

***GEORGE
HAYTER CHUBB***



***PROTECTION
FROM FIRE
AND THIEVES***

George Hayter Chubb

Protection from Fire and Thieves

EAN 8596547384113

DigiCat, 2022

Contact: DigiCat@okpublishing.info



TABLE OF CONTENTS

PREFACE.

CHAPTER I. LOCKS, KEYS, ETC.

CHAPTER II. THE ART OF BURGLARY.

CHAPTER III. SAFES AGAINST THIEVES.

CHAPTER IV. SAFES AGAINST FIRE.

CHAPTER V. SECOND-HAND SAFES, ETC.

CHAPTER VI. STRONG-ROOMS.

CHAPTER VII. FIREPROOF BUILDINGS.

I. General Construction.

CHAPTER VIII. FIREPROOF BUILDINGS.

II. Patent Systems of Construction, and their Application.

CHAPTER IX. FIRE AND ITS DANGERS.

For Bystanders.

For Inmates.

Accidents to Persons.

Treatment of Injuries.

CHAPTER X. EXTINCTION OF FIRE.

APPENDIX.

Description of the Plan and Section of Fireproof Warehouse.

Patents for Locks and Safes.

LIST OF PATENTS FOR LOCKS AND LATCHES USED AS
FASTENINGS FOR DOORS.

LIST OF PATENTS FOR SAFES, ETC., AND APPARATUS FOR
PROTECTING THE CONTENTS OF THE SAME.

PREFACE.

[Table of Contents](#)

A SMALL book, embracing such subjects as herein treated of, is necessarily somewhat disconnected in its character. In endeavouring to be strictly practical, I fear I have made some portions of the book uninteresting to the general reader; if so, it must be remembered that my chief aim has been to place certain facts before professional and business men, at the same time introducing matter that may be useful to everyone.

I have to offer my best thanks to Colonel Fraser, Colonel Henderson, Captain Shaw, and other Gentlemen, who have afforded me valuable help.

If the importance of protecting life and property becomes in the least degree better understood and appreciated, I shall feel amply repaid for the time and trouble incurred in the preparation of the book.

57 ST. PAUL'S CHURCHYARD, LONDON:

January 1875.

PROTECTION FROM FIRE AND THIEVES.

[Table of Contents](#)

CHAPTER I.

LOCKS, KEYS, ETC.

[Table of Contents](#)

WHEN it is known that cash and securities to the value of upwards of six millions are almost constantly kept in the strong-room of one only of the London banks, it will be understood that the safe custody of valuables is a subject of very great importance. Unfortunately it is a matter that has hitherto been greatly neglected by the general public and professional men; and the ignorance on the part of the majority of people as to what is real security, has given rise to this attempt to place a few facts together that will be of general use. The incidents relating to fires, burglaries, &c. are gathered from authentic sources, and from private records that have been compiled during many years.

Although before the last ten years there were but few persons who employed their skill to foil the increasing attempts of safe-breakers, the subject of locks had long been thoroughly considered. The great interest taken in the lock controversy at the time of the Exhibition of 1851 showed that there were many persons not indifferent to the efforts then made to improve the quality of locks; but it was not until the great burglary at Cornhill, in 1865, that safe-making was fairly investigated by the public. Sufficient proof of this is that in the sixty-four years preceding 1865 only twenty-eight patents for safes were registered, while in the nine years following there were no less than 122. Being myself engaged in the manufacture of locks and safes, I

have, of course, some knowledge of their construction; and shall endeavour to state facts that apply to the work of every maker, and my opinions formed by practical acquaintance with this manufacture, and guided by others who have previously written on various branches of the subject.

Locks have, it is said, been in use for above four thousand years in Egypt; anciently these were mostly made of wood, and it is a remarkable thing that the locks that have been in use in the Faroe Islands for many centuries so closely resemble those found in Egyptian catacombs as to be scarcely distinguishable from them. More modern, but considered now to be old-fashioned, are the letter lock and warded lock; later still are the patent locks of Barron, Bramah, Chubb, and others. It is not necessary to describe the variations in all these; it may suffice to say that the most trustworthy are those with levers and tumblers, and protected in other ways from false keys and picks. One chief point of security consists in a lock being so unlike any other that no key but its own will open it; and a 3 in. Chubb's drawer lock can have no less than 2,592,000 changes made in its combinations. Mr. Tildesley, in an article published in 'Once a Week,' mentions a lock which had a chime of bells connected with it in such a manner that no sooner was the skeleton-key of an intruder applied to the lock than the latter began to chime a plaintive air, such as—

Home, sweet home;
Be it ever so humble,
There's no place like home.

A sentiment in which the housebreaker would doubtless concur as he took his precipitate flight.

