



**Elematic makes your dream concrete**



## **ELEMATIC BATTERY MOLD PROCESS FOR WALL PRODUCTION**



**BATTERY  
MOLD /  
PRODUCTION  
PROCESS**

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Starting from completion of curing

1. Hydraulic clamping rams are released
2. End wall is moved enough to allow the cured panel(s) in the first cell to be released and removed by an OH crane from the side of the mold 
3. Intermediate mould plates are moved one by one and cured elements removed by an OH crane from the side of the mold 



**BATTERY  
MOLD /  
PRODUCTION  
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4. Cleaning, oiling, reassembly of side formers etc. and placing of inserts and reinforcement can start intermediately after removal of elements from the cells 
5. The battery is reassembled and tightened after preparation work in all cells has been completed and inspected
6. Concrete is placed by casting machine, top surface smoothed and preferably covered to prevent dehydration 
7. Concrete temperature is increased and controlled during curing in relation to speed of production, final strength and required stripping strength



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## GENERAL CONCERNS

- **Surface Quality** 
- **Compaction** 
- **Curing** 
- **Labor** 
  - Number
  - Skill requirements
- **Working environment** 
- **Changeability, flexibility** 



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### SURFACE QUALITY

- Manufacturing in a battery mold gives plain and smooth surfaces on both sides of the panel
  - **Examples**
- Concrete mix design affects the surface quality and ELEMATIC has the know-how and resources for finding the optimum recipe
- Magnetic fastening system for openings saves the mold surfaces from damages





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## COMPACTION

- Wall panels with openings have been manufactured successfully in battery molds for decades
- Battery molds included in Elematic's quotation have built-in vibrators to ensure proper compaction even with ordinary concrete mixes
- Introduction of SCC has made it easier, faster and even more economical
- Sufficient tightness of the casting cells is achieved by seals on the edges of the side forms





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## ENCLOSED CURING

- **Battery mold provides most efficient and uniform accelerated curing environment**
- **As all the surfaces of the panel - with the exception of the top - are surrounded with steel, no moisture is lost during the curing**
  - **no moisture loss = no loss of strength**
  - **no humidity control system is needed**





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## LABOR

- **Skills requirements**
  - Unskilled worker can be easily trained to work on a battery mold
  - No special hand-skills are needed
- **Number of workers per shift (in Battery Mold Lines)**
  - 11 workers per each 3-battery line
  - in addition:
    - one crane operator for each battery mold line
    - 3 men for B&M plant
    - 3 men for stock yard





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## WORKING ENVIRONMENT

### SAFETY

- Elematic battery molds are equipped with stairs, catwalks and railings for safe working on the top of the mold
- The top surface is flat with minimal obstructions
- Movements of the leaves of the mold are slow and made manually ⇒ No danger of men getting squeezed

