



UPs+DOWNs

A Safety Magazine

For riders of elevators, escalators
and moving walks

Courtesy of Schindler Elevator Corporation



Schindler



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Most people don't consider elevators, escalators and moving walks as mass transportation—but they are. Although these people-moving systems are not “common carriers,” they do, in fact, carry several times more passengers daily than any other form of transportation.

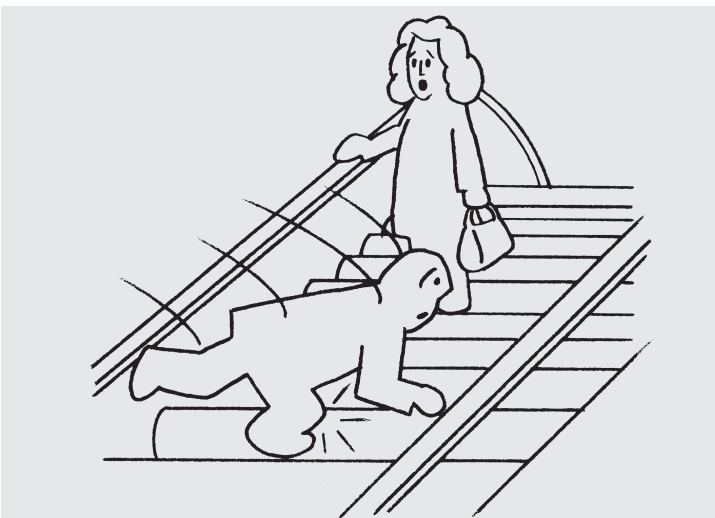
It has become second nature for most people to buckle up and obey traffic rules when driving cars, to understand restrictions on privileges such as smoking when traveling by air, and to know how to board when using trains and subways. Elevators, escalators and moving walks have similar “ups and downs” or “rights and wrongs” for ensuring their safe operation.

The pages that follow highlight some behaviors to avoid when traveling on people-moving systems and explain how sensible precautions can keep you moving along safely and efficiently.

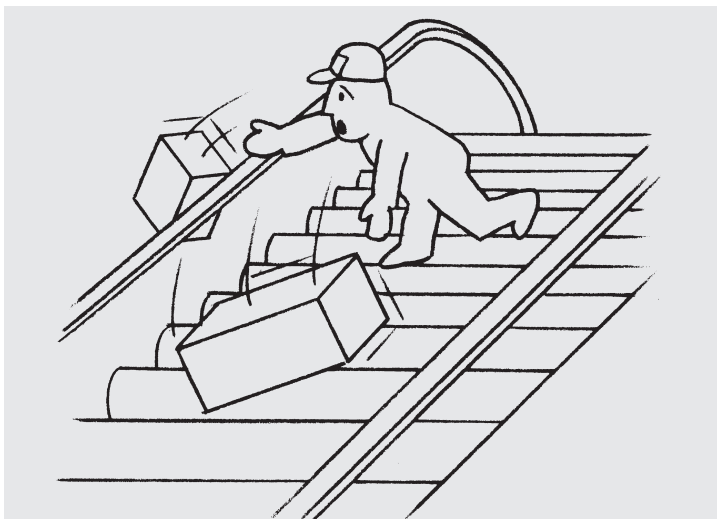
Some Common “Downers”



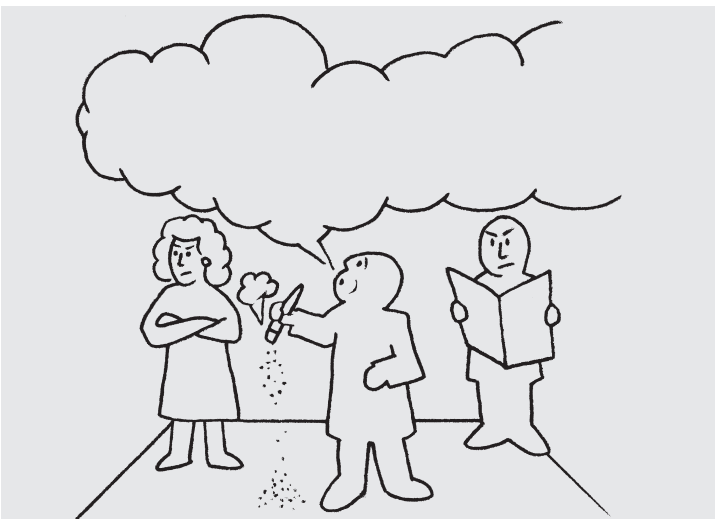
Strollers on escalators are DANGEROUS!
Use the elevator instead.



