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Double door automatic latch

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DOUBLE DOOR AUTOMATIC LATCH

ABSTRACT

The disclosed automatic latch comprises spring 9 loaded latch bolt 8, having a locking block 10 attached in a recessed section 15. The automatic latch would be fitted horizontally to the inside of one door at either the top, bottom or both (fig.2). A locking plate 18 would be fitted to the frame. A striker plate 17 would be fitted on the active door. When the active door is closed the striker plate 17 on this door will depress the latch in on the other door. The locking block 10 will be pushed across behind the locking plate 18 on the frame, automatically locking that door. When the active door is open the latch and locking block will return to its original position and both doors will be unlocked. The locking block 10 is secured through the latch bolt 8 by a screw 14 and is reversible for handing purposes. The latch bolt 8 and spring 9 are housed in a cover 11, which has an open slot 16 to allow insertion of the locking block 10. This slot 16 is wider than the locking block 10 to allow the locking block to travel. The slot 16 is on both sides of the cover 11 for handing purposes. The cover is attached to a fixing plate 12, which has the screw mounting holes 20.

FIG. 7

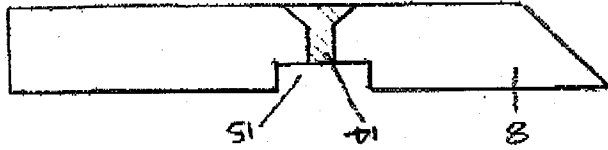


FIG. 6

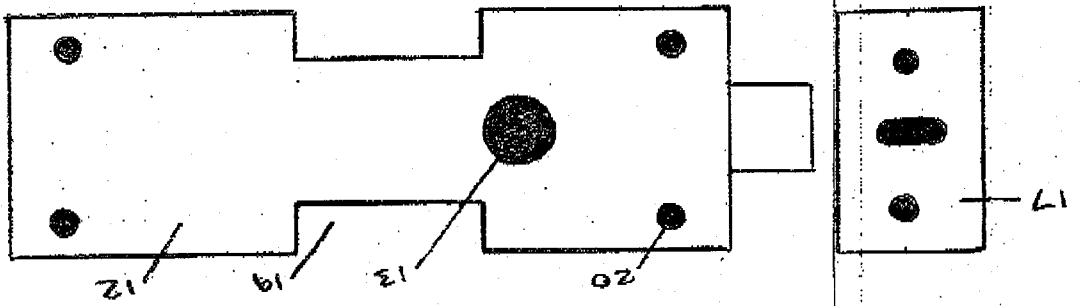


FIG. 5

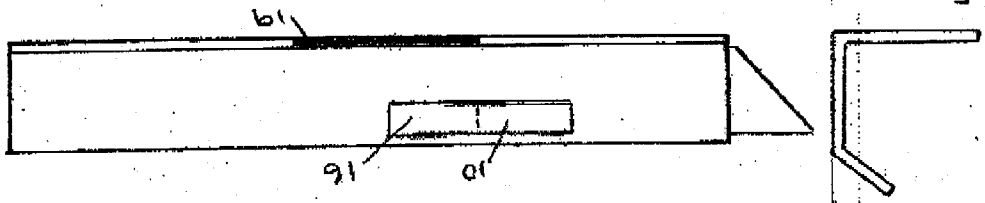


FIG. 4

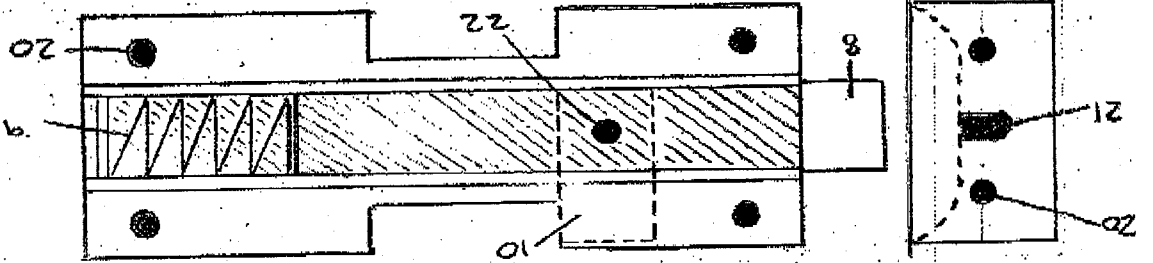
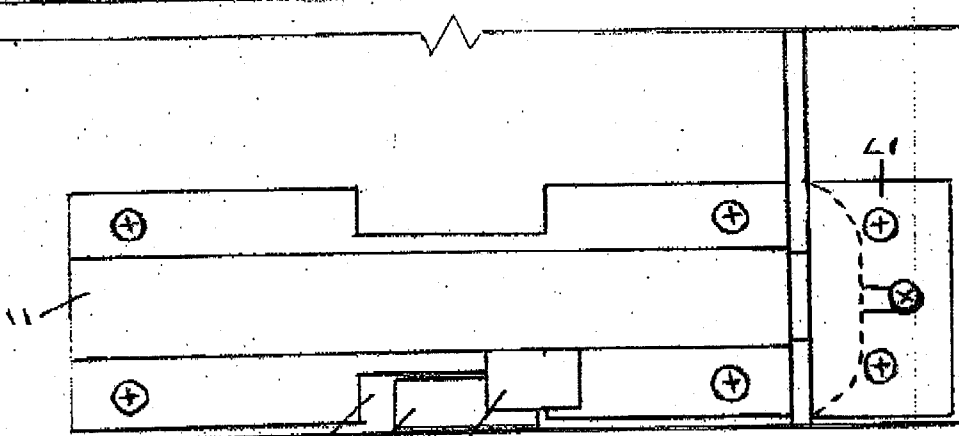


FIG. 2



TYPICAL TOP FRAME

FIG. 3

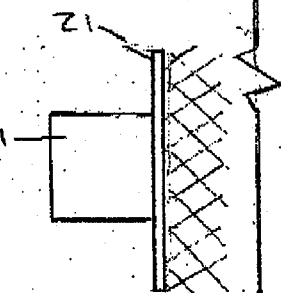
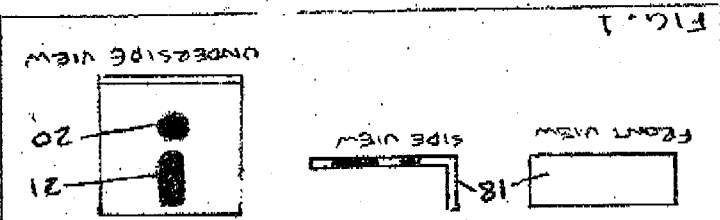


FIG. 1



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DOUBLE DOOR AUTOMATIC LATCH

