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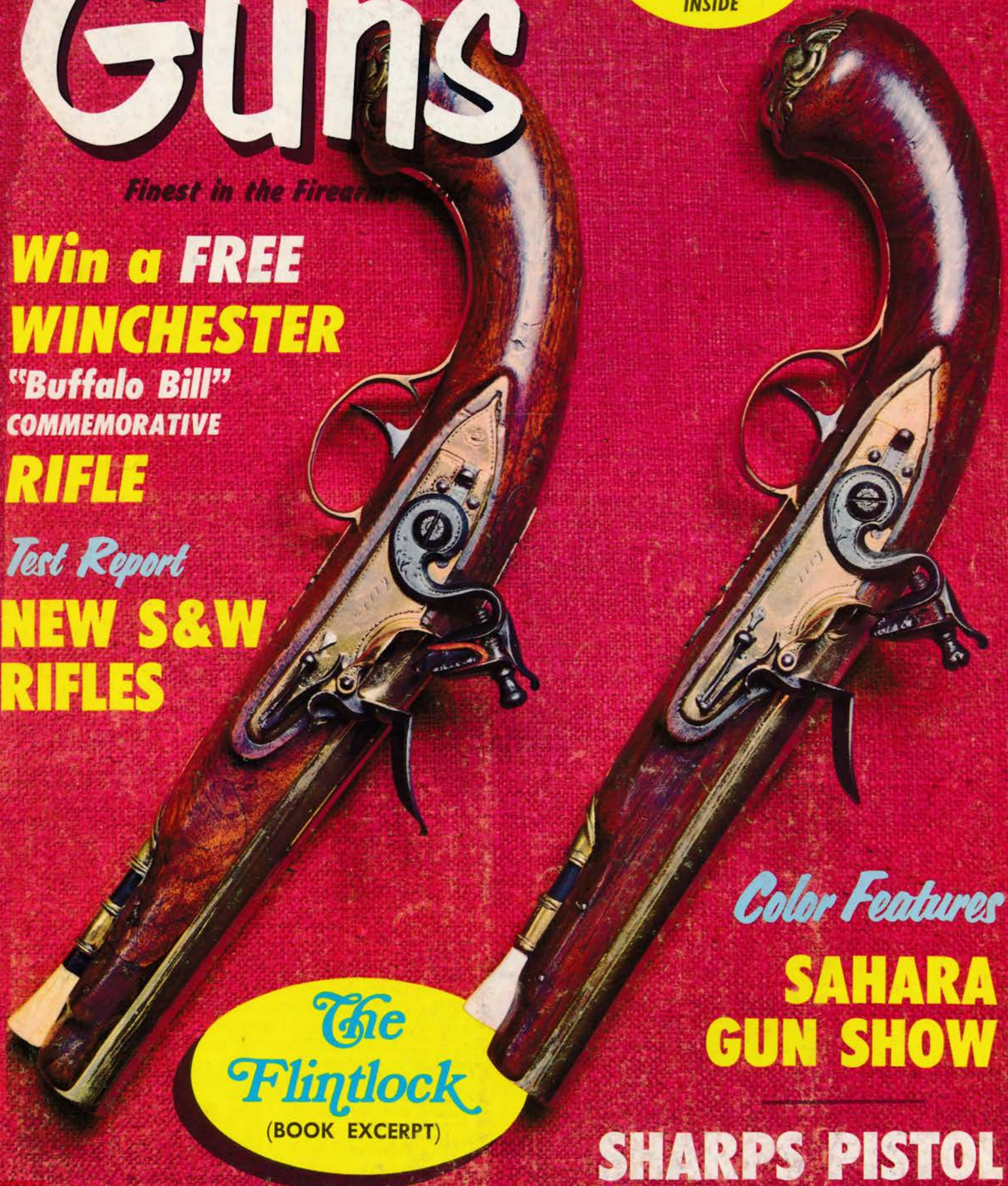

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# TRIGGER TALK

## ANNOUNCING!

**Mr. Ronald C. Schneider**
**Aurora, Colorado**

Mr. Schneider is the winner of the Alpine Supreme rifle, making the .30-06 caliber his choice. Congratulations to Mr. Schneider and all of the past winners. Keep reading GUNS, and we'll keep the gun drawings coming.

* * *

With the enactment of the new federal gun laws, the times ahead will be trying ones for all shooters, gun collectors, gun shops, and hunters. No one expects the hysteria against guns to die down, even with the enactment of this law. People whose thinking is somewhat less than clear will continue to bad-mouth guns and gun ownership. In recent weeks several newspapers and magazines have issued statements that they would no longer accept any advertisements for guns, and at least one major antique gun show has been canceled because no one would let them have a place to exhibit. These acts, all designed to harass law-abiding gun owners and dealers, can only be looked at as immature tantrums by people who should really know better. Yet, in spite of these acts, in spite of the new gun law, and the loss of some dealers, shooters, and collectors who will give up in the face of the latest adversities, the shooting sports, the collecting of antique firearms, and the industry which caters to these will continue to flourish. It is said that those who face up to hard times come away much stronger. There is little doubt in my mind that legitimate shooting sportsmen can survive the onslaught of legislation, harassment, and adverse publicity. This does not mean that we must submit to every crackpot anti-gun proposal or discontinue writing letters to our legislators. It does mean that we must work even harder to obtain passage of federal and state laws which will punish those who use guns in criminal acts.

THE COVER

Matched pair of English flintlock pistols; locks stamped "Gill." Barrels and furniture are brass. Guns from the collection of Nathan L. Swayze; photography by Dr. R. L. Moore.

**JANUARY, 1969**
Vol. XV, No. 9-1

George E. von Rosen
Publisher

# Guns

FINEST IN THE FIREARMS FIELD

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### FEATURES



### DEPARTMENTS





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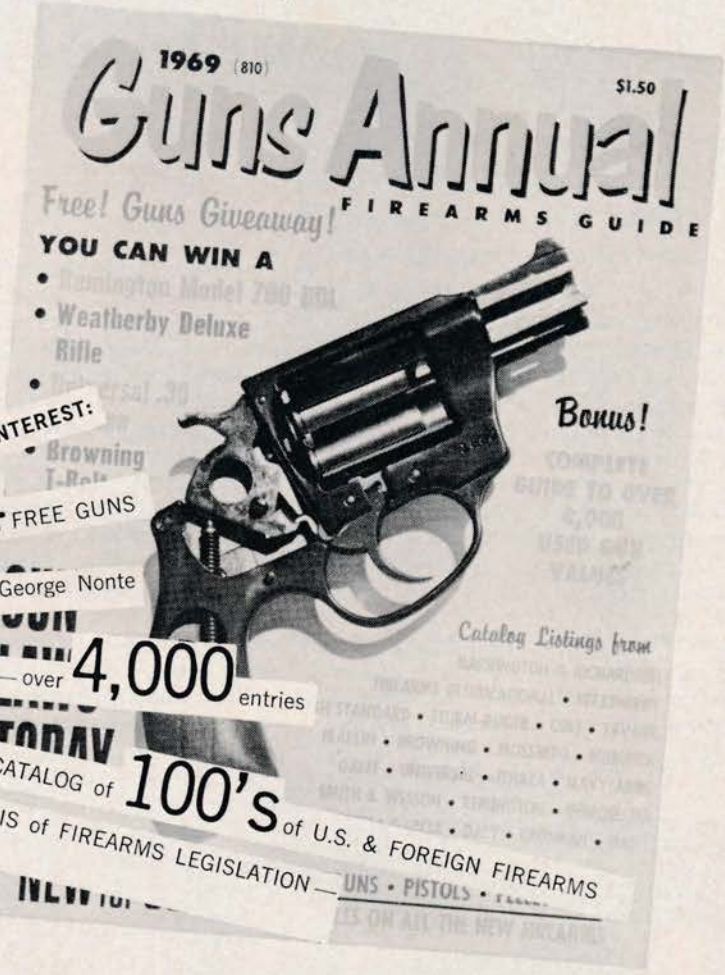


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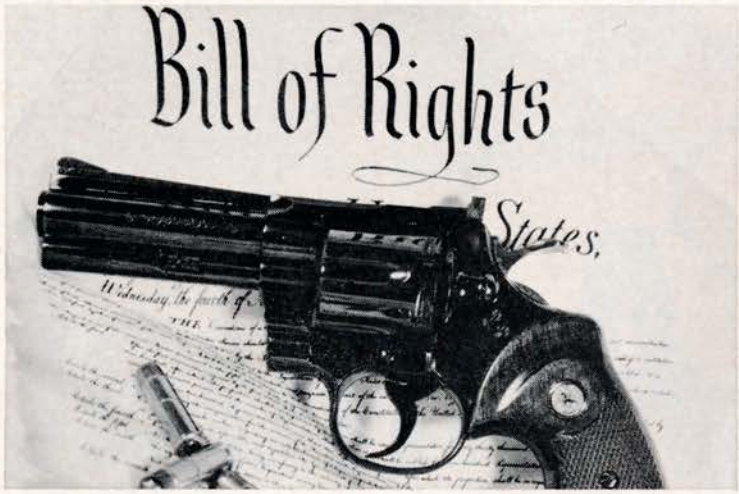
# CROSSFIRE

### *Mayor Lindsay, With Help, On Guns*

The two-page article by John V. Lindsay on "Law and Order" in the Sept. 27, 1968, LIFE magazine, pages 32-33, is the greatest essay ever written on the evils of restrictive gun legislation—provided you read it with that in mind, as follows:

". . . . And it is at such a time—as citizens begin to doubt themselves and each other—that we may, out of fear and desperation, turn to false remedies for the answers to real problems. *(Such as the idea that gun control can stop or reduce crime in general.)*




"We have come to be enthralled by simplistic solutions which promise, but cannot deliver, a speedy end to crime; . . . *(Such as excessively restrictive gun control.)* ". . . which hold that we can guarantee the safety of our future by denying the lessons of our past and the heritage of the Bill of Rights. *(Such as the Second Amendment and the right to bear arms.)*

". . . . For all the certainty of those who preach repression, it will never be an effective weapon in the battle against crime or violence. *(Repressing honest gun ownership can not stop crime.)*

". . . those who seek electoral triumph by preaching to the darker instincts now abroad in this nation. *(Such as banning private ownership of guns by honest citizens.)*

". . . . Both of these studies, taken in two large cities, have come to the same conclusion: there has been no discernible effect on the conviction rate. *(The courts are still giving hardened criminals a pat on the wrist and setting them free to kill as they have been doing right along.)*

". . . . It the *(crime rate)* has been increasing because of the complex pressures and forces which drive men to crime . . . . *(not because of the ease of obtaining guns.)*

"There is much, then, that is simply irrelevant in today's frantic calls for repression. There is also something dangerous. *(You said it! Restriction on private ownership of guns has always been a step toward tyranny.)*

". . . . What happens if, after this victory for "law and order," we find—as we will—that the crime rate is still going up, that the streets are still not safe, that more and more lives have been lost, and that America is being divided into armed camps?

"The answer, I am afraid, is that these defeated hopes will escalate into new and more dangerous demands. *(Right! When gun registration does not work, next comes confiscation.)* ". . . We might well see this process repeated among white Americans, who would call for further abrogations of fundamental legal rights. *(After gun registration comes confiscation with remuneration.)*

"What all this suggests is an old truth: that once the road to repression is taken, it is hard—very hard—to turn back. *(Gun laws are never repealed.)* Each new loss of liberty, as it fails to bring instant peace, brings down a call for abolition of another right, until the most brilliant document for the protection of citizens ever conceived becomes a shell—while crime and violence go on. *(When the Second Amendment goes, the rest of the Bill of Rights will follow it.)*

"But this is exactly why those who uphold the law must be wiser and calmer than those who seek to repudiate it. *(The Second Amendment could stand some upholding right about now.)*

". . . . Shall we forget what history has always taught us: that those who suppress freedom always do so in the name of "law and order"? *(Like the freedom to own a gun in New York City?)*

". . . . Those of us who believe in this country had better join the raging debate and begin to speak in support of that law and that kind of order which has kept America vital for almost two centuries. *(Like the Second Amendment.)*

"We must never forget how this great nation came all this way—how hard we have fought to achieve equal justice under the law, how long we have had to struggle to develop an order which protects individual rights and permits dissent. *(And the right to own a gun is the right of a free man.)*

"For if we forget, we will have security, and we will have order. What will be missing will be liberty. What will be missing is the quality which sets the life of the free man so far above the life of the slave. *(Amen, brother!)*

Jerome Mendel
Plainfield, New Jersey

### *Shotgun Battery*

I thoroughly enjoyed the Clair Rees article in October GUNS about building a shotgun battery. I doubt that many readers are interested in owning just one gun—no matter how versatile it is. There are too many arti-

cles on that impractical subject and not enough on "collecting" modern firearms.

Thanks, for your article, and to the editors for a fine magazine.

Stuart Smith
Grosse Pointe Woods, Mich.

### *The Militia Concept Is Dead*

Many gun owners throw out the term "Militia" without realizing just what the term meant in the old days or what a restored vogue of militia would entail. In the good old days, militia were casually formed groups of volunteers who possessed skill with arms in greater or lesser degree and had as their purpose the protection of life and property in their home areas from hostile Indians and/or foreign invaders. No particular attention was paid to organization or chain of command beyond the local levels. These groups elected their officers by popular vote, the commander usually the man who got the idea for the "club" in the first place and/or defrayed the costs. They were generally under no control or the loosest of supervision by the State or other higher authorities. In the majority of cases, the militia retained a distinctly civilian air, shunning uniforms and carrying ordinary civilian arms roughly equivalent to the modern shotgun or deer rifle. BUT the really *effective* militia companies took military drill and training seriously and often did wear full uniform, and, in most every case, made a point of obtaining and using the most advanced arms. These arms were not simply rifles, but extended to include heavier infantry equipments, and in more than a few instances, light artillery. Not only the most recent anti-gun laws, but the National Firearms Act passed way back in 1934, have put a de facto end to any moves to restore the militia vogue. The only example of a true militia system that comes to mind is that of the Chinese Communists! The Swiss, though well prepared for armed civil defense, are a different category than the American-style militia.

To fit the definition of militia—administration and laws permitting—Americans would require modern military equipment rather than the hodgepodge of inadequate sporting arms that the current militiafans amuse themselves with. All rhetoric aside, with no frenzied claims on the 2nd Amendment, the "militia" these types visualize would be futile and pathetic in the role they mistakenly feel they are prepared for: resistance to the invader. Any serious opponent would easily and laughingly annihilate any underground army Americans could muster. A DCM M-1 carbine or a Winchester is utterly useless against a tank or an airplane—or even a truck or a man who is carrying something better.

Lawrence Holowinski
Chicago, Illinois

### *9 mm Luger Cartridge Bandwagon*

I feel that it is about time that someone got on the bandwagon for the 9mm Luger cartridge instead of cutting it down. I have been reloading for this cartridge for the past five years, and have seen it grow from a mediocre cartridge, performance wise, to one of the most effective small pistol cartridges found anywhere today. Using IBAC's 120 grain "Double D" bullet, Green Bay's half-jacketed hollow point bullet, Norma's full-jacketed hollow point bullet, and Speer's 125 grain three-quarter jacketed bullet, all loaded with Unique powder, it is a most effective cartridge. I have taken four bobcats, numerous coyotes, a mountain lion, and countless jackrabbits with the above mentioned loadings throughout the El Paso-New Mexico area. Jackrabbits disintegrate, coyotes drop in their tracks, and the mountain lion ran no more than 45 yards after it was hit in the shoulder.

I admit that the 9mm military full-jacketed bullet lacks the punch of the .45 caliber military bullet, but very few people can shoot the .45 pistol accurately enough to make it count. Its not how big a cannon you shoot, its how well you place the bullet that counts, as well as what type of bullet you use. The bigger the cannon, the more recoil you have to put up with, which means fewer shots at man or beast. The 9mm cartridge has a very flat trajectory and a pleasant recoil, even with hot reloads. I was very interested in your coverage of the Illinois State Police Department's conversion to the 9mm cartridge. I would like to see more coverage on the components used to reload this cartridge, especially the bullets, as more manufacturers are making them available to the public. If more coverage could be given to this cartridge through your magazine, I feel that it would create more interest amoung other reloaders who might not be aware of the components that are presently available for this cartridge.

Jim Valtr
El Paso, Texas


Nonte
Handloading


Braverman
Modern Arms


Mandel
Antique Arms


Schumaker
Gunsmithing

# Panel of Experts

### *Takedown Model 94 Winchester*

In the August issue is a picture of a takedown Model '92 Winchester which has the same appearance, with the exceptions of the rear sight, lever, and some screws, as my takedown .32 caliber Model '94. I have been unsuccessful in finding mention or even a picture of my early '94. It is serial number 261204, with a rear sight patented October 8th, 1901. Please tell me when it was made and how common it is.

R. A. Hoffman
Carterville, Illinois

*Your takedown model '94 was made around 1905. I do not have data on just how many were made, but takedown rifles were somewhat popular in those days and survivors are not especially rare. If in excellent condition yours should be worth as much as $125 to a collector.—S.B.*

### *Batavia Automatic Rifle*

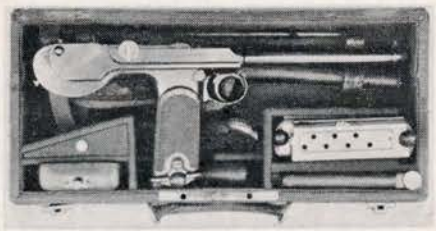
I have a .22 automatic rifle that I would like some information on. It has a sliding forearm used to charge the first round from a clip magazine. On the left side is "BATAVIA AUTOMATIC RIFLE, PATENTED DEC. 14" and "28 - '09, BATAVIA, N.Y." It takes .22 shorts only. I have been unable to locate any record of the Batavia concern. Please tell me whatever you can about it.

Farrill S. Sharrock
Plainfield, Ohio

*I cannot come up with an answer to who, what, or when the Batavia rifle belongs to; the only arms company I recall being in Batavia, New York, is the Syracuse Forging and Gun Company. This could be the actual manufacturer and then again, maybe not. Maybe one of our readers can help. —R.M.*

### *Borchardt Trade Value*

I recently was lucky enough to find an original unfired Borchardt automatic pistol which had been in a family since grandpa. It is brand new in original case with all accessories: buttstock, tools, pouches, holster, and original dummy cartridges for dry firing. My problem is, as I collect only American guns as used in the frontier



times, I was offered an exchange for the Borchardt. For the Borchardt I can have a Henry rifle, a Spencer 1865 carbine, a Colt 1st model .44-40, and a Colt 1873. What do you think of this offer?

Y. de Montais
Paris, France

*A cased Borchardt, complete, and in the excellent description you describe, is easily worth $1,000. Whether you should accept the offered items would depend on your interest in them. In good enough condition, they would come close to the mark on the money scale, but, would you pay that kind of money for them?—S.B.*

### *Pistol Packing Preference*

As I will be going to Vietnam within the year, I want to take a pistol along for personal protection, but am unsure as to what is best. I have had experience with .22 automatics, but bigger autoloaders are new to me, and I tend away from revolvers for reasons of personal taste. I have been offered a Llama auto in .380, but I've read that it is underpowered. Right now, it seems I will choose from a S&W Model 39, a Colt Commander, or a snubnosed Colt Python, but would like your opinion. I will sometimes be wearing my pistol under civilian clothes or uniform and would also like your ideas on holsters.

John Moulton
Denver, Colorado

*Either the S&W M39 or the Colt Commander in 9mm Parabellum is far superior as a defensive weapon to the Llama or any other .380 caliber automatic. Yet neither of these are significantly bulkier or heavier than the Llama. Colt Commanders are usually much easier to come by than the Smith & Wessons. From an objective view, I always recommend a semi-auto pistol and spare loaded magazines in preference to any revolver for combat shooting. The most practical holster for carrying such a gun concealed under light clothing is an upside-down shoulder holster worn under the shirt, with one or two shirt buttons replaced by snaps, so it can be popped open as the gun-hand slides inside the shirt front.—G.N.*

### *Mystery Disassembly Procedures*

A lot of us readers who have been buying military surplus arms find ourselves wondering how to field strip them. Two cases that I have been unable to find treated in the standard references are the Belgian S.A.F.N. Model 1949 rifle and the Spanish Astra Model 600 automatic pistol. Where can I find the answers?

George Lane
Mt. Clemens, Michigan

*Your quest may be already over in one respect: our Maj. George Nonte took the S.A.F.N. apart in the September issue. As far as the Astra, get yourself a copy of the NRA's "Firearms Assembly Handbook," volume II, for the takedown story. The S.A.F.N. is also well-covered in "International Armament," volume II, which is still current though recently out of print. —S.B.*

### *Weatherby vs. Remington Rifling*

I have heard both sides of an argument about the merits of the 7mm Remington and Weatherby rifles which leaves me with the understanding that the two different manufacturers use opposite rifling twist theories. If this is true, I would like to

know why they do and which one, if either, will stabilize better or with a greater variety of bullets and bullet weights. How do higher velocities affect the rifling theories, or vice versa?

Spec 4 Bruce Bennecoff
APO San Francisco

*The rifling twist of the Weatherby Magnum will certainly stabilize the bullets intended for the Remington—and so will that of the Remington with the Weatherby bullets. Essentially, the Remingtons are rifled to provide maximum stabilization of long, pointed, 175 grain bullets, while the Weatherby barrels are meant to stabilize lighter bullets at somewhat higher velocities. The 175 grain bullet requires a rather quick twist to be properly stabilized at long ranges. This quick twist is even more necessary to stabilize the lighter bullets. However, there is sufficient latitude in twist requirements so that the twist of the Weatherby barrel will stabilize the 175 grain Remington bullet out to the maximum range the average hunter could hope to hit with consistency. With bullet weights and all other factors being equal, increasing the velocity of a projectile reduces the rate of twist necessary to stabilize it properly.—G.N.*

### *Marlin Model 1893*

I own a Marlin lever action rifle, Model of 1893, with the serial number 125120. It is in .32-40 caliber with a 25½ inch octagonal barrel. The rifle is in very good shape and completely original with the exception of Marble sights, which closely resemble the

originals. Could you evaluate it for me and tell me where to buy some original sights for it?

