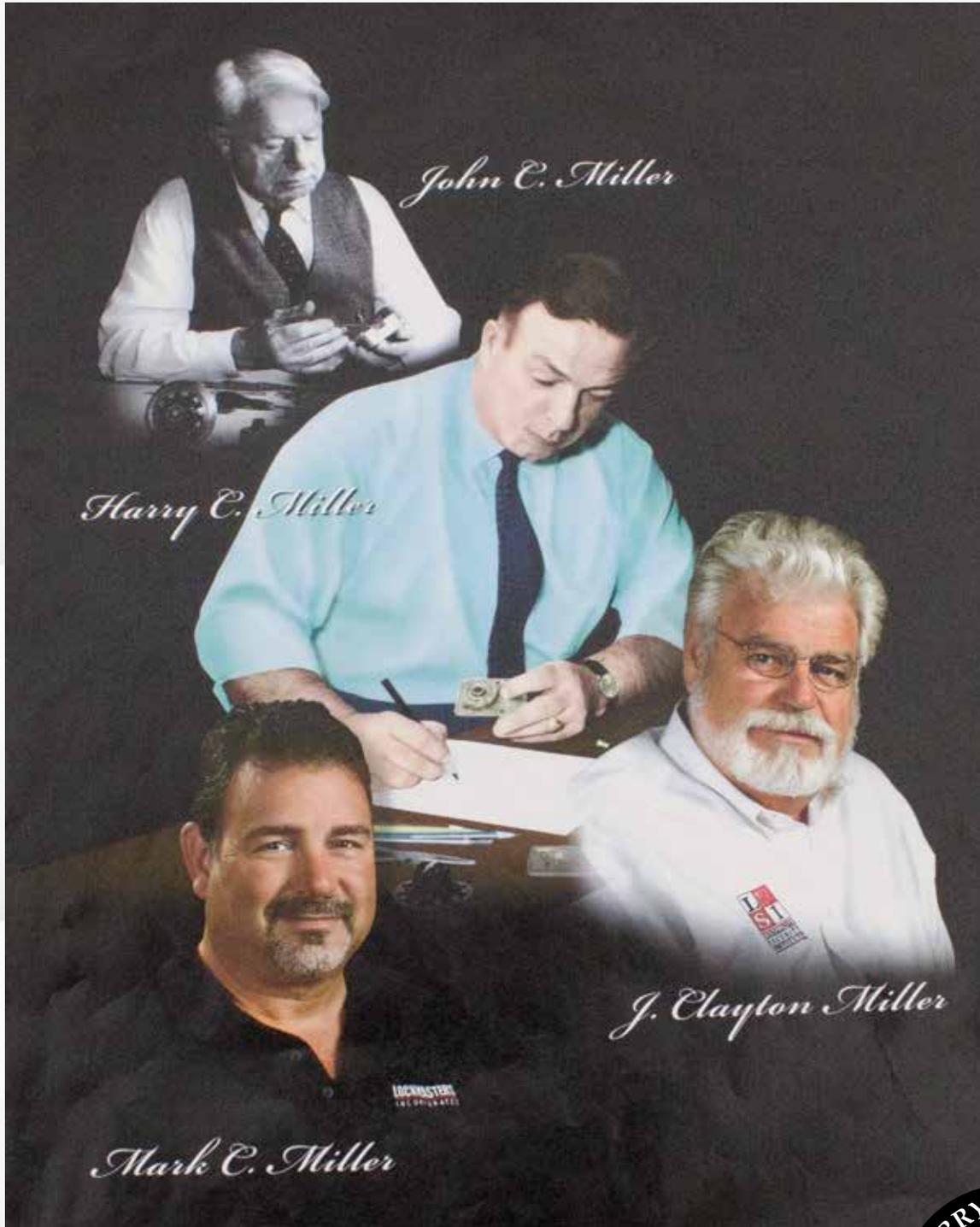


# The Lockmasters & The Miller Family History



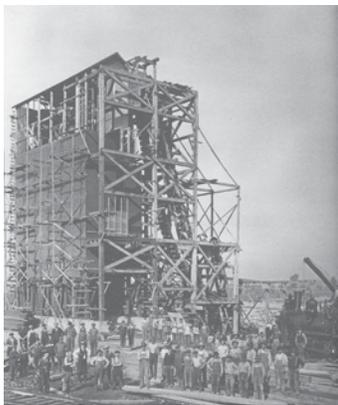
Including the Harry C. Miller  
Lock Collection



# It All Began with Bank Vault Installation

John C. Miller

## 1935



**John C. Miller  
(1884 - 1976)**

John C. Miller, Superintendent of Construction for the Diebold Safe and Lock Company, supervised the installation of the steel doors for vaults and lock boxes in the new First National Bank Building.

## 1939



### Safemasters Company was Founded

John Miller and son James "Jim" formed Safemasters, Co., which started as an in-house contractor for Diebold's service needs in Washington, DC, but it quickly became an independent venture. A great deal of Safemasters' business came from the government entities, including the National Archives Building in the Capital's "Triangle", the interior of which John Miller was extensively involved in erecting and installing. Fairfax, Virginia / Pentagon contract taking care of GSA containers, and Department State work.

## 1941



### Harry C. Miller Company was Founded

Harry formed the Harry C. Miller Company after Harry worked with Herbert H. Goodman, whose company merged with Remington Rand. It was during this time that Harry was immersed with a variety of inventors.



Franklin D. & Eleanor Roosevelt with the King of England



Franklin D. Roosevelt Bomb Shelter National Archives

## 1935

By the time Harry was 10, his father had become a bank vault erector, first for National Safe Company based in Cleveland and shortly thereafter for Diebold Safe Company in Canton, Ohio.

From a young age Harry would travel with John to watch and learn his craft.

Harry's grandson, Mark Miller, says, "With the boom of new banks going up, my great grandfather would set out across the country and install the vaults. I remember stories about how these huge vault doors would come in by train and a mule team would pull them on logs through town to Main Street and the bank site."

## 1939

- 1949 James Taylor joined Safemasters leaving in 1951 to go to S&G
- 1960 Jim Miller's oldest son Allen joined Safemasters leaving in 1966
- 1964 Jim Miller's son Ed Miller joined Safemasters in 1964
- 1975 Ed Miller becomes V.P. of Safemasters leaving in 1990
- 1990 Ed Miller starts Federal Security System servicing government entities in Washington, DC

### The Roosevelt Jewels

June 1939 - Due to the Miller family's work with the government, John got a call from the White House. The combination had been lost to a round-door, drill-resistant money chest housed in the private quarters of President Franklin D. Roosevelt. Unfortunately Eleanor Roosevelt's jewels were inside and they were preparing for a formal State Visit from the King and Queen of England. When the chest arrived at Safemasters under the watchful eye of the U.S. Secret Service, the three Millers began. The hardened surface of the chest was annealed with an acetylene torch and a small hole was drilled into the lock using a special drill converted for this purpose. A light with a scope that had been developed by the Millers was used to open the chest. With Harry's skill for manipulation it was assumed he opened the lock. The hole was welded closed, and the chest refinished and returned to the White House. The Roosevelts extended their personal "great appreciation" to the Millers.