Commonly, to lock double doors, one door would need to be fixed and the other door would have a lock fitted. The lock bolt would be thrown behind the fixed door, therefore making it secure. Commonly, barrel bolts are used to fix one door. These are fitted to the inside of the door. Therefore to release the fixed door the user must reach in behind the door. This could involve bending down or reaching up depending on the size of the door and the position of the barrel bolt.

This invention has been specifically devised to eliminate (the above) these said problems. Closing the active leaf will automatically make the other door fixed and vice versa. This invention is intended for use on cupboards, cabinets and full size doors that are outward opening eg. electrical risers.

An automatic latch in accordance with this invention comprises a spring-loaded latch, having a locking block attached in a recessed section. The automatic latch would be fitted horizontally to the inside of one door at either the top, bottom or both. A locking plate would be fitted to the frame. A striker plate would be fitted on the active door. When the active door is closed the striker plate on this door will depress the latch in on the other door. The locking block will be pushed across behind the locking plate on the frame, automatically locking that door. When the active door is open the latch and locking bolt will return to its original position and both doors will be unlocked. The locking block is secured through the latch by a screw and is reversible for handing purposes. The latch and spring are housed in a cover, which has an open slot to allow insertion of the locking block. This slot is wider than the locking block to allow the locking block to travel. This slot is on both sides of the cover for handing purposes. The cover is attached to a fixing plate, which has the screw mounting holes.

