



# LOCKS & KEYS



Issue 33

The Newsletter for lock collectors

March 2007

## Narrow style

**W**ood is not a particularly strong material, so doors and windows need to be more or less massive to be strong. This remained true when doors began to have mortice locks. Other materials were possible – notably iron. However, iron is prone to corrosion. Leaded lights were fairly forgiving of the swelling of their iron frames caused by corrosion – the lights buckle rather than fracture. Iron gates were usually grille gates, with large rim locks attached.

Aluminium is a common element in the earth: clay is aluminium silicate. However, in early times, smelting aluminium metal was difficult and expensive. At the beginning of the 19<sup>th</sup> century, it cost more than gold. Napoleon's set of aluminium cutlery was a thing of wonder in high society!

When great force ceased to be a threat to householders, it was possible to contemplate some lightening of doors, although for front doors with heavy traffic, a reasonably robust 2-bolt lock was still needed. In the 18-19<sup>th</sup> centuries, one idea was to have a door with wide stiles below a deep lock rail, and narrow stiles above. The stiles were elegantly tapered across the lock rail. This design is called a 'gunstock

door'; it is a considerable challenge to a joiner's skill, and therefore is rarely made today, except for conservation work.

Really effective, and inexpensive, large-scale rust-proofing treatments for steel only

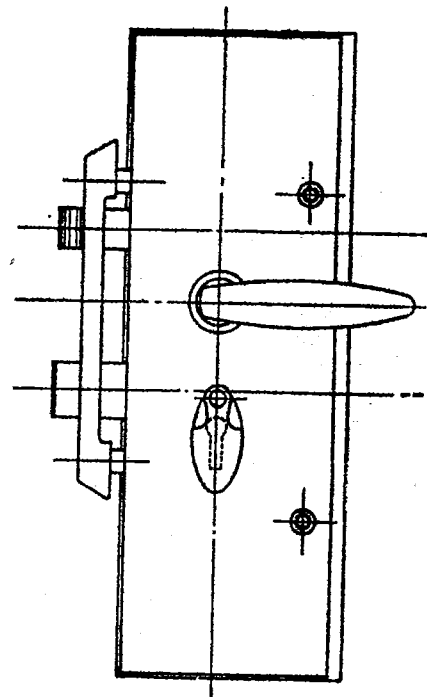


Fig. 1 Union panel lock for steel casement doors.

became available in the 20<sup>th</sup> century. During the 1930's in Britain, Crittall, Gibbons, Josiah Parkes, and others, developed sectional steel windows and doorframes, and later, casement doors, of galvanised steel. (Other than strongroom doors, all-steel doors were uncommon, even in industrial buildings.) These had the merit

(Continued on page 3)

"Locks & Keys" needs more subscribers. If you know any other collectors, please ask them to subscribe to their own copies!

"Locks & Keys" welcomes contributions, preferably with uncoloured illustrations on separate sheets. Unfortunately, colour photographs tend to be too dark to reproduce well. PC disks with files in MSWord7, MSWorks4.5, Write, Wordpad, or saved as .rtf can be used. Articles may also be emailed to the Editor — see below right.

## In This Issue

7 *Feltham Prison*

8 *Locking bars*

10 *Bramah boss lock*

12 *Choosing padlocks*

Edited & Published by Richard Phillips  
"Merlewood", The Loan, West Linton,  
Peeblesshire, EH46 7HE  
UNITED KINGDOM

☎ West Linton 00 44 [0]1968 661039  
Annual subscription: £10 payable in sterling  
only. Published November; March; July  
email: rphillips52@btinternet.com

## Editor

There has been no feedback lately, including no questions, answers, nor advertisements for sale or wanted. Presumably what have appeared have generated little response.

I have been struggling with this issue. I still have a day job, and aged relatives. That and bad weather have conspired to reduce the time I have been able to devote to this issue. My resources on locks are modest. There are people out there who know far more about locks than me, have bigger collections and more books. If you would share this with me, the *Newsletter* would be much more interesting and useful.

The Internet is immensely useful, of course. However, it is not permanent. Quite apart from when sites happen to be unavailable for technical reasons, sites and pages can vanish at the click of a mouse. Printed books and periodicals, however, once printed, persist, and some libraries retain copies. This is still the value of a paper, printed publication.

I have several stories 'on the stocks', but not finished. Checking facts takes some time. Adjusting pictures (after I have found them) also takes time, and so finally does the writing (I am a slow typist).



Part of the 'quality' of a lock is the resistance it offers to unauthorised opening, whether by force or otherwise. I'm not a fan of youtube.com as it is slow to search and load. However, my attention has been drawn to 'bump keys' and there are several clips there, and elsewhere on the Internet. This is so easy a child of six can do it! I can't save these clips, and give the url's of them, so you will just have to search for them and watch for yourself. I was given some bump keys several years ago, but with no instruction how to use them — now I know.

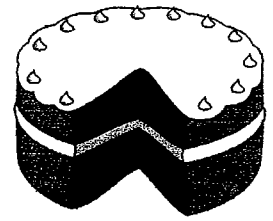
(The article on bump keys intended for this issue has had to be held over to next issue.)



So finally, may I repeat my plea for more articles about locks from you, dear readers ...

## Feedback

Latterly, I've not had any feedback, so no additions or corrections to add.



I don't see "*Which*" (UK consumer testing magazine) often, but the issue from last March 2006 came to my attention. They do sometimes over-simplify a product, as in the case of padlocks. They label some 'don't buy' without showing clearly for what purposes they are not suitable. Even small light-weight padlocks have some uses.

On the small home safes, none of the electronic com-lock models did well. As someone said to me a while ago, 'they are not heirloom quality'. Most were failed because their bypass keylocks were easily picked. Price seemed to be a fair indicator of quality. Although, if strongly fixed, and well-hidden, even a cheap one might be too much for a drug-addict burglar to open quickly.

I have one under my feet which the mice have been at. A small drill enabled the bolt to be punched back. I still haven't managed to make the electronic lock work yet. It does have an increasing time delay, and I haven't been able to set it to a new combination. I guess they are not as convenient as they appear.