## 1941

Around this time Safemasters and Harry C. Miller Co. records show while John and Jim continued doing defense work, their company began marketing more safe and lock services to the public. Harry appeared focused on his role as the government security provider and adviser.

Jim Taylor, who would train with Safemasters during the late 1940's and became a safe and lock advisor for the Defense Department says, "Harry had 40,000 safes in the Pentagon building alone to service - it was a big job."

# An Safe Lock Industry Legend & Inventor Emerges

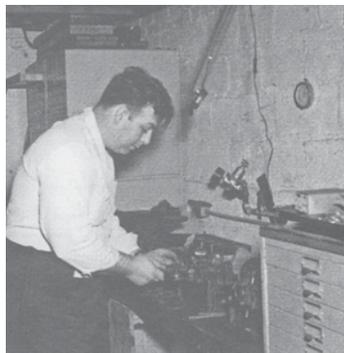
## Harry C. Miller

### 1945

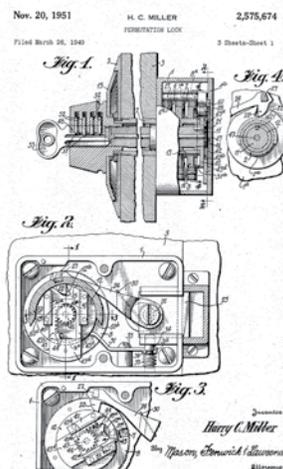


Harry with wife Grey and first son James Clayton "Clay"

### 1949



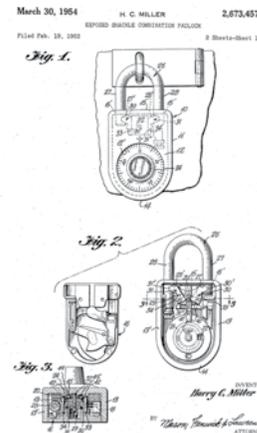
**An Industry Legend Emerges - A Breakthrough: Down in a Basement**



**An Industry Legend Emerges - A Breakthrough: Down in a Basement**

Harry C. Miller files his first official Patent for the - Permutation Lock Patent. Official Patent for the Permutation Lock is received November 20, 1951.

### 1953



**The Inventors Emerge**  
The S&G 6730MP Series sold so well that within a few years, Harry was in position to acquire Sargent & Greenleaf by purchasing some additional stock.



S&G in Rochester, New York



S&G 6730MP Lock

### 1945

**U.S. Government Physical Security Must Change**

1945 James Clayton (Clay) Miller was born

VJ Day (Victory over Japan) August 14th, 1945 – around this time Safemasters came into possession of a code book containing the codes of the leading combination padlocks in use on the cabinets, lockers and other security devices throughout the U.S. Defense Department. After meeting with the Pentagon, the Millers quickly tested and verified the codes. With the war over some in the U.S. Intelligence community weren't concerned, but John Miller and others knew better and so did his son, Harry.

### 1949

Post World War II technology race prompted the U.S. Government to set a new standard for physical security, starting with a new kind of lock, one that would be impervious to the sort of manipulation to which existing mechanisms were falling prey. This kind of high security solution was nowhere in sight until Harry C. Miller began developing one. Harry spent tireless hours in his home basement in Virginia until he invented the Manipulation Proof Combination Lock, the first real innovation in locks in 75 years.

Harry has the lock the U.S. Government wants, but now how does he manufacture it? Harry contacted the venerable and mid-sized Sargent & Greenleaf based in Rochester, New York, to manufacture the first manipulation-proof lock for the Harry C. Miller Co. In addition to their history with such innovations, their entire facility had been devoted to government contracts during the war and with the advent of peacetime, the company was in danger of failing. Harry reached an agreement with S&G that royalties and a percentage of profits would be paid to him in stock. Manufacturing of Harry's first invention begins production. Hundreds of thousands of the new Manipulation Proof Lock were put in place immediately by the nation's top security officers.

### 1953

**Harry C. Miller (1912 - 1998)**

Harry C. Miller, S&G President, files his second lock patent for the - Exposed Shackle Combination Padlock (S&G 8088 Padlock). Official Patent received March 30, 1954.

The SG8088 is a UL 768 rated combination lock developed for the U.S. Government. It was used by government agencies to secure file cabinet locking bars. It is rated for 30 minutes of protection against manipulation and 10 minutes of protection against surreptitious attacks. There were no defined protections against destructive entry in the 8088 specifications. It has since been superseded by the S&G 8077 and the S&G 8065 models.

# A Collection is Started & Lockmasters is Founded

## Harry C. Miller Lock Collection

1953



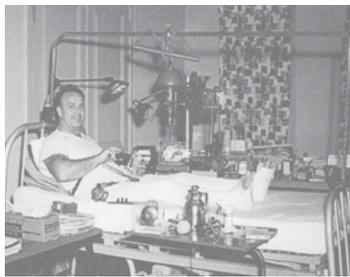
### The Inventors Emerge

John C. Miller



Model SM50

1954



### Harry C. Miller Lock Collection Began

While at home in upstate New York, the celebrated President of S&G had an accident that almost ended his life. Harry was knocked from a ladder while trimming the limbs of a tree. He broke both legs requiring casts up to both hips. Due to his extended bed stay he developed blood clots, which almost killed him.

1955



Harry with Jim Taylor



Leonard Singer



Page from a manual

### Lockmasters is Founded

Harry C. Miller, James Taylor and Leonard Singer founded Lockmasters, Inc. as a safe lock training school in the home of James and Alice Taylor in Rochester, New York. The school would eventually move to Satellite Beach, Florida (1973). The school offered both resident and correspondence courses in Combination Lock Manipulation and Safe Lock Servicing. While this would be the most formal approach Harry would take in his life-long love of teaching, many remember the "Master Manipulator" for his unofficial role as mentor and sharer of knowledge.



SM181 Deadbolt



Clay Miller at S&G

1953

### Model SM50

John Miller was the first to integrate a combination safe lock to a pedestrian door lock with the invention of the SM50 base plate. It was developed for High Security areas in government.

