Nov. 14, 1961 C. W. B. CHENEY 3,008,319

KEY LOCKED FASTENINGS FOR PORTABLE CONTAINERS

Filed Sept. 20, 1960 2 Sheets-Sheet 1

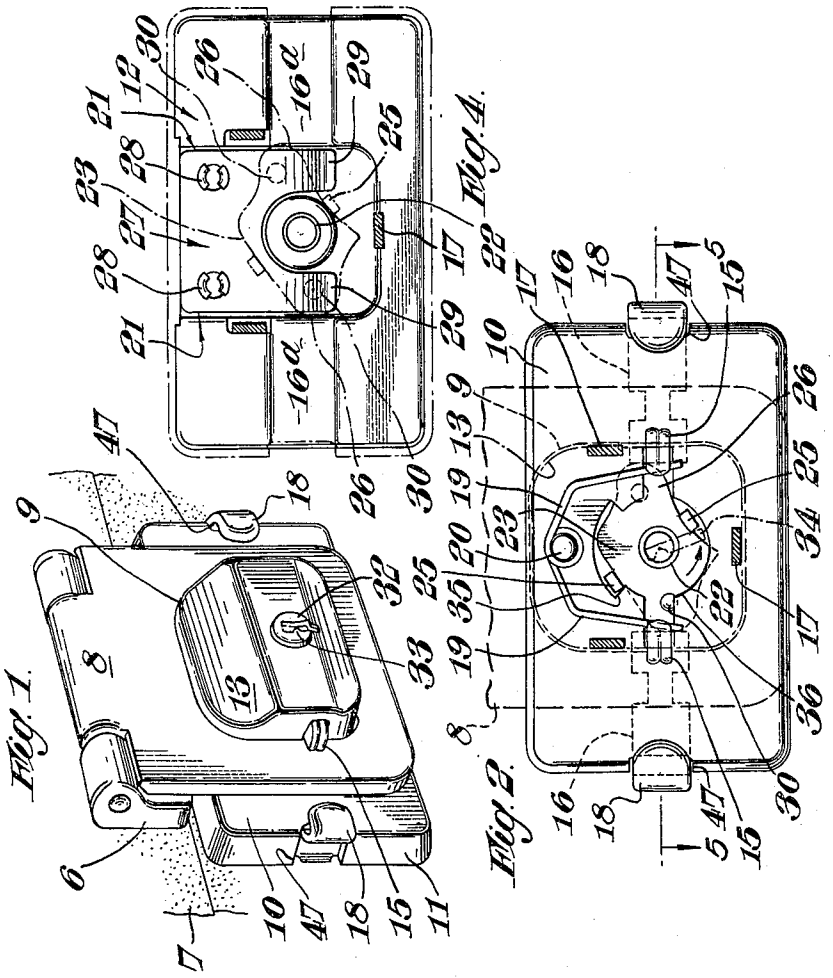


Fig. 1.

Fig. 2.

Fig. 4.

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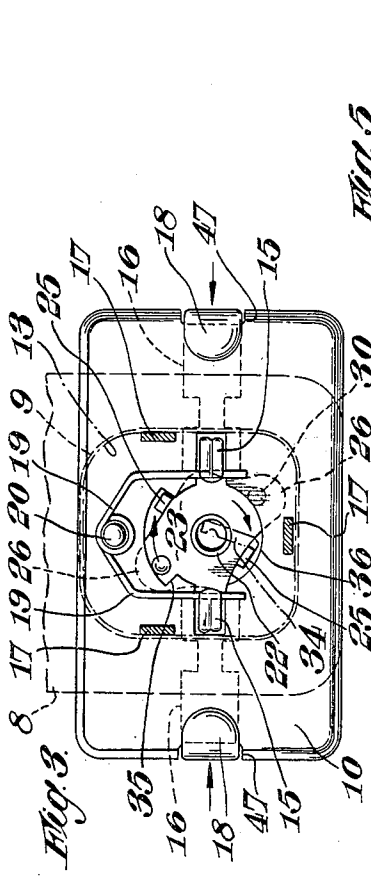


Fig. 3.