### COMFORT

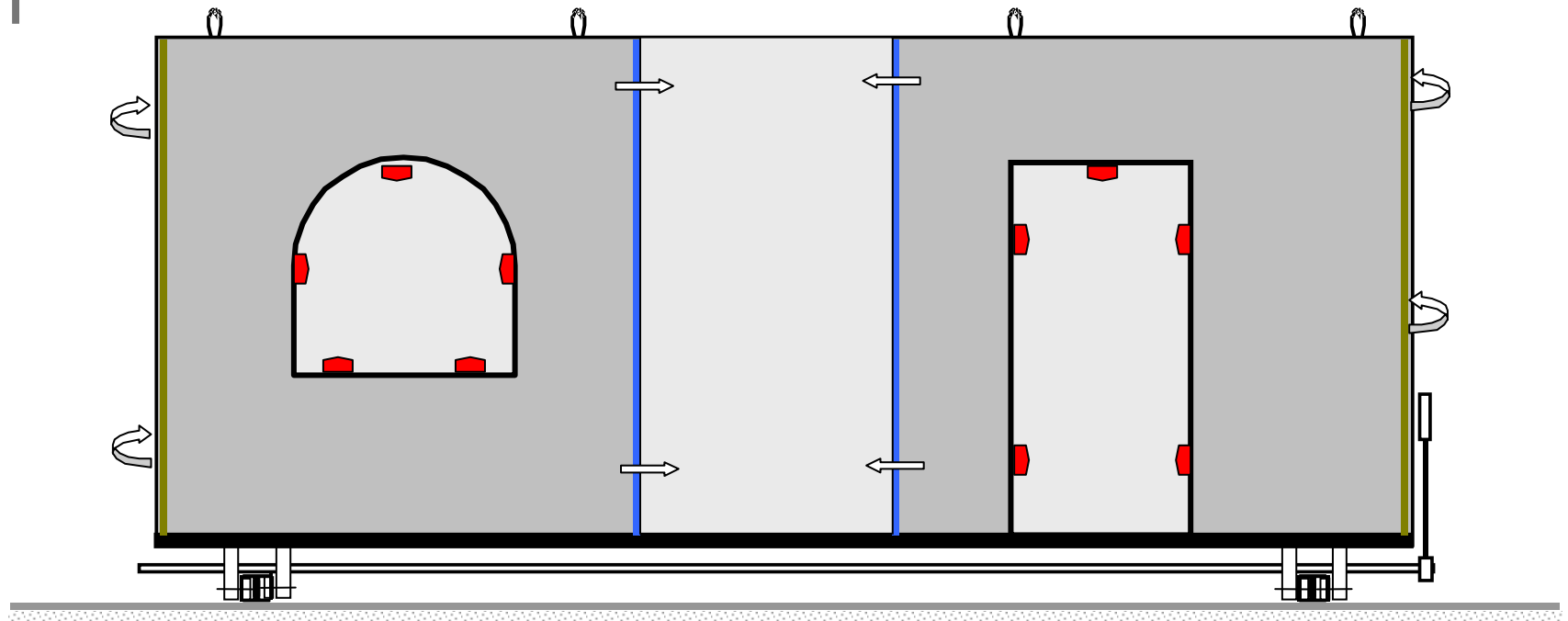
- Elematic battery mold is a compact package and emits very little heat
- Vibrators are enclosed inside the battery and the vibration energy goes into the concrete
- Floors are flat and free from pits, which helps cleaning (also an important SAFETY issue!)





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TYPICAL  
CASTING  
CELL LAY-  
OUT





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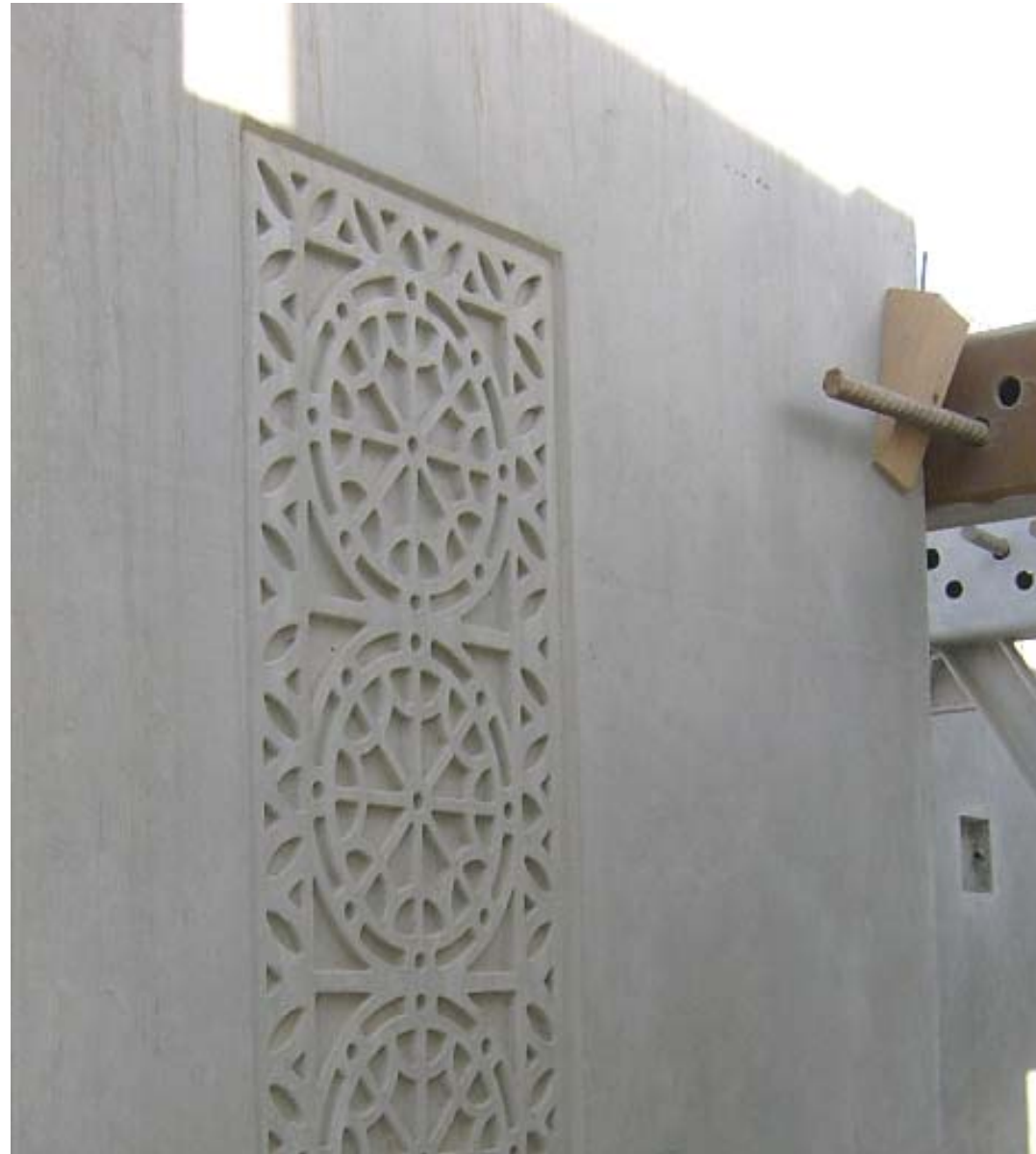
**CLOSE-UP  
OF A  
BATTERY-  
MOLD-  
MADE  
PANEL  
SURFACE**