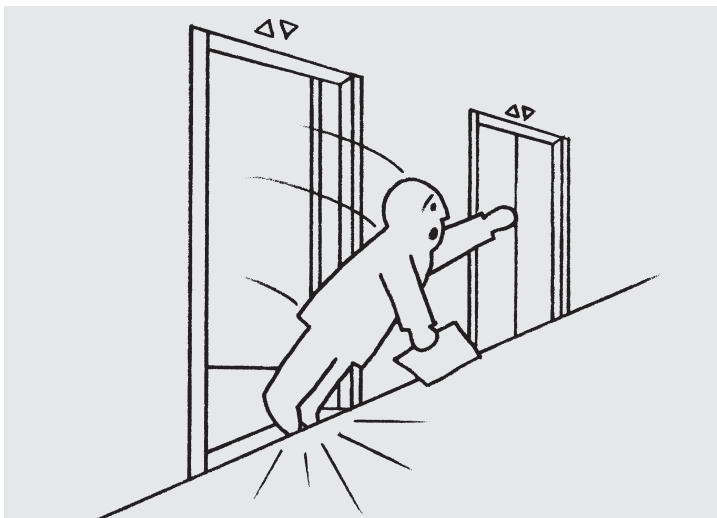
Running up the “down” (or down the “up”) escalator is DANGEROUS!



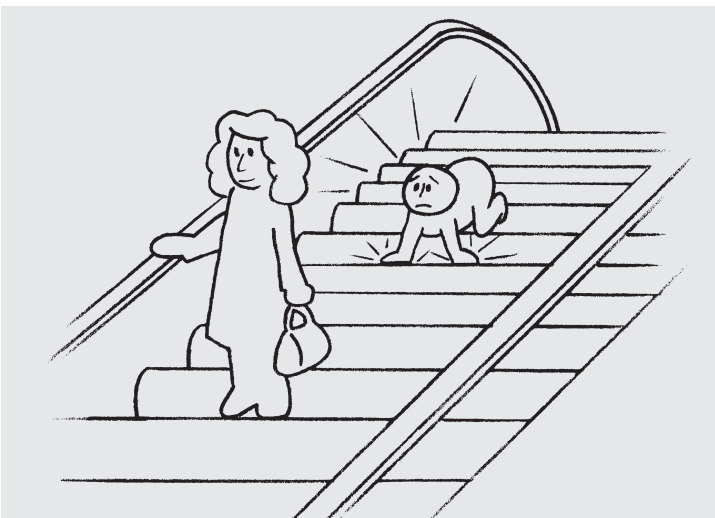
Escalators and moving walks are NOT for freight.
Use the elevator instead.



Smoking on an elevator is discourteous to others and ILLEGAL!



Watch your step when entering and exiting elevators.



Children should never ride unattended or sit on an escalator or moving walk.

Elevating

Safety rules



► Easy on the button.

Choose the elevator that serves your floor and press the "up" or "down" button once. Repeated button-pushing won't bring an elevator faster; pressing both results in slower service. Look or listen for the signal announcing your car's arrival.

► Hold that car.

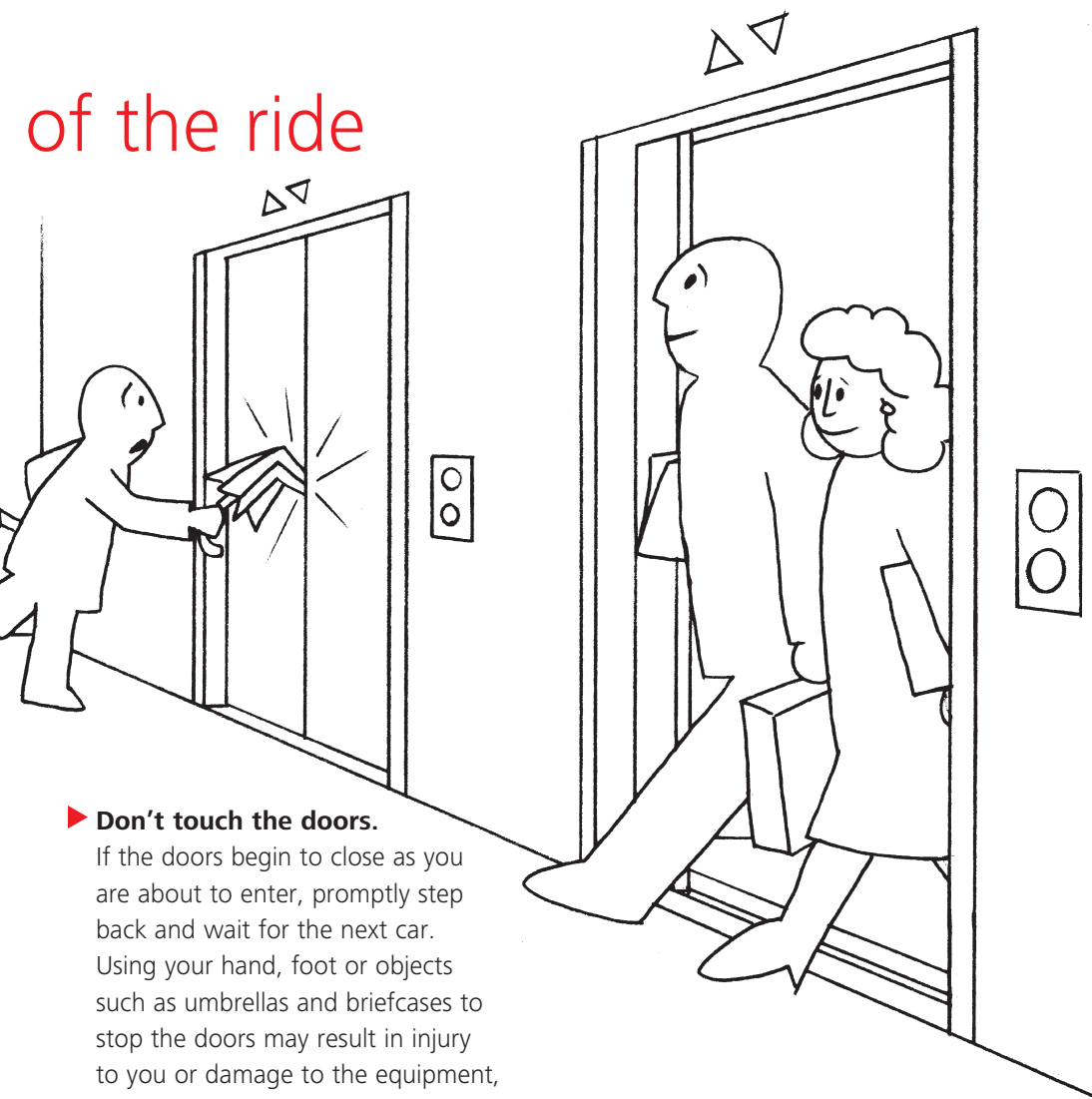
Once inside the elevator, press the button for your floor and move to the back of the car. To keep doors open longer than the programmed time, press and hold the "Door Open" button. Doors will close automatically soon after you release the button.

