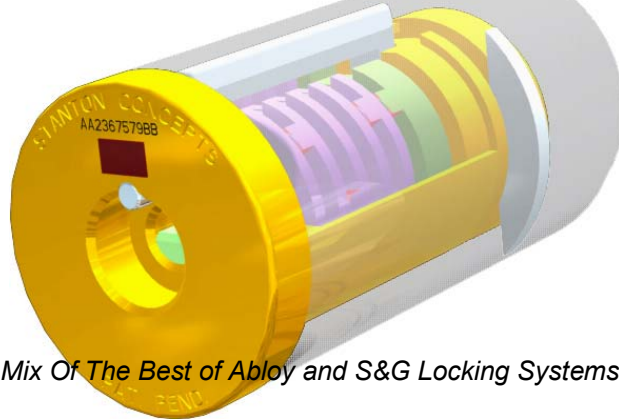


# TOC Principle

## Tool Operated Combination Lock



*A Mix Of The Best of Abloy and S&G Locking Systems*

# Welcome

- What is Stanton Concepts?
- Goal of the presentation.
- What is the **TOC** (Tool Operated Cylinder)
  - The birth of an idea
  - “A mix of the best of Abloy and S&G Locking Systems”
  - Summary
- Questions and comments

## What is Stanton Concepts?

- Robert and John Loughlin (Father / Son)
  - More then 25 years Physical Security and Advanced Engineering Experience.
  - Family owned
- An Idea Company
  - Identify Problems and Find Solutions for Security Hardware
  - Examples
- License Ideas to World Class Partners

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## Some SCI Concepts

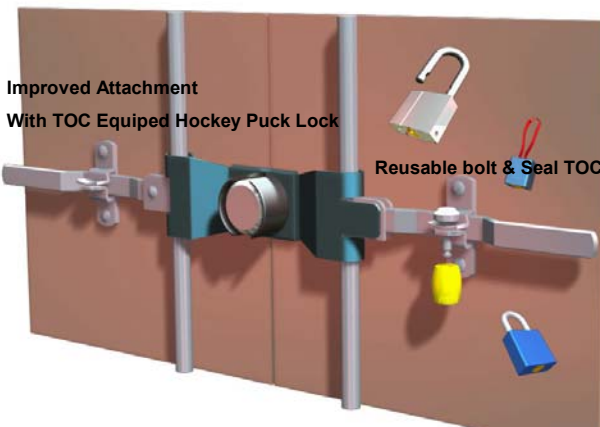


TSA lock



Chain Lock for Hockey Puck

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## Goal of the Presentation

- Teach, Inform, Share
  - A fundamentally new concept
  - There are new solutions to old problems
  - You can teach an old dog new tricks
- Listen, Learn and Improve
  - Reality check

## The birth of an idea



Seals

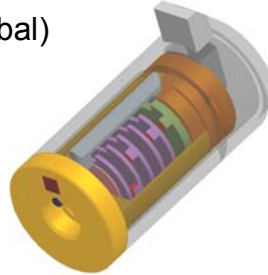
## The Challenge

- There has to be a better way to secure containers!...
- Start point:
  - TSA Concept

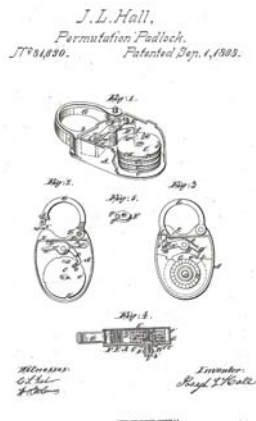


# Requirements

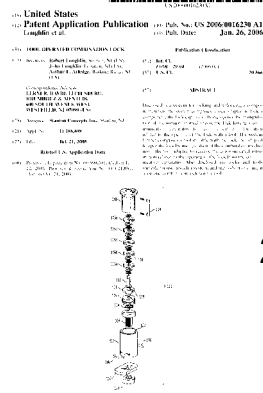
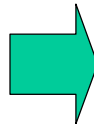
- Key Control
- Multiple Custody (Local-Global)
- Access Control / Auditing
- Hostile Environments
- Economical
- Secure
- Future Proof



## A new look on an old proven Idea



1885



2005

The best of the Past, Present and Future

## Our Idea

### Cylinder /Lock Mechanism



(Low tech.)