Robt. G. K. Beattie
Henniker, New Hampshire

*Your Marlin is a collectors' item, though it would not command a price as high as a comparable Winchester. I would place its collector value in fine condition in the neighborhood of $100, slightly less, or slightly more, depending on details. New sights can be obtained from Numrich Arms, who advertise regularly in this magazine.—R.M.*

### *Franz Sodia Ferlach Combination Gun*

I have a combination gun marked "Bohler Blitz Stahl" and "Franz Sodia Fer." with Ferlach proof marks. The 16 gauge barrel is marked "749.32" and the rifle barrel is inscribed "7.26 VIII 16269". The serial number is 64 throughout. The gun itself is in excellent condition and is fully engraved with scenes of rabbits and deer. Any information concerning the history of this gun, including value, would be appreciated.

George Morgan
Trenton, Tennessee

*It is impossible to accurately appraise your gun without first-hand inspection. Franz Sodia was active with Ferlach from 1946 to 1956. Many of his guns were in the $600-900 quality range, and some custom jobs ran considerably higher and featured exquisite engraving. Stoeger imported Sodia guns for a short while, but I think that no more than a few hundred combination guns were ever made.—S.B.*

### *French M1935 Autos*

I would like some reference material on a pistol that I have. It is a French automatic pistol, M1935S. Where can I get spare parts? How dependable is this firearm? What is its background?

Jeff Randall
Skokie, Illinois

*The M1935 designs, both A and S, are basically very sound and reliable. Workmanship on French guns is quite good for military arms, though not presenting the prettiest appearance. The design combines the Browning locking system with improvements patented by Petter. The basic design has been up-dated in the M1950 9mm Parabellum French service pistol in use today. Parts for the M1935S are not generally available in this country. Relatively large quantities of the pistols themselves have been imported and some parts specialists have cannibalized specimens in order to be able to offer serviceable guns for sale. One such source would be Bob Lovell, Box 401, Elmhurst, Illinois.—G.N.*

### *Winchester '92*

I have a lever-action Winchester Model 1892. It is in .25-20 caliber with "W C F 365640" stamped on it with an

# OUR MAN IN WASHINGTON

By CARL WOLFF

HOW SMALL POTATOES GROW

Every gun owner knows that one of the last things the 90th Congress did was to pass another gun bill. Just how this came about makes one question the virtue of its leadership. In short, their anti-gun position got in the way of their obligations to the membership.

Remember back when Martin Luther King was shot—Congress passed and the President signed into law a measure banning the interstate shipment of handguns between citizens. Dr. King was shot with a rifle! Then, when Sen. Robert Kennedy was shot with a handgun the big push for banning long guns came.

The President sent to Congress his now infamous licensing and registration bill. It was used as shock power to force through long gun legislation. There was never any real chance of the registration and licensing becoming law during the 90th Congress. What it did do was make "the little old long gun bill" look like small potatoes. These same small potatoes the membership of the Senate had previously rejected.

The ban on handguns came out of the Senate and was attached to the "Omnibus Crime Control and Safe Streets Act of 1968." This measure contained some seven different bills, the most important of which reversed Supreme Court decisions regarding protection for lawbreakers.

The whole package went to the House. The membership, knowing how the liberals felt about amending liberal decisions of the Supreme Court forced the measure through the House without opening it up so that the changes could be made.

Still pending before the House Judiciary Committee was the anti-gun measure. Armed with the emotionalism over the Kennedy tragedy, Judiciary Committee Chairman, Emanuel Celler, without holding hearings, forced out a long-gun bill. This was done by threatening to act on the President's licensing and registration bill. Under this threat moderate members of Judiciary gave in to the chairman's request for a long-gun bill.

Here is where the hanky-panky started. It was not known then that the ranking Republican of the House Judiciary was also very much anti-gun. Congressman William McCulloch of Ohio played the role well.

Senator Roman Hruska, a Republican, had befriended gun owners in the Senate. Mostly through hope, observers thought Rep. McCulloch would be the House counter-part to Sen. Hruska. Time limits were put on consideration of the measure by the House. Controlling the time was Rep. Celler for the Majority and Rep. McCulloch for the Minority. The House passed the measure.

Referred to the Senate, the measure went to the Juvenile Delinquency subcommittee where the gun owner "friend," Sen. Thomas Dodd, was in the midst of public (if that is the word) review of licensing and registration legislation. There, the measure was stalled for some two months held up by the subcommittee member, Sen. Joseph Tydings, who wanted his version of licensing and registration to accompany it.

Sen. Dodd, as anti-gun as he is, would later come from an executive session of the full Senate Judiciary Committee to say that Tydings had prevented the committee from reporting back to the Senate a long-gun bill (Continued on next page)

by forcing consideration of licensing and registration. As Congress drew to a close, however, Tydings was overruled. A more restrictive version of the House bill was reported to the Senate.

The measure was to have been referred to the Commerce Committee before consideration by the Senate. Chairman of Commerce, Sen. Warren Magnuson, waved committee jurisdiction. Before the Senate, the long-gun bill was further amended and sent back to the House.

The task facing the House was to vote on the Senate amendments or ask for a Senate-House conference. Leadership in the House chose to go for the conference. The House leadership knew the membership of the House would reject Senate amendments.

A look at those chosen to represent the House and Senate show why this route was taken. From the House there were Congressmen Emanuel Celler (N.Y.), Peter Rodino, Jr. (N.J.), Robert Kastenmeier (Wis.), William McCulloch (Ohio), and Charles McC. Mathias, Jr. (Md.). Only Rep. Mathias is a friend to the shooting sportsman. He was outnumbered five to one.

From the Senate side there were Senators Thomas Dodd (Conn.), Samuel Ervin, Jr. (N.C.), Joseph Tydings (Md.), Warren Magnuson (Wash.), John Pastore (R.I.), Philip Hart (Mich.), Everett Dirksen (Ill.), Roman Hruska (Neb.), Hugh Scott (Penna.), and James Pearson (Kansas).

Not members of the Senate Judiciary were Senators Magnuson, Pastore, and Pearson. Both Magnuson and Pastore are outspoken anti-gunners. Pearson voted for the Senate-passed measure.

Thus, three members of the Senate Commerce Committee which waved jurisdiction of the gun bill were added to the Senate Conferees to increase anti-gun support. The harsher, more restrictive, Senate measure was sent back to the house on an "all or nothing basis." House members were told there would be no additional gun bill if they did not take the Senate version. The House took it by a vote of 160 "yeas" to 129 "nays."

The pro-gun members of the house were limited in the amount of objection they could make. It was a case of raw political power at work, accomplished only because the leadership in both Houses of Congress were anti-gun. So it will be when the 91st Congress gets down to serious consideration of licensing and registration.

# HANDLOADING BENCH

By MAJ. GEO. C. NONTE

IT WOULD BE PRETTY HARD to determine just how many foreign military rifles exist in their original calibers in this country. Of course, all those commercially imported have been duly recorded and taxed, and those quantities are known by caliber and type. However, untold thousands of them have been stripped and sold as actions or parts and probably as many more have been otherwise changed by their owners. On top of that, many thousands of rifles were brought back as souvenirs after WWII. In all, many hundreds of thousands of military rifles are here, a majority of which are in the original caliber and condition.

The most prominent calibers are of British and German origin—.303 British, 7, 7.65 and 8 mm Mauser. Following those (not necessarily in order of numbers or popularity) are the 6.5x55 mm, 6.5 and 7.35 mm Italian, 6.5 and 7.7 mm Japanese, and, at least, a half dozen others less plentiful. Except in the Japanese calibers, surplus military ammunition has been widely available at very low prices (compared to new, domestic factory loads) for many years. As time goes by, though, that kind of ammunition gets more scarce, and its price spirals upward. Prices of some surplus ammo have already more than doubled. In some calibers, no more surplus is available. That makes it rough on the fellow who bought a $15-$35 ex-military rifle so he could shoot cheap. It's no longer cheaper to shoot surplus than to handload. Only by handloading can one keep up that low-cost practice.

So for this column, let's hit each of the more prevalent surplus rifle calibers briefly with case and loading data, and just a wee bit of background information.

*6.5x55 mm Swedish Mauser* (Norwegian Krag): An excellent cartridge developed not by, but with, the assistance of Mauser about 1892 for the M94 Mauser rifle adopted that year by Sweden. Norway adopted the same round in the Krag-Jorgensen rifle in 1894. Both countries retained the cartridge until well after WWII. The original 156-grain round-nose bullet was loaded to 2380 fps (29″ rifle barrel); the later 139-grain Spitzer to 2626 fps. Some surplus ammo is as-

sembled with .216″ Berdan primers which are available, so cases can be reloaded. Others use a .199″ primer, and that isn't to be had. Norma new cases or loaded cartridges are available and take the standard LR primer. Cases can be formed from .30-06, .270, 7 or 8 mm, etc., by necking down, resizing, and trimming to length. However, they will be .010″-.015″ undersize at the head and *could* split on firing if not in perfect condition.

Loaded thusly, the 6.5x55 mm is a fine general-purpose cartridge.

| *Bullet* | *Pwdr.* | *Chrg.* | *Veloc.* | *Pressure* | *Remarks* |
|---|---|---|---|---|---|
| 100-gr. Sierra | 4064 | 42.0 | 2840 | 44,500 | Varmint |
| 125-gr. Nosler | 3031 | 34.0 | 2350 | Mod. | Deer |
| 139-gr. Norma | 4350 | 43.0 | 2390 | Mod. | Big Game |
| 160-gr. Hornady | 4350 | 39.0 | 2120 | Mod. | Big Game |

• • •

*6.5x50 mm Japanese Arisaka:* Introduced in 1897 and adopted as the Japanese standard. A semi-rimmed case holding less powder than any other 6.5 mm military round. Originally loaded with a 160-gr. round-nose bullet at about 2100 fps, WWII loads used a 139-gr. Spitzer at 2400 fps. Japanese cases aren't much for reloading and correct Berdan primers aren't available. New Norma cases and ammo are available, though.

Cases can be formed by resizing and fire-forming .220 Swift brass. Properly loaded, it's a pretty fair deer and black bear cartridge.

| *Bullet* | *Pwdr.* | *Chrg.* | *Veloc.* | *Pressure* | *Remarks* |
|---|---|---|---|---|---|
| 100-gr. Hornady | H4895 | 35.0 | 2800 | Mod. | Varmint |
| 139-gr. Norma | 4064 | 32.0 | 2400 | Mod. | Deer |
| 160-gr. Hornady | 4320 | 32.0 | 2270 | Mod. | Big Game |

• • •

*7.57 mm Mauser:* An exceedingly fine cartridge developed about 1892 and adopted by Spain in the Model 92 Mauser rifle. It's been widely used for military and sporting purposes ever since. Originally, it used a 175-gr. round-nose bullet at about 2300 fps, but later military loads used a 139- or

140-gr. Spitzer at around 2700 fps. European cases can be reloaded with .216″ Berdan primers, but there's no need to fuss with them because all domestic makers produce this round. If saving money is important, reform cases from cheap .30-06 brass.

| *Bullet* | *Pwdr.* | *Chrg.* | *Veloc.* | *Pressure* | *Remarks* |
|---|---|---|---|---|---|
| 120-gr. Sierra | 3031 | 43.0 | 2920 | 44,000 | Varmint |
| 130-gr. Speer | 4320 | 45.0 | 2920 | Mod. | Deer |
| 140-gr. Sierra | 4320 | 41.0 | 2600 | Mod. | Deer |
| 145-gr. Speer | 4350 | 49.0 | 2750 | Mod. | Deer |
| 154-gr. Hornady | 4064 | 41.0 | 2600 | Mod. | Big Game |
| 160-gr. Speer | 4831 | 52.0 | 2700 | Mod. | Big Game |
| 175-gr. Hornady | 4350 | 45.0 | 2400 | Mod. | Big Game |
| 180-gr. Barnes | 4350 | 43.0 | 2320 | Mod. | Big Game |

• • •

*6.5x52 mm Italian Mannlicher-Carcano:* Oldest of the 6.5 mm rounds, adopted by Italy in 1891 for the Mannlicher-Carcano. Arsenal loadings utilized a 162-gr. round-nose bullet at just under 2300 fps from a 30″ barrel. Barrels are often oversize by our standards and frequently are most accurate with .266″ diameter bullets. No proper Berdan primer is available to fit military cases. The case is odd in that it has a shoulder at the base of the neck against which the bullet seats. Norma produces new Boxer-primed cases and ammunition, or cases may be formed from 6.5x54 mm Mannlicher-Schoenauer brass. Incidentally, Italian cases can be al-

tered to take standard LR primers, since the original primer is only .204″ diameter. This alteration has been covered previously in this column.

| Bullet | Pwdr. | Chrg. | Veloc. | Pressure | Remarks |
|---|---|---|---|---|---|
| 100-gr. Hornady | 3031 | 32.0 | 2500 | Mod. | Varmint |
| 120-gr. Sierra | 3031 | 32.0 | 2500 | Mod. | Deer |
| 140-gr. Speer | 4064 | 34.0 | 2450 | Mod. | Deer |
| 160-gr. Hornady | 4320 | 33.0 | 2250 | Mod. | Big Game |

• • •

*7.65x53 mm Mauser:* Developed from the M88 7.9 mm by Paul Mauser and adopted by Belgium in 1889, later adopted by several nations in Mauser rifles. This was the first true Mauser small-bore smokeless powder cartridge to achieve acceptance. Originally loaded with a 211-gr. bullet at 2130 fps, later 185-grs. at about 2450 fps. Other variations will be encountered. Norma produces cases and ammo, but .30-06 cases are easily trimmed and resized and work as well. An excellent cartridge that will surpass the .308 Winchester when properly loaded.

| Bullet | Pwdr. | Chrg. | Veloc. | Pressure | Remarks |
|---|---|---|---|---|---|
| 100-gr. Speer | 4895 | 51.0 | 3180 | Mod. | Varmint |
| 150-gr. Speer | 4064 | 45.0 | 2730 | Mod. | Deer |
| 175-gr. Speer | 4320 | 43.0 | 2510 | Mod. | Big Game |
| 180-gr. Speer | 4350 | 47.0 | 2400 | Mod. | Big Game |

• • •

*.303 British:* One of the oldest of the lot, adopted in 1887 by the British Army and used all over the world ever since. The original 215-gr. bullet at 2050 fps was replaced by a 174-gr., 2440 fps load later. It's fully equal to the .30-40 Krag and will take any North American game. British cases

take a .250″ Berdan primer which is available. All domestic makers produce cases and ammunition and much of the surplus was made here. Cases can be made from .30-40 brass, but it's hardly worth the effort.

| Bullet | Pwdr. | Chrg. | Veloc. | Pressure | Remarks |
|---|---|---|---|---|---|
| 130-gr. Norma | 3031 | 46.0 | 2950 | Mod. | Varmint |
| 150-gr. Speer | 3031 | 44.0 | 2750 | Mod. | Deer |
| 180-gr. Sierra | 4064 | 41.0 | 2360 | Mod. | Big Game |
| 216-gr. Norma | 4320 | 43.0 | 2340 | Mod. | Big Game |

• • •

*7.7x58 mm Japanese Arisaka:* Adopted in the late 1930s by Japan because it was felt the 6.5 mm lacked punch, especially for machine gun use. Military loads contain a pointed 175-gr. bullet at 2400 fps. Japanese cases aren't of particularly good quality and correct Berdan primers aren't available for them. Cases can be formed from .30-06 similar brass, but come out about .010″-.015″ undersize at the head. When brass is of good quality and pressures are moderate, this causes no trouble—but hot loads combined with old, overworked brass

can cause ruptures and damage to the gun, not to mention the shooter. Best to use new Norma Boxer-type cases which are of excellent quality.

| Bullet | Pwdr. | Chrg. | Veloc. | Pressure | Remarks |
|---|---|---|---|---|---|
| 130-gr. Norma | 3031 | 47.0 | 3000 | 40,000 | Varmint |
| 150-gr. Speer | 4320 | 45.0 | 2700 | Mod. | Deer |
| 180-gr. Speer | 4320 | 42.0 | 2480 | Mod. | Big Game |
| 180-gr. Norma | 4064 | 46.0 | 2550 | Mod. | Big Game |
| 215-gr. Norma | 4064 | 43.0 | 2300 | Mod. | Big Game |

• • •

*8x57 mm Mauser:* First adopted in 1888 by Germany as the 7.9 mm M88 with a 226-gr., .318″ diameter bullet; revised in 1904 to use a .323″, 154-gr. Spitzer at somewhat over 2700 fps. It became one of the most widely used military cartridges. Properly loaded, it will compare very favorably with the .30-06. European cases can be reloaded with Alcan .216″ Berdan primers. This is hardly worth the effort, though, when good brass is so easily formed from .30-06 military cases. All major makers produce cases and ammo. Always slug bores of M88-type rifle or combination guns. Many take the .318″ bullet, which is available from Norma.

| Bullet | Pwdr. | Chrg. | Veloc. | Pressure | Remarks |
|---|---|---|---|---|---|
| 125-gr. Speer | H380 | 57.0 | 3040 | Mod. | Varmint |
| 150-gr. Sierra | 4064 | 53.0 | 2850 | Mod. | Deer |
| 170-gr. Speer | 3031 | 48.0 | 2700 | Mod. | Big Game |
| 196-gr. Norma | 3031 | 47.0 | 2500 | Mod. | Big Game |
| 225-gr. Speer | 4350 | 55.0 | 2470 | Mod. | Big Game |

• • •

All of these cartridges, handloaded to suit your game, will serve you fully as well as comparable domestic calibers. They are no more difficult to load than, say, the .30-06 or .270, and a wide variety of suitable bullets and powders are available. We've listed only a few with which we've had good luck. When reformed cases are used, always cut initial loads back 5% to 10%. Such cases usually have less powder capacity than factory brass, and this can run up pressures. Current reloading manuals from several sources contain hundreds of loads for this list of calibers. There's no need for those ex-military rifles to lie dormant simply because cheap, surplus ammo has disappeared.

# POINT BLANK

By COL. CHARLES ASKINS

HARVEY WHITEHILL, ex-sheriff of Grant County, New Mexico, in Santa Fe for a meeting of the Territorial legislature back in 1887, was cornered by a New York "Sun" reporter who asked him what he thought about the newfangled double action sixshooters.

"It's a funny thing but every tenderfoot thinks all cowboys carry double-acting, or as some call 'em, self-cocking revolvers," said the ex-sheriff. "There was a time," he went on,

"when those weapons were in high favor but the cowboys soon found that they were positively unhandy instead of being a help to a man in a hurry. Now self-cockers are boycotted. I'll bet four-fifths of the cowboys in this territory have gone back to the old style single action pistol."

"Don't you like the new style?" the "Sun" tenderfoot asked.

"Nope. Neither me nor the cowboys. We discovered that try as we would we could not avoid deflecting the muzzle of the pistol while pulling the trigger to raise the hammer. You see the power is applied on the right side of the gun so you can't help swaying the muzzle in that direction. We noticed that five out of six men who got shot were wounded in the left side. Of these about half were shot so far to the left that the ball only grazed their ribs, others were winged in the left arm. Now the cowboy prides himself on hitting dead center on his opponent. It is always his wish to put his ball right at the juncture of the ribs above the belly.

"Now as soon as the cowboys began to notice this funny business about their shooting they quickly found the fault to be in the self-cocker. That settled the newfangled gun for them."

"But can't one shoot faster with the new style weapon?" the reporter persisted.

"Did you ever see a cowboy shoot?" asked the ex-sheriff. "Why see here this is a single action old style pistol. Watch that tree."

Before the words were well uttered the handsome sheriff had the drop on the growing timber and six shots rang out in such rapid succession that they sounded like the explosion of a package of fire crackers. During the shooting, Whitehill's forefinger vibrated along the top of the pistol barrel from the muzzle to the breech. The six balls entered the tree about 3″ apart.

"Do all the cowboys shoot like this?" the "Sun" pundit wanted to know.

"Yep. There's Pat Garrett who used to be sheriff down in Lincoln County. He never carried anything but a single action gun and when he shot Billy the Kid he puts two balls side by side in Billy's heart before the body struck the floor (Note: Billy the Kid was shot in bed. He was hit in the heart with one shot but the other struck two feet above his head). The first shot killed him but Pat wasn't taking any chances and he was fanning his pistol for all it was worth."

The ex-sheriff continued; "When I tried to arrest a fellow in Grant one day he came on me sudden like and got the drop on me with his double action pistol. But his ball went under my left arm without doing more than just scratching me. Of course I went back on him as quick as I could and got him dead center. That fellow never missed a man before and if he'd had his old gun I would have been a dead man."

"People out here are good judges of weapons then?" the "Sun" man wanted to know.

"Are they? Well you can depend on that! I'll bet you can't go on a ranch in the Territory and give away a .44 caliber sixshooter."

"Why, because they are too small?"

"No. The boys have found out that the .44 sixshooters always 'catch'. That is the cartridge chambers always get hot after one or two shots, swell up, and won't revolve. No one knows why this is and I can't explain it. But it's a fact although the manufacturers sit in their offices and call us boys liars by mail—that's safe you know. The .44 sixshooter has been the death of many a man but almost always the man who held it. You see the other fellow always got in his work while the forty-four was on strike.

"For this reason we boycott 'em along with the self-cockers. Give us a good single action Colt, Smith & Wesson or Remington in a .45 caliber and we won't ask anything better." The above was taken from a Santa Fe letter in New York Sun, March 31, 1887.

• • •

You'd be surprised just how little is known about the far-ranging propensities of our current rifle cartridges. The manufacturers do not enlighten us; indeed, I suspect they do not know themselves.

Once, quite a few years ago, the Army decided to find out what it could about the maximum ranges of the issue cartridges. The .30 cal M-2 cartridge, when fired out of a rifle tilted at angles from 25 degrees to 45 degrees would travel for approximately 3400 yards. That's a trifle short of two miles. With the .30 cal. M-1 round, which contains a 172-gr. boattail bullet, the range was longer; 5500 yards.

What is maybe more important is that tests were also made by the Army as to how much oomph the service load retained 'way on out there. At 2500 yards, almost 1½ miles, the old 150-gr. bullet was still traveling at 408 fps and had 55 ft. lbs. of energy. The 172-grain was kicking along at 638 fps and could deliver 154 ft. lb. of energy. It is estimated a bullet must deliver 60 ft. lb. of smash to cause a disabling wound. From this it may be seen that the slug is still dan-

gerous at a mile and a half from the muzzle.

