Feb. 25, 1947. A. J. KOMENAK 2,416,631

HASP FASTENER WITH ALIGNING TONGUES

Original Filed Feb. 24, 1941

Fig. 1

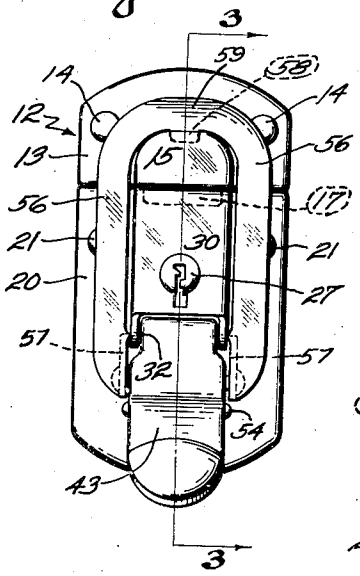


Fig. 2

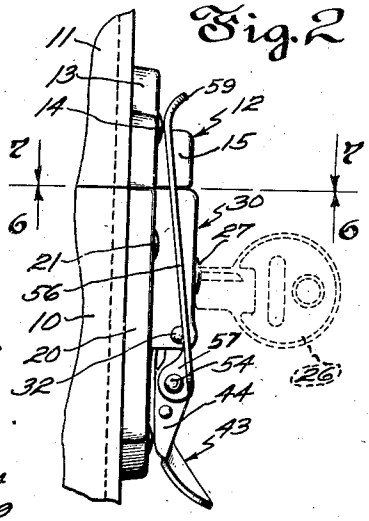


Fig. 3

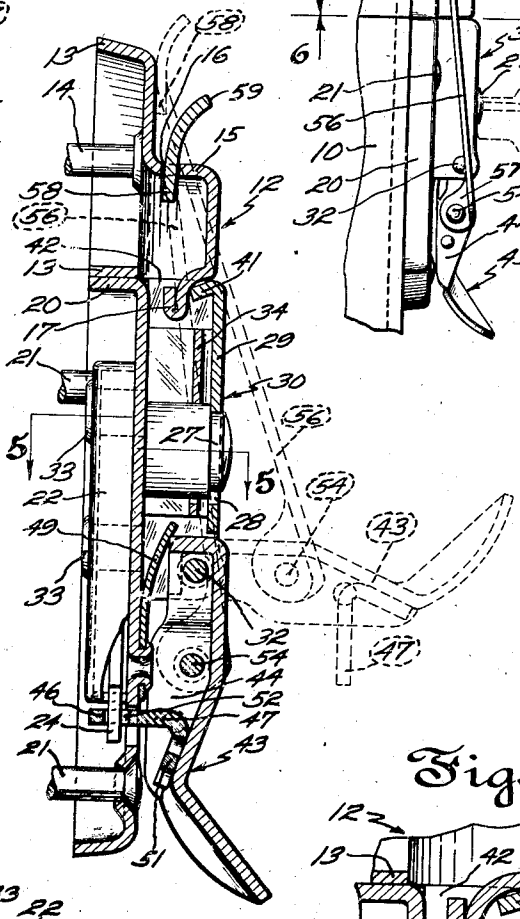
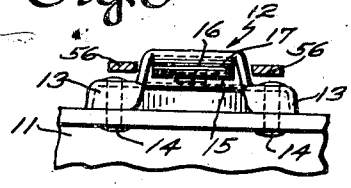


Fig. 6



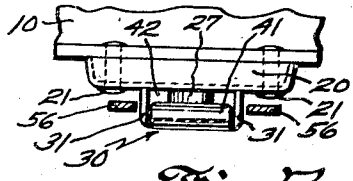
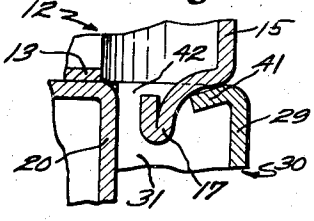


