

TECHNOLOGY HAS CHANGED EVERYTHING

Or
Covering Human
Mayhem from
Spears to Nuclear
Weapons

By Thomas C. Gibbons



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CHAPTER 2

HOW TO SHOOT



Although many types of weapons technology were developed – some more successful and some less – lets cut on through to the development of gunpowder and firearms.

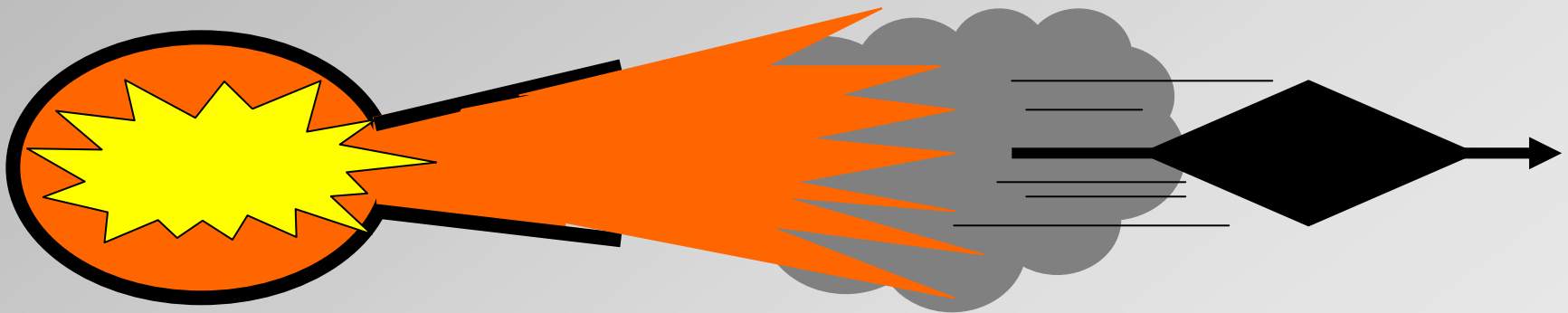
At the link below, you can find a chronology of firearm development including many illustrations and links. It includes some information on the one illustrated on the next slide:

http://xenophongroup.com/montjoie/gp_wpns.htm

I have seen pictures of ancient, 12th century firearms from China that looked more like a big flower pot filled with explosives and shooting a big massive dart.

The similar one at this link might be the first Western illustration of a firearm by Walter De Milemete in 1326

<http://members.iinet.net.au/~rmine/middel6.html>



There is another look at it (among other early firearms) here:

<http://homepages.ihug.com.au/~dispater/handgonnes.htm>

See also

O'Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.

Various chemical mixtures that were early antecedents of gunpowder existed in China for some time (maybe as much as 300 years) before that 1326 “vase gun” in the previous slide. Actual gunpowder had been developed, also in China, around 100 years - or a little less - before the “vase gun”. The dates do not seem very clear.

Like other new weapons, early firearms had many problems that kept them from replacing the earlier spears, bows, etc.

One such problem was the sheer size and weight of these weapons. It is not clear whether the “vase gun” was a handgun or a cannon. That is also true of other early models.

Because of the size and weight problem, cannon became practical before hand-held guns for use in siege situations. We are not going to follow that in this chapter.

Early handguns developed from what could be called small cannons. They needed something other than arms and hands to support them. Also, they were very inaccurate.

During a few hundred years of development, these problems gradually improved. By the mid 1400's, they could supplement bows on the battlefield provided a large number of them were used. The large number compensated for how inaccurate they were.

This is a public domain image from around the year 1400 of a hand cannon. It is from Wikimedia Commons, link below.