This long range firing is done with the gun pointed in the air at angles from 25 to 45 degrees. A high-powered rifle isn't shot that way. It is aimed from the shoulder and the barrel is generally parallel with the ground when it is fired. A lot of people erroneously conclude the bullet will just keep on going to hell and gone when the rifle is fired in this position. It does nothing of the kind. The .30 caliber, either the M-1 or the M-2 loading, when fired over a perfectly level expanse will hit the ground around 400 yards.

The .22 Long Rifle, when shot the same way, strikes the ground at about 180 yards; the .222 magnum will hit the ground at around 235 yards. The .45 automatic drops 28 inches in going the first 100 yards and does not reach 150 yards before it plows into the dirt.

The bullet, when it first strikes the ground, is very apt to ricochet. It rises in a series of skips. It may vary from its original course by as much as 45 degrees, although usually it will take a course not more than 15 degrees from the original. If the soil is sandy loam, the ricochet will not be a high one. On the other hand, if the terrain is flinty and the ball bounces off a rock at each contact it may rise as high as 100 feet and may travel as far as 1000 yards after the first bounce. Rocks in the ground will sometimes induce sharp tangents of as much as 45 degrees. A calm body of water will act as an almost perfect medium for the glancing bullet and as many as twenty contacts can be counted. A rough body of water with waves of any height quickly halts the ricochet.

A good deal of conjecture surrounds the wounding effects of a bullet fired straight up. The Army tested a .30 caliber round and found it traveled 9000 feet vertically, took 49.2 seconds to make the round trip, and when it came down had a terminal velocity of 300 fps. If such a bullet hit you it would hurt but would not generally inflict a disabling wound.

Shotguns are more often pointed in the air when fired. The DuPont company checked out the extreme ranges of various shotloads and found a good load of No. 2 shot had an extreme range of 330 yards. No. 6 shot went 242 yards, and No. 7½ went 209 yards. Shot pellets at these maximum distances would not strike with sufficient force to even discolor the skin.

• • •

Half the states now insist that the big game hunter must turn out in a color which is recognized as a safety shade. Generally, this is red but here of late opinions differ. Some states now insist on yellow, others require a fluroscent orange, but up in Manitoba the hunter must be clothed, head to foot, in white.

The California game department, a year or two ago, decided that red was no good as a safety color. After experimentation they declared the time-honored shade showed up black in deep shadows. Their technicians ran a series of tests and decided that yellow was the most highly visible color. This was adopted and a lot of sportsmen perked up their ears and demanded that vests, shirts, coats and hats be made for them with the high yaller tint.

The Massachusetts game department, together with the American Optical Co. and with the assistance of the Fort Devens military, conducted another series of experiments to see if indeed yellow was the best woodland shade. Altogether seven colors were tried out. These included red, California's yellow, Manitoba's white, as well as blaze orange, fire orange, neon red, and arc yellow.

Some 84 vests were made up, 12 in each of the 7 colors. These were draped over life-size dummies and scattered through the woods, fields, and along the streams for a distance of 2½ miles. The country represents typical deer cover. The tests were then conducted during the early fall when there was a plenty of foliage, later when the leaves were half fallen; and finally when the forest was bare. Some 526 soldier observers were walked over the course, and so carefully was the experiment conducted these troopers were picked with an 8% to 9% color deficiency in eyesight. This is the national average. There were 22,346 sightings altogether.

The observers were exposed to the vary-hued vests at distances of 25, 50, 75 and 100 yards. The trials included midwinter when there was snow on the ground. Finally, the concluding test was actual firing at a series of targets made to look like a deer in full flight. Only the hind quarters and tail being visible.

The blaze orange was sighted more frequently against the fall foliage and the neon red was next most visible. After the leaves had fallen the two colors reversed in visibility, the neon red emits both red and blue light which gives it an artificial appearance. The arc yellow vests were not seen as often as the other colors except against the snow in January. While blaze orange and neon red were easiest to pick up, plain yellow and ordinary red were the most difficult. In some instances, red took on a black hue and yellow appeared whitish or a

*(Continued on page 58)*

*(Continued from page 9)*

octagonal barrel. I also have a .32 rimfire Remington, patented July 22, 1902, which seems a bit undersized. It is a single shot. Please give me some information on these guns. Your answer will be greatly appreciated.

Jimmy Fallin
Boonville, North Carolina

*A Winchester Model '92 in good condition will bring about $110 in the collecting market. In better condition, it will bring proportionately more, up to a ceiling of near $200 for a really mint one. A Remington .32 single shot has slight collector value unless in really special condition. I would set the value of one in ordinary, sound working condition at $20.—R.M.*

### *Afrikaan Hotloader*

Thanks for the first copy of your magazine which just arrived today. I have been using 17 and 18 grains of 3031 in my .222-170. I have some 4227 powder, but no data on it for my caliber. Could you recommend any loads, please?

D. Barrett
Greytown, Natal
Republic of South Africa

*I have no specific data for the .17/222 Wildcat with 4227 powder. However, I do have data on the .221 Remington necked down to .17 caliber which may help as a starting point. With the 22 grain bullet use 14.5 grains of 4227 for a reported 3775 fps. With the 25 grain bullet use 14.2 grains to produce 3570 fps. You can work upward from these until reasonable velocity and pressure limits are reached. Actually, DuPont 4198 powder is the most efficient with bullets in the 20 grain range in the .17/.222's. Charges of 15 and 19 grains produce 3572 and 4644 fps respectively. With a 25 grain bullet, charges of 15 grains or 18 grains produce 3226 and 3638 fps. Your load of 17 grains of IMR 3031 should be producing approximately 3570 fps with the 25 grain bullet.—G.N.*

### *Purdey Custom Costs*

I am an avid shotgunner doing quite a lot of bird and duck shooting as well as considerable trap and skeet. I am in a position to order a new, custom-made Purdey shotgun. This gun will take some two and half years to build and will cost in the neighborhood of $2640. What is the tariff to import such guns and how much is fair for a used one? Current prices I have seen are actually more than the original cost when new.

Lt. Col. M. R. Miller
APO San Francisco

*The latest Import Duty Schedule that I have shows that shotguns imported from England over $50 in value are subject to a flat 20% tariff. There is however, no guarantee that this would remain the case for some two and a half years. You might try working out some stipulation with Customs. When of suitable dimensions and in very good or better condition, superior guns like the Purdey increase rather than decrease in value, often to the point where a used gun can command as much as a comparable new one. And there is the factor of paying more money and not having to wait two or more years.—S.B.*

### *Hopkins & Allen Saturday Night Specials*

I have been offered a Hopkins & Allen "Dictator" five-shot pocket gun.

Are these worth any attention as a collector thing, or valuable? This one is almost brand new.

R. L. Dagna
Farmingdale, New York

*Hopkins & Allen revolvers with unusual names such as Tramps' Terror, Blue Jacket, Ranger, Dictator and the rest, have little value to the true collector. Perhaps there may arise some interest in them in the future, but I am in doubt. If you MUST collect this type of arm, you should very definitely make sure that they are in about new condition. Top value for an ordinary H & A revolver in ordinary condition would be about $15.—R.M.*

### *About That Hole*

I have observed that most spur-hammer automatic pistols have a hole drilled through the hammer strut. I have been unable to determine a logical explanation for these holes. I would appreciate knowing the answer to this puzzler, which has bothered me for years.

Dan Palace
Morrisville, Pa.

*I doubt that anyone can provide a valid explanation of the hole pierced in many spurless hammers. To the best of my knowledge, this feature first appeared on the Mauser broomhandle pistols of circa 1896. It has since become just about standard. The hole does not appear to have any function. Any weight-saving would be minute. Frankly, I think that Paul Mauser simply had an eye for styling and placed that hole, along with its concentric rings and cone, there just to attract attention and lend character to the gun. What other explanation can be given for this non-functional characteristic?—G.N.*

### *Japanese Service Rifle*

I have acquired a Japanese Arisaka army rifle which is marked "328" on the receiver and bayonet lug and "593" under the receiver with various Oriental characters also inscribed. On the front receiver ring is the Emperor's flower symbol and three characters. The sling eyelets are on the left side with one on the butt itself and the other on the second band. The release for the cleaning rod is separate from the front stock retainer and bayonet catch. The barrel length is 25 inches with overall length at 44 inches. What model is this rifle, and what caliber?

Mark Caruso
North Woodmere, N.Y.

*Your Japanese rifle is apparently the Type 99 short rifle adopted in 7.7mm caliber in mid-1939 by the Japanese Army. It is probably the most common Japanese service rifle and saw extensive service throughout World War Two. It was manufactured at a number of arsenals, but largely outside Japan itself. Following the war, Arisakas continued to show up in the hands of Asian guerrillas who either used them with original Nipponese cartridges or reworked them to accept others. At one time some Arisakas were altered to U.S. .30-06 and utilized for training South Korean troops. Basically a sound design, the Arisaka line is not particu-*

*larly valuable today as a collecting or shooting specimen and often are much the worse for wear from years in the jungles and hills.—G.N.*

### *Rare Martial Winchester*

I would like to know more about the Model 1895 Winchester saddle ring carbine I have serial numbered 77994 and marked for the "30 U.S. Model 1903" caliber. It has a 22 inch barrel and about 85% of the original bluing. Is this a military arm, and what is it worth?

Joe Strelich
Pueblo, Colorado

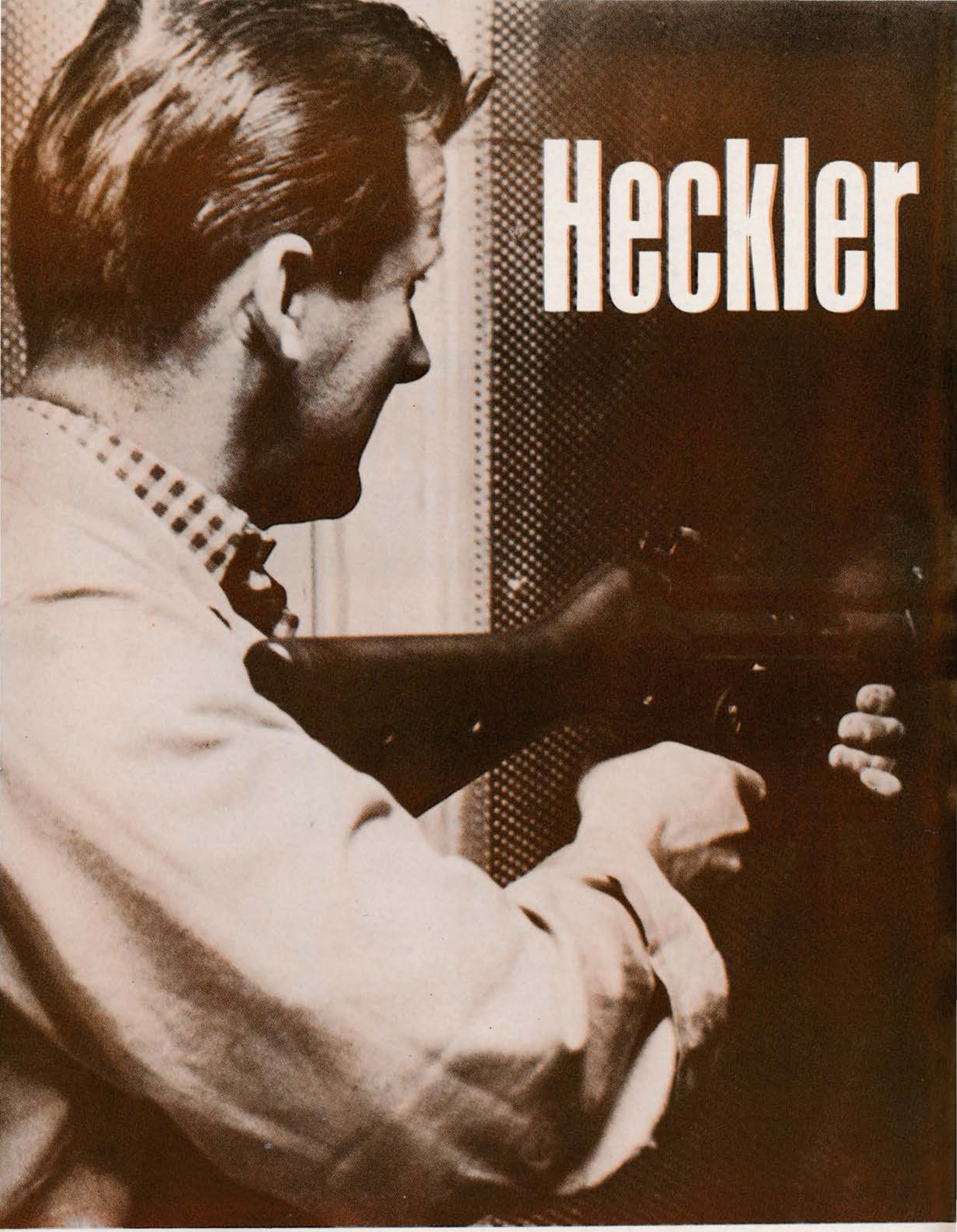
*Your gun appears to be one of the small lot of carbines sold to the U.S. Government. Its caliber is what we know today as .30-40 Krag. From the pencil overlays of the markings you sent, it appears that your specimen was stamped with a broadarrow, the mark of British government property, and was one that was shipped to England in 1940 in anticipation of a German invasion. Your Model 1895 U.S. carbine is worth up to $350 to a serious collector. When first introduced, the list price was $30. S.B.*

### *Runaway Astra*

In your April issue Mr. Rakusan dealt with the Spanish Astra 400 pistol but failed to bring up one sore point. Another shortcoming is the very heavy trigger pull. My problems began with this heavy trigger pull and worsened when I tried to lighten it by polishing the sear and resulted in a pistol with a nice, light four pound trigger pull that happens to fire three or four round bursts with each pull. I would now like to find a replacement sear so I can start over.

Spec 4 Monte Doeren
APO San Francisco

*You are correct when you state that the Astra M400 pistol has a rather heavy trigger pull. The design of the hammer and sear relationship is such that it is quite difficult, if not impossible, to produce a targetgun-quality trigger pull on this design. This should be evident in the fact that yours fires full-automatic bursts as a result of reducing the depth of sear engagement. Little can be done to improve the trigger pull of the Astra other than carefully polishing all sliding, rotating, and bearing surfaces without changing the depth of engagement or angles of surfaces. For a new sear, try Bob Lovell, Box 401, Elmhurst, Ill.—G.N.*


Heckler

# & Koch

## The rebirth of the German Arms Industry is exemplified by this study of Oberndorf

By JAN STEVENSON

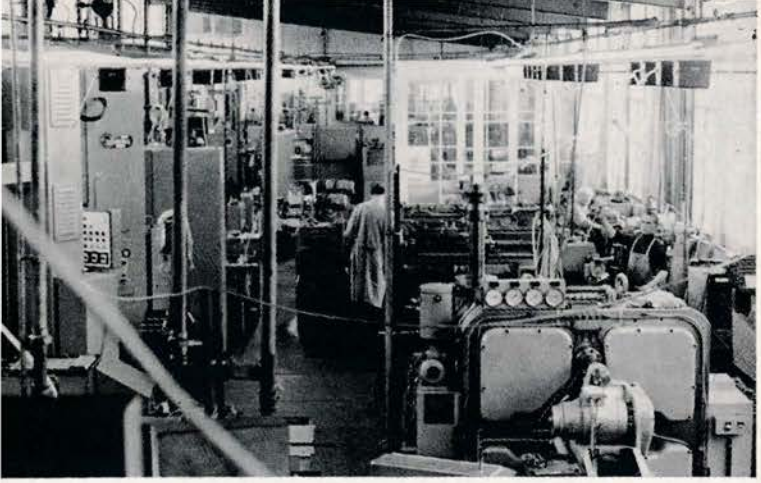
THE German firearms industry, like mythology's Phoenix, has always shown an uncanny ability to arise and build anew from its own ashes. Perhaps there's no better example of this phenomenon than the energetic young firm of Heckler & Koch, born less than two decades ago in the rubble and destruction of the world-famed Mauser-Werke of Obendorf.

Built on the bank of the Neckar River, in Baden-Württemburg on the eastern edge of the Black Forest, Oberndorf is a village of some 8,000 population, tucked into a remote fold in the hills. It has been a gunmaking town for more than a century and a half, and the home of the Mauser-Werke for the past 96 years.

At the height of the Second World War, Mauser employed some 14,000 men, which included virtually everyone in Oberndorf and from within a 50 kilometer radius. New housing development went up, the old plant saw drastic expansion, and with the rest of the world reaping the whirlwind of war, Oberndorf, the beneficiary of repeated transfusions of Third Reich money, enjoyed a period of relative tranquility and unparalled prosperity.

The bubble broke in 1945, as the Wehrmacht crumbled and Le Clerc's Free French armored force drove deep into Germany from the west, occupying Oberndorf on the 20th of April. For a time, Mauser felt it merely as a change of management, since the plant was kept in production under Allied supervision. But then, on Russian insistence, the factory was dismantled, the tooling was divided up between France and the East Bloc, and the empty buildings were dynamited flat. In a final effort to wipe Oberndorf forever off the gunmaking

The main H & K plant is expansive and expanding. Above is the HK4 made for the U.S. market with four interchangeable barrels.



This is the barrel-making department where, as in most of the plant, there are mountains of machinery per man.

## HECKLER & KOCH

map, all metalworking within the city was banned. For a town of sixth and seventh generation machinists, this was a near-fatal blow.

Between 1946 and 1948 there was virtually no work to be had in Oberndorf, and for most, it was farm or starve. Mauser engineers, as individuals or in teams, migrated to France, to Spain, or to the United States to continue research. More flocked to industrial centers like Dusseldorf in search of work. A few—men with deeper roots in Oberndorf, or maybe deeper responsibilities or higher hopes—chose to stick it out. Edmond Heckler, Theodore Koch, and Alex Seidel gambled for the long haul.

Seidel, a former design engineer at Mauser, had the HSc pistol patents to his credit. Koch, a Stuttgarter by origin, had been general manager for gauges, fixtures, and maintenance at the Mauser-Werke. Heckler was not a Mauser man. He managed a plant in Leipzig during the war, but with that shot out from under him, Oberndorf, his old family home, was all he could find to come back to. There was a fourth partner, a shadow figure, who provided the grubstake in 1948, when Heckler, Koch, and Seidel opened an office in Heckler's house.

Mauser had once manufactured industrial sewing machines, and it's probable that Koch and Seidel had some experience with them. At any rate, devices for do-it-yourself haberdashery offered moneymaking potential in the threadbare post-war marketplace, and it was on this assumption that the fledgling firm of Heckler & Koch pinned its hopes for survival.

By 1949 the metalworking taboo was beginning to crack, and Seidel had finished months of parts drawing and dimensional calculations. If the component parts could be made, there were name-brand sewing machine firms willing to use them.

Heckler & Koch rented a city-owned shack in the hills above the village and went to work with a crew of ten employees, ex-Mausermen, working metal on rusty old Mauser machinery that miraculously began to appear out of people's basements, garages, and haystacks. For Oberndorf, it was a momentous step on the way back.

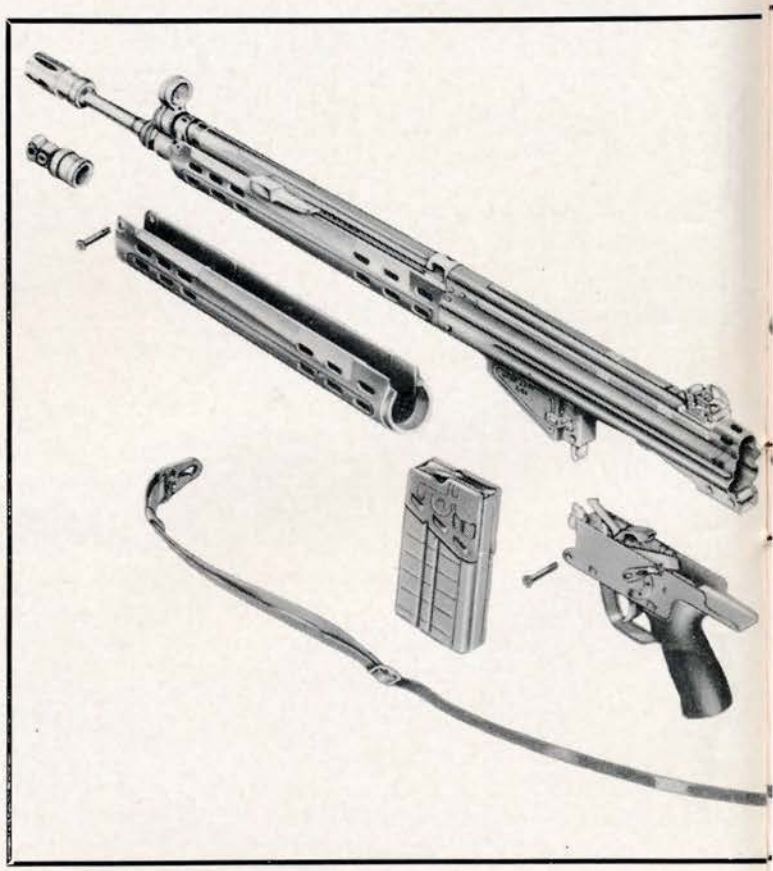
By 1952 employment at Heckler & Koch had grown to the 250 mark, and besides the sewing machine components, the firm was busily turning out a line of parts and gauges for the tool making industry. Meanwhile, former Mauser engineer Ludwig Vorgrimler, working in Spain, had his roller-locked assault rifle revamped and ready for production. CETME, in Madrid, went shopping for subcontractors, and gave Heckler & Koch an initial order for several bolt components on a first run of 3,000 rifles. H&K put fifty men on the job, and the Spanish contracts kept them busy until 1954, when the German government bought manufacturing rights to the CETME, and turned, logically enough, to Heckler & Koch to redesign the weapon to chamber the full-power 7.62 mm NATO cartridge.

Seidel went to work on it, and when early experimental pieces looked favorable, Bonn let a contract for 400 test weapons which Heckler & Koch delivered early in 1956. It had been almost a full decade since guns had been made in Oberndorf.

