

Resurrecting 19th-Century Technology To Shoot Bullets and Shot Equally Well From the Same Handgun.

By Ross Seyfried

The Amazing Paradox Revolver

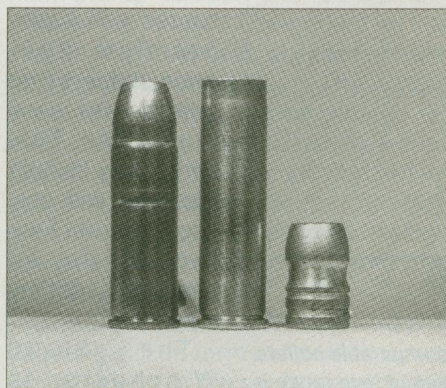
Way back in 1885 a fellow by the name of Colonel George Vincent Fosbery patented a firearms system called the Paradox. In essence it was to be a light double-barreled gun that would fire bullets as well as an express rifle and shoot as well as a fine smoothbore. He succeeded, creating, in my opinion, one of the greatest arms of all time. It was with this basis that gunmaker Hamilton Bowen asked me if I thought the technology could be adapted to a revolver. I take a good bit of solace from the knowledge that, at least in this case, this is one crazy idea that you will read about that is not my fault. Of course in the end it worked so well I wish I could take credit!

In the most basic form the hope was to find a legal means of getting a handgun to throw a *quality* shot pattern. Most, no matter what loading method is applied, scatter shot out of their rifled bore. Using a smoothbore is the obvious answer, but they become "illegal" by normal BATF rules. The answer to the legality question seemed to be to apply the historical precedent of the Paradox. That is, the use of a long smoothbore section of a barrel, ending in a rifled

section. A sample was made and sent to the BATF and they gave their approval. With bureaucratic success, we can turn our attention to realistic uses.

To me, the most obvious use is for the fellow who wants to be able to take small game and birds with his deer-hunting revolver. Another might be for those interested in shooting aerial targets. A lot of dedicated shotgunners in the world like handguns. I for one am looking forward to fall when I can have a very challenging dove or quail hunt with my pet "44."

Bowen wanted a relatively simple,



A .45 Colt round (left) is shown here for comparison with a Paradox round based on a .444 Marlin case and a 275-grain Paradox bullet.

cost-effective way to convert existing revolvers. This basically ruled out exotic handmade barrels, dual cylinders, special cases and other very expensive means of achieving our goal. He wanted to be able to take a stock .44 Magnum revolver and, utilizing its existing barrel and cylinder, make an effective Paradox.

A basic question that had to be answered before we could address barrels was, what parent case could be used? It doesn't take long to realize that there is about one that fits the requirements. The .444 Marlin has the right outside dimensions as well as the necessary length to allow the use of the entire cylinder from breech face to forcing cone on the barrel. By boring straight through a .44 Magnum chamber, removing the chamber throat and cutting .444 cases to 1.720 inches, we were able to have maximum possible room to hold powder and shot. Part of the criteria for having an effective shotgun was to be able to get enough shot in the cartridge. This full-length, somewhat expanded .444 would hold a usable powder charge and a full $\frac{3}{4}$ ounce of shot—the same payload as the 2½-inch .410 shotshell!

We had the "shotshell," now the trick was to make it perform. The key to the

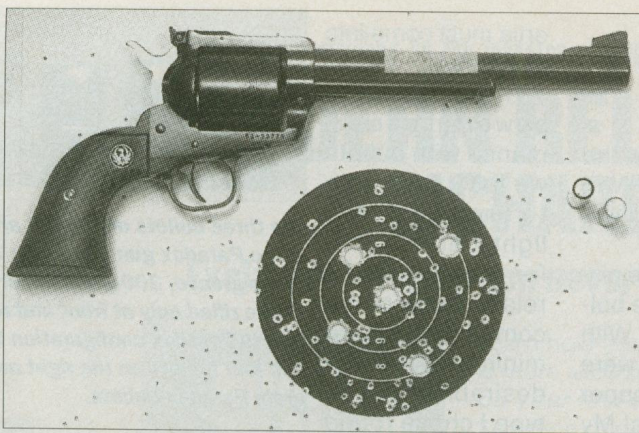
Paradox was to fire the shot down a smooth bore and then at the last moment force it through a rifled choke. The choke partially counteracted the negative effects of the rifling, resulting in a more or less improved-cylinder-quality pattern. For our purposes we needed to find a smoothbore diameter that, behind a standard .44-caliber rifled portion at the muzzle, would allow choking of the shot pattern. At the same time the rifled portion must be long enough to stabilize a bullet and short enough not to negate the effect of the choke on the shot. If it sounds like I am talking

in circles, I am. The entire process is a thing of fine balance. So fine, in fact, that for many hundreds of rounds and months of effort, I began to believe it impossible.

