Thieves v. Locks and Safes.

EVER since man has been possessed of anything worth keeping, some other man has been at work to get it away from him without paying for it. When the property was cattle and tents, then he took who had the power, and he kept who could—with a club or other means of solid argument. But when jewels and money came into fashion, and people used houses with doors to them, things became more orderly, and a gentleman who wanted another gentleman's portable property had to go about the matter quietly. As experience taught him that it saved trouble to select a time when the owner was out or asleep for making selections in a strange house, the owner naturally began to fasten his door—with a bolt. He would put a staple in his doorpost and two more on his door, and slide a wooden beam through the three.

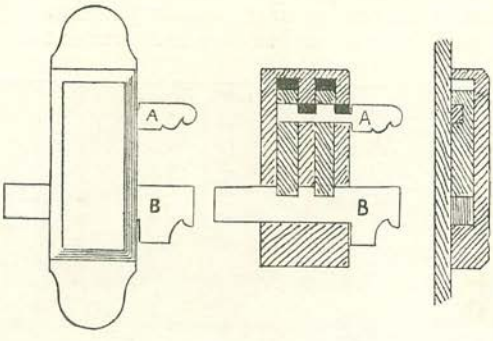


FIG. 1.—PRIMITIVE WOODEN TUMBLER LOCK.

We do precisely the same thing now with an ordinary iron bolt on the same principle. This was a capital arrangement to sleep behind, but didn't admit of going out shopping with security, so that soon a hole was made in the top of one of the staples, and another corresponding to it in the bolt. Then a pin was dropped through these holes, and held all fast. This was done from outside through a hole in the door, the forerunner of our own keyholes, with an instrument conveniently shaped both for dropping and lifting the pin—the ancestor of our own familiar key of the street. With a handle to slide the bolt to and fro, the primitive lock was complete. Wooden locks of this kind are even now in use in certain remote parts of Austria and in the Faroe Islands; whence it may be inferred that in those happy spots man has a singular trust in his neighbour.

Almost anybody could open a lock of this sort, so that an improvement was wanted. The illustration (Fig. 1) shows the first improvement. Two or more falling pins were used—they were afterwards called *tumblers*—and these pins and the part of the bolt into which they fell were inclosed in a box, shown in the outer view. The key (*a*, Fig. 1) was provided with certain projections which fitted into notches cut into the bolts, so that when inserted at the side of the box, and lifted, it raised the tumblers from the holes in the bolt (*b*), and allowed the withdrawal of the latter.

Now, it is obvious that unless this wooden key were made with its projections at such a distance apart as exactly to correspond with the notches in the tumblers, and of the same number, one or more of these would not be lifted, and the bolt would remain immovable. So that here was some sort of security against other keys than those held by the owner. Identical in principle, though rather neater in application, is the wooden Egyptian lock, still in use, shown in Fig. 2. Here the bolt (*b*) is made hollow, and the loose key (*a*) is provided with little pegs with which the tumblers are pushed up, when the bolt is drawn back in the direction indicated by the arrow. This is all done with the key, so that this lock possesses the advantage over the previously-mentioned one of only demanding the work of one hand.

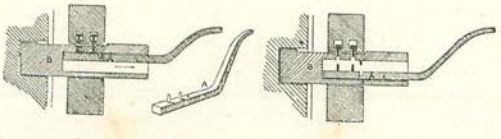
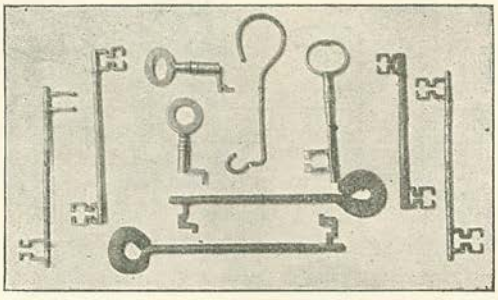


FIG. 2.—EGYPTIAN WOODEN LOCK AND KEY.

Although it was possible to make these locks and keys in any number of different patterns, it required the expendi-

ture of very little ingenuity on the part of the Bill Sikes of early ages to dodge them. A simple picklock, with a movable peg or two, and a little patience were all that was required. The Romans made a gallant attempt to defeat these picks by making the tumblers of all sorts of sections—triangular, square, semi-circular, etc.—but the device was scarcely worthy of the Roman genius. Obviously a mere peg, if only thin enough, was enough to lift a tumbler, no matter of what section. One improvement, however, the Romans made. They kept the tumblers down by springs, instead of allowing them to rest by mere gravitation, and thus, with the addition of a revolving key, produced in all its essential parts the common tumbler lock to which we moderns went back within the last century or so.

