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(12) # EUROPEAN PATENT APPLICATION

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(54) **Doorway security device.**

(57) A chamfered fly edge of a hinged door (1) is engageable by an abutment member (5) hinged to the facing jamb (4) of a doorway. A rotatable cam member (6) is also mounted in the jamb (4) and is movable between positions which respectively allow the abutment member (5) to be hinged clear of the fly edge of the door (1) and so allow the door (1) to be opened and closed, and press the abutment member (5) into engagement with the fly edge of the closed door (1) and thus secure it against forcible opening. The rotation of the cam member (6) is effected from the movement of a key-operated bolt (11) of the door (1).

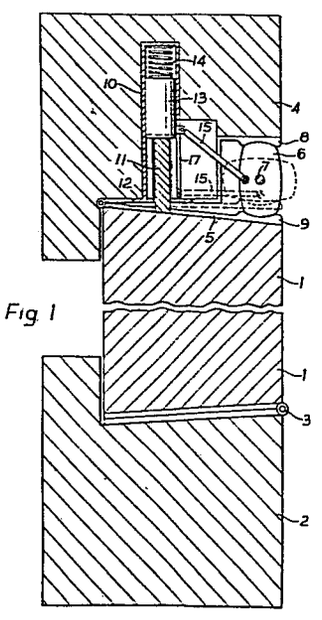

Fig. 1

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"Doorway Security Device"

DESCRIPTION

This invention relates to a doorway security device.

An object of the invention is to provide a device which can be mounted e.g. in the jamb of a doorway opposite the jamb on which is hinged a door for closing the doorway and which can be operated by the action of locking the door to supplement the security afforded by merely locking the door.

According to the invention there is provided a doorway security device for mounting in a member of the frame of a doorway, the device comprising an abutment member adapted to be hinge-mounted on the frame member with one side facing inwardly of the frame and movable between a first position which permits the door to be closed and opened and a second position for abutment with an edge of the door to retain the door closed, a cam member adapted to be mounted in the frame member for rotation between a first position permitting the abutment member to adopt its first position and a second position for supporting the abutment member in its second position, a cylinder for insertion into the frame member with an open end in alignment for receiving a key-operated bolt of the door, a piston slidable within the cylinder against a spring from a first position to a second position by projection into the open end of the cylinder of the key-operated bolt of the door, and a link between the cam member and the piston to translate the sliding movement of the piston into rotary movement of the cam member whereby the cam member adopts its first and second positions when the piston adopts its first and second positions respectively.

An embodiment of the invention will now be described, by way of example, with reference to the accompanying

drawings, in which:-

Fig. 1 is a fragmentary horizontal sectional view of a doorway at the level of the key-operated bolt, the lock mechanism of the door having been omitted; and

Fig. 2 is a fragmentary frontal view of a doorway jamb embodying the device of the invention.

In the drawings, a doorway comprises a door 1 hung from a jamb 2 by hinges such as 3, the other jamb being identified by reference numeral 4. Two abutment members 5 are hinge-mounted to the jamb 4 and are movable between a first position shown in broken lines and a second position shown in full lines in Fig. 1. An elongate cam member 6 is mounted in the jamb 4 at its upper and lower ends by means of a central spindle 7 journalled in brackets 8 for rotation between a first position shown in broken lines and a second position shown in full lines in Fig. 1. In the first position of the cam member 6 the hinged abutment members 5 are permitted to adopt their first position in which they can be releasably retained, e.g. by magnetic catches. In the second position of the cam member 6 the abutment members 5 are spaced away from the jamb 4 by opposite lobes of the cam member 6 respectively engaging concave bearers 8 fixed to the jamb 4 and concave bearers 9 on the abutment members 5.

A cylinder 10 is inserted into a hole bored in the jamb 4 in alignment with a key-operated bolt 11 of the door 1. The cylinder 10 is open at one end where a mounting flange 12 is provided. A piston 13 is slidable within the cylinder 10 against a spring 14 from a first position shown in broken lines to a second position shown in full lines in Fig. 1. A link 15 is articulated between the cam member 6 and the piston 13 to translate the sliding movement of the piston 13 into rotary movement of the cam member 6 whereby the cam member 6 adopts its first and

second positions when the piston 13 adopts its first and second positions respectively. A slot 16 is provided in the cam member 6 and a slot 17 is provided in the cylinder 10 to accommodate the movement of the link 15.

When the door 1 is locked, as shown in full lines in Fig. 1, the bolt 11 projects into the cylinder 10 and thus pushes the piston 13 into its second position against the spring 14. This in turn causes the cam member 6 to rotate into its second position so as to push the abutment member 5 into its second position and provide a firm support between the bearers 8 and 9. The fly edge of the door 1 is chamfered to suit the abutment member 5 in its second position. The engagement of the chamfered fly edge of the door 1 with the abutment member in its second position provides supplementary security against the door 1 being forcibly opened at its fly edge. In addition, the hinged edge of the door 1 is correspondingly chamfered and so is the hinging edge of the jamb 2 so that the door 1 is also secured against being forcibly opened at its hinged edge.