From 1956 to 1958 Alex Seidel settled in for a solid pair of years studying the CETME design. One suspects it was more a hobby for him than a business imperative, for the new Bundeswehr was arming with the excellent FN Fusil Automatique Léger (Gewehr 1), designed by Dieudonne Saive, and there seemed small likelihood that the Germans would risk rocking the NATO boat by opting for an essentially home-grown small arm.

By the autumn of '58, though, with the U.S. clinging with chauvanistic obstinacy to the Springfield Armory designs, with the English first having taken independent tacks, then having swung into line with the FAL, and with the French unwilling to standardize with anyone on either a weapon or a cartridge, the Bundeswehr decided the CETME was much to its liking. The roller-retarded assault rifle was formally adopted as the Gewehr 3, and Heckler & Koch was designated primary supplier on an original order of 700,000 guns, the first of which were delivered early in 1959.

Rheinmettal of Dusseldorf was contracted as a second source, and remains tooled (*Continued on page 56*)






The 7.62 mm NATO G-3 family is only one of three Heckler & Koch military weapons systems. Each of the weapons is built on the same action. At the left is an exploded view of the basic gun.

Demonstrating the sitting position, Askins keeps his head erect and his elbows between knees—not on them. Below: Savage/Anshutz Mark 10 Target.

# 22 Rifles For Big Game Hunters

By Col. CHARLES ASKINS

BIG GAME HUNTING often involves long and costly trips, comparatively little time in the game fields, and frequently only few shots at elusive trophies. The sportsman, to be sure he is going to gather in those critters, had better be in tiptop shooting form. This means practice and a plenty of it. In my case I practice in great part with the .22 rifle.

All too often the big game huntsman bangs off a box of cartridges a week before he is scheduled for his annual soiree into game country and concludes he is ready. He isn't at all. The rifle is an awkward tool in his hands, his muscles are not accustomed to the various shooting positions, and his finger and eye are not attuned to trigger and sights. He is likely the owner of a magnum rifle which will belt hell out of him and he is not acclimated to this punishment.

He travels two thousand miles, lays two thousand bucks on the line, and when the game is in his sights he misses.

To shoot well in the gamefields you've got to practice yearlong. Not necessarily with the bigbore you'll use on brown bear and moose but with

the .22 rifle, preferably one that is man-size, a rifle which will weigh at least 8½ pounds, with a man's stock, and possessing good sights and fine accuracy. Regular training with a rifle like this will see you ready to hunt big game anywhere at any time.

It will be argued that it is better to shoot the hunting rifle in practice, thus you have the same feel, balance, trigger pull and recoil. This is true, except that it is costly, not only in the price of the cartridges but likewise in the deterioration of the rifle. Most of our nagnum hunting guns have a fairly short barrel life. Even with a mild reload the barrel suffers and it is better to spare it. Shoot the proper .22, and you will get the same weight, the same accuracy, the same trigger pull. All that is lacking is the recoil, and the truth is it is better during a great deal of the practice to avoid this slamming around.

In the game fields, most of our shots are either taken sitting or standing; fewer are fired prone and some shots are pooped off from the kneeling position. Unless you are trained, none of these shooting positions are steady; not even the belly-down one. It is strained and uncomfortable unless you shoot it quite a lot. The standing is unsteady and shots here are the wildest. I think the best of all game-killing poses is the sitting. Yet the gunner has to fire a lot of shots over the year from this haunches-down stance if he is to do well.

This year, in preparation for an African safari, I began to practice six months before the departure date. Every other day I journeyed over to my rifle range and pooped off 40 shots from the sitting; not with the .300 rifle that I was going to cart over to Angola but with a rimfire. After this 40-round stint I cracked out 20 rounds from the standing; again with the .22. Every day, at home, I shot another 10 shots with the high precision air rifle from the sitting and another 10 offhand. There was no practice prone because in the African bush the chances of shooting like this is nil.

This shooting is at 100 yards, and the practice is not for tight groups nor fine accuracy, but for position training; to get my body, hands and eyes accustomed to the sitting so that it is comfortable and secure. And for the offhand to make me steady, sure, and confident that I can fire a killing shot from my hind legs. Part of the practice is slow fire but some of it is rapid, too. This is to accustom me to operating the bolt and for reloading quickly and surely.

I use two rifles for this training. The first is the Savage-Anschutz Model 1411 rifle. It is a .22 Long Rifle caliber, a single shot, with a weight of 11 pounds. The barrel is 27½" in length with a diameter of $^{15}/_{16}$ inches and the action is a turning bolt with an adjustable trigger. I have the trigger set at 3 lb. 12 oz. exactly like my hunting rifle, and the total weight of the Savage-Anschutz closely approximates my elephant gun. The sights are micrometered adjustable behind and an aperture *(Continued on page 73)*

Winchester M/52D Standard

Mossberg M 144LS Target

Remington M 40XB Rangemaster

Bowman's array of 6.5 caliber rifles range from an old Mannlicher-Schoenauer, shown at top, to the latest Remington carbines. His knowledge of the 6.5 came from in-depth shooting studies.

Left: Cutaway cases show that most commercial ammo is loaded with bullets seated into case. Below: Five shot groups, measuring about ⅝" shot from a 6.5 caliber Remington 660 carbine.

# THE 6.5 Remington Magnum

Les Bowman

By LES BOWMAN

THE BIG GUN companies make frequent and thorough surveys on the buying public's interest before changing their product, or new products are put out. A regular check on what the public is ordering from the custom gunsmiths is a good indication of their interest in anything new in calibers and design changes that are not yet on the commercial market. A good example of this is the increasingly heavy interest of the buying public in the .17 caliber rifles.

Although there has always been a demand for short rifles or carbines since the first modern rifles using brass cartridge cases came out, the rifle manufacturers have done very little specialization along these lines. Usually, as in the case of the model '94 Winchester, the magazine tube and barrel was shortened but no other changes were made. A particular length of barrel was never established for either a carbine or a rifle. This was more or less up to the individual who bought the rifle or the designer who made it. Usually, it was just a bit over the legal length, between 18 to 20 inches. Some carbines had barrels of 22 inch length.

In the last few years there has been an increasing demand for short rifles. Carbine barrel lengths have now been pretty well fixed at 18½" to 20" lengths and rifles are mostly 22" to 24" in length. A few specialized rifles are still made with a 26 inch length barrel. Recently, some of the gun companies have experimented with 20 inch barrels on rifles but these proved to be too short and the sale of these short barreled rifles was not nearly what the companies had expected. They were soon discarded in favor of the more acceptable barrel lengths. With the exception of two calibers, now offered by Remington, all rifles made by Remington and Winchester are equipped with 22 or 24 inch length barrels.

The advent of the short cartridge case, as represented by the .308 Winchester, the .284 Winchester, the various 6 mm's and even shorter cartridges than these, gave the designers a reason to bring out short actions. The use of these short actions with the carbine length barrels of even 20 inches gave the user a much shorter, easier to carry, faster handling gun. It is excellent for use in heavily timbered country, easier to carry in high mountain country, an ideal length to carry in a canoe, a very good saddle scabbard gun and fits the gun rack in the back of your jeep or pick-up very well. Small wonder it has become very popular.

About six years ago Remington designers realized there was a definite demand and excellent sales potential for the specialized short carbine. Their Model 722 short rifle action was already in production. This had been designed to take the .222 to 6 mm size cartridges and saved considerable length and weight as compared to the regular standard .30-06 cartridge length used in the Model 721 action.

There was a need for a short carbine that would take a high intensity cartridge, in the ballistic range of the .270 Winchester, powerful enough for use in hunting the big Brown bear of Alaska and the big moose of the northern country. This is what Wayne Leek, chief designer of Remington, started to work on, using what was essentially the 722 action. He first made a handgun, designing and using the action he would later use on a rifle. This was the first production handgun to use cartridges that developed pressures in the 53,000 p.s.i. class; the first of the high velocity handguns, using a completely new cartridge, the .221 Fireball. Following the development of this combination he started work on the new carbine. Their first release of this was the Model 600 carbine. It was chambered for the .222 Remington, the 6 mm Remington, the .308 Winchester and the .35 Remington.

The next cartridge developed was one that would be big enough for use in the hunting of the large Alaskan moose and the big Brown bear or any of the largest of the North American game. This called for a large and heavy bullet, as the rifle would be a specialized, short range, heavy hitting one, able to stop a big bear at close up distances; measured in a few feet, rather than yards. However, it should carry enough energy and be flat shooting enough to use on this type game at out to around 250 yards and be just as deadly. Wayne originally experimented with a .375 caliber bullet in a short, thick case. However, he soon replaced this with the .350 caliber bullet. It had the best exterior ballistics and was usable in such a short case without seating it too deep.

It was easy to see that this type case would also be ideal for a smaller caliber bullet and would push one along at enough velocity to put it in the same ballistic range as the .270 Winchester. The size of the case he decided, the proper size for the 250 grain, .350 caliber bullet, made the 6.5 caliber the smallest diameter bullet that could be used efficiently in it, without being badly over-bore capacity. It was with these two caliber sizes, on the same case, that he started tests. Both were under construction at the same time. Actually, the 6.5 Remington Magnum was not made from the .350 Remington Magnum but was designed as a companion cartridge.

About the same time that Wayne had started on these two new cartridges and calibers, I had started to work on one of my 6mm Remington 600's, reworking it to take the then new .284 Winchester cartridge. This really uses a 7mm *(Continued on page 54)*

New Crosman shotshells are reloadable with choice of shot. Right: Outfit converts open space into skeet/trap field.

# $CO_2$ SKEET

## HOW YOU CAN ENJOY ALL THE EXCITEMENT OF BREAKING CLAY BIRDS WITHOUT THE SHATTERING NOISE AND PROHIBITIVE COST OF POWDER GUNS

By E. B. MANN

NOISE AND COST. These, in the opinions of many students of "sports appeal," are the two factors which stand in the way of making shotgun shooting at trap-thrown targets the most popular participation sport in America—even, believe it or not, greater than golf or bowling.

Noise forces trap and skeet to seek unpopulated areas, where there are no neighbors to complain about the thud-thud-thud of the guns. A shooter keen enough to drive that far will shoot two, three, maybe four 25-shot rounds, "to make the trip worth while," and/or because he loves the shooting. That's where the cost comes in. Club fees (for targets, trap operators, operational overhead), plus ammunition, add up. And since this is a family game, one women and kids can play as well and enjoy as much as men, those costs can mount beyond the budgets of many families.

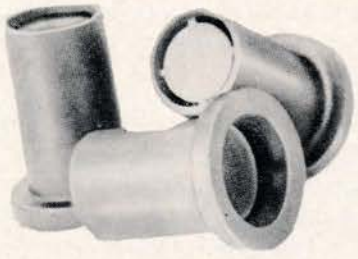
Yet proof of shotgun shooting's "sports appeal" lies in the fact that, in spite of these problems, trap and skeet clubs across the nation report steady growth, even over-crowded shooting conditions. It means that, in spite of problems, people are standing in line to experience the thrill of busting those swift targets.

Crosman Arms Company offers an answer to these problems in its $CO_2$ powered Model 1100 Trapmaster shotgun and the kit that goes with it.

I first saw the Trapmaster at that biggest of all shows for sporting goods dealers, the NSGA in Chicago, January 1968, on a day when only dealers were present. Now sporting goods dealers are not a naive audience when it comes to new sports gadgets; they've seen 'em all, from hula hoops to bead necklaces. Yet here were a dozen or more dealers standing in line to shoot this new gas-gun! That was a surprise that has carried over every time I've set up my outfit: people gather around it, patiently waiting a chance to try it. And most of them come back for more.

A second suprise the Trapmaster offers is—appearance. With its walnut-finished hardwood stock and forearm, its lustrous "black chrome" metal finish, its close wood-to-

Targets and shells can both be used over and over again.



The complete Crosman $CO_2$ Skeet outfit, including the Trapmaster gun, target thrower, bench, and all accessories sells for just under $90.

metal fitting, and its close adherence to good traditional firearm lines, it looks very much like your pet powder-burning twenty gauge. Your third surprise comes when you pick it up. In weight (approximately 6¼ pounds), size, and balance, in "swingability," fit, sight picture, and trigger action, you could close your eyes and still think you were shooting a conventional shotgun. This is what gives rise to the comment I have heard most often from people who have shot it. Tell them that the price (for the gun alone) is $49.95, and most people say, "It looks—and shoots—like twice the money!"

Just a few more Trapmaster statistics, and we'll move on to the rest of the story. The action is single-shot, side-cocking. Overall length, 46½ inches. Barrel is full-ribbed, 28 inches long, .380 gauge, bored true cylinder, with a bead front sight. The power is provided by *two* Crosman Giant $CO_2$ Powerlets, which will produce 25 to 30 shots at HI power (for outdoor trap and small-bird shooting), and around 40-45 shots at the LO power setting (for indoor or restricted-range shooting). Shot power is consistent from first to last of a $CO_2$ charging, due to an accurate metering of gas into the *(Continued on page 52)*

# GUNS and the LAW

## POLICE COUNTER-SNIPER TEAM

This policeman is wearing body armor and a ballistics helmet that will protect against bullets moving at velocities up to 1200 fps.

THOSE MAJOR police departments that have been engaged in major riots accompanied by various degrees of sniping are now forming special counter-sniper units. As the toll of murdered police mounts, the numbers of such special units and the degree of training and special equipment authorized does also. In the final analysis, this is the only logical police recourse to this type of armed criminal violence. Lawless elements and extremist groups must realize that the penalty paid for use of firearms against law enforcement officers, acting in line of duty, is instant, skilled, and deadly retaliation, in kind.

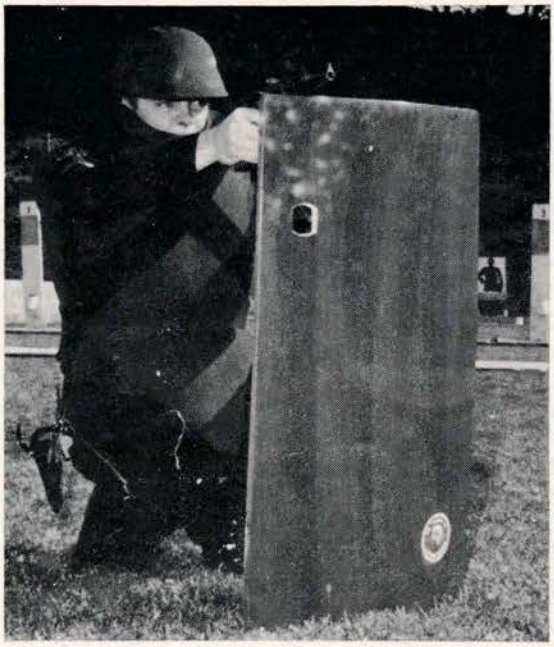
Military and National Guard manuals on counter-sniper action state that, "selected marksmen can be most effective when authority is given them to open fire without orders, on individuals who commit any overt act which seriously endangers life of troops." Civil law enforcement must have a similar answer to the problem. Small mobile police counter sniper units must be formed and given a "hunting license" with authority to use all degrees of deadly force to eliminate the menace.

Mature, experienced officers should be selected and trained for counter-sniper operations. They must be in good physical condition, have good eyesight and even temperment. Those officers who are already skilled marksmen by nature of their abilities, or hobbies, should be screened first, especially if they have had combat infantry experience. The commander of the team must have all the basic qualifications plus those qualities of good judgment, leadership, and aggressiveness needed in dangerous missions of this type. The volunteer system of recruitment, in conjunction with the establishment of eligibility and qualifications, should be used.

The number of special sniper units needed will vary accordingly to the estimated needs of the department. However, any department that has a continuing violent riot-sniper potential, should maintain at least one counter-sniper unit. In some areas, it will be advisable to have such a unit available on a 24-hour basis, usually as an


By

**COL. REX APPLEGATE**



A counter-sniper team member is afforded good protection, wearing protective body armor and helmet, and behind a 20-lb. shield.

integral part of the task force operation.

Some major departments that have experienced violent riots already, have organized special four-man counter-sniping teams with the primary mission of speedy elimination of snipers with a minimum of rifle fire. These teams operate on call, or are attached to any size riot unit. The team usually consists of a commander, one officer with scope-sighted rifle, one officer as a spotter with binoculars and shotgun, and one officer with shotgun for back-up.

The four-man team in this tactical concept is not necessarily especially trained (with the possible exception of the rifleman) and can be organized at the time of the emergency. The team concept is directed toward the elimination of undisciplined police firearms response and to minimize innocent, civilian casualties.

A special five-man counter-sniper team can be organized along the following lines and is based on the mobility factor that permits it to operate, independently, from a single unmarked, police patrol vehicle, that can also carry all the special equipment needed for operations. This team concept permits the coordinated operation of two sets of scope-rifled marksmen with supporting spotter-observers. The fifth man can be used to guard the vehicle, if necessary. The five-man unit concept also permits the commander to deploy his two sniper teams while he can serve as a base for covering fire with an automatic weapon, or perform other needed command and support functions.

## PERSONNEL, ARMAMENT AND BASIC INDIVIDUAL EQUIPMENT

*A commanding officer*—transceiver radio, 7 x 50 binoculars, sidearm, whistle, shoulder type automatic weapon, ballistic helmet.

*Two expert marksmen*—scope sighted high velocity rifles, sidearm, binoculars, ballistic helmet.

*Two officer-observers*—sidearm, riot shotgun (rifle type sights or preferably with 2½ power scope), 7 x 50 binoculars, ballistic helmet, transceiver radio (ear attachment, if possible), handcuffs.

Optional equipment in vehicle: bullet protective vests (all men), tear gas grenades and gas launching equipment, gas masks, obscuring smoke grenades, signal flares, protective shields, bull horn, flash lights, battery powered portable and auto spotlights, grappling hook and line, fire axe, pry bar, first aid kit, infrared night vision and sniper scope equipment, if available. (This list is not all inclusive, but includes essentials).

Clothing should be a dark cover-all type, helmets, shields, vests are to be dark color. Rubber soled paratroop-type boots; all insignia, glistening objects that will reflect light, removed or covered.

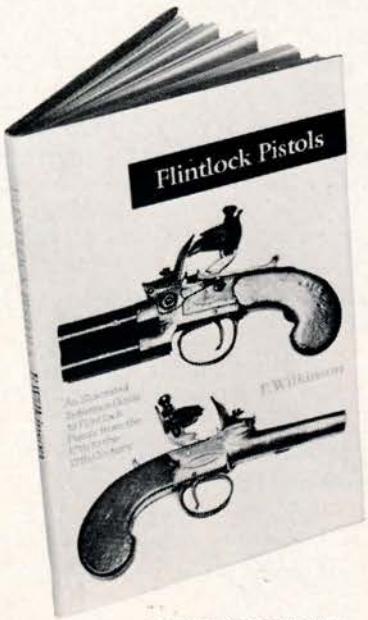
The counter-sniper team members must be able to move rapidly from one position of cover to another as inconspicuously as possible. The equipment carried by the men should be kept to a minimum during the fire and movement phases. The vehicle with auxiliary equipment must be readily accessible and secured, not left unguarded; other police can be assigned for this task. The over-all basic principle of operation for the counter-sniper unit, demands mobility and capability to meet a changing situation. Its members should not be tied down for guard duty, messenger service, etc. Additional police from personnel on the scene, should be assigned the team commander on his request. Authority for securing this "on-the-spot" support should be clearly established.

