MEDICINE

Plastic Better Than Plasma In Treating Shock in Rats

➤ A SPECIAL solution of the plastic, polyvinyl alcohol, proved more than twice as effective as plasma in saving rats from dying of shock in studies reported by Surgeon Lieutenant William Locke, of the Royal Canadian Navy. (*Science,* June 9). The studies were made with the assistance of Warrant Officer J. Scattergood and the advice of Lt. C. R. Cowan at the Banting and Best Department of Medical Research, University of Toronto.

The rats were in shock as a result of having metal tourniquets applied high on both hind legs for five hours. When the polyvinyl alcohol solution was given as immediate treatment for this shock, 65% of the animals survived. When plasma was used, 25% of the animals survived. Survivals were 40% with salt solution, 25% with isinglass, and 8% in untreated controls.

Since these results apply to treatment of shock in rats under special conditions, speculation on application to humans is probably not warranted at the present time.

Science News Letter, June 17, 1944

ENGINEERING

With New Type Pontoon Navy Can Build Many Units

➤ THE NAVY'S modern pontoons can be turned into self-propelled barges, tugs, floating wharves, causeways, fuel and water barges, floating drydocks and piers, simply by bolting them together in strings.

The new pontoon gear consists basically of prefabricated hollow boxes made of light, welded steel. The boxes are made in two styles. One, the standard section, is rectangular in shape, five feet by seven feet on top and five feet deep. The other section is seven feet by seven feet on top, has one end curved for use as the prow on barges.

Unlike the old, round-type pontoon, the Navy's modern gear is less cumbersome and can be adapted to many uses. Because of this adaptability Allied forces have been able to throw onto the enemy beach thousands of tanks, guns, trucks, munitions and other supplies in record time.

Supplies of pontoons can be placed aboard invasion-bound ships and assembled en route into self-propelled barges, using an outboard motor. At the scene of operations the barges are put over the side and are used to transfer men and materiel from the boats to the beach. When the unloading job is done, the barges may be dismantled and used for wharves, piers, floating drydocks or unloading ramps.

The boxes are built to withstand heavy internal and external pressure, and are strong enough to stand the wheel loads for which civil highway bridges are normally designed.

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CHEMISTRY

Easy-To-Remove Coatings Used for Shipping Goods

➤ PLASTIC COATINGS that are easy to strip off are being used successfully in shipping vital wartime goods. A report of the success of this new application for these coatings was given by C. E. Heussner and C. O. Durbin of the Chrysler Corporation, at the National War Materiel meeting of the Society of Automotive Engineers.

The new coatings, known as stripping compounds, usually contain ethyl cellulose combined with various oils and plasticizers. They were developed to give protection to metal parts which would be equal to giving them a coating with oil or grease, wrapping in paper and sealing.

The coatings are applied by dipping the part in the plastic at a temperature of 325 to 375 degrees Fahrenheit.

The new coatings protect parts from high humidity, rain and ocean spray. They set quickly after coating, remain hard at high temperatures, and do not crack or break in the cold.

The most important advantage of this type of coating is the saving in manpower and floor space, paper and wrapping materials. Much less handling and equipment are required in using the plastic coating than in other methods of protection. When the articles are being made ready for use the coating is quickly stripped away.

In many cases the coated parts are placed in fiberboard cartons, without extra wrapping. The strength of the fiberboard cartons depends upon the size and weight of the parts. Cartoned parts are given further protection for overseas shipping by packing in nailed wooden boxes.

While only small, simple parts are being prepared for shipping with plastic coatings, the number of parts is rapidly increasing with new methods of application.

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IN SCIEN

CHEMISTRY

New Magnetic Stirrer For Laboratory Use

➤ CHEMISTS generally can be expected to get a "kick" out of an ingenious invention on which Dr. Arthur Rosinger of Newark, N. J., has received patent 2,350,534. It is on a motor-driven stirring device that does not need to have a rod sticking down into the beaker or other vessel, more or less like a malted-milk mixer.

The idea is simplicity itself. Suitably supported underneath the beaker is a small motor, carrying a permanent horseshoe magnet at one end of its shaft. Lying on the bottom of the beaker, within the field of magnetic force, is a short bar magnet. When the horseshoe magnet is spun by the motor, the bar magnet must spin, too, and that takes care of the stirring. To keep the metal from reacting with the contents of the beaker, it is embedded in rubber, plastic, glass or other suitable substance.

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ASTRONOMY

Faint Comet Discovered In South African Skies

➤ A FAINT comet has been discovered by Dr. H. van Gent, Dutch astronomer at present on the staff of the Union Observatory at Johannesburg, South Africa. Located in the constellation of Vela, the ship's sails, it was of the 12th magnitude.

Moving northward, the comet may eventually become high enough above the southern horizon for northern observatories to sight it. Further observations must be made, however, before it can be determined whether the diffuse-appearing comet is increasing or decreasing in brightness. At present it is far too faint to be spotted by amateur astronomers.

The position of the comet on May 23, as cabled to Harvard Observatory, astronomical clearing house for the United States, was at right ascension 9 hours 25 minutes, and declination minus 49 degrees 20 minutes.

Dr. van Gent also discovered a ninth magnitude comet last November.