http://commons.wikimedia.org/wiki/File:Lgehumble_1400.jpg

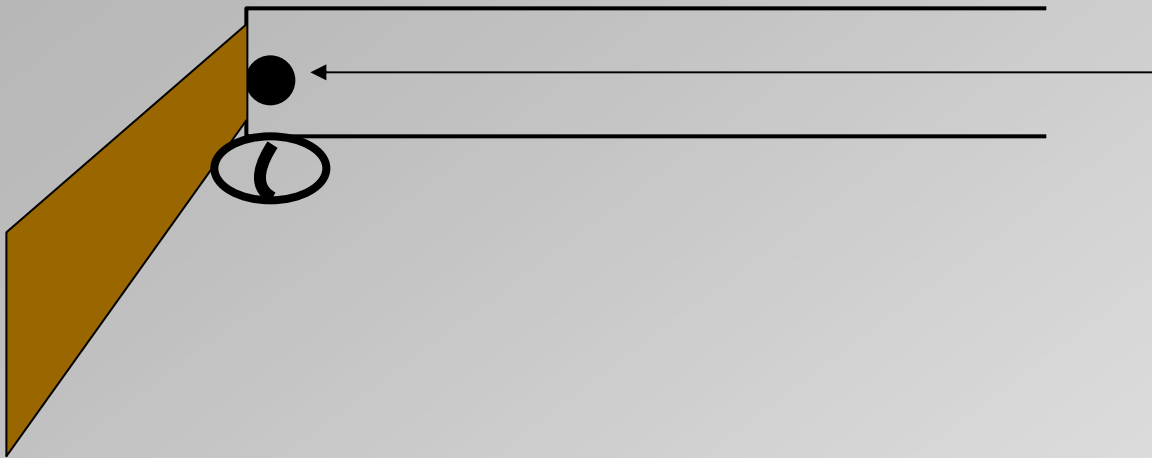
By the early 1600's enough improvements had gradually accumulated to turn the hand held firearm into something that really could be held in the hands and fired fairly reliably.

The Thirty Years' War (1618 – 1648) provided the motivation for the development of the last few necessary improvements in creating what amounted to the musket of the next 300 years.

King Gustavus Adolphus of Sweden created this and used it to achieve a temporary advantage on the battlefield. It was temporary because everyone soon got these weapons and besides he was killed in battle not long afterwards.

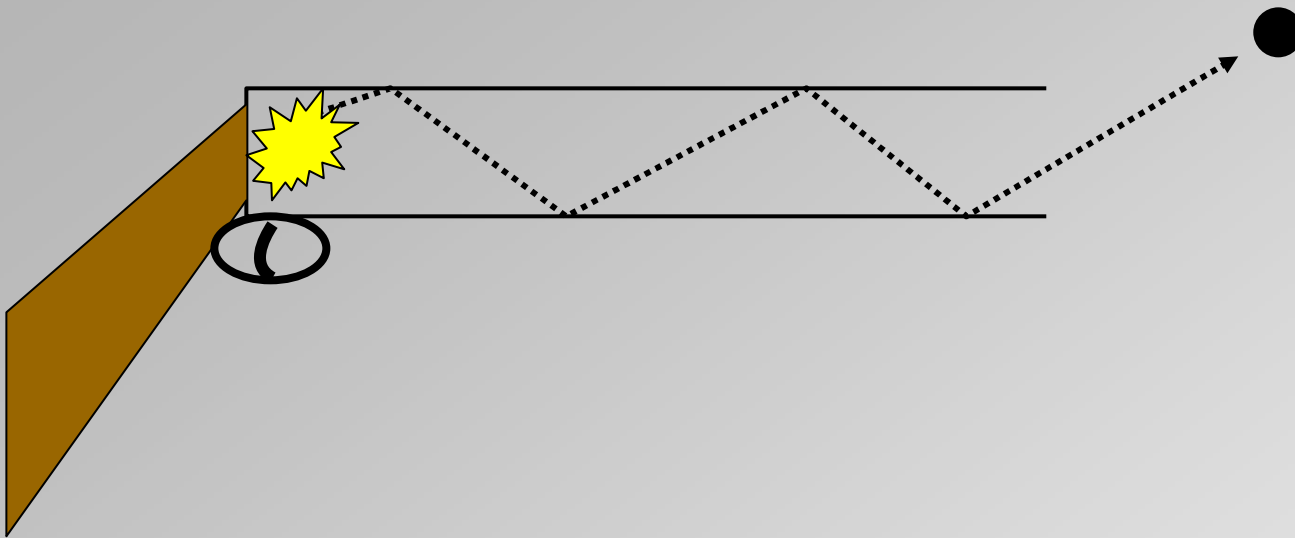
For more detail see

Gwynne Dyer, *War*, Crown Publishers, Inc. New York, 1985, especially Chapter 3.