### Model SM181

S&G Sliding Deadbolt Lock worked in conjunction with Harry's 8088 Padlock. It featured a heavy-duty, die-cast construction and special materials to resist cutting and sawing. It is surface-mounted for easy installation and can be locked with a padlock or by an integral key cylinder. It was originally manufactured at the Safemasters' facility. The SM181 is still in production today at Sargent & Greenleaf.

1954

Harry would do more than survive his most embarrassing brush with death. He used the hours stuck in a hospital bed to begin mounting the large volume of locks he had collected since 1947 while searching out the secrets of manipulation.

Harry once said, "A lot of people thought the lock collection was just a lot of pretty locks, well that was not my purpose for starting it. If I was to develop a good lock and have it available for the improvements of security or our government, I had to study everything being used and find their weaknesses. My collection was based entirely on what makes a lock function."

1957 - 1963

Harry was taught by one of the industry's best teachers – his own father, John Miller. In addition to schooling Harry in these skills from childhood, John eventually established a training program at Safemasters with the approval of the Veterans Administration.

- 1957 Lockmasters began advertising Safe Manipulation and Safe Lock Servicing Correspondence Courses
- 1957 Harry Miller receives The Philadelphia Award
- 1962 Clay joined his father at S&G to learn the family business starting on the factory floor. He became Vice President of Marketing, Sales Manager, Assistant General Manager, and Assistant to the President before becoming President in 1976.
- 1963 At the age of 79, John Miller sold Safemasters to his son Harry C. Miller who now operates Safemasters as the Service Center, Lockmasters as the Education Center and Sargent & Greenleaf as the Manufacturing Center.

# The Third Generation Becomes S&G President

## James Clayton "Clay" Miller

### 1965



Harry C. Miller with Steven Helesfai



#### The 8400 Series is Developed

Harry C. Miller & Steven Helesfai patented a Manipulation Proof, UL approved Group 1 and 1R, Double Slide Cam Combination Lock. The revolutionary lock incorporated two slides in the drive cam. This high security lock is still in production today featured in a variety of models. The 8400 Series was designed for use in government applications and high value safes.

### 1975



#### Sargent & Greenleaf Moved to Kentucky

Jim Taylor (Vice President of S&G and Lockmasters co-founder) moved to and oversaw Sargent & Greenleaf's new facility construction in Nicholasville, Kentucky.

### 1976



#### The Eldest Son, Clay, Becomes President

At the age of 31, James Clayton "Clay" Miller, Harry's oldest son becomes President of S&G while Harry still maintains controlling ownership.



Benson Miller



Harry, Clay and Benson at S&G

### 1971 - 1974

1971 John C. Miller receives The Philadelphia Award

#### Lockmasters, Inc. Opens Training Center in Florida

1973 Lockmasters, Inc. relocates its correspondence training from Rochester, New York to Satellite Beach, Florida where Harry Miller had a second home. This is the first official brick and mortar Lockmasters School. Correspondence courses continued.

#### The Second Son, Benson, Joins S&G

1974 Harry's second son, Benson Miller, joined S&G as International Sales Manager. He was responsible for developing sales and representatives throughout Europe, South America, and the Far East.

1975 Benson was named General Manager, responsible for manufacturing, quality control, purchasing, production control and personnel.

1980 Benson was named Vice President Sales, responsible for developing new marketing plan and for centralizing the management of United States sales.

### 1975

The facility featured 100,000 sq. ft. of manufacturing space and 22,000 sq. ft. of office space built in a new Industrial park on "1 Security Drive". S&G's move to Central Kentucky created the commercial hub of the safe lock industry.

S&G's first Kentucky employee, Plant Engineer Ernie Osborne said, "Harry made the move to a more central shipping location that had the additional advantage of larger and more affordable manufacturing facilities."

### 1976

Just like Harry, Clay and Benson both spent time working with their father from a young age. They were fixtures at S&G, often given odd jobs. Clay even remembers going with his father to meetings in the Pentagon, "Back when you could just walk into the Pentagon".

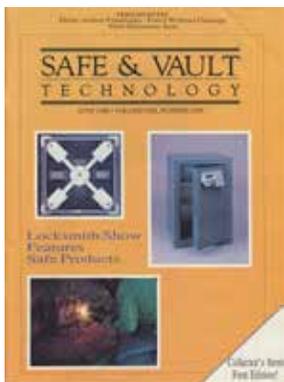
#### Lockmasters Training Courses Expand

While in Florida, Lockmasters introduced additional on-site and correspondence courses including our Safe Deposit Servicing course, which is still taught today.



# SAVTA is Formed & Lockmasters Expands Clay and Mark Miller

## 1986



First Issue of The SAVTA Magazine

**1986  
Mark Miller Returns to Lockmasters**  
Mark Miller returns to Lockmasters to assist the efforts of growing the Lockmasters' Tool and Equipment Division along with Wes Day, Scott Reed and his father Clay.

## 1987 - 1995 Lockmasters' Services Expand



Clay Miller Early Tool Development



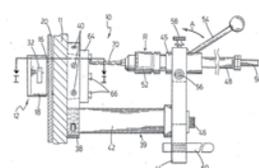
Mark Miller demonstrating a Lockmasters Drill Rig

**United States Patent** [18] [11] Patent Number: 4,865,493  
Miller [19] Date of Patent: Sep. 12, 1989

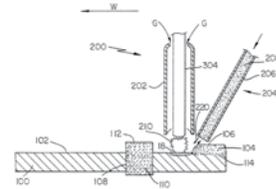
**FOREIGN PATENT DOCUMENTS**  
1976 [20] J. Clayton Miller, Nicholasville, Ky.  
1977 [21] J. Clayton Miller, Nicholasville, Ky.  
1978 [22] J. Clayton Miller, Nicholasville, Ky.  
1979 [23] J. Clayton Miller, Nicholasville, Ky.  
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1992 [36] J. Clayton Miller, Nicholasville, Ky.  
1993 [37] J. Clayton Miller, Nicholasville, Ky.  
1994 [38] J. Clayton Miller, Nicholasville, Ky.  
1995 [39] J. Clayton Miller, Nicholasville, Ky.

**United States Patent** [18] [11] Patent Number: 5,396,041  
Miller et al. [19] Date of Patent: Mar. 7, 1995

**FOREIGN PATENT DOCUMENTS**  
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Lockmasters' First Tool Patent for the Sure Shot Drill Rig



Lockmasters' Drill Resistant Hard Plate for GSA Containers and Vaults

**1986  
Safe & Vault Technician Association is Founded**  
Clay Miller & Lockmasters founded Safe and Vault Technicians Association (SAVTA) – the world's leading trade association devoted entirely to serving professional safe and vault technicians worldwide. SAVTA's goal has always been to further technical knowledge, while helping to promote the professionalism of safe technicians.

