

Overcoming Obstacles Is Architect's Job, But He Enjoys It

Adolph Witschard of St. Albans Is Wizard Behind the Scenes at the Futurama

Thousands of persons have marveled at the Futurama exhibit at the World Fair. They have talked of the uncanny realism of its model villages, the grandeur of its mountains, the beauty of its cities.

But the impression that has lived longest in their memories has been the sight of thousands of miniature automobiles speeding over the highways of tomorrow, highways that enable man to move with safety, speed, and comfort.

And the man responsible for this animation that adds life and movement to this vision of the future is Adolph Witchard, an architect, who lives at 188-01 Baisley boulevard, St. Albans.

Short stocky and soft-spoken, Witchard is the guiding genius of the maze of passages and catwalks that surround the most popular exhibit at the Fair.

From his office, a cubbyhole in one corner of the machine shop, Witchard supervises the 16,000 miniature automobiles which travel along the 20,000 feet of road. It was at his draftsman's board, choked with the orderly litter of a busy man, that plans were drawn for the flexible chain which is the secret of the animation.

When the orderly villagers and twisting roads of the exhibit were nothing but lines on a blueprint, Witchard was working in a Manhattan studio assisting in designing the road contours and models of the buildings which later would bring gasps of wonder from passengers in the conveyer chairs.

FIRST DESIGNED LIGHTING FOR EXHIBIT AT FAIR

During the first week of December, 1938, Witchard was transferred from the studio to the Fair. It was his job to design a lighting system for the exhibit and to devise means of cleaning, ventilating and repairing the model without interfering with the spectator's view.

"First, we had the problem of constructing catwalks so that workmen could get out over the model itself," he explained. "These catwalks had to be constructed so that they would not hang down in view of the spectators and ruin the illusion which Norman Bel Geddes had created."

After careful study, Witchard decided to construct one master catwalk which would run the entire length fo the model. Radiating from it to all portions of the model were strung a series of compact traveling cranes.

"We have at lest 50 of these small cranes," Witchard said. "With their aid a workman can leave the catwalk and propel himself over a portion of the model which may need attention. He then lowers himself to the model, does his work and then cranks himself up to the ceiling and back to the catwalk."

This work is performed by the workmen during the night when the exhibit is closed to the public,

Witchard explained. But the problem was to supply for the workmen a method of reaching all portions of the model and, at the same time, keep the cranes and catwalks out of sight.

"The illusion was all important," he said. "We must let nothing interfere with it. There are many things that must constantly be repaired if the model is to retain its realistic appearance.

"For example, you may have noticed the many shining rivers and lakes. The surfaces of these bodies of water become dusty in time and look dull and artificial. Then a workman uses a traveling crane, descends in the model and with a little polishing wax, applies a new finish to the river or lake in question."

KEEPING TREES IN PLACE DIFFICULT PROBLEM

Trees which topple over on the face of the model are another problem which must be met. While there are wooded sections in the model which are formed by masses of colored sponge, most of the trees are placed individually in the face of the model.

"It was necessary to drill a hole for each miniature tree," Witchard said. "The trunk of the tree was coated with glue and placed in the hole. The next time you ride throughout he exhibit, notice the thousands of trees and you'll realize the work that was required."

And here another problem presented itself. The lights beating on the model generate terrific heat which would be sufficient to crack the face of the model and ignite the trees and buildings.

"A ventilating system was installed," Witchard said. "it was vitally necessary because in some places the lights generated so much heat that the temperature was a high as 103 degrees on the face of the model."

Then it was that Witchard devoted his attention to the task of making the miniature automobiles more along the roads. When



The 16,000 - miniature automobiles which speed along the express highways in the Futurama at the World Fair are the responsibility of Adolph Witchard, St. Albans architect. He is holding one of the hollow tubes which, weighted with buckshot, hold the sprockets level and guide the little cars into their proper lanes. The weight arrangement, as well as the flexible chain which guides the autos along the roads, are his inventions.

Witchard took over the job, the cars were operated along a slim cable composed of thousands of metal.

These slugs in time separated because of the friction on them and jammed the sprockets which kept them moving.

"That would mean long hours of disentangling jammed cables," Witchard remembered. "We had to have a great many more men than we have anew because most of them spent their time untying knots while others performed the repairs on the face of the model."

