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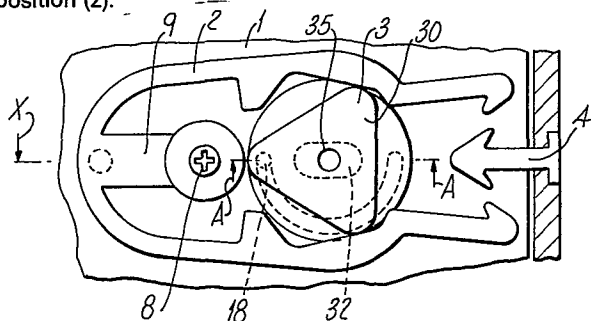
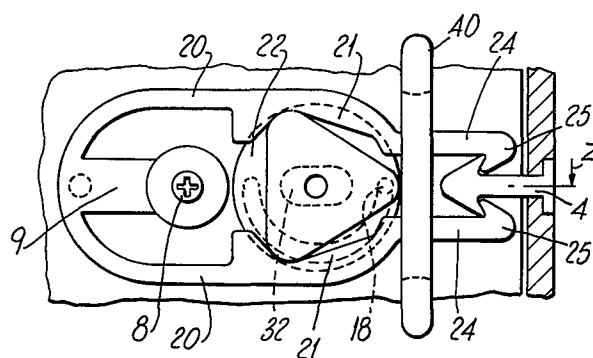
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54 **Catch or lock.**

57 A cam (3) is rotatable to move one or two resilient latching arms (20) at the end of which may be latching means (25) engageable on a hasp (4) to catch or lock an article. The cam (3) or casing (1) has a follower (18) which acts in a groove with a ramped bottom dividing the groove into two portions and preventing the cam from being rotated from the second back to the first portion. When the cam is in a first position (x) with the follower in the first portion the latching means are held open and are inoperative for latching, the key is then inserted to move the cam so the follower is in the second portion, wherein the cam is movable between positions (y) and (z) in which the latching means open and close respectively and wherein the key is removable in position (z).



The present invention relates to a catch or lock.

A catch or lock in accordance with the invention comprises a rotatable cam, means in or on the cam for
5 accepting a key so that the cam can be rotated, at least one latch arm and a hasp, the latch or latches being biassed into engagement with the cam, the latch or latches being engageable with the hasp for locking, the arrangement being such that on insertion of the
10 key into the catch or lock the cam may be rotated to disengage the latch or latches from the hasp, wherein a casing is provided, and wherein a groove is provided on the casing or cam with a ramped bottom so as to divide the groove into two portions, the cam or casing
15 having a follower engaging in the groove, the ramp being such that the cam can be moved by the key from the first portion to the second portion but not in reverse, the key being able to be inserted or removed when the latch or latches are disengaged at a first
20 position of the cam when the follower is in the first groove portion and the key being able to be received or inserted when the latch or latches are engaged at a second position of the cam when the follower is in the second groove portion, the cam
25 being movable to a third cam position when the

follower is in the second groove portion at which third position the latch or latches are disengaged.

The arrangement provides a very simple lock which is economical to mould and can be operated
5 by a simple key which is preferably double bitted.

The advantage of the above arrangement is that the catch or lock can be in a semi-permanently disengaged condition when the cam follower is in the first portion and is inoperative. This is particularly useful for
10 a dispenser for paper towels and the like which some operators prefer to be unlocked. In this case the cover is retained by suitable non-locking means such as a stud springing into a hole,. If the dispenser operator requires the cover to be lockable, the cam
15 follower is turned by the key to the second groove portion where the lock or catch is fully operative.

Preferably the cam is substantially triangular in shape and two latches are provided, the cam acting between the latches so that on rotation of the cam both latches
20 are disengaged from the hasp.