Contributors also Include: April Truitt, Scott & Mary Anderson, Dale Libby, D.W. Dowless, Dan Graffeo, Wes Day and Ken Dunkel

1993 - Lockmasters donated SAVTA to the Associated Locksmiths of America Organization (ALOA).

**1987 - 1990  
Lockmasters' Services Expand**

**Training United States Military & Government**  
1987 - Our history with the government allowed Lockmasters to develop a Government Security Container Course and Professional Locksmithing course geared specifically to the needs of our military and government personnel. These courses remain a cornerstone of our Education Division.

**Tool Research & Development Begins**  
1988 - Clay Miller submits the first patent for a Lockmasters' Drill Rig, The Sure Shot, in January 1988. The patent was received on September 12, 1989. This was the first drill rig that mounted to the dial ring screw holes and provided a template for drilling specific locations in the combination lock. The second patent for the 557 Magnum Drill Rig was received on December 18, 1990 and versions are still in production today. Lockmasters now has over 100 exclusive tools developed since 1955.

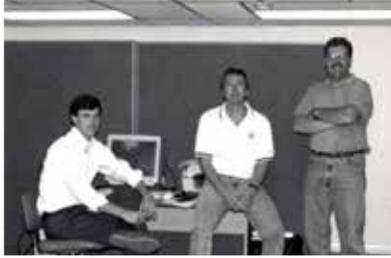
1990 - Clayton Miller receives The Philadelphia Award

**GSA Containers (Government & Military's Filing Cabinets)**  
1995 - Lockmasters' receives a patent for Drill Resistant Hard Plate for a High Security Hard Plate Box used in GSA containers and vaults to meet multiple Federal Specifications.

# LockNet is Founded & Security Changes Forever

## Benson & Clay Miller

### 1991 - 1993 LockNet is Founded



Benson Miller, Mike Moynahan and Scott Green at Lockmasters' Danville Road Location



Benson Miller's Ironing Board Assembly Patent

### 1991 - 1992

#### LockNet Initiative is Proposed

Benson joins to assist Clay and others at Lockmasters who notice a need for electronic safe locks in fast food restaurants, so Lockmasters created a special initiative - LockNet. LockNet was a nationwide installation and service network primarily for Fast Food Chains and the introduction of LaGard's new electronic safe lock, SmartGard. By 1993, LockNet was its own company.

Benson Miller Becomes an Entrepreneur - LockNet is Established

### 1996

### 1996

**Premier High Security Lock was Designed**  
Not since Harry's Permutation Lock introduced in 1949 has there been a lock that has impacted the U.S. government's ability to secure its classified information like Clay Miller and Michael Harvey's invention of the X-0 Electro-Mechanical Combination Safe Lock.



X-0 Lock Electro-Mechanical Lock Patent



Original Plastic Prototype of the X-0 Lock created in 1988

### 1987 - 1993

1988 - Founded Millex, Inc, which developed, patented and launched the ReadyPress Foldaway Ironing Board. He along with two co-inventors submitted a Patent in August 1990 for a Door Mounted Ironing Board Assembly. The Patent was received on August 20, 1991. In 1992, he sold Millex to Seymour Housewares.

1993 - With Benson as the President and Co-Owner of LockNet, the company found its niche by filling the gap of retrofitting safes with electronic locks in the large chain retail and restaurant markets. LockNet has grown its service and product offering to include a vast array of door hardware products. In 2007, Benson purchased Clay's stock in LockNet.

1998 - Chad Miller, Benson's son, joins LockNet in the IT Department. He joined the Management Team in 2003 and was promoted to President in 2008.

2007 - Katie Willie, Benson's daughter, started at LockNet as a Service Manager. She has been the Marketing Director since 2011.

2017 - Chad and Katie purchased LockNet from their father. Benson is retired but runs his own R&D Lab.

### 1996

This technology lead to the production of Mas Hamilton (now Kaba-Mas) X-07, X-08, X-09 and X-10. This technology is continually incorporated into other widely commercial safe locks, door locks and banking products. This technology allows a high security lock to be is self-powered by simply rotating the dial.

#### FF-L-2740 Lock

Clay Miller and friend Michael Harvey (C&M Technology) develop and patent the X0 electro-mechanical lock for the government, which then was licensed to Mas-Hamilton. This unit is the first prototype made to show "Proof of Concept" of self-generating power, generating a combination and having power to assist unlocking a safe lock.

# The Fourth Generation Becomes Lockmasters' President

## Mark C. Miller

### 1997



LSI New Facility Ribbon Cutting Ceremony



Harry, Clay and Mark at Harry C. Miller Lock Collection Dedication

### 1998



1998 Mark Miller Becomes President of Lockmasters, Inc.

### 2001



The LKM7000 High Security Pedestrian Door Lock Patent

**Physical Security is Forever Changed**  
 Prior to the September 11th terrorist attack securing a room or office in a government or military facility often took precedence over life safety. Post attack new Federal Specifications were created to secure a SCIF or Sensitive Compartmental Information Facility that allowed for High Security Protection AND Life Safety with Single Motion Egress.



Previous Logo

**LOCKMASTERS**  
 INCORPORATED  
 Current Logo - Established 2001

### 1997

**Lockmasters Opens an Education Facility in Kentucky**

**Lockmasters Security Institute (LSI)**

Lockmasters purchases an 11,000 sq. ft. facility and sets up a number of classrooms to begin teaching its hands-on security training, including its GSA Safe and Vault Technician and Inspector Training and Certification program.

2004 - Clay expands the LSI building to 22,000 sq. ft. and moves the Harry C. Miller Lock Collection from S&G to Lockmasters for students.

### 1998

Mark Miller becomes the President of Lockmasters where he focused on the Tool & Equipment Sales while Clay focused on Education and Product Research and Development.

### 2001

**FF-L-2890 Lock**

The LKM7000 Lock Series was developed by Clay Miller and his engineers. This FF-L-2890A approved High Security Pedestrian Door Lock received its patent on September 23rd, 2003. Lockmasters manufactured the LKM7000 Lock Series on-site in Nicholasville, Kentucky from 2003 until January 2018. There are easily over 35,000 in use today around the world.

**Taylor's Founded a Safe Deposit Lock Company**

James Taylor, his son Jamie and daughter in-law Lesa launched Bullseye S.D. Company, specializing in quality OEM and aftermarket safe deposit locks and parts for the banking industry. Bullseye is now owned by Jamie Taylor and is located in Lexington, Kentucky.