+

### Key / Dialer



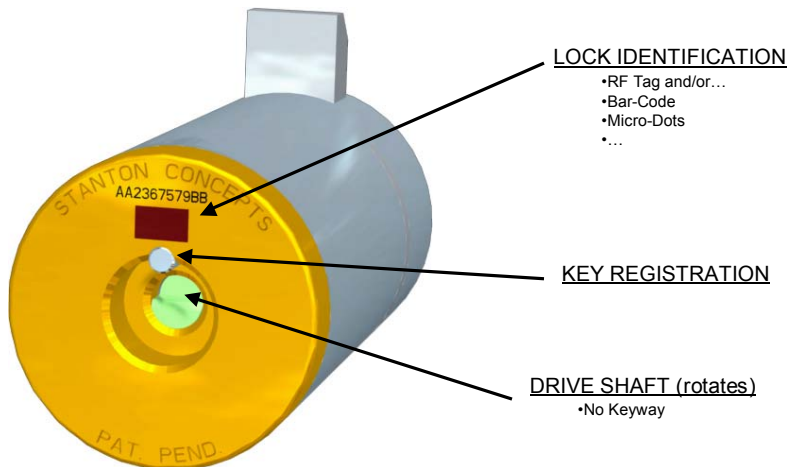
(High tech.)

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## The Cylinder (outside)

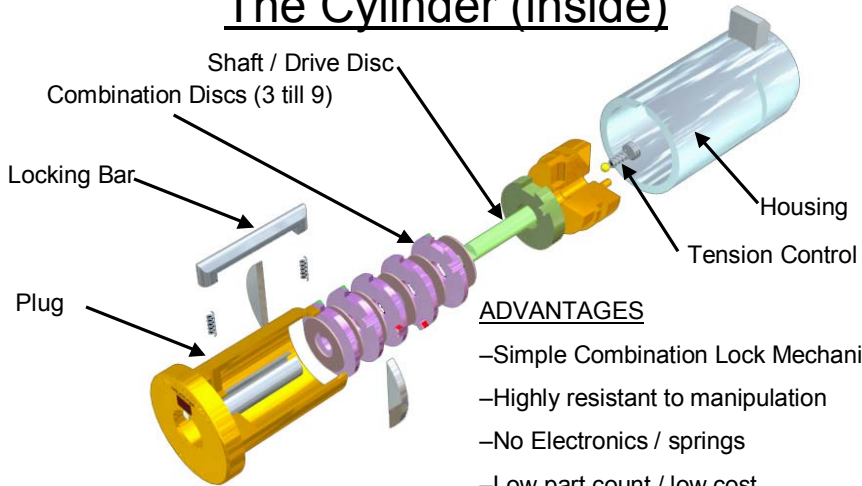


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## The Cylinder (inside)



### ADVANTAGES

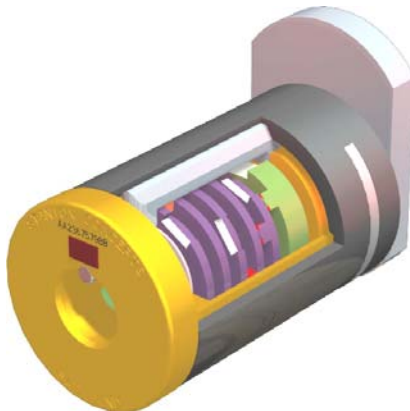
- Simple Combination Lock Mechanism
- Highly resistant to manipulation
- No Electronics / springs
- Low part count / low cost
- Environmentally robust

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## COMBINATIONS



Number of Discs	Number of Permutations*	
	15° Spacing	7.5° Spacing
1	24	48
2	528	2,208
3	12,000	97,000
4	255,000	4,000,000
5	5,100,000	163,000,000
6	96,000,000	<b>6,200,000,000</b>
7	1,700,000,000	223,000,000,000
8	29,000,000,000	7.6 x 10 <sup>12</sup> *