As the world's most widely used and safest form of mass transportation, elevators provide passengers with incomparable convenience, dependability and efficiency. The United States alone has about 425,000 elevators that annually carry more than 68 billion passengers (12 times the population of the world) about 927 million passenger miles. Although elevator trips outnumber those taken on air, bus or rail systems several times, elevators are amazingly safe.

Even though elevators have built-in, dependable safety features, you can help to ensure a safe and efficient ride by elevating your safety awareness at each stage of your journey.

Awareness

of the ride



► Don't touch the doors.

If the doors begin to close as you are about to enter, promptly step back and wait for the next car. Using your hand, foot or objects such as umbrellas and briefcases to stop the doors may result in injury to you or damage to the equipment, as the doors of some older elevators may not retract automatically.

► Step carefully.

When the elevator arrives, stand aside to let passengers exit. Passengers nearest the door should enter first. Watch your step as you enter, make sure the elevator is level with the floor and step over the threshold.

► Don't discriminate.

Gender or age has nothing to do with who should exit first. It's just common sense. Let passengers closest to the door exit first.

► Courtesy comes first.

Displaying a few simple courtesies helps make the ride quick and enjoyable for all.

- Do not allow children to push buttons for the fun of it — it slows service.
- Smoking in elevators annoys other passengers and, in most places, is illegal. Extinguish lighted smoking materials before entering the elevator.
- Do not delay other passengers by holding the door open to talk to a departing passenger.
- If the elevator makes a stop before your floor, step aside so other passengers may enter and exit quickly, easily and safely.

Calm, Cool and Collected

While building emergencies are rare, should one occur, you can be confident that the situation will be resolved efficiently with the help of the elevator's advanced communication systems.

► If the elevator stops between floors:

- Stay calm and push the alarm button provided in all elevators.
- Use the elevator's telephone or intercom to request help from the building staff.

- Wait for assistance.
- Never try to climb out of a stalled elevator unless assisted by a trained emergency crew.

► If there is a building fire, blackout or power failure:

- Use the stairways. Leave the building by way of designated emergency exits.
- Avoid the elevator for the following reasons:
 - Fire can interrupt the flow of power to an elevator system.

- Firefighters and emergency crews may need to use the elevators for rescue work.

► If you're in an elevator when the fire alarm sounds:

- Don't panic. Most modern elevators are designed to return you to the lobby immediately.

Stepping Up

Riding escalators and moving walks is easy to take for granted. Like walking or riding a bike — you do it once and you never forget. But, are we always doing it properly and with safety in mind? And, what's more, are we instilling good safety habits in our children? Most of the guidelines outlined below apply to both escalators and moving walks.

► Lessening Wear and Tear

To reduce wear and tear — on your clothing, your body and the equipment — be sure to:

- Keep hands, feet and clothing clear of moving parts. Be particularly careful with loose clothing such as scarves, coats and their belts, long skirts, untied shoelaces, and when wearing soft rubber shoes or boots, open-toed shoes, sneakers or high heels.
- Never ride an escalator or moving walk barefoot.

► Way to Go

What is the proper way to ride an escalator?