Bullseye Corporate Headquarters

# Mark Acquires Lockmasters & LSI

Mark C. Miller

**2004**



Lockmasters Door-in-a-Box Program is Developed

**2005**



Mark and Clay Signing Purchase Agreement

**2005**  
Mark Purchased Lockmasters Tool & Equipment Division

**2009**



2101 John C. Watts Drive Ground Breaking Ceremony

**2009**  
New Lockmasters Corporate Headquarters is Built

**2013**



Previous Logo

**LOCKMASTERS**  
SECURITY INSTITUTE

Current Logo

**2013**  
Mark Buys Lockmasters Security Institute  
Mark Miller bought the LSI Education Division from father Clay Miller, including the second location in Woodbridge, Virginia.

**2004**

**STC Door Program is Introduced**

Like the LockNet initiative of the early 1990's, Clay saw a need to improve High Security Pedestrian Door applications so, Lockmasters introduced an STC (Sound Transmission Class) "Door in the Box" concept for government SCIF's application.

This product ships a complete STC door and frame including all hardware installed in one box for easy installation.

**2005**

Mark Miller bought Lockmasters' Tool and Equipment Division from father Clay Miller

2005 - Mark Miller receives The Philadelphia Award



**2009**

Lockmasters built a 30,000 sq. ft. Tool and Equipment facility in the same industrial park Mark's grandfather, Harry built Sargent & Greenleaf in Nicholasville, Kentucky.



Lockmasters New Corporate Headquarters

**2013**

With Mark acquiring both Lockmasters and LSI, Clay starts Lockmasters Technology Inc. (LTI) in Nicholasville, Kentucky to focus on Product Research and Development and highly specialized Government Training.

Stephanie Miller joins the Lockmasters Management Team bringing with her over 20 years of past experience from Sargent & Greenleaf, Clark Security Products and Anixter, Inc.

# New LSI Facility & Continued Product Development

Mark C. Miller

2016



2016

New Lockmasters Security Institute Facility



Little Black Box  
Electronic Safe Lock Tool

2018



LOCK ONE  
by Lockmasters, Inc.

**LKM10K**

High Security Life Safety Exit Device

2018

Lockmasters Introduced  
it's FF-L-2890B Second  
Generation LKM10K High  
Security Pedestrian  
Door Lock Series

2018 -2019



2018

Magnum Bolt Buster II  
Drill Rig



2019

New First-of-Its-Kind  
GSA Hardplate Box

2016

### New Education Facility

Lockmasters Security Institute and the Harry C. Miller Lock Collection moved into a new state-of-the-art 24,000 sq. ft. facility attached to Lockmasters' Tool & Equipment Facility in Nicholasville.

### Revolutionary New Electronic Safe Lock Tool

Lockmasters introduced the Little Black Box Safe Lock Opening Tool. It was designed to eliminate the need to drill the most popular brands of electronic safe locks due to malfunction or lost combination.

Lockmasters continued to develop updates to include other popular locks.

2018

### The FF-L-2890B Lock

In January 2018, Lockmasters gets GSA approval and introduced it's FF-L-2890B second generation LKM10K High Security Pedestrian Door Lock Series, replacing the LKM7000 Lock Series. The LKM10K Series now offers for the first time, a panic bar model to meet additional life safety requirements.

### Second Distribution Center is Opened

Lockmasters moved its Education Facility from Woodbridge, Virginia to Annapolis Junction, Maryland and added an 8,000 sq. ft. distribution center to allow for next day shipping to the Washington D.C. and surrounding areas.

2018

### Magnum Bolt Buster II

Lockmasters improved upon its previous GSA approved drill rigs to develop the Magnum Bolt Buster II. This rig is much safer for the technician, as well as significantly faster. It contains all debris, sparks and smoke that occurs in cutting the bolts on a container.

2019

### First-of-Its-Kind GSA Hardplate Box

Lockmasters received final GSA approval on a new style Hardplate Security Box, again to better secure GSA containers containing classified documents. This new design is the first for the United States Government, which incorporates a glass re-locker feature.

# Harry C. Miller Lock Collection

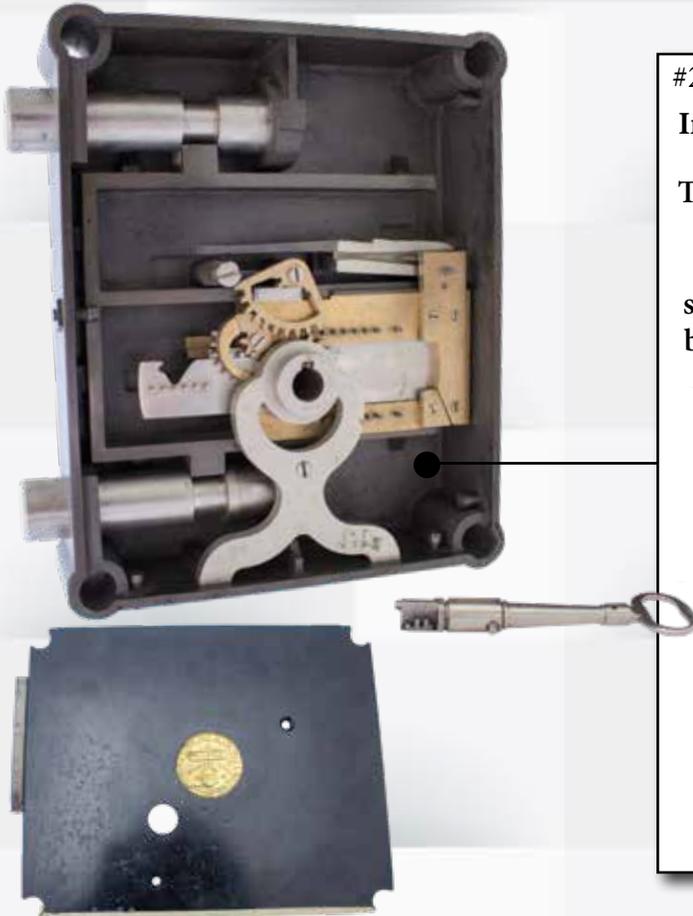
Official Curator, Barbara Craycraft's Top 20 Locks in Case Order

Case 3

## Arabic Lock #17 Oldest Lock in the Collection

Dates back to 1301. Inlaid with gold and silver.  
Inscribed with Arabiac Proverb:  
"Beholden to your servant for someday his position  
may be elevated and you will beholden to him".

Case 3 - Third shelf from the top



#2

## Yale Magic Key Lock In The White House During Lincoln Administration

This version was introduced in 1851 and used a series of discs attached around a shaft to create a three dimensional bit. These discs were attached to the shaft by a finely machined dovetail. This allowed the bit to detach from the shaft and travel away from the key hole and up to the levers as the remaining shaft is turned. As the lock is closed, the bit returns and reattaches itself to the shaft.