*Richard Hopkins* sent me some items a while ago, which I haven't yet been able to use. Now I have a scanner and can make adjustments, I might be able to reproduce them. They relate to locks, as ephemera, and to other aspects of crime and punishment. He has also found numerous pictures of Saint Peter and others, whose symbols include keys. Old pictures often show contemporary keys, which is useful for dating.



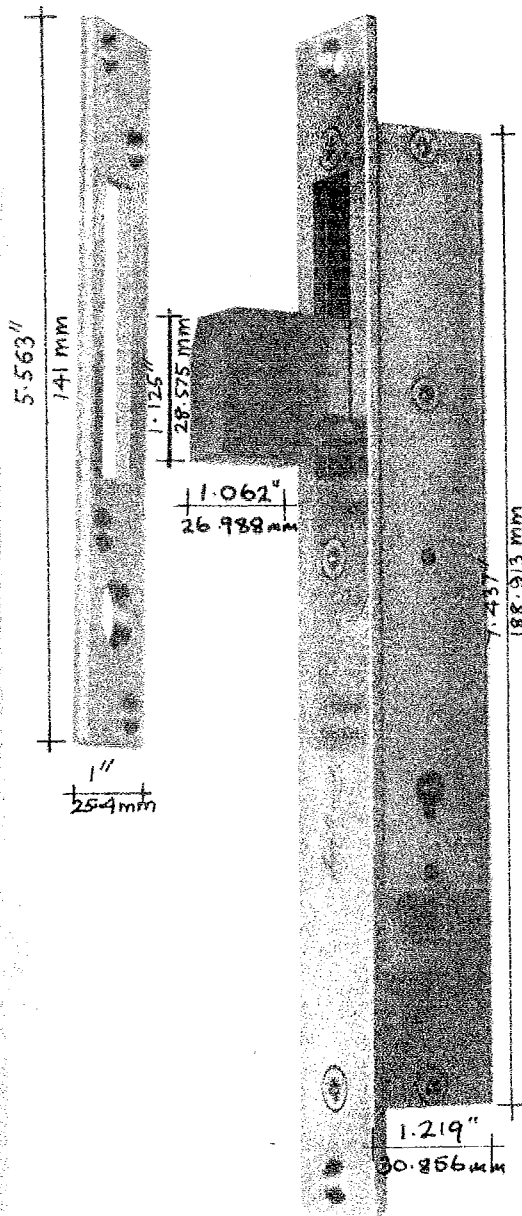
I have also been reminded that whilst there are locks which can be applied to personal computers, including laptops, there are no locks which can stop a mobile phone being stolen. However, your service provider can block your phone if stolen, making it useless to anybody. It is necessary to tell your service provider the phone's unique serial number. This can be found by keying:

#06#

and noting the fifteen digit serial number.

VNS 27 VERY NARROW STILE  
HOOKBOLT MORTISE DEADLOCK

All features page 2  
except 9  
also  
VNS 27A



For hinged or sliding doors.  
Guide peg removable for hinged doors.  
Hook bolt protects against springing.

- Large hardened bolt protects against sawing
- Resists tons of jemmy force
- Drill resistant case
- Anti picking devices
- Suitable for either hand of door
- Choice of Microswitch for VNS 27A

**Fig. 2 Bramah Very Narrow Stile lock**  
Bramah VNS27 very narrow stile mortise deadlock, for hinged or sliding metal and wood doors. A similar, single-sided, lock is also available as VNS17 (from a 1970's catalogue). Bramah locks offer key registration, with key combinations exclusive to each customer, master keying, change of combination if key is lost, different combinations for each side if required, stainless steel keys and sliding cover or plain satin chrome keyhole escutcheons. The steel striking plate shown is included.

of cheap factory production at a time when there was a building boom. They were made of rolled steel sections, welded and riveted together, then mostly hot-dip galvanised.

**The 'Union' panel lock for metal casement doors**

Josiah Parkes in conjunction with the door makers designed a 'panel lock' as the standard lock for standard steel casement doors. (Fig. 1) It measures about 4 x 1 1/2", being designed to fill a given space in

a standard door. As the lock is self-contained, with a single forend, and furniture already fixed, the door makers are saved the trouble and expense not only of fitting a covering box or plating over the lock, but also of fixing the handles and the often necessary adjustment afterwards. If the door is correctly prepared, the lock and striking plate can be fixed completely in less than five minutes. The removable forend when refitted in the channel of the door stile, goes back into

its original place on the dowels on the lock case. The construction is the subject of several patents. When the lock according to that construction is put together at the factory, the handles are inserted from the inside where they are adequately supported by a steady pin and held in position by the operating springs. This was an innovation in lock construction. There are thus no screws, pins or cotters for handle fixing to work loose. In another construction the handles are made removable for packing and despatch reasons but can be refixed easily and firmly by a patented method. This lock mechanism is a conventional lever lock.



Fig. 3 Upright 2-bolt 2-lever narrow stile mortice deadlock. Depth:

### Conventional narrow stile locks

Some narrow stile rim locks were made, mainly as shop door locks. There were also narrow stile lever locks made for mortice fitting. Unfortunately, they were mostly only 2- or 4-lever, and the narrow case made a short throw inevitable. (fig. 3)

World War II might have interrupted lock development. However, it boosted production of aluminium, and the development of the technology of aluminium extrusion.

Also becoming available in the 20<sup>th</sup> century was abundant supply of large pieces of glass, including the thick 'plate glass'. This made possible large windows of a single piece of glass, or only a few large pieces.

(Even large pieces of glass can now be made – 'float glass' of various thicknesses has now become universal for all normal purposes. Toughened and laminated glass are readily available for greater strength, and wired glass continues to be used for fire resistance.)