## UNIT OPERATIONAL PRINCIPLES

The commander assumes a cover position where he can best observe over-all scene and direct the action, deploy his men in pairs (one expert marksman supported by officer-observer), communication is maintained at all times with both two-men teams (if cost of radio equipment is a major factor, equip with inexpensive citizen's band transceivers, preferably adjusted to police frequencies). Commander remains in constant contact with his men and supporting and covering units; commander has capability of laying down a base of automatic fire to cover his men, or as the situation warrants. In *(Continued on page 71)*

# A British View of

# The Flintlock

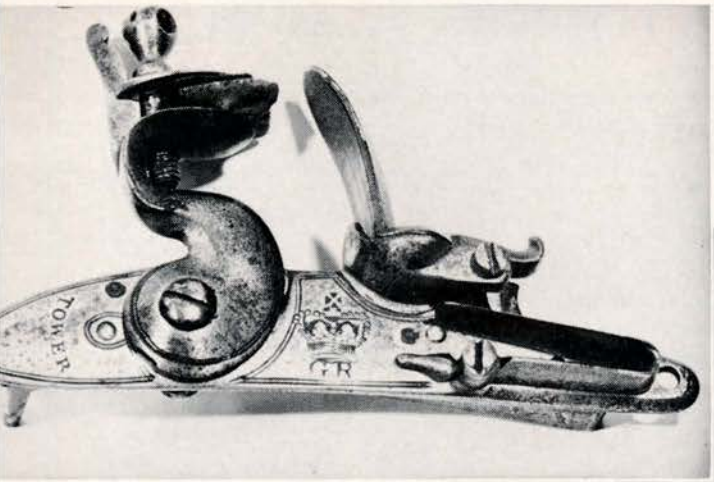


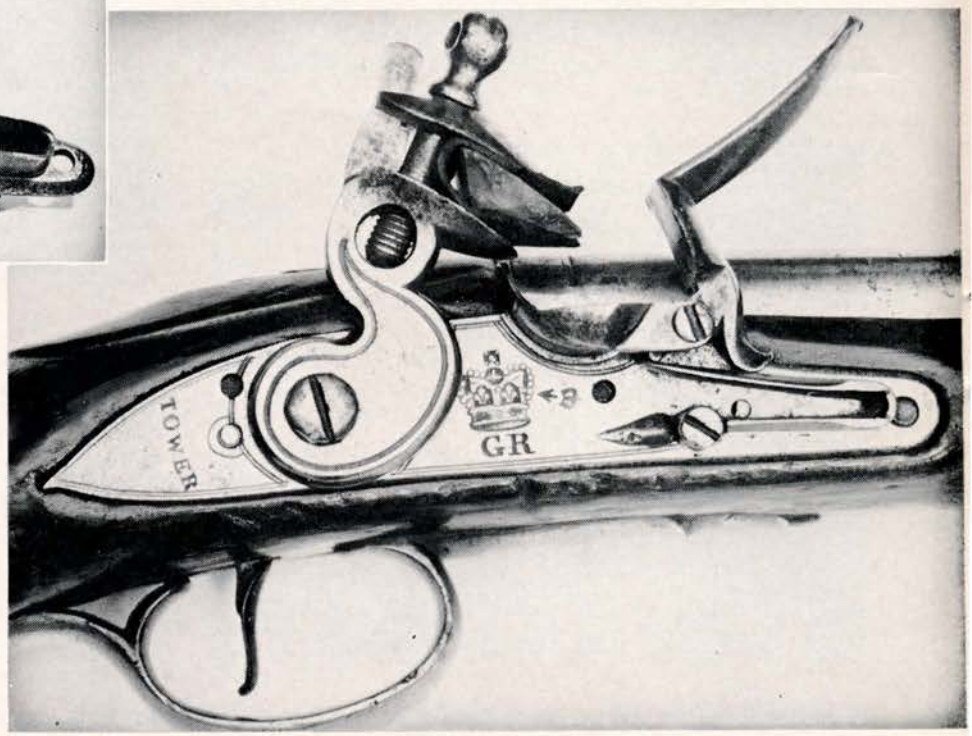

**EDITOR'S NOTE**

**This material is excerpted from "Flintlock Pistols" by F. Wilkinson, published by Stackpole Books, $4.95. This is one of a series of monographs. This book is an illustrated reference guide to flintlock pistols from the 17th to the 19th Century, with some 67 plates showing various pistol types and accessories. See GUNS Magazine Book Dept. ad in this issue.**

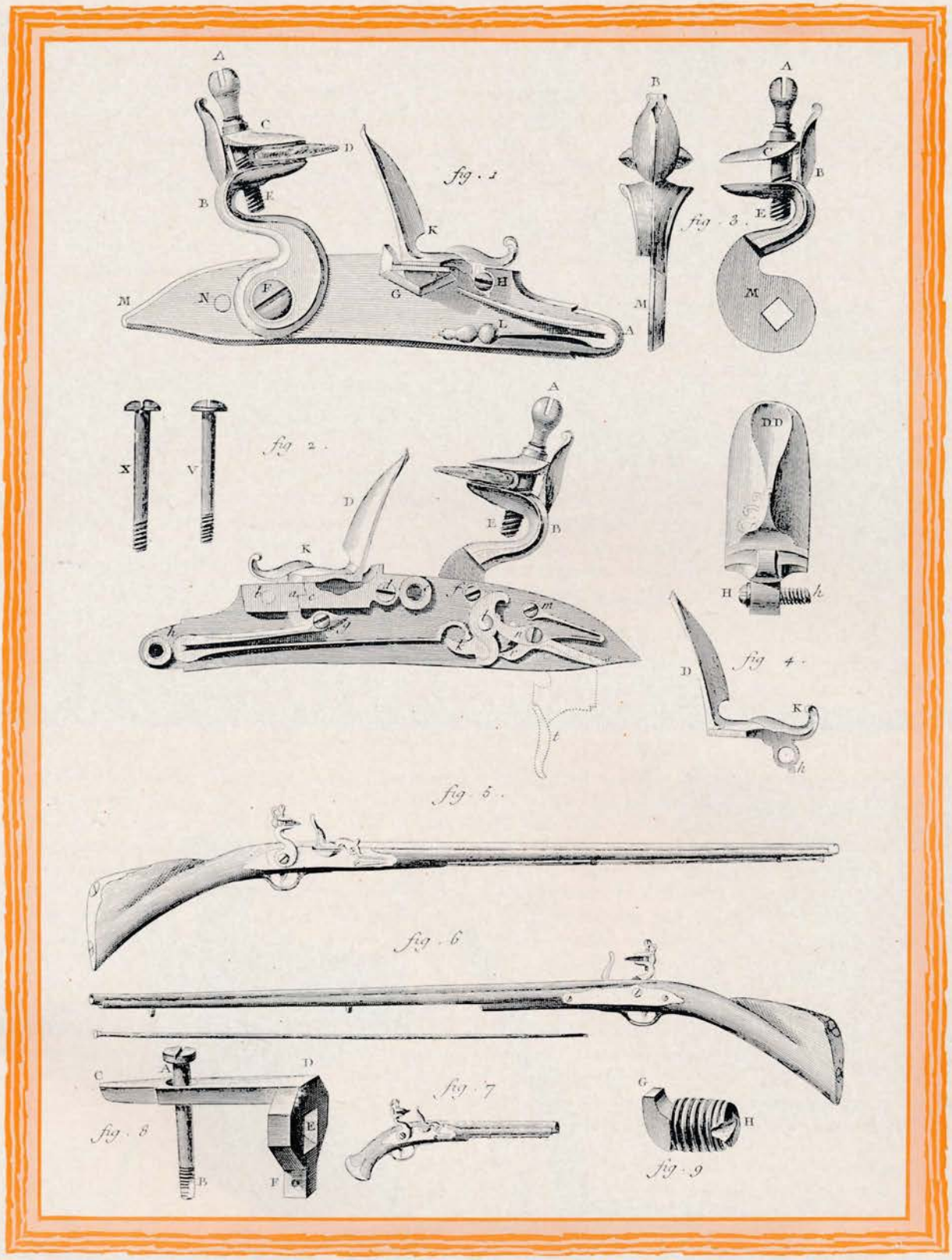
In their search for a simpler method of firearm ignition, gunsmiths turned to the domestic system of flint and steel and the result was the flintlock. It is not known for certain when the first examples were produced, but it is believed that the system was in use early in the 16th century. One factor which makes it so very difficult to be precise is the contemporary use of terms whose exact meanings are not now at all clear. Early 16th century references speak both of flintlocks and snaplocks but the distinction is not apparent. Even today there is some disagreements among experts as to the exact definition of a flintlock—some include under this heading weapons which other collectors differentiate and call snaphaunce, while others limit the expression to those locks with a particular mechanical feature.

Whatever distinction one may draw in definition, all the flintlocks have a common basis, for in all of them it is the action of striking a shaped piece of flint against steel that produces the sparks. At the same time the force of the cock striking against the steel was sufficient to push the arm clear of the pan. Later models simplified the procedure by connecting the cock to the pan cover in such a way that when the cock flew forward it automatically opened the pan cover. Originally the mainspring was fitted on the outside of the lock plate but by the




Above: Ready for firing, hammer is cocked, pan-cover closed, steel in place, sear set, spring compressed. Rt: After firing, hammer has struck steel, causing sparks and ignition.




This plate is taken from an 18th-century pictorial encyclopedia produced by Denis Diderote, a Parisian bookseller. It is one of a series dealing with the gunmaker and his craft. It is interesting to note that although the book was finished in 1772, he called the hammer (B in fig. 1) a "dog" although this term was out of use in England. The frizzen (D and K in fig. 1 and 2) is called the "battery." Figures 8 and 9 show hook-type breech.

# The Flintlock

1570's it was more common on the inside so that it was housed within the stock of the pistol.

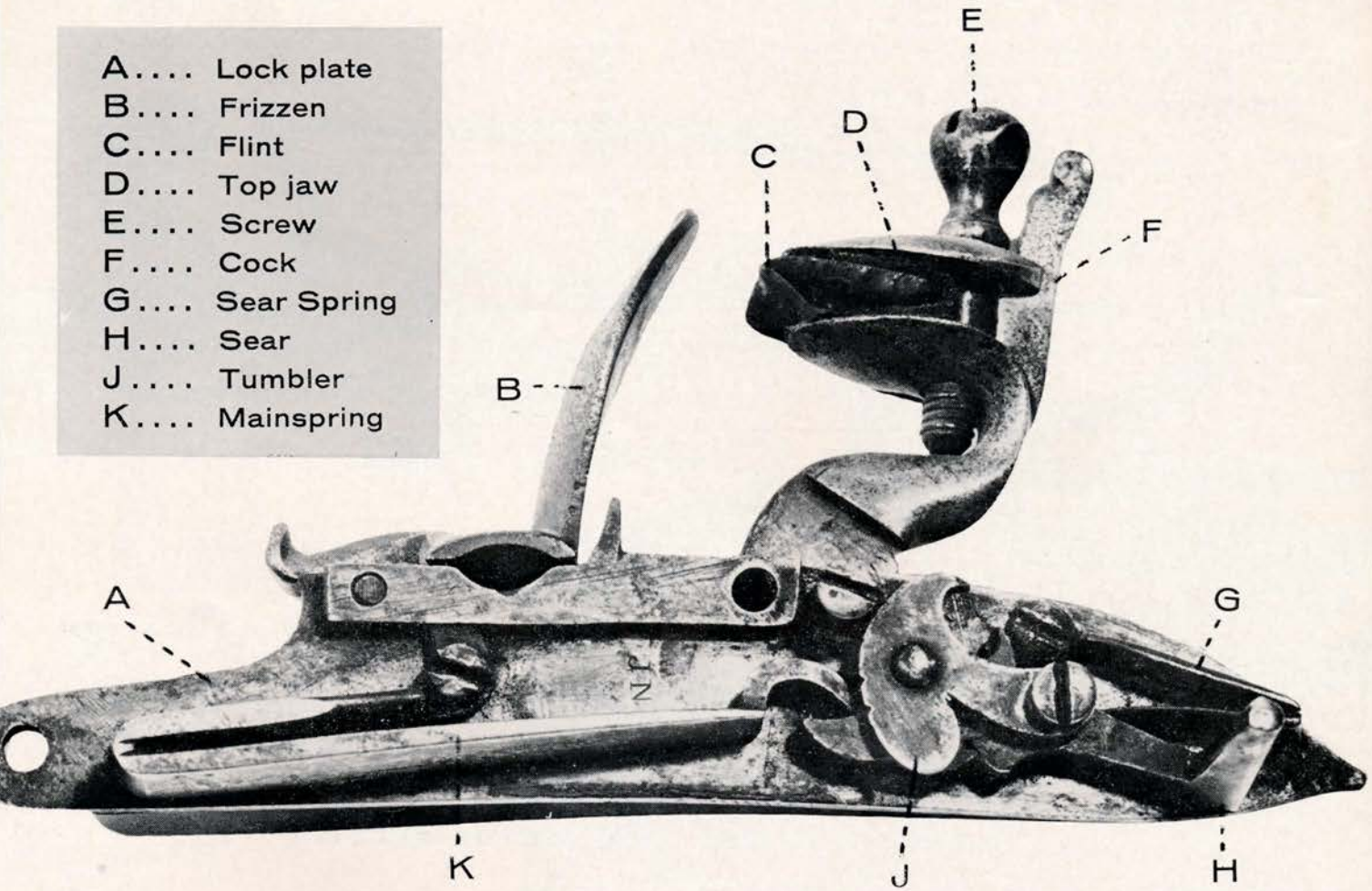
To most collectors this style of lock with separate pan cover and steel, is known as the snaphaunce. It appears to be of German origin and the earliest surviving specimens all date from around the middle of the 16th century. Its production was soon discontinued except in Italy where snaphaunce weapons were still being made in the late 18th century. Most of these late examples originated around Brescia in Northern Italy, an area renowned for the skill of its gunmakers in producing superbly chiselled steel.

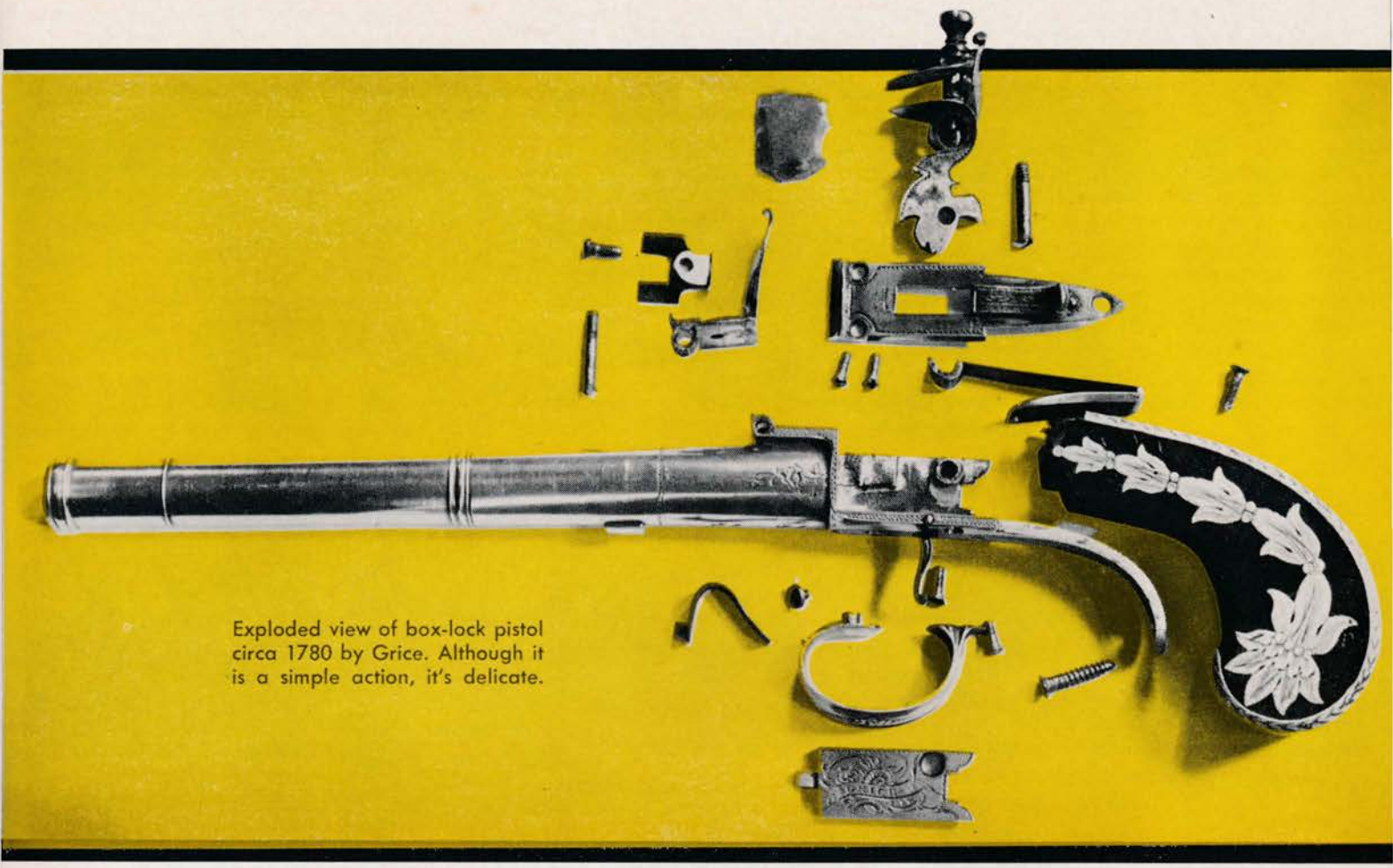
Contemporary with the snaphaunce was another lock in which the pan cover and steel plate were united into a single L-shaped piece of metal. It is this feature that is taken by most collectors to distinguish a flintlock. Uniting steel and pan cover into a single piece, the hammer, battery, or frizzen, made for a much simpler operating sequence since closing the pan cover automatically positioned the steel. It was no longer necessary manually to open the pan before firing since the action of the flint striking the frizzen not only produced sparks but also pushed clear the pan cover. There was no longer any need for arms connecting cock and pan cover, and the entire working mechanism was made simpler and cheaper.

In one respect, however, the flintlock was less convenient for it had been possible to carry a loaded snaphaunce in complete safety provided that the steel was not in position over the pan. With the flintlock this was impossible since closing the pan cover to guard the priming meant that the steel was in firing position. To overcome this danger of accidental firing, the mechanism was modified to allow a safety or halfway position. When the cock was pulled back into this position, known as halfcock, the trigger could not operate the sear. Before firing it was now necessary to pull the cock further back until it reached the normal full cock position, at which point the trigger could now operate the sear, so allowing the cock to function normally.

This, then, was the basic flintlock action but in different countries there developed differing styles of decoration and construction. In Spain, early in the 16th century, there appeared the Miguelet lock which remained basically unaltered until the 19th century. This lock has a number of distinguishing features, such as the jaws which hold the flint—for these are normally rectangular or square and thicker than in other types of lock. Since the mainsprings were normally very powerful, extra grip was offered by a ring set above the jaws. Steels usually have the face cut with deep vertical grooves but even more characteristic is the mainspring, mounted on the outside of the lockplate, one end of which bears upwards directly on the lower rear end of the cock. At half cock an extension of the cock engages with a slotted steel stud which protrudes through the lock plate. Full cock is held by this extension engaging with a flat sear which also protrudes through the plate. Trigger action withdraws bolt sear and stud simultaneously allowing the cock to fly forward.

Mechanically similar is the Italian lock although it differs in a number of details. The external mainspring bears down directly on the front of the cock while in the miguelet



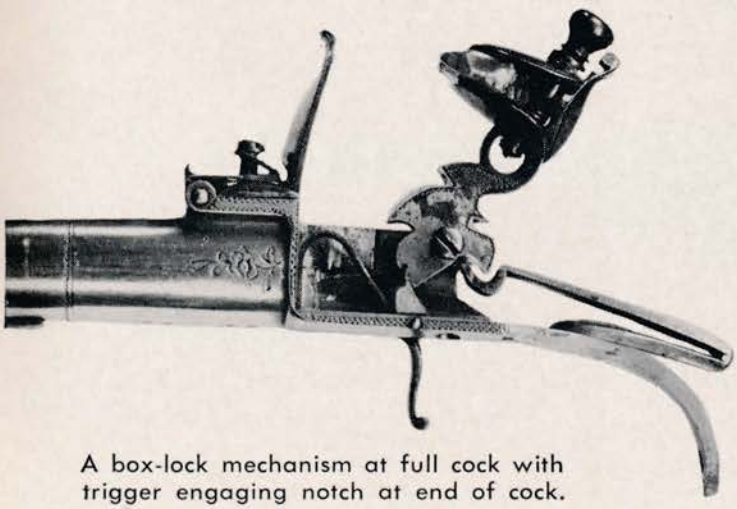


Exploded view of box-lock pistol circa 1780 by Grice. Although it is a simple action, it's delicate.

it bears upwards at the rear. Both half and full cock are held by flat extensions of the sear.

Late in the 16th century a very different style of lock developed in Scandinavia and around the Baltic, although surviving specimens are rare. A very distinctive, thin curved cock held the flint while there was no provision for a half cock position. Some safeguard was afforded by the steel which could be rotated to a position so that it was impossible for the flint to strike sparks.

About 1610 there appeared in France the form of lock which was destined to become the generally adopted, almost standard, flintlock. Its main claim to originality—although not exclusive—lay in the arrangement of the mainspring and sear. On the inside of the lockplate was a shaped metal block—the tumbler—to which was secured the outside cock. The mainspring bore down on the tumbler and into its edge were cut two notches and against this edge pressed a spring-operated sear. As the cock was pulled back the tumbler rotated until the tip of the sear engaged the first, deep, notch. In this half cock position, the trigger could not withdraw the sear and the weapon was quite safe even if fully loaded. Further rotation freed the sear and allowed it to engage the second, shallower, notch—full cock—from which the trigger was able to retract it, so allowing the spring to operate the cock. It is this internal vertical sear action that is taken by some experts to distinguish the true flintlock, since earlier mechanisms all had sears which operated horizontally.

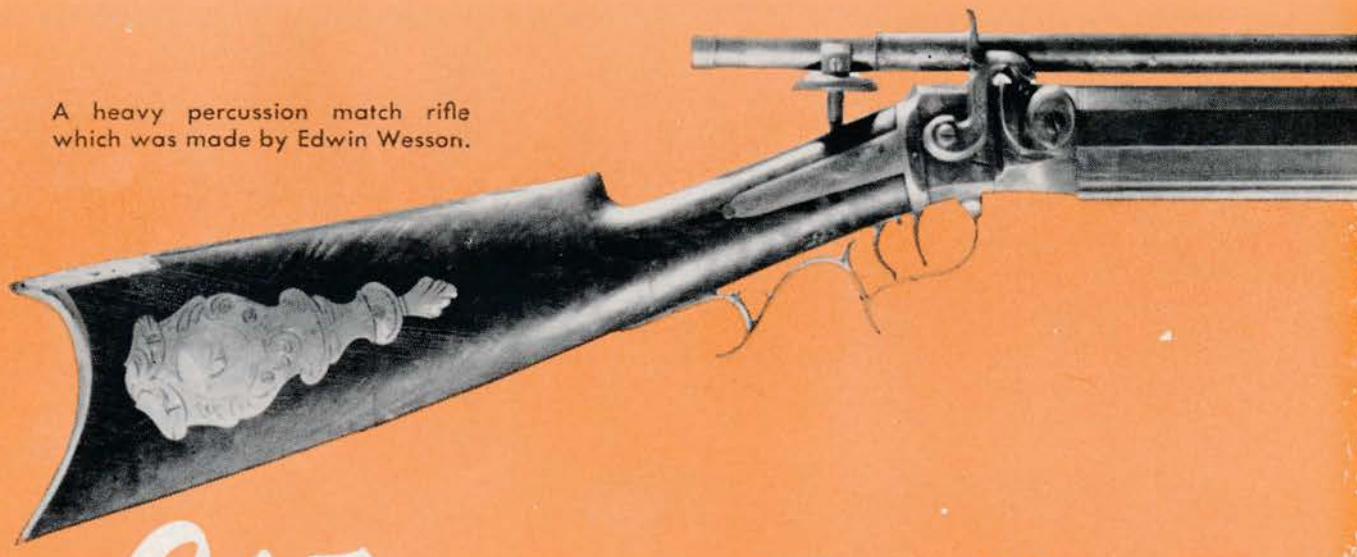


A box-lock mechanism at full cock with trigger engaging notch at end of cock.

Credit for the invention of this French lock is usually given to Marin le Bourgeoys, a Normandy gunmaker, although it is possible that the English lock actually pre-dated his design. English locks represent what might be called a half-French system for although full cock was held by a sear which pierced the lockplate an internal sear operated for the half cock position.

