

ENGINEERING

Plastics Reveal Plumbing

Transparent pipes are being used in experiments to study the home plumbing system. They are expected to aid in making out future plumbing codes.

► CLEAR plastic pipes which you can look right into will not go into the plumbing of your "dreamhouse," but the National Bureau of Standards said that they may help overcome one serious housing problem and aid in untangling some jumbled and costly plumbing laws.

The transparent pipes are being used in full-scale home plumbing systems set up at the Bureau in Washington. By peering into the pipes and even taking motion pictures, Bureau scientists hope to be able to tell city code writers what they should permit and what they should ban in plumbing codes.

"The thousands of conflicting plumbing codes existing in the United States today not only cost the public millions of dollars annually, but are also seriously hindering the nation's housing program," a Bureau statement charged.

These codes in some 1,500 cities are so different that manufacturers cannot standardize many plumbing products. What meets one code may not meet another. Because of this legal conflict, the Bureau is making its study in cooperation with the Uniform Plumbing Code Committee at the

request of the Housing and Home Finance Agency.

Using the plastic pipes, Bureau scientists have studied the operation of traps, the curved sections of drainage pipes under lavatories or bathtubs, and different venting systems for home plumbing systems.

Traps use water to seal the pipe and prevent back-tracking of gas and sewer odors, but the seal may be broken by what is called self-siphonage. Vent pipes are installed to reduce the suction from fixture drains. How close to the trap these vents

MEDICINE

Find Cancer Electrically

► AN electrical detection method may become a mass cancer screening tool of the future. The method is relatively simple, takes about 25 minutes for each test, and has an accuracy rating of about 85%.

It was devised by Dr. Harold S. Burr, professor of anatomy at Yale University, and Dr. Louis Langman of the depart-

ment of obstetrics and gynecology at New York University College of Medicine.

So far, it has been used only with women patients to detect cancer of the female genital tract. Drs. Burr and Langman feel, however, that the principle applies to all forms of cancer and they are now planning the necessary research for applying the test to other kinds of cancer.

The test has been given during the past two years to several hundred women at Bellevue Hospital. Cancer was detected in 74 of 75 women diagnosed by other procedures as definitely having cancer. Of 616 women diagnosed as no cancer by the electrical detection method, other methods proved definitely that 611 did not have cancer.

Certain conditions other than cancer, such as pregnancy, may give the same reading on the test as cancer does.

"These tests," the two doctors state, "suggest that the new technique offers an excellent method for screening suspected cases of malignancy (cancer)."

The test is based on: 1. the fact that living systems, such as the human body, possess electrical activity; 2. the idea that electrical manifestations, such as those from the heart which give electro-cardiograms for diagnosis, are evidence of an electrodynamic field in all living beings; and 3. the theory that this field, through its inherent forces, imposes design on all living matter.

Since the design has gone awry in cancer, Dr. Burr reasoned that there must be a detectable electrical difference between cancer tissue and normal tissue. To test the theory, it was necessary to design special electrical equipment. Cecil T. Lane, associate professor of physics at Yale, helped the



CANCER DETECTION—Examining their specially-designed electrical apparatus for detecting certain kinds of cancer are Dr. Harold S. Burr (left) of Yale University and Dr. Louis Langman of New York University.