### Postwar architectural developments

After the war, American architects were keen to use the strength of narrow aluminium sections to make strong windows, and also doors. Doors having a single sheet of glass needed only a narrow stile frame to form the door, despite the weight of the glass. Aesthetically, and for reasons of cost (the glass was cheaper than aluminium), the architects desired to keep the aluminium sections of the door as narrow as practicable. The aluminium door appeared first in shop-fitting, but soon spread to offices and homes.

The problem with these doors was that no secure lock existed which could fit such narrow stile doors. Not only was the stile narrow, the material became thinner, and so more flexible. The only narrow stile locks were simply not very secure. Admittedly, because metal doors are dimensionally stable, they can fit snugly in the door opening, so there is not much of the bolt head wasted in the gap. Burglars were presented with a flexible door easily pried away from its jamb, and a short lock bolt to hold the door shut. The lock makers had a problem.

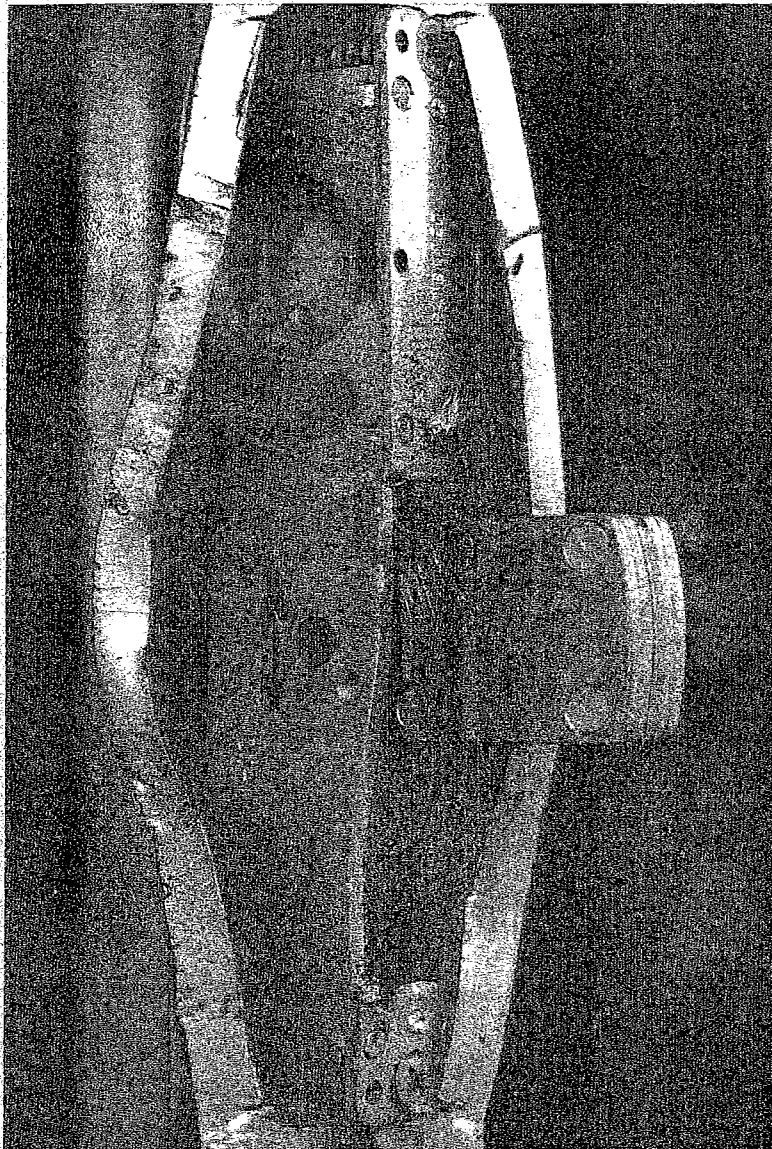
### The Adams Rite Maximum Security Lock

In the late 1950's, the Adams Rite Manufacturing Company introduced a revolutionary lock: the Adams Rite Maximum Security® lock (commonly known as the Adams Rite MS® lock) appeared. What was revolutionary about it was that instead of a sliding bolt, it had a pivoting bolt. This is a bolt which pivots up through 90°; it has as much of its total length inside the lock case when thrown, as there is outside. This is not possible with a sliding bolt unless the case has an unusually long backset. The pivoting bolt is locked on the 'over centre principle'; and it cannot be pushed back by end pressure. Only force sufficient to destroy the lockcase, and most likely the door stile and jamb also, can dislodge the bolt from its locked position.

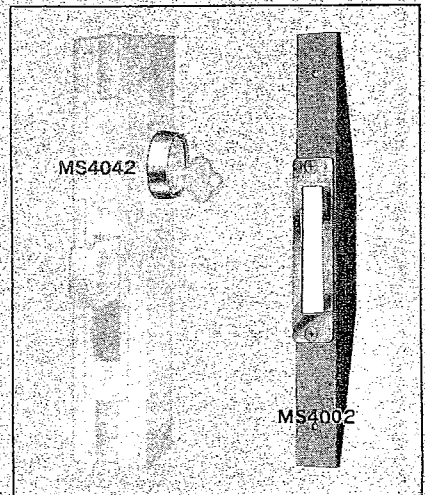
Actually, aluminium, although quite strong, is nevertheless relatively soft, and the thin extruded sections used to make doors and doorframes could be peeled.

The Adams Rite Manufacturing Company published a promotional booklet explaining various methods of attacking the Adams Rite MS® lock. And explaining the methods of countering these attacks. Even today, however, it is common to see such locks installed without the available additional fittings which provide security.

The Adams Rite MS® lock uses normal screw-in mortice cylinders, but these do need a specially shaped



Successful burglary in Beaver Falls, Pennsylvania left these "visible marks" of forced entry, as required by the insurance policy. We are grateful to the photographer: Mr. D. L. King of King's Mirror and Glass Company, Beaver Falls.



## Aw Pshaw.

When will they learn? When will they ever learn? This store owner saved ten bucks when he didn't buy our cylinder guard and armored strike to back up the Maximum Security lock. The lock held (it always does), but the door and jamb peeled like bananas without the guard and strike. And this was a good door!