ORNAMENT  
ON A  
BATTERY-  
MOLD-  
MADE  
PANEL

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**ORNAMENT  
ON A  
BATTERY-  
MOLD-  
MADE  
PANEL**

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**CLOSE-UP  
OF A  
BATTERY-  
MOLD-  
MADE  
PANEL  
SURFACE  
WITH  
ORNAMENT**





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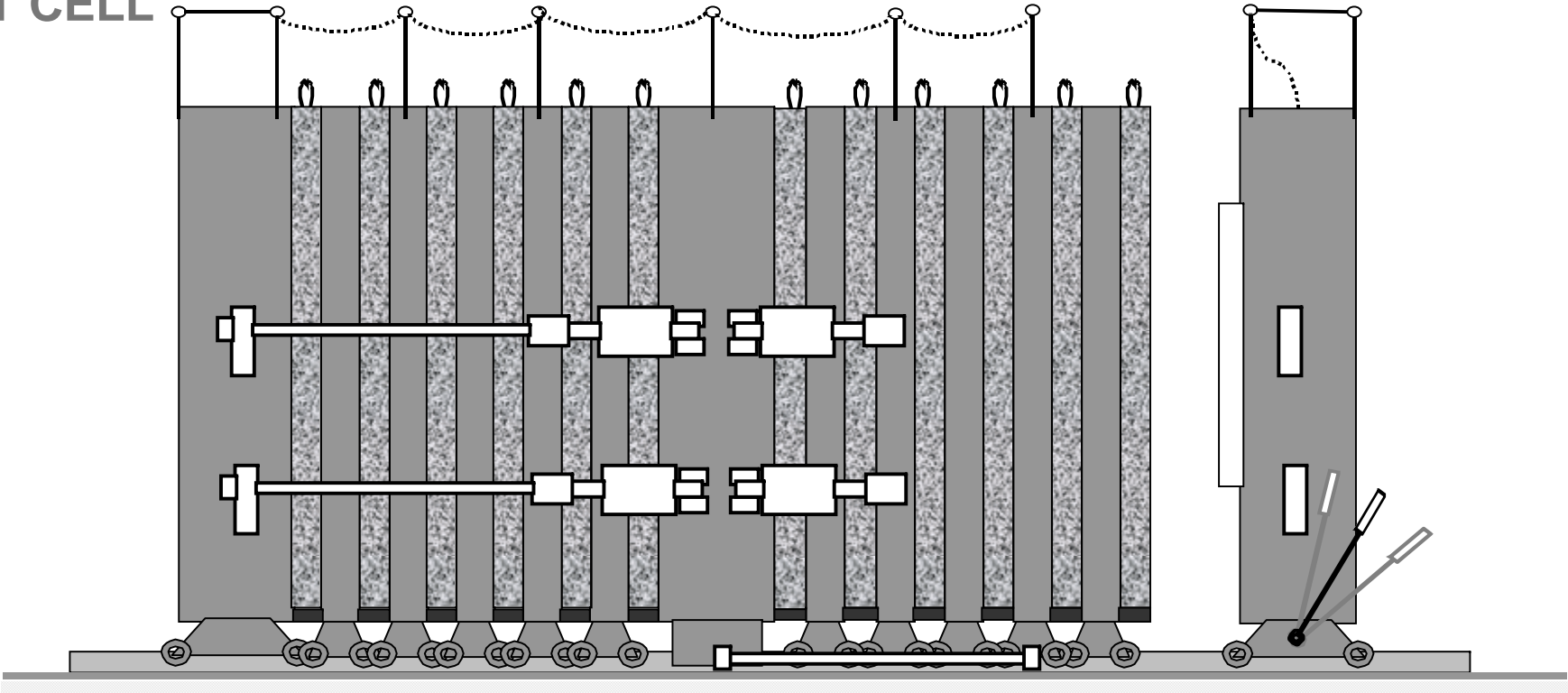
CLOSE-UP  
OF A  
BATTERY-  
MOLD-  
MADE  
PANEL  
SURFACE  
AND EDGE





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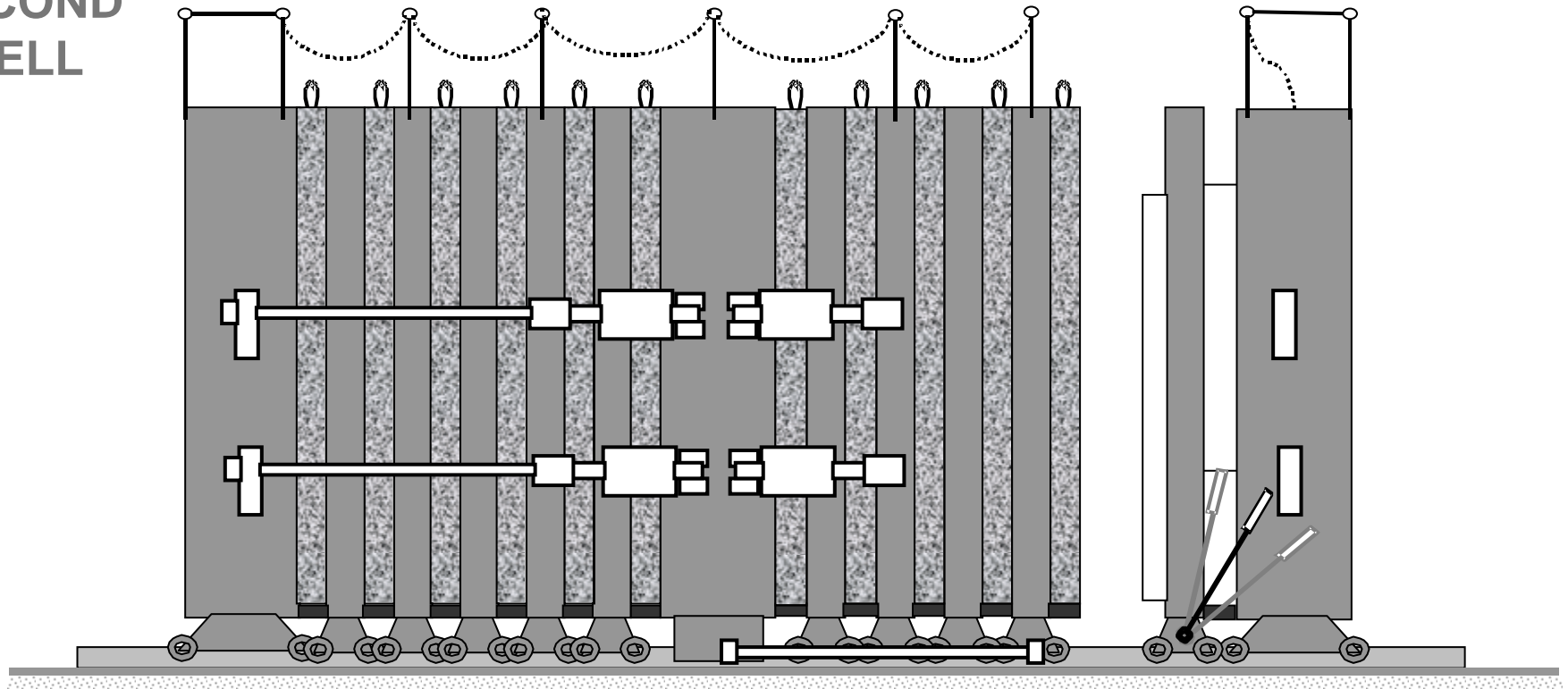
OPENING /  
FIRST CELL