\*7.6 x 10<sup>12</sup> = 48 x 46 x 44 x 42 x 40 x 38 x 36 x 34

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## Keys / Dialers



**MANUAL DIALER**

Multi key, manual



**SIMPLE AUTO-DIALER**

Mono key, automatic

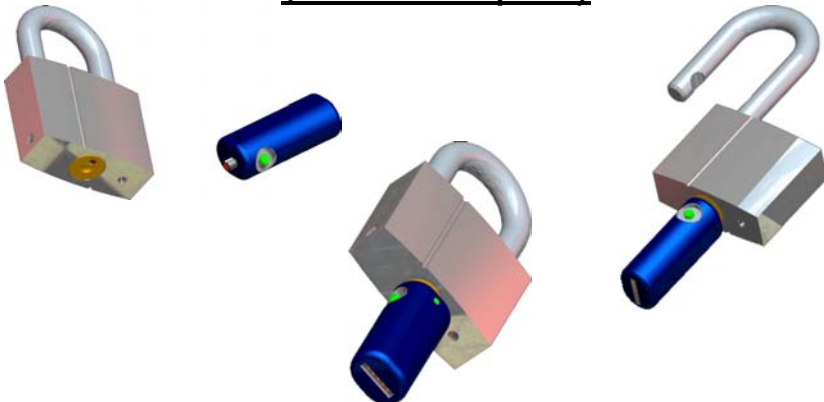


**ENHANCED AUTO-DIALER**

Multi key, automatic



## SIMPLE AUTO-DIALER (matched pair)



Auto-dialer pre-programmed with specific combination

## Dialer with access control & auditing



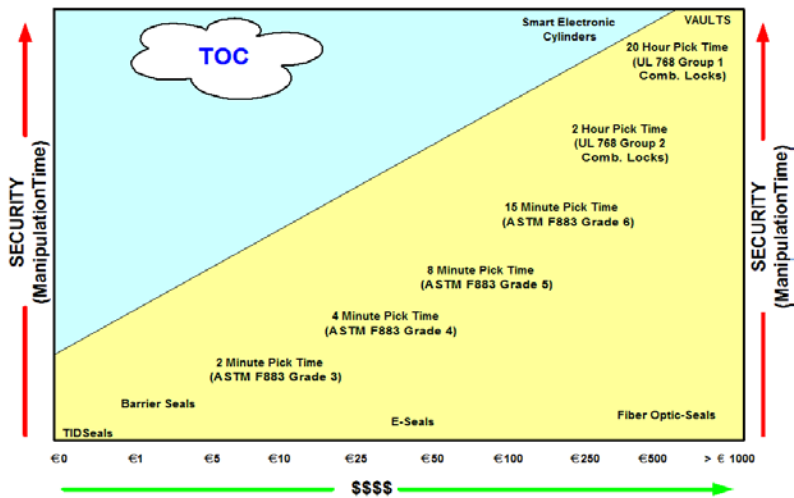
DOCKING STATION  
•Data Transfer  
•Charging

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## Cost versus Security



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## Competitive Matrix

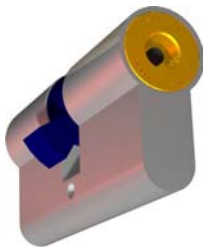
Device	Lock / Cylinder			Key			Example
	Technology	Auditing	Battery	Technology	Auditing	Battery	
High Security Mech. Cylinder / Key	Mechanical	No	No	Mechanical	No	No	dics / pin / magnetic tumblers
Electronic cylinder mechanism	Electro-Mech	Yes	No	Electro	Yes	Yes	Cyberlock Blue Chip Nexgen
Electro-Mechanical Cylinder mechanism	Electro-Mech	Yes	No	Electro	Yes	Yes	Cliq, Smart
High Security mech. disc Combo Lock	Mechanical	No	No	Combo	No	No	S&G 6700
Hotel locks, Passcard, Door Access etc.	Electro-Mech	Yes	Battery or Hard Wired	Mech. Passive, Biometric, RF	No	No	Salto ibutton, Ving card
TOC	Mechanical	Optional	No	Electro-Mech	Yes	Yes	

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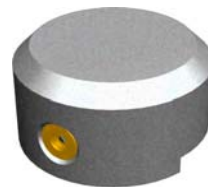
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## VERSATILITY



- Padlocks
- Cam Cylinders
- European Profiles
- T-Handles
- Switch Locks
- Safes and Vaults
- Builders Hardware
  - Mortise and Rim
  - International Cylinders



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## Summary

- No Keyway
- Low Cost, simple purely mechanical cylinder
- User blind to combination, manual override possible
- Environmentally Robust
- Manipulation Resistant
- Future Proof
- Versatile
- Cylinder auditing possible
- High Number of Permutations
- High Degree of Key Functionality Possible

## Questions

[For More Information Contact:](#)

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