We don't know how long a lever this Pennsylvania burglar had, but he darn well proved our

point that you can't go through an M.S.<sup>®</sup> lock. Around it maybe, but not through it. Well, we can stop the round-about burglars too. A hardened steel cylinder guard (MS4042 in our catalog) and an armored strike (MS4002) will take care of these gentry quite nicely, thank you.

Write Adams Rite Manufacturing Company, Architectural Products Division, 1425 Grand Central Ave., Glendale, Cal. 91201. Ask for Fred.





MS cam. Screw-in mortice cylinders, of brass or aluminium, have threads which are easily stripped, and the cylinder could originally be unscrewed or ripped out. A hardened steel, freely turning collar with a large flange behind it, frustrates this attack. (Versions are now available using profile cylinders, which cannot be ripped or unscrewed.) A steel reinforcement of the bolt cut-out in door stile and jamb frustrates peeling the aluminium sections. The length of the bolt defeats spreading the door and jamb gap by prying.

### Force-resistant bolt

Early MS bolts were a 5-ply laminate of hardened steel, and nested within the centre ply was a pair of case hardened needle bearing rollers. These are captive, but free to roll if a hacksaw blade contacts them, and so are very difficult to cut. Later bolts incorporate an alumina ceramic material invented to clad spaceships. This is difficult to saw. Blades which can cut steel perform poorly on the ceramic, and vice versa.

The Adams Rite MS® lock was soon developed to provide multi-point locking, and an indicator version is available to show whether a door is locked or not. This is required by some building safety codes. A hook bolt version appeared later. Adams Rite also supplied a fixing kit to make installing the lock simple for locksmiths on site. Today there are several different backset versions available, making the lock suitable also for wooden doors. Europrofile cylinders can also be used today.

### Bramah solutions for narrow stiles

The pivoting bolt solution was an attractive one, and soon copied in Britain. Bramah had a narrow stile lock, with a sliding bolt, which could fit 2" metal sections. The architectural trend to even narrower stiles needed a different solution. Bramah introduced the Very Narrow Stile lock, with a pivoting bolt. (Fig. 2) This mechanism was a different realisation from that of the Adams Rite MS® lock. It obviated the locksmiths' preferred opening technique involving drilling a small hole in the door.

The Bramah VNS lock has key-registered pick-resisting cylinders wholly enclosed within the hard steel lockcase, so they cannot be pulled; nor do they screw. As they are not opposite each other, they cannot easily be punched right through the lock. Running a drill into the keyhole will indeed destroy the cylinder – but will not open the lock! A much larger hole must be drilled through the hard steel lockcase to destroy enough of the cylinder to achieve that.

Early VNS locks had a brass bolt. This was soon changed to stainless steel, with hardened steel rollers. The bolt also has a notch, making it a hook bolt. This resists spreading, and also makes the lock suitable for sliding doors. (A metal dowel is available for the faceplate in this function, to help locate the door

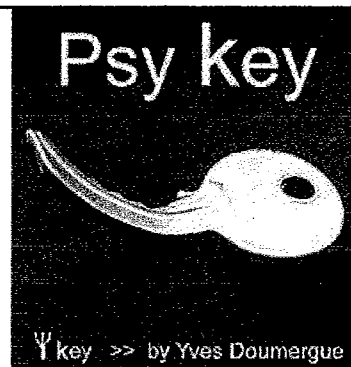
correctly as it slides shut.) As normally fitted, the VNS bolt pivots downwards, so any attempt to knock it back into the lockcase has to pound the bolt upwards – rather less easy than attempting to pound it downwards, as in the Adams Rite MS® lock.

### Postwar building economies

Since the 1960's, builders have economised on doors by using less substantial doors. Many speculative 1930's houses have interior doors superior to modern exterior doors! One common economy has been the use of narrow stiles on wooden doors.

It is now common to need a narrow stile version of cylinder rim latches, and mortice locks. Narrow stile lever mortice locks are possible, though lever locks in Britain are losing market share to pin tumbler cylinder locks. Rim latches in narrow stile are little different from the normal version, apart from having less backset. The rather short throw of the bevelled latchbolt of all of them is a weakness, especially in wooden doors, where a wider gap is needed for proper functioning. These narrow stile cylinder rim latches are sometimes also fitted to cheap metal doors for domestic use.

*R Phillips*



**Psy Key** is the latest product developed by Yves Doumergue. This is a new milestone in metal bending magic.

**Psy Key** is a "shape memory alloy key". It looks and feels like a standard key but is indeed not. At room temperature, it is flat; once you touch it, your body heat makes it bend.

Only the performer can make it flat again.

**Psy Key** comes in an aluminium case and includes everything you need to perform this amazing effect. Comes with a comprehensive instructional DVD.

**PSY key \$379.00**

The Magic Warehouse  
11419 Cronridge Dr Suite 16  
Owings Mills, Md. 21117 USA  
sales@themagicwarehouse.com

(Be aware this is not the only magic effect called by this name available from magic dealers. Once set, it needs to be shown fairly promptly.)

# Feltham Prison keys

**Every lock at Feltham changed after TV gaffe:  
News crew filmed key during media visit  
Cost of replacement put at £250,000**

The Prison Service has been forced to spend £250,000 on changing every lock and key in Feltham young offenders' institution after a TV news crew filmed a prison key during a media visit last week.

A pack of broadcast and print journalists was invited to the jail in west London before last Thursday's publication of Mr Justice Keith's report into the racist murder of Zahid Mubarek, who died in Feltham six years ago.

Prison officials warn reporters, photographers and camera operators that their company will be liable for the cost of a "re-lock" if they publish or broadcast images which show keys or locks.

However, ITV News is alleged to have broadcast shots of a prison key after taking part in the Feltham visit. The cost to the taxpayer of replacing the 11,000 locks and 3,200 keys at Feltham is thought to be £250,000.

A spokeswoman for the Home Office said yesterday: "Feltham young offenders' institution underwent a re-lock on Friday morning.

"I cannot comment further because of the security issues."