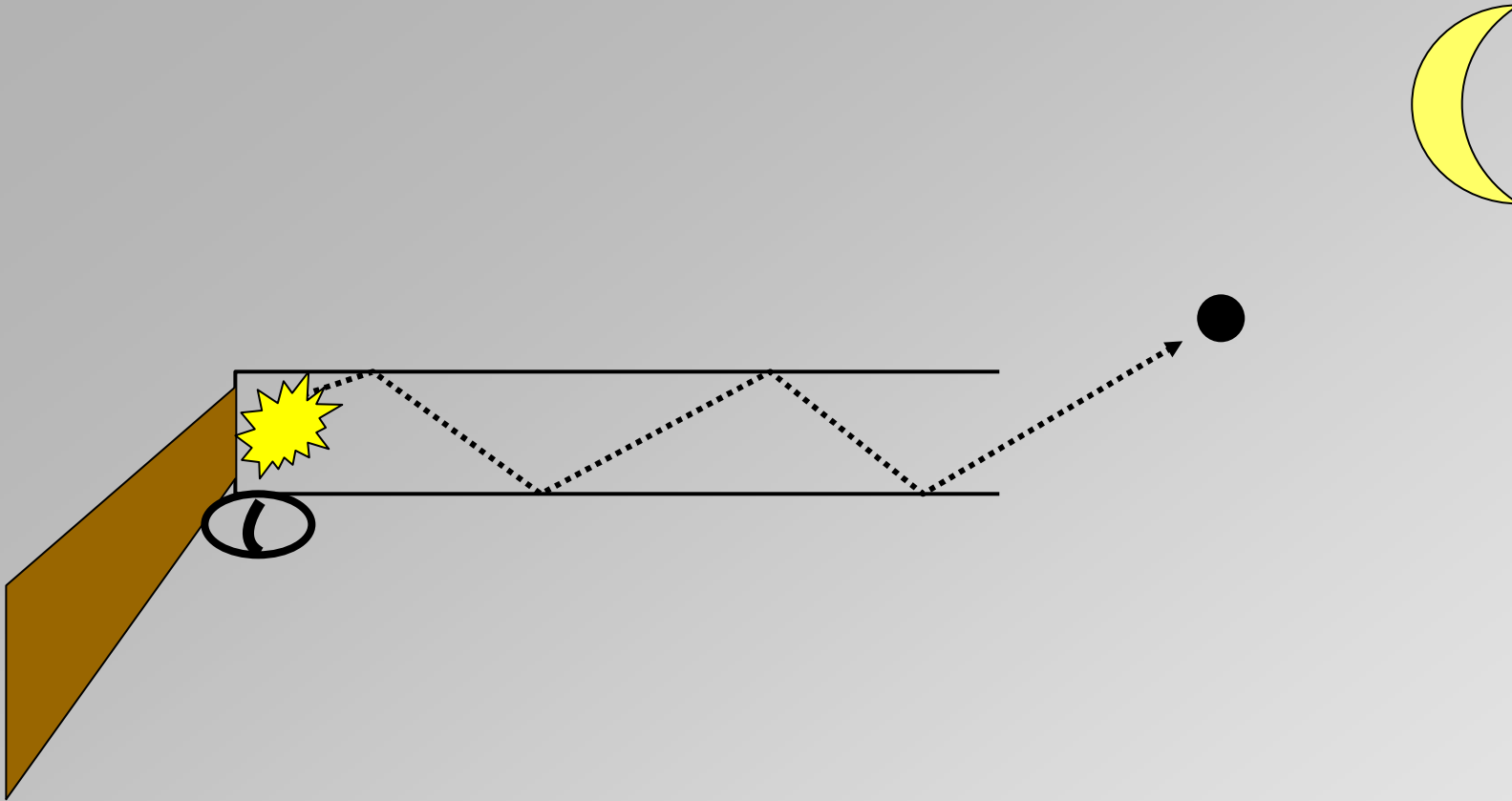
This was the musket, very close to the one still in use by the US Revolutionary War. In order to load it in a reasonable time, there had to be a space between the musket ball and the barrel. Here is it greatly exaggerated.

O'Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.



