

LOCKS & KEYS



Issue 34

The Newsletter for lock collectors

July 2007

A misunderstanding about Jimmy Valentine

Where the films got it wrong

Many people of mature years, when asked about safebreaking, will say "Oh, you mean where they sandpaper their fingertips, put an ear to the safe, turn the dial while listening to the combination and open it in seconds - like Jimmy Valentine in the old films." Youngsters just blast the safe with a laser.

This brings us onto other questions - who was Jimmy Valentine and could/did he open safes as described above?

In the late 1800s William Sydney Porter was serving a minor prison sentence. He made the acquaintance of a safecracker and heard some of his tales. There is some dispute about the identity of this man, some say it was Jimmy Connors, but when Porter started writing short stories under the pen name of O. Henry he introduced him in one story as Jimmy Valentine.

The story was called *A Retrieved Reformation*, first published in 1891.

In essence, a highly skilled safebreaker is

(Continued on page 4)

The 'Napoleon of crime'

Sherlock Holmes' arch-enemy is named Professor James Moriarty. Conan Doyle had various inspirations for this character. The name came from one George Moriarty, a crook briefly notorious in London in 1874. One inspiration was Jonathan Wilde, an eighteenth century "Mr Big". The 'Professor' title was from the philosopher Professor Friedrich Nietzsche. The main inspiration, however, was Adam Worth. Worth (1844-1902), was

"Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed diam nonummy"

known for much of his life by the name of 'Henry Judson Raymond'. He was an international criminal from America, travelling extensively between London, Paris and elsewhere in Europe, and North America, and south Africa. He had a fine villa in London, a 110' ocean-going yacht, and racehorses. Curiously, Sydney Paget's illustrations for the *Strand* magazine rather resemble Worth's accomplice Charlie Bullen than Worth himself.

He was a bounty jumper during the Civil

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"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.

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

☎ West Linton 00 44 [0]1968 661039
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email: rphillips52@toucansurf.com

Editor

This is the last issue of your current subscription. However, there is no renewal letter included with this issue.

I said when I started this newsletter that it would not last long on my collection and resources. I have included some material from the Internet over the years, and some faithful contributors have helped. I do have many filler items, and some stories of burglaries and burglars.

What I really need are more articles about locks, from people who know much more than me ... or can research them. And with so many pages to fill I can't afford the luxury of rejections! At the Lock Museum friends' meeting, people said they wanted this newsletter to continue.

At this point your Editor is seen to be slumped over his keyboard, sobbing into his cocoa!!

I used to think that a locksmith's wife's lot was not a happy one. Visits to museums meant spot-checks to see if Richard were actually looking at exhibits, was even still with me, or instead inspecting the locks on display cases or examining security systems! Country house tours were a minefield of embarrassment as the wayward tourist was returned to the flock by an indignant volunteer guide, disapproving of his detours to explore hidden nooks and crannies! Our hall looks like the set for an "Open All Hours"-type period drama! But visitors are intrigued by the display cases, large old locks and even larger key signs hanging from chains: one small child said it was the most interesting house she'd seen. Mind you, Christmas and birthday presents are no problem!

We both are still employed. We have a house and garden to maintain, and two grandchildren to visit; the last few years have been stressful with elderly relatives' care. Much like all our readers' lives! Often I resent the time Richard is chained to the computer, or the mass of paper spread on the table.

However, I am immensely proud of my husband achieving his ambition to produce a Newsletter for fellow enthusiasts. It would, I feel, be a great shame if this venture were to cease, so this is a heartfelt appeal to all you subscribers. More contributions are needed,

Perhaps you feel that the time has come to "fold"?

Perhaps you have ideas of your own regarding layout and production? Don't be shy, share your thoughts with your Editor by post or email or even a 'phone call!

Points to consider include:

- *Do you want the Newsletter to continue?*
- *Would you mind fewer pages sometimes if not enough material has been received? (This is editorial policy on our revamped Church newsletter and nobody complains.)*
- *Would colour photos be essential; they are more difficult to produce.*
- *Would you like a revised format? (The formal layout was initially intended to reflect the serious tone of the content, but tastes change.)*
- *Most importantly, are you willing occasionally to contribute articles on locks? Yes, everyone's busy, but it doesn't need to be lengthy prose and can be typed up for you if you have no access to a computer. Book reviews, new legislation, research on locksmithing luminaries, personal collections, trade or collectors' fairs, sales and exchanges — all welcome!!!!*

Remember, the Editors' wife's lot may not be "an 'appy one", but it will be a sight worse if he gives this up and has to find a new interest! He is at that dangerous age!!!

*Thank you for letting me loose on these hal-
lowed pages.*

Mrs Editor



(There was no feedback to include. Editor)

Roman lock site

<http://romanlocks.com>

This is a presentation of Roman security hardware from my own collection, with illustrations of several important related items from other sources. This is not intended to be a survey of all known types; descriptions, images and analyses mostly refer to owned items. There is a bare minimum of literature citations and copyrighted material is used only in reference. Although many web references are appended, I have not made links to all sites mentioned. Any inaccuracies of fact or interpretation are my own. Some items presented are Byzantine, and this is noted wherever possible. The attributions of dealers are of variable quality, and should be accepted cautiously.