This eight lever key lock was installed in the White House during President Lincoln's administration in 1861 and was regularly used until 1925 when the building was remodeled. When it was ascertained the lock would no longer be used, President Coolidge presented it to Bob Branchaud, who generously donated it to this collection.

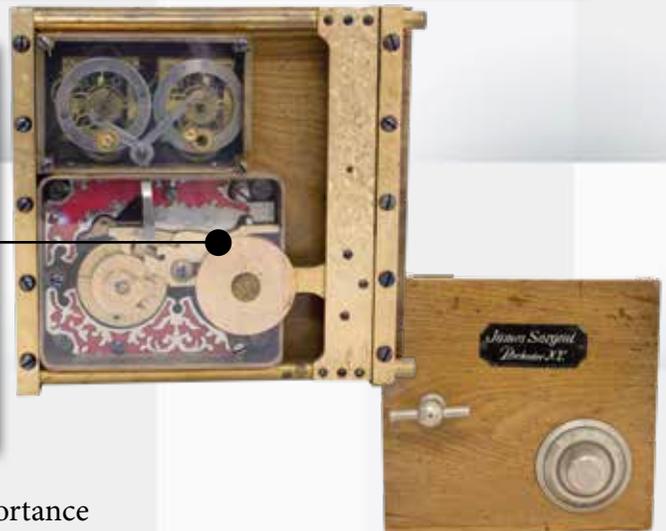
Case 5 - Bottom shelf

Case 5

## James Sargent Prototype #12

It is considered a great find, as it shows the innovation and development of the time lock and depicts the beginning of the time lock in 1872. This patent model was purchased for \$16.00 at a pawn shop on Canal Street in New York City in 1952. Sargent used two eight day kitchen clocks along with a combination lock.

Case 6 - Bottom shelf



Case 6

# Harry C. Miller Lock Collection

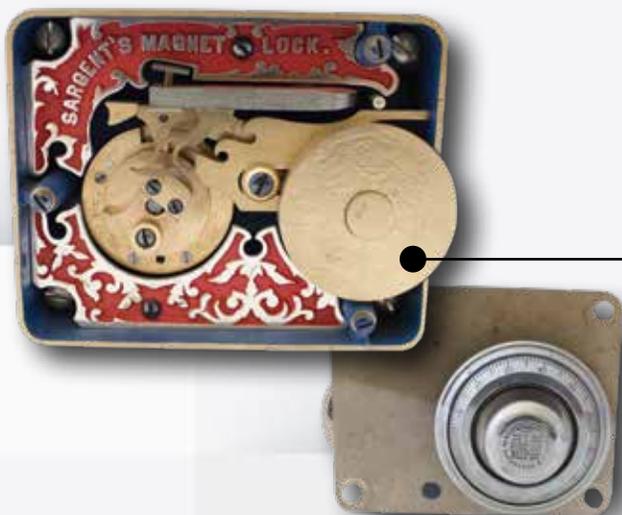
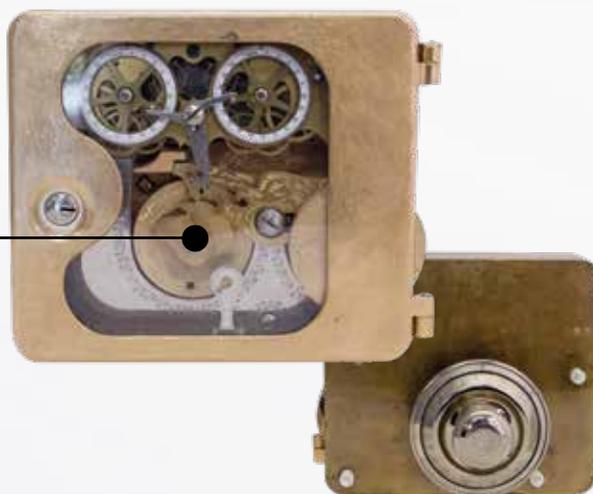
## Official Curator, Barbara Craycraft's Top 20 Locks in Case Order

### Case 7

#### Sargent & Greenleaf Model 1 #10

In 1874 Sargent & Greenleaf introduced its first time lock. It was met with halting acceptance since it required safe & vault makers to design bolt works with this larger lock in mind. The first lock was sold in 1874 but it is unclear how many were made over the next 10 years. The model 1 is not only among the most important time locks but also among the rarest.

Case 7 - Bottom shelf



#### #1 James Sargent's Magnetic Rollerbolt Combination Lock

The magnetic lock was introduced in 1866. This version introduced the rotating "rollerbolt" that turned when unlocked to align a square cutout section with the side of the case, freeing a portion of the safes bolt work to move into the case. This lock was one of the highest security combination locks ever made.

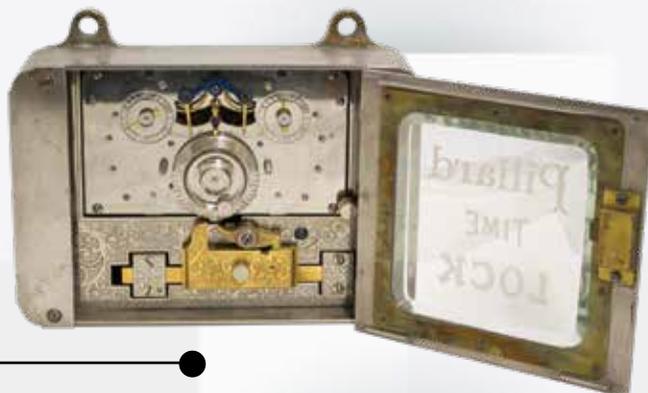
Case 15 - Bottom shelf

### Case 15

#### Pillard Time Lock #20

The Pillard was a target of a patent infringement lawsuit with Yale Lock Company. Any bank that Yale could locate with a Pillard lock could be forced to remove the lock. Yale promptly melted down the time locks they received, making the Pillard among the rarest time locks to date. Only four examples of this lock are known today.

Case 25 - Bottom shelf



### Case 11

# Harry C. Miller Lock Collection

Official Curator, Barbara Craycraft's Top 20 Locks in Case Order

Case 23

## Yale Padlock #5

The first Yale lock ever made was produced in 1832. The lock is made of brass and weighs about one pound. It is fitted with a long fluted key which is thrust into the end of the lock to unlock it. The key cannot be removed unless the lock is locked. The flutings of the key are of the same type as those of the modern Yale Lock, the basic principle devised by the inventor being unchanged.