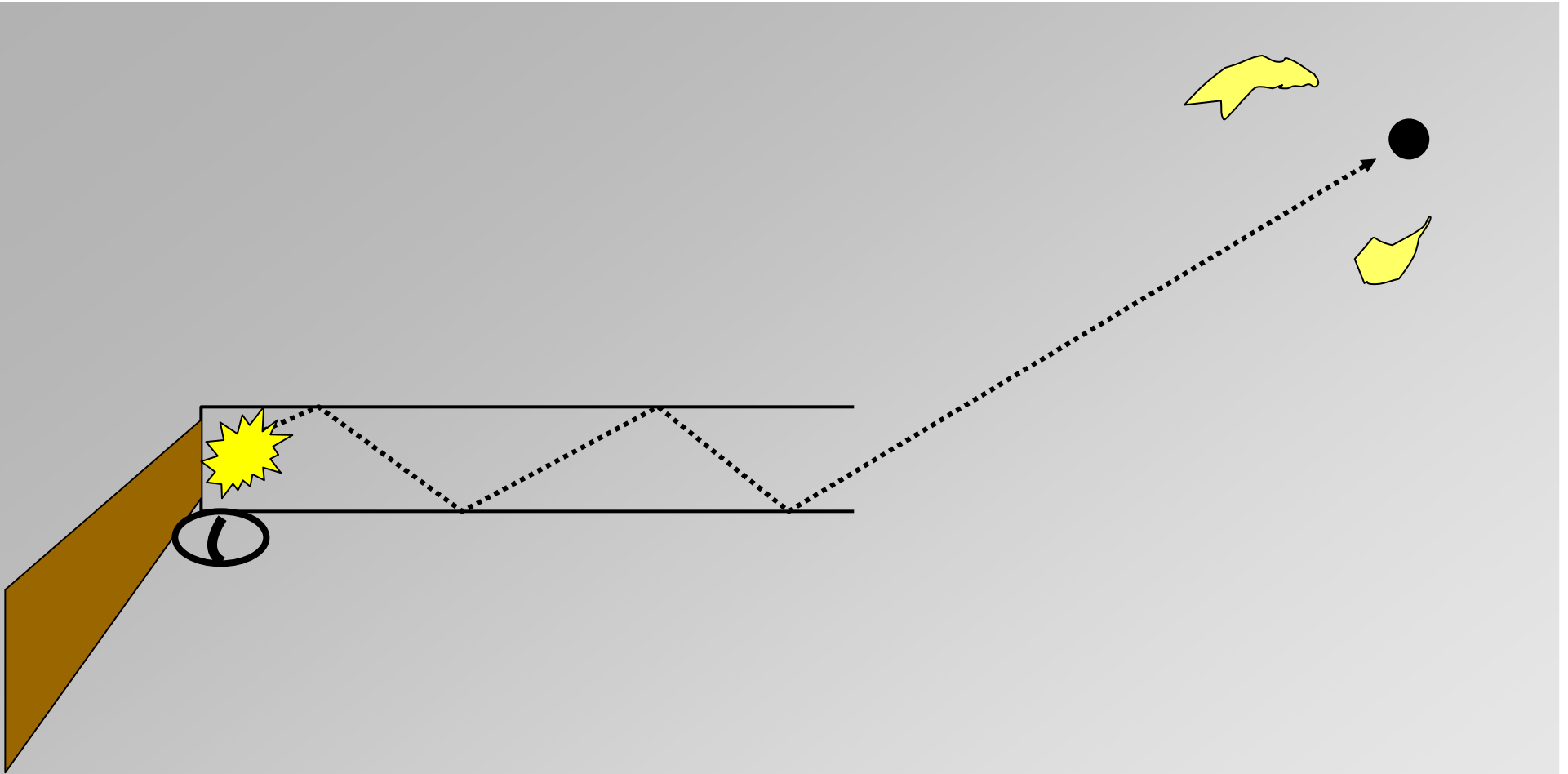
That made it pretty inaccurate when fired. Note that this picture is greatly exaggerated. It was actually pretty accurate out to around 40 yards.

O'Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.