Here are a few suggestions:

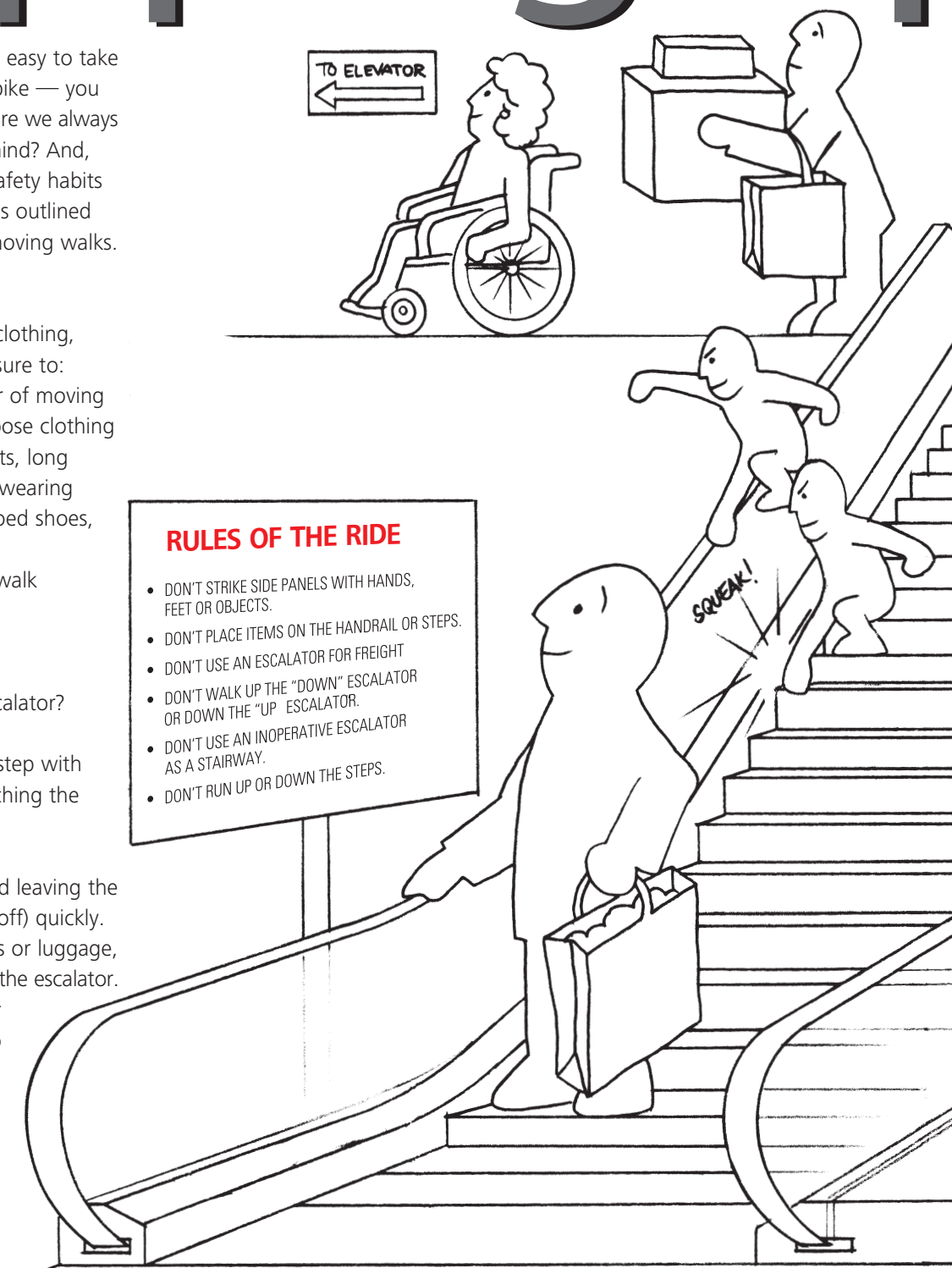
- Face forward on the center of the step with feet slightly apart and without touching the stationary sides.
- Hold the handrail.
- Watch your step when entering and leaving the escalator, and step off (don't slide off) quickly.
- If your hands are full with packages or luggage, choose a nearby elevator instead of the escalator.

Balancing packages on the steps or on the handrail may cause injury to yourself or other passengers.

- When using a wheelchair, stroller, crutches or any kind of cart, follow the signs to the nearest elevator.

Escalators were never intended to accommodate these vehicles safely.

- Recognize your limitations. If you feel uncomfortable riding, or experience difficulty boarding or exiting an escalator, use the elevator instead.



o Safely

Ridership rules for escalators and moving walks



► Toys Are NOT Us

Wide, shiny bright steps that move. Thick rubber handles. Sides that you can see yourself in. A moving playground? No, an escalator.

A child can make a game out of almost anything and escalators are no exception. Although you know that an escalator is not a toy, many children do not. Following these simple guidelines will make the ride more pleasant and safe for your children.

- When traveling with a small child, hold his or her hand, or carry the child in one arm while holding the handrail with the other. Help children step onto and off of the escalator.
- Do not allow children to sit on escalator steps where clothing and fingers can become caught.
- Never let children ride on or play with the handrail.
- Do not let children drag their feet along an escalator's sides. No matter how tempting it is to make that distinctive "squeaky noise," a foot can become caught between the step and the side panel, causing serious injury.
- Do not allow children to use an escalator unattended.
- Do not allow children to walk or run up the "down" escalator or down the "up" escalator.

