

## HOW THE CONFEDERACY ARMED ITS SOLDIERS.

"We began in April, 1861," wrote Gen. Josiah Gorgas, chief of ordnance of the Confederate army, in a monograph to President Jefferson Davis, "without arsenal or laboratory, or powder mill of any capacity, and with no foundry or rolling mill except in Richmond; and before the close of 1863, or within a little over two years we supplied them. During the harassments of the war, while holding our own in the field defiantly and successfully against a powerful enemy, crippled by a depreciated currency; throttled by a blockade that deprived us of nearly all the means of getting material or workmen; obliged to send every able-bodied man to the field; unable to use slave labor, with which we were abundantly supplied, except in the most unskilled departments of production; hampered by want of transportation of even the commonest supplies of food; with no stock on hand even of such articles as copper, leather, iron, which we must have to build up our establishments—against all these obstacles, in spite of all these deficiencies, we persevered at home as determinedly as our troops did in the field against a more tangible opposition; and in that short period created almost literally out of the ground foundries and rolling mills at Selma, Richmond, Atlanta, and Macon; smelting works at Petersburg; chemical works at Charlotte, N. C.; a powder mill far superior to any in the United States and unsurpassed by any across the ocean; and a chain of arsenals, armories, and laboratories equal in their capacity and improved appointments to the best of those in the United States, and stretching link by link from Virginia to Alabama."

In spite of the proof-supported charge that Gen. John Floyd of Virginia had utilized his position as war secretary in Buchanan's cabinet to secure the removal of arms and ammunition to the Southern arsenals against the day of rebellion, the outbreak of hostilities found the South woefully unprepared. There were six arsenals within the limits of the seceding States, not counting Harper's Ferry, Va., destroyed by the regular army soldiers before evacuation, namely—a State arsenal at Richmond and government institutions at Fayetteville, N. C., Charleston, Augusta, Ga., Mount Vernon, Ala., and Baton Rouge, La. None of these was a manufacturing plant. They were storehouses, that was all, and despite Floyd's services to his unborn government not any too heavily stocked. Altogether, according to Jefferson Davis's "The Rise and Fall of the Confederate Government," these half a dozen contained just 15,000 rifles and 120,000 muskets, the latter mostly of out-of-date pattern.

Confronted by this situation, the new government began with an impressive innocence, by attempting to supply deficiencies by purchase in the North. Capt. Raphael Semmes, of Alabama, afterwards to command the famous commerce raider of that name, went into the Union States with a commission to buy all that the munition makers could supply. There was no trouble about signing the contracts. According to President Davis, Semmes "would have been quite successful if it had not been for the intervention of civil authorities preventing delivery." Major Huse, of Alabama, at the same time went to England, but found the supply of arms on hand low and the difficulties of blockade running

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great. His contributions to the Southern cause, while considerable, did not equal what was accomplished through home production.

"The appalling contemplation of the inauguration of a great war," wrote President Davis, "without powder or a navy to secure its importation from abroad, was soon relieved by the extraordinary efforts of the ordnance department and the directing skill of Gen. G. W. Rains." This Gen. George Washington Rains, a North Carolinian, who had been professor of chemistry at West Point, left a prosperous engineering business in New York in 1861 to enter the service of his native State. He was almost at once put in charge of the proposed powder factory at Augusta, Ga. That meant he had to build the factory, and he did. Meanwhile, he set parties at work exploring the caves of the Tennessee and Virginia mountains for saltpeter. Others too weak to fight searched old cellars and old tobacco barns for niter, and still others started immense niter beds in Columbia and Charleston, S. C., Savannah, Augusta, and Mobile. By 1862 a saltpeter refinery was running at Nashville. All the material obtained in this way was sent to Augusta, where, under Gen. Rains's direction, the powder mill became the most famous example of Southern industrial efficiency.

Meanwhile the weapon industry had suddenly leaped into life. The Southerners were a "gun-toting" race, so that there were enough firearms for the first round of the struggle at Bull Run. But the time of need was coming, and preparation was made in advance. When the Union soldiers evacuated Harper's Ferry, leaving the flames still burning, civilians, under the lead of Chief Armorer Armistead Ball, rushed into the ruins and saved a large part of the machinery. The rest of the Southern arsenals had hardly a machine above the complexity of the foot lathe. But before the end of 1861, the Harper's Ferry machines, set up in Richmond and in Fayetteville, were turning out thousands of rifles, rifle-muskets, rifles with sword bayonets, and firearms of every description.

Steam was put in at the Charleston arsenal. The Mount Vernon institution was moved to Selma, nearer the district where the hardest cast iron in America was being turned into gun bores. Ancient field pieces of 1812 were replaced by new cannon from the Tredegar iron works in Richmond. By January, 1862, 1,500 seacoast pieces of various caliber fronted the ocean between the mouth of the Potomac and the Rio Grande. The South had no skilled laborers to speak of, but a handful of men like Ball, who followed the "cause," worked themselves half to death—Ball did die of overwork—training the hundreds who were willing.

Lead at the rate of nearly 80,000 pounds a month came in from the mines near Wytheville, Va., to be smelted in the new government plant at Petersburg. Battle fields were combed for gunstocks, bores, and bullets, with excellent results. Buildings were erected for a general government armory at Macon, Ga., and machinery, run in through the blockade from Bermuda, was actually installed before the collapse came. The Confederacy fell not so much because it had not been able to make arms, as because all the places where the arms were made fell before the Union armies.