

I. Dynasty 300

Chapter 300: Into Production

Inside the machinery department, the craftsmen gathered around Xiao Ming.

Production orders came fast from Xiao Ming's mouth. One craftsman was assigned to forge the main spring, overseeing 500 workers. Another was put in charge of forging the hammer, managing 400 workers.

There were 500 craftsmen working on assembly, and 700 on the production of the gunstocks.

"You must remember the exact dimensions for each of your parts. When it's time to forge, follow the standardized measurements. Any parts with a deviation greater than five percent must be discarded and not handed over to the assembly team. If production errors exceed five percent, the craftsmen will be disciplined according to the workshop rules."

Xiao Ming's voice carried a note of warning. He had always been very strict about production, especially after seeing the damage caused by counterfeit goods in the industrial world. This was a plague for industry.

So, from the beginning of his industrial efforts, Xiao Ming made sure to instill a rigorous work ethic into the craftsmen.

For production, there was no room for laziness—only constant improvement.

With the mechanisms and stocks now in production, the only remaining challenge was the barrel.

Over the past month, Zhang Liu had been tirelessly working on the tools. Similar to the mechanism, creating a gun barrel posed significant challenges. Xiao Ming had no choice but to personally supervise the work.

During this month, the machinery department had accumulated some tungsten powder. However, due to the use of the primitive carbon reduction method, the tungsten powder still contained a significant amount of impurities. As a result, they had to sift the powder to obtain a finer grade, but it remained scarce.

In modern terms, Xiao Ming's method was wasteful, but it was acceptable for his current needs. After all, he didn't need many tools—just enough for Qingzhou. For each tool, he only needed around five hundred units.

After all, the water-powered lathes in the workshop only had this much capacity. Producing more would be a waste, and he could increase production as the lathes expanded.

With Song Changping and the others leaving, Xiao Ming went to the back of the machinery department. The craftsmen were busy polishing the tools.

After several failures, Xiao Ming gradually understood that the process of compressing tungsten powder and firing it into tungsten steel wasn't something Qingzhou could achieve just yet.

The main issue was that the extraction of tungsten was still too slow. Secondly, the amount of tungsten powder being produced was very limited—currently, only about two kilograms were available.

At this rate, it was impossible to produce many tungsten steel tools. So, Xiao Ming decided to take a step back.

A few days ago, when Zhang Liu was melting steel, Xiao Ming had instructed him to add small amounts of tungsten powder and chromium powder to create a harder alloy than Qingzhou's current steel.

This alloy, known in modern times as tungsten iron, was also one of the alternatives for tool production.

Tungsten, as an additive, was only mixed in small amounts into the steel. Due to tungsten's low solubility, it had to be added in very small quantities.

By using this alloy, tool production made a significant breakthrough, putting Qingzhou on the right track for producing functional tools.

"Your Highness, the boring tools and milling tools have been successfully forged. The only issue is with the drill bits—they're difficult to polish. After much effort, we've managed to produce two pieces. Please take a look," Zhang Liu said, bringing the drill bits to Xiao Ming.

With tungsten steel successfully produced, the next step was tool production. This was a seamless process.

Xiao Ming looked at the hand-cranked grinding wheel, a tool he had identified as the most suitable for Qingzhou after reviewing all available data.

This hand-powered grinding wheel was basic—two parallel wooden rods with a grinding wheel in the middle, and a metal rod running through the center, fixed in place. The metal rod extended out, with a pedal similar to a bicycle pedal attached at the end.

This type of grinding wheel could be powered by either hand or foot, using the foot pedal to spin the wheel.

Touching the freshly polished twist drill bit, Xiao Ming asked, “How long did it take to polish this drill bit?”

“An entire day,” Zhang Liu sighed. “The boring and milling tools were easy, but this drill bit keeps breaking.”

Xiao Ming nodded. This was normal—tools had to be hard, and as the saying goes, “Hardness means brittleness.” That’s why the drill bits broke so easily.

“Bring in more workers. By the end of the month, we need at least one hundred drill bits for the water-powered lathe workshop. The flintlock musket is just one part away,” Xiao Ming instructed.

Zhang Liu nodded. “Yes, Your Highness. I’ll bring in some experienced craftsmen to help with the tool polishing.”

After a month of tireless effort, Xiao Ming finally saw hope for the flintlock musket.

However, the time remaining was limited. The northern barbarians were watching closely, and the Japanese to the east were also scheming.

He had to act quickly to solidify his hold over Qingzhou.

Handing the drill bits over to Zhang Liu, Xiao Ming said, "Deliver the finished ones as soon as they're ready."

Next, he went to find Chen Wenlong, asking him to oversee the production of steel bars in the steelworks.

He also gave him the exact measurements for the steel production.

Now that the flintlock musket was in production, Xiao Ming wasn't willing to wait any longer. He had waited too long for the tungsten ore, and he wasn't going to wait any longer for the tools.

Leaving the machinery department, Xiao Ming felt lighter and more content. It was as if the air had suddenly become fresher.

The Great Yu Empire's technology had fallen too far behind in this era. From cannons to flintlocks, Xiao Ming had been steadily catching up.

Now, the second type of modern weapon was almost ready, and he could finally feel a sense of peace, because he had always worried that one day someone would point a flintlock at his head.

Heading toward the palace, Xiao Ming felt in a good mood. He was about to discuss getting a custom military uniform for himself with Lu Luo, when he saw Wang Xuan at the palace entrance.

Wang Xuan's face was pale, with bandages wrapped around his arm, looking fragile.

"What happened?" Xiao Ming's brow furrowed immediately.

Wang Xuan, looking weary, replied, "Your Highness, I'd prefer to discuss this in the main hall." He glanced around cautiously.

Xiao Ming nodded. Wang Xuan was always careful with his actions, clearly worried about the leak of information.

They entered the main hall, where Xiao Ming asked, "What's going on?"

"We've been betrayed. Our identities were exposed on the steppe. If it weren't for encountering Lie Ming, I might not have made it back," Wang Xuan explained.

He continued, "Since we discovered the barbarians were forging cannons, our secret guards sent multiple teams disguised as merchants to infiltrate Shengdu. This time, one of the guards reported they

found the trial firing range for the barbarian cannons. I decided to investigate personally. We did find the barbarian cannons, but they looked different from ours—yellow with a greenish tint, and the barrels were thick and long, nearly four or five meters.”

Xiao Ming’s eyes narrowed. Wang Xuan’s description reminded him of the Urban cannon in history.