But in order to secure these locks against picks it became customary to interpose all sorts of obstacles, of various shapes, cutting each key to a shape to pass these obstacles. This gave rise to the system of *warding*, which, during the Middle Ages, was almost exclusively relied upon, tumblers being scarcely used. A revolving key was made to act upon and shoot a bolt direct, but the way to this bolt was guarded by a complicated system of wards. Now, it is impossible to devise wards which skeleton keys and picklocks cannot defeat. You make a great key cut into a perfect fretwork, and in the lock provide complicated wards which this fret-work just passes. Immediately there comes a burglar with a mere wire frame of a key, which overcomes all these wards by simply ignoring them, passing its thin frame round, behind or before the whole system, and easily shooting the bolt. So that a hundred and fifty years ago or more the old tumbler system (modified) was returned to.



PICKLOCKS AND SKELETON KEYS.

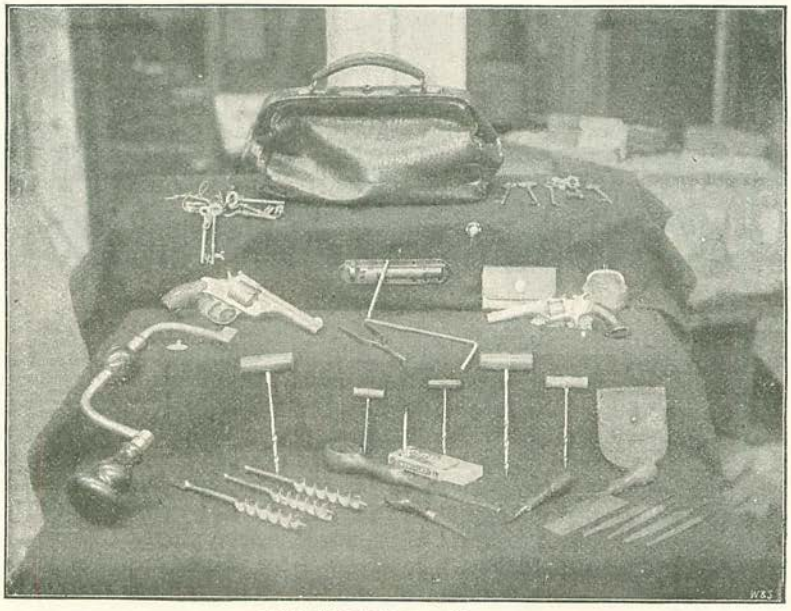
Here the tumblers were mere horizontal pegs pressed down by a spring into notches on the bolt. This was still guarded by certain simple wards, and such a lock as this is the ordinary cheap door-lock of to-day—scarcely more secure, however, against the picklock and skeleton key than a simple warded lock. The accompanying illustration is from a photograph of certain skeleton keys and pick-locks actually used by burglars upon ordinary modern locks. The more common skeleton key is an ordinary key with all the wardings filed out of the bit, as is the specimen on the right of the wire picklock shown in the centre of the group.

In making a skeleton key of this sort, it is a principle to file down the shank and bit as thin as possible, consistent with strength; because no matter how much thinner these parts may be than those on the proper key, they will still do their work, while the least excess in thickness will either prevent the instrument entering the lock or cause a jam. For this reason, too, a barrel shank is filed down flush with the last arm of the bit, as is seen in the two small keys here represented. The double-bitted picklocks shown on either side are, of course, specially made for portability and convenience, and designed to suit the various usual types of warding. The two bits of each instrument are commonly of very similar patterns, with a little variation in size or measurement of warding, so that when a lock is tried which one end will almost pick, but not quite, the other end is handy and almost certain to act. The principle of keeping all the parts thin as well as strong and stiff is well exemplified in these double-bitted picks. A pick of stiff bent wire is a very handy, quickly prepared, and commonly used article. The one here shown is used for shooting the plainer kind of bolt, lock or latch, and is also convenient for pushing through the keyhole of a small latch, and moving the finger-catch on the inner side.

Skeleton keys are, of course, to some extent defeated by the well-known modern lever-lock. In this a number of small levers, fixed at one end and held down by a spring, must each be lifted to a certain (different) height before they will allow the bolt to be withdrawn. Any number of combinations are possible, and the least inaccuracy in any part of the key is enough to prevent action, since one or other of the levers must be lifted too high or too low. But a skilful man will get at the bolt, and applying pressure to free it back, deal with each lever in succession with a wire pick till the projection from the bolt will pass. But he will probably prefer to break the door—a much simpler task; which brings us to the matter of safes.

An impregnable lock is useless on a weak box or door. And in almost any case it is a simpler matter to use force in breaking or cutting through a door, or breaking the lock away from it, than to use patient guile in picking the lock. So that safes and strong rooms came into being. At first these were the coffers of romance and the Middle Ages —either strong oak boxes with bindings of iron, or made entirely of metal and fastened usually with a padlock. But in these later days criminals became more effective and systematic workmen, and the safe (which meantime, for convenience, had been set on end, with a door instead of a lid) assumed the shape now familiar to us, being made of various designs in iron and steel, and fastened as to the door with many bolts shooting from every side.

