

Elevators
Escalators
Moving Walkways
101

JIM KEANE

Elevator History

Many Notable Figures Interested in Elevators

- **James Bogardus**
- **Peter Cooper**
- **Elisha Graves Otis**

1853 – NYC Cooper Union Building – Designed in Elevator Shaft

Elevator History

1857 – Elisha Graves Otis Invented Device to Stop Elevators From Falling if Rope Broke

1857 – March 23 – First Passenger Elevator Installed in NYC

1864 – NYC Cooper Union Building – Elevator Installed

OTIS Elevators Installed

- Eiffel Tower
- Empire State Building
- World Trade Center
- Burj Khalifa

Elevators Today

Shanghai Tower

Fastest Elevator 67 Feet Per Second or 46 Miles Per Hour

Longest Continuous Run 1,898 Feet of the 2,073 Foot Tower

Escalator History

1848 – Nathan Ames

- Harvard Educated Lawyer and Inventor – 11 Patents
- “Revolving Stairs” Patent

1889 – Leamon Souder

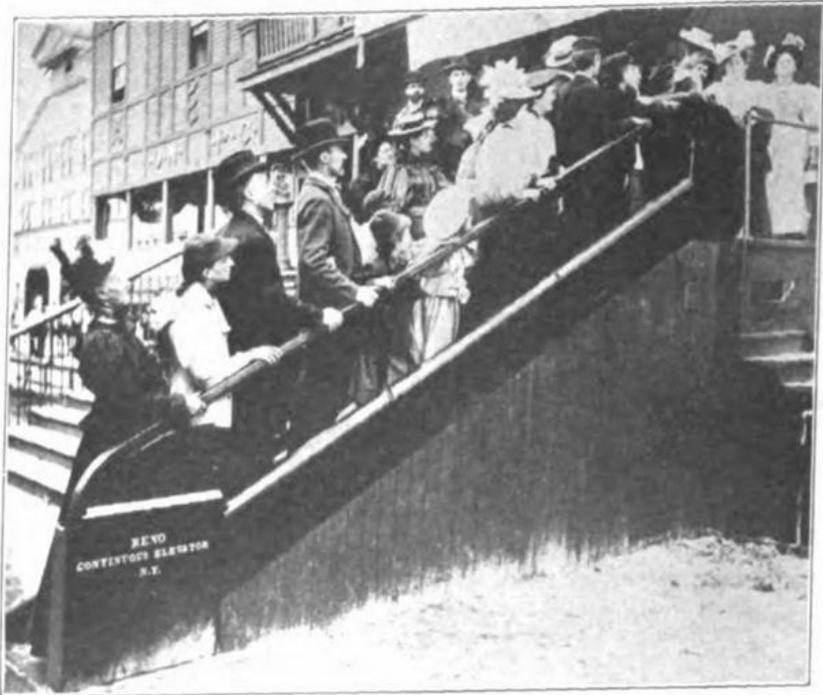
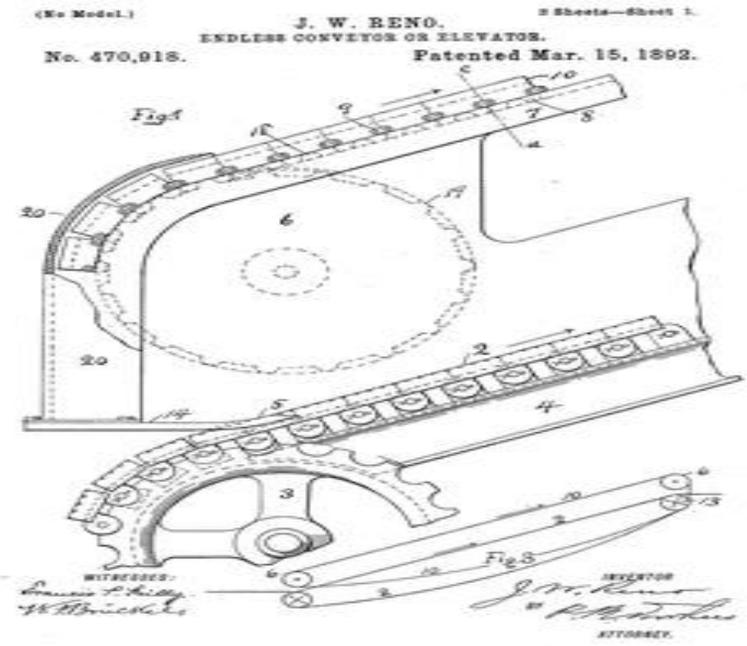
- Amateur Philadelphia Engineer
- “The Stairway” Patent
- Linked by Endless Chain and Hydraulically or Propelling Power

Escalator History

1892 – Jesse Reno

- “Inclined Elevator” Patent
- Moving Handrails
- Direct Connected Electric Motor
- Comb Plate Teeth at Top and Bottom
- Moved 90 Feet Per Minute

Escalator History



RENO INCLINED ELEVATOR AT CONEY ISLAND.