Fig. 7

Fig. 4



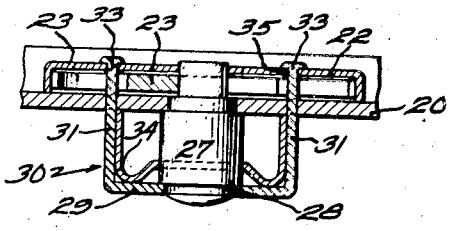


Fig. 5

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HASP FASTENER WITH ALIGNING TONGUES

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Original application February 24, 1941, Serial No. 380,294, now Patent No. 2,374,687, dated May 1, 1945. Divided and this application May 20, 1943, Serial No. 487,741

3 Claims. (Cl. 70—76)

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This invention relates to hasp fasteners for drawing and holding firmly together separable wall edges of hinged-together container parts, such as the body and lid of an article of luggage, a tool box, a trunk or the like, and particularly of the type which incorporate a hollow keeper providing a draw shoulder. The keeper is usually adapted to separate with its container wall from another section of the fastener incorporating a frame jacket which serves as mount for a toggle operated draw hasp adapted to engage and pull upon the keeper.

A lockable hasp fastener of this type is disclosed in my earlier Patent No. 1,652,676, and also in my copending application, Serial No. 380,294 filed February 24, 1941, now Patent Number 2,374,687, granted May 1, 1945, from which the present application is divisional. The present improvements aim to make certain parts of the earlier fasteners stronger and more effectively operative in bringing about and maintaining accurate alignment of the before mentioned separable edges of the container parts.

One object of the invention is to produce a keeper having a doubled-over or folded-back projecting dowel tongue comprising an integral extension of a dished sheet metal structure forming the keeper and providing a draw shoulder engageable by the hasp.

Another object is positively to anchor the draw hasp to the draw shoulder of such a keeper for the double purpose of preventing accidental separation of these parts and further helping to insure a detentive overcentering action of the hasp operating toggle lever when the fastener is closed.

A further object is to provide cooperative camming surfaces on both the dowel tongue and on a portion of the frame jacket which borders a receiving aperture for the dowel tongue.

The foregoing and other objects of the present improvements will appear in greater detail from the following description having reference to the accompanying drawings, wherein:

Fig. 1 is a front elevation of a lockable hasp fastener incorporating the present improvements.

Fig. 2 is an edgewise view looking from the left at Fig. 1 showing a portion of the container parts held together by my improved fastener.

Fig. 3 is a view drawn on an enlarged scale taken in section on the plane 3—3 in Fig. 1 looking in the direction of the arrows.

Fig. 4 is a fragmentary view of the dowel tongue drawn on a larger scale than in Fig. 3.

Fig. 5 is a view taken partly in section on the

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planes 5—5 in Fig. 3, looking in the direction of the arrows.

Fig. 6 is a view taken partly in section looking in the direction of the arrows 6—6 from the plane designated thereby in Fig. 2.

Fig. 7 is a view taken partly in section looking in the direction of the arrows 7—7 from the plane designated thereby in Fig. 2.

10 and 11 represent respectively the body and lid walls of a trunk or other article of luggage, or of any container having a hinged cover or closure such as a mechanic's tool box or the like. The keeper structure 12 is in the form of a hollow or dished section of drawn sheet metal which includes a shallow marginal or mounting flange 13 adapted to be secured to lid 11 by rivets or screws 14, and also a hasp anchorage portion 15 affording a keeper shoulder which contains the anchorage aperture 16 entered by the anchor tongue of the hasp, as hereinafter more fully described, so that the hasp becomes anchored at a fixed point in the keeper. A projecting portion of the front wall of hasp anchorage 15 curves inward and downward and its terminal length is doubled over or folded back upon itself to form the dowel tongue 17 as best shown in Figs. 3 and 4. That part of tongue 17 between its folded-over bottom extremity and the front wall of keeper portion 15 presents a concave camming surface for purposes which will appear hereinafter. The folded-over bottom extremity, itself, forms a convex camming surface. These convex and concave surfaces meet and merge to form a continuous smooth ogee curve as is evident from Fig. 4.