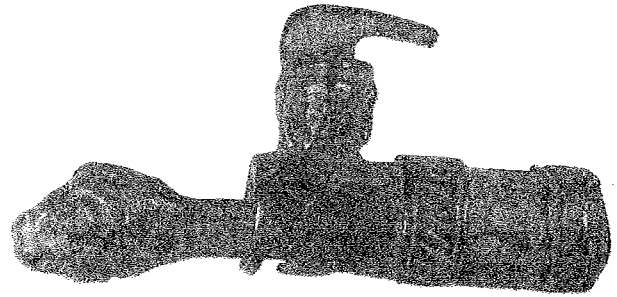
Fabrication The casting and working of bronze is, and was, not a high tech business and was widely practiced in the ancient world. In histories of the lock it is always pointed out that the Romans did not invent them, but that they did develop metal locks with complex mechanisms, and spread the various types all over the map of the Mediterranean region and much of Europe. Metal work was labor intensive and expensive, and it is likely that security products that involved metal work were pretty much for the small elite classes who had costly possessions to secure. No doubt most Romans made do with locking devices no more sophisticated than a simple wood bar for the door, and perhaps a latch lifter, as did the poor in more recent times.

Collecting Most locks and keys appearing on the market at this time have been found by individuals with metal detectors, and appear with little or no provenience. Fortunately, these are regarded as mere "collectibles", having relatively low monetary values and relatively low interest to the general public.

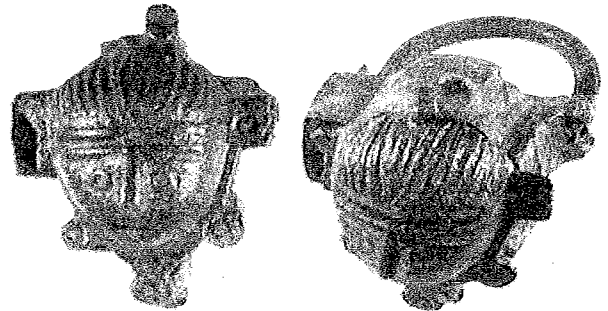
In general, archaeologists deplore collectors and the collecting of antiquities: they are regarded as encouraging looting and the consequent destruction of sites that would otherwise have provided valuable information about ancient cultures.

Commentary *Don Jackson's site is large, and the content represents a considerable investment in time and effort. It draws together much information originally thinly spread and widely scattered. Be aware, however, that pages are large with many illustrations, often in colour. If this is not be the last word on Roman security hardware, it is certainly the largest and most accessible source I know. There is a substantial bibliography, and many web-sites noted. As well as describing and illustrating many locks and keys, there is some discussion of collecting and conservation.*

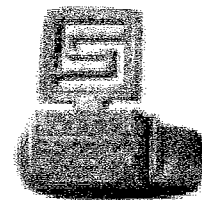
Don Jackson and the Editor.
roman@romanlocks.com.



Figural Barrel Lock & Key



Figural "Face" Padlock



Warded Ring Key



Figural Pin
Tumbler Key

(Continued from page 1)

released from prison, and commits other crimes that attract the attention of a high-powered detective who determines to put Valentine back in jail.

Our 'hero' sets himself up in a small town, under an alias, as a shoe salesman in order to study the local bank but becomes deeply enamoured of the bank manager's daughter. So much so, that he decides to retire and continue with his shoe business, which incidentally, had become commercially successful.

During a celebration to greet Jimmy's engagement to the bank manager's daughter and also the installation of a new vault door a young niece of the fiancé gets trapped inside the safe. Coincidentally the detective has also just arrived on the scene and is waiting in the bank entrance.

In order to prevent the suffocation of the little girl, Jimmy gets out his tools and opens the safe, even though he is aware that he will be immediately arrested. On release of the girl Jimmy gives himself up to the detective who greets him by his alias, wishes him well for his marriage, and walks away.

This story was dramatised by another writer in 1909 and renamed *Alias Jimmy Valentine* and was a hit on Broadway. And was revived in 1921.

The story was first made into a film in 1915 (silent of course) and again in 1928 with Lionel Barrymore.

A slightly altered version was filmed in 1938 as *The Return of Jimmy Valentine* while in 1942 *Affairs of Jimmy Valentine* became a sort of sequel.

It might be of interest that part of the 1915 film was shot inside Sing Sing Prison, NY, and the Warden appeared in the introduction. The first showing was to inmates at Sing Sing, following a promise by the actor playing the lead as a 'thank you' for assisting with the film.

The film character had his unique method of opening safes. In one film he could not do it unless he was blindfolded. The modus operandi is of course what alerted the detective to the current activities of Jimmy Valentine although unless the blindfold gets left behind it is hard to see how the technique became known.

