groove 21 being engaged by the tail 20 at all times due to the action of the pawl spring 22. One end of the slide 1 is formed with a depending wall 23 and edges of the hooded end 30^1 engage aligned grooves (not shown) in the ends of the side walls 10, this engagement serving as a stop to the hinged end of the hasp member 8 so as to limit pivotal movement of the hasp member 8 and the outward movement of the staple 12.

When the hasp 8 is disengaged from the member 13, the hasp 8 moves angularly relative to the slide 1 under the action of the spring 14 until limited as aforesaid. As this occurs, the angular movement is communicated to the pawl 18 by engagement of the tail 20 with the floor of the groove 21, causing the nose of the pawl to be swung about the pin 7 and thereby raised out of engagement with the ratchet teeth 19. This enables the slide 1, together with its hasp 8 to be moved freely in either direction longitudinally of the attachment plate 5. When the hasp 8 is moved towards the attachment plate 5 so that its staple can be engaged by the member 13, the spring 22 causes the pawl 18 to move into engagement with the teeth 19, the displacement of the floor of the groove 21 in the hasp 8 permitting such movement. Engagement of the pawl 18 in resilient manner with the ratchet teeth 19 establishes a one-way ratchet coupling between the slide 1 and the attachment plate 5. Throughout the angular movements of the hasp 8 relative to the slide 1 as above described, the ears or walls 10 of the hasp 8 are always supported against lateral displacement by the spaced parallel walls 2 of the slide 1, so as to guard against the hasp 8 being forced out of alignment with the slide 1 and having the undesirable consequences previously referred to.

In Figure 1, the hasp fitting (designated generally by the reference numeral 24) is shown mounted on the body part (a portion of which is shown in Figure 1 and designated 25) of expansible luggage by a hook portion 27 of the plate 5 and rivets 28, 29 respectively engaging aligned apertures 30 and aperture 31 in the plate 5. The latch member 13, with which the hasp 8 of the fitting can be engaged, is mounted on the lid part (a portion of which is shown in Figure 1 and designated 26) of the luggage. It will be clearly understood by those skilled in the art that in practice, the hinge fittings of the luggage will be provided with adjustable one-way ratchet means (not shown) whereby the lid part can be telescoped uniformly on to the body part of the luggage.

I claim:

1. An adjustable hasp fitting comprising an attachment plate having confronting longitudinally extending parallel grooves formed therein; a series of longitudinally spaced transversely extending teeth formed in said plate, a slide member having outwardly directed projections on opposite sides thereof freely slidably engaged in said grooves, said slide member including a hollow box-like supporting member having laterally spaced flat parallel side walls; a hasp member pivoted to said supporting member, said hasp member comprising integrally formed flat portions which embracingly engage said side walls; and a locking member secured to an end portion of said hasp member, said locking member being adapted for engagement with separate cooperating locking means for securing said hasp member in locked condition; and means carried by said supporting member for engagement with said teeth whereby to secure said slide member against longitudinal movement when said locking member is in engagement with said cooperating locking means.

2. An adjustable hasp fitting comprising an elongated attachment plate adapted to be fixed to one portion of a receptacle to be locked closed, a series of longitudinally spaced transversely extending teeth formed in said plate, said fitting being adapted for engagement with a cooperating locking member fixed to another portion of said receptacle which is relatively movable with respect to said one portion for opening and closing said receptacle, said two portions being locked together for maintaining said receptacle closed when said hasp fitting is in engagement with said cooperating locking member, said attachment plate having a pair of longitudinally extending parallel grooves formed therein, a slide member longitudinally freely slidably mounted in said grooves, a hasp member having a pair of spaced ear portions disposed on opposite sides of said slide member, means pivotally connecting said ear portions to said slide member, a connecting element mounted on said hasp member and adapted for engagement with said cooperating locking member, spring means acting on said hasp member urging said connecting element outwardly away from said locking member, and means carried by said supporting member for engagement with said teeth whereby to secure said slide member against longitudinal movement when said connecting element is in engagement with said locking member.