It is obvious that locks are only secure so long as their keys are properly taken care of. This is of the utmost importance, for some keys can under favourable circumstances be made merely from a wax impression by a clever workman. Numbers of robberies take place through keys being left about, and to the lock is laid the fault which ought rather to be charged to the careless owner of the keys.

Some people expect perfect impossibilities, and imagine that, having obtained a secure lock, they have done all that is necessary. No lock whatever will guard against culpable negligence with regard to its key; or, as in the famous South-Eastern Railway bullion robbery, the treachery of supposed trustworthy servants. It will be remembered that the notorious lock-picker Agar said the robbery on this railway would be impossible unless copies of the keys could be taken. By the connivance of a guard named Tester this was accomplished, and yet the duplicate keys thus made were useless until Agar had travelled seven or eight times to Folkestone with the chests, altering the keys until they fitted.

Since 1851 many improvements have been made and adopted in Chubb's locks, and more still have been tried and rejected, as interfering with their proper working. Complexity of action in any lock will sooner or later invariably prove fatal to its success. A lock is unlike a





MASTER-KEY OF THE DUBLIN INTERNATIONAL EXHIBITION,
1865.

watch or other delicate machine that is treated with a considerable amount of carefulness; it is subject to every day hard wear and usage. Absolute perfection is perhaps as unattainable in locks as in other matters; nevertheless the present is an age of progress, and a more perfect lock may perhaps be invented some day. Lock patents by scores have appeared within the last twenty-one years; some good, others indifferent or bad in principle, and many of them embracing as new ideas certain principles of construction long since exploded or laid aside. Of those practically defunct (and they are many), my opinion of them is that the

ingenuity of the inventors has generally been allowed to over-run their perception of the before-mentioned fact, viz., that a lock is a very hardworked machine, and that in its construction simplicity is as necessary an element as security.

A good lock cannot have a key made to it unless another key is available to copy from or the lock itself can be broken open. Of this latter fact London burglars have not been slow to avail themselves, and they have tried it in the following manner. It should first be said, for those not acquainted with the mode of securing warehouse and office doors at night, where the buildings are left unoccupied, that such doors are usually fastened with a large rim or mortise lock of the ordinary kind. When this is locked from the outside a small flat bar, that is secured at one end to the door, is put across the keyhole to a staple thereon, fastened by a padlock. The advantage of this plan is that the inner lock cannot be touched, the keyhole being closed while the outer lock is secure; and this padlock being visible, the police in their rounds can tell by a glance under the light of the bull's-eye whether or not it has been interfered with. But there is such a thing as forcing a padlock completely open, with proper appliances; and some clever burglar watching the policeman off his round past a warehouse in Watling Street, one night, wrenched the padlock off and supplied its place by a common one, the outside of which in the dark resembled the one previously on. He then took the patent lock away, got one side off, cut out all the works, so that anything like a key would at once open or close the bolt, fastened the side on as neatly as was possible, took it back

to Watling Street again, and watching his opportunity took his own lock off and refixed the empty shell of the patent lock. The purpose in all this was that next night he might at once open the padlock, force the inner lock, and enter the place, while a confederate would doubtless



SPECIMENS OF ORNAMENTAL KEY HANDLES, REPRODUCED, BY PERMISSION, FROM 'THE BUILDER.'

replace the padlock as if all were right. The success of the scheme depended chiefly upon the padlock or its substitute always being on when the police came round; but, fortunately for the owner of the premises, the attempt

was frustrated by the mere chance of the patent lock (now without works and found next day to open rather stiffly) being brought to be examined, when the burglar's attempt was at once discovered. Further revelations of this trick were made to the police by a convict who died while undergoing a long term of imprisonment, and after his disclosures no less than *twenty-seven* padlocks were found in use in the City the works of which had all been taken out, to await the thieves' opportunity, and done in such a clever manner that only the closest inspection could detect it. Two of the locks served thus were on a jeweller's door, which shows the importance of preventing this mode of robbery. Such a well-planned scheme required an improvement to be made in the padlocks, and there is now largely in use what is known as the 'police padlock,' a lock which when once forced asunder is so injured that it cannot be repaired without being entirely re-made, so that if one should be taken off its door by a thief it cannot be put back again.

This is but one of the numberless instances that require the attention and thought of the careful lockmaker; and the other instances that will be given show that with respect to safes it requires yet greater skill to foil the cunning of modern burglars.

The whole of Chubb's locks are made by hand, and differ one from another. The difficulty is not to make them to differ, but when such are needed to make several alike, for a touch of the file will completely alter a lock.

It is so essential for good locks to be totally unlike each other that we continue to make by hand only, although the cost is in consequence high. Machinery would and does

produce well-finished and serviceable locks, but the changes and combinations cannot vary as with hand-work. 'So extensive are the combinations,[\[1\]](#) that it would be quite practicable to make locks for the doors of all the houses in London with a distinct and different key to each lock, and yet there should be one master-key to pass the whole. A most complete series was constructed some years ago for the Westminster Bridewell, consisting of 1,100 locks, forming one series, with master, sub-master, and warders' keys.