Onward and Upward

It's hard to imagine where we would be without elevators and escalators.

They've allowed us to expand in yet another direction — vertically. We've become totally dependent on this equipment to travel in our office buildings, apartment buildings, shopping malls and hotels. Although their reliable and unobtrusive service gives the appearance of simple design, today's elevators and escalators are built upon years of research and development.

► 2600 B.C. — Egyptians raise the pyramids

Egyptian engineers perfected clever load-moving techniques to complete the Great Pyramid of Cheops in 2600 B.C. An elaborate system of hoists and pulleys augmented the muscle power of hundreds of thousands of workers to haul the pyramid's 2,300,000 three-ton blocks into place. The finished structure stood 482 feet tall and covered 13 acres. Their ingenuity served as the basis for modern elevator design.

► 232 B.C. — Archimedes moves the earth

In his quest to "move the earth," Archimedes elevated the principles of leverage, balance and counterweight to pure science by using a fulcrum and lever.

► 1800 — Steam engine fuels freight movement

Coal miners began to use James Watt's steam engine to power a device that hoisted coal from underground mine shafts.

► 1854 — Debut of the elevator safety brake

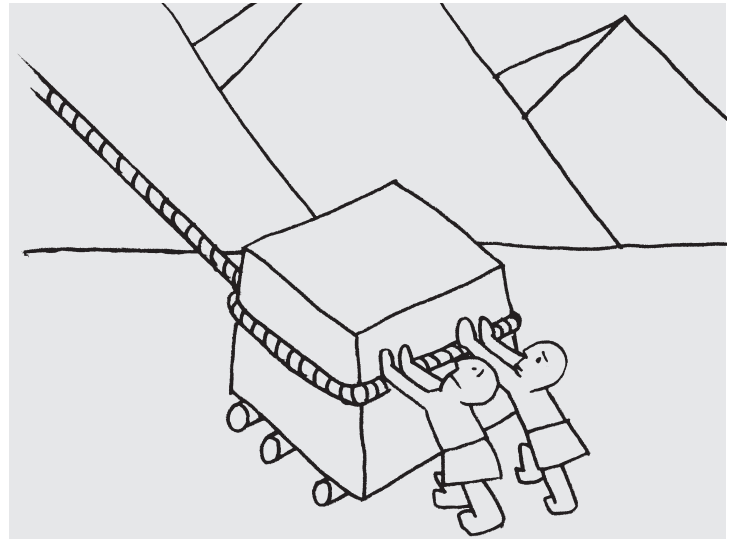
The invention of the elevator safety brake made elevators safe enough to move people. The brake was given a dramatic debut at New York's Crystal Palace Exhibition. A platform was hung from a heavy spring which a hoist rope kept compressed so it could run smoothly between two ratchet panels. After the platform began its descent, the rope was cut — much to the crowd's dismay. But the release of tension on the spring caused it to snap into place, engaging the brake and stopping the fall of the elevator.

► 1859 — First passenger elevator installed

A new hydraulic model elevator was installed in a New York department store. It was mounted on a piston that moved up and down when fluid was forced into and out of a cylinder. Because it required that the shaft of the piston be buried into the ground at a depth equal to the height of the building, it would not accommodate buildings taller than five stories. However, hydraulic elevators are still the top choice for modern low-rise construction.

► 1874 — Schindler company founded

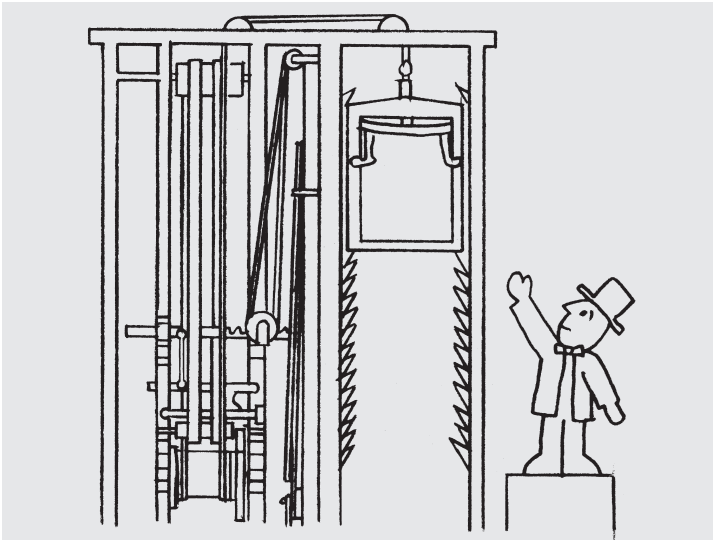
Robert Schindler founded a family business which is now the second largest elevator supplier in the world, operating in over 100 countries.