Now, the tools of the modern housebreaker are many and varied, and consist of many things beside skeleton keys. Here is a copy of a photograph of a very simple set, taken, not from a burglar, but from a mere hotel thief, whose practice was to take a bedroom in such an establishment, and to pay quiet visits during the night to other customers' bedrooms. One of his most useful tools was the small pair of pliers shown in the middle of the group, near the muzzle of the revolver on the left. This was a long-nosed instrument with a cylindrical grip. When a visitor with valuables in his possession locked his bedroom door on retiring, and like a careful man left the key in the lock to prevent anybody trying a picklock, he saved our *chevalier d'industrie* a lot of trouble. That worthy simply placed the long nose of his pliers in the keyhole, gripped the shank of the key and turned it. The door was open and free for him to enter very quietly and make his judicious selection. After doing this it was only necessary to retire and lock the door again with the victim's own key in the same manner. The surprise of the said victim on rising and finding the door locked and the key on the inside, and all his valuables gone, may be imagined.

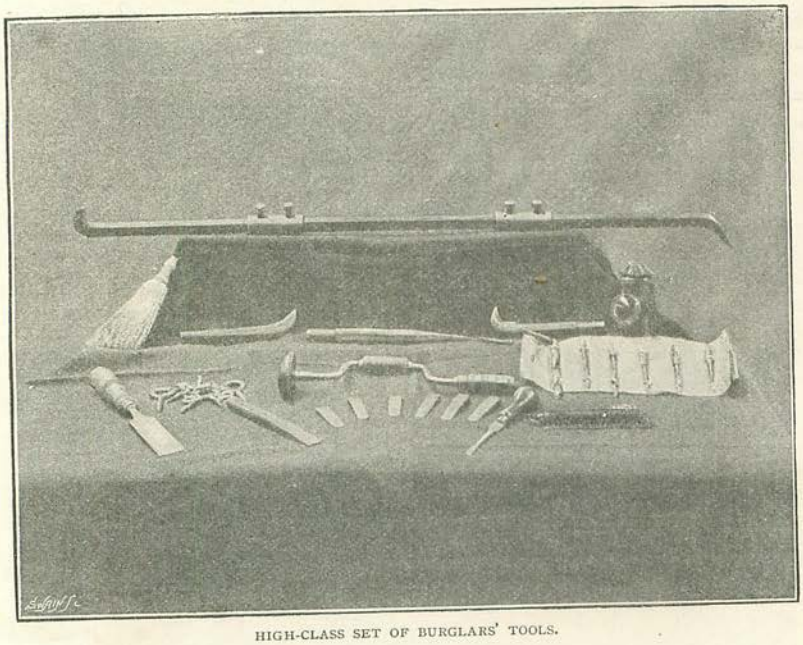


COMMON HOUSEBREAKER'S TOOLS.

The crooked metal rod almost touching the pliers is another interesting implement; it was used to unfasten small bolts—the small brass bolts (one is shown just above) fixed half-way up a door. At the angle nearer the pliers is a hinged joint, so that the two pieces may be straightened out like one rod. This being thrust through a keyhole, the hinged end is allowed to fall across the bolt-fastening; a very little firm and skilful handling is then necessary to push back the bolt. The small bolt here shown, by the way, was used to fix temporarily on the door of any unoccupied room in which the gentleman might be pursuing his profession, to prevent intrusion or surprise. The other articles—comprising silent matches, a brace and bits, gimlets, a saw, screw-drivers, files, picklocks, pistols, and a neat crocodile-hide bag to hold them all—have uses too obvious to need explanation.

None of these tools, however, are designed for the attack on an iron safe. Here is a different group—a group of tools of the very first quality. They were found hidden in certain empty rooms in Cannon Street over a post-office, together with a quiet little syndicate of two or three gentlemen who were

anxiously awaiting nightfall. It is sad to observe that not only were these gentlemen deprived of the possession of these admirable instruments, but that an unsympathetic administrator of the law sent them to gaol. The long article at the top is the most splendid jemmy ever captured. Five feet in length, it is made of the best tool-steel procurable, in three pieces: this partly for convenience of carriage, and partly to enable "beaks," or business ends, of various shapes to be used. The three additional beaks are shown on the ledge below, and the joints are fastened by collars and set screws, these being tightened by a little steel "Tommy," which lies, in the picture, close by the point of the extra beak in the centre. So well, however, is the whole thing made and fitted, that mere screwing with finger and thumb will suffice to hold the entire five feet as rigid as a single rod. There is also a brace, with bits, for drilling iron or steel, a carpenter's chisel, a cold chisel, a screw-driver and half-a-dozen steel wedges of graduated sizes, certain staples with which to improvise door-fastenings and guard against intrusion, a bull's-eye lantern, and a neat brush with which to remove any unseemly dust caused by the operations contemplated. Charming little set, isn't it? You see, by drilling a hole or two in any ordinary safe—supposing it to be of the sort known as "fire-proof only"—and inserting the jemmy, with one of the loose beaks shown on the right or left, which have both sharp edges, the sheet-steel could be ripped open like the lid of a sardine tin.



