

Dec. 7, 1937.

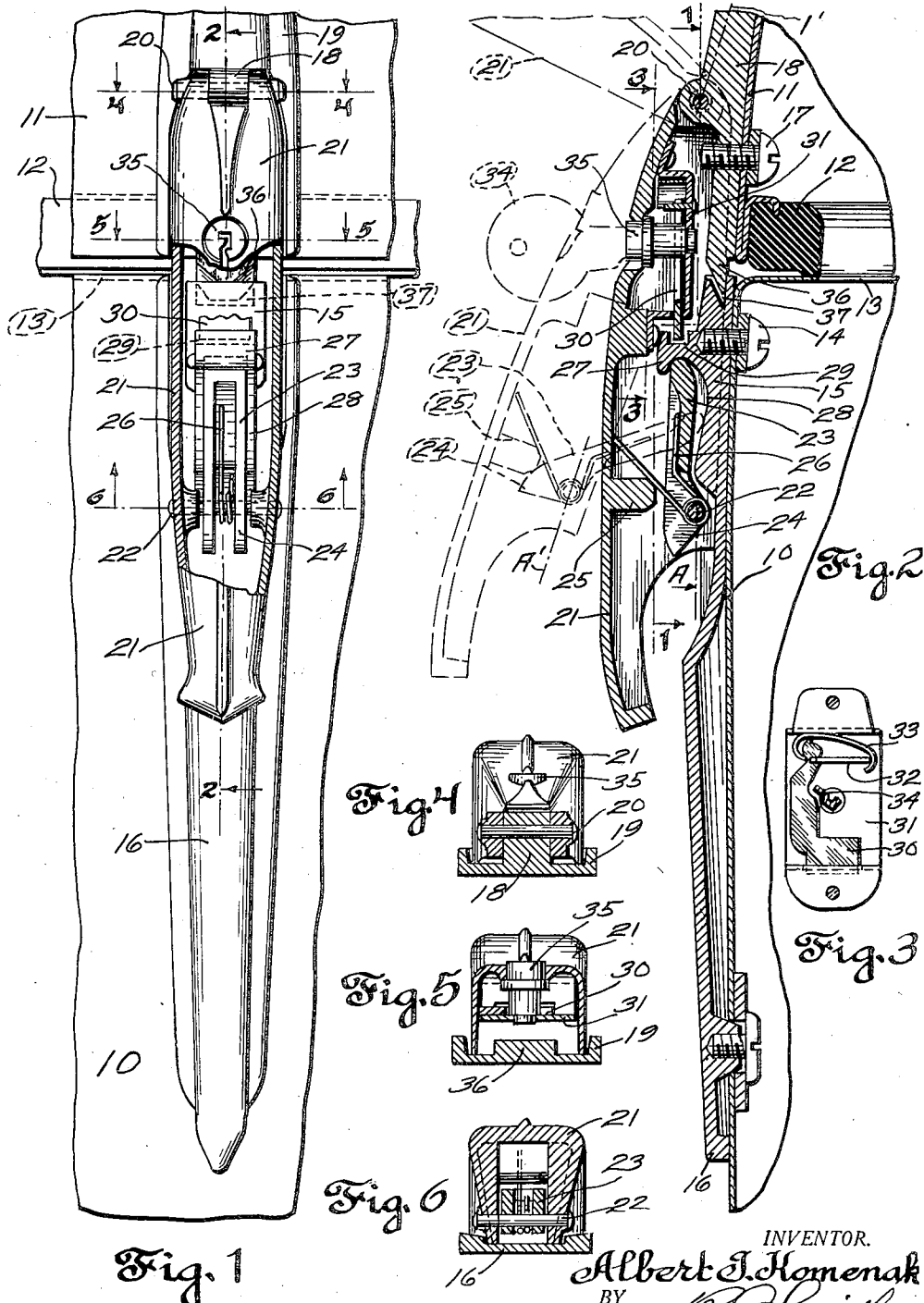
A. J. KOMENAK

2,101,337

LOCKABLE HASP FASTENER

Filed Dec. 19, 1934

2 Sheets-Sheet 1



INVENTOR.

Albert J. Komenak

BY

W. Smith
ATTORNEY

Dec. 7, 1937.