We began with a .442-inch-diameter smooth bore, firing .442-inch diameter bullets. The accuracy was outstanding, but the shot patterns appeared to have been fired from a regular rifled barrel. Next we moved up to a larger bore behind the standard .42x.430-inch .44-caliber muzzle. Patterns appeared to have been fired out of a fine bird gun (kept in handgun perspective). Using 215 grains of #9 chilled shot and 9 grains of Hodgdon Universal Clays, with one .45-caliber Ox-Yoke Wonder Wad in between, a .44 became a real shotgun. At 1,260 fps velocity the patterns were perfectly round and dense enough to hit mosquitoes at 12 yards. Even at 15 and 20 yards distance a sparrow-sized target was in real trouble... but the bullets hit sideways.

Back to the drawing board. We reasoned that the rifled section was too short and the lead angle was too steep. Yet another new carbide bore reamer was ordered and more barrels were cut. A longer rifled portion was tried next time and the shot was scattered from hell to breakfast, but the bullets still hit sideways!

By reducing the length of the rifled section again, but this time to a happy medium, the outstanding shot performance returned. Now if I could only make the critter control bullets once



This five-shot group was fired at 50 yards using the 275-grain Paradox bullet, while the shot pattern was fired at 15 yards using ½ ounce of #9 shot. Impressive performance from a single revolver.

again. I tried literally every bullet in the house that might be remotely compatible with a .45 caliber x .430-inch Paradox-choked barrel. The Holland & Holland guns demand bullets that are .004 inch smaller than the smooth-bore diameter. Thus I began experiments with bullets of .442, .445, .448, .450 and even .452 inch. I tell you if I never see another keyhole in the paper I will have seen enough. But always the gun was tantalizingly close to shooting. At low velocity, using 10 grains of Blue Dot powder, I got perfectly round holes and fine accuracy. But whenever I stepped up to loads over 1,000 fps, say 20 grains of 296, again I was greeted by silhouettes of the given bullet in the paper. The fact that they would often make three-inch groups at 20 yards notwithstanding. I tried soft metal, heat-treated wheel weights and Linotype. I tried Keith bullets, semi-wadcutter and LBT de-

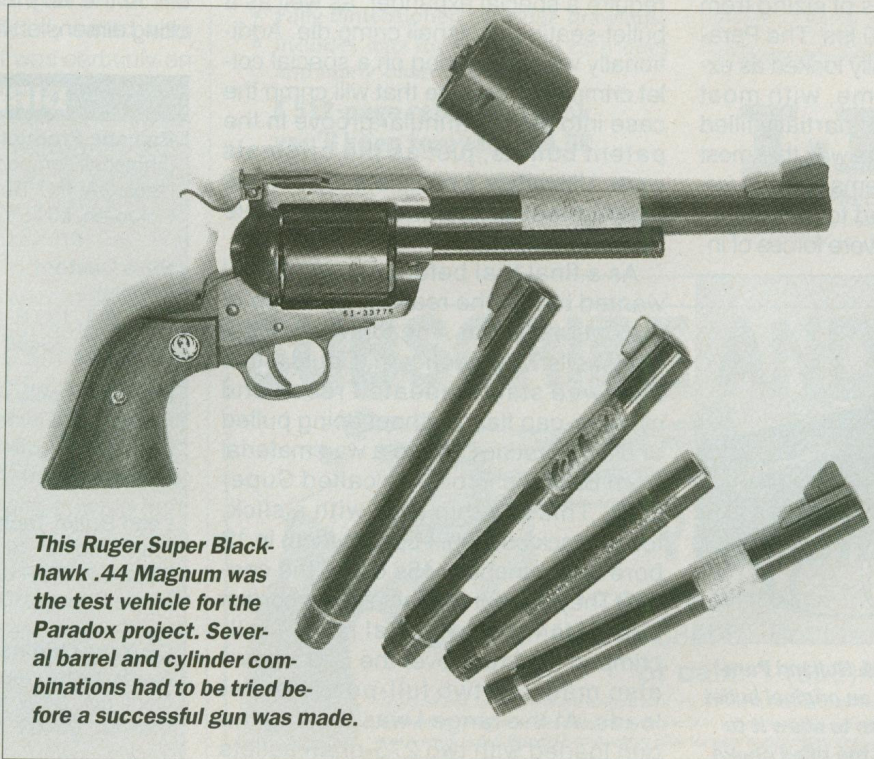
signs from 200 to 360 grains. Because the bullets did not stabilize, they must have been stripping. Well, there was a cure for that. Surely a jacketed bullet could not strip! I tried the only one that I knew would stay together, the Speer .451-inch, 300-grain plated jacket. Against all impossible odds, it also hit sideways. I was about to accept mid-level defeat when I began to think about Paradox bullet history.

