

High blood pressure probably has more than one cause, they learned from the cadaver studies. In these studies, specially prepared animal blood was run into the bodies by an artificial heart connected to the large artery in the chest.

Decrease in blood supply to the kidneys such as occurs in nephritis is sometimes responsible for high blood pressure, they found. Disturbance of salt balance of the blood tends to make the blood vessels more sensitive to the hormones which are normally present in the blood, and this also may be responsible for elevated blood pressures.

### Study Gouty Families

A hereditary sign of gout may be found in members of gouty families even if these persons are not themselves afflicted with the family ailment, Drs. John H. Talbott and Frederick S. Coombs of Boston reported.

This sign is an increase in the amount of uric acid in the blood serum. This increase was found in 16 of 74 non-gouty members of gouty families. The condition was probably present at birth or shortly afterwards, the Boston physicians believe.

Whether these persons will develop gout later on cannot be determined but two of them are over 80 and have not had any acute gouty arthritis. This indicates, the doctors pointed out, that an increased amount of uric acid in the blood is "consistent with good health and a long life."

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### ENGINEERING

## "Tailor-Made" Flame Makes Oil Burners Fit

HEATING engineers have solved the problem of inefficient performance in old-fashioned furnaces converted for oil-burning. A new "tailor-made" flame, whose shape can be changed to fit any fire box is announced by the General Electric Company.

The conversion of old furnaces to oil heat brought convenience and freedom from dirt but the oil flame often gave inefficient performance because of lack of design coordination. Since the combustion chambers of furnaces cannot easily be altered in shape the only thing left to do was to make the flame shape adjustable to fit the furnace. Long, flat, round or pear-shaped flames can be obtained with the new equipment, it is claimed.

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### MEDICINE

# Epilepsy Soon to be Brought Under Medical Control

## Study of Effects of New Drugs on Cats With Fits Is First Systematic Search for Remedies for This Disease

TWO new medical remedies for epilepsy, an operation for paralysis agitans, Indian arrow poison for the strange nervous disorder, athetosis, and an operation that could save over 500 babies annually, were reported by Dr. Tracy J. Putman of Boston at the Congress of American Physicians and Surgeons in Atlantic City.

It looks as if epilepsy, which has plagued mankind since prehistoric times and which Dr. Putman called the most important disease of the nervous system from the economic standpoint because of the disability it causes, will soon be brought under control by modern medicine and surgery.

On the medical side there are the two drugs reported by Dr. Putman. These are diphenyl hydantoin and benzophenone. The usefulness of these was discovered in the first systematic search ever made for remedies for epilepsy. Bromides and the modern sleeping potion, phenobarbital, which have been more or less successful in treating epilepsy, were first tried experimentally on human patients.

Dr. Putman and his associate at the neurological unit of Boston City Hospital, Dr. H. H. Merritt, found the new remedies by trying over one hundred drugs on cats that were having convulsions or fits like those of epilepsy. Diphenyl hydantoin, Dr. Putman said, is much more effective in controlling convulsions than phenobarbital, is less poisonous and does not put the cat or patient to sleep. The new remedies have been used for human patients but Dr. Putman is not yet ready to report these results.

Brain wave studies of epileptic patients, Dr. Putman said, suggest that there are probably several types of this ancient ailment, each due to a separate mechanism. Each kind may require individual treatment and study. Some cases of epilepsy can be helped by surgical operation to remove an irritable focus in the brain. Brain wave studies will, Dr. Putman believes, lead to bet-

ter selection of patients who can be helped by this treatment.

Epilepsy is not the only nerve disease which is yielding to modern physicians and surgeons. The tremor and disability of paralysis agitans has been relieved in some patients by a brain operation in which certain nerves are cut.

A similar operation in which nerves in the spinal cord are cut has helped patients suffering from athetosis. This ailment incapacitates its victims because they have no nervous control over their muscles. It is characterized by strange, uncontrolled movements of arms and legs. Besides the operation described by Dr. Putman for this condition, he and his associates, Dr. P. Hoefler, and Dr. M. Burman of New York City have found they can help these patients by giving them curare, the old Indian arrow poison.

This drug depresses the abnormal movements for several days at a time. The difficulty is that the supply is limited. At present it must be obtained from South American Indians who only prepare it once a year, and the amount available is not uniformly potent. Search for more practical drugs of this type is now being made.

Between 500 and 800 babies in the United States can be saved each year by operation to relieve pressure on the brain, Dr. Putman estimated. These are among the 2,000 to 3,000 babies born every year with hydrocephalus or water on the brain as it is popularly known. Most of these infants are defective mentally and are doomed in any case, but about one-fourth of them are capable of growing up normally if the pressure can be relieved.

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The swastika design is found in metal-work in royal tombs of 2000 B. C. in Turkey.

A Danish academy of technical sciences is planned, to encourage research in such sciences and their application in Denmark's industry and trade.