The invention will now be described by way of example with reference to the accompanying drawings in which:

Figure 1 is a plan view of a catch or lock according to the invention with the cam in a groove first
25 portion and unlatched,

Figure 2 is a cross section of part of Fig. 1 taken on AA with a key for operating the lock,

Figure 3 is a plan view of the catch or lock of Fig. 1 showing the casing only,

5 Figure 4 is a cross-section of the casing of Fig. 3 taken on BB showing particularly the groove,

Figure 5 is a plan view of the catch or lock of Fig. 1 with the cam in a groove second portion and latched, and,

10 Figure 6 is a plan view of the catch or lock of Fig. 1 with the cam in the groove second portion and unlatched .

In Figure 1 of the drawings a catch or lock is shown formed from four main parts, namely a casing 1, a
15 double latch member 2, a cam 3 and a hasp 4.

The casing as shown in Figures 3 and 4 comprises a stud 5 engageable with a hole in the latch member 2, and a protrusion 6 with a tapped hole 7 to receive a screw 8, the screw 8 and stud 5 firmly locating the latch member's
20 rear portion 9 on the casing. The casing also has a key aperture 12 surrounded by a bearing protrusion 13 for engaging with a recess 14 in the cam 3. Also the casing has a groove 15 which has a ramped first portion 16 and a second portion 17. The groove receives a follower 18 projecting from the
25 bottom of the cam and the follower can rotate anti-clockwise over the ramp in the groove from position X in Fig. 1 and into

the second portion 17 but cannot rotate clockwise from second portion 17 to first portion 16 because of the ramp.

The double latch member 2 as shown in Figure 5 comprises a rear portion 9 firmly located to the casing as described above, resilient portions 20 extending from the fixed rear portion 9, cam engaging portions 21 which overlies a circular flange 22 of the cam so as to hold the cam onto the casing, and latch portions 24 terminating in hooks 25 which engage with barbs 26 of the hasp.

10 The cam 3 is formed with a central triangular portion 30 in which is a recess 32 for a key 33 having a double bit 34. The portion 30 also has a hole 35 to receive the stem end 36 of the key. The cam also has follower 18, a retaining flange 22 and recess 14 as already described.

15 The hasp is formed as described with two barbs 26 extending either side of a stem 38 (see Fig. 6).

In order to ensure that when the key is inserted in the cam that the latch portions 24 are not forced out of engagement with the hasp a bridge 40 secured to the casing may be provided (see Figs. 4 and 5).

A plug (not shown) can be fitted in casing key aperture 12 if the lock is not to be operative.

The lock is normally supplied with the plug in aperture 12 and the lock is in a non-locking state as shown in Fig. 1 with the follower 18 in position X. If it is required to use the lock the plug is removed, the key inserted

in cam 3 into aperture 32 and the cam rotated so that the follower snaps over the ramp into second groove portion 17 on reaching position Z as shown in Fig. 5 the key can be removed and the lock is latched. To
5 unlatch the lock the key is reinserted and the cam moved to position Y as shown in Fig. 6. In this position the key cannot be removed because recess 32 is misaligned with aperture 12. When the cam is in position Z as shown in Fig. 5 the hasp 4 can be sprung in locking
10 engagement with latch member 2.

It will be obvious from the fact that the cam 3 has an equilateral triangular shape that starting at position X (as in Fig. 1) where the key is insertable and the latch member is open, the cam is
15 movable after key insertion through 120° to position Y (as in Fig. 6) where the latch member is again open. Thence the cam moves through a further 60° to position Z (as in Fig. 5) where the key is removable and the latch member is closed. The total cam movement being 180°
20 (the arcuate length of the groove being slightly greater to allow for cam follower thickness and the first portion 16 of the groove 15 is about 120° and the second portion 17 about 60° with an allowance for cam follower thickness.

A particular use for the lock described above
25 as in a dispenser for paper towels and such like where some operators prefer the dispenser to be permanently unlocked whilst some operators prefer a lockable dispenser.

It will be appreciated that the casing 1 can form part of an article to be locked that is being integral with the object being locked or else the casing can be a plate or the like which is attached by attachment means
5 such as screws to the object being locked.

It will also be appreciated that whilst the follower is described as being on the cam and the groove in the casing, the reverse is within the scope of the invention and would be equally effective. Also the groove can be
10 circular with the second portion 120° and the first portion 240° in arcuate length.