HIGH-CLASS SET OF BURGLARS' TOOLS.

Supposing the safe to be of stouter construction, then the thinnest of the wedges would be driven between the edge of the door and the frame of the safe. By the side of this, one a little larger would be insinuated, and the first would be withdrawn to make room for one a little thicker than number two, and so on until the round-ended beak of the jemmy—shown fixed—could be introduced, when the jemmy would become a long lever, and moderate force applied to the other end would fetch out the door, tearing it away from the lock, case and bolts. Not very many of the common safes ordinarily sold, no matter how good might be the locks, could long resist one or two clever burglars with this little bag of tools. Still, it is reassuring to know that safes can be built, and are built, which are, practically speaking, impregnable. These, however, as it is natural to expect, are expensive safes by the very best makers, such as Messrs. Chubb, a visit to whose works will teach the curious inquirer many things.

These are great workshops, where is kept up a continual roaring and clanging, for iron and steel are here being rolled, bent, planed, cut, drilled, and riveted in large quantities. Here and in the adjoining workshops everything in the way of a lock or safe is made—from a little casket like a small ordinary cash-box, with a delicate lock the size of a sixpence, up to a strong room weighing a hundred tons and more, with many dozen great locks and many score of great bolts.

Mr. Harry Chubb, the presiding mechanical genius of the firm, takes us in hand and, under his guidance, we learn all that a man

may learn of locks, safes, and burglars in an afternoon's study.

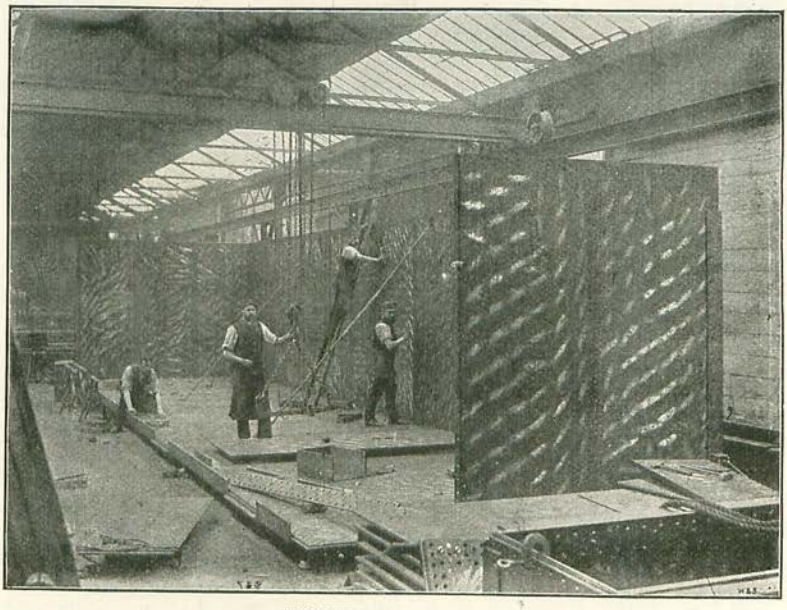
Now, to understand the matter of safes, it must be borne in mind that a fire-proof safe and a thief-proof safe are two different things altogether. It is often required to place books and documents in a place secure from fire, without any special protection against burglars, to whom the books and documents would be valueless and worse, and who, consequently, would never carry them away. A merely fire-proof safe, then, is made in the familiar pattern of sheet-steel, or tough wrought-iron, the walls being hollow and forming a surrounding chamber for the reception of fire-resisting composition. This is a compound of alum or saltpetre with either sawdust or fine sand, which, when heated, generates steam, and keeps out heat on the same principle that the water in a tin kettle prevents the bottom from burning.

In the best safes, the door, too, is made air-tight round the joints. There is, of course, a steel or wrought angle-iron frame, and a good safe of this kind will often withstand considerable violence, but still it is not a thief-proof safe. A thief-proof safe must have walls which resist drilling, punching, and tapping; which, nevertheless, are not so hard as to crack under heavy blows; and the door must be secure against wedges and forcing from the edge. Then a combination safe may be required, both fire and thief-proof; in this case the fire-resisting chambers go inside the thief-proof walls, or in some cases a safe is built within a safe, the outer being fire-proof and the inner burglar-proof.

Now, wrought-iron and mild steel are tough, and will not crack at a heavy blow; but then they are soft and can be drilled through. There is a most ingenious burglar's tool which was used not very long ago at Nottingham, which renders a safe-door of wrought-iron or mild steel quite useless as a protection. It is simply a steel lever. Near the edge of the door a screw-hole is tapped, and into this is screwed a bolt with a hinge-shaped top. On this the long steel lever hinges, the short end taking a fulcrum against a steel block placed against the edge of the safe side-wall, close to the hinged bolt; and the other end, stretching away across the front of the safe, is provided with a screw arrangement which applies a great outward dragging power, so that the door is torn clean away from the bolts and lock in the lock case.