When the door is unlocked the key-operated bolt 11 is withdrawn from the cylinder 10 so that the piston is permitted to adopt its first position under the action of the spring 14. This in turn, causes the cam member 6 to adopt its first position which allows the abutment member 5 to adopt its first position. The door 1 can now be opened.

It is feasible to have the abutment members 5 and the cam member 6 extending over virtually the full height of the jamb 4, the cam member 6 being journalled by its spindle 7 in additional brackets 8 accommodated in slots in the cam member 6 like the slot 16.

CLAIMS

1. A doorway security device for mounting in a member (4) of the frame of a doorway, the device being characterised in that it comprises an abutment member (5) adapted to be hinge-mounted on the frame member (4) with one side facing inwardly of the frame and movable between a first position which permits the door (1) to be closed and opened and a second position for abutment with an edge of the door to retain the door closed, a cam member (6) adapted to be mounted in the frame member (4) for rotation between a first position permitting the abutment member (4) to adopt its first position and a second position for supporting the abutment member in its second position, a cylinder (10) for insertion into the frame member (4) with an open end in alignment for r4ceiving a key-operated bolt (11) of the door (1), a piston (13) slidable within the cylinder (10) against a spring (14) from a first position to a second position by projection into the open end of the cylinder (10) of the key-operated bolt (11) of the door (1), and a link (15) between the cam member (6) and the piston (13) to translate the sliding movement of the piston into rotary movement of the cam member whereby the cam member adopts its first and second positions when the piston adopts its first and second positions respectively.

2. A doorway comprising a frame, a door (1) hinged at one edge to one member (2) of the frame, and characterised in that a device according to claim 1 is mounted in another member (4) of the frame opposite the member (2) and in that another edge of the door (1) opposite the one edge is chamfered for co-operation with the abutment member (5) of the device.

3. A doorway according to claim 2, characterised in that the abutment member (5) and the cam member (6) of the device extends over virtually the full length of the member (4) of the frame.

4. A doorway according to claim 2 or 3, characterised in that the hinged edge of the door (1) and the hinging edge of the member (2) of the frame are correspondingly chamfered.

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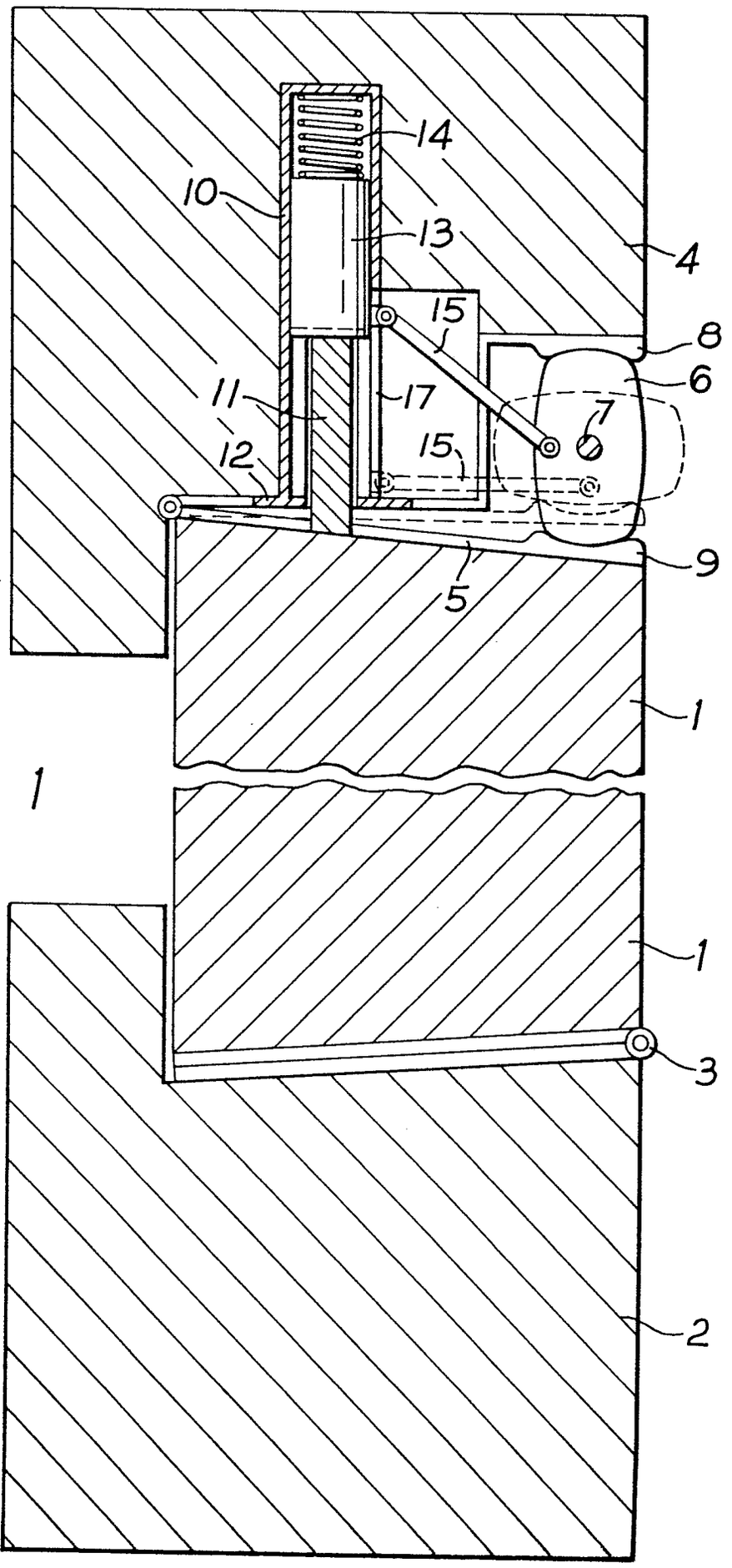

