

Working MAGIC with LIGHT and HEAT



Separate detachable letters for signs are Hanson's chief offering to the field of commercial lighting. Having no wires, the letters can be rearranged in any desired combinations.

By Clintie Winfrey

COCKTAIL glasses that shine as with soft fire when you set them down, glow-tube signs made of interchangeable letters and free from cumbersome wiring, ornamental glass models of fruit and flowers that seem to be alive with an inner light—all these are among the offerings of a California inventor, Earl C. Hanson.

Mr. Hanson plans his decorative radio glassware for use in bars, hotels and restaurants, and other places where novelty effects are desired. He is sure a scintillating cocktail glass will add convivial pleasure, and not lead the drinker to conclude that he is seeing things. All the cocktail glasses, stir-

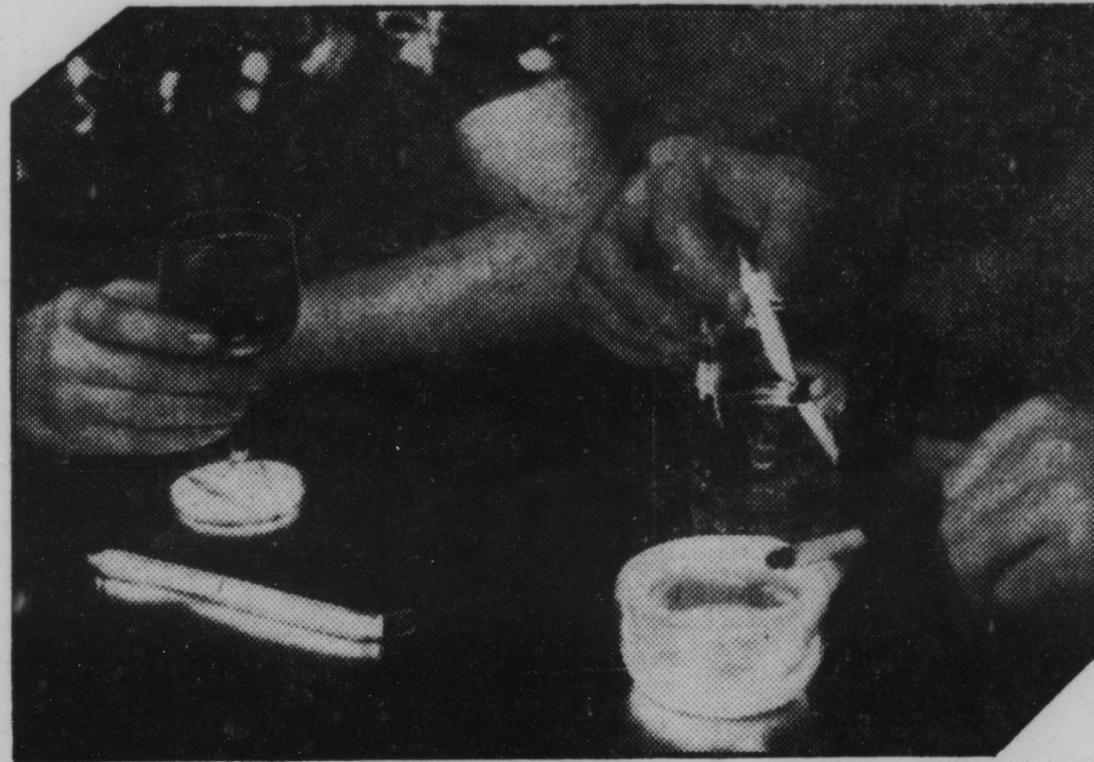
A TUBE or other hollow glass vessel is pumped out to a vacuum. A very small quantity of a gas, like neon, nitrogen, etc., is admitted. When the tube is placed where very high-frequency radio waves strike it, the gas within glows brightly—red for neon blue for nitrogen a characteristic color



Not an oriental seeress—just a pretty young woman admiring the beauty of this brightly-lit radio-glass fruit.



Earl C. Hanson at work with his oscillator apparatus.



Inebriates will not be the only ones to see strange lights when the new radio-glassware for bars is installed.

ring rods and ashtrays glitter with bright, flickering light. Pink lights may give some credence to the pink elephant theory.

"We are undertaking what we shall call 'Radio-Taverns,'" Mr. Hanson states. "All the tables are equipped with radio-lighted ornaments. Games are being planned using the same principle, and the floor show will feature a 'Dance of the Radio Jewels.' Cables are laid under the dance floor and thousands of radio-glass beads are sewed on the girls' costumes. When they come on the floor the result is dazzling to say the least."