The mounting or escutcheon frame 20 consists of a shallow dished plate formed from sheet metal and adapted to be secured to container body 10 by screws or rivets 21. The concavity afforded by member 20 is occupied by the casing 22 of a lock mechanism designated as a whole by 23. This lock mechanism may be of any desired construction, as for instance that shown in Fig. 9 of the drawings of my said copending application, and therefore will not here be described in fuller detail.

A key barrel has its front end 27 reduced in diameter and rotatably supported in an aperture 28 contained in the front wall 29 of a frame jacket 30 whose side walls 31 at their bottom terminals support opposite ends, respectively, of a hinge pin 32. Side walls 31 are each extended to form a pair of elongated tangs 33 which project not only through closely fitting slots in the escutcheon plate 20 but continue rearward

past the shallow depth of lock case 22 and on through close fitting slots 35 in the rear wall of the latter. Against the back surface of case 22, tangs 33 are swaged over as means for holding solidly against escutcheon plate 20, both the frame jacket 30 and lock case 22, on respectively front and rear sides of the escutcheon plate.

Inside of frame jacket 30 a retainer plate 34 assists in supporting and retaining the key barrel, having for this purpose a bent metal formation most clearly shown in Fig. 5. The top of the front wall 29 of jacket 30 is turned rearward to form a shelf 41 inclined rearward and downward to provide a camming surface for shedding the dowel tongue 17 of keeper 12 and to prevent this tongue from being blocked by accidental abutment thereof against shelf 41 if the container sections 10 and 11 should be out of line when forced together. The incline of shelf 41 assists in camming the dowel tongue into the aperture 42 which receives it when lid 11 closes down against or nears the body 10 of the trunk or other container, and serves to urge said lid and body into true planar alignment and hold them there. The concave contour of the aforesaid camming face of tongue 17 accommodates and may wedge against shelf 41 as it sweeps past the latter to aid in aligning the parts.

The swingable draw parts of the fastener include the finger actuated toggle lever 43 pivotally mounted on frame jacket 30 by means of hinge pin 32 and cooperating with the biasing leaf spring 49 secured on escutcheon plate 20. Lever 43 carries welded or otherwise firmly secured to it an angle member or strike bracket 51 including a striker flange 47 which contains an aperture 52 one edge of which provides the strike surface 46 adapted to be blocked and retained by the lock bolt 24 when the latter is shot downward out of case 22 by turning key 26. Also in the side walls 44 of lever 43 there is carried a pivot pin 54 which projects through the spaced arms of the loop-like hasp 56, being headed over outside of the latter as a means of retaining this pivot pin in place.

Hasp 56 may be stamped out from flat sheet metal to a U-shape providing pivotally mounted side arms that are bent over to form hinge lugs and is provided at its looped opposite end or nose, with the inward projecting anchor tongue 58 which enters into interlocking relationship with aperture 16 in the keeper 12. The thin flat side arms of the hasp are disposed in a common plane and disposed broadside toward the front of the fastener being joined by a C-shaped bridge forming the nose of the hasp which bridge is thus formed by a continuation of the thin material of the side arms. This C-shaped bridge carries anchor tongue 58 which is formed by a continuation of the material of said bridge and slants away from the common plane of the hasp arms. The perimetric marginal portion of the bridge slants forward at 59 from said plane to facilitate finger grasp of the hasp for maneuvering the anchor tongue with respect to anchorage opening 16.

