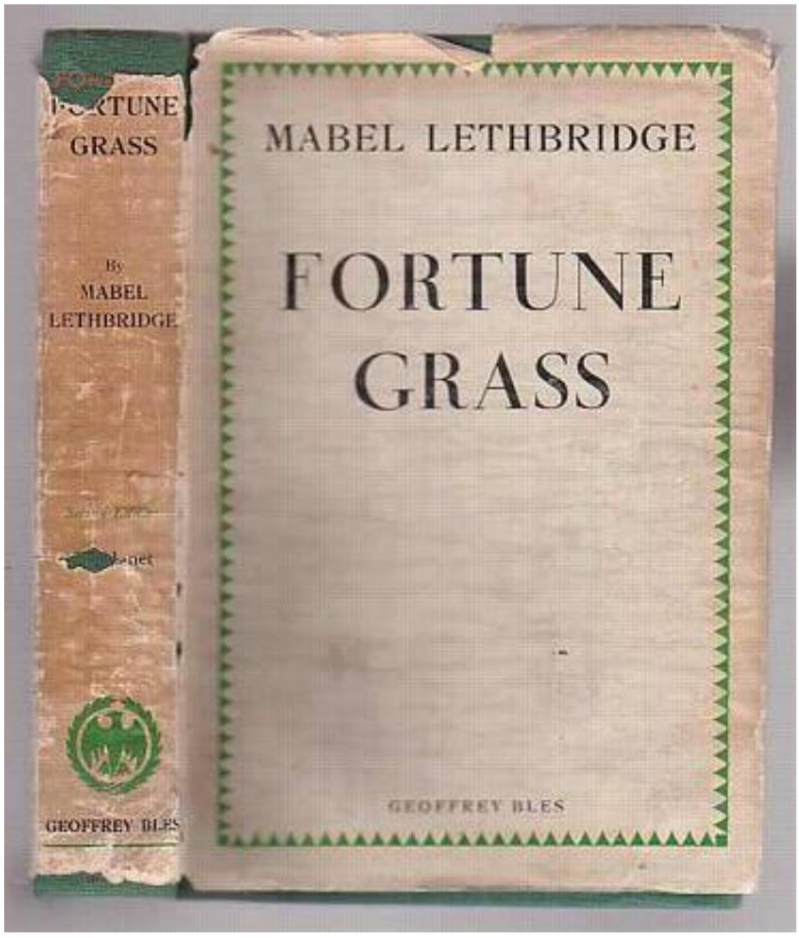
More on munitions manufacturing in England during the First World War

Introduction

In my articles Uniform postcards - Army Ordnance Corps and On ammunition manufacturing and the opening hours of English pubs, I have dealt with the efforts of English women in the manufacture of ammunition.

My interest in the subject made me aware of the book *Lykkestraa* by Mabel Lethbridge, H. Hagerup, Copenhagen, 1935. In what follows, I have extracted the information that the book contains about ammunition manufacturing, etc.

"Lykkestraa" by Mabel Lethbridge



The original, entitled *Fortune Grass,* was published in England in 1934 and has been translated into Danish by E. Fjelstrup.

The image of the original edition was found at the internet antiquarian Abebooks, where the book was seen for sale at a New Zealand bookstore.

The book is an autobiographical account of the author's life up to the beginning of the 1930s, a life which was significantly influenced by her, albeit brief, involvement in munitions manufacturing.

Mabel Lethbridge was the youngest daughter in a family of five, with two older sisters and two brothers almost the same age. Despite the war, her mother did not look kindly on Mabel's desire to get a job - and preferably one that

could have had something to do with the war effort.

Despite many protests, however, Mabel managed to get her mother's permission to become a student nurse, but this career ended abruptly when her mother learned that her daughter cared for wounded soldiers. But Mabel was not one to keep calm, and she found out that in October 1917, seamstresses were being sought for the manufacture of airplane wings, at a factory in White City.

At the same time, female munitions workers were in high demand, a field of work that Mabel found even more alluring. Anticipating her mother's protests, she was assigned to work at the aircraft factory; after a minor dressing/disguising exercise she was also assigned to work at a munitions factory at Hayes Common.

The age limit for the female workers was 18, and since Mabel was still only 17, she lied a year older to get the job. The job as a seamstress thus became only a veil that Mabel could use as an explanation at home when she went to work in the morning.

National Filling Factory No. 7

- The munitions factory in Hayes Common 1) was founded in 1915 at the behest of Lloyd George, who was then Minister of Munitions. There were 397 buildings with approx. 10 acres (1 acre of land corresponds to 5,516.23 m2) land total floor area. The factory covered almost 200 acres of land and a stroll around the enclosure was approx. 10 kilometers. There could thus be a distance of at least 25 meters between each "workshop". It gave light and air to the workers, but by no means least, it became a necessary safety belt in the event of an explosion.