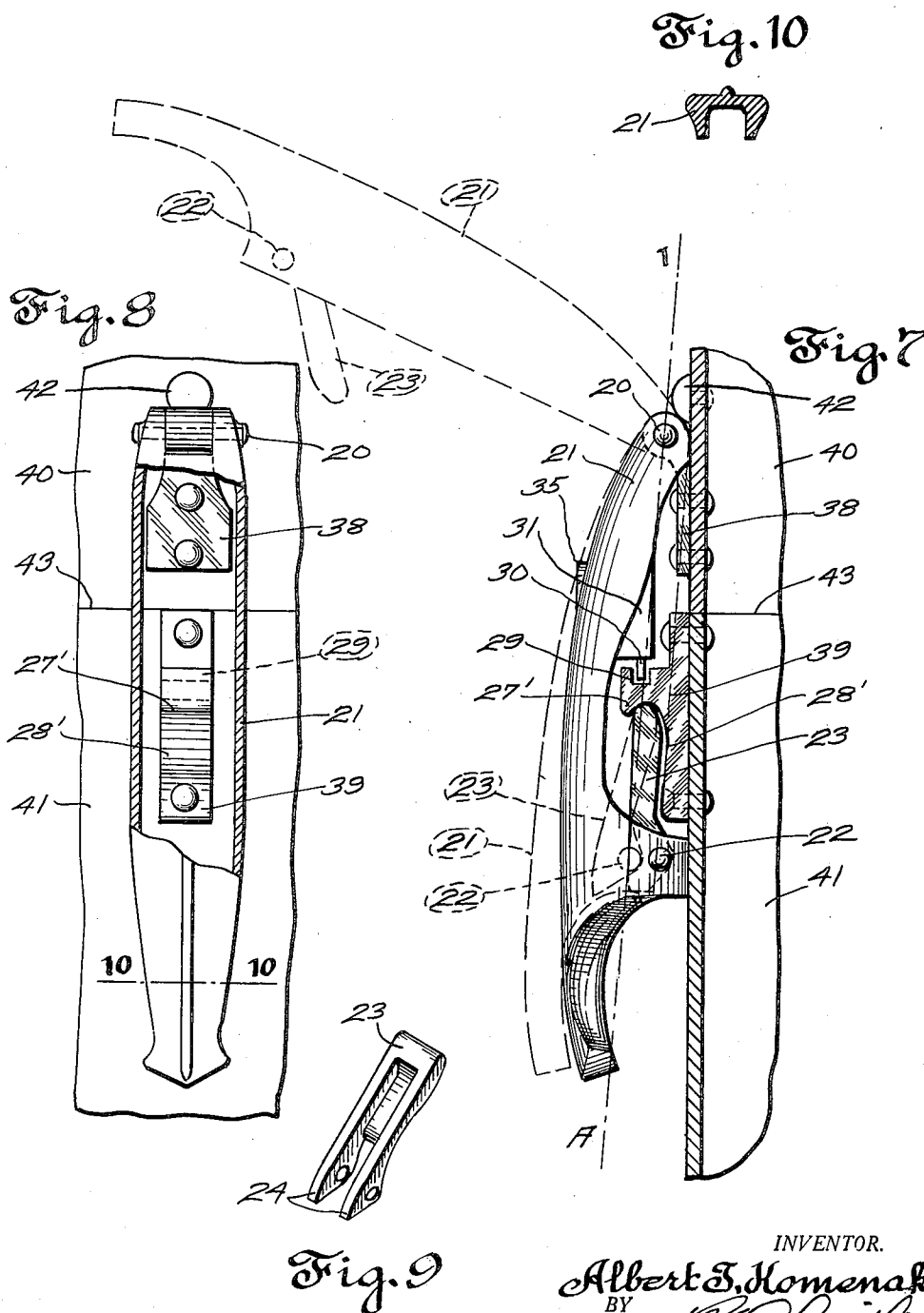
A. J. KOMENAK

2,101,337

LOCKABLE HASP FASTENER

Filed Dec. 19, 1934

2 Sheets-Sheet 2



INVENTOR.
Albert S. Komenak
BY *W. H. Smith*
ATTORNEY

UNITED STATES PATENT OFFICE

2,101,337

LOCKABLE HASP FASTENER

Albert J. Komenak, Stamford, Conn., assignor to
The Excelsior Hardware Company, Stamford,
Conn., a corporation of Connecticut

Application December 19, 1934, Serial No. 758,179

3 Claims. (Cl. 70—9)

This invention relates to hasp fasteners for securing and locking together separable parts of a closure particularly such parts when in the form of the lid and body parts of a trunk so hinged together that the front walls of both the lid and the trunk body substantially align in a common plane when the lid is closed and separate in an edgewise line of movement as the lid is opened. Some features of the invention relate particularly to means for releasably fastening the hasp while others relate to means for locking the hasp when in its releasably maintained position.