The latch bolt is preferably made of brass, however other materials could be used eg. mild steel, stainless steel, aluminium and plastics. The striker plate and locking plate are preferably made of stainless steel, however suitable materials could be used eg. Mild steel, brass, plastics etc. The locking bolt is preferably made of mild steel, however suitable materials could be used eg. Stainless steel, aluminium, brass, plastics etc. The cover and fixing plate are preferably made of stainless steel, however suitable materials could be used eg. Mild steel, aluminium, brass etc.

This invention may be better understood with reference to the illustrations of embodiments of the invention which: -

Figure 1 has orthographic views of the locking plate containing a front, side and underside view.

Figure 2 is a typical internal mounting elevation showing the latch assembly installed and in the locked position.

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Figure 3 is an end elevation showing the latch housing and bottom fixing plate.

Figure 4 is a cross sectional elevation showing the spring, locking block and latch bolt internally.

Figure 5 is a typical top view from above of the latch assembly and striker plate.

Figure 6 is a back elevation of the latch assembly and striker plate.

Figure 7 is a top view of the latch bolt from above.

Referring first to figure 1. It shows a front, side and an underside view of the said locking plate with 20 being a screw fixing hole and 21 being an elongated screw-fixing hole for adjustment purposes.

Figure 2 is a typical mounting elevation showing the latch assembly installed and in the locked position. When striker plate 17 engages the latch bolt 8, the locking block 10 moves horizontally behind the locking plate 18, thus locking the door. Section 19 is a space in the bottom fixing plate 12 and is an intended guide to fit the locking plate 18.

Figure 3 is an end elevation showing the bottom fixing plate 12 and the latch cover 11.

Figure 4 is a cross-sectional elevation of the automatic latch assembly showing a spring 19 which puts pressure on the latch bolt 8. Also shown is a threaded hole 22 in the locking block 10.

Figure 5 is a typical top view. It shows a slot 16, which is to allow the locking block 10 to move in when the latch bolt is engaged and out when the latch bolt is disengaged. The slot 16 is also on the opposite side of the latch cover for handling purposes.

Figure 6 is a back elevation with 13 being a hole that allows a screw to pass through it. This screw would then pass through a hole in the latch bolt 14 (Figure 7) and into the threaded hole 22 in the locking block. Therefore securing the locking block to the latch bolt. Also in Figure 7 is a recessed section 15 in the latch bolt. This is intended to house the locking block 10.

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The claims defining the invention are as follows:

1.A spring loaded latch bolt housed in a cover, having a locking block attached in a recessed section which, when activated will be moved horizontally behind a fixed striker plate.

2.The latch bolt cover has an open slot on both sides for handing purposes.

3.An automatic latch according to claims 1 and 2 wherein the cover is made from sheet metal and the latch bolt is made from steel or plastics.

4.An automatic latch can substantially as herein before described with reference to figures 1-7 of the accompanying drawings.