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CE FIELDS

CHEMISTRY

Color of Smoke in Photo Betrays Type of Plant

➤ SHAPES and sizes of objects are not the only way that we learn of enemies' activities through photographs. The Air Corps' expert photo interpreters can often tell what a plant is manufacturing just by the color of the smoke issuing from its stacks or by the color of the piles of refuse and by-products lying about.

Color photography is playing a vital part in aerial photographic reconnaissance, stated Maj. Raife G. Tarkington, chief of the technical services branch of the Army Air Forces photographic laboratory at Wright Field. Excellent color pictures can be made today from altitudes as high as six miles. Successful pictures at night have been taken as high as four miles above the earth's surface.

"Striking proof of the importance of such photographic intelligence was evidenced near the end of the Tunisian campaign," Major Tarkington pointed out, "when all action ceased for two full days just because weather prevented the 'recon boys' from getting the photographic information that the ground commander considered vital. Think of that—the war stopped because of no pictures!"

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ENGINEERING

British Engineers Honor Two U. S. Technologists

➤ ORVILLE WRIGHT, who with his brother made the first successful airplane flight 31 years ago, and Dr. Harvey N. Davis, well-known for his work in the field of thermodynamics and as president of Stevens Institute of Technology, became the third and fourth Americans in history to receive certificates of honorary membership in the British Institute of Mechanical Engineers. Lord Halifax, the British ambassador, made the presentation to Dr. Davis and Dr. Robert Gates, president of the American Society of Mechanical Engineers, who accepted for Mr. Wright in his absence.

Lord Halifax referred to Mr. Wright as a "notable and gallant pioneer." He added that time would tell whether the airplane which the Wright brothers gave to the world would prove to be of good or hindrance to the human race.

Upon receiving his certificate, Dr. Davis remarked, "I think that this occasion is a happy recognition of the happy relations between British and American engineers. Our cooperation has been vital in war and, I hope, will be even stronger after the war."

As a return gesture, Dr. Gates presented Lord Halifax with a certificate of honorary membership in the American Society to be transmitted to Dr. Harry R. Ricardo, noted for his work in the field of internal combustion and president of the British Institute.

Lord Halifax then presented the ASME with a copy of the famous Breda portrait of James Watt, Scottish inventor of the steam engine, as a gift from the British Institute. Watt was described by Lord Halifax as being the "patron saint of engineers."

The other two Americans who had previously received certificates of membership in the British Institute were Henry Ford and Dr. Alexander G. Christie of the Johns Hopkins University.

Science News Letter, June 17, 1944

NUTRITION

Mineral Oil May Rob Body of Needed Nutriment

➤ INCREASED use of mineral oil since the war may have serious nutritional consequences. Non-rationed mineral oil robs the body of at least two of the fat-soluble vitamins, and of calcium and phosphorus, warns the U. S. Department of Agriculture.

Mineral oil, which has been plentiful and relatively cheap as well as not becoming rancid, has been used in increasing amounts in salad dressings and in such foods as salted nuts, potato chips and doughnuts. Its prolonged use, however, may lead to deficiency ills because it prevents the body from making full use of some of the most important essentials in food.

Recent studies at the Arizona Station showed that mineral oil not only cheated the user of vitamin A, but also of vitamin D, the "sunshine vitamin," and calcium and phosphorus. Rats taking mineral oil needed three times as much cod liver oil to supply vitamin D as those not given the oil. Puppies fed mineral oil could not use the calcium and phosphorus in their food to build normal bones.

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STATISTICS

More Boys Under Twenty Married Since the War

➤ ALMOST three times as many boys under 20 years of age were married in 1942 as in 1939, and many more women 35 and over were married within the last few years than before the outbreak of war, according to a report just issued by the Metropolitan Life Insurance Company.

A growing tendency for young boys to marry girls older than themselves was found in a study of records for New York State, exclusive of New York City, for the period 1939 to 1942. In 1939, 29.4% of these boys married older girls, whereas 31.6% took wives older than themselves in 1942.

During this period, more than half of the boys marrying at the young ages of 16 and 17 took brides who were their seniors. One-third of those marrying at 18 chose older girls, and more than a quarter married older girls at 19. In general, however, the brides were only slightly older than the grooms.

For every hundred women 35 or over who were married in 1939, 173 were married in 1942. Marriages among men 35 and over showed an increase of 65%. With the great number of marriageable men now overseas or destined for such service, marriages among older people will form an increasing proportion of the total marriages until the return of our young men.

A decrease in the number of marriages, felt in the country as a whole in 1943, will most likely be accentuated within the next few years.

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GENERAL SCIENCE

Crimes Against Science To Be Cited by Anti-Fascists

➤ CRIMES of the German invaders against science and reconstruction plans for scientific and cultural institutions in the liberated areas will be discussed by scientists of the Soviet Union at an anti-Fascist meeting on Sunday, June 18. The meeting, to be broadcast all over the world, can be heard throughout the United States on Sunday morning.

In announcing the broadcast, Soviet scientists convey greetings to U. S. A. scientists and express the hope that collaboration and solidarity of men of science will speed victory for the United Nations.

Science News Letter, June 17, 1944