In real life, however, it would not be possible to open a safe using sandpapered finger-tips. This is purely a cinema invention and to be fair to O. Henry, the character in the story has a suitcase full of specialised tools. The description mentions the latest designs in drills, punches, braces and bits, jemmys, clamps and a few invented by Jimmy himself, all made with specially tempered steel. The detective says that Jimmy only ever had to drill one hole and had special clamps to pull out combination dials.

In order to get an idea of the amount of equipment that was used in safe robberies in America in the 1880s the illustration in *The Lure of the Lock* (p. 199, unfortunately

will not reproduce) showing the items used in an unsuccessful attempt on a Hall's safe in 1875 may be considered. The caption says that six men were required to shift it.

Jimmy Valentine must have had strong arms to carry his suitcase of tools and still have room for his loot.

Should anyone wish to read a couple of novels about safe breaking in the late 1800s

I can recommend *The Scott-Dunlap Ring* by George La Fontaine, 1979 paperback ISBN 0 583 12981 1. This is well researched and almost certainly uses material that was available to Mossman.

The second book is more fictional but still has a lot of interesting detail. *Blue Russell* by Will Bryant ISBN 0 583 12839 4.

Both were published by the Mayflower imprint of Granada.

An autobiography of a bank robber of the 1880's, Langdon W Moore, was published in Boston 1893 and is supposed to give details of his safe breaking techniques. He is mentioned in one of the novels and the punching of the spindle of a Lillie safe is attributed to him. At the time there was a lot of corruption among the forces of law and order so more information circulated in underworld circles than was good for the honest public. An original copy of the book *Langdon W. Moore : his own story of his eventful life* now costs around one to two hundred dollars, but it is available from a print-on-demand service for around fifty dollars.

Richard Hopkins



There is a concise history of early British safemaking at:
<http://www.safeman.org.uk/aboutsafes.htm>

This page also has a compilation of extracts from the London Trades Directories from 1842 to 1907, listing the leading safe makers and agents of the period who had taken premises in London, with some dates.

The site is full of interesting information on the history of safes, from the man who formerly ran Fishers Safes in Glasgow.

A site selling numerous safe deposit and similar locks on eBay:

<http://www.mooarhillfarm.com/safe-deposit.html>



A handcuff sales site, this page offer modern replicas of some well-known old handcuff, made in Pakistan. In-stock status varies.

<http://cuffslan.com/pakistan.html>

(Continued from page 1)

War, and afterwards a pickpocket. Being of short stature, only 5' 4", he avoided violence. Instead, he became a criminal organiser on an ever-growing scale. In time he would organise crimes by associates in America, Britain, Africa, and Europe. In his adult life, he personally committed only a few crimes. But his empire was vast. At various times he ran a night-club, traded in feathers, and diamonds. But he did burgle banks in his early days. This was the period when safe combination locks could indeed be manipulated by turning the dial whilst pulling on the bolt-control handle. One of his associates was 'Piano' Charlie Bullen, notorious for doing just that — as well as being a fine pianist. Another associate was Max (imillian) Shinburn, Baron Shindell, (he apparently bought the title legitimately in Belgium, though using stolen money), also an expert with combination locks. He was good at picking European key locks, though less proficient at British ones.

Worth employed a mechanic to make burglary and safe-breaking tools, in a workshop at his London villa. There does not appear, however, to have been anything novel in the equipment's design.

Worth's most notorious crime was the theft of the Gainsborough portrait of the young, scandal-plagued Georgiana, Duchess of Devonshire, painted in 1787. Worth stole it (by climbing to, and breaking, an upper window) in 1876 from the art gallery of Thomas Agnew & Sons in Old Bond Street, London. For various reasons, Worth kept the picture until 1901.

The Duchess was a leader of fashion in her own day, and a scandalous example of infidelity. She became a fashion icon again a century later when her image was widely copied on all manner of pictures and other wares, and her fashion, especially her feathered hat, was much copied. The portrait was bought in 1901 by J Pierpoint Morgan. His heirs sold the picture at Sotheby's in 1994. A Mr Smith bought it for £265,500. Nicholas Smith of Curry & Co., solicitors, acted for His Grace the Duke of Devonshire. The picture now hangs in the dining room at Chatsworth House.

Conan Doyle's *The red-headed league* (1891) describes a burglary similar to Worth's burglary of Boylston Bank (Boston, Mass.) in 1876. Inspector McDonald of Scotland Yard interviewed Moriarty in *The valley of fear* (1914), and reports this to Sherlock Holmes. Holmes notes that Moriarty has a painting by the (fictitious) painter Greuze. And adds that another one called *La jeune fille à l'agneau* had fetched £4,000 at a sale some years before. The title properly translates as *Young girl with lamb*; but Doyle's early readers would have known that the young Lady from Agnew's was the Gainsborough portrait of the Duchess of Devonshire!

Worth continued to provide men of letters with inspiration. Holmes later had another opponent, Adelbert Gruner, who embodied elements also of several of

Worth's associates. In 1939 T. S. Elliot published *Old Possum's book of practical cats*; one of them was 'Macavity: the mystery cat'. The book later became a hugely successful musical. Worth might have disliked the publicity.

