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On the cover:
This is the rifle that maintained order in the British Empire in the last century, a .577-.450 Martini-Henry made at Enfield in 1877. With it are three original paper-patched cartridges by Kynoch and a very interesting leather-bound book of that era. The rifle is now in the white, having undergone restoration and repair; it had been rather badly rusted on the outside. But the stock was sound and whole, and the bore was astonishingly good, so the rifle was suitable for restoration. With modern brass from BELL and Pyrodex powder to be available soon, this Old Guardian of the Empire offers some nostalgic shooting fun. Photo by Ken Howell.

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RIFLE 61
Rifle Patents
by Stuart Otteson

Ruger Trigger and Safety

The advantage of a trigger safety, which accounts for its use in the Ruger Model 77 and many other modern firearms, is that virtually no operating forces are involved, and thus it is easy to place the thumbpiece at practically any convenient location on the rifle. Particularly popular is the tang or "shotgun" location by Ruger. The tang-mounted thumbpiece is equally convenient for righthanded and lefthanded shooters, and its similarity to safeties on a number of shotguns endears the tang-mounted thumbpiece to shooters who appreciate this feature of commonality.

The holding power of a trigger safety, however, is restricted by the relatively small contact or overlap between the trigger and the sear. Further, since there is no cam action, any play or tolerances between the parts, or any incorrect adjustments that are made, can result in effective safety engagements that are even below the normal trigger-sear overlap.

Ruger's invention automatically assures full available engagement whenever the safety is on. While some earlier trigger safeties had provision for removing slack, these had to be properly adjusted to compensate any time trigger engagement was adjusted. An example would be the rather complex system used in the Texas Magnum rifle.

In Ruger's setup, a yoke formed by prongs (34 and 35) on the top of the safety arm (31) fits closely around the cylinder (36), thus anchoring the safety to the receiver and forming the reference point for everything else. When the adjusting screw (32) is turned to either increase or decrease trigger-sear overlap, the sear-support arm (30) moves, but the relationship between safety arm (31) and cylinder (36) remains unchanged.

Patent and Issue Date
William B. Ruger, Leroy J. Sullivan
3,577,668 - May 4, 1971
Assigned to Sturm, Ruger & Co., Inc.

The two-position trigger safety used on the Ruger Model 77 rifle. A notched blocking cylinder (36) is journaled into the receiver and rotated by a tang-mounted thumbpiece (48) by way of a connecting wire (49) and bell crank (not shown). The trigger piece (27), with integral sear-support arm (10) and safety arm (11), is split just above its pivot (29) to allow the two arms to be squeezed together by an adjusting screw (32).
Bob Hagel tries out a four-barrel Dan Wesson .357

Dan Wesson Arms, Inc. is a relative newcomer as far as handgun manufacturers are concerned, but since Dan Wesson started making revolvers less than a decade back, the company has advanced from an unknown to a top-of-the-line maker of quality revolvers. Not only is the Dan Wesson name taking its place beside the famous old-line American handgun brands, but it is gaining a reputation for quality and innovation of design that few others enjoy. Starting out with a rather conventional double-action revolver that has been offered in both .38 Special and .357 Magnum, they are now producing a unique multibarreled Pistol Pac that gives the shooter a choice of any barrel length from the stubby 2-1/2-inch defense-oriented barrel to an eight-inch barrel that has the high velocity and long sight radius so essential to accurate long-range hunting and target use.

These Pistol Pacs are made in five series with one Service revolver kit with fixed rear sight and four Target Pacs with adjustable target rear sights. The Service Pac is, of course, the bottom of the line in price and called the 14-2 Series. It is furnished with two and a half, four, six, and eight-inch barrels that have plain Baughman-type front sights without the colored plastic inserts found on the Target Pacs. Actually, this Pac comes in two chamberings, the 14-2 for the .357 Magnum cartridge, and the 8-2 for the .38 Special. Also, the 14-2 Series is available with only the barrel lengths listed above, while all of the target-revolver Pacs have extra barrels available in ten, twelve and fifteen inches.

The 15-2 Series is furnished with solid-rib barrel shrouds in two and a half, four, six, and eight-inch barrels, but the front sight blade is detachable and is available with red, yellow, or white plastic inserts, while the rear target sight is fully adjustable for both windage and elevation by micrometer screw adjustments and has a white outline around the square notch.