- The factory was under military guard; there was a colonel, a captain, three lieutenants, and 190 non-commissioned officers and privates. They worked eight-hour shifts around the clock; in addition, there were forty night guards patrolling through the factory.
- There was also a fire brigade with a "crew" of 60 women. The entire factory was surrounded by a 10-foot-high wall of corrugated iron. There were four entrances for the workers. You passed individually through a barrier, where you were handed a pass by a checker; this badge was then handed to a police officer who was standing a few paces inside. No worker who was not known was allowed access to the factory.

- The changing room, where the workers exchanged their civilian clothes for the regulated clothes, could accommodate 7,500 at a time.
- 10,000 women and 2,000 men were employed in the manufacture of ammunition, in addition to several hundred cleaners, carpenters, etc.
- The workers were classified according to health status - A1 was the best grade and C3 apparently the worst. Before employment, the workers were examined, i.a. for lice; any lice infestation could only start once they were clean.

- Each worker, just like soldiers, was assigned a number - Mabel Lethbridge had number 12,129 - and this number became, among other things, used when superior defendant inferior.
- The appointment began with a lecture on the explosive used in the grenades and how it should be treated.

- The work clothes were issued at the factory, and were not dissimilar to the clothing of recruits.
- Mabel's first job was to clean grenade casings in paraffin and with a small hammer to knock them clean of the crusts that remained of amatol.
- Working hours ended at 18:00; the start time, on the other hand, is not mentioned precisely.

For King and Country, painted by EF Skinner.
The reproduction comes from a postcard, bought at the Imperial War Museum, London.

The danger zone

- The area where the grenades were filled with amatol was called the "danger zone". The amatol department was quite different from the other parts of the factory. The workshops were larger and further apart, and it was here that the grenades were filled with explosives.

- The buildings were raised above the ground on concrete piles, and each building or workshop was connected to the others by a miniature railway, the tracks of which ran on a grid of rails raised to the level of the workshops. Their total length was approx. 4 miles (1 mile equals 7.5325 km). No worker was allowed to step on them without wearing special shoes, and no one was allowed to go down to the ground with these shoes. As the rails meandered back and forth to connect all the workshops, there was a long way to go to the canteens, and one was often tempted to take a shortcut over the grass. If you had tried, you would have been fired immediately, because it was very dangerous if you had some gravel stuck to your shoes.

Shed No. 22

Mabel Lethbridge writes further:

- I was taken to shed no. 22, and here one of the superiors showed us around. On a raised platform to the left were four large cauldrons which contained the "filling mixture"; each of these boilers was provided with a mighty automatic ladle. Just below this platform was a long table, and here 12 girls were at work. Four of them stood by the cauldrons, pouring the mixture into ladles; then the contents of each ladle were weighed and poured into an empty eighteen-pound shell case. Hot, dry amatol. In stacks on the floor were hundreds of empty casings.
- I was selected as a "carrier" and had to carry the loaded shells to the machines where they were "stopped"; this was the technical term for pressing the amatol firmly into the shell and thus making room for the firing tubes. My buddy at this job, a girl named Louie, explained to me

how the "pressing machines" worked. They were used for the "stopping process" and it was these machines that we had to carry our shells to; it was a distance of approx. 50 meters.

- Twice a day, half a liter of cold milk was handed out for free - to counteract the effects of the toxic explosives the women worked with.
- When 2,000 grenades were stopped and packed, the women - to share - got 1 penny as a bonus, for each grenade.

The press machine

- To make room for the fire tube in the grenade, the amatol had to be compressed. This took place with a so-called press machine. A grenade was placed in a cleat, after which a "stopper" was placed in the top of the grenade. Mabel Lethbridge compares the "presser" to a puree press.
- Using a rope, four girls now hoisted a massive piston, called a hammer, up into the upper part of the machine 20 hammer
- strokes were the maximum allowed. A mark on the "stopper" indicated how far down it had to be knocked, so that the necessary space was created for the fire pipe.
- Sometimes five shots were sufficient, other times 20. This was not always enough, after which the grenade was discarded. The number of hammer blows required depended on the consistency of the amatol mixture.

Women Munitions Workers, 1917.
(Although they are almost unnoticeable...)
From the English National Archives education website
First World War Learning Curve.

On October 23, 1917, the press machine cost Mabel Lethbridge one of her legs, in addition to a wide range of injuries and, for a short period, also her sight. She had then been employed at the factory for almost three weeks...

The pressing machine was judged to be too dangerous, and had to be replaced by a so-called "screw filling machine", which was placed in a concrete room so that even an explosion could not cause damage. The new machines had been delivered to the factory, but unfortunately were not put into use until the following day.

However, the direct cause of the accident, which claimed the lives of several women, was apparently that today's faulty production was too great. It was therefore decided that some of the amatol mixture had to be scraped out of 79 out of 200 shells to make room for the fire tubes. It went well with 78 first...