The obvious means of defeating this is by having a steel door so hard that it cannot be drilled or tapped; but then steel so hard as this is brittle, and will crack and smash, so that a compound plate is resorted to, in which layers of mild steel or wrought-iron and hard, undrillable steel alternate. Thus the enterprising burglar, drilling through the soft outer steel or iron, goes a mere eighth of an inch or so, and is brought up by steel which simply takes the point off his drill, and any attempt to smash this sheet of hard and brittle steel is defeated by the protecting coat of tough soft metal in front and behind. But to roll sheets of compound metal in this way, which shall be undrillable in every part, is not so easy as it looks.

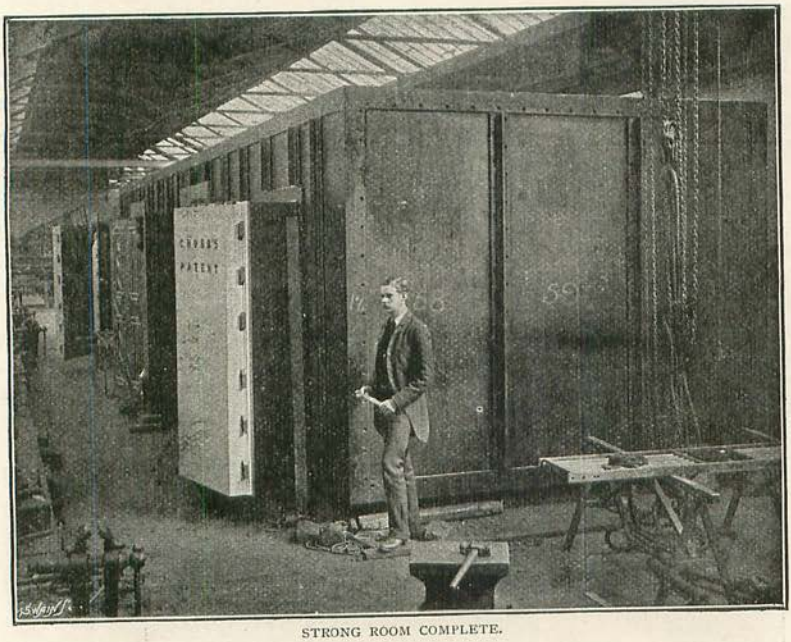
Messrs. Chubb made endless trials with every known material before arriving at a kind of steel which would roll to large sheets and retain its hard quality throughout. They



BUILDING A STRONG ROOM.

now use chrome steel (a steel containing, besides a high percentage of carbon, a certain proportion of chromium) laid with Siemen's mild steel in three-ply or five-ply sheets, and this has resisted whatever burglarious tests have been applied. Of course, everything *can* be punched through, with heavy machinery and time, but the comfort is that the ingenious burglar has neither.

Rolled out, hammered by hand to perfect flatness, and cut to properly sized sheets of the right thickness, the safe, or strong room, is built upon a proper frame of angle metal of the same composition as the sheets, and joined at the corners by massive cast-steel corner-pieces, dovetailed into their places. The building-up is, of course, done by riveting, and as a bad or unscientific rivet might prove a likely source of attack, a great deal of care is given to this work. The holes in the hard steel are made slightly larger than those in the soft, so that the hole through the complete thickness has irregular sides. The rivet is made of tough metal with several strands of chrome steel running through it, so that it cannot be cut. This rivet, having been made red-hot, is put into its place in the work and brought into the jaws of a hydraulic press, which flattens it out like so much putty, compressing the grain of the metal to a diamond-like hardness, and forcing it out at the sides in the layers where the holes are larger, so that the result is an utterly immovable, undrillable, unbreakable, dovetailed rivet. Then the ends of these rivets are neatly ground off under a large emery buffer, making any number of thousand revolutions in a minute, in the midst of a crackling pyrotechnic display of sparks, which envelop the grimy workmen and are unpleasant to the bare skin. The accompanying illustration will give a good idea of the amount of this riveting work to be done on a large piece of work. It represents the strong room made for the National Bank of Scotland, Edinburgh, in course of erection. This little box is fifty feet long and weighs, complete, something over a hundred tons.