Case 23 - Third shelf from the top



## Linus Yale's Quadruplex Lock #13

This Lock was introduced in 1844. The lock relied on a complex opening procedure for its security. The double quadruplex offered top security. However, it also required the user to be familiar with its complicated operation which included two bits and a two handled key.

Case 23 - Bottom shelf

Case 23

Case 24

## #14 Linus Yale's Double Dial Bank Lock

Yale introduced this lock in 1863. Each lock was capable of one hundred million combinations. The double dial could be set for either single or double custody operation. Yale's lock was awarded a silver medal at the Paris Exposition of 1867. The most expensive version carried a silver plated replica of the Paris Exposition medal on the wheel packs. This version of the lock sold for \$350.

Case 24 - Third shelf from the top



# Harry C. Miller Lock Collection

Official Curator, Barbara Craycraft's Top 20 Locks in Case Order

Case 25

Solomon Andrews  
1836

#18

This massive lock has seventeen primary & secondary levers. The key changing process could be done quickly by introducing spacers or by using new levers in the lock and the corresponding bits on the key.

Case 25 - Bottom shelf



#11

Day & Newell Parautopic

This lock had eighty three moving parts and may be the most complicated key lock ever designed. The internal workings of the lock were concealed from view through the key hole. The parautopic lock was considered unpickable for more than ten years. This lock was patented in 1844.

Case 25 -Bottom shelf

Case 25

Case 25

Johannce Wilkes  
Made 1680 - 1700 Birmingham

#16

This is a rim lock; the mechanism is entirely enclosed in a case to be mounted on a door. Unlike later mortise locks that were built into doors and might match the overall decorative scheme of a room, rim locks could be removed when the owner moved and could be used on a door in the new house.

Case 25 - Fourth shelf from the top



# Harry C. Miller Lock Collection

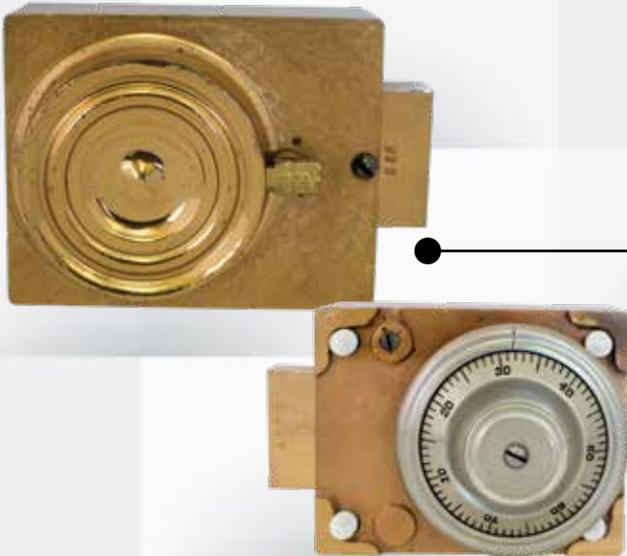
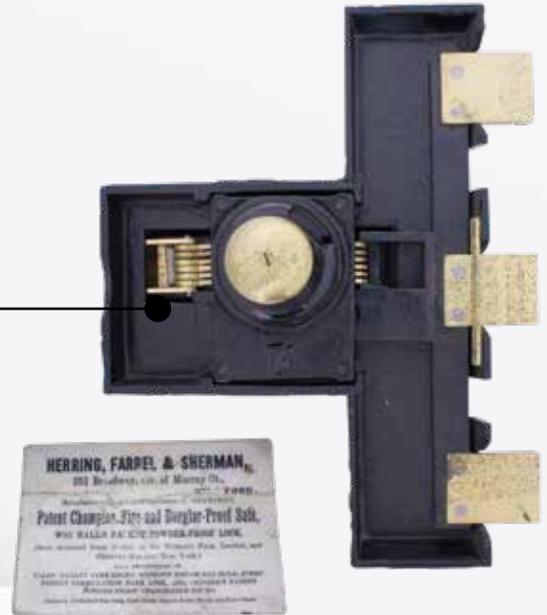
Official Curator, Barbara Craycraft's Top 20 Locks in Case Order

## Case 29

### #9 Herring Grasshopper Key Lock

These locks were made for fireproof safes. The six lever tumblers are depressed by the pins in the key, which is inserted in a slot at the top of the casing. The round handle has an aperture cut away to receive the key containing the pins. The key is forced down and a solid segment of the handle is forced over it during its passage. The key forces the lever tumblers into alignment to allow passage of the bolt. When the lock is unlocked the key is automatically ejected with force where the lock is referred to as a "grasshopper".

Case 29 - Bottom shelf



### #4 H.C. Jones Combination Lock

This lock was patented in 1849. It is intended specially for safes and vaults, and has been produced as a protection against blowing open locks with gun powder. It has no key or key hole, nor is there any crevice, or opening whatever into which powder or anything else can be introduced, and the exposed surface is made drill proof.

Case 45 - Top shelf

## Case 36

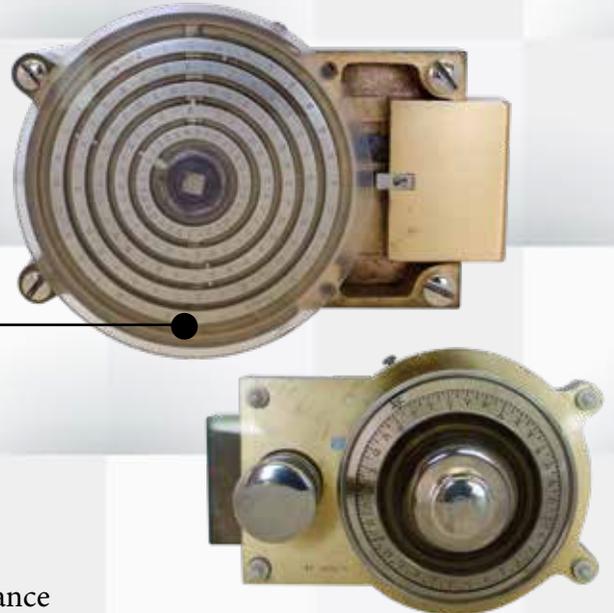
## Case 40

### W.B. Dodds Treasure Lock

#7

This lock was introduced in 1862. Its mechanism does not rely on springs or gravity, making it highly reliable while its more than thirty million combinations and tight construction made it very secure. The five concentric ring tumblers are held in place by the cover, making changing the combination simple but awkward in practice.