Escalator History

Jesse Reno “Inclined Elevator”

- **25% Incline – Went up 7 Feet – No Steps**
- **Essentially an Inclined Moving Walkway**
- **1896 Ran at Coney Island for Two Weeks**
- **Moved to Brooklyn Bridge – Manhattan Side**
- **Carried over 75,000 Passengers – Safely**

Escalator History

George Wheeler – Then Patented Steps

Charles Seeberger – Bought Wheeler Patent – Coined “Escalator”

Seeberger Joined Forces With Elisha Graves Otis

- **OTIS Elevator and Escalator Company**

Escalators Today

In the United States

- **Estimated Over 30,000 Escalators**
- **Estimated Over 90 Billion Escalator Riders Each Year**

In Hong Kong

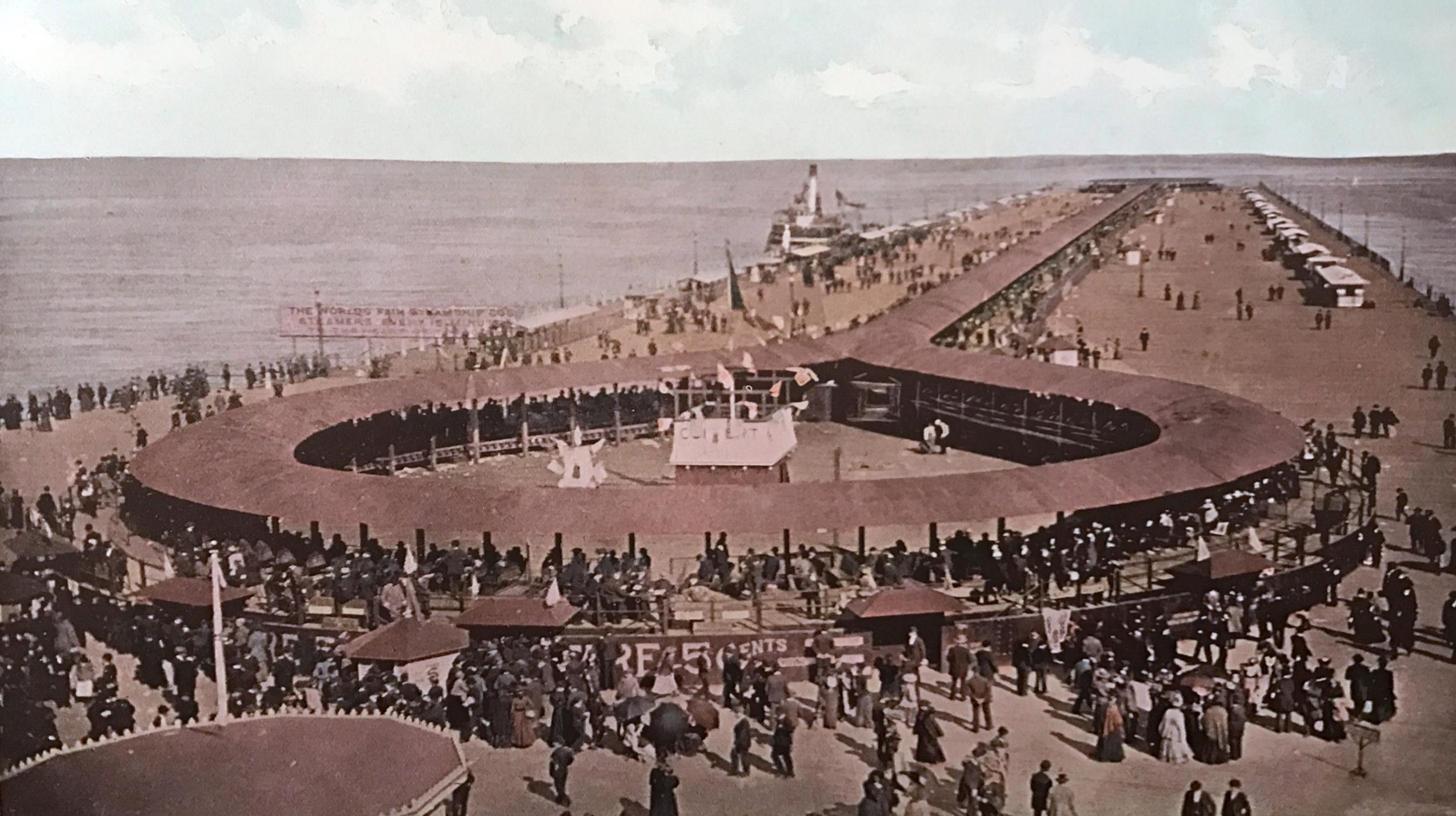
- **Central – Mid Level Escalators – 2,600 Feet**

Moving Walkway History

1871 – Alfred Speer – Inventor and Wine Merchant – Awarded Patent

1893 – Joseph Lyman Silsbee – Chicago Columbian Exposition

- Two Variations of Moving Walkways
- Configured in Loop on Pier Transporting People – .05 Cents
 - Passengers Seated – 4 MPH
 - Passengers Standing or Walking – 2 MPH
 - World's Longest Moving Walkway – Destroyed by Fire 1894



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