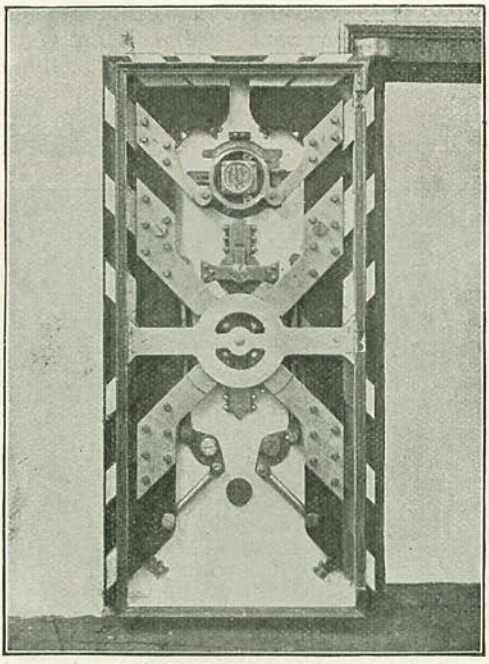
STRONG ROOM COMPLETE.

To get into a safe of this sort any way except by the door is out of the question—that way madness lies. There remains the door. On the outside this is just as uninviting as the other parts. It cannot be drilled or tapped, of course. Let us peep behind the scenes and look at the inside. Here is the inner view of a Chubb door fixed to a strong room belonging to the Security Company, of St. James's Street.

The first noticeable thing is that the bolts, instead of shooting horizontally as usual, emerge and retire in an oblique direction, and are made in a corresponding shape. This is the subject of one of the makers' two-score of patents, and a valuable feature. An ordinary horizontal bolt is a simple bolt and nothing more, having no actual *hold* of the safe-sides; a diagonal bolt has a firm grip on the sides, and attempts to force by wedges only increase this grip. The whole of the bolts from each corner are fixed upon a strong, heavy frame. In other safe doors bolts shoot from the bottom as well as from the sides; in this particular door, for special reasons, this is not the case. All these bolts are shot simultaneously from the centre, to

which the arms of the frames converge; here they are geared with a wheel-lock—a simple metal disc, so pierced with curved slots, in which pins slide, that half a turn either way will propel or retract the whole set of bolts. The bolts and their frames in this door weigh a quarter of a ton, but are so accurately balanced together that they are all worked with the greatest ease with one hand. The balance-levers are shown in the lower part of the door, between the bolt frames; these frames, moreover, run on rollers.

The bolts being shot, the door must be locked. This is done by a lock which shoots its bolt into a recess in the "wheel-lock" already mentioned, and thus holds it from revolving and retracting the bolts. In the door depicted two of these locks are shown, one above and one below, each with a different key, and these key-locks are governed by a "time-lock" set in the upper part of the door; of this "time-lock," more anon. The jambs of all these safe-doors are, of course, "stepped," or provided with many solid rebates to prevent the successful use of wedges. But suppose all these obstacles to be overcome (one can scarcely comprehend the possibility) and strain brought to bear on the bolts, there is an ingenious piece of mechanism of which the ring encircling the time-lock is a conspicuous part, which actually converts this strain into a resisting pressure, driving the bolts the more firmly outward than ever. In addition to all this, the door may be provided with electric wires, so that any opening during prohibited hours will start a bell, which bell, if desirable, may be placed in the nearest police-station. Here is a solid, adamantine problem for the scientific burglar worthy his jemmy.



INTERIOR OF STRONG ROOM DOOR.

Now as to the locks to hold the bolts of these safes. Here in England we still largely use the key-lock, in which a key is used in the ordinary way. In parts of America, however, where wealth and enterprise are a great deal ahead of public order and security of property, a key-lock does not do. The key-hole is the vulnerable point through which some powerful explosive may be introduced to blow the lock to splinters. The key-locks fitted to the safes we have been looking at in these works are gunpowder proof, but nobody in "these States" would think of using gunpowder when dynamite and nitro-glycerine are so easy to procure; and locks won't stand dynamite.

In the gunpowder days, the Yankee burglar would stop all round the crack of the door with putty, leaving only two openings. To one of these openings he would attach an air-pump and proceed to draw the air from the interior, while his persevering partner held a card to the other opening, upon which card he poured fine gunpowder. This was drawn in by the air-suction, and lay between the body of the safe and the door. A sufficient quantity having been deposited a blow-up was effected, which either burst the door from its bolts, or drove it sufficiently forward to admit of the introduction of the jemmy. The remedy for this is, of course, an air-tight joint; the joint also is so accurately fitted that wedges are kept out. Being defeated in this way, the dauntless burglar introduces his explosive by the key-hole. Gunpowder, we have seen, would be ineffectual with the locks we have described, but not dynamite. Therefore in safes made for the American market—and, indeed, in the very best made for England—a keyless lock is employed. One of these is the "combination lock," in which a brass dial turned by a knob is fixed on the outer side of the door. This dial is marked with numbers up to 100. Before the safe is shut the lock is set to any three numbers in succession, so that, after shutting,

it is necessary to turn the dial until each of these particular numbers in the proper order rests opposite a fixed arrow-head mark before the safe will open. Besides being used as sole lock to a safe, this lock is sometimes fixed in addition to the ordinary key-lock, preventing the key being used until the combination has been worked. With this lock in use, of course picking cannot be attempted, nor can solid explosives be introduced. Still, an American burglar has been known to carry a small phial of nitro-glycerine, and, having poured a quantity of that seductive fluid behind the close joint of the dial, to blow out the lock. Again, in the land of the free it has been picked—with a revolver; the muzzle of the instrument having been insinuated into the ear of the resident cashier or manager who has shut the door, in order to persuade that functionary to re-open it. But even these things are got over by the time-lock.