After the slug system was discarded, a wire cable with small slugs soldered at every inch and a half was adopted. But this, too, proved impractical because the wiring had to be subjected to a great deal of pressure to avoid slack in the lines.

CABLE SYSTEM JAMMED CAUSING TRAFFIC JAM

"Under this pressure the metal slugs again loosened and jammed the sprockets in turn fouling the cables," Witchard remarked. "In other words the casual visitor would think we were having traffic jams on the marvelous roads of the future".

In his spare time Witchard worked on the problem. The difficulty was increased because the

model was netted with 20,000 feet of brass tubing through which Witchard must thread whatever substitute he could devise for the metal cable.

"That was the real problem," he said, "It would be easy to plan some sort of conveyor for the little cars, but I had to get something to fit those tubes. They cost plenty of money and I couldn't rip them out."

The problem was finally solved when Witchard designed a flexible chain. Each link was loosely welded to its neighbor so that the whole chain could bend around curves. But the entire chain has a tensile strength of more than 350 pounds.

"After that the whole thing was child's play," Witchard said. "The chain was threaded through the brass tubes and attached to sprockets which were driven by a motor with a special speed reducer attached. "With a few inches difference in the diameter of a sprocket we could make cars in neighboring lanes travel at different speeds."

When the Fair closed last year, Witchard became resident architect at the General Motors exhibit and supervised alterations which cost \$50,000.

"I planned everything from an air conditioning unit for the whole building to a sign on the roof for

aviators." Witchard smiled. "We also had to construct two new ramps for the Ford Building. And then there were innumerable minor changes to be made in the Futurama modle.

SEVERAL VISITS REQUIRED TO SEE EVERYTHING

"The average visitor doesn't appreciate the amount of work that went into the model. To the man or woman who sees the Futurama only once, it offers too much. He can get only scattered impressions. But the person who visits two or three times will notice something new each time.

Witchard is a native of Switzerland. He was born in Lorche Ville, in the Canten Valals, near the Italian and French borders.

At the age of 19—that was 24 years ago—he came to this country and enrolled in the Mechanics Institute in Manhattan. He then attended the Bronx Arts Institute. He was licensed as an architect in 1927.

Since that time he has tackled many types of architectural problems. He assisted Henry Baker in designing the Lincoln Memorial in Washington, D. C. and worked for six years as the residential architect for a utilities company in Cleveland, Ohio.

He has also designed hotels,

Miniature Autos Guided by Him

banks, apartment houses and theatre marquees. Six years ago he went in business for himself and still maintains his own office.

"Relaxation?" he smiled, "I don't have time to relax. After keeping these 16,000 miniature automobiles running all day, I go home and work on plans for an apartment house which will be built shortly in Jamaica. Or I concentrate on redesigning three theatre marquees which I designed some years ago.

"On the weekend I like to have my wife, Mercedes, pack up a lunch and we go to a park with the children. We have three boys, Arne is 15, Rolando is 11, and Gilbert, the youngest, is 7.

"No, none of them has shown any interest in becoming an architect. The only one who has expressed any ambition for a particular field is Arne. He wants to be a doctor now. But he is young and perhaps will change his mind.

CHILDREN FREE TO CHOOSE THEIR OWN CAREER

"When the time comes, he will choose his own occupation. I don not believe in forcing a young man or woman to follow the job which the man of the family adopted. Each person must be free to make decisions of this kind for himself."

What talent must a young man have is he is to succeed as an architect?"

"That question is not as easy as it sounds," Witchard smiled. "First, he must be able to draft and design, but most important of all, he must like the work."

"it may be slavery, but it is nice even if the clients don't pay their bills. Provided, of course, the man is genuinely interested in his work."

"Some time ago I tried to get out of this work. I bought a chain of hotels, but I couldn't stay in that business. In a few days I knew enough about the work to do it efficiently. There were no longer any problems to solve.

"But an architect has a new problem every day. Always he is put on his mettle and must justify himself by succeeding continually. He cannot fail. In these times of international distress and organized industry, it is comforting to know that you are engaged in a profession whose aim is to create and not destroy.

"It gives me a big kick to start with nothing but an empty piece of ground and create a building that will be useful to the community.

"That is compensation for this work. Let me repeat again, it is a pleasure to realize that you are creating and not destroying in you daily work."