2600 B.C.



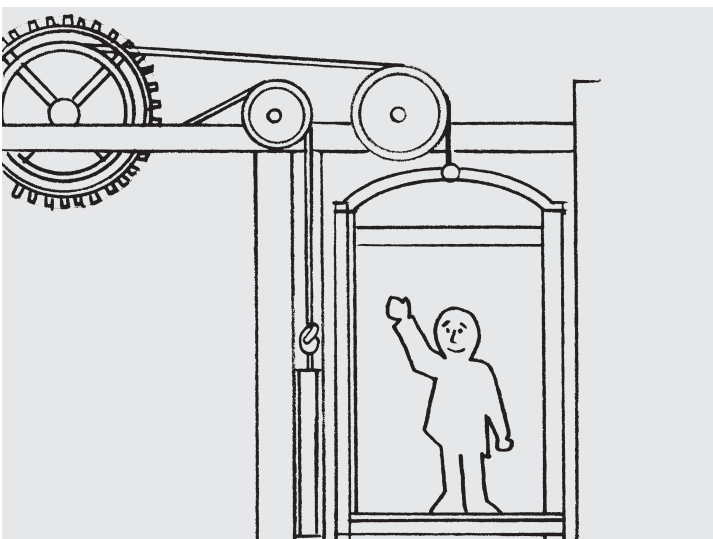
232 B.C.



1854



1859



1895

► **1890 — Schindler delivers its first hydraulic drive system**

► **1895 — Frost and Strutt design traction drive system**

Frost and Strutt, British inventors of the teagle, or “lift,” extended hoist ropes from the top of the car over a drive sheave and down to a counterweight, connecting the overhead sheave to a power unit. The friction between ropes and sheaves, known as traction drive, became the design mode for most elevators. The teagle moved faster and higher than hydraulic models.

► **1900 — First escalator installed**

The first escalator installed at the Paris Exposition, an improvement on Jesse Reno’s 1891 “inclined elevator” patent, boasted a smooth ride, but getting on and off was difficult and hazardous.

► **1932 — Safer escalators introduced**

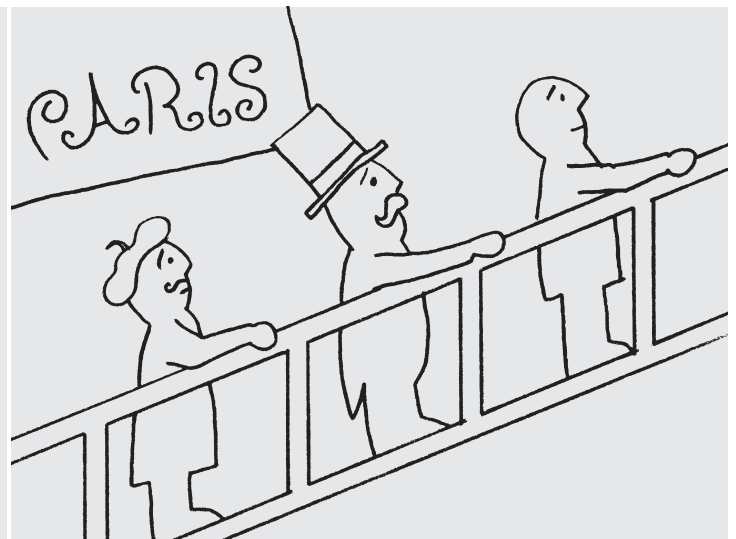
Escalators were built with safety devices to detect broken drive chains and narrow-cleated steps that meshed smoothly with a combplate landing. They also provided quieter, smoother rides.

► **The 20th Century**

Today’s modern elevators use state-of-the-art computerized control systems that analyze calls, set priorities and dispatch cars on demand—all with split-second timing. Some elevators can synthesize the human voice and display information on in-car, electronic bulletin boards. They can be programmed to identify how many people work on each of dozens of floors, the number of visitors they expect, and even when they typically go to lunch. And Schindler has pioneered many of the innovations that made it all possible during the 20th century.

► **What’s Ahead**

In the future, elevators may actually have the capability to recognize passengers personally, to respond to their verbal commands for service, and to turn on heat and lights in their apartments and offices. With the contributions of Schindler’s technological sophistication and commitment to quality, the future of elevators, escalators and moving walks continues to look up.



1900

It's no accident that people-moving systems are so safe: all elevators, escalators and moving walks in the U.S. must meet stringent safety codes before they are permitted to operate.

How It Works

Elevators: In-FALL-ible?

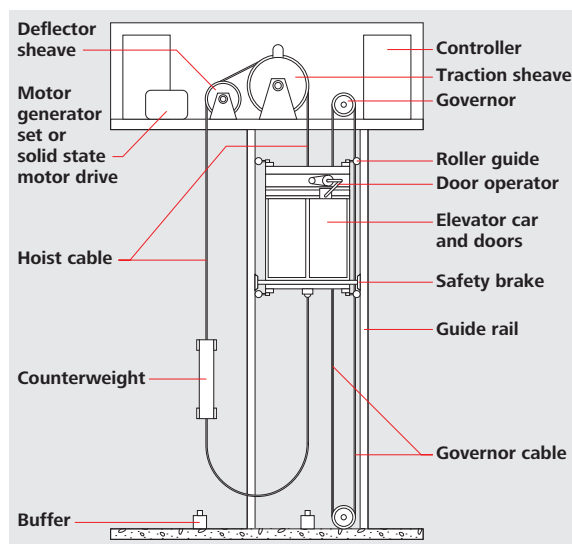
Can an elevator fall? Elevators are equipped with safety features that make it virtually impossible for them to fall. In a high-rise building, at least four steel cables raise and lower the elevator, any one of which is strong enough to support it. The cables can support the weight of the car plus the maximum allowable weight of the passengers. A counterweight is attached to the other end of the cables to balance the weight of the car.