Refer again to the illustration of the strong-room door interior; the time-lock is seen in the upper part of the door. In its face it has three watch movements. One is enough to work the lock, but three are used in case one should get out of order. This time-lock is set each evening to the time in the morning when it is desired that the safe shall be opened by the legitimate opener.

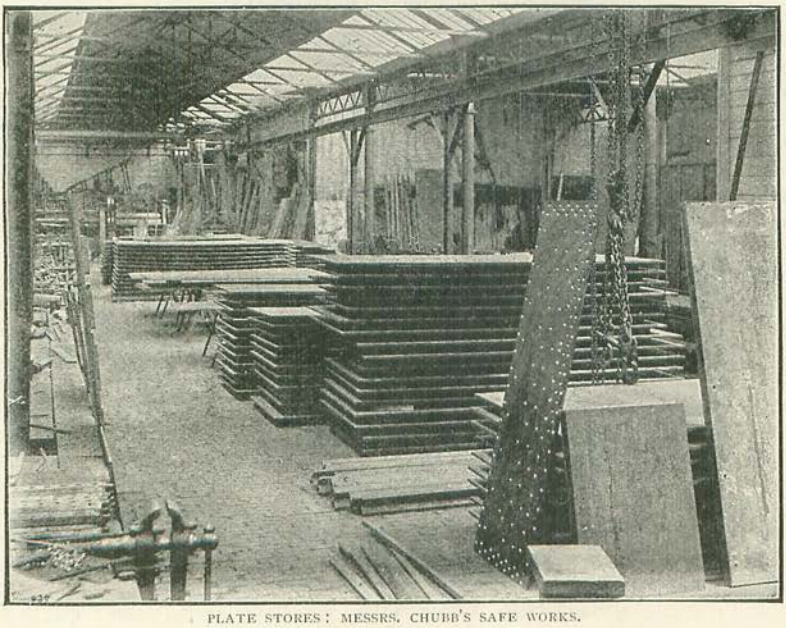
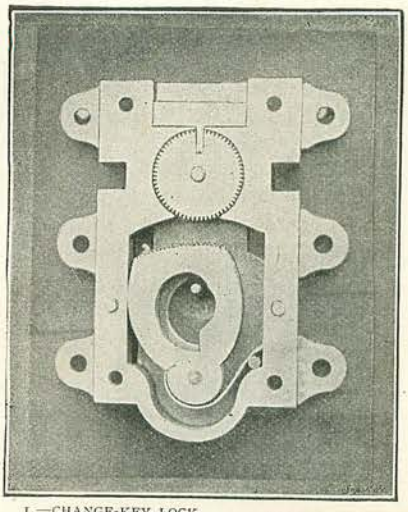


PLATE STORES: MESSRS. CHUBB'S SAFE WORKS.

The time-lock governs the key-locks, and until the time fixed even the proper key will fail to open the door. When, however, any attempt is likely to be made with explosives, the time-lock may be used alone, with no key-locks or key-holes. In this case, as the set time arrives, the door opens automatically. Thus it will be seen that no number of loaded revolvers will enable the cashier to open the door before the proper office hour in the morning; and there is no hole for the introduction of dynamite or nitro-glycerine. What then is to be done? Obviously drill a hole through the safe and get the explosive in that way—a good powerful explosive which will yield a volume of gas about double that of the cubical contents of the safe, and burst every possible lock and joint. But then we have just been examining the walls of these Chubb safes, and know that drilling is out of the question. Useless all. Life is made a thing of bitterness for the poor burglar, and the way of transgressors is rendered lumpy even past endurance.

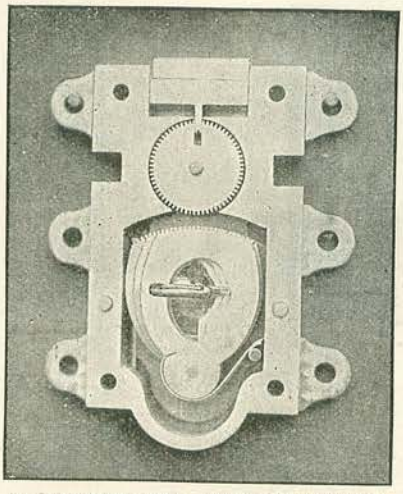
We pass on through the great plate store; the smith's shop; by the drilling machines, which peg away unceasingly, each drilling fourteen holes at a blow; by the planing and cutting machines, which treat hard steel in the most disrespectful manner, as though it were cheese or cardboard; past the hydraulic riveter and the emery grinder to the lock-finishing shop, where stand rows of mechanics whose exact skill is a thing to marvel at, fitting and completing specimens of all the hundreds of different sizes, patterns, and classes of locks for which this firm is famous—from the tiny desk-lock, the key whereof, in gold, is concealed inside a finger-ring, to the biggest fastening a church door ever carries. Here are all the locks we have had occasion to mention in speaking of safes, and many more. The original "detector" lock, invented by the first Chubb, fifty years ago, wherein an attempt at picking throws the