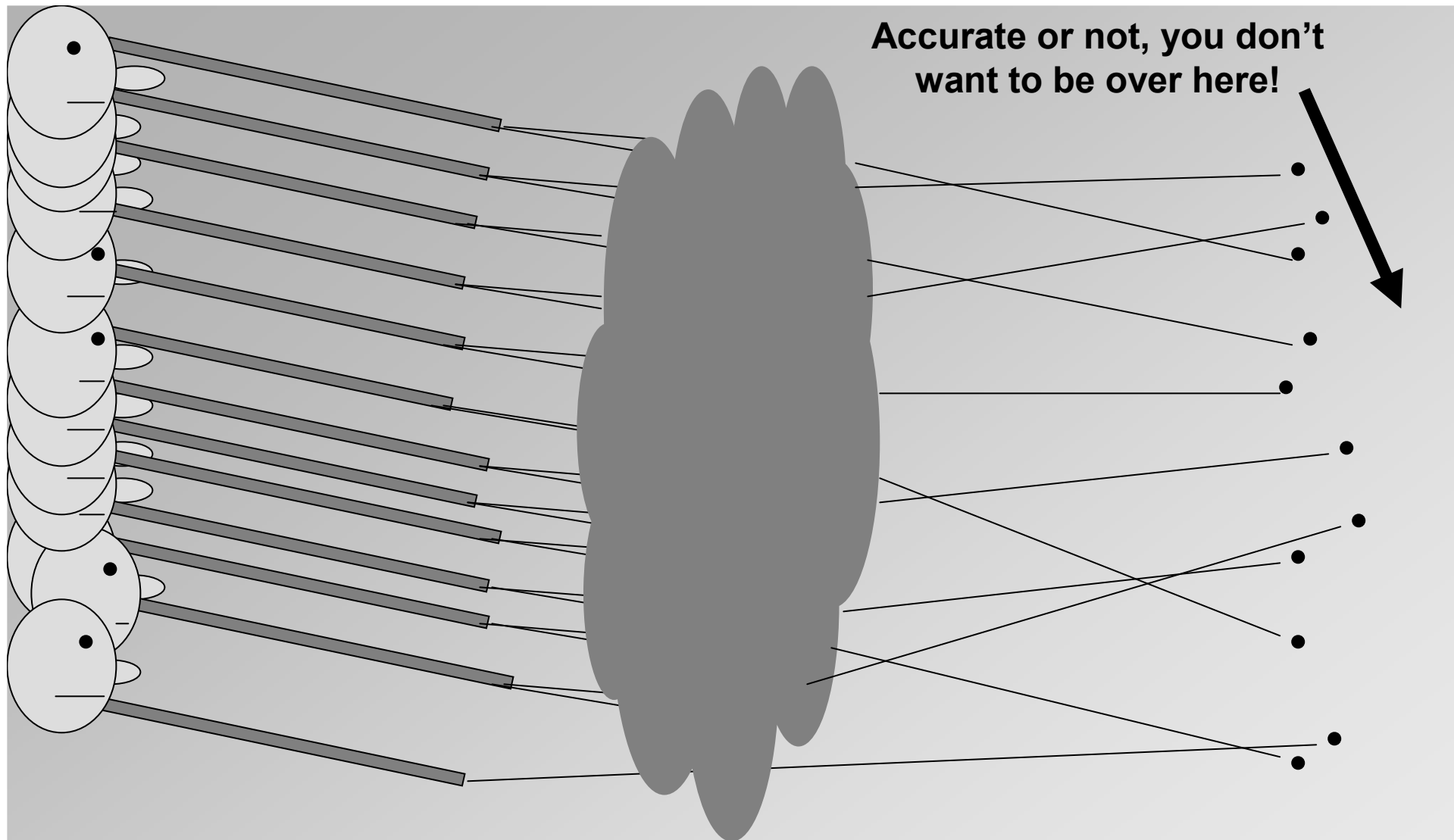
According to a British officer in 1814, quoted in the reference below, “As for firing at a man at 200 yards with a common musket, you might just as well fire at the moon”.

O’Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.