Common on many 17th century English pistols was the safety device known as a dog-catch. A flat hook-like arm was fitted to the lock plate just behind the cock and this could be engaged with a corresponding notch cut into the back of the cock. When the cock was so engaged the dog catch held it firmly and safely locked. Early examples of this design occur late in the 16th century but it was generally abandoned around 1680 although it was still used occasionally on much later locks, particularly in Northern Africa and Ceylon.

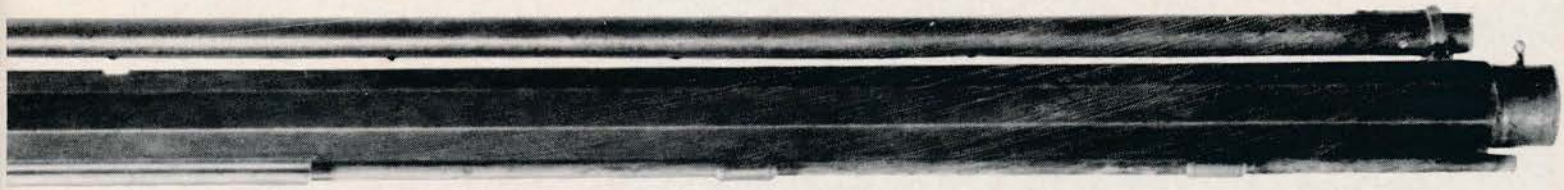
From the middle of the *(Continued on page 62)*



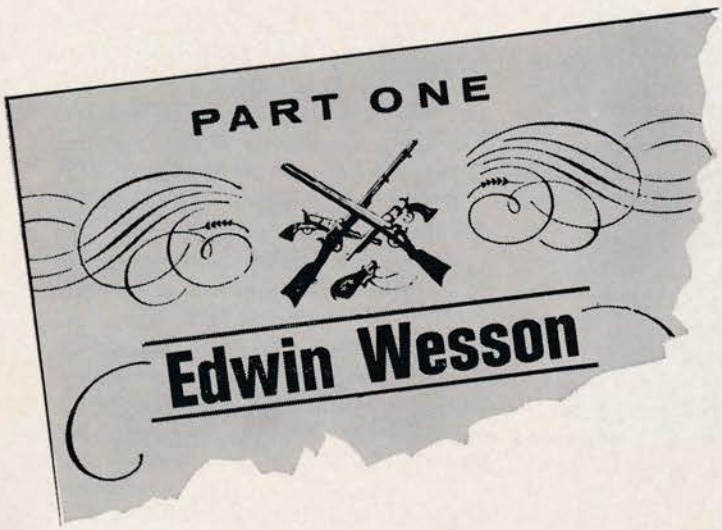
A heavy percussion match rifle which was made by Edwin Wesson.

# The Wesson Brothers

Three styles of Wesson & Leavitt pistols made by the Massachusetts Arms Company.



## *THIS TRIO OF GREAT GUNMAKERS GAVE THEIR NAMES TO SIGNIFICANT DEVELOPMENTS IN FIREARMS*




By JAMES B. SERVEN

THERE ARE MANY FAMOUS names in the roster of American gunmakers, but three brothers in this trade —all outstanding in different fields of activity—is a circumstance that is probably unique.

Edwin, Franklin and Daniel Baird Wesson were the sons of Rufus Wesson, a respected plow manufacturer of Worcester, Massachusetts. They inherited from their father an interest in things mechanical and gained through him a skill in shaping wood which was of great value to them later in the making of gunstocks.

The period in which the Wesson brothers worked was one that brought great changes in firearms development, and their contributions to these changes were of vital importance to the nation. In his special field, each of the Wessons enjoyed prominence.

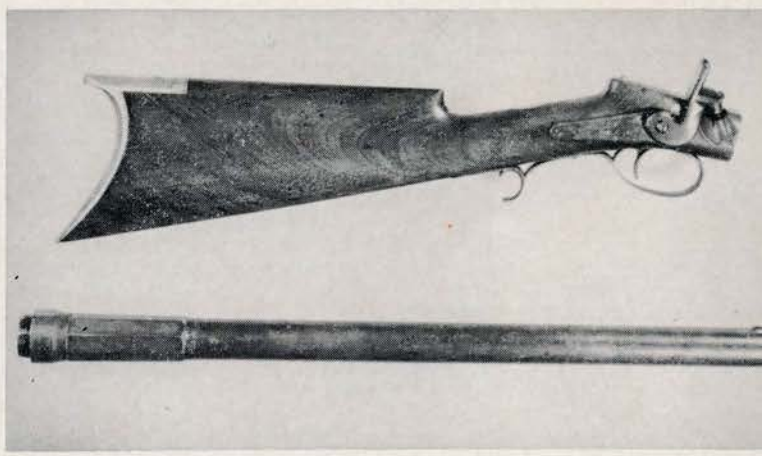
What was it about these three brothers that made them stand out above many of their contemporaries? What did they do to advance the design and efficiency of firearms? As you get deeper into this account of Wesson gunmaking activities I think the answers to these questions will become self-evident.

Edwin Wesson was the oldest of the three, born December 13, 1811. We are told that Edwin learned the gunmaking trade as an apprentice in the shop of Silas Allen. Allen's fame was built primarily on the handsome full-stock flintlock rifles turned out in his shop at Shrewsbury, Massachusetts; his workmanship was of exceptionally high quality. It was also fine workmanship that was to become a characteristic of the rifles from Edwin Wesson's hand.

Allen's reputation was built primarily on the flintlock, but when Edwin Wesson ventured forth on his own in the gun trade at New England Village (Grafton), Mass. in 1838, caplock arms had fully demonstrated their greater efficiency. It was in the caplock ignition system that Wesson's efforts were thereafter confined. At first Edwin Wesson was associated with two partners and the business went under the name Wesson, King & Co. Later King and S. D. Smith withdrew.

While Edwin Wesson became well known through the building of fine match rifles, he also made hunting rifles, multi-shot rifles, even some shotguns, and became involved in the manufacture of pistols with a revolving multi-shot cylinder.

The first pistols in which Wesson had an interest were undertaken on the principle of Daniel Leavitt's patent of April 29, 1837. The cylinder on these pistols must be turned by hand. Pistols actually played a minor role in the overall activities during Wesson's years at Northborough, Mass., where he had moved soon after establishing his gun business and in the final short span of his life when he moved down to Hartford, Conn. The greatest recognition the pistols attained was subsequent to Edwin Wesson's death on January 29, 1849 at the age of 37. Prior to his death Edwin Wesson had devised a system for turning the cylinders of Wesson & Leavitt revolvers by action of the hammer but had not yet obtained a patent. On August 28, 1849, a *(Continued on page 66)*



A caplock "goose gun," patented by Wesson in 1847, has screw barrel with seven bores producing lethal pattern.

# ANOTHER GREAT

# SAHARA GUN SHOW

By J. RAKUSAN

THIS WAS MY first Sahara Gun Show; but you can bet it won't be my last. The semi-annual antique gun shows sponsored by the Sahara Hotel in Las Vegas are usually covered by Bob Mandel, GUNS Antique Arms Editor. However, when he found that he couldn't make the Sixth Annual Mid-Summer Show—well, how could I resist?

There is something disquieting about covering this show, especially for one who is not an antique gun collector. I am sure that in spite of many walks down the rows and rows of displays, I missed a great many significant individual arms and collective displays. The one thing I did not miss was the over-all greatness of this show. I could only compare it to the several local and regional shows I had attended in past years and, there was no comparison. You do not have to be a collector to catch the dedication of the exhibitors toward their arms displays; the words that come to mind are: professionalism, intensity, and fellowship. But don't let me give you the false impression that each of the exhibitors wore a glowing halo; these men (and women) are gun collectors, bred out of horse traders, and even some halos which could be glimpsed were wont to slip now and then when a prized arm was being discussed ("Believe me, this is the only gun of its type known").

It is difficult to give you, through a few hundred words and several pictures, the real feeling of a quality gun show; and each of the Sahara shows is built on a foundation of quality, and gun collectors know this. Perhaps the best way is to let you in on a vignette. One of the exhibitors, with many thousand dollars worth of fine arms dis-

Photo at right, courtesy Tommy L. Bish
Other photos; Las Vegas News Bureau.

Left: Pair of H. Deringer dueling pistols, shown by Bill Locke; barrels stamped: "Manf'd for A. Millspaugh, Washington, La." Right: Group of happy trophy winners.

played, broke into a broad grin when his name was called as the winner—not of an ornate trophy—of a simple piece of paper called the Sahara Gun Show Certificate of Recognition.

This Mid-Summer Show was dedicated to Deringers and/or derringers; the first being those arms made by Henry himself, and the second being the small pistols which appropriated the somewhat altered name of a winner. And, what an education I got just by walking the aisles! It wasn't hard for the collectors to spot me as a yokel when it came to Der(r)ingers, but each and every exhibitor took the time to show his favorite pieces, explain the variances shown in his display, and even permit some of the guns to be taken to the lobby for photographing.

As I list the winners for the major awards, regular GUNS readers will recognize familiar names from past Sahara show reports. More than several of these collectors can come up with outstanding displays no matter what type of firearms may be featured. I am only sorry that space does not permit listing each and every winner and each of the exhibitors; here are the featured winners who added their collective talents to make this Sahara Show an outstanding success.

Best Percussion Deringer Display: (two equal awards) William M. Locke and Harold S. Ward.

Best Cartridge Derringer: (again, two equal awards) Jim Brents and William Gieseker.

Best Individual Percussion Deringer: William Locke, for an extremely rare Philadelphia Deringer with Maynard primer.

Best Individual Cartridge Derringer: Peter J. Buxton, for his near mint condition #2 Colt Derringer.

"Judges Choice" Best General (Der(r)inger Display: Cecil Godman, for an outstanding display of Memphis-manufactured Deringers featuring Schneider & Glassick.

Although the Show was dedicated to Der(r)ingers, there were other guns—a great many—displayed, and the Sahara honored the best of these with awards.

Best Cased Guns Display: G. S. Varcoe, for quality, if not quantity, in his display of cased sets of French dueling pistols.

Best Individual Cased Gun: James S. Fowler, Sr., for a magnificent Ulrich engraved Winchester Model 94.

Best Individual American Gun: (other than Deringer): Dr. John M.


This award-winning display "The Art of the Gunmaker" was certainly one of the most impressive of the show. Shown by R. W. Mac Willie.

Unique wagon-wheel display of Remington double derringers won an award for popular husband and wife team of Jeanette and Jim Brent.

# SAHARA GUN SHOW


Above: Marie and Jim Fowler, left, show their award-winning display to Jeanette and Jim Brent. Below: Magnificent pair of ivory-stocked Deringers; .40 cal., cased with accessories; shown by Bill Locke.

Murphy for a super-rare Jenks breech-loading *flintlock* carbine!

Best Individual European Gun: John A. Williams, for a very rare English snaphaunce revolver, circa, 1660-1685.

1st Place, Best Arms Display of Show: R. W. Mac Willie, for his fantastic display called "The Art of the Gunmaker."

Reading over this list of winners, it seems to me that a show made up only of these displays and individual arms would be well worth seeing; can you imagine what this Sahara Show was like with these plus all of the others?

Among the others—and I regret that I can mention only a few of the many fine exhibits and gun collectors, so please don't feel slighted if you were there and are not mentioned—I was pleased to see Turner Kirkland, big shot at Dixie Gun Works, who had a fine display of derringers made in Dixieland; Bob Cherry, whose most complete display of Colt commemoratives was a real dazzler (Bob, by the way, is collaborating with Colt on a new book on commemoratives. This is going to be a most complete manual, and will feature some of the finest color pho-

Diminutive pistols were much in evidence. Rare Butterfield derringer with disc primer was shown by Harold Ward.

tography I've seen. Bob says that publication will begin soon, so if your interests go in the direction of Colt commemoratives, drop Bob a line at 1041 S. Oakwood Ave., Geneseo, Ill.); and Joe Conlin, Campaign Director for the Springfield Armory Museum, who is in charge of obtaining funds to keep this outstanding collection of firearms open for public use (donations gratefully accepted at Box 515, Springfield, Mass. 01101).

From past reports, and my first-hand look, it is apparent that each of the Sahara Gun Shows have been smooth operations. And this is something that just doesn't happen; it takes a lot of work. Credit for a faultless show should first go to Harry Mann, co-sponsor and director. Harry is a collector of note, and he knows what other collectors want in a show. Added to this knowledge is his capacity for getting along with everyone and for untiring effort. Credit should also go to the judges, Col. Leon C. Jackson and H. Gordon Frost, who must have had one hellava time picking the best from this group of displays.

I think that the entire gun fraternity, not only collectors, should tip their hats to the management of the Sahara Hotel for their part in sponsoring these twice-a-year gun shows. Their open-mindedness, during these times of strong anti-gun feelings by many in the world of business, in providing facilities for these shows should not go unnoticed by those of us who enjoy being a part of the world of guns. So, to the hotel directors, and to John Romero, Publicity Director for the Sahara Hotel, in particular for his part in promoting these shows, I'll tip my hat and hope that you'll join me.

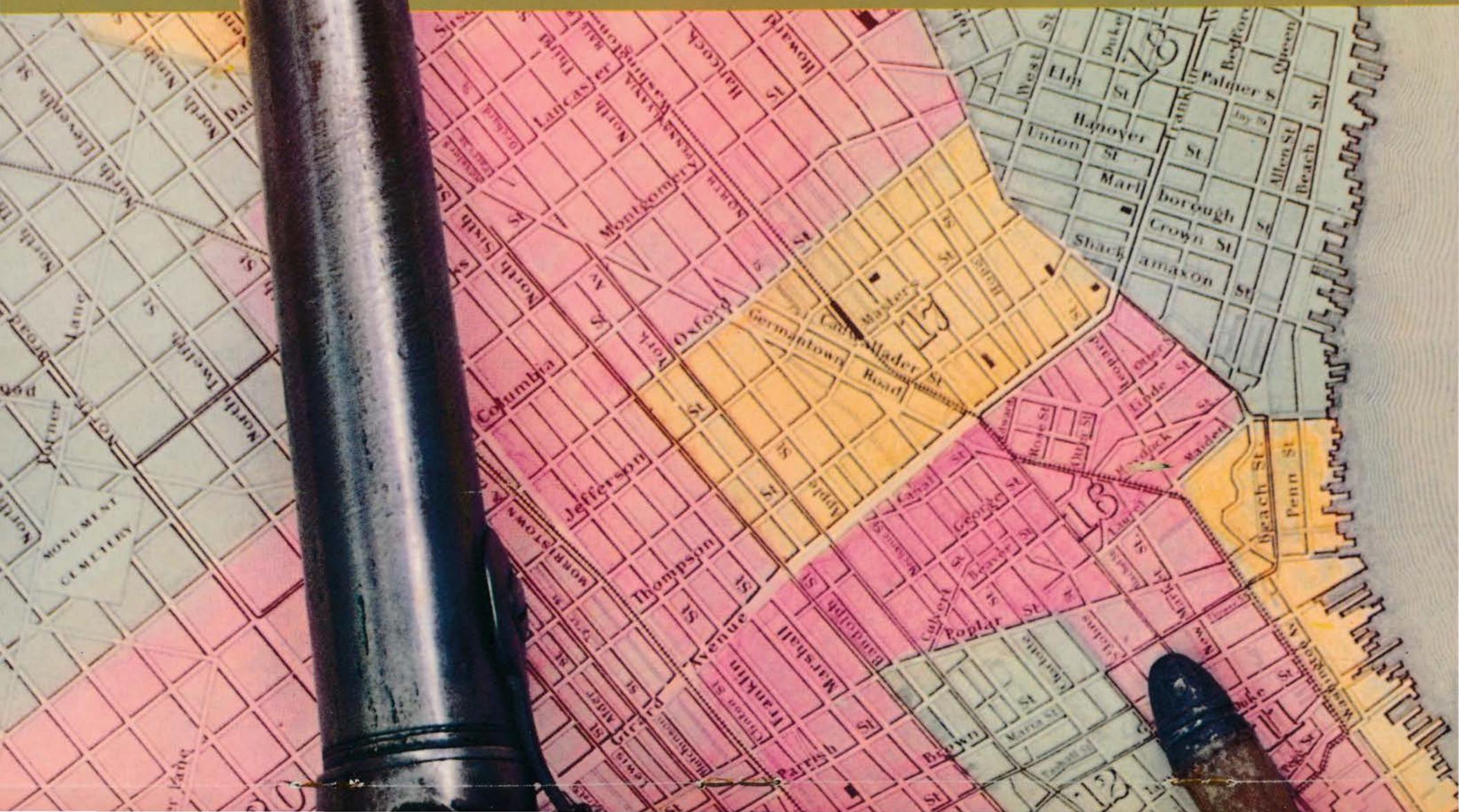
The next Sahara Gun Show, the Mid-Winter, comes up in February, and it will be held in the brand new Sahara Convention Center. The next Mid-Summer Show will be held in September. The support of this show, by collectors and interested spectators, will help keep pro-gun interests alive. The February show will be dedicated to Smith & Wesson guns, and it should be one of the best yet. If you want to attend, either as an exhibitor or just a "looker," contact Harry H. Mann, 2111 Edgewood Avenue, Las Vegas, Nev. 89102.

# Guns Color Gallery

**SHARPS PERCUSSION PISTOL**

This rare Sharps breech-loading percussion pistol with Lawrance pellet primer is believed to be the only specimen with ivory grips and engraving. Right side of frame marked "C. Sharps & Co's/Rifle Works/Phila. Pa." Contemporary map of Philadelphia is marked with a star at location of Sharps plant.

Photo by Harry C. Knode



# SIGnature OF QUALITY

# SP 47/8 PISTOL

By J. B. WOOD

THE STORY of the Neuhausen pistol really began in the early thirties, when Charles Gabriel Petter designed the 7.65 mm French Model 1935A Automatic. Chambered for a special 7.65 mm long cartridge, the Petter pistol contained several interesting innovations. The most important of these was a sub-frame, removable without tools, which included the ejector, hammer, sear, disconnector, and their attendant springs. This system had appeared just five years earlier in the Russian Tokarev pistol, and perhaps this gave Petter the idea for his simplified version.

Another fine point in the original Petter design was the grip shape, as comfortable to the hand as that of the Pedersen-designed Remington Model 51 pistol, famous for its good grip. Other good features included a simple top-mounted loaded indicator, a strong extractor, and a well-positioned slide stop. Its drawbacks were the odd cartridge and an undersized trigger guard


Author's SIG 47/8 is shown above with grips of striking light wood. At left is the 47/8 broken down into major components. The small photo above title shows commercial model. The photos all show quality workmanship of pistol.

which pinches all but the smallest fingers.

In the early forties, designers at the Scheizerische Industrie Gesellschaft in Neuhausen, Switzerland, took the basic Petter design and scaled it up to 9 mm and 7.65 mm Luger, the latter being the standard Swiss military round. At this time, several important design changes were made.

In most automatic pistols, tracks are cut in the frame for the slide rails. Because of the closed front portion and lower projection of the slide, the length of these tracks is usually restricted to the rear third of the frame. The Neuhausen designers reversed this, cutting tracks in the slide, almost full length, and bringing the frame up to surround it, the rails being on the frame. Aside from increased strength, this system accomplished a stability and smoothness which was enhanced by the characteristically careful fitting of the SIG machinists.

The flip-up hammer-block safety of the Petter model was dropped from the design. Instead, the Neuhausen had a side safety lever, acting on the sear, conveniently located at the top of the left grip. The slide latch was not as well-positioned, being too far up and forward for easy reach by the thumb. Slide release was apparently meant to be a two-handed operation. Incidentally, this is the **only** point on which the Neuhausen can be criticized.

Taking a cue from the Walter P-38, the external backstrap was eliminated, grip panels of wood or plastic curving around to meet at the rear. The side-button magazine release was retained in the Swiss military model, adopted by the Government as the Model 43 (1943). Two commercial models were produced, their principal difference from the military version being a bottom-grip magazine release. The Model SP 44/8 had a straight-line magazine, capacity eight cartridges. The Model SP 44/16 had a double-row stagger-type magazine, capacity **16 cartridges!** This meant a total, with chamber loaded, of 17 rounds, a record capacity for a grip-mounted magazine, only recently approached by the French MAB Model P-15 (16 rounds with chamber loaded) . Production of the SP 44/16 was very soon discontinued, for reasons unknown. For those who might wonder about the factory model designations, the "SP" stands for "Selbstlader Pistole" (self-loading pistol). The first number is the model year, and the last number refers to the magazine capacity.

Just three years after its inception, the Neuhausen pistol was re-designed (Continued on page 63)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# *BUILD YOUR OWN*
# PORTABLE SHOOTING BENCH

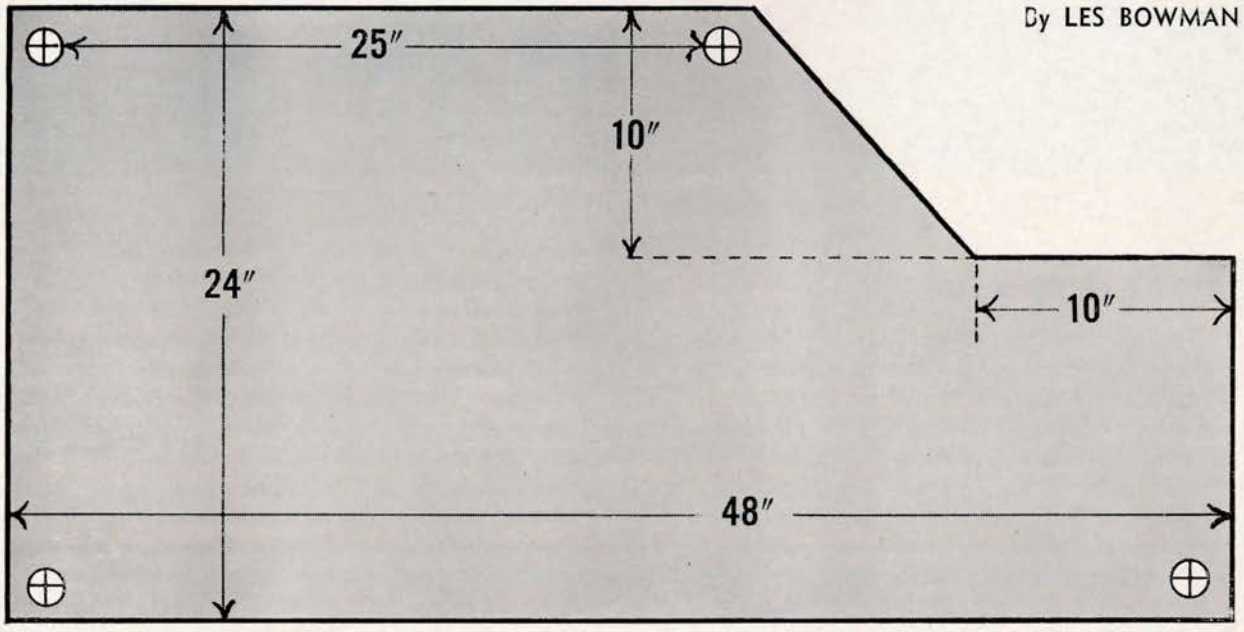
By LES BOWMAN

IF YOU HAVE ever arrived out in the boondocks and wished you could have somehow brought along a good shooting bench, I think I may have the answer. I often carry along in the car a home-made table for just such occasions. Twice in the past two days I have had shooters ask me for directions in whipping up their own. Very simply made with common materials, and costing next to nothing, the flanges for the pipe-legs are set into the wood of the bench top on a slight angle to give the bench a bit of bracing. Regular stove bolts are used to hold the flanges because wood screws are apt to pull out in rough use. When the time comes, the legs are screwed into the flanges by hand, then the whole rig is taken down again when it's time to head home. A few coats of good varnish on top and bottom of the wood make it quite impervious to the weather. I have used mine much and have even taken it along to the Big Horns on rock chuck hunts and use it both to recheck sights and to eat lunch off.