Worth had another enduring legacy in Britain. In November 1881 on a foggy afternoon near closing time, an accomplice turned off the gas at the meter in the Hatton Garden Post Office, in London's diamond trading district. When the lights went out, Worth leapt the counter, and lifted two sealed registered mailbags containing packets of diamonds. British Post Office's counters were subsequently fitted with framed screens of brass wire mesh, about 3' high. These lasted until being replaced by bullet-proof screens, the upper part of glass to ceiling height, beginning in the late 1960's. Many brass mesh screens survived into the 1970's in small sub-offices.

Worth's associates also provided men of letters with inspiration. G. B. Shaw's play *Pygmalion* (later filmed as *My fair lady*) was first performed in 1913, cloaked in the guise of a classical Greek myth. It was inspired by a Liverpool Irish barmaid, Kitty Flynn, who was sometime Worth's mistress. They lived contentedly in a ménage à trois with her husband 'Piano' Charlie Bullen. As well as being a nightclub pianist, Bullen was good at picking US and European locks, but had difficulty with British ones. He, rather than Worth, appears to be the model for Sydney Paget's illustrations of 'Professor Moriarty' in the *Strand Magazine* (it was actually his brother, Walter Paget). One of Worth's children by Kitty married a South American millionaire; Worth's grandson Juan Trippe created Pan American Airways. Sophie Lyons, friend, thief, and receiver of stolen property, joined the staff of the *New York World* and became America's first society gossip columnist.

'Max Shinburn' was caught in the act of taking impressions of a bank lock in Belgium, in preparation for a burglary. He was later commissioned about 1910 by Pinkerton's Detective Agency to write a history of safe-breaking, *Safe burglary — its beginning and progress*. 'From the early fifties up to the present time the writer witnessed in the most practical manner the evolution of the safe' Shinburn began, with dry humour. The book was so revealing that the manuscript remains, unpublished, in Pinkerton's archives in Los Angeles. Another yeggman of uncertain identity was the inspiration for 'Jimmy Valentine' who appeared in several stories and plays. Although proposed as the model, Shinburn was at large when the original author 'O. Henry' was in prison. The persona of Shinburn was however the inspiration for E. W. Hornung's character *Raffles, the Gentleman Thief*.

Richard Phillips

Visit my eBay Store: antiquekeys

Antiquekeys, which is solely operated by me, James Bramlett, has been bringing you quality keys from around the world for over 8 years. I am a 67 year old, legally blind person who was a locksmith for over 20 years before losing most of my vision 20 years ago. I spend most of my time looking for, cleaning and making up groups of keys to offer you on Ebay.

Most of everything I sell are keys. Most keys are used and will have scratches and minor dings, so they are virtually unbreakable. I try to be accurate in my listings but if I should make a mistake in my description and you wish to return them, I will gladly refund your payment, including shipping. If for some other reason you are not pleased with your purchase, you may return it and you pay shipping costs. You must contact me within 5 days of receiving your package if not satisfied.

Antiquekeys prefers payment by Paypal. However we will accept Money Orders and Checks. We only accept Paypal from international buyers unless another form of payment has been pre approved before end of auction. All checks will be deposited and merchandise will not be mailed until check clears, unless your last 20 feedbacks are positive.

We will ship anywhere in the world. Packages are usually taken to the Post Office daily. We are very experienced packers and will see to it that your package arrives in good condition. We will ship the most reasonable way possible. We will combine items won to save you money. I try to keep quoted shipping charges within a dollar of the actual charge.

Feel free to contact me about my auctions or if you have any specific needs. If I have what you need, I will be happy to list them for you. I am currently setting up my computer to receive skype calls but in the meantime you can contact me at my email address, bramlett@optonline.net

Quadruple, and other multi-bolt, locks

In the early days of all-metal strongboxes and safes, it was thought to be an advantage to have several bolts secure the lid or door. These were originally all operated, directly or by a system of levers, by the key, so the key had to be strong, which meant more or less large. A large heavy key was in itself inconvenient, but when burglars began to put gunpowder into locks, a large keyhole was a liability.

In the early days of 'safes', which were mostly fairly small, the same idea was tried at least a couple of times.

Duce had the idea about 1823. His version had a single-bitted key which operated four sets of lever and threw four bolts in a single turn. Whatever time and trouble is needed to pick one lock is quadrupled—but there is no advantage if the intruder has a duplicate key.

Chubb's quadruple lock was patented in 1846. It had four different locks mounted on the same backplate, locking an eccentric wheel turned by a handle. In this, the four locks are operated simultaneously by a quadruple-bitted key. This key must have been expensive and difficult to make and cut, and carry. However, here, all the sets of levers were different, and the bits could be of different sizes. There was also a control key, operating a small lock which moved a shutter across the main keyhole.

Another form of multiple-bolt lock was made by Gibbons and exhibited at the Great Exhibition of 1851.

As George Price remarked, security could be achieved by simpler means. It is doubtful that many of these locks were made. It is certain that they soon went out of fashion, as they must have been expensive.

