BIG CHINESE GUNS.

A Visit to the Great Arsenal at Shanghai Where the Chinese Are Making Arms and Munitions of War.

A Hundred Acres of Foundries and Factories and Their Two Thousand Workmen—How the Celestials Are Preparing for War With Foreign Powers—Their Wonderful Mechanical Skill and Their Possibilities as Inventors—Huge Ten Twelve-Inch Guns and All Sorts of Modern Projectiles—Acres of Steel Yards and Rolling Mills Making Great Shells and Steel Rails—Out of Chinese Iron and Chinese Coal—The Eight-Inch Gun in the Arsenal and How an American Introduced It.

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Special Correspondence of the News.

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Nine hundred acres of factories for the making of arms and munitions of war! Two hundred acres for the smelting and rolling of steel!

Guns worth turning out cannon as big as the biggest now being made at the Washington navy yard! Shops covering acres devoted to the making of the latest of modern magazine rifles!

An army of two thousand celestials in blue gowns with their pig tails tightly wound about their half-shaven heads manipulating with their slender, yellow fingers the finest of the modern world's improved machinery, and doing successfully all kinds of factory work under Chinese foremen!

These are some of the wonders I saw at the great government arsenal near here today.

Any one who thinks that China is asleep to what is going on in the modern world has only to visit one of its great government gun factories to be convinced of his mistake. I have spent some time at the gun works of Washington navy yard, where are being built the guns for our largest warships. We pride ourselves upon them as a nation and consider them among the finest gun works of the world. And yet not here in China there are similar assemblies of men even more wonderful work, and that to a large extent with native-made machinery, and just now with Chinese iron and Chinese coal. Of the two thousand men employed in the Shanghai works only two are foreigners, and these are consulting engineers, one of whom, Mr. N. E. Cornish, is an Englishman from Devonshire, who was for years connected with the great Armstrong gun works in England, and the other, Mr. Hunt, an Englishman who not only knows how to run all kinds of machinery, but has invented several engines, and who, with Mr. Cornish, is making many improvements in the Chinese munitions of war over those of other nations. I was able through Mr. Cornish that I was able to go over the gun works, and with him I had chats with the Chinese managers, foremen and workmen.

Leaving the Hotel Des Colonies, in the foreign quarter of Shanghai, I rode in a rickshaw, pulled by two men, up into the country. The day was cold, raw and rainy, but I decided to risk it and so, taking my camera with me, and, wrapped in oiled silk, it lay between my legs as we dashed through the muddy streets crowded with barefooted coolies in hats as big as umbrellas and rain coats of a reddish brown, which were serving as tents and sacks swung on poles from their shoulders. We passed many women in blue gowns of wadded cotton, who hobbled along on three little feet through the mud with a kind of stilt-shoed gait, and not at every turn for rickshaws and sedan chairs of every description, whose eyes were so shrouded by their big black spectacles that they looked like Gorgonian Sisterettes rather than ordinary Chinese. Many of these wealthy had on their winter bonnets of wadded silk and their clothes were of the brightest of reds, blues and greens. Their bonnets covered the entire head and were fastened under the chin in a wadded cloth which protected the neck and throat. They were so made that only the front of the face was exposed to the weather, and they extended out behind into a sort of a cape which fell to the waist and covered their coats. The greens of many of these were for head and neck silk inserts of which they were made seemed more at for a ball room than a rainy, muddy Chinese country ride. People here look worked the poorest of the poor. We passed scores of squatting men gaining height wheelbarrows, each containing a load for a horse, and jostled by the hundreds of other coolies working themselves who fill the country roads of China with as many rascals as you will find on the most's apparently any one of our little cities on a circus day.

Just outside of the walls of the native city I passed a guard house filled with Chinese soldiers. The men were out at the moment, and I attempted to photograph them. But when they saw the camera they scrambled and took shelter in the guard house. But for them but I came to a Chinese arsenal I would have had better luck in the barracks at the troops which the viceroy keeps here to guard the arsenal and to protect foreigners. A white wall, perhaps twenty feet high, surrounds them, and I passed only the great high-roofed gateway, worked ambroidered with red Chinese figures, twenty odd feet long, which fronted upon a park above the trial of the commander. I saw many soldiers, however, and I obtained a good enough idea of their evidently dirty and uncertain and no uniforms. These soldiers were dressed in all sorts of bright colors, and the uniforms of many of them consisted of the brightest of blue cotton coats with red facings, red sashes and ornamented with red stripes. They wore wadded cotton pantaloons, which they tucked into black, short topped wadded cloth boots, and their heads were covered with small caps of silk. They look entirely different from the people about this part of China, and are much more muscular and are taller than the Chinamen we have in America. Many come from the interior, and the best fighters among them are from the rebellious province of Hunan, where the insurrection against the mandarins of a year or so ago originated. There are only a few thousand of them in the barracks, and they are but a small part of the army of the Viceroy of Nanking, who lives at his capital in the interior.