She refused to say how much the episode had cost the taxpayer or whether the Prison Service had asked the media not to photograph keys and locks while at the jail.

The prison's governor, Andrew Cross, said: "There was no risk to the young people being held here.

"Staff worked hard to ensure the re-lock process happened as quickly and safely as possible."

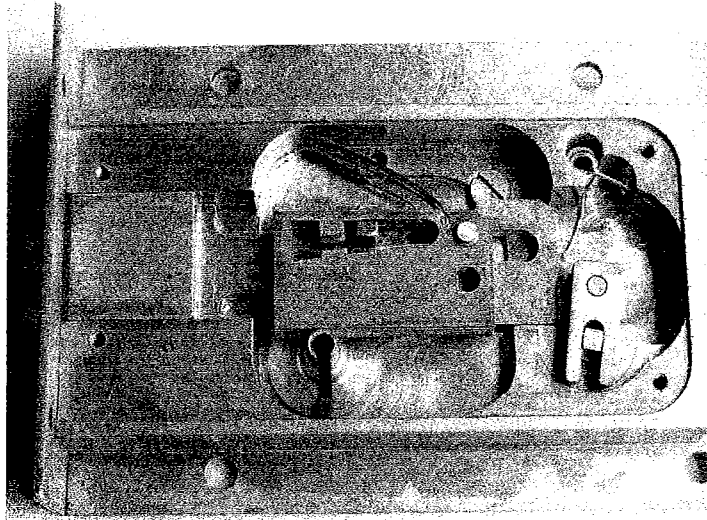
A spokeswoman for ITV News said the company was "looking into the matter" and had no comment to make.

It also emerged yesterday that a re-lock was under way

in another prison after a visitor left a set of prison keys on a table in the staff canteen, which is run by inmates.

The visitor was believed to have been a member of the independent monitoring board - formerly known as the board of visitors - at an unnamed jail somewhere in England and Wales. He is since understood to have resigned.

A Prison Service spokeswoman confirmed two jails were undergoing a re-lock, but added: "These are relatively rare events which only take place when security has been sufficiently breached for it to be necessary."



*A modern Chubb cell lock, made to latch, and deadlock with a key. The crank at bottom right is the indicator, showing on the outside as a disk with a line on it. (Picture from Ian Webb.)*

Mark Leech, the editor of the Prisons Handbook, pointed out that re-locking the two prisons would cost the taxpayer around half a million pounds and called on ITV News to help foot the bill at Feltham.

"Rightly, the IMB member concerned has resigned and ITV News, for their part, should pay the cost of the re-locking in Feltham if they are indeed

found to have been responsible for the security breach," he said.

"It is hardly rocket science that you do not film a prison key from which others can make a copy - let alone then transmit the image nationwide."

Chubb Custodial, a company which makes prison locks, said yesterday that copying the keys from the broadcast images would not be easy.

"It depends on who you are and what you already know about the particular locks," said Simon Teagle, a spokesman for the company. "I wouldn't say it was impossible but it's certainly difficult.

"I would have thought the Prison Service would screen all media images of keys and locks."

He added: "We supply locks to the government but I couldn't tell you which prisons they go to. They are usually fitted by their own estates people."

Mr Teagle refused to say how much new locks would cost because of the company's "confidential" contract with the Prison Service.

*Sam Jones The Guardian Wednesday July 5, 2006*

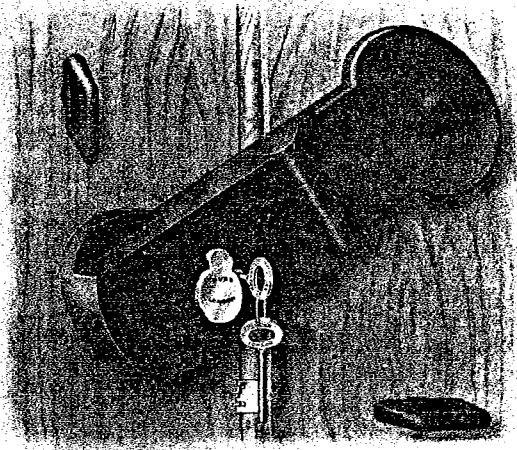
## CHUBB LOCKS

### LOCKING BAR

FOR STEEL OR WOODEN DOORS

No Loose Parts. Easily Fixed.

Better than a Bar fastened by a Padlock which may be mislaid.



An extra Staple supplied so that the Bar when not in use may be locked to Door in vertical position. Shanks of Staples and Locking Bar Pivot pass through drilled holes in Door and are fixed by Nuts inside. Washers also are provided for inside Door to prevent removal of Staples from outside.

Size, 8½ in. x 2½ ins.

Brass Bolt and Levers.

	BEST QUALITY.		MEDIUM QUALITY.	
	No.	Price.	No.	Price.
Malleable Iron, Art Black Finish, Steel Staples	860	42/-	840	38/-
All Brass with Gunmetal Keys	860 F	52/-	840 F	47/-
All Gunmetal	860 G	62/-	840 G	57/-

## Alternatives to the padbar: two examples from Chubb

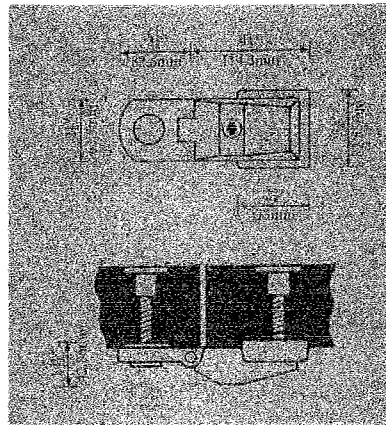
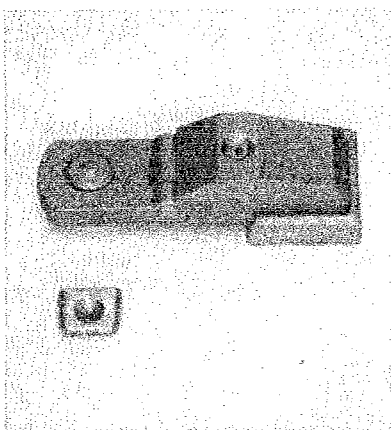
Padbars, (padlock bars) or hasp and staples, have long been in use for locking doors, especially of commercial and industrial premises, and outbuildings. They are simple and relatively cheap to fix, but padlocks have long been vulnerable to forcible attack.

