Million-Volt Electric 'Bonfire' Forms a Spectacular Display

Visiting the General Electric exhibit at the New York fair you may see this weird display of electrical fireworks

One million volts going up in flames! The weirdly beautiful spectacle—not flames at all, but electrical fireworks—is a part of the General Electric demonstration at the New York world's fair. Power is supplied from a generator feeding the transformers. It is applied at low voltage and built up gradually. As the voltage rises, the cable and spinning arms glow with the violet light of the corona and at the peak a speed of fifty revolutions a minute is reached.

Giant Robot Walks, Talks and Tells Colors

This is "Elektro," the seven-foot robot built by Westinghouse. Motors, relays and other mechanisms enable him to perform thirty-six tricks

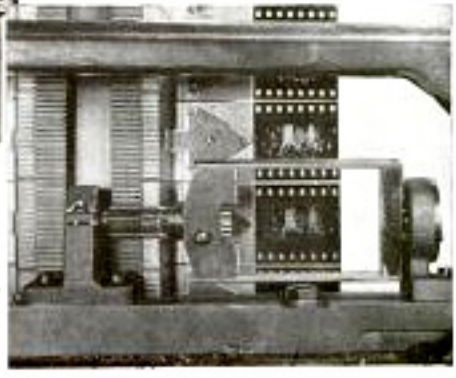
Top, left, showing some of the electrical cords used to control the mechanism. Right, the robot sings through his sound mechanism, his mouth waggling open and shut. The robot is made of 900 parts, the frame is steel and the covering is aluminum. His tricks include walking, talking, distinguishing colors, smoking and buying

Above, showing mechanism which enables the mote-man to do his tricks. Center, the giant walking. Right, using the joints. The robot's brain lobes consist of forty-eight electrical relays, his spinal column is made of wire—enough of it is wound on coils to encircle the world at the equator

Vast Projectors Paint Scenes in 'Hall of Color'

Top, the vast screen in Eastman's "Hall of Color." Right, one of the "drum" gears on each of which ninety-six color slides are belted. The gear is forty-five inches in diameter and carries 1,440 teeth

Left, installing one of two 2,500-watt lamps in twin-lens projector. Each of eleven projectors weighs 2,700 pounds. Water cells and near-freezing air blast are used for cooling. Below, the ingenious device which keeps film image centered in lens and rock-steady on screen even if slide is out of position: small plate of optical glass spins as film draws taut, refraction through glass centering the image. The natural-color transparencies used were made with cameras similar to your own



Mural paintings in colors that seem to surpass nature in vivid beauty flash from tiny Kodachrome slides in giant twin-eyed projectors to an enormous screen 187 feet long on the semi-circular wall at Eastman Kodak company's New York fair exhibit. Each one-inch frame appears nineteen feet wide, magnified 60,000 times in area. Sound and music accompany the pictures, changing constantly for twelve hours daily

Cosmic Ray Trap Sets Alight New York Fair

Forty-year-old rays from the star Arcturus helped inaugurate Chicago's Century of Progress Exposition by turning on its lights on the opening night in 1933. New York world's fair officials assigned that honor to cosmic rays for their 1939 show. To put the cosmic rays to work, they are collected in a Geiger counter machine which attracts and records the passage of the rays. They set molecules in motion in the gas-filled tubes; these molecules exert a force on electrons which build up enough energy to actuate a vacuum tube that turns on the electrical mechanism to light the fair grounds.

Cosmic rays captured in Geiger trap activate molecules in gas-filled tubes and build up electron energy which is used to turn on lights at fair

Auto Made of Glass and Plastic Provides "X-Ray" View

Glass and transparent plastics from roof to fenders, a "phantom" automobile at the New York world's fair reveals the sturdy body construction and interior bracing of the modern car. A crystal-clear synthetic plastic forms the body panels, hood, roof and fenders so that the structural steel parts and all the working mechanism — engine, doors, windows and ventilators—are seen as if in an X-ray picture. The car could be driven on the highway on occasion.

Body panels, hood, roof and fenders of "phantom" car are made of transparent synthetic plastic so that structural frame and motor are visible

Tomorrow's America Modeled in 'Futurama'

Above, visitors riding in sound chairs see what world of tomorrow will look like. Below, scale-model air terminal on outskirts of large city

Dramatic views of tomorrow's countryside unfold in a vast lifelike scale model at New York World's Fair. The thrilling innovations, designed by Norman Bel Geddes for the General Motors Highways and Horizons exhibit, cover 35,738 square feet and extend for a third of a mile on several levels of the building it occupies. Seated in moving sound chairs, visitors hear the voice of one describing the different scenes as they gaze upon more than 500,000 miniature buildings and houses, 1,000,000 trees and 50,000 motor vehicles, about 10,000 of the latter being in operation on the highways. The "futurama" gives the beholder an illusion of seeing a panorama of the city of tomorrow from a high altitude as though peering from the gondola of an airship. One of the cities is complete with air terminal, private landing fields, and a base for handling seaplanes; a zeppelin base includes a hangar resting in a pool of oil so it may be turned to meet any wind direction.