Fig. 1

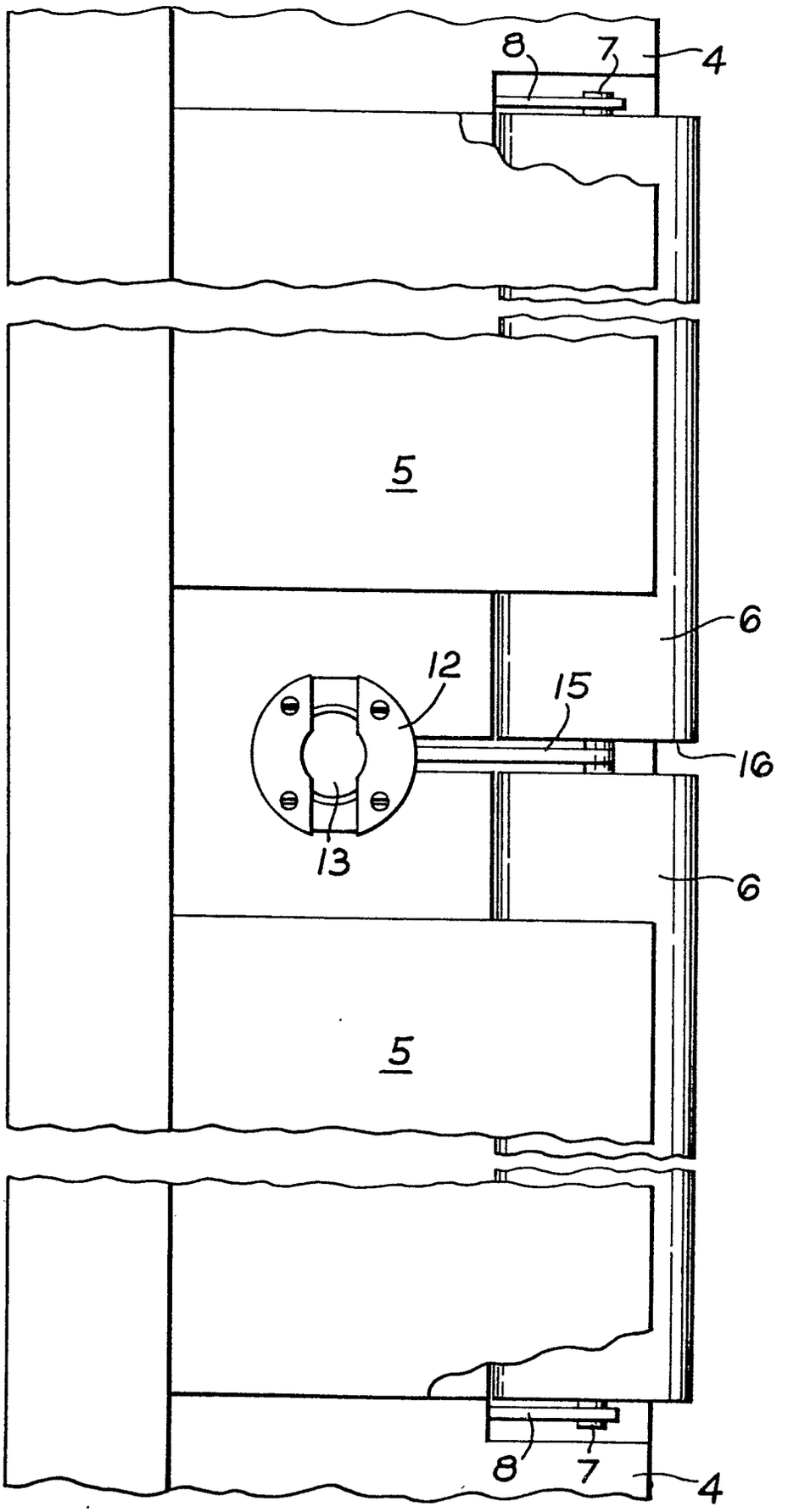

Fig. 2

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EUROPEAN SEARCH REPORT

0063480
Application number

EP 82 30 1952

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Y	FR-A-2 050 713 (LUCAS) * the whole document *	1,3	E 05 C 11/00 E 05 C 19/00
Y	NL-A- 279 519 (DRIEL) * the whole document *	1,3	

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

E 05 C

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	15-07-1982	VAN BOGAERT J.A.M.M.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
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