

AN ANCIENT CRAFT

Old Art of Glass Blowing Plays Vital Part in Modern Industry

It takes a deft touch, a skilled hand, controlled lung power—and imagination—to apply the ancient art of glass blowing to the demands of today's modern petroleum laboratories. The skill of the blower in making special glass equipment may mean the difference between success and failure of an important research experiment, and the craftsman must be as versatile as his material.

The glass experts of the Shell Oil company shown in the columns below are making a complicated model distillation column in the company's laboratory at Emeryville, California. Glass is used because it is relatively inexpensive, non-reactive to most chemicals, usually non-conductive to electricity, is easily shaped and, perhaps most important, it permits observation of chemical processes inside closed vessels.

The glass column as pictured in this story will be used to test and perfect oil refining processes on a laboratory scale. Next step will be to build a large "pilot plant" version, using actual construction materials. After this has proved itself to the satisfaction of scientists, the design will be incorporated into a real full-scale distillation column.

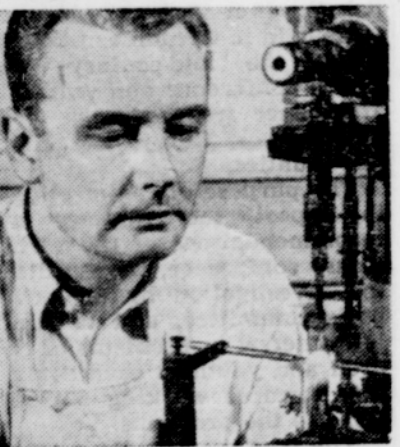


The end of a solid tube of glass is flared. This is the first step in making a tiny bubble tray used in a distillation column.

many stories in height. And it all started with a piece of blown glass—thousands of years ago.

The first use to which glass was put was artistic. It was made to serve man's unending quest for beauty. Thebes (in Egypt) was a center of glass craftsmanship more than 3000 years B.C. Theban fabricators first turned out charms, amulets, and beads—objects of no practical use but in high demand for their decorative and supposed supernatural powers. Through accident or design, this early glass was colored. In fact, the effort to make glass colorless and transparent was one of the hardest struggles of the glass maker, and has been entirely successful only within modern times.

When Augustus Caesar conquered Egypt (26 B.C.), he ordered that



Machines and deft handwork combine as an expert drills tiny holes in the bubble tray at a rate of one a second.

part of the tribute be paid in Egyptian glass articles. This seemed hard on the Egyptians for a time, but the affair took an unexpected turn. Wealthy Romans, seeing the Emperor's beautiful objects, flooded the Egyptian makers with orders for glassware, and the Egyptians grew rich. Within a few years the Romans themselves were making glass.

The Romans were lavish in the production of their glass. During the first century A.D. they produced much marvelously complicated work as the millefiori (thousand



After bubble trays are fashioned, drain tubes are installed through their centers by an expert craftsman.



Drain tubes are cut to the proper length and slotted to regulate overflow level. Only highly trained craftsmen can handle such equipment.

flowers) design in glass bowls seemingly lined with multi-colored daisies.

Knowledge of glass making spread from the Mediterranean area through the barbarous world of the north. The Romans, who carried the craft to a high state of perfection, introduced it into Gaul and it traveled thence to Britain, where remains of ancient glass works may still be seen.

Venice, destined to reach the peak of fame in glass manufacture, began practicing the art not long after the founding of the city in 420 A.D. By the end of the thirteenth century, Greek artists in Venice were producing fabulously fine and beautiful glass, which con-



The parts are ready and the column is assembled. Each bubble tray must be spaced and sealed with precision.

tributed vastly to the city's prosperity through exports.

As early as the sixth century, a description of a French banquet specifies that the fowls were served on glass dishes. Later, Fugger, the great merchant, banker, and industrialist of Augsburg, gave to the Emperor Charles V a vessel of molten, spun, cast and twisted glass—at the same time kindly burned up the Emperor's unpaid note for a tidy sum which Fugger had lent him.