Over the years, several alternative locking devices have been invented. Left shows a locking bar from Chubb, c.1930, using a lever lock mechanism, and below, a locking bar from Chubb c. 1970, with an 'Ava' springless detainer mechanism.

These, and other devices, seek to avoid the loose accessible padlock.

# CHUBB

### External locking unit Padlock bars



External locking unit 9K22

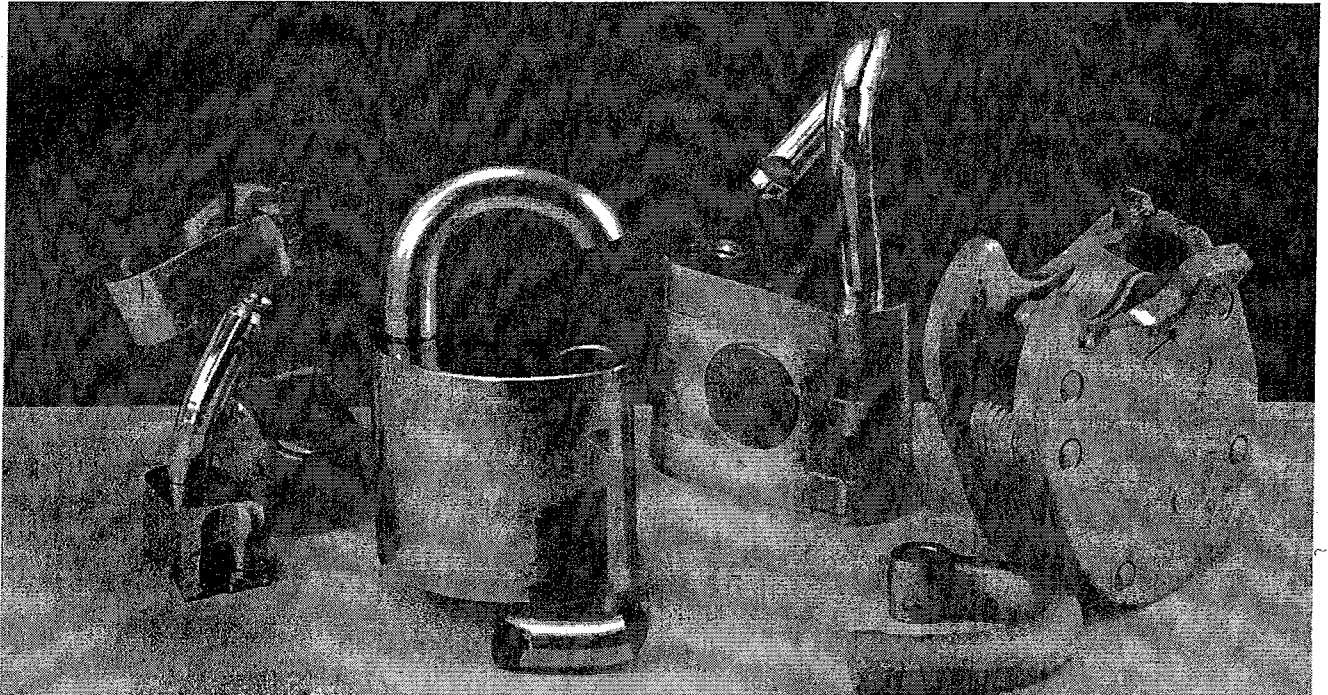
Weight 72oz 2.33kg

Suitable for both sliding and folding doors. This unit is padlock and padlock bar in one. Springless disc detainer mechanism enables millions of differs. Heavy steel forging with hinge pin protected by special weld. When locked staple is encased. Secured from inside with special nib head screws. Painted finish.



# Another alternative to the padbar (2005) **PADLOCK FAILURE**

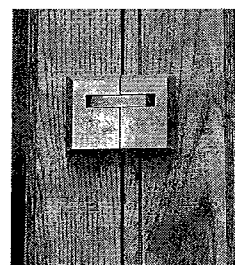
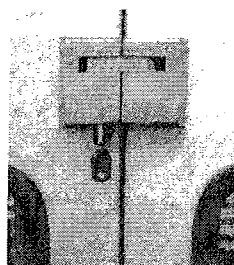
Most Padlocks are forced silently and within seconds using a simple twisting action with a concealed stilson or pipe wrench.



## **THE SOLUTION**

The **BRIL** Lock was invented by a master locksmith well used to seeing the results of burglars work.