'At any time the Governor has the power of stopping out the under-keys; and in case of any surreptitious attempt being made to open a lock, and the detector being thrown, none of the under-keys will regulate it, but the Governor must be made acquainted with the circumstance, as he alone has the power, with his key, to replace the lock in its original state.

'It need scarcely be stated, that Barron's, Bramah's, Chubb's, and most other locks are adapted for all purposes, from the smallest cabinet to the largest prison-doors or strong-room.

'As has been already stated, various and numerous patents have been taken out. Ingenious, however, as are some of the arrangements, they appear to have complicated, rather than simplified, the general construction.

'It is submitted that the true principles of perfect security, strength, simplicity, and durability should be combined in every good lock.

‘1st. Perfect security is the principal point to be attended to, as without it no lock can be considered as answering the intended purpose.

‘2nd. The works of a lock should, in all cases, possess strength, and be well adapted, especially in the larger ones, to resist all attempts to force them open; and both in the larger and the smaller kinds the works should not be susceptible of injury, or derangement, from attempts with picklocks or false keys.

‘3rd. Simplicity of action is requisite, so that any person having the key, and being unacquainted with the mechanism of the lock, should not be able to put it out of order.

‘4th. The workmanship, materials, and interior arrangement of a lock should be so combined as to ensure the permanent and perfect action of all its parts, and its durability under all ordinary circumstances.’

Besides the better class of locks made in South Staffordshire there are really trumpery locks made in abundance, and Willenhall enjoys an unenviable celebrity for the cheapness and worthlessness of its wares. There is a familiar saying that if a Willenhall locksmith happens to let fall a lock while in the process of manufacture he does not stop to pick it up, as he can make another quicker. The late Mr. G. B. Thorneycroft, who once lived at Willenhall, is said to have been taunted with the fact that some padlocks made there would only lock once, but when told the price of them was twopence each he replied, ‘It would be a shame if they did lock twice for that money.’ The total weekly production of locks in the whole district was stated in 1866

to be no less than 31,500 dozens. A very large proportion of this enormous supply goes to foreign markets.



CHAPTER II.

THE ART OF BURGLARY.

[Table of Contents](#)

IN order to show the absolute necessity of secure locks and safe depositories for property, especially in banking establishments, it may not be out of place just to trace the systematic care and great sagacity with which large burglaries are planned. An unsuccessful attempt, where the booty is of any magnitude, is seldom made. The first-rate 'cracksmen' always know beforehand where to go, when to go, and what they are going for. When a 'plant,' as it is termed, is made upon a house or a bank, precise information is gained if possible as to the depository of the valuables, and if it is found that the safeguards are so strong in themselves and the locks so invulnerable that there is but little chance of success, the affair is quietly dropped; but if otherwise, then no expenditure of time or misapplied ingenuity is spared to gain the desired end; the house is constantly watched, and the habits of its inmates observed, their ordinary times of going out and coming in being noted. Possibly the confidential servants are bribed or cajoled, and induced to leave the premises when their employers are absent, so that impressions may be taken from the locks, and false keys be made.

When all the keys required are ready, generally one or two men who have not been previously initiated are called in, and receive their instructions to be ready at a certain hour on the following day to enter the premises. A plan is

put into their hands; they are cautioned to step over a certain creaking stair or board, and the false keys of the different doors are given to them. The inmates of the house being absent, their servant takes advantage of this fact to fulfil a long-standing engagement with his or her new and liberal friends; a signal is given; the two confederates enter; the so-called safe is swept of its contents; all the doors in the building are carefully re-locked, and not until the house is opened for business next morning is the robbery discovered.

Many years ago there was a bank robbery at a town in Kent, effected as follows: Two respectable-looking and well-behaved men went to the principal inn of the town and informed the landlord their object was to look out for and purchase a small estate in the neighbourhood. They stopped there for nearly three months, taking frequent drives in their gig, lived well and paid well; and at length took leave one market-day between twelve and one o'clock, much to the regret of the landlord, who felt sorry to lose such unexceptionable customers.

These men were thieves, and at a few moments past one o'clock that very day robbed the bank of nearly £5,000.

The banking-office was the ground-floor of a house in the Market Square, and the manager never left the cash there at night, but always took it to his own residence near by. He was accustomed, however, with the clerk, to be absent from one till two o'clock in the day at his dinner, during which time the money was put into the safe and the premises locked up.

It appeared that all the arrangements of the business were perfectly ascertained and understood by the two sojourners at the hotel, and that the necessary impressions of the locks had been taken on various nights and the false keys made.