Order of the British Empire

A longer hospital stay followed and Mabel Lethbridge recovered enough from her hand that she - now equipped with an artificial leg and to her mother's continued chagrin - could resume her search for work.

On January 1, 1918, The Times was able to announce that Mabel Lethbridge was awarded *the Order of the British Empire* for bravery and for admirable example during an explosion in which she lost one leg and was mortally wounded.

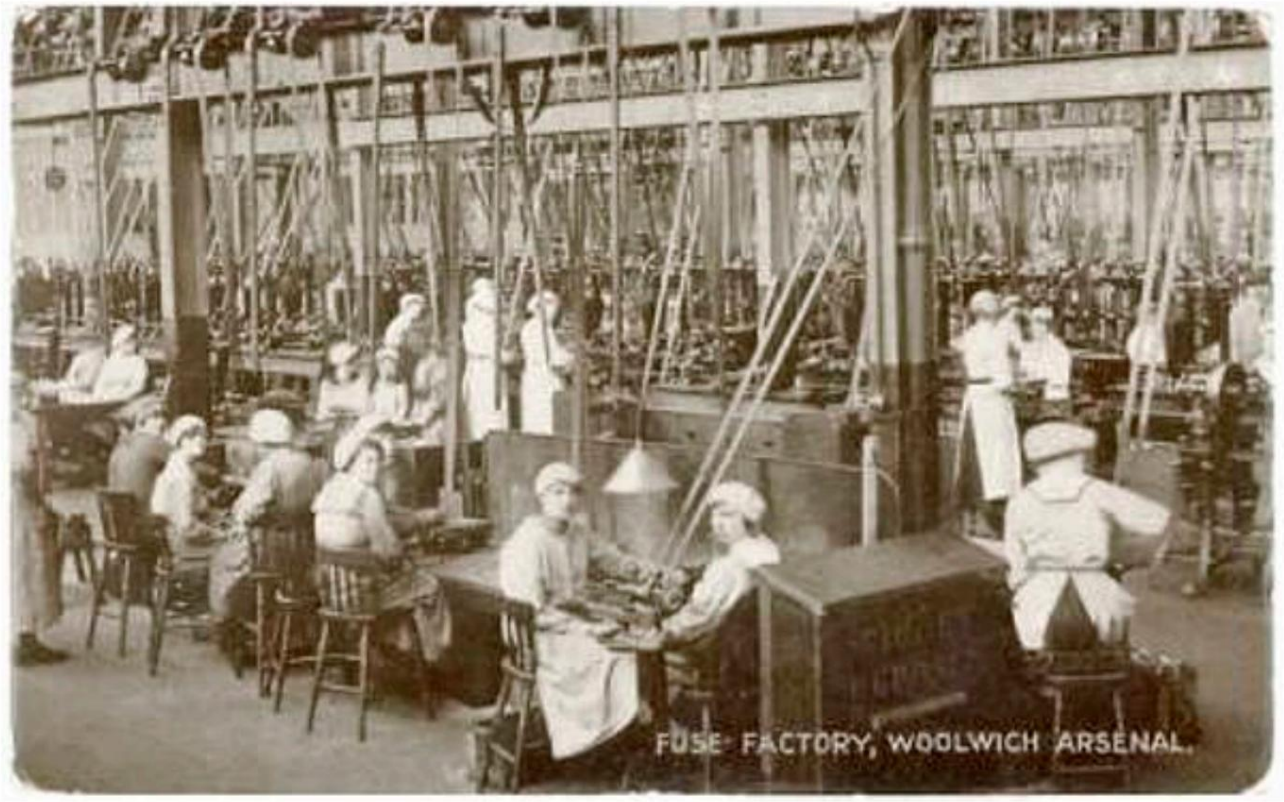
Closing

It is quite an exciting book which, in addition to the information about Mabel Lethbridge's time at National Filling Factory No. 7 describes her life before and not least after.

It is also worth noting that Mabel Lethbridge was awarded actual damages only very late, and after some legal tug-of-war; initially she received a modest weekly amount. The reason for this was that, strictly speaking, she was not old enough to work in the "danger zone" - after all, she had lied about being a year older than she actually was - and she was thus - despite her debilitating injury - not entitled to an indemnity.

Read it - and get an interesting insight into the life of an irrepressible woman in England before, during and after the First World War!

Per Finsted



Manufacture of fire tubes at the Ammunition Arsenal in Woolwich, during the First World War.
From a contemporary postcard, found on the website Port Cities - London's mention of Woolwich Arsenal.

Notes:

1) To my great surprise, the Internet did not contain much information about Mabel Lethbridge etc
In fact, the only information I could find was a reference to the book in the discussion forum on The Long, Long trail - The British Army in the Great War, Land Forces of the British Empire, see Mabel Lethbridge. Here, however, the information is given that the factory was located on Hayes Common, Middlesex. The otherwise brief description also gives the factory's English designation, which is used here.