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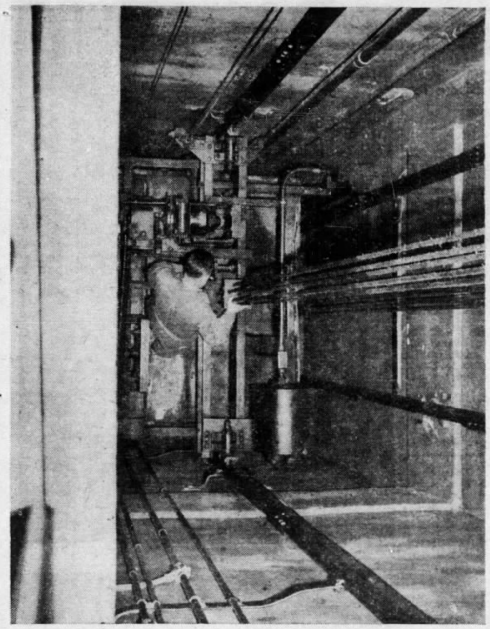
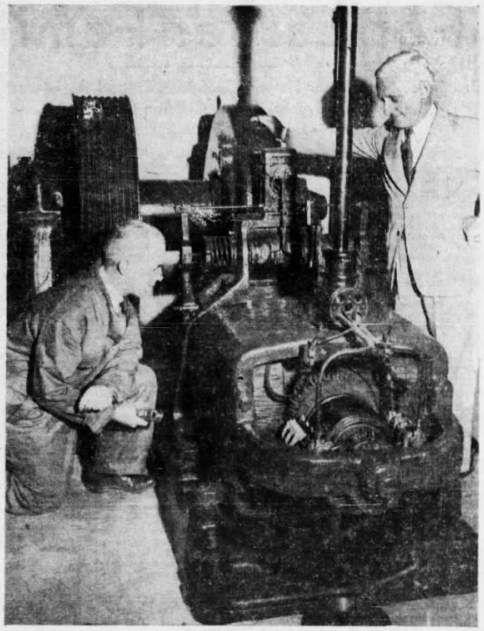


Here the inspector is shown examining the door opening device. Modern elevators have interlocking systems which prevent movement while door is opened. Inspectors clamber over the top of elevators to make sure these door devices are in good working order. (Courant Photos).



Vital operating parts of an elevator are lodged in a penthouse, and in the above scene John Ready, (left), deputy labor commissioner in charge of elevator inspection, is watching an examination of the brakes. These must be renewed periodically, as in your automobile.

# 'Elevator, Going Up!'

By THOMAS E. MURPHY.

LITERALLY hundreds of thousands of Connecticut citizens are going up every day—using the safest form of transportation known to man, in defiance of all the laws of gravity, with comfort and only an occasional slight queasiness at the stomach—to indicate they have left the good earth.

You're practically as safe in an elevator nowadays as you are in your own bed. Safer in fact, because there's always the chance you'll have a bad dream and roll out of bed spraining an ankle—or something. But if you ever should start to fall in an elevator there are a dozen little devices that automatically come into play and return you to earth with as much ease as a bit of down floating to rest.

There's a reason why the 4400 elevators of the State never have an accident—well hardly ever. Accidents do happen on freight elevators and we'll come to that, but passenger elevators are operated virtually without ever a mishap. They travel a lot of miles too.

Take the elevators in the Traveler's Building as a tall example—they stretch more than 500 feet upward; a vertical railway that more than 30,000 people travel on every day. 250 miles a day is only a fair day's milage for them. One bearded savant got out his calculus and figured that this means exactly 74,250 miles a year—74,500 in leap year—and that's a lot of mileage. Add to that the miles covered by the more than 4400 other elevators in the State and you begin to get an astronomical figure traveled safely each year in this form of aerial transportation.

One of the reasons why its safe is indicated on the little card you see attached to the back of every elevator you travel in. We say "every" elevator, because if that little card isn't there, the elevator doesn't travel—no, sir, it doesn't.

That's the imprimatur of approval and if you'll look a bit closely, you'll see that it's a permit issued by the State Labor Department and signed currently by Cornelius J. Danaher, Commissioner of Labor.