The original Fosbery bullet, and all successful bullets for "ball and shot guns," had an unusual shape. They looked a bit like a thread spool with a nose. Their

working parts consisted of two relatively narrow driving bands, with a very wide, deep "grease" groove. But it was always stated that this groove must not be filled with grease. The plan was to have somewhere for the lead to go as it squeezed, or rather crashed, through a choke at full velocity. I doubted beyond doubt that this bit of technology could apply to a revolver, but it was worth a try.

To date I had only tried conventionally lubed, cast handgun bullets and the one jacketed variety. To apply the Fosbery bullet idea I would have to modify some existing bullets. I began with the one bullet that I hoped the Paradox would like. This is an LBT, wide flat nose, 300 grain. To make them Fosberys I ground a ¼-inch tool bit to a radius nose, grabbed the bullets in a lathe chuck and turned a huge groove that began just behind the frontal bearing surface and

ended in front of the second grease groove, resulting in a weight of 275 grains. Next I pushed them through a sizing die and finally wiped every bit of lubricant out of the existing grease grooves (Leaving grease in the grooves is similar to not having them at all in terms of lead displacement in the choke). The grease is an incompressible fluid just like the lead. If the bullet metal was to have a place to migrate to, the grooves would have to be empty. I reasoned that some lubrication would be necessary to prevent leading. To get this



This Ruger Super Blackhawk .44 Magnum was the test vehicle for the Paradox project. Several barrel and cylinder combinations had to be tried before a successful gun was made.

PARADOX REVOLVER

without lubing the bullets I seated the bullets atop an Ox-Yoke Wonder Wad saturated with their Wonder 1000 black-powder lubricant.

With 20 grains of 296, a CCI large pistol magnum primer and the above bullet/wad combination I met Eureka. With velocities at nearly 1,200 fps there were perfect, round bullet holes in the paper and two-inch groups at 20 yards! My next trial was to prove the idea at 50 yards. Gremlins could have been hiding still at the short range. I rushed to the loading bench and assembled three rounds, then fired them from a prone position with great care. All but one missed an 18-inch by 30-inch target backer at 50 yards. The rifled choke was a solid mess of leading. Ding! I had forgotten the apparently insignificant Wonder Wads. Shot again with wads the same bullets gave very different results. This time five shots fell in a 2x3-inch group at 50 yards! The gun, at full power, with the remnants of an original Ruger .44 barrel, was outshooting most factory .44s or .45s.

To understand why conventional bullets had not worked I caught some in wet paper. To a degree they were literally squirting through the choke. Most had waists smaller than the bore's .420-inch diameter. One had actually twisted itself in two when the front portion tried to spin while the rear was held fast by the forcing cone into the choke. The jacketed one was almost perfectly smooth, not from stripping but from the weird forces of sizing from .451 to .430 inch at 1,200 fps. The Paradox patent bullets generally looked as expected, elongated some, with most grooves either entirely or partially filled with lead. The one surprise was that most of the displaced metal seems to move forward on the bullet instead to the rear as one might expect. The severe forces of in-



This is an original Holland & Holland Paradox gun shown along with an original bullet in the unusual configuration to allow it to successfully pass through the rifled choke.

