

round in huge machines. The greatest cannon now on view in the Arsenal is of eighty tons burden, sixteen-inch muzzle. Others are of the weight, fifty tons, forty-three tons, etc. Powerful hammers are in operation, smashing up the old cannon balls and cannons. Nearing the smelting furnaces the heat is so oppressive as to cause a sickening sensation to immediately come over us, we therefore move away from this spot as soon as possible. While within, one of the oven doors is lifted, the heat and light from this white-heat furnace, is such as to compel us to keep the one position until it is closed down. We now pass through several other furnace departments, where hundreds of men are busily employed, surrounded by intense heat. One set of men is engaged in pouring molten ore into troughs arranged in large numbers along the iron floor forming "pigs." Others are passing backward and forward with large buckets filled with brass or iron in a liquid state and pouring the contents into wheel moulds, which have been formed in the clay by other sets of young men. To the left of these all the brass fixtures that have been broken off or set down as of little use are thrown into small divisions, kept in an exceedingly high state of temperature by means of fires applied below the grating. Soon the ore melts, and runs off in troughs arranged below the flooring. The workmen, supplied with buckets, then bring this fiery mass into the rooms containing the moulds, into which the liquid is thrown. Another building, in which the cannon coils are formed, is visited. The furnaces in this department are of great length for the purpose of receiving long bars of steel four inches wide and upward. Huge rollers are placed directly in front of the furnaces and as the bars, now in a flexible condition, are forced out of the furnace by means of large trucks supplied with pulleys, pass over the large rollers, spirals are formed. Each of these is then placed separately under tremendous pressure, and forced into one solid circular piece which forms the main part of the guns. We now pass through a few of the stores in which are saddles, horse shoe nails, bits, bridles, combs, buckles, and many other things required in the army and navy, by the half million. Cannons, finished and otherwise, abound in all directions. Passing through machine shops, in which young men by hundreds are busily employed in turning caps, cartridges, rods, and filling the trucks brought on the trams to their side, we pass again into the grounds, where wider trams are laid, and small steam engines are running hither and thither. Entering into the rooms where shells are formed and passing on through the model shell-room, containing samples of shells, torpedoes used at sea and on land, rockets, etc., we wend our way toward the gates at five-thirty p.m. Here several thousand men are gathering together in readiness for departure, and as the Arsenal bell strikes out, a general move is made towards the exterior of the walls, none being allowed to pass the barrier before the tolling of the bell, unless it be in cases of dismissal. Making our exit into the streets without, we stand for half an hour or thereabout watching this mass of men pouring into the streets, completely blocking up the way at the cross roads, but being bound