Parts necessary are:

| | |
|---|---|
| 1 piece | ¾″ plywood, 24″x48″ |
| 4 pieces | ¾″ pipe, 32″ long and threaded at one end. |
| 4 pieces | ¾″ pipe flanges. |
| 16 | ¼″x½″ stove bolts and nuts. |
| 1 | stepladder cut down to 18″ for a seat. |

The portable shooting bench is inexpensive, easily transported and serves any number of shooting needs.



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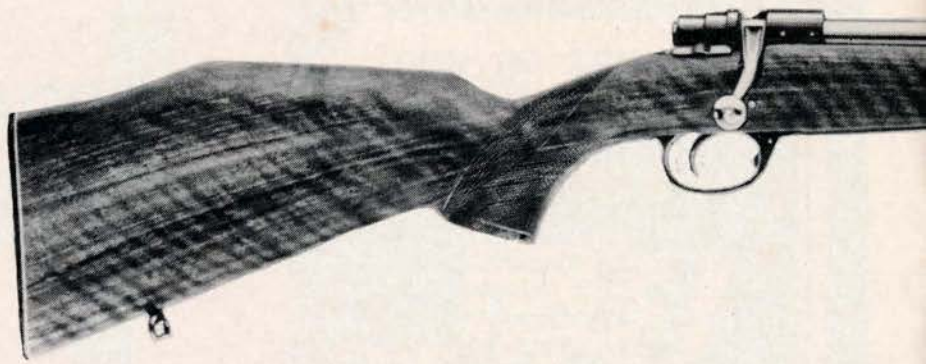


# Smith & Wesson Rifles


Askins fitted the S&W with a B&L variable scope on Conetrol mount for his bench testing.

By COL. CHARLES ASKINS

THE NEW LINE of Smith and Wesson rifles will perk a lot of interest among the shooting clan. This company's reputation for producing a sterling handgun will persuade a lot of potential owners that the new offering in long guns is bound to be a good one. And so it is. These rifles are imports. Made by that sturdy Swedish firm, Husqvarna Vapenfabriks, and quite familiar to a considerable segment of the American shooting public.

S&W offers five different models. These are all Mauser type turning-bolt firearms and are ready in four of our most popular calibers; .243 Winchester, .270 Win., .308 Win., and the venerable .30-06.

It has been 80 years since Smith and Wesson took a flyer in the rifle business. In 1865 the company patented what it chose to call a rifle. Actually it was a handgun with a 20" barrel and a detachable stock. The gun had the conventional revolver cylinder and fired a special .320 cartridge. Manufacture was begun in 1880 and ceased in 1887. A total of 977 of the rifle-handgun models were turned out. The recent announcement of the Husqvarna imports is the first venture in long arms since that time.

The five models currently in the S&W family are designated Models A, B, C, D, and E. All are essentially the same except for variations in stock design. Model A has an American type stock with a Monte Carlo comb and cheekpiece. The fore-end has a Rosewood tip and a white-

New Smith & Wesson rifles are available in five styles and four popular calibers.

line spacer. Models B and C have the European design stock, that is, without the humpbacked comb and with a modest cheekpiece. The fore-end has the old fashioned Schnabel tip. The Models D and E are both in the Mannlicher type of stock. In this full-length number the wood runs to the muzzle but the stock is in two pieces, the mainstock has a jointed end on it which extends to the muzzle of the rifle. This stock has a Monte Carlo and cheekpiece. The wood in these several variations is of a good grade of European walnut. The checkering is all hand-executed and is of fine quality. There are sling swivels but no slings. None of the rifles are equipped with recoil pads. Because these Husqvarna imports are on the light side—ranging from 6½ to 7 lbs., it would have been the matter of better judgment to have attached a pad to the .30-06.

The action on these rifles is the improved '98 Mauser. There are two dual opposed locking lugs on the front end of the bolt. There is a third so-called "safety" lug just ahead of the bolt handle. This turns into a recess just ahead of the receiver bridge. A check on the S&W rifle sent me indicated it did not bear in the recess. A longitudinal rib on the bolt acts as a bolt guide. It bears in a slot cut into the underside of the receiver bridge.

The bolt is bored out from the rear to accept the striker assembly. There are two big gas vents drilled into the bolt ahead of the position where the mainspring bearing collar on the striker is positioned when the rifle is fired. The collar thus serves as a gas baffle in case a primer ruptures. The face of the bolt is partially recessed, though not completely so.

The striker is one-piece. This is a fine feature. The coiled mainspring surrounds the striker. When the bolt handle is lifted the camming action forces the cocking piece to the rear and provides the greater part of the mainspring compression. The rest of the cocking takes place when the bolt is closed. The nose of the cocking piece engages the sear, and the camming of the lugs as they are forced forward and downward into locked position completes the compression of the mainspring.

The bolt sleeve which surrounds the rear end of the bolt is at least twice the diameter of the bolt cylinder. This is a most excellent gas baffle in case of a punctured or blown primer. The extractor is held to the bolt by a split spring band fitted about the bolt, it is the long spring type with a generous claw at front to grip the extractor groove in the shell head. This is one of the most positive extractors in the business. The ejector is a generous wedge of tool steel fitted into the left side of the receiver. It pins into the bolt stop latch and, as the bolt is pulled rearward, the ejector passes through a groove cut just below the left-hand locking lug.

The magazine housing is a separate assembly and includes the trigger housing. The magazine holds five cartridges in a staggered fashion which allows the magazine floor plate to be flush with the bottom of the stock. A tang extends forward from the underside of the magazine housing and a guard screw passes through this tang and fastens into the recoil shoulder of the receiver. A second tang extends to the rear, behind the trigger guard, and a second guard screw passes through this tang and into the receiver. The stock is thus firmly anchored to the barreled action.

The safety is the side-operated thumb-actuated variety, located on the right side of the receiver directly behind the root of the bolt handle. It is quite conveniently situated. This safety locks both the sear and the bolt.

Barrels are 20¾″ in length on the Mannlicher-type Models D and E, and 23¾″ on the Models A, B and C. The rifle shipped me, the Model C in .243, has a 21″ barrel. This is a variation from the specs as provided by S&W. These barrels are quite light, and all are equipped with iron sights. The front is a ramp type 1/16″ bead, of German silver, and the rear sight, an open sporting rear has a step-adjustment which permits movements for 100, 200, and 300 yards. The receiver is tapped for scope mounts and a receiver type aperture sight.

The Model C rifle shipped for field test has a polished bolt which has been chromium finished, and works very smoothly. The trigger is *(Continued on page 65)*

# RUGER 30 Carbine Revolver

By R. E. LODER

Handsome in appearance, the .30 Carbine is also reliable.




Above are some of the powders and the only primers used in reloading both the Ruger Blackhawk and the carbine.

JUST ABOUT EVERYTHING involving the .30 Carbine was done in record time, from the designing of the cartridge (actually an alteration of an older and not too popular cartridge), to the test model of the gun.

The .30 Carbine cartridge evolved from the Winchester .32 Selfloading which used a 165 grain bullet of about 1400 fps. This was a rimmed cartridge. Ordnance specifications called for a 110 grain bullet at about 1800 fps. Winchester took the .32 SL case, turned the rim off, cut an extractor slot on it and made a straight-taper case to handle the .308" bullet and it ended up as the cartridge we now know as the .30 cal. Carbine.

The carbine was designed to replace, if possible, the .45 pistol. No one will deny that it is easier to shoot with a rifle than it is with a handgun and it was to this end that development of the carbine, as it was to be called, was begun.

Winchester worked a minor miracle in building a test or sample carbine in 14 days. But malfunctions occurred and to this end Winchester had 34 days to clear the trouble up. When all was said and done it was a simple matter of drilling the gas port larger.

While the carbine was a popular and much used weapon, it wasn't very popular as a hunting weapon for several years after WWII. Actually not too many found their way into the hands of the civilian population and most of those that did were "borrowed." And as no soft point ammunition was commercially available for several years one either shot surplus military ammunition or reloaded.

Then all of a sudden the dam burst and everyone wanted a carbine. Most of this demand was brought about by the sale of surplus carbines through the DCM for the rather small fee of twenty bucks plus shipping costs. While many of these surplus GI carbines had seen much service, some were also brand new. The demand was so great that several concerns started making new carbines and sales of these were brisk.

Up to this time the only soft point ammunition was made by Norma, but as demand increased Winchester got into the act with 110 grain hollow points and Remington with 110 grain soft points.

At a muzzle velocity of close to 2000 feet per second with the 110 grain bul-

let, the carbine is no speed ball, nor is it noted for its energy. But it is a light handy piece for small varmints or plinking.

In their ads, Ruger states that a muzzle velocity of close to 1600 fps can be expected from the 7½" tube of the Blackhawk. I hate to disagree, but no load averaged even 1500 fps with 110 grain bullets, factory loaded or reloads. It was a rather simple matter to get over 1600 fps with reloads and a top of almost 1900 fps was reached—not with 110 grain bullets, but with one weighing 85 grains. But this is a flat shooting bullet, and as stated elsewhere, expansion leaves something to be desired with most of the jacketed bullets available for the .30 Carbine.

When the rumor was first nosed about that Ruger would soon bring out their Blackhawk in the .30 Carbine cartridge a letter was quickly written them requesting, if possible, one of the first off the assembly line, as the Ruger Blackhawks and I fit each other to a "T"! It isn't that I don't like Colt or Smith & Wesson handguns, but rather my thumb is rather stupid and refuses to keep out of the way of the cylinder release which means a cut on the thumb everytime one of these revolvers in .38 Special and more powerful cartridges are fired. Hence the leaning towards the Ruger Blackhawks which are much easier on my blood supply.

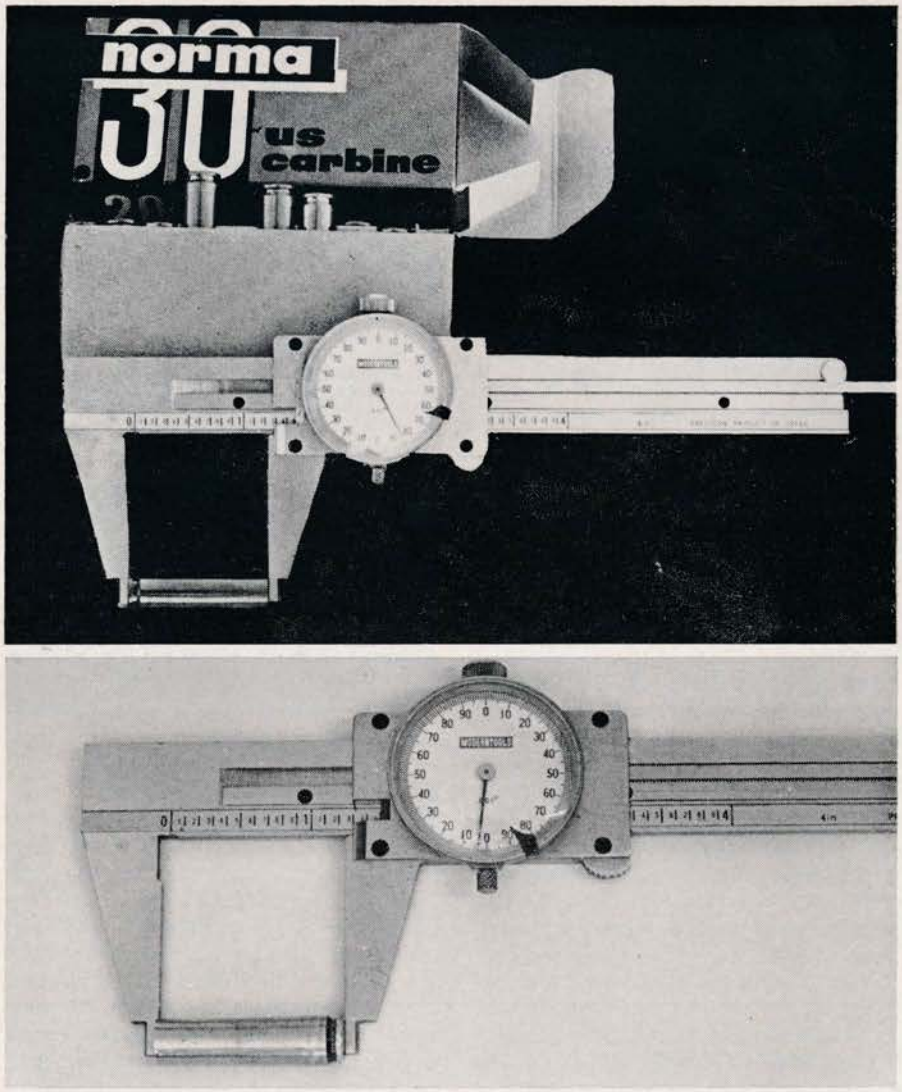
Kidding aside, the Ruger handguns are a best buy combining a taste of olden times, in the shape of the gun, with modern sights and innards which gives, at a bargain price, a top notch hunting and plinking handgun.

At the present time my line up of handguns totals six, and four of these are Rugers. A Bearcat, .357 and .30 Carbine Blackhawk, and a .44 Magnum Super Blackhawk. The .357 Blackhawk is the oldest and one of the first 400 off of Ruger's production line. Since obtaining it many thousands of assorted .38 Specials and .357 loads have been shot through it and to date there has been no complaint on either my or the gun's part. True it is slow to load and unload, and it hasn't the fine trigger of a top notch Colt or Smith, but once the shooter gets used to the rather long hammer fall, there just isn't anything to complain about.

Every gunbug has a favorite type of shooting with each different type of gun. With the shotgun I prefer trap and to a certain degree, skeet shooting. With the rifle it is informal target shooting and varmint hunting. But with the handgun, long range plinking is the order of the day! By long range I mean anything over 150 yards. Until Hercules went to fibre containers, empty 12 pound Red Dot kegs made ideal targets way out there, and being painted red or pink they were rather easy to see.

Of all the handguns used, at one time or another, for this type of shooting the .44 is King! This stems from the rather heavy bullet making a good splash either on water or dry dusty ground and this same slug being less prone to wind than any other tried to date. The .44, both in the Special and Magnum, can be a very accurate piece with proper ammunition, good reloads preferred, a good gun, and a decent shooter. And for much of this Elmer Keith deserves the credit and I for one have no doubt that he did make a 600 yard hit on a mule deer with a .44 Magnum. Other hot blooded experts notwithstanding, if anyone could do it, Elmer Keith was the one to do it. Could be that those that badmouthed him the most were jealous!

But I'm getting off the beaten path. For long range plinking the .44 Magnum is tops, followed closely by the .44 Special but only with good reloads, as factory loaded .44 Specials will hardly punch their way through a good tin can. The .44 Magnum, no doubt, is also a good cartridge and should either be classed just ahead of or right behind the .44 Special. Next would be the .357, again though with good reloads or factory loaded soft points. Factory loaded lead bullets are a little too prone to lead which isn't any aid to accuracy. The 9 mm Luger cartridge loaded with 5.5 to 6.0 grains of Unique with Lyman's pointed #356402 makes a good long range load in a good gun. The disadvantage of any autoloading handgun is chasing the fired cases, and for really top notch accuracy the gun should be *(Continued on page 68)*




The case shown in the top photo measures 1.285, which is just right, but the Lake City case below measures 1.304", too long even for GI carbines.

# PULL!

By DICK MILLER

WHEN YOU MIX the ingredients of more than three thousand shooters firing for a championship in one day, and expending nearly three and one half million shells in one week, you have all the elements for the greatest sports story of the year —The Grand American, at Vandalia, Ohio.

Speaking from the viewpoint of one who has recorded eleven Grand Americans in this column, I always wonder from one year to the next what new supply of superlatives will be called upon to describe the latest running of the fabulous Grand. After the 1968 Grand, I'm really concerned about 1969. When three shooters break perfect scores in the Grand American Handicap on Thursday, forty-four gunners break perfect two hundred target-scores in the 16-yard race, three more shooters break them all in the Preliminary Handicap, new records are set in High-Over-All and High-All-Around, one shooter wins High-Over-All, High-All-Around, and the doubles championship, a husband and wife both win High-All-Around trophies, one shooter clobbers eight hundred straight 16-yard targets during the week, and records are shattered like the clay targets that are featured, what will be left to say in 1969?

But, to mix a little predicting with reporting, I'll wager here and now, today, that when the 1969 Grand rolls around, it will require newer and stronger superlatives to chronicle what happens there. So, friend reader, start getting ready for the 1969 Grand now. Some of those superlatives needed to describe the 1969 Grand may be used to tell what you have done.

Veteran readers will remember, as do I from my own Grand days, that if any shooter broke the hundred in any of the handicap events, he could detach himself from the excitement and wait to collect his trophy and money. Not so in 1968.

Three gunners, Denton Childers, Rochester, Michigan; Bill Henderson, Olive Hill, Kentucky; and Roy Kohl from Springfield, Ohio, shattered one hundred straight targets in the Grand American Handicap, for the first time in the Grand's history. After a shoot-off, Childers took the title, with runner-up going to Henderson, and third place to Kohl.

Who ever heard of a shooter breaking ninety-nine in the Grand American Handicap, and not even winning a trophy place? It happened in 1968! How can this happen, you ask? Simple. There are ten trophy places for Thursday's Handicap event. The three perfect scores tied up the first three places, leaving only seven trophies at stake. Now, hear this: Eleven competitors broke scores of 99, which meant that when the shoot-offs were concluded, four of the eleven 99 were also-rans. To them, my deepest sympathy. One of the fondest memories in my life comes from that day in 1954 at Vandalia when the referee informed three of us that we were the only survivors, and that there were three trophies at stake. I relaxed—too much, it seems, because I ended with the lowest of the three trophies, but nevertheless with a trophy, which increases the empathy I have for the four unfortunate 99 shooters.

If there was one outstanding performance in the 1968 Grand, it was Palmyra, Michigan's great competitor, Hugh Driggs. You would have to feed all the statistics on his performance into a computer to really appreciate what he did. His high-over-all total was 985x1000, which means that he missed only 15 targets over a week's shooting made up of 600 16-yard targets, three hundred handicap targets, and one hundred doubles. He deadlocked with rookie shooter Jack Malloy from Danbury, Connecticut in the High-All-Around, at 395x400, and won the shoot-off for the trophy. High-All-Around consists of the 200 record 16-yard targets, one hundred handicap birds, and fifty pair of doubles. Driggs vaulted into contention by breaking a fairly rare hundred straight in doubles, and then had to close strongly with a 98 from way back on 26½ yards in the wind-up Vandalia Handicap.

During the week, it looked as if Larry Gravestock from Wichita Falls, Texas had the H-O-A trophy locked up, and he did beat the old record of 982x1000 set by Dan Orlich in 1966, but had to settle for runner-up when Driggs performed like a shooting machine.

Five years ago, I predicted in these pages that Sara Bourgeois, then living in Jackson, Mississippi, would make her mark in the trap world. She has, by, among other honors, winning the High Lady in All-Around. To preserve peace in the family, husband Jim matched her trophy by taking the same honor in the industrial or "pro" division.

Another Texan, Jack Morris, hailing from San Antonio, contributed a Texas-size performance in the 1968 Grand, by shattering eight hundred consecutive 16-yard targets without a miss, which won him Monday's preliminary singles, the Class AA trophy on Tuesday, and another AA championship on the big 16-yard day Wednesday.

When all the smoke had cleared away from the ATA grounds at Vandalia, one of the Grand's most inviolate traditions had been preserved. It is history that the winner of the Grand American Handicap will be an unknown (and could easily be you in 1969).

Denton Childers is a production worker for General Motors, and shoots in a Michigan Industrial

league. His fellow shooters in the industrial league might be forgiven if they try to figure out how a guy who missed ten targets out of fifty two weeks ago came to be the new national handicap champion. But, that's the Grand for you, and also why it roars on and on year after year.

Scores were high throughout Grand week, and Saturday's wind-up, the Vandalia Handicap, was no exception. Pete Kennedy from Cranston, Rhode Island, spared himself an agonizing shoot-off by breaking a lone 99 for the trophy. Sixteen shooters bunched behind him with identical scores of 98. Which again means that twelve aspiring and perspiring trapshooters broke scores of 98 at Vandalia and had no hardware to show for their efforts because there are only five trophies at stake on Saturday, and there were 16 shooters in contention for four trophies after Kennedy retired his without a struggle.

For space reasons, we list complete results of the three major championship events:

**N. American Clay Target Championship, 16 yards—200 targets**

Champion, Bueford Bailey, Big Springs, Nebraska; runner-up, Luigi Michelon, Rockford, Illinois; third, Doug Bedwell, Brazil, Indiana.