Nathan Turner

24 november 2006-11-27

FIG. 7

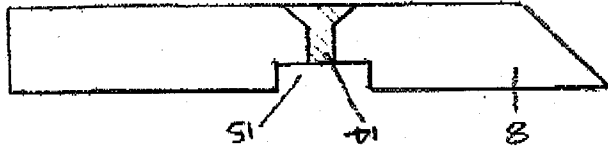


FIG. 6

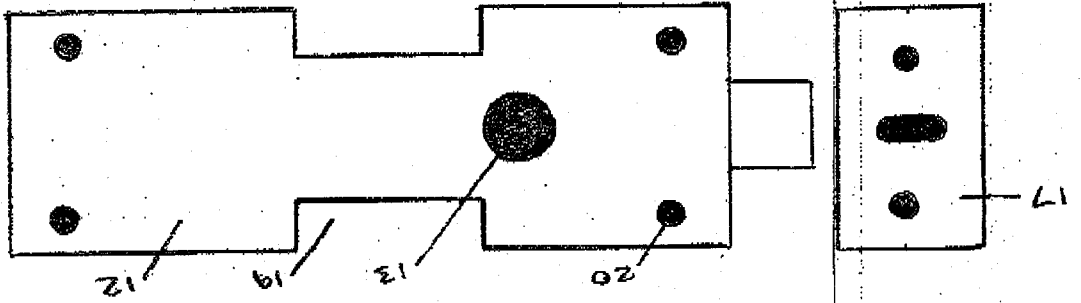


FIG. 5

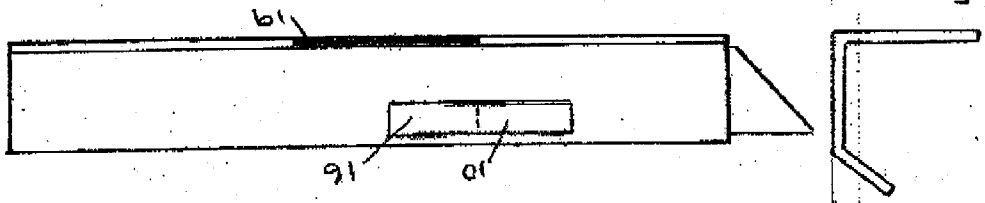


FIG. 4

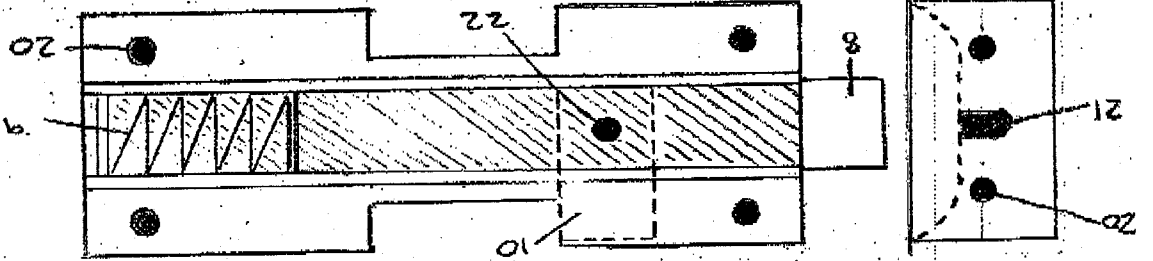
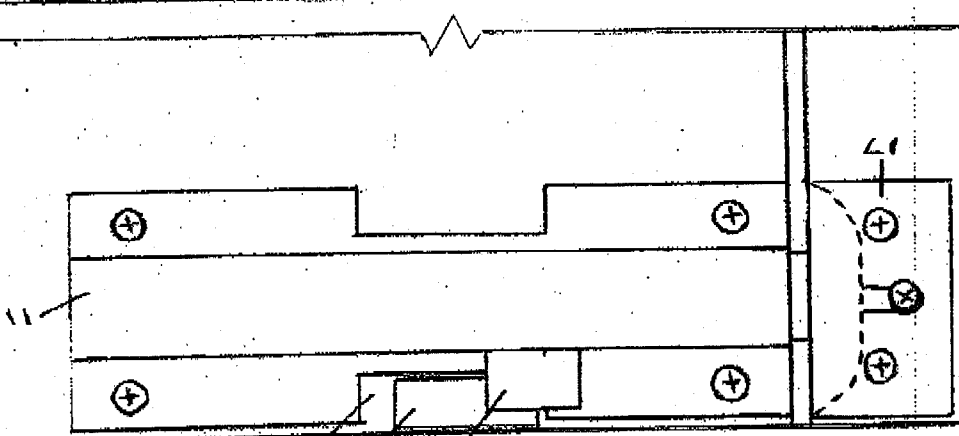


FIG. 2



TYPICAL TOP FRAME

FIG. 3

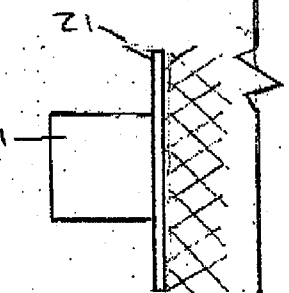
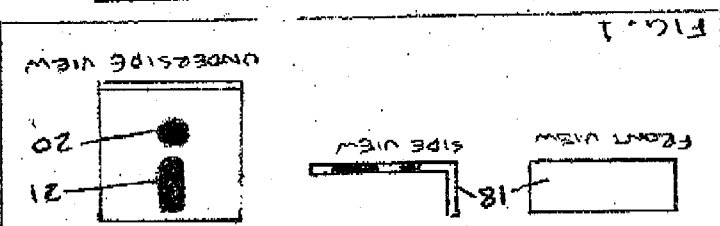


FIG. 1



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