

Damascus barrels: facts and fallacies



Old American cartridge brands often carried a warning not to be used in guns having Damascus barrels, however it was the lack of knowledge that was the problem

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Fit for purpose
Damascus barrels are fit for purpose if they've been re-proofed for nitro

Those readers who are old enough to remember Winchester cartridges such as Trap 100, made with the compression formed case and Remington Blue Magic with its distinctive eight star crimp closure may also well remember that the boxes, along with other American cartridge brands, carried a warning that read "not to be used in guns having Damascus barrels".

In fact, in my earlier days working in retail gun shops, customers would sometimes bring these cartridges back, pointing this warning out. Why did the Americans put this on the box when the Europeans (and I include the British manufacturers) did not? I will attempt to unravel the mystery for you.

Damascus

Before we go any further, a quick explanation of what a Damascus (named for the region it was supposedly first invented) gun barrel actually is. As most people are »

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Barrels
Damascus barrels
are a laminate
of two metals

aware, a laminate is the strongest type of material known, whether it be glass, wood or metal. It did not take the early barrel makers long to realise this themselves. The first barrels produced were made the same way as wooden casks, with strips of iron laid lengthways held tightly together with radial bands. This was shortly followed by barrels cast in one piece. As the power and refinement of powder increased, these cast barrels were found severely lacking and subsequently had further re-enforcing bands shrunk around them, creating a laminate of sorts. Then someone, and no-one knows exactly who, had the bright idea of producing a barrel the way many sword blades had been previously manufactured, by pattern welding or the Damascus method. In its simplest form, it is a laminate of two metals, usually, and in the case of gun barrels, iron and steel.

Equal amounts of these metals are beaten together in a furnace, folded in on each other, beaten again – the process being repeated numerous times until a long ribbon of metal is produced. That is then wound spirally around a mandrill of the nominal calibre desired and welded along its length, forming the rudimentary barrel. This is then struck down to size externally and bored internally, producing the finished item. Better qualities of Damascus used more bars of metal initially, with “Best English Damascus” using six bars of each (also known as six iron).

“A witch hunt was launched against Damascus barrels”

Problems

The problems with Damascus barrels however were two-fold. Firstly, an incredible amount of skill was required to make them. Secondly, they were very uneconomic, with the better barrels taking, for arguments sake in 12-bore, over 22lbs of raw material to produce a pair of barrels weighing around 4lbs. Whatever the costs though, Damascus reigned supreme as a lightweight and incredibly strong barrel material, with Britain and Europe (most notably Belgium) producing the best. Indeed, when W.W. Greener conducted his famous barrel test, even though the modern fluid steels of the day took the highest pressures before bursting and won the competition, Best English Damascus never actually failed at all. All that happened was that it bulged and rivelled,

but it never actually burst. So, why all the paranoia with the Americans. Well the answer is proof (or lack of it)!

When western people started settling America in the 1800s, they took many things with them, including gunmakers. Early America had no hope in hell of making a Damascus barrel, the infrastructure just wasn't there, so they relied on imports from Britain and Europe. This status quo continued for years until some enterprising individual invented nitro or “smokeless” powder. Just for a moment imagine this scenario: You are a fur trapper in America circa 1870. You have spent the whole year away from civilisation, amassing your furs and skins when you roll back into town to sell them and re-supply with all the things you can't make but that you will need for the coming year ahead. Like for instance, powder for your old trusty Damascus barrelled muzzle-loader, or possibly cartridge breech-loader that has happily run on three drams of black powder since you have owned it. The store-keeper then appears with the latest smokeless powder. Seems like a good idea, and the store-keeper being no expert in ballistics or breech pressures tells you to carry on how you have always. In goes three drams of nitro and... boom. Now these errors were commonplace, and while it should have been just a simple case of re-education on how to load and use the new powders, the American government saw an opportunity and seized it.

Witch hunt

Desperate to protect their own gun manufacturing industry, which had increased exponentially during and since the Civil War, and boost their own weapons exports, a witch hunt was launched against imported guns and Damascus barrels in particular. The government implied that it was nothing to do with the fact that our hapless imaginary fur trapper had basically quadrupled the charge by using the same amount of nitro for his trusty old hammer gun, it was the Damascus barrels that were at fault. At the same time a 200 per cent import duty was levied on foreign imported guns. With no central proof house in America to show the people that less powder was needed for the same effect when using smokeless, or to re-prove their Damascus barrels for nitro, the American people were hoodwinked into believing that Damascus was the problem, and this prejudice continues to this day. Remember, if your Damascus barrel has been reproofed for nitro, then it is fit for purpose. **SG**



Manufacture
An example of how Damascus
barrels were made