It is a well known construction to provide swingable hasps with a fastening member pivoted thereon and designed to be manually swung relative to the hasp proper for performing an overcentering or toggle-like action operating to draw together separable parts of a closure and thereafter to hold the hasp in its closed position by the fact of the hasp-carried fastening member slightly passing the point where it presses with greatest resistance against some fastening abutment. Such constructions have heretofore required extreme accuracy of location and dimensions in the parts which co-act to effect the overcentering or toggle action above referred to because of the absence of any designed means to permit resilient yielding for accommodating such action, which means are novelly afforded and are provided in a novel manner by the present improvements.

It is an object of the present improvements to avoid the above mentioned objectionable features of hasp fasteners as heretofore constructed while providing a hasp which shall reliably and releasably maintain itself in closed position and in its movement to such closed position draw tightly together against the opposing force of resilient abutting means the lid and body portion of a trunk or other container. When such abutting means are made continuous along the meeting edges of the lid and of the trunk body, they also afford a weatherproof seal which is maintained by this drawing together action of the hasp fastener.

Another object is to provide a hinged hasp which to outward appearances when closed comprises but a single swingable part but which part conceals within itself when the hasp is closed both the toggle acting means for the aforesaid purposes and a lock carried by the hasp, or carried if preferred by the trunk body or by the part of any closure which is separable from the closure part carrying the pivot from which the

hasp is swung. Where the lock is carried by the hasp it is made accessible for operation through a wall of the hasp and where the lock is carried by the part of the closure which is overlapped by the hasp when closed, the wall of the hasp may have an aperture giving access to the lock. In the former case a striker or equivalent means for the lock to engage is carried by the container and in the latter case a striker may be carried by the hasp. The invention in its broader aspects is not limited to any precise form or type of lock nor to any particular form of striker or other means with which the lock may engage.

Locks as heretofore combined with hasp fasteners incorporating a toggle acting self-fastening tongue have been located at or near the free end of the hasp thus interfering with, or reducing the space available for, giving a handle grasp formation to the free end of the hasp, or at least necessitating that the hasp be made objectionably long or wide in its portion overlying the front wall of the trunk for the purpose of providing such handle grasp. Hence a further object of these improvements is to locate a lock between the toggle acting tongue and the hinge end of the hasp, thus leaving the free end of the hasp clear of mechanism to enable it to be formed as a narrow and preferably cutaway handle for opening the hasp.

These and other objects of the invention will be plainly understood from the following description and appended drawings:—

In the drawings,

Fig. 1 is a view of my improved hasp fastener in front elevation showing a portion of the front wall of the hollow handle-shaped hasp broken away to expose certain parts interior thereof as viewed from the plane 1—1 in Fig. 2 looking toward the right. This figure also shows portions of a container and its lid adapted to be held closed by the hasp.

Fig. 2 is a view of the parts shown in Fig. 1 taken in central vertical section on the plane 2—2 in Fig. 1 looking in the direction of the arrows.

Fig. 3 is a detail view of the working parts of the lock as they appear looking toward the right from the plane 3—3 in Fig. 2, the bolt of the lock being raised or retracted.

Fig. 4 is a cross-sectional view taken on the plane 4—4 in Fig. 1 looking in the direction of the arrows.

Fig. 5 is a cross-sectional view taken on the plane 5—5 in Fig. 1 looking in the direction of the arrows.

Fig. 6 is a cross-sectional view taken on the plane 6—6 in Fig. 1 looking in the direction of the arrows.

Fig. 7 is a view similar to Fig. 2 showing a modified form of hinge plate and catch block exposed by partially breaking away the side wall of the hasp.

Fig. 8 is a view looking from the left at Fig. 7 with a portion of the front wall of the hasp broken away and its carried parts omitted to expose the hinge plate and catch block of Fig. 7.

Fig. 9 is a perspective view of the cantilever tongue detached.

Fig. 10 shows the contour of the hasp handle taken in section on the plane 10—10 in Fig. 8.

In Figs. 1 and 2, 10 represents the front wall of the body portion of a container or trunk and 11 represents the lid or closure therefor. In the particular form shown, the lid carries a weatherproofing strip 12 securely held along the edge of the lid and shaped to first contact an inwardly turned lip 13 of the container wall at its most inward portion whereby the strip 12, being made of solid rubber or any suitable yielding material, serves as an abutment between the lid and the container limiting the extent to which they may be drawn together but possessing a certain amount of "give". There are many other forms of yielding or compressible abutment strips which may serve a similar purpose and use is made of the small amount of "give" which they afford in the mechanical action of the hasp fastener of these improvements.