Multiple locking remains in use today, but in almost all cases, other than a few small wallsafes, the bolts are thrown and withdrawn by a bolt control handle rather than directly by the key. However, Banham Locks used an additional arrangement in which the original bolt of a door lock, on being thrown, threw out some additional bolts. The modern forms of multi-point locking for house doors, however, normally have the extra bolts thrown by a handle, and only locked by the key.

R Phillips

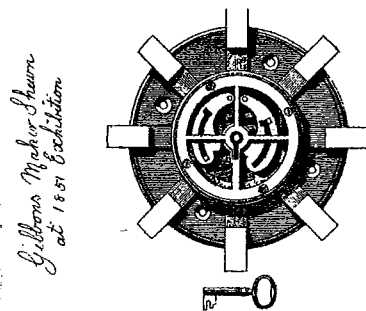
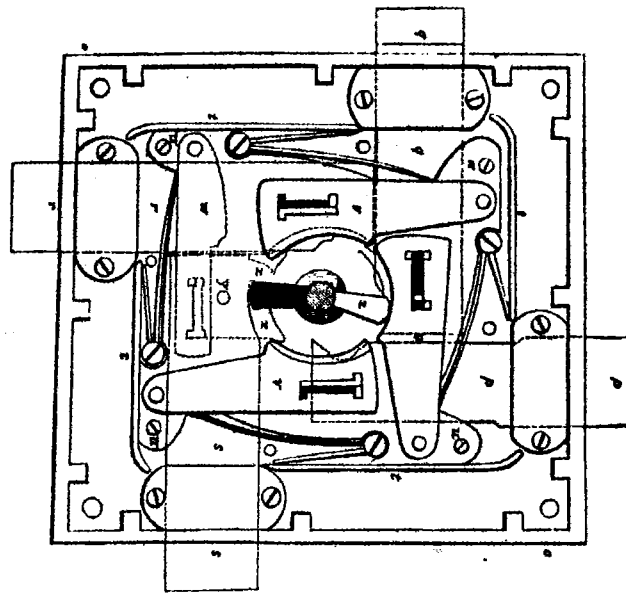
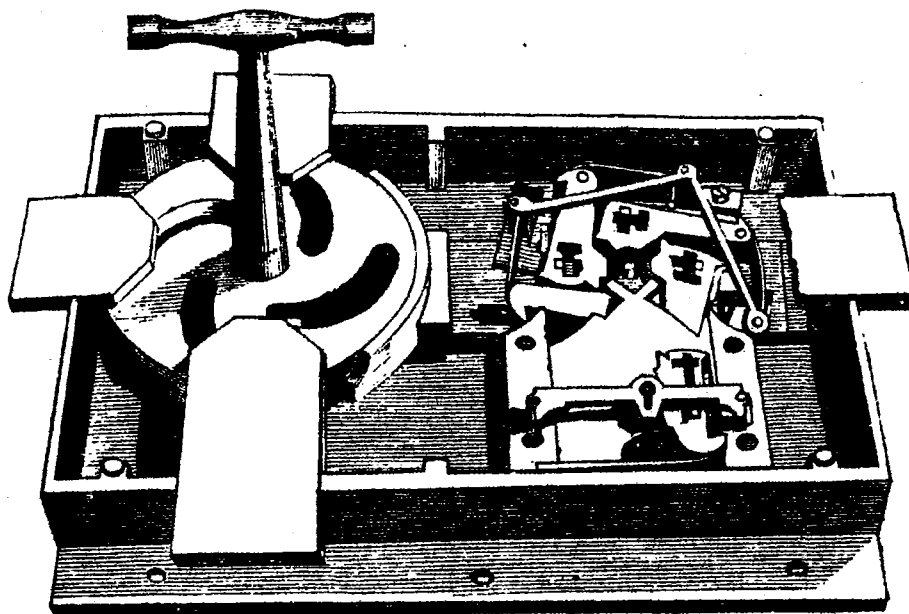


Fig. 220—Multiple Lock.



Duce's quadruple lock



Chubb's quadruple lock

Surely you're joking, Mr Feynman?

Have you met Mr. Feynman? Not unless you have studied nuclear physics! He was an intellectual genius standing next to Einstein as the greatest physicist of our age, a Nobel Prize winner in his field.

But Richard Feynman was a polymath — bongo-drum player, linguist, mind-reader, artist, prankster, raconteur, and much more. Among his other activities was unlocking the secrets of the atom bomb - figuratively and literally!

During World War II, Feynman worked on the atom bomb project at Los Alamos as — his words — one of the 'big cheeses'. The workers were enclosed in the camp almost for the duration, and, apart from a cinema, had largely to make their own amusements to pass the time. Feynman being perpetually curious, learnt to pick locks. Soon he gained a reputation for being able to open the filing cabinets; then the pin tumbler locks were replaced by combination locks, and he learnt to open those.