The 15-2H Series is the same as the 15-2 except that the barrel assembly is much heavier. On the 15-2V Series, the barrel assembly is of the same weight as the standard 15-2 but with the addition of a ventilated rib on the barrel shrouds. The last and most expensive Pac is the 15-2VH Series, which has the heavy barrel assembly with the ventilated rib. Each of the barrel shrouds on the target Pistol Pac is mounted with a front sight, and on the sample Pac, these all contained the red plastic insert. Also, two white and two yellow inserts are furnished. The gun is fitted with oversize target grips of zebrawood that has deep checkering, and an interchangeable combat-style grip of smooth walnut. Also furnished with the Pistol Pac is a wrench that serves the dual purpose of tightening the barrel nut to join the barrel shroud and barrel into a tension-tight unit, and removing and replacing the grip screw. It also has a tiny hex wrench that fits the front-sight retaining screw. Another hex wrench (Allen) fits the rear-sight adjustment screws, as well as the frame sideplate screws. There is also a piece of 0.006-inch shim stock used as a feeler gauge that is inserted between the end of the barrel and cylinder to give the correct clearance in installing the barrels.

Also included in the Pistol Pac is a Dan Wesson emblem for the shooting jacket and a 2-1/8 by 3-1/4-inch bronze buckle with "Dan Wesson Arms" in raised lettering for the gunbelt. The Pistol Pac comes in a Presentation case made of hard metal bound plastic with two key-locking clasps and a sturdy handle. The case is foam-lined with recesses to fit the various component parts, and the foam is covered with top-quality cloth lining.

Other optional accessories available, besides the ten, twelve and fifteen-inch barrels, are smooth oversize zebrawood target grips, the same grips in either checkered or smooth walnut, smooth walnut in Combat and Sacramento styling, and an inletted walnut blank for those who wish to change grip configuration.

As mentioned earlier, if for some reason you like extremely long pistol barrels, they are available for the target model in ten, twelve and fifteen inches. I did not request or test these longer barrels, because to me, a pistol is made to be carried either on your hip in a belt holster or under your arm in a shoulder rig, and any barrel length over eight inches is hardly ideal for that purpose — anything over six and a half inches is inconvenient. These very long barrels give higher velocity and have the convenience of a long sight radius that holds an...
Pistol Pac

advantage for accurate shooting — but handy to carry, they are not. For the fellow who likes to plink at long-range targets, either inanimate or live, and who will do the shooting without packing the long revolver far from wheeled transportation, the long barrels have an advantage over shorter ones. But I have seen few pistol fans who can shoot a really long barrel well without some kind of rest, and to bring out the full potential of long barrels like the twelve and fifteen-inchers, the rest had better be solid and in a good position.

Before going into the test results with the test 15-2 Pistol Pac, let's take a hard look at the gun and how it is designed.

Starting with the grip, the term “oversize” for the target grip is really an understatement. It is actually huge and massive, measuring 4-3/8 inches long, 2-1/2 by 1-5/8 inches on the bottom, 5-1/4 inches in girth at the smallest place, and fills-in under the frame nearly to the bottom of the trigger guard. It feels fairly good to the hand but would fit only a very large hand with a one-hand hold. However, having been weaned on an old Colt Frontier, I admit to being highly partial to small grips on even big revolvers. The grip has a thumb cut on the right side, sharp sixteen-line checkering, and a brass DWA emblem inlaid on each side.

The grip frame, or perhaps we should call it a “hanger,” is certainly a departure from the conventional revolver gripstrap and is an integral part of the main frame casting that is 1-1/2 inches long by a half inch square. It is drilled to accept the mainspring seat, which is also drilled and threaded to take the grip screw that holds the one-piece grip in place. The mainspring and guide are enclosed within the grip spike (hanger), and the round point of the guide fits into the hammer.

When the grip is removed, the lower sideplate retaining screw, which is on the left side of the frame, becomes accessible, and when it and the top screw are removed, the sideplate can be removed, which allows further disassembly of the working mechanism. I won’t go into detail here as to the procedure for complete disassembly of the lockwork, because the instruction booklet furnished with the Pistol Pac gives full instruction and a full schematic drawing of all parts and their assembly sequence.

Similar to several other revolvers, both single-action and double-action, a trigger connector is placed between the hammer and the retractible firing pin when the gun is cocked. When the trigger is in the forward position, this bar of steel drops below the firing pin and the hammer face makes contact with the revolver frame, making it impossible for the firing pin to make contact with the primer even if you beat on the hammer or drop the gun on a boulder. This is a fairly recent safety feature that is highly desirable.

