

PATENT SPECIFICATION

DRAWINGS ATTACHED

Inventor: WILLIAM ERNEST CHANCE

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COMPLETE SPECIFICATION

Improvements in Luggage Fittings

We C. W. CHENEY & SON LIMITED, a British Company, of Factory Road, Birmingham, 19, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to luggage fittings, and whilst the invention was conceived as the solution to a problem in the design of so-called "button locks" it may find application in other luggage fittings.

Button locks comprise a latch bolt which is movable transversely of a hasp-loop receiving slot so as to fasten the loop in the slot, a key operated mechanism for locking the bolt in position, and a separate knob or button for displacing the bolt, when unlocked, independently of the key-operated mechanism.

Usually these locks have been assembled from front plate and back plates which sandwich the bolt and key-operated mechanism; the key-operated mechanism usually comprises a locking-plate provided with means journalling it for rotation by the key, a key-abutting-lug for engagement with the key, radial stop-lugs for engagement with a co-operating lug on the front or back plate or the bolt so as to limit turning movement of the plate, and a locking-lug which in one position of the plate abuts a bolt lug to prevent bolt movement. For economic reasons the parts are made as pressings from sheet metal, as far as possible, although the locking plate often needs to be of relatively thick metal to withstand the applied loads and wear. Since the bolt is almost universally a pressing, it is given the requisite strength by making it as a tray with a base, side and end-walls all integral, one end-wall having a projection forming the loop-engaging nose.

The front plate is also dished so as to

enclose the back plate and the mechanism, and impart a pleasing neat appearance to the lock: the back is also dished for reasons of strength. The bolt and back plate are disposed together to make a hollow box-like section, and this makes it convenient to locate the locking plate between the two and in the box-section. Consequently, the overall dimension of the fitting is dictated by the dimensions of the locking plate, for the bolt has to be wide enough to accommodate rotation of this plate, the back plate has to be wider and longer to accommodate the bolt, and the front plate larger still to accommodate the back plate.

If the lock is to be attached to its luggage article by rivets passed through the front plate, extra room must be found for the rivets, for they must pass between the perimeter of the back-plate and the perimeter of the front plate.

The present trend in luggage fittings is for ever more miniature and inconspicuous fittings to be required; this is due to the demands of public taste. When an attempt is made to miniaturise the lock under discussion, a problem is met because the locking plate, which dictates the overall size, cannot be significantly reduced in effective size.

The present invention provides a solution which enables the overall size to be reduced.

In accordance with the invention, a luggage fitting comprises a key-locked latch-bolt in the form of a dished metal pressing slidable between front and back plates of the fitting, a locking plate which is wider than the latch-bolt disposed in a well in said back plate and a locking-lug on said locking plate which locking-lug projects into the bolt for engagement with a co-operating bolt lug.

By these means it is no longer necessary for the bolt to be of a width equal to or in excess of width or diameter of the locking

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plate, but only of a width equal to the diameter swept out by the root of the locking lug of the locking plate as the latter is rotated (although in practice a greater width may be utilised): the back plate needs only to be sufficiently wide to accommodate the locking plate and moreover only needs to be this wide locally in the vicinity of the said plate, instead of (as was hitherto the case) being of a width greater than the bolt which in turn was greater than the complete locking plate, and over its entire length.

Preferably the locking plate has a flange interrupted over a part of its periphery to provide, at the ends of said interrupted part, stops limiting rotation: the plate may have a domed centre portion cut-away to provide a key-abutting-lug as well as said locking-lug and because of these means the plate can be made of much thinner metal than hitherto and can be pressed out.

Preferably also the said locking-lug co-operates with a pre-stressed spring in the bolt to prevent inadvertent movement of the locking plate and hence accidental unlatching when unlocked.

Two embodiments of the invention will now be particularly described with reference to the accompanying drawings, wherein:—

Figure 1 is a plan view of the back-plate and locking-plate of a luggage fitting.

Figure 2 is a view similar to Figure 1 but with the locking-plate in another position;

Figure 3 is an underside plan of the bolt of the fitting;

Figure 4 is an elevation of the bolt;

Figure 5 is an elevation of the locking plate;

Figure 6 is a view similar to Figure 2 with the bolt assembled;

Figure 7 is a plan view of the complete fitting;

Figure 8 is an underside plan view of the complete fitting;

Figure 9 is an elevation of the complete fitting; and

Figures 10 and 11 are views similar to Figures 8 and 9, but of the second embodiment.

Referring now to the drawings and particularly to Figures 1—9 thereof, the luggage fitting shown therein is a button lock comprising front and back plates 20, 21, a latch bolt 22, a locking plate 23, a button 24, a key-hole plate 25, and a spring 26.