The locks Feynman was dealing with were Mosler comlocks, fitted to the top drawers of filing cabinets. The bolt directly locked the top drawer. When the drawer was open, the bolt could be seen when thrown out. Feynman habitually leant nonchalantly on a cabinet whilst talking with the colleagues in an office, 'absentmindedly' twiddling with the lock dial, as he conducted a conversation on nuclear physics at the cutting edge of science and technology.

Actually, he was discovering the final number of the combination. When the last combination number has been dialled, the dial is reversed for a final turn, which withdraws the bolt. When the bolt is fully withdrawn, the dial stops. Reversing the dial begins to throw the bolt, but the bolt can be withdrawn by turning the dial in the unlocking direction again. If the dial is turned beyond the fully thrown point, eventually the bolt will not be withdrawn by

turning back the dial in the unlocking direction. At that point, the final combination number has been found. Many of the workers limited the key-space they used by choosing dates. With the last number known, the first two would be up to 12, and up to 31, respectively. Feynman also found that it was not necessary to dial the exact number. One number more or less would still open. Indeed, on those Mosler

locks, two numbers off would still open! Thus it was not necessary to dial every number, only one in five. This greatly reduced the effective number of combinations, to a range that was feasible to try by 'brute force' (i.e.

dialling every combination in turn). Feynman steadily discovered, and recorded, the last numbers of all the office filing cabinets. Thus, when he was occasionally called on to open a cabinet, it did not take him long.

Feynman discovered a way of dialling to try the first numbers, without having to re-dial the last numbers of the combination each time. He also discovered, in the course of two years' intermittent experimenting, that after finding the last number, by the same method he could find the next-to-last number.

Once, he was asked to open a real safe — and found it actually was not locked. That was a huge boost for his reputation!

Later he successfully opened some large safes — to the amazement and horror of the top brass! "In ten minutes I had opened the safe that contained all the secret documents about the plant." After the end of the war, Feynman had an even greater achievement, surpassing unlocking safes containing furs or gold bullion. "I had read in books that when somebody is afraid, his face gets sallow, but I had never seen it before. Well, it's absolutely true. His face turned a gray, yellow green - it was really frightening to

"I had read in books that when somebody is afraid, his face gets sallow, but I had never seen it before. Well, it's absolutely true ... it was really frightening to see."

(Continued on page 10)

Keys that go bump in the night ...

The wooden 'Egyptian lock' dates from two millennia BC, the game of croquet from the 16th century, Newton's 'Third Law of Motion' from the 17th century, and the Yale pin tumbler lock from the late 19th century. Yet the connection really dates from the 1930's, over half a century after the Yale lock began to be widely popular.

Newton's cradle is a well-known demonstration of his law, which is also used in the game of croquet — a game which became popular in England in the 1850's. If an object is held stationary, and receives an impact force, that force will be transmitted to a freely-movable object in contact with the fixed object, causing it to move away.

This phenomenon is the basis of a method of opening pin tumbler locks, in which there are sets or stacks of a pin, a driver, and the support of a spring (in theory gravity could press the driver, but in practice, in metal locks a spring is used). The method was only developed in the 1930's, although the pin tumbler lock with split pins had been potentially vulnerable to it from the beginning. Today, most locksmiths will be familiar with a commercially-made spring-operated device for imparting an impact to the bottom of a pin in a pin tumbler lock. And also with an electrically-operated device which does the same thing more rapidly. Several simple home-made devices have also been devised to achieve the same effect. Descriptions of these have appeared in some published books.

Rapping

Locksmiths had long used a method of unlocking loose cylinders (i. e. cylinders not fitted to a lock, but held in the hand), for servicing purposes. A variation of the method could sometimes be applied to some padlocks, depending on accessibility.

There is yet another method of achieving this effect. It is possible to impel an inclined plane (ramp) into the bottom of the pin. This method has also been known to locksmiths for years, if little used. However, it has recently become more widely known to the public, with publicity on the



"Past experience suggests that most users will simply ignore the insecurity of their locks and continue using them."

Internet and elsewhere.

To see how the bump key works, see this site. It is in Russian, (which I don't read), but as well as a photo of a selection of bump keys, there is an animated demonstration of the operation!

<http://www.question.hu/forum/viewtopic.php?t=9>

The use of a bump key was not introduced until some time later and was first recognized as a potential security issue around 2002-2003 by Klaus Noch, who brought it to the attention of the German media. After further examination of the procedure, a paper was written in 2005 by Barry Wels & Rop Gonggrijp of The

Open Organization Of Lockpickers (TOOOL) detailing the method and its applicability.

The technique then attracted more popular attention in 2005 when a Dutch television show, Nova, broadcast a story about the method. After the method received further publicity from

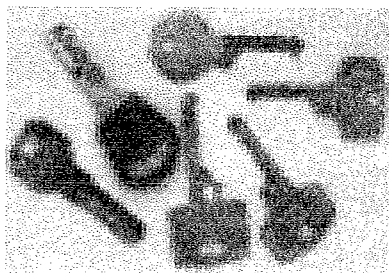
TOOOL presentations at security

conference talks, members of TOOOL and a Dutch consumer group, Dutch Consumentenbond, analyzed the capability of the method on 70 different lock models, and with trained and untrained users, in a 2006 study.