The hammer spur is positioned quite low, and is three eighths of an inch wide, and hammer throw is about normal for a double-action revolver.

The trigger is three-eighths inch wide and smooth on the face, with a good curve. Trigger pull on the test gun is clean and sharp, and the pull is about right for most shooters for single-action work. A trigger-stop screw on the rear of the trigger at the top of the curve is adjustable with the Hex wrench used on the front-sight retaining screw (the screws are interchangeable). When turned out, the screw makes contact with the frame and limits trigger overtravel. I strongly suggest that this adjustment screw not be set for minimum overtravel, because if it should loosen even slightly under firing or other vibration, the hammer could not be cocked for single-action firing. It is adjustable from the outside.

Length of the double-action trigger pull is about normal, and it is smooth and fairly light.

The cylinder is of rather conventional double-action design with flutes between the chambers. Cartridge heads are recessed into the chamber. The ejector rod does not quite clear .38 Specials from...
the rear end lacks threads on the last eighth inch. The rear of the barrel is, of course, solidly into the receiver ring below the frame and barrel. The barrel nut is removed, the shroud slides forward, and the barrel can be unscrewed from the frame by hand.

In replacing the barrel, screw it in until it nearly touches the cylinder. Then insert the clearance gauge between barrel and cylinder and tighten the barrel until the gauge is tight enough so that it drags a bit when moved. Don't put too much pressure on the barrel, because this will force the cylinder slightly to the rear against the spring-loaded ball, and when the gauge is removed, the cylinder will drag on the barrel face. My own suggestion is to tighten the barrel against the feeler gauge until it is fairly snug, remove the gauge, and check cylinder rotation. If there is the slightest drag, loosen the barrel just enough to relieve it. But don't leave too much gap between cylinder and barrel, because if you do, powder gas and particles of powder will escape. A little practice here will be well worth the time and effort.

To change barrels, the spanner type wrench, which has a spud that fits into the barrel muzzle, is inserted and turned until the two opposing lugs drop into the notches in the barrel nut, which is then loosened to release the shroud from the frame and barrel. The barrel nut is recessed into the shroud so that when fully tightened down, it is flush with the ends of both the shroud and barrel, so that from a side view, the muzzle looks like that of any other revolver with a heavy barrel. When the barrel nut is removed, the shroud slides forward, and the barrel can be unscrewed from the frame by hand.

The various barrels measure 0.513 inch in diameter (at least on the 15-2 Series) and are threaded on both ends. The muzzle is threaded right out to the end, but the rear end lacks threads on the last eighth inch. The rear of the barrel is, of course, screwed into the frame, while the barrel nut is screwed onto the muzzle to hold the shroud, barrel, and frame as a single solid unit.

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Slip the barrel shroud over the barrel, making sure the hole in the shroud is in place over the shroud-locating pin in the frame. While tightening the barrel nut back down, be sure to leave the feeler gauge in place to avoid changing the cylinder gap. Don't be afraid to tighten the barrel nut down tight, but don't get overzealous, either. After tightening the nut, pull the feeler gauge and check cylinder gap for ease of rotation and excessive space. And after you fire a cylinder full of ammo, recheck barrel-nut tension again. If it's properly assembled and tightened, there will be no problem whatever, in any way, but do double-check.

The front-sight blade is, of course, in the shroud, and is held in place by the tiny hex screw in the muzzle. To change sights, simply back this screw out partway and tap the rear of the sight with the wrench lightly. It will move forward and can be lifted from the recess in the shroud. Insert a different sight blade and reverse the procedure. After firing a few shots, test tension of the screw to make certain it is tight.

After the new barrel is in place, no one would ever suspect the barrel and shroud are not a single unit unless he looks directly at the muzzle from the front. And if properly assembled, they are as rigid and accurate as the single-unit barrel system.

Normal specs for the 15-2 Series is that it has a bright blue finish, while the 14 series is finished in satin blue. Polish of cylinder and bottom and sides of frame is very good and high-gloss, while the top strap and rib on barrel shroud are dull. Trigger and hammer finish is also dull and polished light if any from the investment-casting stage, as is true of the rear-sight body as well. The frame is an investment casting of SAE-4140 steel, and I suspect most of the other parts are also investment castings that have either been left in the casting stage where critical dimension or finish is not important, machined and polished where it is. The barrels are made of heat-treated chrome molybdenum steel, have six lands with righthand twist that are fairly thick for cast-bullet use, and while the bores of the test barrels are not overly smooth, no leading problem was encountered with bullets cast hard.