To the wall 10 of the container there is secured by concealed screws 14 a catch block 15 which, in the construction of Figs. 1 and 2, is shown to be integral with a downwardly extending ornamental medallion 16. To the lid 11 is secured by means of the concealed screw 17 the hinge block 18 which, in the form shown in Figs. 1 and 2, is integral with an upwardly extending corresponding medallion 19, not fully shown in the drawings but which near its upper extremity may further be secured by an additional concealed screw.

Hinge block 18 carries the pivot pin 20 on which is hinged a hollow, channel-shaped hasp member of suitable contour to merge in appearance with the upper and lower medallions and to be grasped comfortably and conveniently by the hand of a user for lifting and lowering the lid and for fastening and unfastening the same. In Fig. 2 it will be noted that the uppermost position to which hasp 21 can swing is limited by the engagement of the wall of the hasp with the hinge block 18 which prevents the hasp from swinging into overlying position against the lid and thus enables the hasp to be used as a projecting handle for raising and lowering the lid.

Spanning the lateral walls of the hasp member 21, at a point near its free end, is a pivot pin 22 on which the cantilever tongue 23 is free to swing at its bifurcated end which carries a spur 24 adapted to engage a transverse partition 25 of the hasp member and to be urged into engagement therewith by the spring 26 as shown by broken lines in Fig. 2. Spring 26 is coiled about the pivot pin 22, one of its ends overlying the partition 25 and the other end bearing upon the free end of tongue 23 between its bifurcated parts.

In Fig. 2 the catch block 15 is shown to be hook shaped at its portion 27 whereby there is provided a recess or seat adapted to receive and retain the free end of the tongue 23 which is guided to such seat by any suitable cam surface 28 leading to,

and preferably continuous with, the curvature of the recess formed by the hook. From the broken line position of parts in Fig. 2, it is clear that in the closing movement of the hasp the free end of tongue 23 first contacts the cam surface 28, after which continued movement of the hasp to its fully closed position indicated by full lines, causes the tongue to swing inwardly of the hasp as opposed only by the light tension of spring 26. At the same time, the end of tongue 23 rides upwardly on the cam surface 28 finally seating itself against the hook portion 27 of the catch block 15, and the tongue 23 is made of such length and its point of seating against the hook portion 27 is so located relative to the pivot pins 20 and 22 that an overcentering or toggle action takes place as the hasp completes its closing movement. Thus in Fig. 2 a straight line 1'—A' passing through the centers of pivots 20 and 22 is seen to traverse the hook shaped portion 27 of the block 15, whereat the free end of tongue 23 seats, when such line moves to its position 1—A in the closed position of the hasp.

In the overcentering action just described the lid 11 will be drawn most closely to the container wall 10 when the line 1—A exactly aligns with the point of seating of tongue 23 (see Fig. 7) and in this position of the hasp, the weatherproofing strip 12 is distorted or compressed within its elastic limit and thereby, through its tendency to cause the lid to open, exerts a force on the hasp 21 acting through the block 15 and tongue 23 tending to draw the hasp toward the wall of the container and maintain it closed. This same force, having its origin in the tendency of the lid to separate from the container yieldingly opposes manual attempt to pull the hasp away from the wall of the container, and the hasp by means of the cantilever tongue 23, is thereby seen to be a self-fastening hasp capable of retaining itself in fully closed position when swung thereto without requiring the separate manipulation of fastening parts as has commonly been practiced in the fastening of hasps.

It is further apparent that from these improvements the advantage arises of having to provide only one moving part in connection with the hasp proper and of being able to cover and conceal that part, the tongue, as well as the container carried catch with which it cooperates entirely within the hollow of the hasp member. Thus the working parts are protected, rendered tamper proof, and leave the hasp proper susceptible of a wide choice of decorative contours and ornamental design unimpaired by visible mechanical features.

A lock may be provided to positively prevent opening of the hasp in a variety of ways, and the lock may be mounted in fixed relation to the catch block 15 on the container and provided with a movable bolt arranged to engage a striker carried by the hasp, but in these improvements the lock is carried by and contained within the hollow of the hasp.

