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
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
Moving Walkways Today

Airports
Public Transit
Museums
Zoos
Theme Parks
Theatrical Sets
Ski Resorts
Stores – Very Popular in the UK