At the same time, Marc Weber Tobias, an American security expert, began to talk publicly in the United States about the technique and its potential security threats. In 2006, he released two further papers regarding the technique and its potential legal ramifications.

The method works on many pin tumbler locks, the device used can be easily and cheaply made at home, the tools needed being commonly found at home, and the precursor device needed is commonly available. This is a threat to the most widely-used lock not only in North America, but throughout the developed world. In Britain, although lever and some patent locks are also used, the pin tumbler lock has been steadily gaining market share of recent years.

Modern publicity



Now that this simple opening method is becoming publicly known, will it affect the popularity of the pin tumbler lock? Or will users simply ignore the insecurity of their locks and continue using them? Will it prompt a shift to electronic locks, for example? Past experience suggests that most users will simply ignore the

insecurity of their locks and continue using them.

Locks having security pins (spool or mushroom pins,

etc.) — even when combined with a regular tumbler mechanism — generally make the method somewhat more difficult, but not impossible. “Dimple key” locks are also vulnerable. Electronic locks, magnetic locks, lever locks, and locks using rotating disks are not vulnerable to this attack.

Because the key device used must have the same blank profile as the lock it is made to open, restricted or registered key profiles are safer from attack, as the correct keyblanks cannot easily be obtained without permission and/or registration with relevant locksmiths’ associations.

Medeco locks are more resistant due to sidebars that must be aligned to a specific depth to enable pin movement and pins chiseled at angles, which must turn a precise rotation to permit a sidebar to release. However, additional techniques exist for this type of lock.

The contest between lockmakers and their opponents will no doubt continue. The new feature of the contest is the amateurs (in the true sense of the word) who explore and expose weaknesses of locks. Such have always existed, and there have been exposés, but in the past, exposés rarely achieved as much publicity and accessibility as is possible today.

Today there are several Internet sites on the subject of bump keys (also called 999 keys), and numerous videos on their making and use. However, video clips appear and disappear somewhat rapidly. There was, for example, a clip of a 6 year-old boy opening a door lock in a few seconds! (but I now can’t find the address, so it might have gone).

For those who would rather buy one, ready-cut bump keys can be bought on the Internet.

Just one example of a lock-bumping website:

http://stadium.weblogsinc.com/engadget/videos/lockdown/bumping_040206.pdf

R Phillips

(Continued from page 8)

see.” That was how Feynman described what happened after he applied some of the psychological tips in a book by a professional locksmith¹.

What he had done was to unlock a safe containing the secret details of how to build an atom bomb! “The whole damn thing!”

Feynman did not write his autobiography, but from numerous interviews with him, and some of his notes, one of his students compiled ‘*Surely you’re joking, Mr Feynman!: adventures of a curious character*².

Locksmiths will naturally turn first to Part 3, ‘Safecracker meets safecracker’, but the whole book

is one of the funniest reads you will read in many years. And no, you don’t need a science degree to enjoy it.

Feynman made some wry observations about people and safes; but he also applied a scientist’s understanding to situations and facts. He concluded, for example, that combination locks did not have anything like the number of differs the makers represent, and that using some sorts of combinations (such as dates) so far reduces the effective number in use that trial of all the likely ones becomes feasible. (Feynman was working in the middle of the century, which reduced the number of combinations which worked as dates in the past, e.g. birthdays, wedding dates)

Although the lock’s dial represents 100 numbers, and the combination has 3 numbers, suggesting 100x100x100 (1,000,000) combinations, it is not truly so. Having discovered the range of error possible on those locks, Feynman found the total number of combinations one needed to try was actually 8,000! After he worked out a scheme by which he could try numbers without altering a number that he had already set, all these could be tried in eight hours. However, on average, only half the maximum time would be needed. And in many cases, Feynman already knew the last, and sometimes also the middle, numbers of a combination. That left a maximum of 20 possibilities (i.e. one in five of a hundred). If the first number were a month, chances of finding it in literally one or two trials were high!

All this Feynman worked out entirely by himself in his spare time, in between designing the atom bomb and visiting his terminally ill wife in hospital. He did, however, have a slight start initially. Someone did explain the pin tumbler lock to him, but Feynman soon found he could open them with the simplest of tools. It is only fair to point out, though, that all this happened a long time ago, and the security world has moved on somewhat. Nevertheless, some of what Feynman observed, especially about the psychology of users of security, remains valid today.

Wherever you open this book (and it is rather a collection of loosely connected anecdotes about a master teacher than a connected narrative biography) you will be amused. Incidentally, a later book about Feynman’s journey to Tuvalu (where on earth is that?) while not quite such an amusing read, is still worth the effort.

Apparently, ‘*Unlocking adventure*’ by Charles Courtney, McGraw-Hill 1942, London, Hale 1951.

Surely you’re joking, Mr Feynman!: adventures of a curious character, Richard P Feynman, with Ralph Leighton, W. W. Norton 1985, London, Counterpoint (Unwin Paperbacks) 1986, ISBN 0 04 530023 2

Richard Phillips

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What am I?