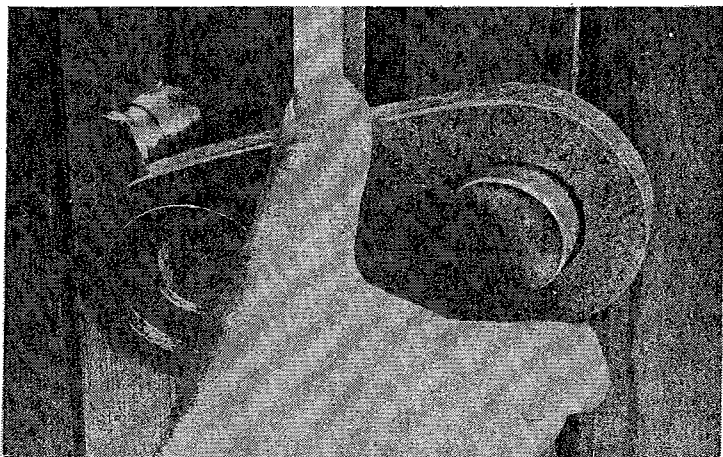
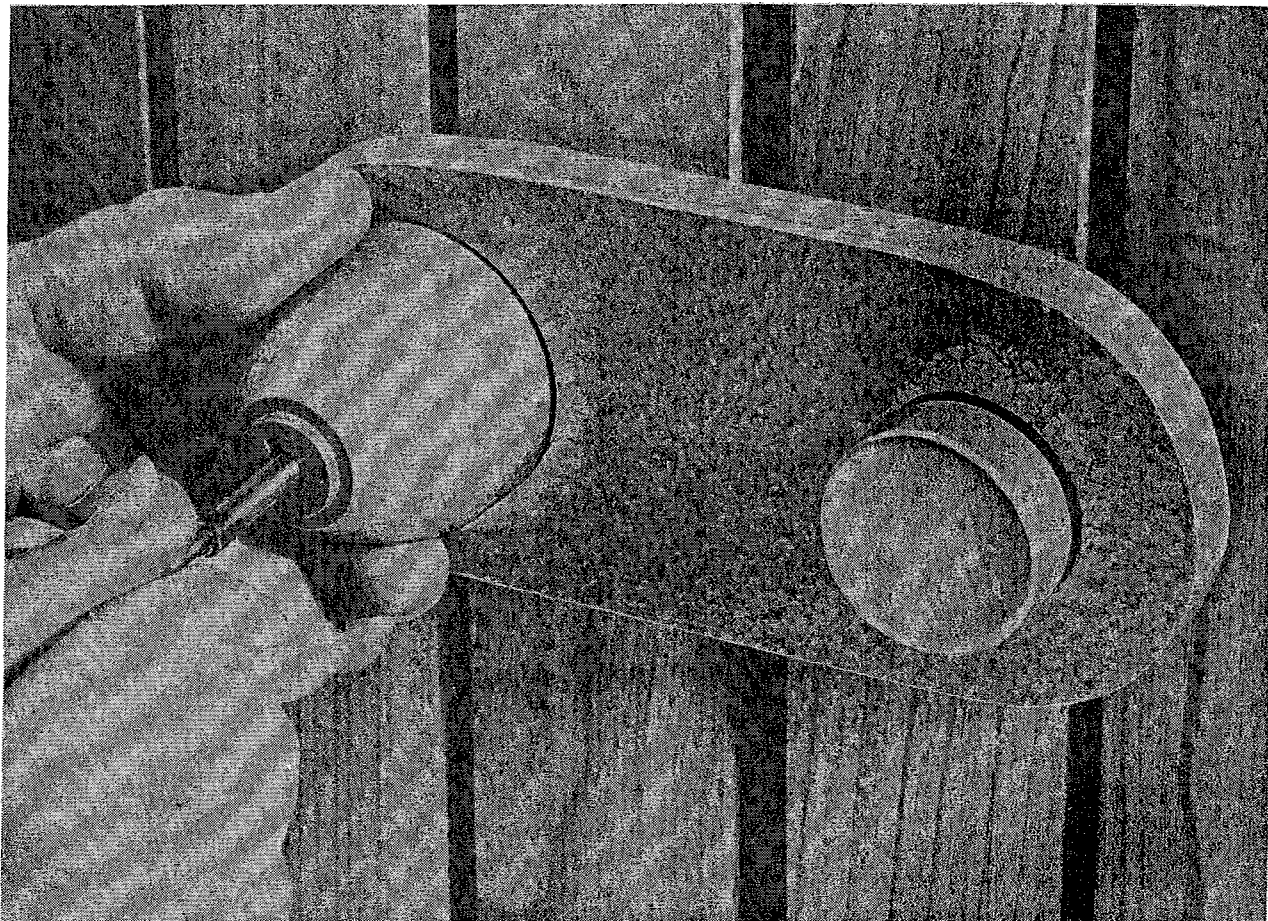
- BRIL** Fits all double wooden doors and vans.
- BRIL** Manufactured from fully hardened, high quality steel.
- BRIL** Chrome plated for all weather resistance.
- BRIL** Resists drilling, sawing, picking, bolt croppers, pipe wrenches and hammering.
- BRIL** Easily installed in minutes with template supplied.
- BRIL** Lock bolted on from inside so all fittings are concealed.
- BRIL** Locking bar enclosed in centre to prevent attack by wedges and bars.
- BRIL** Threaded bolts and washers supplied with each lock.
- BRIL** Key lock easily changed.
- BRIL** Available key to differ, keyed alike, or master keyed as required.
- BRIL** Suitable for office doors where a hasp and staple would look unsightly.