Reaching the arsenal we stopped for a moment under a white wall, on which was a gaudy painting of one of the heroes of Chinese mythology, who is supposed to give luck to the officers within, while each of the Chinese workers wore leg cord into Mr. Cornish, and a few hours later I was inside of three of the works and surrounded by the din of machinery. Practically the only difference between these works and those of any of the great gun factories of Christendom lies in the gorgeous colors of red, blue and green in which the Chinese delight and with which they paint not only the interior woodwork of their shops, but some of their machines as well; and in the fact that all of the work is done by Chinamen. The first room we entered was almost the size of the biggest shop in the Washington navy yard. It covered, I judge, about an acre of space, and in it were being turned out some twelve-inch guns for the navy. You have seen pictures of such guns in the newspapers. They are the biggest made at our navy yard, and they are monstrous iron cylinders, the barrels of which are thirty-five feet long, and which fire projectiles of steel which weigh a thousand pounds. To make one of these guns costs in the neighborhood of $50,000, and the Chinese are now just finishing their fourth gun of the kind. Those completed were born tested, and shown equal to anything made in Europe or America, and the projectiles for the guns are made here. The Chinese, however, like the other nations of the world, now believe that these monster guns are not so good for defense and warfare on the sea as the smaller varieties, and they will build no more of them at present. Now these I saw were twenty-twelve guns, and they visited the shops, where they are put together were at work making the first improved patterns of Armstrong rapid firing guns. I looked at a six-inch gun of this kind which had just been completed, and was shown its working. It moved so easily that a baby could move almost worked it, and the Chinese foreman told me that they had just finished a dozen of these weapons, and that they were now working on some which would fire two pound shot.

China has no scruples as to patents, and she gets now all of the latest improvements in war machinery and copies them here. There is no doubt about the great mechanical ability of the Chinese. There are two thousand men, who have been brought up in lines entirely different from those on which they are now working, and they make as expert workmen as our mechanics, who have had generations of forefathers to discern and years of experience. A great part of the machinery used here was made by Chinamen, and Mr. Cornish tells me that he found that parts which he had thought it impossible for a Chinaman to turn out, and which he had expected would have to be imported at a great expense from Europe, had been made by them from drawings. Some of them are so expert that only general directions and the knowledge of the results required will straightway make the designs and castings. I was shown one machine—I think it was for the rifling of some of the guns, though I am not sure—in which a Chinaman had set a screw of only three inches in diameter and thirty-five feet long, which was designed and cut by a Chinaman, and I took a fine exposure of a yellow faced Chinaman, who makes the finest of the rapid rifling of the Armstrong guns. The work is as delicate and as beautiful as that of a watchmaker, and there is no improvement on the original, which the mind has added. The lifting machines for the big guns would have cost far too much for them to have been made by the drawings, and they made it for that man. It is so in nearly every variety of machinery, and among the things now actually being made in these works are all sorts of modern projectiles, from the heaviest shells up to great shots of steel weighing nine pounds. They make cartridges from those fitted for a revolver to the kind required for a six-inch rifle, and I saw Chinamen drilling steel, forging out grapes and making shells and cartridges from rough blocks of metal and put a unit to the accuracies, where I was shown the six different kinds of shot and shrapnel which are made here. They are now turning out about a dozen pounds of shot a day. They have made more recent experiments with Chinese iron which demonstrates its superiority in some respects over any other iron of the world.

No one knows much about the mineral resources of China. But coal and iron are said to exist in nearly every one of the eighteen provinces or provinces of the empire, and there have been some mines opened in the interior which are now in operation. Up to this time, China has been importing the raw material for her iron mills, but she is now experimenting with her own supplies, and the manufacturing China of the future will probably be one of the great centers of iron and steel in the world. The coal and iron beds in the province of Chili are said to be the largest in the world, and the product is inexhaustible. I saw many samples, however, and I obtained a good enough idea of the quality of the coal to satisfy me who evidently did not understand what we were about. These soldiers were dressed in all sorts of bright colors, and the uniforms of many of them consisted of the brightest of blue cotton coats with red facings, red sashes and ornamented with red stripes. They were