CLAIMS:

1. A catch or lock comprising a rotatable cam (3), means (12) in or on the cam for accepting a key (33) so that the cam can be rotated, at least one latch arm (20) and a hasp (4), the latch or latches being biased into engagement with the cam, the latch or latches being engageable with the hasp for locking, the arrangement being such that on insertion of the key into the catch or lock the cam may be rotated to disengage the latch or latches from the hasp, wherein a casing (1) is provided, and wherein a groove (15) is provided on the casing or cam with a ramped bottom so as to divide the groove into two portions (16), (17), the cam or casing having a follower (18) engaging in the groove, the ramp being such that the cam can be moved by the key (33) from the first portion (16) to the second portion (17) but not in reverse, the key (33) being able to be inserted or removed when the latch or latches are disengaged at a first position (X) of the cam when the follower is in the first groove portion (16) and the key (33) being able to be received or inserted when the latch or latches are engaged at a second position (Z) of the cam when the follower is in the second groove portion (17), the cam being movable to a third cam position (Y) when the follower is in the

second groove portion (17) at which third position the latch or latches are disengaged.

2. A catch or lock as claimed in Claim 1 wherein the cam (3) is substantially triangular.

5 3. A catch or lock as claimed in Claims 1 or 2 wherein the latch is formed as a member with a securing portion (9) which is secured to a casing (1), resilient arms (20) extending from the securing portion either side of the cam (3) to latching means (25) engageable
10 either side of the hasp (4).

4. A catch or lock as claimed in Claim 3 wherein a bridge means (40) extends over the arms (20) to prevent undue movement in a direction parallel with the axis of rotation of the cam.

15 5. A catch or lock as claimed in Claims 3 or 4 wherein the cam (3) is provided with a circular retaining portion (22) which is engageable under the arms (20) to retain the cam between the arms and the casing.

20 6. A catch or lock as claimed in Claim 1 wherein the groove (15) and cam follower (18) act so as to guide the cam in its arcuate movement.

7. A catch or lock as claimed in any of Claims 1 to 6 wherein the groove (15) extends substantially over
25 180° , the first portion extending over substantially 60° .

8. An article to be caught or locked having the catch or lock of any of Claims 1 to 7 and a further catch for use to ensure the retention of the article in the closed position when the cam is in the first position (X).

Fig.1.

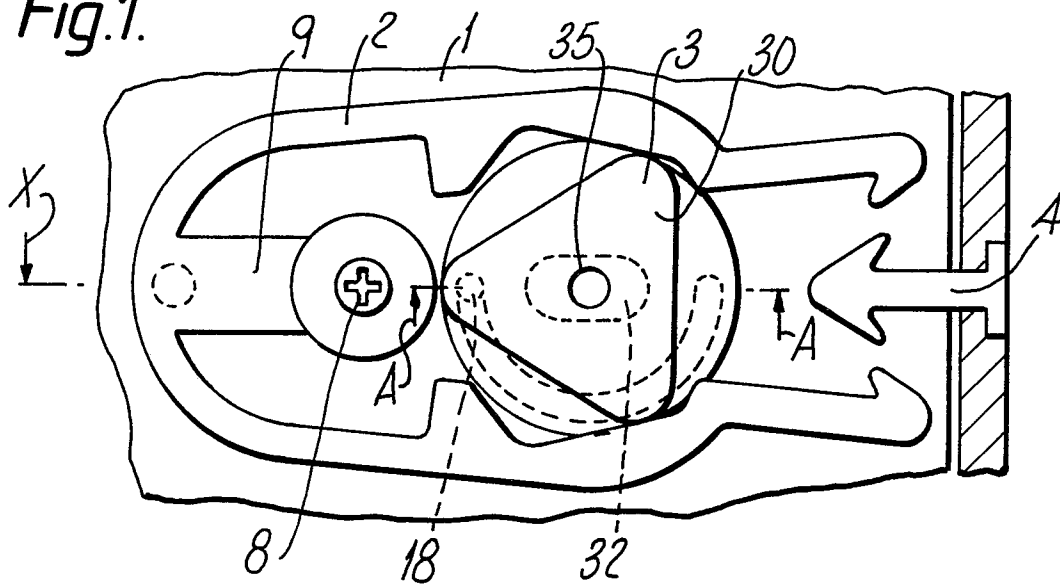


Fig.2.