Of ecurse, safety starts long before that card is issued. It starts on the draughtsman's table, as engineers year after year develop safety features; it continues in the plant as the elevator is fabricated, with steel cables that yearly grow more rugged and enduring; it's checked and double checked by insurance company engineers and inspectors who strive ceaselessly to eliminate accidents before they happen.

If you should travel with one of the inspectors from the Labor Department you'd be surprised to find that his first interest in elevators seemed to be concentrated on a little pent house situated on the top of the building. Seemingly remote, these little pent houses are the heart and sinews of the modern "elvator. No mechanical device will rate indefinitely and he's there to see that cables are not fraying, that the brakes—like those on automobiles, are in good repair, and that all moving parts are properly lubricated and not dangerously worn.

Nowadays the State won't approve the installation of an evelator that doesn't have "interlocks." That's a trade term for a device that prevents elevators being moved from a floor before the door is closed. Before the days of interlocks persons walked into open shaftways and were killed—they still do it occasionally on freight elevators, but the number is growing less every year as old installations are being ripped out and new ones installed in accordance with the elevator law which was passed in 1940.

Accidents on freight elevators do occur. Most of them involve the human element rather than mechanical failure. For example, in Bridgeport recently, a laborer in a furniture warehouse rode to the third floor to get a divan. He stepped off the elevator, propped open the door and went after the bulky piece of furniture. He came stumbling back, divan in arms towering above and in front of him—stepped for the elevator—but it wasn't there. Somebody had just pulled the rope and the elevator was on the floor above.

Downward he hurtled, and while it wasn't exactly a happy landing, we are glad to relate that he landed on top of the divan, escaping instant death.

Another unusual accident also involving a freight elevator occurred when a workman, mistaking the trap door which covers the opening of the elevator shaft on each floor, stood on it and pulled the rope.

To his consternation, horror and terror, he suddenly saw the elevator bearing down on him from the floor above while at the same time the trap door on which he was standing started opening under his feet. He must have felt very much like a man in the midst of an earthquake with dive bombers overhead and the earth splitting under his feet. He did the only thing he could do—he dove through the aperture of the trap door. Fortunately he was on the first floor and he had only four feet to drop. As the inspector's report said so succinctly "because of the startled frame of mind of the injured, he sustained severe sprains when he landed." To say nothing the mental trauma.

Those things are the exceptions nowadays and as the law of 1940 becomes increasingly effective with its 58 specific safety requirements they will in time be as extinct as the dodo.

Inspector Leary is shown examining the bottom of an elevator. Underneath are safety brakes which are controlled by speed governors. If the elevator descends too fast the brakes push against the guide rails and slow the car.

Before an elevator can now be installed the plans are submitted to the Labor Department. There, Deputy Labor Commissioner John Ready and engineers attached to his staff, go over the plans with a fine tooth comb to see that these 58 features are embodied—if they're not—then back the plans go with suggested changes.

As a matter of fact, the modern elevator has as much relation to the first moving platform devised by Henry Waterman back in 1850 as the modern fighting plane has to the Kitty Hawk.

Steam was used as the motive power originally, and in 1870 the hydraulic elevator was introduced, having the advantage of speed. The first electric elevator, distant progenitor of the modern elevator was installed in Baltimore by William Baxter in 1887 but this wasn't a howling success. Otis installed one a couple of years later and progress has been steady since then.

Nowadays the micro-drive or self levelling elevator does everything but run itself. The operator merely pushes buttons indicating the desired floor and the elevator stops there, levels itself without the irritating inching up and down and the door opens automatically. It can't start again until the door is closed, so there's no danger of anybody taking that long first step over the brink.

There are special types too, to suit specific needs. For example, one type for use in department stores stops automatically at every floor. With this type, not even push buttons are needed.

All modern elevators have several safety devices. In addition to the safety device under the car connected with the high speed governor, there is also a switch on the governor which cuts off current and applies the brakes if the car attains excessive speed. Automatic stopping and final limit switches are provided to slow down and stop the car at terminal landings in case everything else fails—and then, as a final precaution buffers are provided in the pit to bring the car to a gradual stop if it finally gets to that point. On high speed installations these buffers are long stroke oil buffers and are so arranged that they are gradually compressed and checked by oil circulating through graduated openings.

One thing the modern elevator did, beyond making it possible for us to go up and down without walking—it has literally changed the skyline of America. The towering peaks of Manhattan are as much a tribute to the elevator manufacturer as to the architect who conceived and built them.