Mr. Hanson hastens to explain that his radio-lighting is not designed to take the place of any present lighting system.

These new tricks are based on the same principle that underlies the now universally-used neon signs and other advertisements in glowing tubes of glass bent into letters and other patterns. It is the commercial and artistic utilization of a phenomenon discovered many years ago in physics laboratories, and known technically as "excitation."

for each kind of gas.

Mr. Hanson's contribution lies in the extension of this principle into wider fields which his lively imagination has suggested. The bases of the cocktail glasses, the stirring rods, other objects in the bar are just specially-shaped vacuum tubes. Beneath the bar or table top are concealed the well-insulated high tension cables bearing the exciting currents. Larger cables under the dance floor do the same stunt for the beads on the performers' costumes, which are likewise hollow and gas-filled.

Mr. Hanson has been an enthusiast about the possibilities of glow-lighting ever since he was a kid in knee pants.

Just now he is working hardest on brilliantly lit electrical signs without wires. Signs that light in a greater variety of colors than have been achieved previously. Signs made of individual glass tube letters that can be rearranged into any desired combinations. They can be made of any size glass tubing. The inventor declares, "Anything a glass blower can imitate, we can give you."

Mr. Hanson doesn't stop with commercial signs. He is fascinated by the beauty and delicacy of his radio glassware creations. He has produced a radio rock garden in which the bridges, tiles, tiny ornamental ducks and other animals glow with a vivid light as if some power in the ground were caus-

ing the inanimate things to gleam. Fragile glass fruit glows with jewel-like tones of color; globes send out a variety of eerie lights.

Radio-lighting is only one of many inventions that have been Mr. Hanson's chief interest. Many amazing things have become realities through his inventive genius and that of others working along similar lines: undersea cables to guide ships; radio cables in the ground to bring planes in to safe landings; a radio-fever machine for the induction of artificial fever in the human body.

SINCE the days when radios were known as "wireless sets" Mr. Hanson has been fascinated by radio tubes and their possibilities.

When a small boy in Riverside, Calif., he rigged up his own laboratory in his home. At the age of 15 he began building wireless sets. He was among the first to receive an amateur radio license. This was in 1912.

Mr. Hanson began his scientific career as a civilian engineer with the U. S. Navy. Working with other engineers, he developed an energized cable system to guide ships and keep them on their course.

This cable system is claimed to have possibilities in guiding airplane flight as well. Fog, menace of all flyers, is not so great a hazard when a ship is equipped with a coil and instrument

board responsive to cables laid around the landing field. A neon tube instrument in the plane picks up waves from the cables. It is really a radio altimeter, showing by lights the height of the plane above the field.

Experimental installations of the radio-piloting cable have been made at Wright Field, Dayton, O., and at the Ford Airport near Chicago.

A system of cable-laying over dangerous mountain routes would minimize the hazard of these courses in bad weather, Mr. Hanson feels. His radio altimeter registers not the height above sea level, but the actual height the plane is above the ground.

Housewives who have been annoyed by burnt muffins and too-brown cakes will find their trials at an end if they cook by the radio-fever method, which cooks the food from the inside out. Mr. Hanson has designed a stove which he calls the "radio range" which he promises will insure better meals and fewer gray hairs to the cook. The oscillator is placed in the basement or some other convenient point. Within the stove are receiving coils. The food is placed in pyrex dishes in the oven.

When the waves sent out from the oscillator are transformed into heat instead of light, they have the peculiar property of heating from the inside out. Thus, when "radio fever" is set up within the food, it cooks from the inside out, and comes out done to a turn with no burnt edges or sticking to the pan.

Mr. Hanson is also experimenting now with short-wave internal heating as a means for producing dehydrated foods. These are now prepared in large quantities, but by more conventional methods of drying.

Mr. Hanson's method of dehydration is very simple. The food is placed in a pyrex flask with electrical coils around it. Radio heat is created within every particle of the food. This drives all moisture to the surface. A tube goes from the flask to a vacuum pump which draws out the air and the water as soon as the heat expels it. The flask itself is warmed by electric heaters so condensation does not take place.

The food becomes dry and hard and while a stiff steak may not appeal very greatly to those who enjoy their culinary delicacies, Mr. Hanson claims there is much to be said in favor of his new version of our daily earthly sustenance.