3. An adjustable hasp fitting, comprising an elongated attachment plate adapted to be fixed to one portion of a receptacle to be locked closed, said fitting being adapted for engagement with cooperating locking means fixed to another portion of said receptacle which is relatively movable with respect to said one portion for opening and closing said receptacle, said two portions being locked together against opening when said hasp fitting is in engagement with said locking means, said attachment plate having a pair of longitudinally extending parallel grooves formed therein and a row of ratchet teeth thereon which extend parallel to said grooves, a hollow slide member on said attachment plate, said slide member having oppositely directed projections on opposite sides thereof which freely slidably engage said grooves, an elongated hasp member pivotally mounted on said slide member, a securing element carried by said hasp member and engageable with said locking means, spring means acting on said hasp member and yieldingly urging said securing element away from engagement with said locking means, a spring-pressed pawl disposed within said slide member and engageable with said teeth, and means carried by said hasp member and engageable with said pawl for maintaining said pawl out of engagement with said teeth when said securing element is held away from said locking means by said spring means.

4. An adjustable hasp fitting for a receptacle having two portions one of which may be moved relatively with respect to the other for opening and closing said receptacle, said fitting being adapted for engagement with cooperating locking means fixed to one of said portions, said fitting comprising an attachment plate fixed to the other of said portions, a series of ratchet teeth carried by said attachment plate and arranged in a row extending toward said one portion, a slide member mounted on said attachment plate for free sliding movement along the direction of said row of teeth, said slide member including a hollow box-like supporting member having laterally spaced flat parallel side walls, a spring-pressed pawl member disposed in said supporting member and engageable with said teeth for preventing movement of said slide member toward said locking means, an elongated hasp member pivoted intermediate its ends to said slide member, said hasp member comprising flat portions which embracingly engage said side walls and a locking element near one end thereof engageable with said locking means, means at the other end of said hasp member engageable with said pawl for holding the pawl out of engagement with said teeth, and spring means acting on

said hasp member, said spring means urging said locking element away from said locking means and holding said pawl disengaged from said teeth when said locking element is disengaged from said locking means.

5. A hasp fitting according to claim 4, wherein said hasp member is pivoted to said slide member for movement about an axis of fixed direction perpendicular to said direction of said row of teeth, said flat portions of said hasp member acting to maintain said direction of said axis fixed as aforesaid.

6. An adjustable hasp fitting for a receptacle having two portions one of which may be moved relatively with respect to the other for opening and closing said receptacle, said fitting being adapted for engagement with cooperating locking means fixed to one of said portions, said fitting comprising an attachment plate fixed to the other of said portions, said attachment plate being elongated in the direction of relative movement of said two portions and having inwardly turned lateral edge portions defining confronting parallel grooves extending longitudinally of said plate, said plate having a longitudinally extending row of indentations formed therein intermediate said grooves, said indentations defining a series of ratchet teeth which have sloping surfaces permitting unidirectional movement of a pawl away from said locking means, a box-like supporting member having laterally spaced flat parallel side walls, a slide member on which said supporting member is disposed, said slide member having laterally extending flanges freely slidably engaging said grooves, a pivot pin mounted in said supporting member and extending transversely of said attachment plate, an elongated hasp member of generally U-shaped transverse cross-section having flat laterally

spaced side wall portions which exteriorly embrace said supporting member, said side wall portions of said hasp member being pivotally connected to said pin intermediate the ends of said hasp member, a connecting element carried at one end of said hasp member and engageable with said locking means, a pawl pivotally mounted on said pin within said supporting member, said pawl being engageable with said ratchet teeth, first spring means mounted within said slide member and urging said connecting element outwardly away from said connecting means, second spring means acting on said pawl and urging said pawl into engagement with said teeth, and mutually engageable means carried by said hasp member and said pawl for holding said pawl out of engagement with said teeth when said connecting element is disengaged from said locking means.

7. A fitting according to claim 6, wherein said first and second spring means are both mounted on and partially surround said pin.

8. A fitting according to claim 7 wherein said first spring means comprises symmetrically arranged leg portions which press against and frictionally engage said attachment plate.

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