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German cabinet lock repair



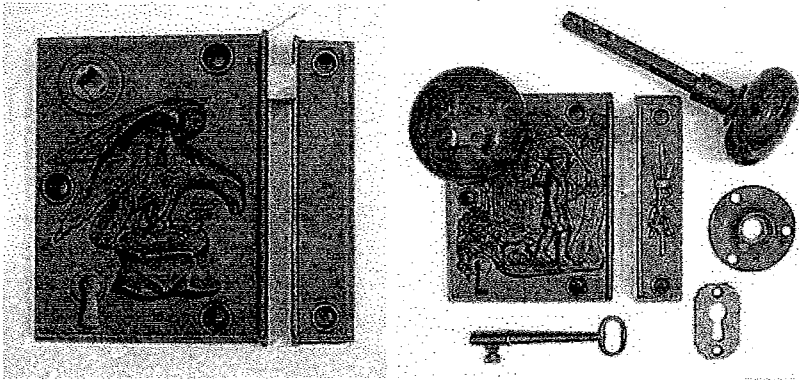
This is the remaining part of a full-length locking arrangement from a sideboard cabinet door. The piece is apparently German, probably 1920's. The ends of this strip are turned over at right-angles and drilled with circular holes, to allow the bolt ends to be shot into the sideboard carcass, in the manner of espagnolette bolts.

There survives no lock, but it was apparently a lever mechanism, the key throwing the bolts directly as it turned. Marks and hole suggest a pin key. Can anyone give any information as to the mechanism, or details of the lock which would have been used?

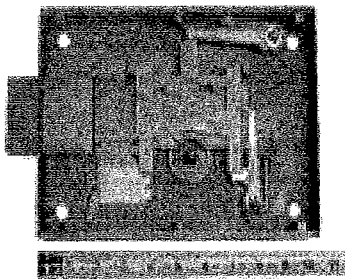
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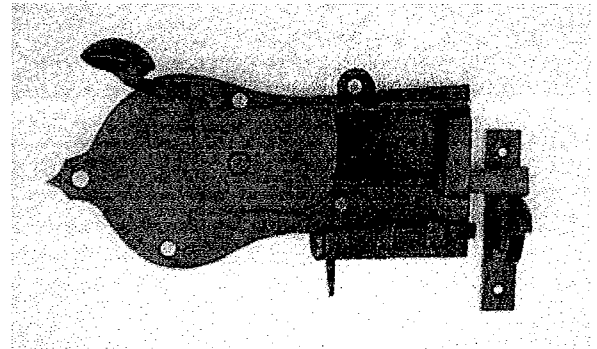
Gallery of locks



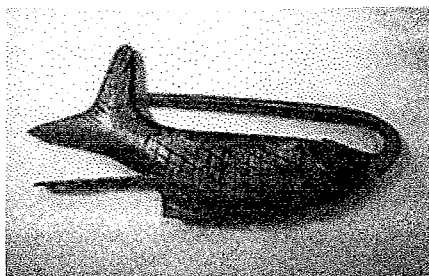
Russell & Erwin Eagle locks, patented 1858. Cast iron, measures 5" high x 3 3/4". Made handed, also with privacy slide. This particular lock (right) is called the Pioneer Lock and depicts a frontiersman with a rifle over his shoulder and his dog at his heels with a wooded background. (at left): There were four other high-relief locks, named "Emigrant", "Pioneer", "Village", and "Eagle". This one is the Eagle. Lock measures 4 1/2" x 3 1/2". Now much sought after.



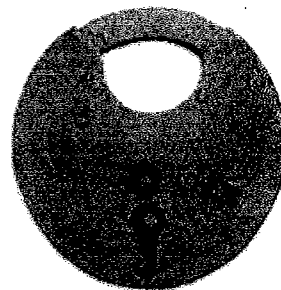
An unusual jail lock from the late 1800's. Made by the J. Deally Company in Louisville, KY, the makers mark can only be found on the back of the bolt inside the lock. This lock uses flat gated tumblers held in place by sprung levers. It has a bridge ward within the lever stack. It also has a detector lever which has been deactivated and a deadbolt relocker which has been pinned.



A rare Moravian open work wrought iron surface mount latch, circa 1800, with a slide privacy bolt (close-up shown below left). The exterior handle was a removable screw-off handle. These latches were made primarily by blacksmiths in Moravian settlements in Pennsylvania, hence the name. Lock body measures 8" x 3 5/8". This type of lock is not reversible and this one is **right hand only** and will fit a door up to 1 1/2" thick. This type of lock was used on both interior and exterior doors as the removable handle was actually used as a "key". When you left home or just wanted privacy, the handle was removed so the latch could not be operated from the outside. Each handle was hand threaded to match each individual lock and handles were not interchangeable between locks. There is considerable variety of detailing.



Chinese brass fish padlock: one of numerous versions of 'fish', popular in China (the fish has some particular significance). New locks are still being made — most of the modern ones being castings.



Right: A familiar form—but apparently rather older than the familiar Abus Discus.