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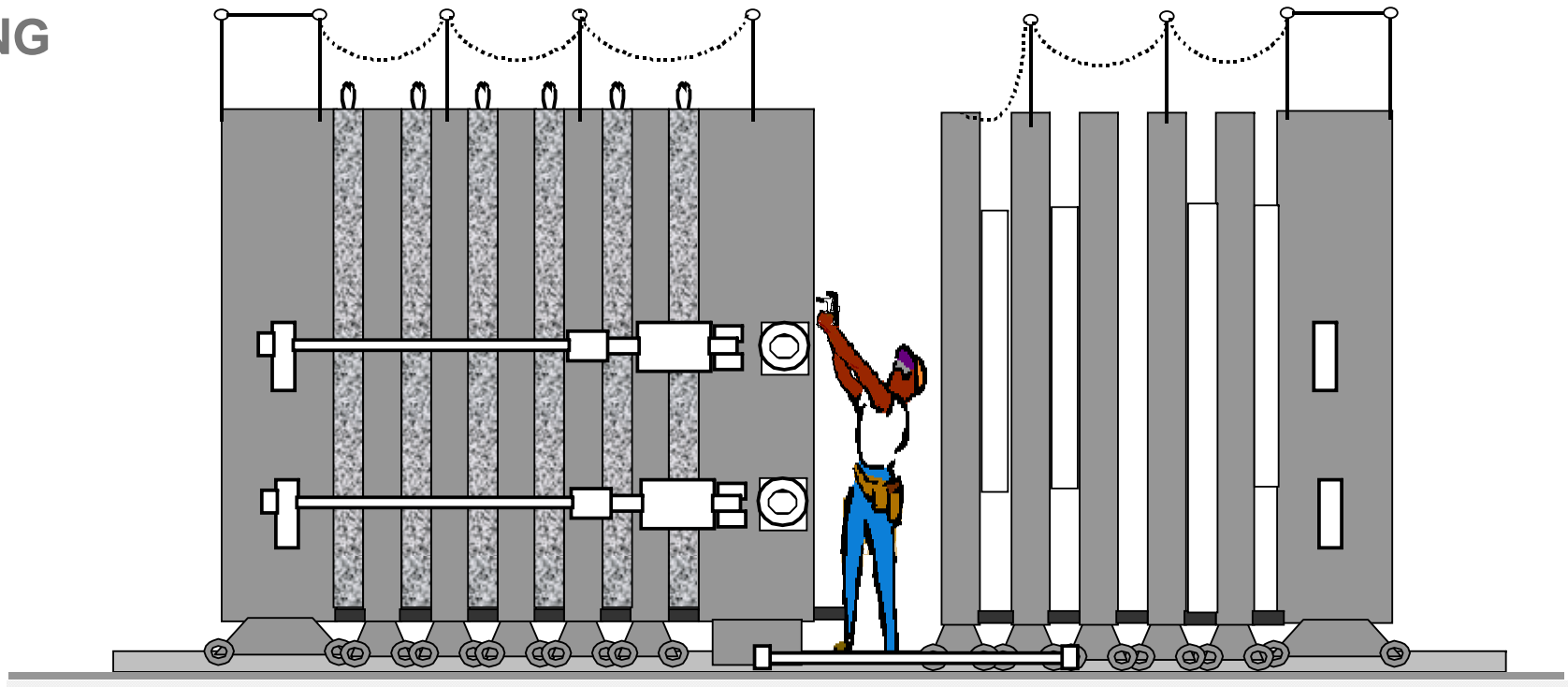
OPENING /  
SECOND  
CELL





