

Rifle bullet manufacture is more involved. There is the jacket or envelope which is made of cupro-nickel and manufactured in much the same manner as the shell. It is smaller, and as any variation in weight of bullet will make for inaccuracy, great care must be exercised in all stages of its manufacture. The ribbon of metal is punched and a cup is first formed, then by a process of drawing, the required length and thickness is obtained, the jacket is then shaped and subjected to careful examination. An aluminum tip takes up about a third of the space in the nickel jacket and behind this is pressed the lead core. Finally the lip of the jacket is turned in and the base stamped with the makers mark.

The primer, the small copper, brass or nickel coloured cup that is seated in the chamber or pocket in the centre base of the shell is made in much the same manner as the shell itself; it is punched from a ductile metal and must be particularly accurate as to diameter and depth. The function of the primer, as we all know, is to ignite by percussion or detonation the propellant housed in the body of the cartridge. In this country the size of primers, which varies according to the type of shell or cartridge being made, is given in numbers, for instance our present day issue of revolver ammunition carries a number 2½ primer.

There are two distinct types of primers, but to really appreciate the difference I must first describe the general construction of this part of the cartridge. There is the cap which contains a priming compound spread over the inside surface and against this rests the metallic surface or point known as the anvil. When the primer is dented by a blow from the firing pin, the priming compound is crushed or pinched and ignited. Now, here lies the difference in the two types. There is the "separate anvil" or "boxer" type primer, in which the anvil is, as the name implies, a separate piece, it is a little metal cone with two arches at the base fitting exactly in the primer cup with point towards the compound. The other primer is the "Berdan" type, invented by and named after Colonel Berdan of the United States Army. In the Berdan primer there is only the compound, the anvil is a part of the shell.

Curious as it may seem, the "Berdan" primer is almost exclusively used in Europe today. True enough, in Canada we find ammunition made to Government specifications with the "Berdan" primer, but the general run of ammunition in the United States and Canada has the separate anvil primer, and that is the primer in our issue .45 and .455 revolver ammunition. They are easy enough to distinguish. Take a fired shell, look down into the base, if you find one flash hole, the primer is of the separate anvil type, otherwise you are safe in saying you are using the Berdan primer. For example look into an empty .303 rifle shell. As the "Berdan" primer anvil forms part of the shell the construction allows for more than one flash hole and these will be found at the base of the little cone. With the separate anvil the primer flash penetrates the arches and passes through the single hole in the base of the pocket. With the Berdan primer the flash passes direct to the powder.

There are quite a number of revolver and rifle propellants on the market today. Black powder is seldom if ever used, certainly not in service ammunition. The most common brands are either single or double based powders.