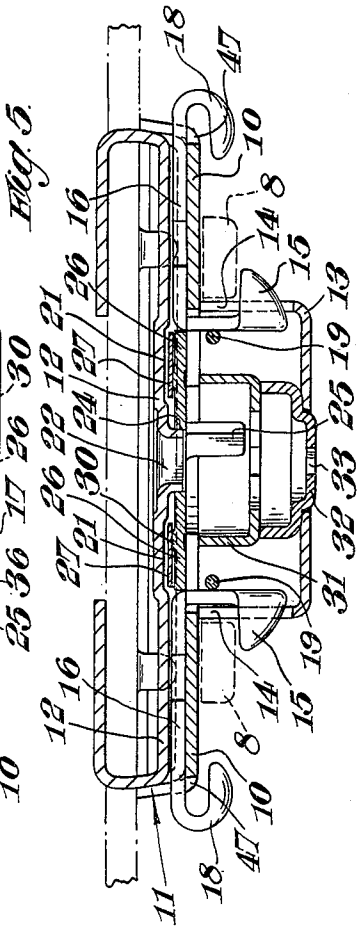


Fig. 5.

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United States Patent Office

3,008,319

Patented Nov. 14, 1961

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KEY LOCKED FASTENINGS FOR PORTABLE CONTAINERS

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Filed Sept. 20, 1960, Ser. No. 57,872

5 Claims. (Cl. 70—67)

This invention relates to key locked fastenings for portable containers, for example, typewriter and attache cases, travel bags, boxes and the like, of the so called "visible catch type," comprising a spring loaded hasp having a stud-hole therein, and a lock member comprising a front plate and a back plate secured together and housing a key operated locking mechanism, the lock member including a correspondingly shaped stud projecting from the front plate, and two aligned slidable catches which are housed between said plates and urged outwardly in opposite directions by spring pressure, the inner hook-like ends of the catches projecting through side openings in said stud and being arranged to snap engage over the hasp and hold it fastened to the lock member, the catches being released by simultaneously pressing them inwardly towards one another at the outer ends of the catches which project through the sides of the lock member.

In the past, the locking mechanism of the fastening was arranged on the inner side of the back plate below the said stud, and a key hole was provided in the front plate so as to be accessible when the hasp was fastened. An important disadvantage of this arrangement is that it was necessary to construct the front and back plates of substantial depth dimensions in order to accommodate the locking mechanism at a position below the said stud. Consequently, the metal pressings forming the front and back plates require more metal for their manufacture and calculated on a quantity production basis the cost is heavy; moreover, due to the said dimensions of the plates the fastening was found to be unsuitable for certain portable cases, e.g. typewriter cases.

We have investigated these problems and have found a solution by which the dimensions of the front and back plates of the fastening can be reduced thus making a considerable saving in metal on quantity production.

According to the present invention in a fastening of the kind referred to having a key operating locking mechanism, the latter is arranged on the back plate in the region of the boss and comprises a key operated rotary blocking member having opposite ends adapted to engage said catches when moved into a blocking position by a key inserted through a key hole in said boss, the underside of the blocking member being supported by a plate spring located in a recess in the back plate.

According to a form of construction, the back plate consists of a dished sheet metal pressing formed with a boundary flange which is received within a corresponding recess in the front plate. The inner side of the back plate is formed with a central recess which is plunged at a middle position to provide a pivot for the blocking member. The latter is a sheet metal pressing having upturned tongues which provide a keywards, and a piercing for engaging the plunged pivot. Opposite edges of the blocking member are provided with cam forms each to engage a said catch when the blocking member is key operated into the locking position. The said recess is provided with a flat plate spring having tongues at each side of the plunged pivot. The inner face of the back plate is provided with aligned longitudinal recesses in which the catches are supported during their rectilinear movement.

In the locked and unlocked positions of the locking member, the plate spring provides for snap actions, and in the former position the rotary movement of the blocking member is limited by it engaging the wall of the recess.

In order that the invention may be thoroughly understood and readily carried into effect, a satisfactory form of construction of key locked fastening according to the invention is illustrated, by way of example, on the accompanying drawing wherein:

FIG. 1 is a perspective view of the fastening illustrating the hasp fastened by the spring catches to the lock member.

FIG. 2 is a front view of the fastening as seen in FIG. 1, the stud having been removed for illustrating the key locked rotary locking member blocking the release of the catches.

FIG. 3 is a view similar to FIG. 2 illustrating the unblocked position of the blocking member and the release position of the catches.

FIG. 4 is a front view of the back plate of the lock member for illustrating the spring which acts upon the blocking member.

FIG. 5 is a section taken on the dotted line 5—5 of FIG. 2 to a larger scale.

Referring to FIG. 1, a key locked fastening comprises an attachment plate 6 to be secured to the lid 7 of a box or the like, and having a spring loaded hasp 8 with a stud hole 9, hinged to the attachment plate 6. A lock member comprises a flanged front plate 10 having a boundary flange 11 forming a shallow recess and a flanged back plate 12 fitted within the flange 11 and secured together. A hollow stud 13 corresponding to the shape of the stud hole 9 and projecting from the front face of the plate 10, has opposite side openings 14 therein through which project the inner hook-like ends 15 of spring loaded sliding catches 16. The back of the hollow stud 13 has spaced prongs 17 which are clinched to the back of the front plate 10. These catches 16 are independently slidable in opposite directions in guides 16*a* between the front and back plates 10 and 12 and each catch has a manually operable outer end, terminating in finger grips 18 which project through gaps 47 in the opposite sides of the front plate 10.

