

Ballistic fingerprint debate

The recent sniper attacks in Washington D.C. have sparked a debate in the U.S. on the establishment of a national database of the unique markings that each gun leaves on its bullet and casings. Critics fear it will lead to compulsory gun registration in violation of their Second Amendment rights

Rifle bullet



Handgun bullet



Casing

Small calibre weapon like .22 leaves fewer reproducible markings than larger, like .45

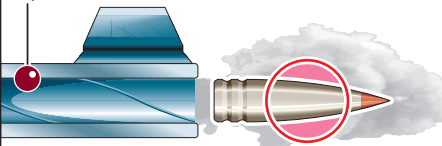
Ejection mechanism: Leaves unique scratches on cartridge case

Firing pin and breech: Stamp distinct impression onto cartridge



Hard steel of firearms is difficult to alter but repeated wear could change markings

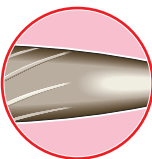
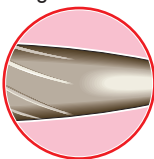
"Rifled" barrel: Metal ridges – which grip bullet to give it accuracy, range and spin – leave marks, or **striations**, on bullet



Unique number, angle and direction of striations

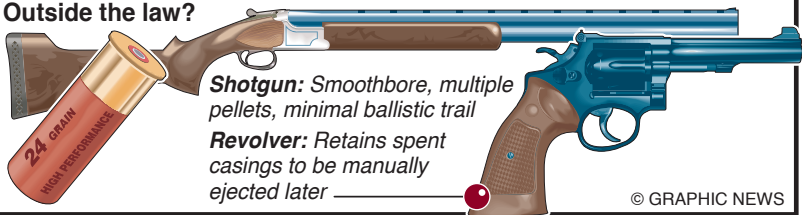
Right twist

Left twist



Gun would be fired at factory, or prior to purchase, and samples sent to **Bureau of Alcohol, Tobacco and Firearms** – with dealer records – to be added to database

Outside the law?



Shotgun: Smoothbore, multiple pellets, minimal ballistic trail

Revolver: Retains spent casings to be manually ejected later