Electricity as Farm Servant Described by Talking Model

Gossiping over the fence two farmers in animated exhibit reveal advantages of employing electric power as a helper to do many daily tasks

Benefits obtained by using electricity on the farm to perform many daily chores, are placed in striking contrast with old-fashioned methods in the Westinghouse rural electrification exhibit at New York World's Fair. The exhibit portrays two miniature farms, and their tiny animated owners engaged in a lively discussion. One of the farmers employs outmoded ideas and does most of his work by hand, whereas the other uses electric power. During a five-minute dialogue, made interesting by lip movements and gesticulations of the models, the more progressive neighbor reveals how electricity milks his cows, operates the corn-sheller, tool grinder and saw, and fills the silo. The housewife, he explains, uses electric power to run the refrigerator, kitchen range, vacuum cleaner, dish washer, ironer and water heater.

the lining and the brick being filled with cement mortar and containing reinforcing rods extending the full height.

The dimensions of kitchens and bathrooms should be planned with the size of the tile to be used in mind, as a change of a few inches may eliminate patching.

Another subject that it pays to study ahead of time is that of the finish for interior walls and ceilings. Plaster, wood, wallboard, plywood and a host of other materials are available. Wearing quality and upkeep should be considered as well as appearance.

Cost reduction in plumbing can be obtained by grouping all plumbing fixtures close together.

Careful planning of switches and outlets helps cut the cost of the electric installation although it is better to have too many than too few outlets.

The life of a building depends to a large extent on the condition of the structure under the floor and inside the walls. That means that adequate ventilation under the floor is important to reduce moisture. Ventilating openings on opposite sides of the house, near the corners, permit air to circulate and keep the structure dry.

Watching costs in home building makes important savings possible but many owners are apt to be dissatisfied later if they cut costs too closely. For many years the construction industry has been doing its best to build satisfactory homes at less expense, and for a long time builders have been pinning their hopes on some sort of prefabricated home that they could merchandise.

One of the latest ideas in "packaged" homes is to use plastic and plywood panels of standard sizes. Such panels, completely waterproof, are satisfactory for either exterior walls or interior partitions. In one type of construction such a wall consists of

(Continued on page 135A)

Receiver Dressed in Glass Shows Secrets of Television

Phantom-like television set gives public close-up view of mysterious parts that the owner would never see in his receiver

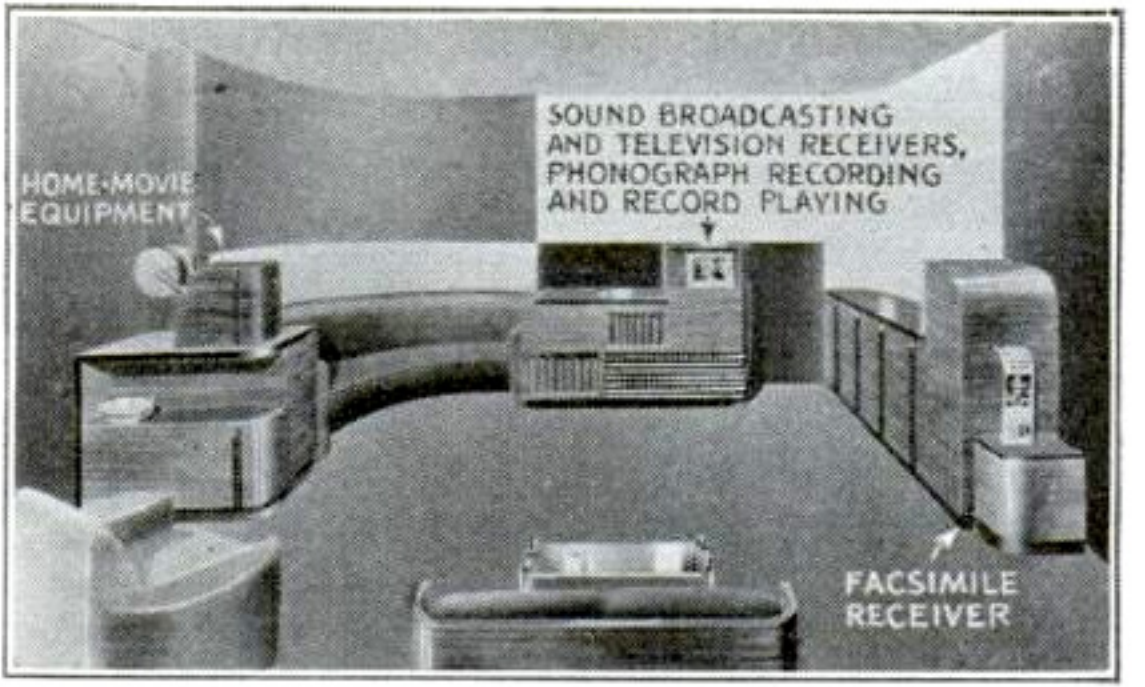
Some of the secrets of television reception are **disclosed to the public by a glass-encased receiver exhibited by RCA at the New York World's Fair. Although it is not in operation, those who see the set gain an impression of the genius out of which grew such an involved and intricate piece of magic in this newer field of radio.**

Daylight Loader for Bulk Film Feeds Miniature Camera

Miniature camera owners using the inexpensive bulk film can load it with a daylight film tank just put on the market. Ordinarily bulk film would have to be loaded in the darkroom, but this daylight loader holds 300 feet of thirty-five-millimeter film. The magazine to be loaded is placed in a special chamber in the tank, and the film is fed into it through a light trap. A hand crank winds the film. Outside the tank are two counters, one showing the amount of film remaining in the tank, the other the amount of film being loaded into the magazine.

Radio Living Room of Tomorrow

Simple in arrangement, and soft in color because of television, the suggested "radio living room of tomorrow" at the New York World's Fair is open to visitors, who are



permitted to inspect the various sight, sound and facsimile facilities while they are in operation.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