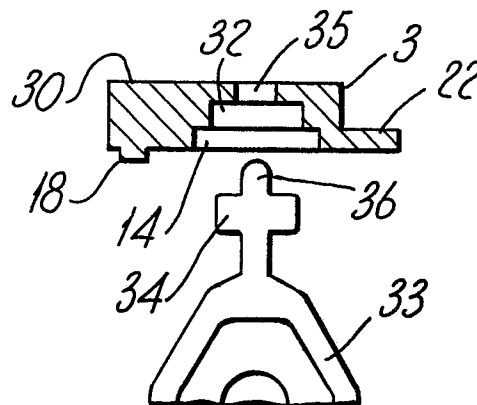


Fig.3.

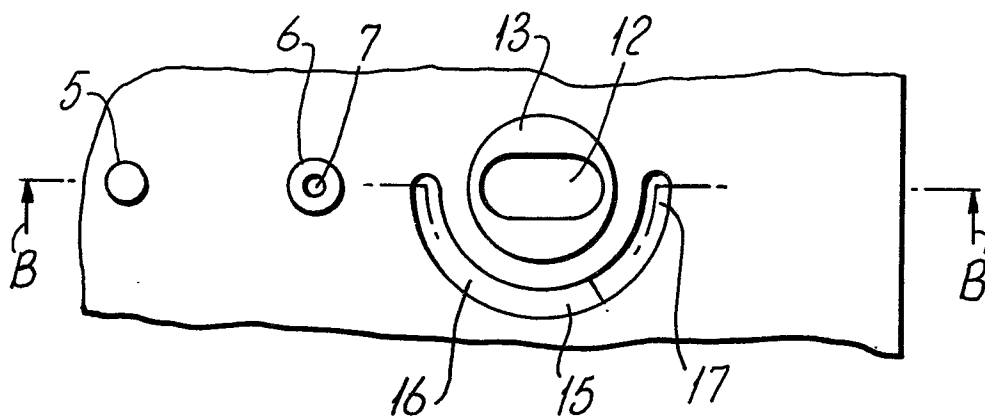


Fig. 4.

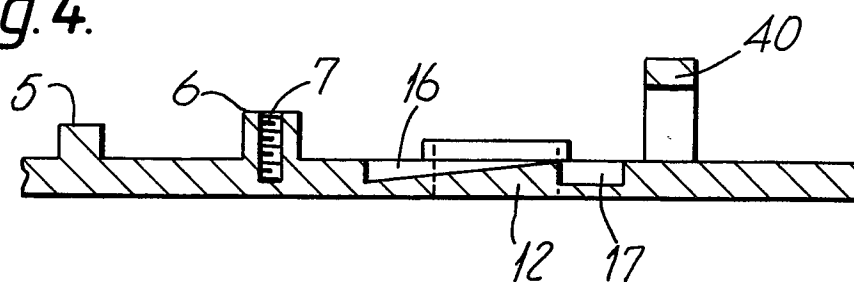


Fig. 5.

