

this bubbles up in the wound it tends to bring to the surface and help remove splinters too small to be seen; 3. Disinfection of the wound and application of the usual sterile dressing.

To prevent the condition, dust in the workrooms must be kept from spread-

ing by every possible means. Workers should wear protective uniforms. Their skin should be thoroughly cleaned at the end of each day to remove all dust and splinters on the skin. All dust should be periodically cleaned off tools and finished work, preferably by suction.

Science News Letter, September 11, 1943

BIOCHEMISTRY

Virus Probably Protein

Fresh evidence obtained with whirling super-centrifuge that particles of tobacco mosaic virus are really very large molecules.

► FRESH EVIDENCE that virus disease particles are giant protein molecules endowed with the life-like properties of reproduction and parasitic feeding has been obtained by Dr. Max A. Lauffer of the Rockefeller Institute for Medical Research at Princeton, N. J., it was revealed at the meeting of the American Chemical Society in Pittsburgh.

This new advance in science's war against disease was made through the use of a powerful weapon known as the ultracentrifuge, which whirls tubes of solutions at speeds far exceeding those of rifle bullets and cannon shells, separating substances or particles of different densities and sorting them in layers, as a cream separator separates cream from skim milk.

Identification of virus particles as giant molecules was made tentatively eight years ago by Dr. Wendell M. Stanley, also of the Rockefeller Institute, who first obtained a disease-bearing protein from sick tobacco plants in pure crystalline form. At that time it was learned that these suspected molecules are enormous, with molecular weights in the hundred-thousands, as contrasted with the mere tens or hundreds that represent the weights of ordinary molecules like those of sugar or gasoline.

Dr. Lauffer's feat in more definitely pinning the guilt for disease-causing onto the big, bad molecules was accomplished by means of a special container employed in the ultracentrifuge, in which an adjustable perforated barrier permits any desired fraction of the contents to be removed without disturbing the rest.

A solution of the disease virus was whirled in this container until just one-fourth of it remained above the barrier.

When this was removed and samples of it inoculated into healthy plants, it was found to have one-fourth the disease-causing ability of the whole solution. This constituted strong statistical evidence for the identity of protein and virus.

The virus on which the Rockefeller Institute researches have been conducted is that of tobacco mosaic, one of the worst loss-causers in tobacco fields. However, that in itself is of less importance than the possibility of transferring the conclusions to apply also to other disease viruses, which include the microscopically invisible causes of such serious human ills as infantile paralysis, yellow fever, smallpox and influenza.

Science News Letter, September 11, 1943

MEDICINE

Blood Donations by War Workers Get Okay

► WAR WORKERS form an impressively large group among patriotic Americans who are giving blood to the armed forces through the American Red Cross. They are doing this regularly, without danger to themselves, and without any slow-down in their work production, it appears from a report from the Industrial Hygiene Foundation.

One industrial company, before encouraging its workers to give blood to the Red Cross, recently asked the Foundation whether giving a pint of blood would make the donor weaker or more susceptible to colds or other diseases and whether it would cause absenteeism or slow production.

The Foundation referred the questions to members of its medical committee and to Dr. G. Canby Robinson, national director of the Red Cross Blood Donor Service, and to the technical director, Dr. Earl S. Taylor. The answers were unanimous that war workers could safely give blood. Typical is this answer:

"We have one of the largest Red Cross donor stations here in Milwaukee. All of our large war plants are encouraging their employees to contribute their blood at two to three-month intervals. They have found no decrease in the efficiency of their employees, no increase in colds or other infections, and no increased fa-



SAFETY AND BEAUTY—An attractive headdress with flaming bombs has been designed by the Army Ordnance for women working in the arsenals. At work, to protect the hair, they must wear it in the manner used by the girl on the left. After hours, the girls prefer to wear it as shown on the right.