If an elevator should overspeed during descent, two emergency features would automatically intervene. First, switches turn off the elevator's drive power. Then, spring-loaded wedges, called safeties, grip the guide rail. Since the guide rail is securely fastened to the building structure, it's virtually impossible for a car to fall. In low-rise buildings, the safety features are somewhat different, but just as reliable.

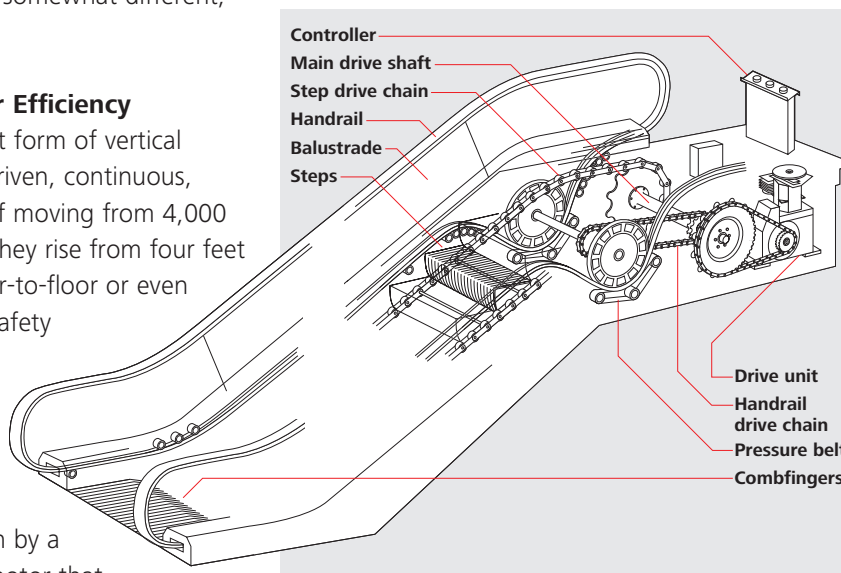
Escalators: Floor-to-Floor Efficiency

Escalators, the most efficient form of vertical transportation, are power-driven, continuous, inclined stairways capable of moving from 4,000 to 7,000 people per hour. They rise from four feet to over 100 feet, going floor-to-floor or even skipping floors. Escalators' safety features, as well as those similarly built into moving walks, are ensured by sound design.

Today's escalators are driven by a microprocessor-controlled motor that turns the main drive shaft. The drive shaft powers the step chain that moves the steps. It also powers another chain that keeps the handrail moving in sync with the steps. The steps are simply wedge-shaped risers that move along this continuous conveyor.



