

victim, who would have been on a funeral pyre within 12 hours had he not received this treatment, walked out of the hospital, completely cured.

In summing up the results of the experiment, Comdr. Amberson says in his report which will be published in December issue of the Naval Medical Bulletin:

"From results of the tests made by our Epidemiology Unit No. 50, we recommend:

"That sulfadiazine plus adequate quantities of salines and supportive therapy be accepted as the treatment in mild and uncomplicated cases of cholera.

"That this treatment be supplemented with penicillin in cases of moderate severity, especially where pneumonia is a complication.

"That plasma plus salines be admin-

istered in sufficient amounts to elicit a rapid clinical response in severe cases of shock or circulatory failure, and that this be continued long enough to mobilize the effect of the penicillin or sulfadiazine."

Only two of the cases treated had previously had cholera inoculations. In both the onset was sudden but the symptoms were mild, and both were discharged after three or four days treatment. This led Comdr. Amberson to observe that "cholera vaccine is of value in lessening the severity and duration of illness. Death is almost certain without treatment. Chemotherapy and saline solution alone will lower the expected death rate, and with the additional use of plasma, the recovery of every cholera victim can be assured."

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rubber having a very smooth outer surface. The metal is first covered with a strong cement, over which a layer of sponge rubber is applied. Moderate pressure and some heating in a mold makes it stick and also expands it. Then a layer of fabric is laid over the sponge rubber, and on top of this a final layer of dense rubber is cemented.

On this invention Mr. Pitman has been granted U. S. patent 2,389,210, which he has assigned to E. I. du Pont de Nemours and Company.

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ELECTRONICS

Static Partly Conquered

► HOW the Army and Navy working together attempted to decrease flying hazards caused by what technical men call "precipitation static," which prevents radio communication between aircraft and ground, is no longer a military secret. No simple solution to the important problem has been found, but scientific investigation has given means of reducing the hazard and also a practical approach which is expected to lead to a realization of complete success in the immediate future.

Much radio and navigational equipment fails to operate when the pilot needs it most, during bad weather. The loss of communication may be for 10 to 15 minutes, which usually is not a serious matter. In certain weather the aviator may be without communication for hours. Under these conditions navigation is impossible and flying is hazardous.

Two main types of precipitation static are recognized. One is when a plane is flying through dry crystalline snow that puts a tremendous free electrical charge on it and causes the plane to break into a corona. The other is encountered when a plane flies near thunder clouds or in the vicinity of lightning. In this case corona is produced on the outer edges of the airplane and interferes seriously with radio, navigation and communication.

A joint Army-Navy committee was established in 1943 to find means to combat radio interference or precipita-

tion static. The committee undertook the development of equipment suitable for the discharging of the accumulated electrostatic charges. This led to the development in the Naval Research Laboratory of an early type of wet-wick discharger, later superseded by a dry type requiring practically no attention.

These dischargers, mounted on the outmost surfaces of the airplane, are employed to keep the voltages below or close to the electric field for corona. In this way the radio interference on the plane is reduced. Improvements in the design of the antennae and radio circuits have been made and these, in conjunction with other developed equipment, will play an important part in the reduction of precipitation static.

Science News Letter, December 1, 1945

AERONAUTICS

High-Speed Airplanes May Be Rubber-Coated

► SMOOTHER surfaces for the super-high-speed airplanes now coming into use are an imperative necessity. The thousands of rivet-heads and other minor projections that cover the naked metal surfaces of present-day wings, fuselages and control areas are recognized as a power-eating nuisance; and as speeds go up such sources of parasitic drag become simply intolerable.

To overcome this, Earle C. Pitman of Red Bank, N. J., has invented a method for coating aircraft surfaces with