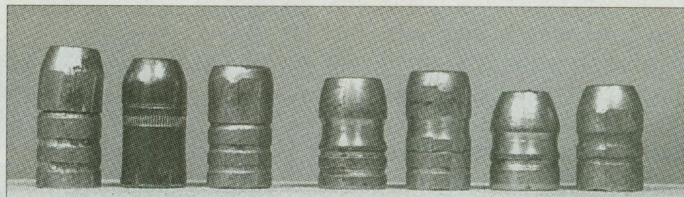
ertia must come into play, as well.

In addition to powerful performance with bullets we felt it desirable to create a very light load suitable for rabbits, squirrels or close-range competition where minimal recoil was desirable. For this type I chose round balls. Hornady .456-inch round balls sized to bore diameter fit perfectly. With four grains of Bullseye powder and the essential Wonder Wads the Paradox is capable of near one-hole groups at 20 yards. The gun does little more than pop and offers ballistics in the .38 Special class.

The final processes will be fully defined by the time you read this. The conversions to Paradox will consist of rechambering the cylinder to accept the cylinder-length .444 cases and reboring the barrel to leave the Paradox rifled choke at the muzzle. The conversion can be made on virtually any .44-caliber revolver—S&W, Colt, Ruger, etc. The cost will be between \$400 and \$600 depending upon the gun. Rugers, for instance, are higher than Colts because of the need to change the frame caliber-markings and reblue.

Cases will require turning or inside reaming to a uniform wall thickness. A .45 Colt carbide sizing die will serve as the full-length sizer. The loading set will require a special expander, as well as a bullet-seating/shotshell crimp die. Additionally we are working on a special collet crimp die from Lee that will crimp the case into the big annular groove in the patent bullets, just as the originals were. Ultimately a complete die set and loading instructions will be available from Bowen Arms.

As a final trial before my deadline I wanted to test the realistic field use of the entire system. The top wad on the shotshells was a concern. Could a thin card wad stand repeated recoil and cylinder-gap flash without being pulled or disintegrating? I have a wad material from Ballistic Products called Super Disk. This is a thin card with a slick, tough black coating. I bought them in 12 bore and punched .45s out of the center. (They are not available in the correct size.) Using the normal load, I roll-crimped the brass over the new wads. I also made up two full-power bullet loads. At the range I was holding the gun loaded with two 275-grain bullets



The three bullets on the left are conventional ones that didn't work in the Paradox gun, from left: 325-grain LFN twisted in two at the crimp groove, 300-grain Speer Plated Jacket squirted through the choke rifled only at front and rear, 300-grain WFN before modification to Paradox configuration fired with lube is also nearly smooth. The four bullets on the right are fired and unfired 275 and 225-grain Paradox bullets.

with 1,250 fps velocity and four shot cartridges with ½ ounce of #9 chilled shot. I would leave one of the shot cartridges for shot number six, asking it to ride the storm of the other five discharges. I began with two shots at trap targets, standing at the trap house, and broke them both soundly. Then I addressed two Pepper Poppers at 100 yards and flattened them, followed by two more trap targets that were crushed. After five rounds the shotshell in the last chamber was in showroom condition. When I finished worrying about the overshot wad I stopped for a moment to contemplate what I had just done. Four very real flying targets and two 100-yard "kills"... with a gunful from a 7½-inch revolver! Results that, by almost any standard, were outstanding.

For now the Bowen Paradox seems an outstanding success. We have a revolver that will behave as a 10- to 20-yard shotgun and as well as a normal .44 Magnum in terms of a deer gun. If it is something you feel a need for, it will probably fill your bill. At the very least it opens another exciting dimension for handgunners.

DIRECTORY

Ballistic Products

(shotshell components)
Dept. GA, P.O. Box 293
Corcoran, MN 55340

Bill's Custom

(bullets)
Dept. GA, 133 E. Hampton Way
Jupiter, FL 33458

Bowen Classic Arms

(catalog \$3, Paradox brochure \$1)
Dept. GA, P.O. Box 67
Louisville, TN 37777

Lead Bullet Technology

(bullet molds, catalog \$2)
Dept. GA, HCR 62, Box 145
Moyie Springs, ID 83845

Ox-Yoke Originals

(wads, bullet lube)
Dept. GA, 34 W. Main Street
Milo, ME 04463