Case 49 - Top shelf



# Harry C. Miller Lock Collection

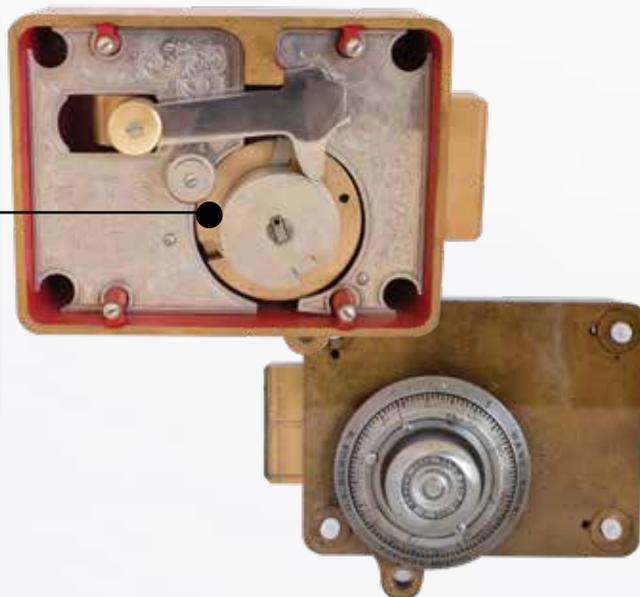
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Case 41

## George L. Damon Vault Lock #15

This lock was patented in 1875. The lock is a key changing four tumbler lock that, despite its large size was usually mounted in pairs. This unusual dial was in four sections, the purpose being to allocate each section to separate bank officials which would require their combined presence to open the vault.

Case 50 - Bottom shelf



#6

## Krenkel Key Lock

Krenkel key lock was intended for a fireproof safe. The key lock was a daunting burglarproof lock when it was introduced in the 1850's. The key had a slight curvature to ensure that it was inserted correctly.

Case 51 - Third shelf from the top

Case 42

Case 43

## J. Weimar Lock #19

This lock was an improvement in security; it eliminated the keyhole, did not have any openings for explosives, and had features to make manipulation difficult.

Lock was patented in 1869.

Case 52 - Bottom shelf



# Harry C. Miller Lock Collection

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Case 46

## Yale Double Pin Dial #3

This lock had many innovative features, but was one of the most complicated locks ever. The lock could automatically lock or unlock for each hour of the day depending on how the user set the pins, and those settings would be automatically skipped once every seven days. The lock was introduced in 1875.

Case 39 - Bottom shelf



## Harry C. Miller's Manipulation Proof #8 Permutation Lock

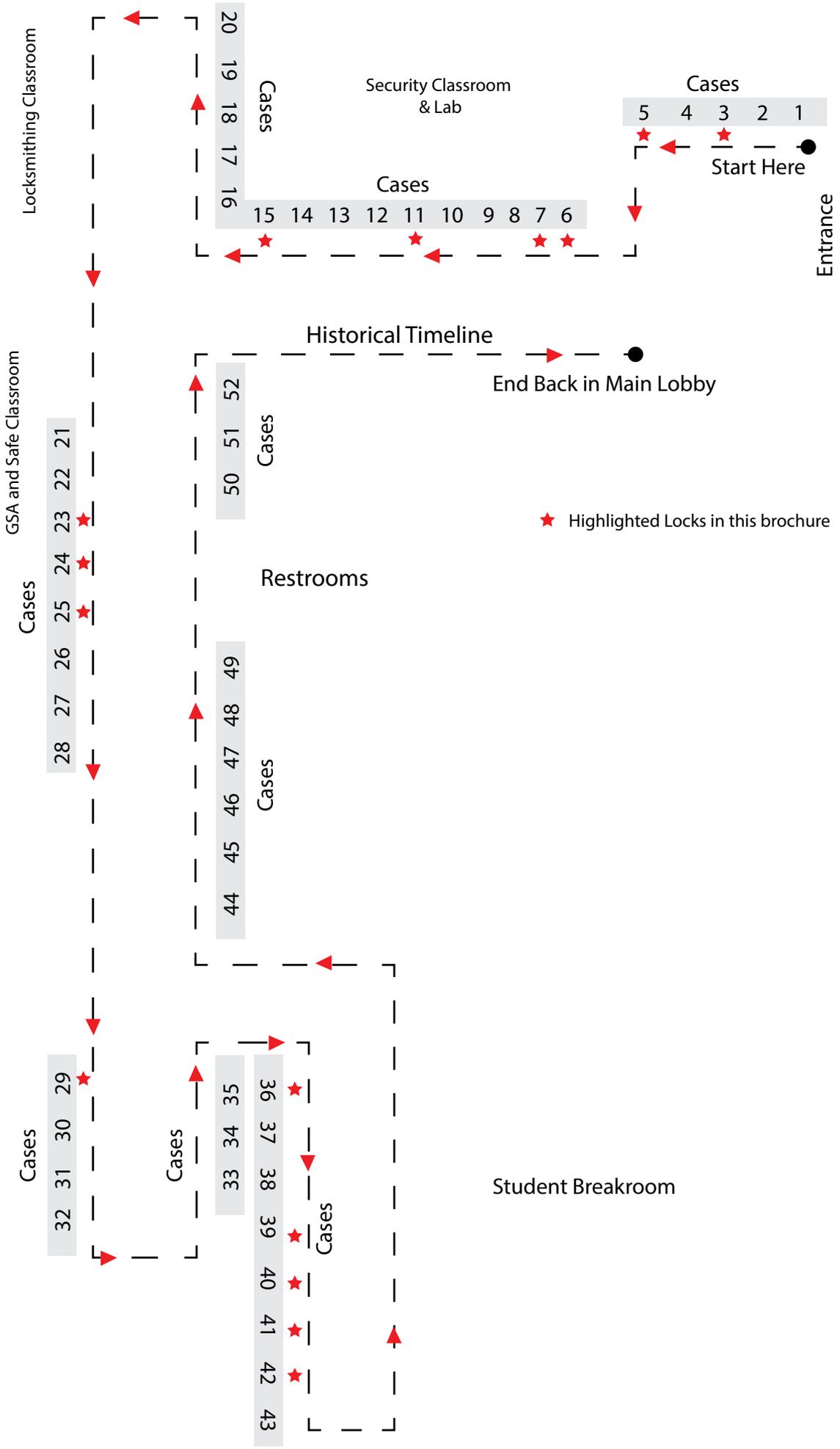
This lock was patented in 1949 by Harry C Miller. Mr. Miller reached an agreement with Sargent & Greenleaf to manufacture the lock for royalties and a percentage of profits would be paid to him in stock. The lock sold so well that within three years he was in a position to acquire Sargent & Greenleaf.

Timeline wall shadowbox display

Timeline



# Map of Harry C. Miller Lock Collection Cases



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