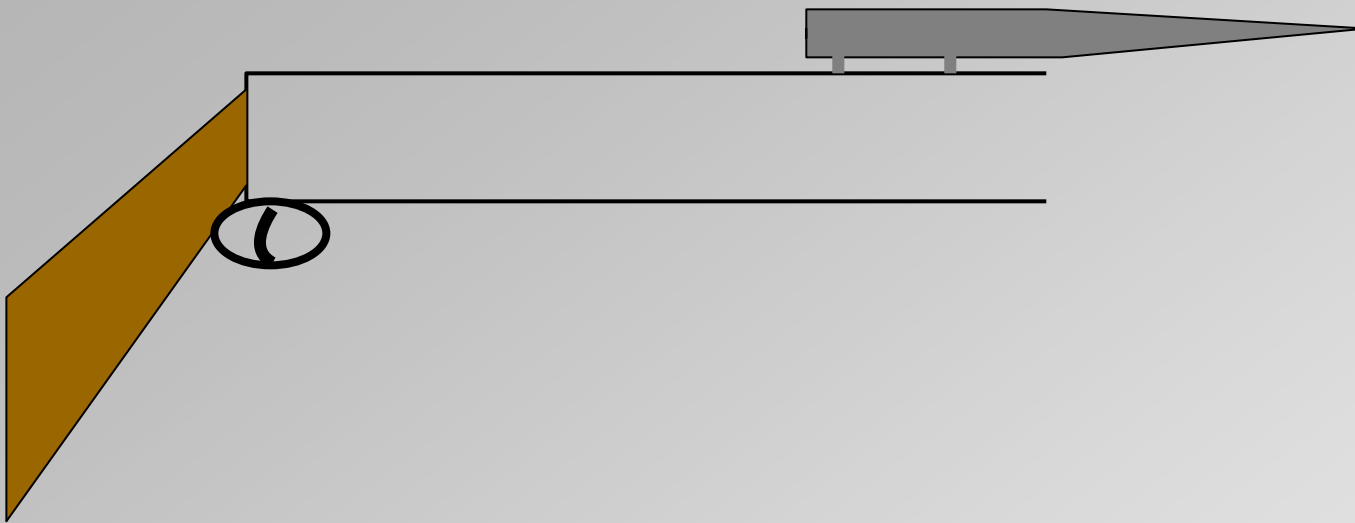
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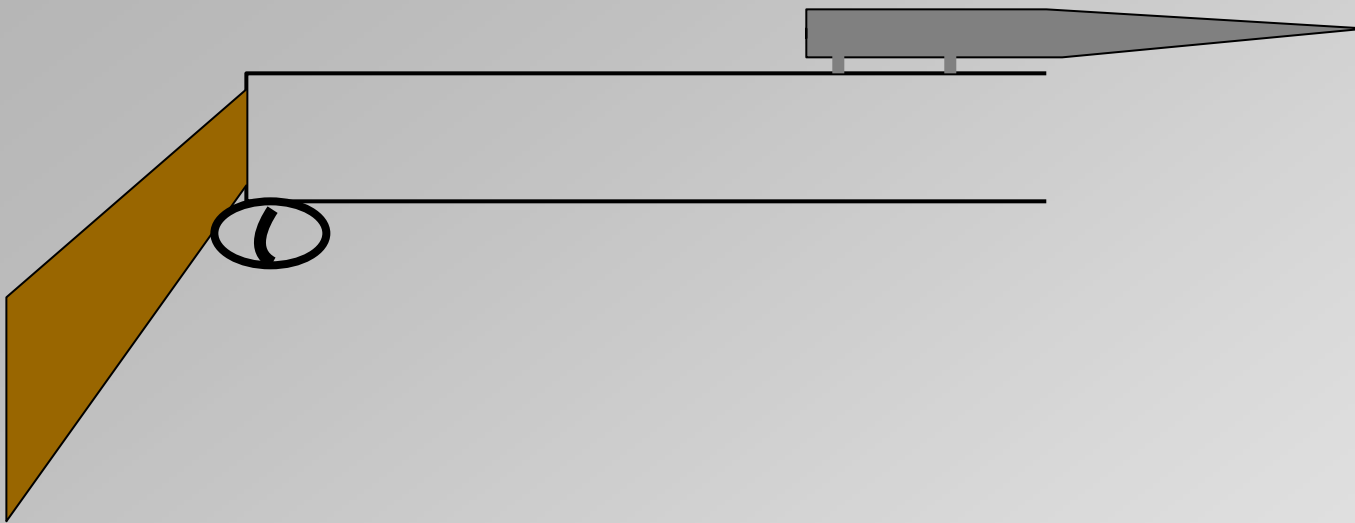
Accurate or not, you don't want to be over here!

The muskets were still effective, if fired in volleys. A whole line of musketeers could do a lot of damage to a line of charging soldiers. But they might not get off enough volleys to stop the charge and the charge might result in hand-to-hand combat anyway.



Hence, bayonets. The style of fighting in which musketeers charged one another with the defensive line shooting as many volleys as possible at the attackers (who could not shoot while running) persisted until at least the US Civil War.

O'Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.



There were plenty of casualties, but not as many as there would have been if the defending line could have started shooting accurately sooner when the attackers were farther away. “Do not shoot until you see the whites of their eyes” was standard wisdom.

O’Connell, Robert L., *Soul of the Sword (An Illustrated History of Weaponry and Warfare from Prehistory to the Present)*, The Free Press, New York, 2002.

WHEN FIRING IN VOLLEYS, THESE MUSKETS WERE ACCURATE TO AROUND 50 TO 100 YARDS, THE MINDSET DEVELOPED THAT YOUR ATTACKING LINE COULD WALK UP TO THAT DISTANCE WITHOUT MUCH WORRY. THEN IT WAS TIME TO RUN IN AS FAST AS POSSIBLE.

**WERE MORE ACCURATE WEAPONS EVER DEVELOPED?
(OF COURSE)**

DID THAT MAKE THE MINDSET CHANGE?

READ ON.

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Please continue
and return to the
War Home Page.
Then go on to
Chapter 3.

