

Safe Encyclopedia Article

Safe

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Early safes, used primarily by banks, were crude wooden chests with padlocks or boxes covered with sheet iron as a slight protection against fire. Neither posed any serious problem to determined thieves and robbers.

In 1844, Frenchman Alexander Fichet created the first modern safe, a box made of solid iron that was too heavy to haul away and too strong to be pried open with a crowbar. He also devised a "burglarproof" lock for the safe; such locks, unfortunately, were little match against gunpowder, dynamite, and other explosives.

The keyhole, the most vulnerable part of the safe, was eliminated with the development of the combination lock. Invented by American Linus Yale in 1863, this new lock featured a revolving dial imprinted with numbers. When the correct sequence of numbers were dialed (the "combination"), the corresponding tumblers would be properly positioned for the lock to open. One problem arose when James Sargent, a skilled locksmith, invented a micrometer to be attached to the lock knob. This device was so sensitive that it could measure the movements of the internal tumblers that controlled the opening of the safe. While Sargent had created this device to help locksmiths open safes for their owners, there was an immediate danger that criminals could also use it to "crack" a safe. As a result, combination locks were created that functioned on magnetic principles and could not be defeated by micrometers.

Better explosives, powerful drills, and cutting torches used by thieves led to many advances in safe design and construction throughout the twentieth century. In the 1920s, sophisticated alloys were developed to make safes drill-proof and fireproof. In addition, massive room-sized safes called vaults were built into the foundations of banks and other buildings. Vaults can feature steel doors several feet thick and fit their openings to precise specifications. The time lock, another invention by Sargent, will only allow the vault to open during designated hours of the day.

Since modern safes and vaults are virtually impossible to break open, electronic innovations have included computer controlled surveillance equipment and monitoring devices to record the all activity around the safe.