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SPRING-LOADED HASP FASTENINGS FOR BOXES, TRAVEL BAGS AND THE LIKE

Filed Sept. 22, 1959

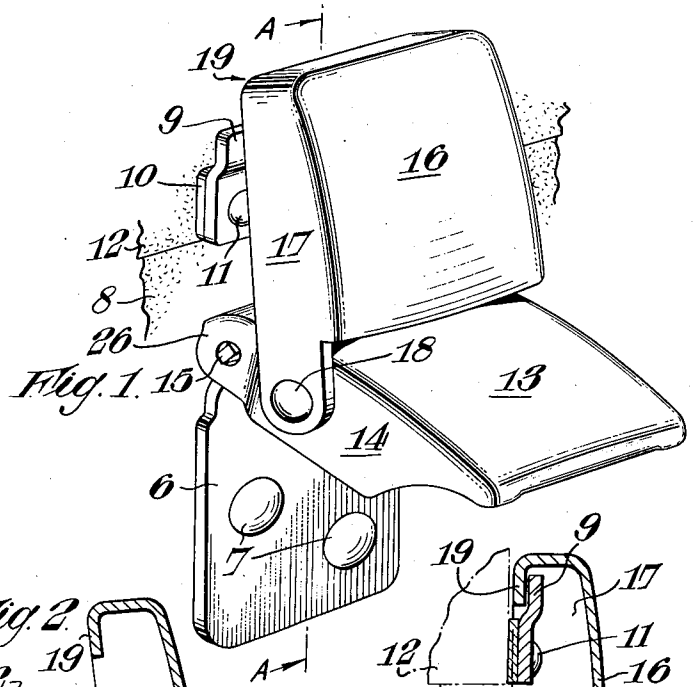


Fig. 1.

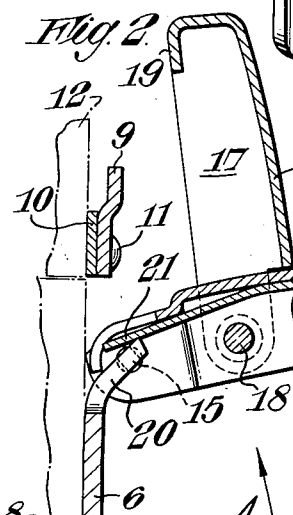


Fig. 2.

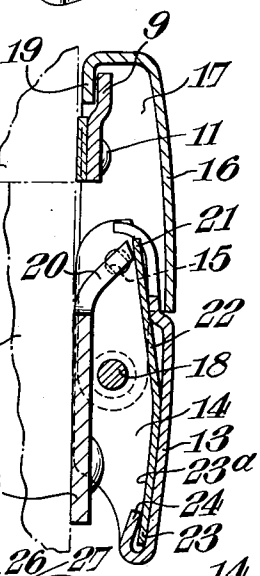


Fig. 3.

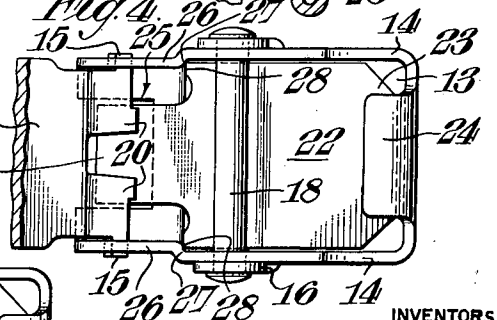


Fig. 4.

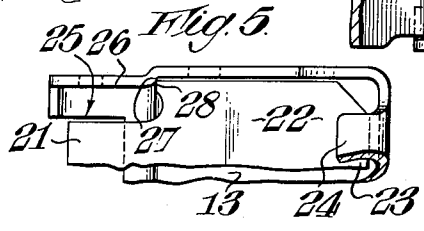


Fig. 5.

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3,008,745

SPRING-LOADED HASP FASTENINGS FOR BOXES, TRAVEL BAGS AND THE LIKE

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1 Claim. (Cl. 292—113)

This invention relates to a spring-loaded hasp fastening for boxes, travel bags and the like, comprising a body part and a lid part, the said fastening being of the toggle kind comprising an attachment plate, a manually operable lever member pivoted thereto and a hasp link pivoted to said lever member, the pivoted end of the lever member having a tongue which engages a blade spring whereby said member is permitted to have a snap action into two predetermined positions consisting respectively of the release position and the fastening position of the hasp link in relation to a catch plate.

Presently, the blade spring is secured to the attachment plate by a small rivet which engages alike holes pierced respectively on said plate and said spring. This construction has an important drawback in the mass production of such fastenings, for the reason that each rivet has to be picked up by fingers of an assembler, the holes in the plate and spring have to be made coincident and the rivet has to be inserted into the holes.

Practical experience shows that the output speed of such fastenings is considerably retarded by the rivet fumbling difficulty, the task calling for delicate fingering and optical concentration on the part of the assembler.

The primary object of the present invention is to avoid the above drawback in a very simple and inexpensive manner.

According to the present invention, the lever member is formed with side flanges and the blade spring is assembled to the recessed back of the lever member, and is held thereto by mechanical connection effected by a part of the lever engaging an anchorage part of the blade spring whereby the latter is pressed against the back of the lever member.

Preferably, the mechanical engagement comprises a tongue, formed integral with the free end of the lever member, which is turned inwardly and pressed into engagement with the outer end of the blade spring. In addition the inner sides of the latter are supported by contracted side flanges of the lever.

