

Do You Know?

Most *scientists* are for open research openly published.

Wrought iron *beams* were used to reinforce many of the Greek temples built 2,500 years ago, it is said.

Approximately 90% of the *fires* that destroy millions of American property each year are preventable.

Calcium chloride on a gravel road, one engineer states, "Keeps the road together, keeps dust down, and keeps people satisfied."

Four *chemical plants* are to be constructed in Egypt at a cost of approximately \$8,000,000 to produce chemicals for the Middle East; an order for the plants has been placed in America.

Certain papers in which a special *resin* is included as an ingredient are strong even when wet and are particularly suitable for wrapping meats and other foods in food lockers.

Sulfuric acid has been produced for over 1,000 years, it is said; this basic chemical, which plays an important role in American industries, is now made in the United States in an amount approximating 10,000,000 tons each year.



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blood banks to help the wounded. Blood was donated by healthy or recovered soldiers at the rear, dextrose was added to preserve it, and it was kept in refrigerators until it could be sent up to the front.

Midway between the two wars, the Russian scientist, Dr. S. S. Yudin, began experimenting with freshly drawn cadaver blood which he preserved for transfusions. Results were good and thousands of transfusions of this kind were given. The blood has to be drawn within six hours after death from healthy persons who die suddenly. American doctors realized there would not be a sufficient supply of such blood in this country to meet the demand.

First Blood Bank

The idea of obtaining blood donations from friends and relatives of patients and storing it for future transfusions was developed by the late Dr. Bernard Fantus at Cook County Hospital in Chicago. The first living donor blood bank in the world was established at this hospital in 1937.

A brief three years later came news of still another advance in blood transfusions. This was the development of methods for drying plasma, the liquid part of the blood, so that it could be kept safely for months and years, instead of a week or 10 days, and could be transported easily, compared to the difficulties of transporting whole blood.

Millions of bottles of dried plasma, from blood donated to the Red Cross, were shipped overseas for the war wounded. This vital stuff, however, still took considerable space, and shipping space was at a premium during the war.

From scientific laboratories again came a solution to the problem in the form of blood albumin, a more concentrated and therefore space-saving fraction of the blood. Pioneer of this development was Dr. Edward J. Cohn of Harvard.

Valuable by-products of blood were also obtained in Dr. Cohn's fractionation process that gave albumin for our war wounded. Among these are a globulin for protection against measles and substances to check bleeding during delicate surgical operations.

Newest type of blood bank is the one developed at Paterson, N. J. Mothers and babies threatened with death because of a difference between the mothers' and fathers' blood will be saved

through this kind of blood bank. Actually it is more a club than a bank. Members are all persons having Rh negative blood.

Rh negative blood is relatively rare. It is often difficult to get the small amount needed for typing the blood of the mother, much less enough for transfusions for baby and mother. When they can get enough of the necessary blood serum, blood banks type their blood for this factor, as well as for the blood groups.

Mothers and babies, civilian victims of accidents, patients facing major surgical operations, many of the 90,000 war wounded still in Army hospitals throughout the world need blood. At the 22 Army general hospitals in the United States treatments requiring whole blood continue around the clock, Major-General Norman T. Kirk, Surgeon General of the Army, reports.

Scientists have made it possible to help all these if the public will help keep the blood banks out of bankruptcy.

Science News Letter, November 9, 1946

INVENTION

Device Saves Fuel to Warm Passenger Space of Planes

► THE LATE Henry J. DeN. McCollum of Chicago must have done what many other airplane passengers do: watched the red-hot exhaust pipe and worried a bit about the waste of costly fuel it represented. Unlike the rest of us, he undertook to do something about it, and U. S. patent 2,408,867 covers his system for warming the passenger space and de-icing the wings with radiant heat from this source.

Basically, the idea is very simple. It consists in putting alongside the exhaust pipe a long reflected or parabolic cross-section, its focus directed towards an infra-red-transmitting glass window in the side of the fuselage. Back of this window, the heat rays strike a black-painted duct which is part of the plane's air-circulating system. Shutters facilitate control.

The radiant de-icing system is also simple. A source of radiant heat near the root of the wing directs its beam towards the tip. The internal wing struts are perforated to let the rays pass through. At intervals, angled reflectors, also perforated in a carefully worked-out pattern, direct the heat against the inside of the leading edge.

Science News Letter, November 9, 1946