Referring to Figs. 1, 2 and 3, the catch block 15 is provided with a striker notch 29 adapted to be engaged by the bolt 30 of the lock whose casing 31 is riveted, or otherwise suitably secured, to the hasp member 21. The bolt 30 is most plainly shown in Fig. 3 to be so shaped, for cooperation with a detent post 32 fixed in the lock frame 31 and with a C-spring 33, that a ward of the key 34 may shift the bolt upwardly and downwardly between retracted and projecting positions, respectively, in each of which positions the bolt 30 will be retained by the C-spring. The key barrel

35 opens to the exterior of the hasp for insertion and removal of the key.

A further feature of the present improvements resides in the aligning lug 36 projecting from the hinge block 18 to be received by the aligning pocket 37 formed in the top edge of the catch block 15 thereby to render more positive the designed overcentering action of the cantilever tongue 23, as well as for the more common purposes of aligning lugs and pockets well understood in the design of trunk hardware.

Figs. 7 and 8 show a modified form of hinge plate 38 and catch block 39 respectively secured to the lid 40 and container 41 which lid and container may be provided at their junction 43 with some compressible or yieldable element such as the weatherproofing strip 12 of Figs. 1 and 2, but which lid and container in the form shown, meet solidly when they are drawn together by the overcentering action of the cantilever tongue 23 in the closing movement of the hasp. In the construction shown, it is found in practice that there is sufficient give to the mechanical parts, themselves, to accommodate a successful hasp fastening action of the tongue 23, although it will be understood that it becomes of increasing importance in the latter case that the cantilever tongue be of the correct length, or at least not too long, else the parts would be strained in the action of closing the hasp.

Also in Figs. 7 and 8 it will be noted that the aligning lug 36 and its pocket 37 are omitted, the walls of the lid and container being stiff enough to provide the required rigidity which will insure the desired overcentering action of the tongue 23. Further in the modification of Figs. 7 and 8, it is seen that both the hinge plate 38 and the catch block 39 are confined to a size and so disposed that they lie entirely within the hollow of the hasp when it is closed, and the hasp closes into direct abutting engagement with the exterior surface of the lid and of the container completely closing all of the above named parts. An abutment 42 may or may not be provided to limit the upward swing of the hasp.

Fig. 7 particularly shows the nature of the contours given to the free end of the hasp to facilitate grasping it for effecting its release from closed position, and Fig. 10 together with Fig. 6, indicate the undercut formation given to the sides of the hasp at and near its free end to assist in the same purpose.

It will be understood that any of the features shown in the hasp fastener construction of Figs.

1 and 2 may interchangeably be used with any of the complementary features of the constructions shown in Figs. 7 and 8. The invention is not limited to any of the precise shapes and constructions herein illustrated and described, but consists in all equivalents thereof and substitutes therefor that are included within the fair meaning of the appended claims.

I claim:—

1. Fastener devices for a hinged trunk lid having a front wall adapted to swing downwardly and edgewise into closed relation to the under body of the trunk, comprising a hasp pivotally mounted on the lid wall and disposed in a substantial portion of its length to overlie the same and in the remainder of its length to overlap the trunk body, keeper means rigidly positioned on the trunk body proximate the closed edge of the lid wall, a lock carried by the hasp in the portion thereof which overlies the lid wall including a bolt projecting downwardly toward said trunk body to engage with the keeper means, and a toggle tongue carried by the hasp in the portion thereof which overlaps the trunk body and projecting upwardly toward the trunk lid to engage with the keeper means.

2. Fastener devices as described in claim 1 in which the said keeper means comprises a rigid abutment having a T-shaped head, opposite ends of which head are disposed to be engaged by and to constrain the said lock bolt and the said toggle tongue respectively.

3. Fastening devices for drawing a trunk lid against a trunk body and locking it closed, embodying in combination, a pivot carried by said trunk lid, a hasp swingably mounted on said pivot, a pivot carried by said hasp and having an axis parallel to that of the said lid carried pivot, a resiliently biased cantilever tongue mounted to swing about the hasp carried pivot in a plane of movement common to that of said hasp and having a thrust tip movable to and from a position substantially in line with said two pivots, a key operated bolt carried on said hasp and constrained to a path of sliding movement lengthwise thereof in substantial alignment with said two pivots and having a locking tip movable into juxtaposition to said drawing tip, and keeper means mounted on the trunk body and interposed between the said two tips when the latter are juxtapositioned and cooperative with each of said tips respectively for drawing the trunk lid against the trunk body and locking it closed.

ALBERT J. KOMENAK.