

With the exception of the Surgeon General and Capt. F. F. Russell, this army board was made up of members of the "Reserve Corps."

The Surgeon General addressed the scientists present, stating why they had been brought together, and set forth briefly the history of typhoid in the United States Army up to that time. Had we been present we would have learned that typhoid fever exacted a toll in the northern army during the Civil War of 80,000 cases, and was the cause of not less than 86 per cent of the total mortality of the American Army in the Spanish War of 1898, there having been 20,738 cases, with 1,580 deaths, among a total of 107,973 men.

The lessons of the latter war and subsequent investigations had made possible many advances in sanitation, and the medical department of the army was bending every effort toward the eradication of the disease. The number of cases per year had finally been forced down to about 300 in the army in the United States, but the ever-present "carrier" (an individual who is apparently not sick of the disease but still harbors the germs in his system and is capable of imparting them in virulent form to others) was elusive; also typhoid was flourishing quite generally in the civil population of the United States. In this country the *Bacillus Typhosus* was attacking a half million people every year, and 35,000 to 40,000 died of the disease. The utmost endeavors of the health department were inadequate to eradicate it.

The Surgeon General now called for the report of Captain Russell, who had spent three months in Europe, by order of the Secretary of War, studying the method of immunization used by Sir Almroth Wright. It set forth with scientific accuracy the details of typhoid vaccination as practiced abroad, and stated that although the measure had not met with universal favor it had been reasonably successful, and recommended its adoption experimentally in our army among those who would volunteer.

TYPHOID VACCINATION INTRODUCED IN THE UNITED STATES ARMY.

After some discussion, the board unanimously recommended the adoption of anti-typhoid vaccination in the army as a voluntary measure. Backed by the recommendation of these distinguished gentlemen and the authority of the Secretary of War, the Surgeon General took immediate steps to start experimental vaccination and placed Captain (now Major) Russell in charge of the work.

Within a couple of months he had developed an improved technique, so that the reactions which had been somewhat severe before were now quite mild. All the medical officers, their families, many commanding officers, and the Hospital Corps immediately submitted to this procedure in order to set a good example, and the volunteers came forward from the regular army in such goodly numbers as to reflect credit upon the service.

During 1909 and 1910 about 18,000 men were vaccinated. The results were so good that upon the mobilization of the troops on the Texas border in 1911 the Secretary of War ordered the compulsory vaccination of all the troops in the field—the first time in the history of anti-typhoid vaccination that it had been made compulsory; the first test on a large scale of this method of individual protection against the disease which had been the terror of our army camps. The details of this crucial test are imperative to a proper comprehension of the immense value of anti-typhoid vaccination as a prevention against the disease. In an article entitled "The Sanitary Record of the Manœuver Division" Col. J. R. Kean, in charge of the Sanitary and Statistical Division of the Surgeon General's office, states as follows:

"The immense advance in camp sanitation, and particularly the value of this protective measure, can be estimated by comparing the typhoid incidence of this camp with that of the 2nd Division, 7th Army Corps, which was organized at Jacksonville, Florida, about June 1, 1898, and remained there in camp until October, some of the regiments leaving in September. This division was not conspicuously unfortunate in its typhoid record for that time and is selected because of the close