### **Trade Enquiries:**

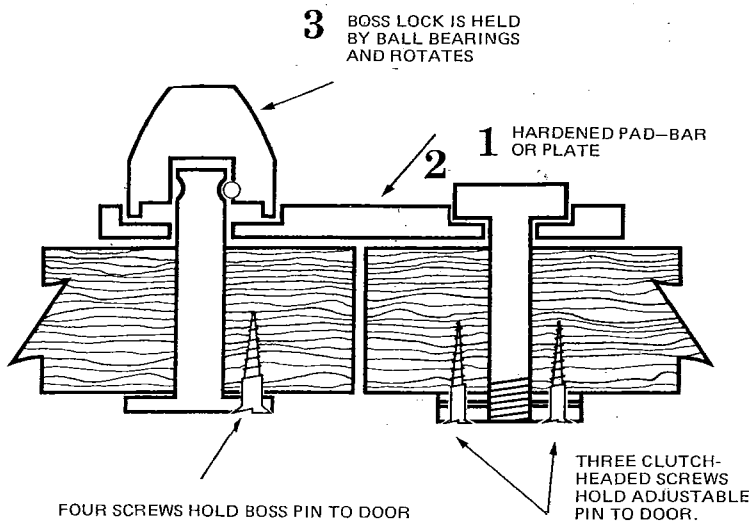
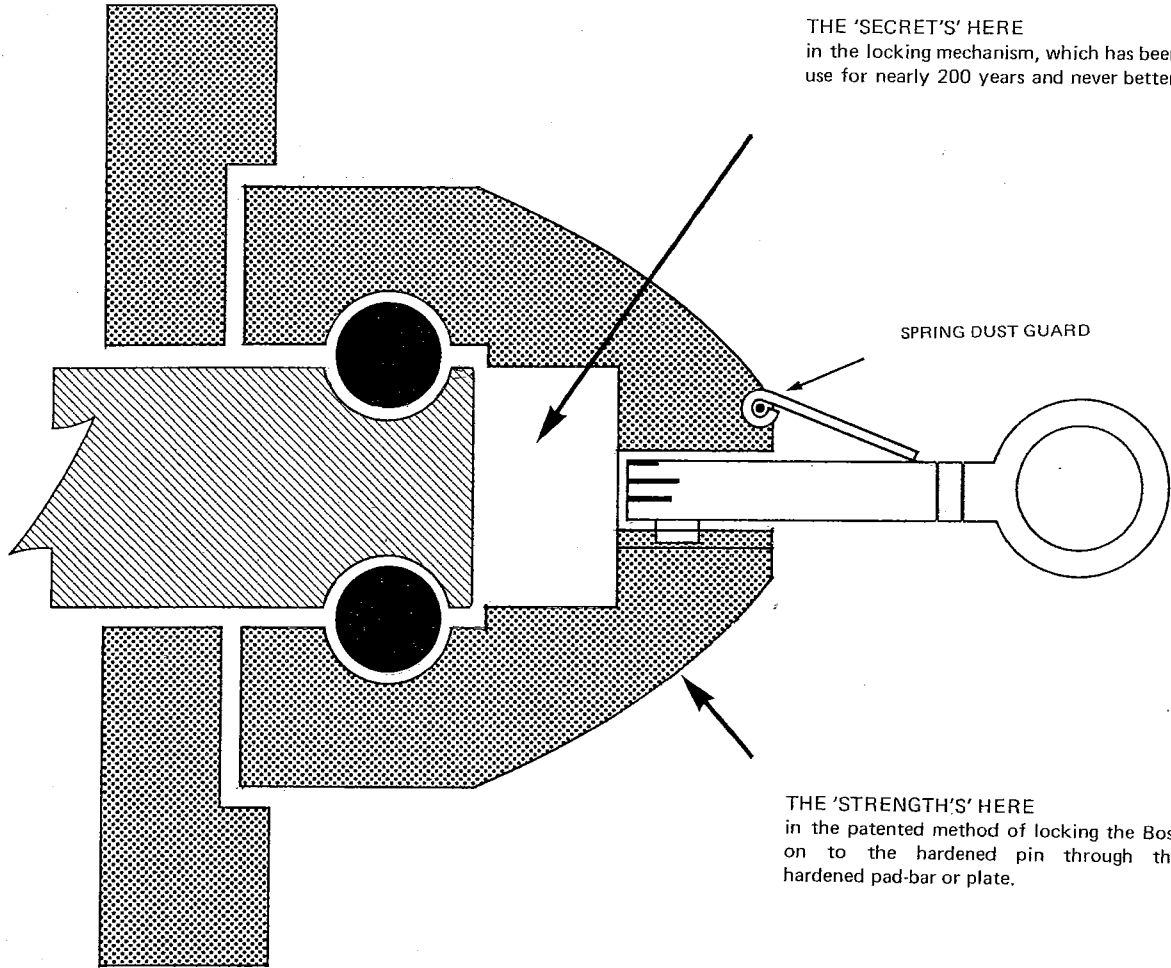
Bill Rossiter Innovations Ltd. Tel: 0161 236 1231

# BRAMAH BOSS LOCK AND 'PADBAR'



The Latest from the BRAMAH Stable — keeps all doors well and truly bolted. Compared to the conventional padlock and pad-bar it is much simpler to fit, easier in use and above all **STRONGER THAN ANY COMPARABLE FORM OF LOCKING.**

Can be incorporated in the usual Master Suite arrangement and a whole new world of high security locks is open, giving a uniform high standard with strength and Key security. **NO** chance of keys being duplicated at the corner 'heel bar' but a quick by return postal key service is offered by us when we receive *your* request in writing.



**Working Principles**

The holes to take both pins are drilled through the door leaves and the pad-bar and fixing pin fixed to the first closing leaf with clutch-headed screws. 1 The boss pin is then fixed to the closing leaf and the boss caps the pin and engages in the recess in the bar to avoid 'wedging' off. 2 The boss is hardened and free to rotate to avoid cutting. 3

## Questions from readers

**W**rite in to "Locks & Keys" with your questions about locks. Somebody will surely be able to supply answers. The Editor will be pleased to print a composite answer to questions. When replying, please mention the number of the question.



There are no question or answers for this issue.

## Which padlock?

**B**uying a padlock is a confusing area if you are not aware of the various grades and styles available. Whether you are simply replacing an existing padlock or fitting one from new it is worth considering, when buying a padlock, the level of security you need; and also the style of padlock.

A high security closed shackle padlock is suitable for an area that is easily accessible by the public, while a simple open shackle padlock for basic or internal security might suffice. Closed shackle padlocks can be considerably more expensive than basic brass open shackle padlocks but withstand attack for far longer periods. As an example, they are much used on residential rear doors or commercial properties' access gates or security grills.

It is always wise to buy the highest grade of padlock that your budget can afford — especially if the lock is protecting an external area, as it might need to be approved by your insurers, and for your own peace of mind. If you are looking for an internal padlock, then a standard medium security padlock would be suitable to slow potential thieves.

Many applications suit having two or more padlocks keyed alike for convenience, or supplied as part of a master-keying application. Other variations include high security padlocks with a restricted key section to prevent unauthorized key duplication.

*(Advice from a master locksmith. Sorry, I lost the address and can't credit it now. If anyone recognises it and can give me the shop's name, I'll publish it.)*

### AA keys

The original steel lever cabinet lock key now sells for £30, the pierced bow Yale-type by Vaughan for £55, and the hexagonal bow (1935 — 1967) for £20.

*Millers collectables price guide 2007*  
1845332636