To prepare the hasp for fastening action it is flipped backward or counterclockwise into its broken line position in Fig. 3 whereupon clockwise swinging of toggle lever 43 to its full line position in this figure will pull the hasp downward as its nose tongue 58 enters aperture 16 in the top shoulder wall of keeper 12. In Fig. 3 it is seen that at this time hasp pivot 54 has become slightly overcentered in relation to a straight line passing through lever pivot 32 and through the point of bearing of the hasp nose on the seating surface of the keeper, which over-centering assisted by the bias of spring 49 against lever 43 tends to keep these parts in their full line position in Fig. 3 unaided by lock bolt 24. In connection with this overcentering action it will be seen that shelf 41 by engagement with keeper tongue 17 prevents movement of keeper 12 toward the right, and that the interlocking engagement of anchor tongue 58 with aperture 16 prevents movement of the former toward the right. By this combination of means the described over-centering action is assured. At this time aperture 52 in striker flange 47 of angle member 51 is in position to receive lock bolt 24 which can now be shot into said aperture by turning key 26. Upon retraction of bolt 24 by reverse turning of the key, the toggle lever will again be free to be lifted to its broken line position in Fig. 3. This raises hasp tongue 58 clear of keeper aperture 16 whereupon the hasp can be swung forward or clockwise in Fig. 3 and clear of the keeper, thus restoring the parts to their normal unfastened positions.

Various departures from the exact shapes and arrangements of the parts herein shown may be made within the scope of the invention and hence the following claims will be understood to apply to and cover all substitutes and equivalents for such parts and functions as fall fairly within their terms.

I claim:

1. In a hasp fastener for drawing and holding together cooperative container and closure sections, the combination of, a hasp loop carrying an anchor tongue, a toggle lever on which said loop is pivotally mounted, a jacket structure on which said toggle lever is pivotally mounted adapted to be secured to one of said sections and having a section aligning opening disposed toward the other of said sections, a shoulder on said jacket structure bordering said opening, a keeper adapted to be secured to said other section having an anchorage aperture receptive to said anchor tongue and carrying a dowel tongue projecting away from said anchorage aperture in a direction to occupy said section aligning opening while said anchor tongue occupies said anchorage aperture, the said shoulder being inclined in a direction to shed said dowel tongue into said aligning opening responsively to pressure of the end of said dowel tongue against said shoulder as one of said sections nears the other.

2. In a hasp fastener for drawing and holding together cooperative container and closure sections, the combination of, a hasp loop, a toggle lever on which said loop is pivotally mounted, a jacket structure on which said toggle lever is pivotally mounted adapted to be secured to one of said sections and having a section aligning opening disposed toward the other of said sections, a shoulder on said jacket structure bordering said opening, a keeper adapted to be secured to said other section and carrying a dowel tongue projecting in a direction to occupy said section aligning opening in the jacket structure, means to anchor said hasp loop to said keeper while said dowel tongue occupies said section aligning opening in the jacket structure, the said shoulder being inclined in a direction to shed said dowel tongue into said aligning opening responsively to pressure of the end of said dowel tongue against said shoulder as one of said sections nears the other.

3. In a hasp fastener for drawing and holding together cooperative container and closure sections, the combination of, a hasp loop carrying an anchor tongue projecting generally inward with respect to the loop, a toggle lever on which said loop is pivotally mounted, a jacket structure on which said toggle lever is pivotally mounted adapted to be secured to one of said sections and having a section aligning opening disposed toward the other of said sections, a hollow keeper adapted to be secured to said other section having a wall relatively remote from said jacket structure containing an anchorage aperture disposed to be entered by said anchor tongue during movement of the latter toward said jacket structure and having another wall adjacent said jacket structure bent to form a dowel tongue projecting away from said anchorage aperture in a direction to occupy said section aligning opening while said anchor tongue occupies said anchorage aperture, and a cam surface on said jacket structure adjacent said section aligning opening co-

operative with said dowel tongue to shed the latter into said aligning opening responsively to pressure of the end of said dowel tongue against said jacket structure as one of said sections nears the other.

ALBERT J. KOMENAK.

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