The back-plate comprises a peripheral flange 27 surrounding a substantially rectangular depression bounded at its opposite ends by a transverse wall 28 and by an apertured wall 29, 30: the base of the depression has a substantially rectangular aperture 31 at one end, and the aperture between walls 29, 30, opens to a further aperture 32 in the flange 27. The longitudinal sides 33 of the depression, best seen in Figure 8, are interrupted by

the shallow peripheral wall 39 of a circular well 40 in the base of the depression, so that the well extends laterally on both sides of the back plate. The well has a central integral shallow tubular spigot 41 projecting towards the plane of the flange 27.

As seen in Figures 1 and 2, the well houses the locking plate 23 which comprises an annular flange 42 having a segment cut out to provide angularly spaced opposed stops 43, 44, one at each end of the cut-out. The plate has an upstanding part-peripheral wall 45 which spans the cut-out and has an inwardly directed rim with a central radially inwardly projecting key abutting lug 46.

The back-plate 27 has a stop-lug 47 formed out of the well periphery 39 and this projects through the plane of the flange 42. During key-actuated angular movement of the locking plate, the stops 43, 44, alternately abut the lug 47 and limit movement of the locking plate. The latter also has a locking-lug 48 projecting from the flange 42 substantially opposite to the lug 46.

The bolt 22 is a shallow dished tray having a hole 49 for the key in its base. A lug 50 is struck up from one end of the slot (see Figure 3) and serves to retain the spring 26 in the bolt. The spring tail 51 extends towards the opposite end 52 of the bolt.

The bolt has a locking nose 53 at one end and the nose is raised above the adjacent portion of the bolt as is the other end part 52 of the bolt as best seen in Figure 4. A pair of slots 54 is formed in the bolt to receive lugs 55 on the button 24, see Figure 8.

The bolt except for the nose 53 is located wholly in the depression in the back plate and is slidable therealong. The part-peripheral wall 45, the locking-lug 48 and key-abutting lug 46 of the locking plate are all accommodated within the tray formed by the bolt, but the flange 42 of the plate extends beyond the lateral edges of the latter.

When the locking plate is in the locking position, Figure 2, the lugs 48, 50 on the plate and bolt abut, and sliding of the bolt is prevented: when the plate is in the unlocking position, Figure 1, the lug 48 is out of the path of the lug 50, but abuts the tail 51 of the spring 26, so that sliding is prevented only by the resilience of the spring. Hence, the bolt may be slid, from left to right in Figure 6, to take the nose 53 out of the aperture 32 and between the apertured end-walls 29, 30, being returned automatically by the spring.

The key-hole plate 25 has a flange which seats against a curved step 56 (in the latched or locked position of the bolt) which separates the end part 52 of the bolt from the remainder, and also has a dished part which projects through a hole in the front plate and is shown to receive a key 63, which also passes through

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bolt 1
Separates

an aligned slot 57 in the front plate, which seats in the spigot 41, Figure 9.

The front plate 20 has a slot 58 which registers with aperture 52 in the back plate, and a slot 59, Figure 7, which registers with aperture 28 in the back plate. Tongues 50, 61 (Figure 8) extend from opposite edges of the slots and through the apertures and are folded on to the flange of the back plate to secure the front and back plates together.

The button has lugs 55 as aforesaid extending through the slot 59 and into the bolt for manual sliding of the bolt against the spring.

The front plate has a peripheral skirt 62, see Figure 9 and fluted prongs 64 extend from the back plate beyond the skirt to facilitate fastening of the fitting to an article of luggage.

The fitting shown in Figures 10 and 11 is substantially similar to that in Figures 1—9, except that the back-plate 70 is formed with an apertured flange 71 at one end only, and is prong-less. The front plate also differs in that it is flat and apertured at 72 at each corner for fixing screws or rivets. This fitting is intended for mounting with the back-plate in a recess in, for example, a wall of a case, and with the front plate covering the recess.

WHAT WE CLAIM IS:—

1. A luggage fitting comprising a key-locked latch-bolt in the form of a dished metal pressing slidable between front and back plates of the fitting, a locking plate which is wider

than the latch-bolt disposed in a well in said back plate and a locking-lug on said locking plate which locking-lug projects into the bolt for engagement with a co-operating bolt lug.

2. A fitting as claimed in Claim 1, wherein the locking plate comprises a flange seated in the well in the back-plate of the fitting and also having a key operable lug projecting from the flange into the bolt.

3. A fitting as claimed in Claim 2, wherein the back-plate has a substantially rectangular depression housing the bolt, and the well extends laterally beyond the depression upon both sides of the latter.

4. A fitting as claimed in any of Claims 1—3, wherein a key-hole plate is disposed between the bolt and the front plate, has a dished part projecting through a hole in the front plate, and has a flange which seats against a curved step on the bolt in the latching position of the latter.

5. A button lock substantially as hereinbefore described with reference to Figures 1—9 of the accompanying drawings.

6. A button lock substantially as hereinbefore described with reference to Figures 10 and 11 of the accompanying drawings.

For the Applicants
GEORGE FUERY & CO. *RB*
Newhall Chambers,
8, Newhall Street,
Birmingham, 3.
Chartered Patent Agents.

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