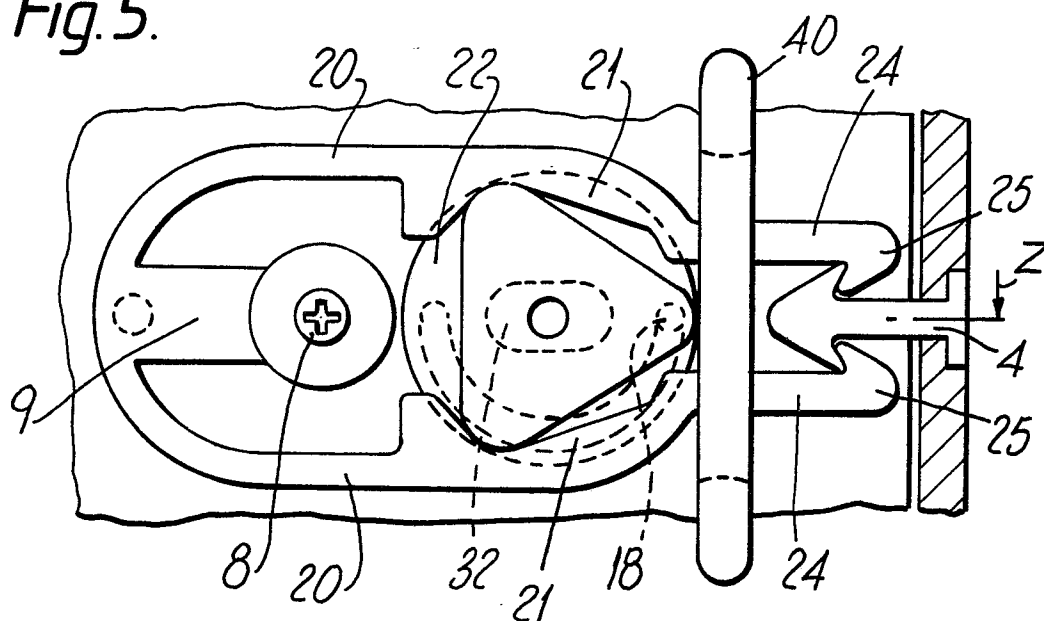
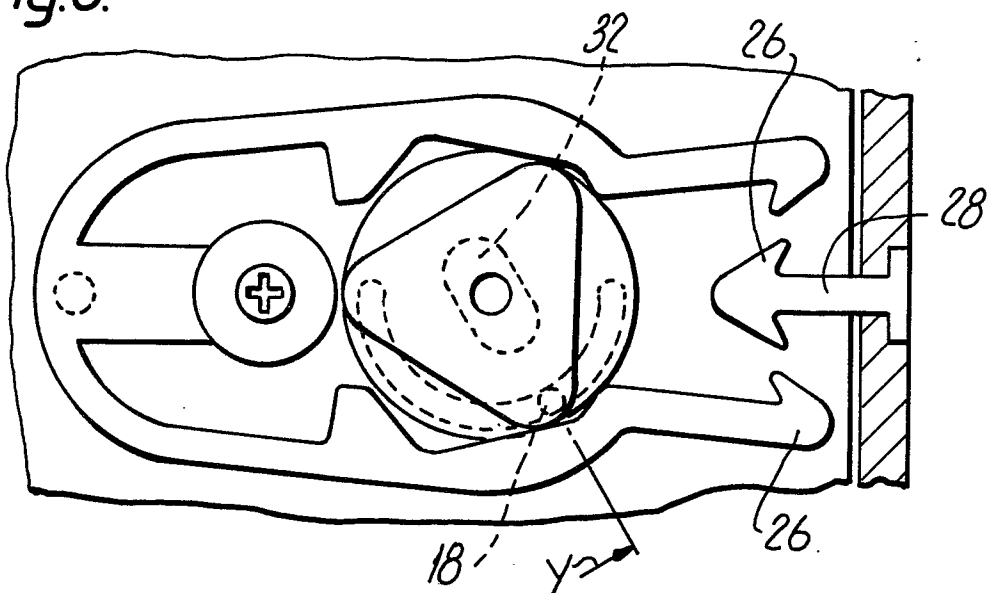


Fig. 6.





European Patent
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EUROPEAN SEARCH REPORT

0042310

application number

EP 81 30 2756.2

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
	<u>US - A - 1 883 072</u> (E.B. STONE) * claims; fig. * --	1	E 05 B 65/52 E 05 C 3/16 A 47 K 10/24
	<u>FR - A - 733 858</u> (ETS GERBAULET) * claims; fig. 1 * --	1	
A	<u>DE - C - 488 194</u> (ALLGEMEINE ELEKTRICITÄTS-GESELLSCHAFT) * fig. 3 * --	1	TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
A	<u>DE - U - 1 869 661</u> (A. SALICE) * page 5, last paragraph to page 6, first paragraph * ----	1,3	A 47 K 10/00 E 05 B 65/00 E 05 C 3/00 E 05 C 19/00 H 01 H 19/00
			CATEGORY OF CITED DOCUMENTS
			X: particularly relevant A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention E: conflicting application D: document cited in the application L: citation for other reasons
			&: member of the same patent family, corresponding document
X The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
Berlin	03-09-1981	WUNDERLICH	