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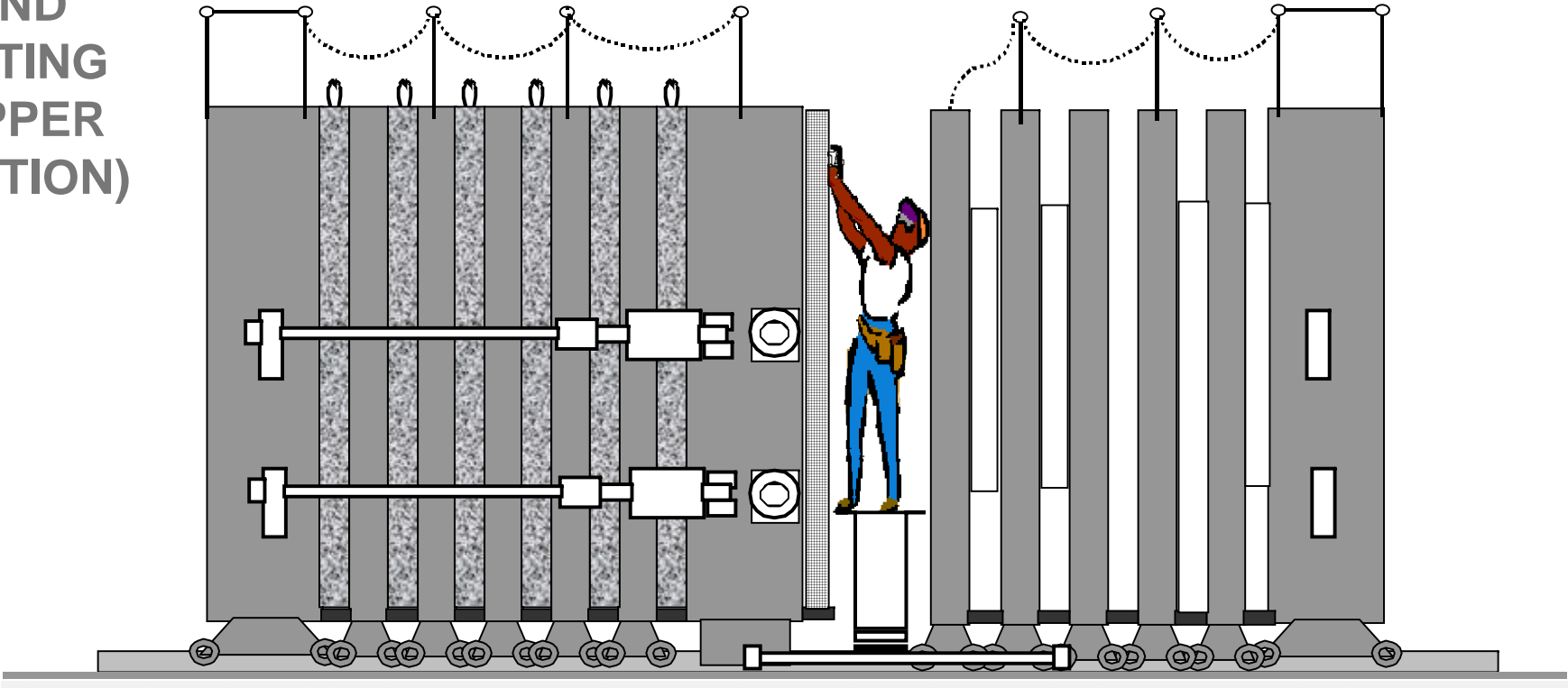
# CLEANING AND FITTING





