## IDENTIFICATION PROBLEMS WITH SAWED-OFF RIFLED GUN BARRELS

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If a firearm having a rifled barrel is used in the commission of a shooting offense and the barrel subsequently shortened, can the evidence bullets be attributed to the altered gun?

To answer this question, the US Army Criminal Investigation Laboratory made available two revolvers for test purposes. The first was a Burgo Model 103, caliber .22 Short, with 2½ inch barrel (Figure 1) and the second a Smith and Wesson Model 10-5, caliber .38 S&W Special, with 4 inch barrel. (Figure 2)

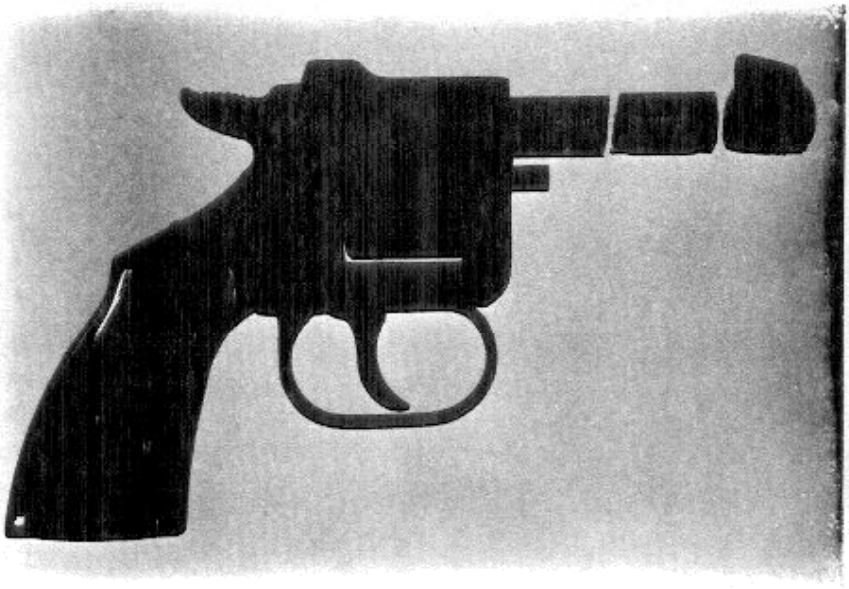

Figure 1

Both revolvers were test fired, and the bullets recovered for use as "evidence" bullets. For the following step, both muzzles were reamed without shortening and the revolvers fired again. This was done to determine if reaming alone was sufficient to alter the individual characteristics left on a fired bullet. After microscopic comparison, it was determined that the reaming operation did not change the barrel characteristics enough to cause the firearms examiner any problems. The bullets fired after reaming retained sufficient matching individual characteristics for a positive identification to be made.

Figure 2

The barrel of revolver #1 was shortened to 1-3/4 inches, and the barrel of #2 to 2¼", both barrels being reamed after cutting to remove any burrs from the "new muzzles". Both revolvers were then fired andthe bullets recovered. These new bullets were microscopically compared with all those fired previously. Although some similarities were noted, these were insufficient for a positive identification to be made. See Figure 3. The bullet on the right is the "evidence" bullet from revolver #2, while that on the left was fired in revolver #2 after being cut the first time.

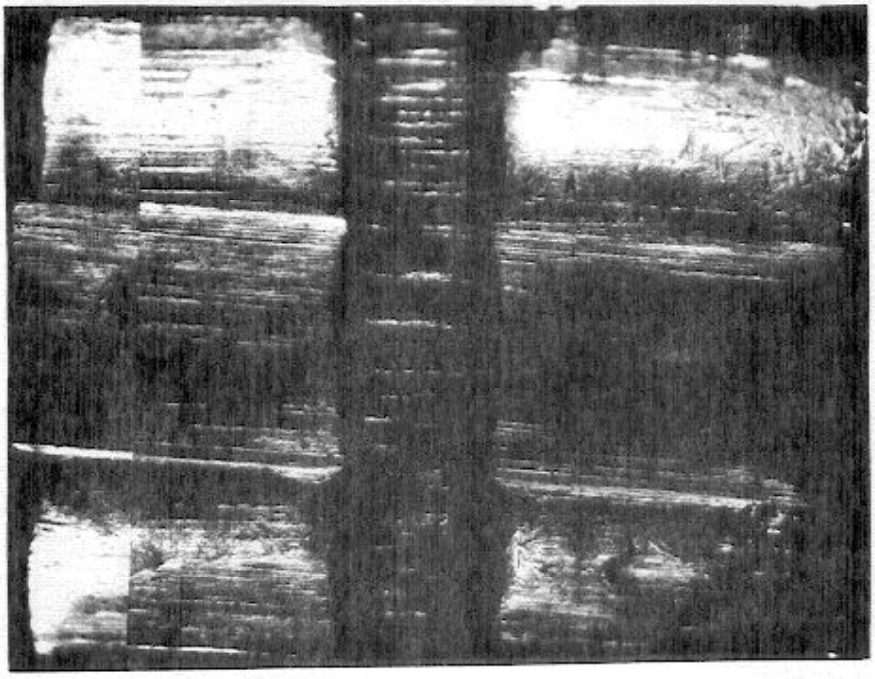

Figure 3

Both revolvers again had their barrels shortened and reamed, and they were fired. The bullets from this last step were examined in comparison with those of all previous steps. These last bullets were found to be markedly different from those fired in each of the previous steps.

From these tests I formed the opinion that each section of barrel has its own characteristics which are impressed on a bullet as it passes through. Any shortening of a barrel will sufficiently alter the individual characteristics so that a positive identification will not be possible.

My findings are substantiated by an article published in Issue #4, Volume #21, B.C.I. Bulletin, New York State Police, dated 1956.

## INTERESTING HEADSTAMP (Stan Berg)

Some Hungarian .22 rimfire cartridges exhibit an interesting and unusual headstamp. The headstamp consists of raised or impressed concentric CIRCLES with quarter lines. (See photo below.) These cartridges are the product of BANYAYUTACSGYAR NV, BUDAPEST, HUNGARY. (National Cap and Chemical Works) The cases are copper with a knurled cannelure around the upper third of the case. The bullet is plain lead of approx. 40 grains (.22 LR) with 3 knurled cannelures and a hollow base. The bullet is held in place with 8 uniformly spaced oblong crimps of the case mouth. The priming compound is grey white in color instead of the usual green. There is also an absence of the usual smear of priming compound up the inside of the case wall.