The catches 16 are loaded by a U-shaped spring 19 mounted on a peg 20 provided on the exterior of the front plate 10, the limbs of the spring 19 urging each catch 16 in an opposite outward direction whereby in the fastened position (FIG. 1) the catch ends 15 lie over the hasp 8 and fasten it to the lock member. For releasing the hasp 8, the finger grips 18 are pressed inwardly in opposite directions thereby retracting the catches 15 and 16 and permitting the hasp 8 to fly off.

The front of the back plate 12 is formed with a central recess 21 provided with a tubular pivot 22 which is integral with the back plate 12 and formed by piercing and plunging it from the rear. A rotary blocking member 23, made as a sheet metal pressing, has an opening 24 by which it is pivotally mounted on the pivot 22. The centre of the tubular pivot 22 and the common axis of the sliding catches 16 are aligned. The blocking member 23 has outwardly turned integral tongues 25 forming wards for engagement by a key and is also provided with opposite integral arms 26. In the locking position of the member 23 the arms 26 lie in the path of movement of the catches 16 as seen in FIGS. 2–5 and resist the movement of the catches 16 and hooked ends 15 inwardly in opposite directions for permitting release of the hasp 8. The rotary blocking member 23 rests upon the top side of a plate spring 27 resting in the central recess 21, the spring 27 being secured to the back plate 12 by integral eyelets 28 on the latter, the spring 27 has a tongue 29 on each side

of the tubular pivot **22**. The extremities of the tongues **29** are raised in order to exert resilient pressure on the blocking member **23** and hold it against accidental movement. For this purpose the arms **26** are formed with detents **30** for snap engaging the said tongues **29**.

The hollow stud **13** fits centrally over the tubular pivot **22** and encloses the locking mechanism; the interior of the stud **13** houses a sheet metal insert **31** and a revoluble key guide **32** formed with a key hole **33** for reception of a key **34** (FIGS. 2 and 3) for engagement with the wards **25**, the tip of the key is received in and supported by the pivot **22**.

The rotary movement of the blocking member **23** in the blocking and unblocking positions is indicated by arrows in FIGS. 2 and 3; in these respective positions, one of the key wards **25** engages a stop **35** forming a part of an opening **36** in the plate **10**. The blocking member **23** is supported at its rear and at its front respectively by the plate spring **27** and the rear of the front plate **10** so that in assembling the locking member **23** on its tubular pivot **22** there is no necessity to spin the outer end of the pivot over the member **23**.

It will be appreciated from the above description that the blocking member **23** has the centre of its pivot aligned with the common axis of the rectilinearly slidable catches **16**. Consequently the front and back plates **10** and **12** can be reduced in their depth dimension comparable to the old practice of arranging the locking mechanism below the stud **13**.

What is claimed is:

1. A key locked fastener arrangement, comprising a lock member including front plate means and back plate means secured to said front plate means; a stud member projecting forward from said front plate means and fastened thereon; a hasp member formed with a stud hole adapted to be engaged by said stud member; and a locking mechanism mounted on said lock member, said mechanism including two catches movable in opposite respective directions relative to a common axis toward and away from a retaining position in which each catch retains said hasp member in engagement of said stud hole thereof by said stud member; a pivot in said lock member; and a rotary blocking member mounted on said pivot for movement by a key inserted through said stud member, the center of said pivot lying substantially in said common axis, and said rotary blocking member being movable on said pivot toward and away from a blocking position in which said blocking member blocks movement of said latches away from said retaining position thereof.

2. An arrangement as set forth in claim 1, wherein said back plate means is formed with a recess facing said front plate means, and said rotary blocking member is accommodated in said recess, said locking mechanism further including a plate spring located in said recess and urging said blocking member toward said front plate means.

3. An arrangement as set forth in claim 2, wherein said blocking member has opposite arms arranged to lie in the path of movement of said catches when said blocking member is in the blocking position thereof, whereby said arms resist displacement of said catches in a direction away from said retaining position thereof.

4. An arrangement as set forth in claim 1, further comprising key ward means on said blocking member, and stop means on said front plate means abuttingly engageable with said key ward means by movement of said blocking member on said pivot for limiting said movement of said blocking member.

5. An arrangement as set forth in claim 1, wherein said pivot is tubular and integral with said back plate means.

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