On the day in question the gig was taken just outside the town. One of the men went back, and in mid-day unlocked the street and internal doors, opened the safe, took out the money, and then the two set off to London with their booty and got the notes cashed the same afternoon. After locking the safe the burglars slipped a small ring over the key-pin of the lock, so that when the manager on his return from dinner tried to open it with its proper key, the key would not enter. A smith was sent for, and it was four hours before the safe was opened—too late, of course, for any effective pursuit.

A more recent and notable instance is that of a daring burglary which took place at Mr. Walker's, the well-known jeweller of Cornhill, in 1865, the whole facts of which came to light in consequence of one of the gang volunteering a confession during an action arising out of the robbery. I am indebted to the 'Times' newspaper for the following particulars, which doubtless are still fresh in the memory of some persons: The robbery had been elaborately schemed, and was only accomplished by a regular expedition of well-equipped thieves. The cleverest of the gang had taken Mr. Walker, his family, and his habits under the closest surveillance for seven weeks before, night and day, until at last everything connected with his business and his practice was thoroughly known. This information being complete, a

party of five of the robbers repaired to the premises at ten minutes past six on the evening of Saturday, February 4, 1865. The house was let and occupied in floors, Mr. Walker's shop being on the ground-floor, Sir C. Crossley's offices immediately above, and other offices above those, while below the shop was a room tenanted by a tailor. The occupants, when the thieves arrived, had not yet all left for the night, but the offices on the second floor were empty, and to these three of the robbers at once ascended by means of the common staircase, and there took up their first position, the other two remaining in the street to watch and give signals. At twenty minutes to eight the signal was given by the confederates outside the house that Mr. Walker's foreman, who appears to have been the last on the premises, was gone, and their operations commenced.

It was past midnight before the three robbers inside began their most important work. Mr. Walker's shop was secured by iron doors or partitions, but the thieves directed their attack against the floor, which had not unnaturally been left with less protection. They got into the tailor's room, on the lowest floor, mounted upon his cutting-board and forced their way through the ceiling and flooring to the shop above. Having thus effected a lodgment against the real point of attack, they distributed the duties of the night. Of the two thieves stationed in the street one was to be on the watch, lest Mr. Walker or any of his people should return to the house, while the other was to keep guard over the police and give warning whenever a constable approached. Inside, one of the gang sat upstairs in Sir C. Crossley's arm-chair, at the window of the second floor, to notice the

sentries in the street, and the signals of these men he communicated by means of a string to his comrades in the shop.

One of these handed up such instruments as were wanted; the other at length opened the safe (by wedging, as described on p. 36); so that at a quarter to four they washed their hands in the office upstairs, and an hour later were miles away on the Guildford road.

The success in this happily unique case was due to the desertion of the premises for six-and-thirty hours together. The men did not get into the shop till one-and-twenty hours after the commencement of their operations. Aided by time, the science of the housebreakers was successful. The police passed the place every nine minutes, but with such deeply-laid plans were not likely to detect the mischief going on, and so the thieves escaped for three weeks, when a part of the stolen property was traced and the rascals themselves ultimately captured. Caseley, the reputed leader of the gang, stated that he had had a great deal of experience in opening safes, and there is no doubt he was a clever man; but I believe a part at least of his subsequent statements were exaggerations, likely to be indulged in by a man placed in his position.

Very few cases of the kind, however, show such determination and skill, and thus almost the first robbery in which wedges were used in safe-breaking must rank as one of the most remarkable of our times.

When a large amount of property of either cash, plate, or jewels is deposited in one place, it really is in fact offering a premium to robbers, unless fit receptacles for such property

are provided. Notwithstanding the cunning, ingenuity, or violence of the professional burglars, means are at hand by which they may be effectually baffled, and all who are interested in the matter should see that their patent locks or iron safes are really what they ought to be—impervious to fraud and force.

The axiom that ‘the best is the cheapest’ will hold good with locks and safes, as with most other things. Let it be remembered that first-class work must be done by the best and most skilful workmen, and that to secure them a high rate of wages must be paid.

Most of the house-robberies so common in all large towns are effected through the common street-door latches in ordinary use being opened by false keys. It is a notorious fact that thousands are made year after year, but which do not afford the least security, as they are all so made that any one key will open the whole, and it is not until the owner has his hall cleared, or his plate carried off, that he finds out that his apparently complex key is a mere sham, there not being in the lock a single tumbler or ward to correspond with the cuts in the web of the key. At a very low computation at least three-fourths of the houses in London can be entered by false keys, and it is simply owing to the vigilance of the often-abused police that robberies are not more constantly effected.

The following particulars, kindly furnished me by Colonel Fraser, of the City Police, will show what facilities are placed within the reach of burglars by careless householders.

Return of Premises found open, or otherwise insecure, by the Police