To give the prospective buyer an idea of what to expect for weight with the Dan Wesson with the various barrel lengths, the 15-2, which is the lightest of the target models, with two and a half, four, six, eight, ten, twelve, and fifteen-inch barrels, weighs thirty-two, thirty-six, forty, forty-four, fifty, fifty-four and a quarter, and fifty-nine and a quarter ounces, respectively.
At left, the Dan Wesson ready to assemble. From the top: shroud for six-inch barrel, barrel nut, six-inch barrel, frame with cylinder and grip, barrel wrench, hex wrench for rear sight and sideplate, and extra sight inserts. Just below the hex wrench is feeler gauge for correct cylinder-barrel clearance. The Dan Wesson's unique feature of interchangeable barrels makes this the only revolver with an adjustable cylinder gap. At right, the six-inch barrel has been screwed into the frame; barrel nut is in place on muzzle threads of barrel. Note the aligning pin extending forward from the frame — this is for aligning the barrel shroud.

To figure overall length, add the length of the barrel plus about five and a half inches, then balance the weight and length against the kind of use you have for it. All of the other target models are heavier, and the Service model is a little lighter.

Accuracy was about what I normally get from any high-quality revolver from a sandbag rest. Most of the test work was done at twenty yards while checking velocity simultaneously with the new Oehler Model 33 chronotach and SkyScreen II. As is to be expected, the best average groups came from the eight-inch barrel with its long sight radius, but the six-inch barrel ran it a close second. The four-inch barrel also delivered some very nice groups, and while few five-shot groups of under about three inches were fired with the stubby 2-1/2-inch barrel, I'm sure the accuracy of the barrel is a lot better than I can do with eyes that have looked across too many wide mountain canyons and sage flats to see the open sights on a 2-1/2-inch pistol barrel in perfect perspective. Some of the groups with both the six and eight-inch barrels did put five shots into just over an inch, and many more went into an inch and a half. I try to overlook those that made baseball-size clusters! But the gun and the various barrels are capable of very tight groups, even if the shooter slips a bit now and then.

All of the front sights are an eighth of an inch wide, which to me is about ideal for all pistol shooting. During the course of the test shooting, I tried the red, yellow, and white insert blades, and for my eyes, the yellow is the sharpest, and it was with that sight that the smallest groups were shot. I have used the red insert for years on standard magnum pistol sights and have them on nearly all of my other pistols but had never used either yellow or white before. I don't care too much for the white, but it would work well for shooting in heavy cover or poor light. Even then, I doubt that it is as good as yellow. I suspect I may end up by installing yellow plastic inserts in the sights of my other pistols. One thing that should be pointed out is that when barrels are changed, the gun will have to be reassembled, which is certainly to be expected. Also, if the front sight is changed on the same barrel, it is also unlikely to shoot to the same point of impact but will be fairly close.

I was especially interested in checking the velocities of various loads in the different lengths of barrel, and I know of no simple way of making these tests in a conventional revolver without using four guns. With the Dan Wesson Pistol Pac, you can do all the tests with one gun by simply changing barrels, which takes about two minutes (my time), and you can increase the number of barrel lengths to seven if you wish to purchase the ten, twelve, and fifteen-inch barrels. Also, if you just happen to have use for a revolver with barrel lengths suited to anything from a handy defense gun to long-range hunting, you can have them all in the Pistol Pac for little more than the price of a single gun in the same caliber and action style by other well known makers of high-quality handguns with a single barrel length.

While not nearly all of the loads tested in the Dan Wesson are listed in the chart, it will give the reader a notion of what to expect in the way of velocity from the various barrel lengths from two and a half to eight inches. Other bullet weights and other powders and charges may alter the velocity differential between the barrel lengths slightly, but not to any great extent.

My personal opinion is that the Dan Wesson Pistol Pac is one of the best handgun buys on the market today in either .38 Special or .357 Magnum, especially when you consider that you get the complete outfit in the excellent case for a suggested retail price of three hundred, ninety-five dollars.

Even with its shortest barrel, the Dan Wesson isn't exactly a “garter gun.” The oversize grip is nearly as large as the rest of the gun. Even the combat and Sacramento grips are larger than they should be, for a defense gun with four-inch or shorter barrel.