Obatex and the .45 Auto

by **MALCOLM COBB**

Semi-autos and black powder don't mix, or do they?

One of the best things about *Magnum* magazine is that not only do we welcome reader's correspondence, but do our best to provide a comprehensive and authoritative reply to each and every one of them. This is an entertaining business as it often happens that what emerges from the research runs counter to commonly held ideas on the subject, which often provokes a further reaction from other readers, all of which adds to our store of knowledge.

One of the topics that came up recently was how the new black powder Obatex performed, and another concerned the safety mechanisms that ended up on the US Government Model 1911 in calibre .45 ACP.

The Model 1911 query proved the easier to answer as it was a matter of historical record that John M Browning's original thinking in his initial model of 1905 turned out to be a concept (hammer down on live round) that ran contrary to modern day opinion. The remainder of the safety features we are accustomed to on the final Model 1911 may well have been developed by Browning (or his employer's design team) but the modifications were introduced at US Army insistence over a period of time.

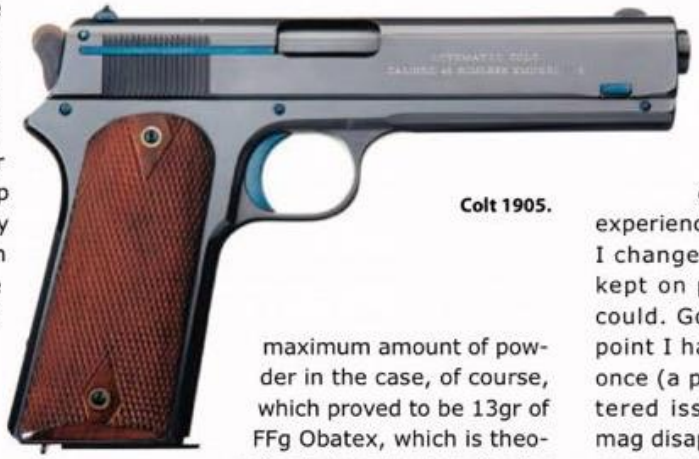
Author with two cases in the air at once. The best was three at once but by then, the smoke was clouding things a little. Photo by Don Grayson.

The Obatex queries were a bit harder to answer as Obatex is currently not available to us in Durban. However, the Black Powder Shooting Union gave us a lot of help and provided much useful information. For further testing, we drove through the night from Durban to Pretoria and back to secure a tin of powder which was brought home in triumph. *Magnum* writers are made of hard flesh and unalterable resolve.

So there we were, with a tin of Obatex in one hand and a Model 1911 in the other, when a piece of editorial comment in the April 2017 edition (P61) caught our eye. Responding to the original .45 Auto query, it said: "We will publish his (meaning the present author's) response which we will probably receive inscribed on a .45 calibre lead bullet, the cartridges stoked with black powder and fired our way from a Mod 1911".

Oh Really? One clear point that emerged from the Model 1905 – Model 1911 research was that the design of self-loading handguns was held back for many decades because black powder (the only propellant easily available up to 1890) would not operate a self-loading mechanism. Only nitro powders give the long strong push that

was needed to overcome spring pressure, eject, cock and reload the piece. Added to that is the freedom that nitro powders have from the fouling associated with black powder which would otherwise gum up the works. Nitro powders only came out around 1890, which led almost immediately to the Borchardt of 1894, the Mauser of 1896, the Luger of 1898 and of course Browning's designs thereafter.



Colt 1905.

Black powder, after all, is a weak propellant, generating only about 30–40% of nitro powder operating pressures. This is partly because, even at the best of times, only 50% of the products of combustion are high pressure gas and the rest become black sticky fouling. Worse than that, black powder energy is given up in a single impulse which is relatively low and of short duration, insufficient to cycle the mechanism. Added to that, the fouling is dumped in the chamber and barrel such that successive cartridges do not chamber and the mechanism seizes up after the first few shots – assuming that the impulse from the first cartridge was ever strong enough to work the recoil mechanism in the first place.

BLACK POWDER DOES not work in self loaders. Period. Everybody knows this, Hugo Borchardt, Georg Luger, the Mauser brothers, John Moses B. It's in all the books.

But here was a tin of Obatex which has proven to be a strong propellant with low fouling characteristics and here was a Model 1911 presently unoccupied. So what would the Obatex actually do in a Model 1911, which is legendary for its ability to perform under all conditions? Probably nothing at all, for the above mentioned reasons.

However, the editor's wishes are a writer's command, so we gave some thought to what a .45 ACP black powder load might look like. It must have the maximum amount of powder in the case, of course, which proved to be 13gr of FFg Obatex, which is theoretically too slow burning for pistols, but it was all we had.

We also figured that, since the normal .45 ACP jacketed bullet had no grease grooves to combat fouling, it wasn't any use either. We did have some 230gr round nose lead bullets intended for Webley loads, a tad too heavy for the recommended loads in a .45 ACP but there again, there WERE no recommended black powder loads for the .45 ACP. So, we thought that the two grease grooves would carry some much needed lubricant and the extra mass of the bullet might just provide the extra recoil to work the mechanism. In summary, we were over the Edge and out in the Unknown.

The next question was, how many cartridges should we make up? My betting was that the first shot would fire, maybe there would be just enough recoil to cycle and chamber another round but the fouling would kick in and the third round (if any) would most likely smokestack and that would be the end of the test.

On the day, I loaded up 16 rounds, two magazines full and two spares, mainly for the reason that I had exactly that many empty cases of that particular head stamp and if we hit a problem they were expendable anyway. After all, we never expected to use more than three.

The first shot went off just fine except for the cloud of smoke which should not have surprised me. Having some experience of "double taps" I carried right on as fast as I could and suddenly found myself with an empty pistol with the slide back. Quite frankly I was astounded at having got this far but presumably experience kicked in at this point and I changed mags automatically and kept on popping away as fast as I could. Going by the photos, at one point I had three cases in the air at once (a personal best with an un-altered issue .45 ACP). The second mag disappeared faster than the first one and still the old Model 1911 felt hungry for more.

BUT BY THIS time I only had two rounds left and felt it best to chronograph those to find out what was going on and ended up with a velocity of 770fps which was quite respectable. The big puzzle was to why the pistol worked at all when all of the authorities said that it wouldn't. However, 770fps generates around 300ft-lbs of energy which is the low end of .45 ACP ballistics, which, it would seem, was just sufficient to make the whole thing work. That, a slightly heavier bullet to provide more recoil, and the fast firing so that the fouling didn't have time to dry out.

[According to Somchem a minimum load of 4.9gr MS200 propels a 230gr RN Eagle cast bullet at 755fps from a 5 inch barrel and the maximum load (5.5gr) delivers 846fps. So, 770fps is an impressive result for FFg. I cannot but wonder what FFF would do in the .45. ED.]

I guess that the bottom line here is that the received wisdom over the last 120 years that self-loading pistols won't work with black powder might just be a myth. For sure, this new Obatex is impressive stuff, though I think that the real accolade should go to the Model 1911 as being an amazing pistol that just keeps on going, no matter what. One myth busted, another legend (written on a lead bullet and fired by black powder) confirmed.