Traction Elevator



Escalator

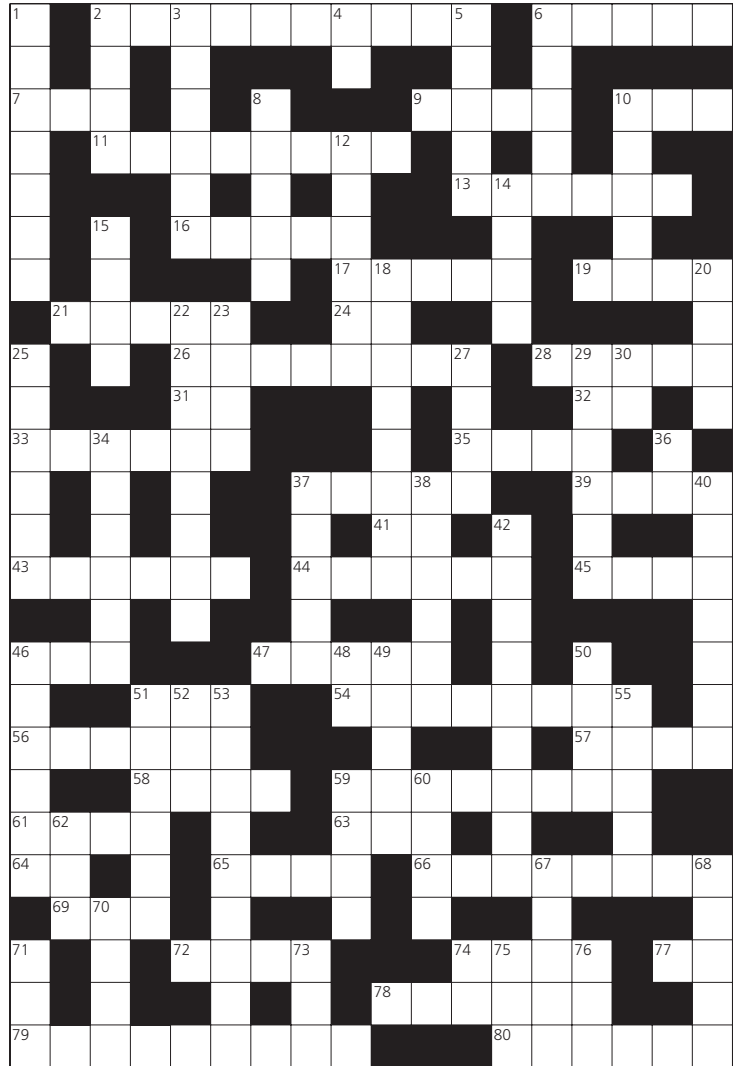
Crossword Puzzle

Across

- 1 Push for "lobby"
- 2 Elevator riders
- 6 For emergency calls
- 7 Fuel (not for elevators)
- 9 Put in motion
- 10 Make a mistake
- 11 These buildings need elevators
- 13 Should be conserved
- 16 Lustrous elevator interior
- 17 Impolite to do this in elevators
- 19 Lights up to show direction
- 21 Stretch out arm
- 24 Up _____ down
- 26 To steady ascent
- 28 Aloft
- 31 He, she, _____
- 32 Where an elevator is a "lift"
- 33 Moves slowly
- 35 Plant firmly on escalator step
- 37 Pull freight up and down
- 39 Down _____
- 41 Overhead valve (abbreviation)
- 43 Elevators are the safest form
- 44 Alone
- 45 Following floor
- 46 Soil
- 47 Like an elevator, fast and skyward bound
- 51 Equal basis
- 54 Vertical conveyance
- 56 Time to come
- 57 To dispatch cars
- 58 Fewer
- 59 Signs
- 61 Announce your floor
- 63 Number of stops you hope elevator makes
- 64 Football player _____ Tittle
- 65 What very old elevators may be
- 66 Confined
- 69 For kids only
- 72 Maintenance crew will replace when needed
- 74 First man (never rode an elevator)
- 77 Coming from, going _____
- 78 Take away
- 79 Choice of floor
- 80 Elevator designer

Down

- 1 Illuminated
- 2 To summon car
- 3 Equalizers prevent these
- 4 Opposite of stop
- 5 Illegal to do this in elevators
- 6 Annoy other passengers
- 8 Sequence
- 10 High-Flying
- 12 Reopens closing doors
- 14 Desire
- 15 Wide _____
- 18 Drive mechanism
- 20 Alight from escalator
- 22 Young passengers
- 23 Gentlemen remove these
- 25 Upward movement
- 27 British elevator
- 29 Push for service
- 30 All right
- 34 Scared
- 36 Expression of pain
- 37 Greeting
- 38 Thin
- 40 Seen
- 42 Piston-type elevator
- 46 Built-in checks take care of this
- 48 Whom I depend on most
- 49 Pixelike
- 50 Future of elevators
- 51 Used to make loads lighter
- 52 I am, you _____
- 53 Mar _____ walls
- 55 Hydraulic elevator _____ on a piston
- 59 What goes up must come _____
- 60 Viewed
- 62 Consume
- 67 Depart
- 68 Will close before elevator moves
- 70 Gem
- 71 Possesses
- 73 Minimum number of floors needed for elevator
- 74 Crowded elevator time
- 75 Popular pet
- 76 Male passengers



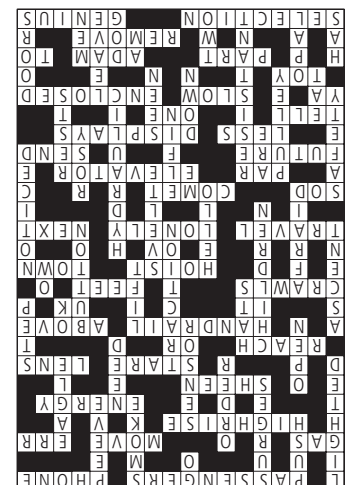
True Or False

- 1 The escalator handrail is primarily for use by children, the elderly and the handicapped.
- 2 Pushing the "up" and "down" buttons at the same time WON'T make an elevator work faster.
- 3 Elevators may not always land flush with the floor.
- 4 Elevator cars are held in place by giant magnets.
- 5 All elevators are equipped with light sensors that can reopen partially closed doors.

Answers to True or False

1. False — All passengers on an escalator should face forward and hold on to the handrail to prevent loss of balance. 2. True — Conflicting signals may actually delay service by causing the elevator to make unnecessary stops. 3. True — Occasionally elevators settle slightly out of alignment with the floor, so it's advisable to look before getting on or off. 4. False — Elevators depend on traction or hydraulic mechanisms with multiple safety features, not on magnets. 5. False — Older and less sophisticated elevators may not be equipped with sensors; thus, it's best to keep hands and loose clothing away from closing doors.

Answers to Crossword



Schindler

Reliable, moving, trailblazing

For generations, Schindler has been providing the finest elevator technology to architects and builders around the world. The company was founded in Switzerland in 1874, and has grown to become one of the world's leading elevator manufacturers, operating in more than 100 countries worldwide.

For further information including location of the Schindler office nearest you, please visit:

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