According to one form of construction of a hasp fastening according to the invention, the attachment plate consists of a sheet metal pressing having holes pierced therein for reception of devices such as rivets for fixing the plate to a box body. The inner end of the attachment plate has forwardly inclined spaced lugs for engagement by the tip of a blade spring. The lever consists of a dished sheet metal pressing providing parallel side flanges which are coaxially pierced with holes and pivotally connected to pivot pegs formed integral with the outer sides of said lugs.

The blade spring is assembled to the recessed back of the lever, and while generally conforming to the shape thereof, has a tip of reduced width at its inner end for engagement with the tip of the said lugs so that friction is reduced to a minimum thereby ensuring that the spring loaded movements of the lever, above referred to, can be effected with ease. The outer end of the said spring is mechanically held in the recessed back of the lever by means of an integral tongue at the free end of the lever which is rolled or pressed inwardly over the said end.

After assembling the spring to the lever as above described, the lever is pivotally engaged with said pegs and the said flanges are pressed inwardly so as to provide a permanent pivotal connection; this operation contracts the flanges and forms an abutment for the sides of the spring.

It will be appreciated that by means of the above described construction, the spring is mechanically held to the lever without rivets, eyelets or other separate devices which in the past have increased the cost of production.

For a better understanding of the invention, a preferred form of construction of a spring loaded hasp fastening according to the invention is illustrated, by way of example, in the accompanying drawing wherein:

FIGS. 1 is a perspective view of the hasp fastening in the position of release,

FIG. 2 is a vertical section of FIG. 1 taken on the dotted line A—A,

FIG. 3 is a vertical section illustrating the fastening in the fastened position,

FIG. 4 is an underneath view of FIG. 2 taken in the direction of the arrow 4,

FIG. 5 is a fragmentary underside view of the lever together with its mechanically connected blade spring.

As will be observed in the drawing, the toggle fastening comprises an attachment plate **6** which is intended to be riveted at **7** to the body part **8** of a box or the like, and a catch plate **9** on a further attachment plate **10** adapted to be riveted at **11** to the lid part **12** of the box or the like. The attachment plate **6** has a manually operable recessed lever **13** providing side flanges **14** which are pivoted to outwardly turned pivots **15** on the attachment plate **6**. A recessed hasp link **16**, also providing opposite side flanges **17**, is pivoted at **18** to the lever **13**, the free end of the hasp link **16** having a hooked end **19** for engagement with and disengagement from the catch plate **9**.

The inner end of the plate **6** has a forked tongue **20** bent out of its plane, which engages with the tip **21** of a blade spring **22** fastened to the lever **13**.

In operation the fastening is capable of having a snap action into two predetermined positions, namely, the release position illustrated in FIGS. 1 and 2, and the fastened position in which the hooked end **19** engages the catch plate **9**, consequent upon the downward pivotal movement of the lever **13** (FIG. 3).

The components above described are mass produced as sheet metal pressings.

The drawbacks previously referred to are avoided according to the present invention, by assembling the blade spring **22** to the back of the recessed lever member **13** and holding an anchorage part **23** of the spring in position mechanically by pressure exerting means integral with the lever **13**. This is attained by forming the free end of the lever **13** with an extension or tongue **24** which is rolled or pressed inwardly into engagement with one surface **23***a* of the anchorage part **23** thereby pressing its other surface into face to face engagement with the back of the recessed lever **13**. The flanges **14** of the lever **13** are pinched in the region of the pivotal point **15** to provide contracted sides **26** and abutments **27** which are engaged by shoulders **28** on the spring **22**, this engagement assisting in holding the spring in the required position.

As will be more readily seen in FIGS. 4 and 5, the tip **21** at the free end of the spring **22** is of relatively reduced width for engagement with the forked tongue **20** at the inner end of the attachment plate **6**, thus reducing friction to a minimum.

The pivotal end of the lever **13** is formed with a gap **25** in which the tip **21** is accommodated and permitted to flex.

It will be appreciated that the holding of the spring **22**

assembled to the lever 13 can be accomplished by means of a single unskilled operation in press tools, thus avoiding the riveting operation found necessary in the past which called for delicate fingering operation and optical concentration on the part of the assembler. The result is that vastly increased production is made possible, and assembling fatigue is markedly reduced.

What is claimed is:

A toggle acting hasp fastening for boxes and travel bags having a body and a lid each having a generally vertical wall, said fastening comprising a catch member for the lid, and an attachment plate adapted to be secured to the said body and being formed at its upper part with a forked tongue forming branches, said branches having trunnions, a manually operable lever formed as a sheet metal pressing and having a body part and opposite integral side flanges forming a recess in the back of said lever, said flanges being pivoted to said trunnions, a blade spring having a tip, an outer end spaced from said tip, and shoulders intermediate said tip and said outer end, said spring being housed in said recess and having its outer end

fastened to said lever by an integral tongue on the outer end of said lever pressing said outer end of said spring into face to face engagement with the inner surface of said recess, said side flanges of said lever remote from said tongue being formed with contracted sides providing abutments for said shoulders on said spring, the inner end of said lever having an inwardly bent tongue engaging the upper part of said spring so as to apply a spring load to said lever, a hasp link also consisting of a body part and integral side flanges, said side flanges being pivoted to said side flanges of said lever, and a hook at the free end of said hasp link adapted to engage and disengage said catch member upon operation of said lever, said tip engaging said forked tongue of said attachment plate for alternately urging said lever into one of two positions respectively corresponding to the engaged and disengaged positions of said hook.

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