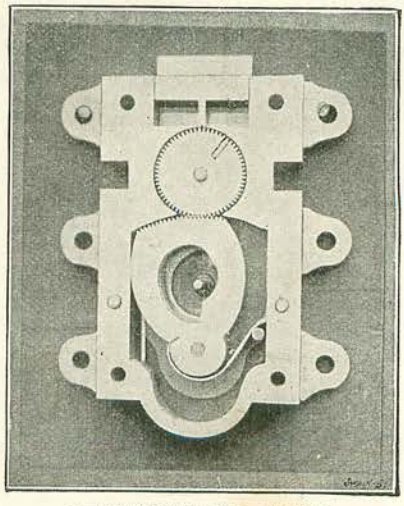
1.—CHANGE-KEY LOCK. UNLOCKED.

levers out of order and jams the lock altogether, so that the rightful opener may discover, by being obliged to use his key in a special way, that the lock has been attempted. A lock ordinarily used for safes, which is "dogged against detent"—that meaning that the levers are cut saw-shape at the end, to be caught by a claw, and held immovably at any attempt at picking; and many others, including a lock with a very simple and pretty movement indeed. This lock may be fitted with a dozen, twenty, fifty, a hundred, or any other number of different keys, the number of combinations being practically unlimited. Each of these keys is different to all the others, and yet each will lock this same lock. But once locked, only one key will open it—*the key it was locked with.* So that if a man come to your office and steal your key, hoping to use it against your safe at night, you need take no trouble to recover it—you have only to use another key. Also you may use a different key for every day in the month, so that a wax impression of the key the thief observes you using will be of little use.

If several clerks have keys to a safe, you know who has been there last—the man whose key fits. Here is the lock—simplicity itself. Observe, it is unlocked. A number of thin brass cog-wheels are threaded on a spindle, each with a slot into which fits a projection from the bolt, holding all rigid. The levers are all fixed to the bolt, and their ends are all cogged to correspond with the equal number of wheels. The key is put in and turned, as in the second of the three illustrations. According to the shape of the key, the levers are pushed out to all sorts of different positions, all different for each key; at the same time they pass along with the bolt till the cogs on the levers—all irregular, according to the shape of the key—engage with the cogs of the wheels; also, at the same time, the bolt moving out, the projection slides from the slots in these wheels, which are left free to revolve on their spindle. The turn of the key is completed, and the levers all spring back level with each other, but as they engage with the cog-wheels each of these is turned to a more or less degree, *according to the degree which the key lifted the corresponding lever.* Thus all the slots in these wheels are thrown into different positions, so that the bolts cannot be forced back, since the projection will simply jam against the edges of the wheels. This is shown in the third of the illustrations. When the same key is used to unlock, of course, in lifting the levers once more,



2.—CHANGE-KEY LOCK. KEY SHIFTING LEVERS.



3.—CHANGE-KEY LOCK. LOCKED.

each to exactly the same irregularity of position, the cog-wheels are forced round again till the slots all coincide and the bolt with its projection slides back, as shown in No. 3, to the unlocked position shown in No. 1. But equally, of course, a wrong key will not lift the levers to the same position, and so the slots in the cog-wheels will never coincide to admit the projection from the bolt, which, therefore, cannot come back. So that each key, so to speak, *moulds its own lock.*

But, as we have said, a burglar rarely attempts a safe-lock: he acknowledges that a good one usually beats him. And now, with all the wonderful improvements made in the best safes, there may be reason to hope that he will begin to get honest altogether. Wherefore, in taking leave of Mr. Harry Chubb, we congratulate him on his prospective reformation of the dishonest, and terminate an instructive chat.

We have shown some very pretty burglars tools earlier in this paper, and some very primitive keys. Here, as a tailpiece, are two keys which are anything but primitive, and perhaps prettier than the burglars' tools. They were made to commemorate the opening of the Colonial and Indian Exhibition, and that of the Brussels Exhibition.

KEY USED AT THE OPENING OF THE COLONIAL EXHIBITION.

From a Photo. by the London Stereoscopic Co.

KEY USED AT THE OPENING OF THE BRUSSELS EXHIBITION.

From a Photo. by the London Stereoscopic Co.