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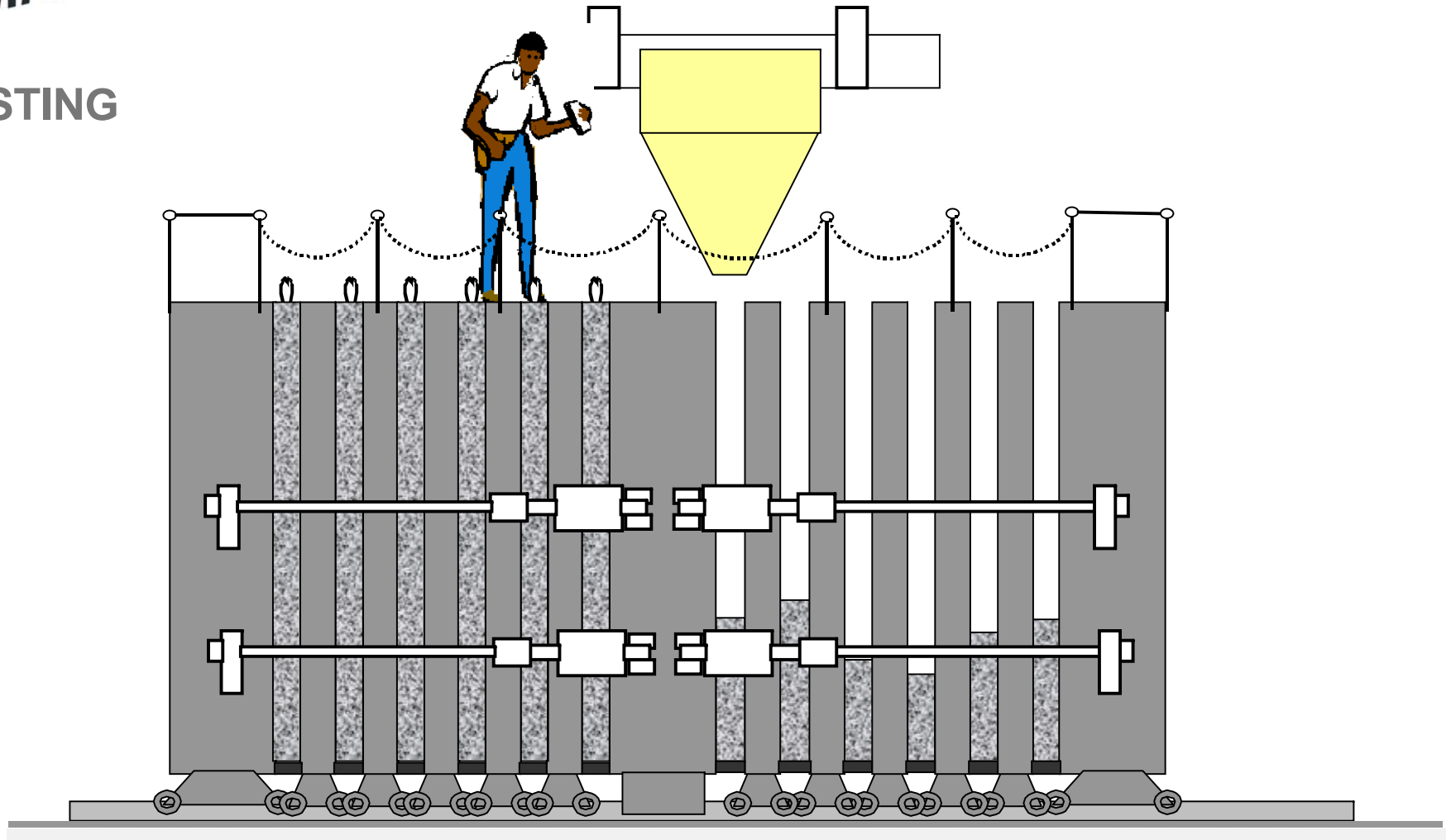
CLEANING  
AND  
FITTING  
(UPPER  
SECTION)





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CASTING





**WORKING  
ON THE TOP  
OF  
BATTERY  
MOLD**

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**WORKING  
ON THE TOP  
OF  
BATTERY  
MOLD**

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