We think of woven glass textiles as something comparatively new, yet materials woven of silk and glass were known centuries ago, and ladies made dresses of them. They also adorned their headpieces with spun glass aigrettes, and a certain prince made a sensation by displaying curls fashioned of glass. The jeweled glass mirror of



Nearly completed the inner column goes into a larger glass jacket and the two pieces sealed together.

Queen Marie de Medici was included in Item No. 102 in the catalog of crown jewels compiled by the French revolutionary government in 1791. It was valued at \$30,000 gold.

The early history of glass was glorious—but socially exclusive and expensive.

And each country, as it learned the art of glass making, seemed to give it a new twist. Today, although there are many manufacturers turning out beautiful glass, much of it goes into laboratory equipment, telescope and microscope lenses, and lenses for eye glasses.

The practical has replaced the artistic in glass making.

The finished product is silvered to prevent radiation losses. Air from the space between the inner tube and the jacket is evacuated—and a distillation column has been fashioned, thanks to an art thousands of years old and a modern touch.

Washington MERRY-GO-ROUND

by DREW PEARSON

Foundation of America

I WENT UP to the little Pennsylvania town where I spent most of my boyhood, to help dedicate the beginning of a new town hall a few weeks ago. It brought back a lot of memories. It also set me thinking about what forms the real foundation of government in this country—namely, the small towns of America.

Swarthmore boasted about 2,000 people when I grew up there, and it still isn't much bigger now. The houses are of that early penitentiary, mansard-roof type; solid, a little ugly, but both the hearthstones and the hearts of the people inside are warm.

A few things about my town have changed in the 30-odd years since I moved away—but not many. There's a new movie house—unheard of in my day. And an underpass has replaced the old railroad grade crossing where watchman Mike McCarthy, friend of every kid in town, used to fret and fume until school was out and all the children had been herded across the tracks.

Some swank new homes have been built in the cow pastures and woods where I once trapped skunks; but Frank Getz now the town tax assessor, greeted me with the observation: "The skunk-catching isn't so good up here any more, but I see you're still catching them down in Washington."

Pearson's Police Record

Biggest change in Swarthmore, however, is going to be the new town hall, for which—with proper ceremonies—we broke ground. The old town hall, a gaunt, ungainly eyesore, caught fire last year, which reminded me that maybe the police records had burned with it, thereby removing from the clutches of my senatorial well-wishers the criminal evidence they have been so diligently trying to find.

A certain senator has been eagerly digging into my past of late, and last week an attorney close to the McCarthyites stood up in court and indicated by his cross examination of me that they were even trying to track down an incident in Reidsville, N.C., where, after taking down a Chautauqua tent, I was arrested at 3 a.m., for taking a sponge bath in the murky Southern railroad yards.

This is a story which I tell every time I go to North Carolina, the last time having been to the North Carolina press association in Chapel Hill about a year ago. I also get humorous letters from Judge Ira Humphries who presided over the court, and Rev. William A. Lambeth, then Methodist minister in Reidsville, reminding me of my wicked past.

Grist for Sen. McCarthy

Presiding at the town hall ceremonies in Swarthmore was William H. Ward, now a top executive of the Du Pont company, who, like me, worked his way through college by spending his summers on a chautauqua tent crew. And I couldn't help but remember how Bill Ward and Gibson Bradford, now Barnesville, Ohio's, leading banker, once took advantage of the liquid coolness of the fountain in the public square at Wellsboro, Pennsylvania, to remove the all-night grime of taking down a tent.

I hope Senator McCarthy doesn't go after them, too!

At any rate, I was acquitted in Reidsville, N.C., and there was even a little lecture by the judge to the arresting cop that it was the duty of every citizen to keep clean.

What Senator McCarthy doesn't know, however, is that the burned records in the old town hall at Swarthmore would have showed that I was also arrested on an entirely different charge at an earlier age (about 15) and that time found guilty.

It was after a college football game. Swarthmore had beaten its old rival, Haverford. The two Quaker colleges were supposed to practice brotherly love, but didn't. Afterward, I rang the village fire bell and got caught. Fine: \$5.

Backbone of America

Well, all these memories and a lot of others came crowding back at that dedication ceremony. And among them was the realization that our small towns are the backbone of America, and that if we ever lose our small-town independence, and the community spirit that goes with it, then we might really be in danger of going the way of Russia.

The tendency of our modern, streamlined nation is to concentrate too much power in Washington. Most people blame Washington for this, though actually part of the blame belongs at home. For, when some towns can't or do not raise enough taxes to build new schoolhouses or pay their teachers, then they come to Washington for federal aid to education. And when states want new roads, they are eager beavers in tapping the public-roads subsidy in Washington.

So Washington can't be blamed for exercising that power.



HELICOPTER RESCUE FROM KOREAN BEACH . . . An American helicopter beats its way from an east Korean beach enroute to U.S.S. Manchester on one trip of a dramatic rescue in which 129 Thailand sailors and officers and nine Americans were taken to haven aboard ship from a Communist trap. Personnel were from the beached Thailand navy corvette "Prasae." Chief aviation pilot D. W. Thorin, Chambers, Neb., is at the controls. Milk can contains hot soup brought in by the helicopter to sustain the men awaiting a return trip by the aircraft. Many such incidents are occurring during the fighting in Korea.



TRIPPED BY DIAMOND-LOADED WEDGIES . . . Belgian Mrs. Eta Hofmann is questioned by U.S. Assistant Attorney George W. Percy (center) and U.S. Attorney Parker after she was arrested for allegedly attempting to smuggle \$500,000 worth of diamonds into the U.S. in her platform wedgies. She was arrested as she stepped from a Dutch airliner at a New York airport. Mrs. Hofmann said the shoes were given her by a man in Antwerp, Belgium, with the understanding they would be taken from her by an accomplice when she arrived in New York. A man had been picked up by officials the previous day with \$280,000 worth of diamonds in the hollow heels of his shoes.



DUTCH SOLDIERS DISPLAY WOODEN SHOES . . . During a lull in the Korean fighting in the Chungju area, Cpl. Bruce Williams, Geneva, N.Y. (center), compares his winter shoes with Cpl. Ted Warmerdam (left), Vogelzang, Holland, and Sgt. Kees Kruyf, Rotterdam, Holland. Both Dutch soldiers are from a battalion attached to United Nations forces in Korea and are sporting their wooden shoes which they brought with them from Holland.



BASEBALL'S GREATS . . . Two of baseball's immortals were among the guests at the annual "ribs and roasts" dinner of the Cleveland baseball writers at which Larry Doby, Indian outfielder, was named "man of the year in baseball." They are Tris Speaker (with bat) and Denton (Cy) Young. Speaker compiled a lifetime batting average of .344, and Young recorded 511 major league pitching victories, including three no-hit shutouts.



STREET SCENE . . . In tribute to Los Angeles, Ballerina Betty Byrd scorns the settings of the stage and takes her dancing feet into the city streets to epitomize the spirit of Los Angeles in dance impressions of its landmarks.



DIVISION COMMANDER . . . Maj. Gen. Clark Ruffner has taken command of the second infantry division in the Wonju area in Korea. He relieved Maj. Gen. Robert McClure as commander of this division.

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Personal To Women With Nagging Backache

As we get older, stress and strain, over-exertion, excessive smoking or exposure to cold sometimes slows down kidney function. This may lead many folks to complain of nagging backache, loss of pep and energy, headache and dizziness. Getting up nights or frequent passages may result from minor bladder irritations due to cold, dampness or dietary indiscretions. If your discomforts are due to these causes, don't wait, try Doan's Pills, a mild diuretic. Used successfully by millions for over 60 years. While these symptoms may often otherwise occur, it's amazing how many times Doan's give happy relief—help the 15 miles of kidney tubes and filters flush out waste. Get Doan's Pills today!

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