Lady Champion, Loral Delaney, Anoka, Minn.; runner-up, Rosemary Miller, New Castle, Del.

Junior Champion, Doug Bedwell, Brazil, Ind.; runner-up, Hugh Bowie, Auburn, Washington.

Sub-Junior Champion, W. R. Jacobsen, Clearwater, Fla.; runner-up Michael Smith, Dayton, Ohio.

Veteran Champion, J. O. Bates, Ft. Worth, Tex.; runner-up, Charles Jourdian, Amherst, Mass.

Industry Champion, W. E. Langhorst, Salt Lake City; runner-up, Hiram Bradley, Houston, Tex.

Class AA
1. Donald Beiler, Cincinnati, Ohio
2. Neil Massie, Xenia, Ohio
3. Charles Scheckler, Walnutport, Penna.

Class A
1. Tony Vasatura, Brooklyn, N.Y.
2. Hugh Bowie, Auburn, Wash.
3. Joseph Hvizdos, Uniontown, PA.

Class B
1. Clifford Sweeney, Greensboro, Penna.
2. John Steiger, Houston, Texas
3. Robert Rush, Fairfield, Ohio

Class C
1. Mel Myers, Cincinnati, Ohio
2. Robert Wood, Fairfield, Ohio
3. Gene Brake, Omaha, Nebraska

Class D
1. Randy Gates, Needles, Calif.
2. David Matheson, Hopkins, Minn.
3. Walter Kozlowski, Dayton, Ohio

**Grand American Handicap—100 targets**

1. Denton Childers, Rochester, Mich.
2. Bill Henderson, Olive Hill, Ky.
3. Roy Kohl, Springfield, Ohio
4. Bradley T. Sleeter, Markham, Ill.
5. Donald Clemons, Cincinnati, Ohio
6. O. E. Womack, Natchez, Miss.
7. William Allen, Kent, Ohio
8. Roger Glick, Lima, Ohio
9. Ernest Poore, Waynesville, Ohio
10. Bernard Sheaffer, Allegan, Mich.

Lady Champion, Rosemary Miller, New Castle, Del.; runner-up, Grace Bachuber, Mayville, Wis.

Junior Champion, Mike Meader, Luna Pier, Mich.; runner-up, Doug Bedwell, Brazil, Ind.

Sub-Junior Champion, Bradley T. Sleeter, Markham, Illinois; runner-up, Marty Carlson, Dayton, Ohio.

Veteran Champion, Henry Bullock, Millmay, N.J.: runner-up, Ed L. Mabie, Evanston, Illinois.

Industry Champion, F. V. Mosher, Pewaukee, Wis.; runner-up, Larry French, Jr. Salt Lake City.

**Doubles Championship—100 target (50 pairs)**

Champion, Hugh Driggs, Palmyra, Mich.; runner-up, Jim Burke, Los Alamitos, Calif.

Class AA, Hood Nichols, Jefferson City, Tenn.; runner-up, Ron Scondo, Glen Williams, Ontario.

Class A, Robert McCarthy, Danvers, Mass.; runner-up, E. A. Ross, Uniontown, Pa.

Class B, Jack Musselman, Muskegon, Mich.; runner-up, Cameron Johnston, Missoula, Mont.

Class C, Paul Brandenburg, King Mills, Ohio; runner-up, Elgin Gates, Needles, Calif.

Class D, Willis Vaughn, Aurora, Indiana; runner-up, Oliver Feinour, New Tripoli, Penna.

High Lady, Marian Harrison, Los Angeles, Cal; runner-up, Judith Allison, Elgin, Illinois.

High Junior, Jim Burke, Los Alamitos, Calif.; runner-up, William Slack, Sturgis, Mich.

High Veteran, Walter Johnson, Inglewood, Calif.; runner-up, J. O. Bates, Ft. Worth, Texas.

High Industry, Walt Langhorst, Salt Lake City; runner-up, Jim Bourgeois, Tampa, Fla.

*(Continued on next page)*

**High-Over-All—1000 targets**

Champion: Hugh Driggs, Palmyra, Mich—985.

Runner-up: Larry Gravestock, Wichita Falls, Texas—984.

Third: Doug Bedwell, Brazil Indiana—980.

Class AA: William Slack, Sturgis, Mich.—979.

Class A: O. E. Womack, Natchez, Miss.—975.

Class B: Russell Miller, Springfield, Ohio—970.

Class C: Elgin Gates, Needles, Calif.—959.

Class D: Mel Meyers, Cincinnati, Ohio—956.

High Lady: Loral Delaney, Anoka, Minn.—949 (winner—shoot-off); runner-up: Punkin Flock, Miami, Fla.—949.

High Junior, Doug Bedwell, Brazil, Indiana—980; runner-up, William Slack, Sturgis, Mich.—979.

High Veteran, J. O. Bates, Fort Worth, Texas—953; runner-up, V. W. Farrar, Britton, South Dakota—943.

Industry Champion, Lee Davidson, Tipp City, Ohio—971 (winner—shoot-off); runner-up, Jim Bourgeois, Tampa, Fla.—971.

**High-All-Around 400 Targets**

Champion, Hugh Driggs, Palmyra, Mich.—395 (winner—shoot-off); runner-up, Jack Malloy, Danbury, Conn.—395.

High Lady, Sara Bourgeois, Tampa, Florida—382.

High Junior, Doug Bedwell, Brazil, Indiana—394.

High Veteran, J. O. Bates, Fort Worth, Texas—383.

High Industry, James Bourgeois, Tampa, Florida—389.

## CROSMAN $CO_2$ SKEET

*(Continued from page 27)*

power chamber. Crosman warns, and shooting experience shows, that Trapmaster must not be regarded as a toy—full firearms handling safety precautions essential—since shot will carry some 85 yards. The effective range on the Crosman plastic targets is 35 to 40, up to 60 feet, at which ranges the special Crosman plastic shotshells will spread some 55 No. 8 shot in a pattern of 14 or 15 inches. At 30 feet, shot will sink deep enough to stick in a soft-pine plank.

The Crosman Golden Powerlets are similar to, but bigger than, the familiar $CO_2$ "cartridges" used in other $CO_2$ guns and in "sparklet" soda-making bottles. Crosman warns that the use of cartridges other than those for which the gun is intended will be unsatisfactory and perhaps damaging. The Crosman Powerlets cost $1.20 for a box of five.

The special Crosman shotshells are red plastic cylinders, heavily ribbed at the base to provide a gas seal, closed at both ends with thin plastic diaphragms to enclose approximately 55 pellets of No. 8 shot. The 14"-15" patterns they produce at effective 30-35 yard ranges provide about the same accuracy requirement as you would have using a conventional shotgun at normal trap, skeet, or field (upland game) distances—which means that Trapmaster shooting provides excellent trap, skeet, or field-shooting practice. The Crosman $CO_2$ Shotshells are priced at $2.98 per box of 100.

This brings us to the Crosman $CO_2$ Skeet Break-away targets—a "new departure" in trap-thrown targets, a real economy feature, and a gadget everybody has to play with "to see if they really work." They do. Made of plastic and shaped like conventional "clay pigeons," the domed center is surrounded with a plastic ring that breaks away when the target is hit.

The Crosman gun is light, man-size.

But that ring can be snapped back in place time after time for repeat usage. The targets cost $3.25 per box of 25—which seems high until you remember that phrase, "repeat usage." I don't know how many times you can re-use them; the ones I have must have been broken and rebuilt at least 25 times each and are still like new—except for one that got crunched under the heel of a careless high-heeled boot, an operational hazard for which I can hardly hold Crosman responsible.

With targets costing practically nothing due to their indestrucibility,

this adds up to about 4 cents per shot for the "expendables" (power and ammo). And if you think that isn't a bargain as compared to conventional shotgun shooting, you haven't shot much trap or skeet! Crosman has just announced a new "reloading kit" which cuts the cost even more.

The special trap outfit Crosman has devised for this new sport is a spring-powered side-arm thrower, adjustable to throw targets up to 60 feet, at any angle, slow or fast. An auxiliary throwing arm is included for MO-SKEET-O clay targets. The trap bolts onto a bench made of chromed metal tubing and lacquered metal top, with a seat of the same materials which hangs to the bench for the comfort of the trap operator. However, the trap has a foot-operated control which permits the shooter to loose his own birds from his shooting position. The trap-table-bench outfit lists, by itself, at $32.00.

Because the price is right, the entire family can enjoy $CO_2$ Skeet.

The complete outfit—one Trapmaster shotgun, trap, trap table and bench, box of 100 shotshells, 2 packs (10) Powerlets, and a box of 25 reuseable targets, retails for $89.95. You'll look a long time before you find as much fun offered for as little money.

The Crosman Trapmaster is easy to operate. You may not think so the first time you read the instructions; because most of the operations and some of the terminology is new to conventional shotgun users, you will need to go over it a couple of times to learn the sequence, but it's logical enough and, within minutes, you'll find yourself reloading in three or four seconds.

Having charged the gun with its two Crosman Powerlets, pressing the release button directly below the loading gate (on the bottom of the receiver) causes the barrel to snap forward, opening the breech for insertion of the shotshell. Now check the power selector, located on the back slope of the top of the receiver, and set it for HI or LO power as desired. Insert a Crosman shotshell, pull barrel back until it snaps to locked position, push Safety to Off—and you're ready to fire.

Remember, however, that this is no toy. The shot charge doesn't have the destructive power obtained from a powdered-powered shell, but it's not a toy for children to play with without supervision. It chronographs some 350 feet per second muzzle velocity, will penetrate both sides of a cardboard carton, and close-range impact would make the recipient painfully unhappy—or worse, depending on where it landed. All of which is all to the good, in my opinion. Kids love the Trapmaster, and it offers the family man a cheap method of instructing the hitherto nonshooting members of his family, not to mention as many as he's willing to handle of his social circle. But instruct them exactly as you would do with a conventional firearm. I'm unalterably "ag'in" letting kids (or adults, for that matter) handle guns of any kind, even if they shoot nothing but corks, without previous instruction in gun-handling safety, and not until you are sure that the instruction is understood and will be obeyed. A fool with a gun is a threat not only to everyone near him but to every gun owner.

If I had to find one fault with this new Crosman sport-shooting outfit it would have to be the name they've given it. $Co_2$ Skeet. Sure, you can simulate skeet shooting with it. With someone to operate the trap, you can assume skeet angles, approximate skeet target trajectories. With two traps, two operators, and appropriate "high" and "low" trap platforms—plus some high school mathematics in working out proportionate measurements of the layout to match the reduced shot and target trajectories—you could work out a pretty life-like skeet range. But I like the name of the gun better: Trapmaster. You don't need any extra equipment, platforms, or mathematics to set up trap layout as soon as you get the kit assembled. And if it's practice for upland bird shooting you want—you don't even need a trap operator. You can foot-release your own targets, at any angle, any elevation, fast or slow, and have at it. Same for trap practice. Always supposing you shoot where nobody can see you. If people see you, you will soon find yourself surrounded with interested spectators, all of whom readily admit they need only a nod to become participants.

You can even shoot indoors, given space enough to let the targets fly forty to fifty feet. Less if you're crowded, and will learn to shoot quickly. At shows, Crosman sets up a "corridor" walled and roofed with canvas to stop the shot. A hallway in your own home, with blankets hung to prevent riccochets and wall damage, could serve for a lot of family and social shooting. A man I know has a game room 40 feet long in which his $CO_2$ Skeet kit is permanently mounted. This fellow beat Crosman to the draw, and reloaded his own shells. With the new Crosman reloading kit, which includes the tool, a supply of cases, three different shot sizes, and a handy carrying case, you can do a professional job and save a lot of money.

As you may have gathered, I'm enthusiastic about this new shooting sport. As the man said, "It's fun!" Fun for everyone, from the hardened (and at first, skeptical) field, trap, or skeet gunner—to the wife who doesn't like guns or is afraid of them, and then finds herself enjoying the hell out of this one—to kids of all ages, from just big enough to hold the gun, to and including teenaged beards and mini-skirts who frequently find themselves missing drive-in movies in favor of this at-home attraction. That will probably make owners of drive-in movies hate me; and that mention of reloading their pretty little shotshells may make Crosman people hate me, also. But if you don't try a Trapmaster—don't blame *me*.
I told you!

# 6.5 REMINGTON MAGNUM

*(Continued from page 25)*

bullet and the case is the same capacity as the .30-06, or about 61 grains of water, to the neck. This rifle, even with the short 18½ inch barrel, proved to be an excellent gun for mountain hunting and it was used then and still is used for a lot of hunting, on game to elk size. Velocity, using the 150 grain factory .284 ammunition, is 2721 f.p.s. in this rifle. Cartridges from the same box and used in the Winchester 88 lever action with a 22 inch barrel, have a velocity of 2782.

The case Wayne had designed for the new carbine was really a shortened, belted Holland & Holland. The case capacity was approximately 67 grains of water to the neck. This provided enough capacity for the necessary powder and allowed the big .250 grain bullet to be seated back into the case a bit, so it would work well through the short action. It has been quite definitely determined that seating the bullet considerably back into the case is not detrimental to the engineered ballistics or accuracy in any way. There is no doubt that if a long action was used and the bullet seated out to the neck, some additional velocity could be gained, without abnormal pressures. However, this rifle and load was not engineered for this additional velocity. If Wayne had been trying for more velocity he would have used a longer case, such as the .358 Norma and then he would have had to use the longer action to carry it.

Another reason for the selection of the bullet used in both the .350 and the 6.5 case was that Remington did not wish to duplicate the caliber size already chambered for in the standard Model 700 rifles made by Remington. Winchester had their excellent .264 Winchester Magnum in production, the Model 70. If you wanted more velocity in 6.5 performance, this was the answer.

The 6.5 caliber has never been very popular with the United States sportsmen, although it is one of Europe's first, oldest and most used military calibers. The Italians adopted it as their 6.5 x 52 in 1891. The Swedish 6.5 x 55 was brought out in 1894. Norway used the 6.5 x 54R in their Krag rifles and the Greeks put it in their 6.5 x 54 Mannlicher in 1903. The Japanese had used it in the 6.5 x 50 as far back as 1897. All of these military adaptations were on comparatively small cases, from 44 to 51 grains of water case capacity. The bullets used were extra long and heavy, 160 grains or more in weight. In guns with rifle length barrels, velocities were from 2200 to 2600 maximum. The nose shape of the bullets were usually round, and velocity fell off fast. After World II when many of our service men had become familiar with these foreign military 6.5's and had brought surplus rifles home to have them sporterized, bullet companies here began to make lighter bullets, but it never did become very popular with the majority of our shooters.

When Winchester brought out their .264 and adopted the 6.5 caliber for it, the .264 became the first production sporting rifle to use it. I have always

Bowman chronographs 6.5 Rem. Mag.

thought Winchester made two bad mistakes when they brought out the .264. The first was making the 140 grain bullet the standard one for game. It was actually too heavy for the best performance in this caliber. The second mistake was the 100 grain varmint bullet they brought out. They definitely stated in the advertising that the 100 grain was only for varmint use and not to be used on animals even to only deer size. In spite of this warning, the buying public *did* buy and use this weight bullet on game of *all* sizes. The poor performance of the bullet on game gave the .264 a bad name and certainly hurt future sales. One report I heard on this was that during the controversial slaughter of the elk in Yellowstone Park, some of the rangers used .264's and the 100 grain bullets and the result was that many elk were only wounded and got away to die later and be wasted.

Actually, neither the .264 or the 6.5 Remington should be considered as varmint cartridges. There is too much recoil and the noise level is too much to make them good varmint loads. Winchester's small, pleasant to shoot, .225 varmint cartridge is far more accurate and will kill varmints quite effectively at distances any good sportsman would shoot. The .22-250 Remington and the Weatherby .224 are in the same category as the .225 Winchester.

Remington was well aware of the mistake Winchester had made in regards to the right type of bullet for the new 6.5 and they wisely decided to make exhaustive tests in actual use to determine what weight bullet would be best to use in it. They loaded the 120, the 130 and the 140 grain weights in the experimental test cartridges.

Wayne Leek had set up a big game hunt here in Wyoming for that fall, to personally test both the .350 Remington Magnum and the 6.5 Magnum on actual game kills. He brought out two guns in each of these new calibers, one he would use and one I would use. We would also loan the rifles and ammunition to other hunters that were interested. Wayne wanted public reaction to those rifles on game kills, and we also planned on checking all kills for bullet function.

The performance of the .350 with both the 200 and 250 grain bullets was excellent on all game killed, including deer, killed in heavy brush country, elk, and moose. However, that's another story and I won't go into detail about it now.

The 6.5 did not seem to have the kill ability that was expected when bullets of 140 grains were used. Velocities with factory loadings of the 140 grain bullets were figured to do about 2750 f.p.s. in the short barrel. The 130 grain bullets were better, but the 120 grain bullet, when it did not blow up, were the best we used, giving us 3000 f.p.s. However, none of the different makes of the 120 grain bullets stood up under the velocities we got.

After his hunt, Wayne went home to get the .350 started in production, leaving me one rifle of both calibers to make more tests. It made no difference what kind of powder I tried, I couldn't get the 140 or heavier bullets to give us the expected performance from the rifle. I would then go back to the 120 grain with its poor penetration. The 120 grain seemed to be the answer as far as weight was concerned. One day I got to thinking about the .270 that I had used for years and how well the 130 grain bullet killed game, from antelope to big elk and even grizzly. I realized then that the answer to the right performance of the 6.5 was definitely in the

proper bullet weight. If the 130 grain bullet was "such a much" in the .277 groove diameter of the .270 Winchester, why would we need that heavier bullet in the smaller 6.5 with its .264 groove diameter. That night I wrote to Wayne in detail on this and found that he had reached the same conclusions and was way ahead of me, as he had already started some special 120 grain Core-lokt bullets through production to be used in tests. As I write this I am looking at some of these original bullets and I remember very well the first game killed with some of them and the excellent way the bullets functioned. Wayne heard of this immediately and was pleased. During the two full seasons we used these guns, from the one that Wayne took part in, through another full year of hunting, when Remington announced the 6.5 Magnum, these guns were used on a lot of actual game kills. Over 50 head of game animals had been killed by these rifles when they were ready for production. They had been used by hunters, guides and ranchers and the game included antelope, deer, bear, sheep, and elk.

These 120 grain Remington Corelokt bullets are structured for game killing, not for use on varmints and when Remington released the new rifles and cartridges, no lighter weight bullets were made. Since then, two new bullets weights have been brought out by different bullet makers that both do well in the 6.5 Magnum. These are the 125 grain Nosler, a favorite of mine for this cartridge, and the 129 grain Hornady, a bullet I use if I feel that I need a heavy bullet for a specific purpose. I have found the 129 Hornady to be the finest all round performance bullet I have ever used in the .264 Winchester. The 120 grain Core-lokt and the 125 grain Nosler are also used here in the west in the .264's quite a lot, and function very well.

There is no doubt about the 6.5 being a good caliber size for game animals. It is considerably larger than the .257, a caliber size that a great many shooters consider to be one of the best ever made for medium size game animals. Today, there are bullet weights from 87 grains up to 160 grains available for the 6.5's. Although one might use the smaller foreign cases loaded with light weight bullets for varmint shooting, personally I can see no reason for using either the Remington 6.5 Magnum or the .264 Winchester, with their heavier recoil and loud report, on such small animals as those in the varmint class. Both these 6.5's are excellent for the big predators such as seals and wolves, or they can be used on coyotes, etc., where one is only making an occasional shot instead of a great many in a short time, as in varmint hunting. Both these 6.5's are very good sheep and goat rifles and are also excellent on caribou. Although I have known of big bear being killed with them, they certainly are not moose or big bear calibers. They both do an excellent job on chest, lung and neck shots on elk, but they really are better suited to game smaller than elk. I have found very little difference in game kills made with the 6.5 Remington Magnum and a short barreled .270 Winchester. It is quite definitely better than my .257 improved with its best bullet, the 117 grain.

When Remington brought out the 18½ inch barrel carbine, I thought it should have been 20 inches, even in the .222 or 6mm calibers. During the past several years of use by the public, of the various calibers in the 600 model carbine series, they have expressed their views about barrel length quite forcibly. When Remington brought out the new model 660 carbine last fall they had eliminated most all the complaints they had on these guns. They had lengthened the barrel to 20 inches, the plastic rib that many thought made the gun look stubby and awkward had been discarded. The stock was very much improved as to finish, with a new plastic grip cap and foreend tip of black ebony. The stock has also been given another 1¼ inch in length, making it more graceful looking. The longer barrel has increased the velocity 50 f.p.s., average, with 120 grain factory loads.

Actually, the full capacity of the 6.5 Magnum case is utilized with the 120 grain bullet loading as it seats to the rear of the neck only. The 125 Nosler and the 129 Hornady seat back into the case to about the start of the shoulder. This seating is general on most of the modern cartridges today. Exhaustive tests, made by all the major ammunition factories, have found no reason why this procedure should not be used.

I have heard and read that the short Remington Magnums and especially the 6.5 Magnum was not accurate. One writer who lamented the lack of accuracy also published a chart of groups he had made with various weight bullets. These bullets up to and including 120 grain weight all made groups of 1 inch or less. The 125 Noslers were grouping 1.5 inch and 1.7 inch. The 140 grain bullets widened his groups to 1.8 inch and 1.9

inches. I cannot imagine just what he was looking for as these are all phenomenal groups for a hunting cartridge, especially in a light carbine.

In making hundreds of rounds of accuracy tests here on my range, Tom Frye of Remington and I found that when shooting for accuracy we had to have a very hard hold on the carbine type rifle to make good groups and an easy hold helped if we were using a heavy rifle. We found this to be true even when using the little .222 Remington cartridge and this condition was magnified as bullet weight went up and recoil increased. When I say a "hard hold" I mean one should have a real solid grip on the forend of the stock, the same as you would if shooting at game.

In regards to powders for the new 6.5's, I have used and found the Norma 205 powder to give me the best performance with the lowest pressures; next is Hodgdons 4831. I am now making tests with Winchester's new BR 780 powder and the results really look encouraging.

Velocity of factory 120 grain loads in my new 660 Remington 6.5 Magnum average 3012 f.p.s. My own handloads, using Norma 205 powder and the factory 120 grain bullet average 3091 f.p.s. The case life with these loads is excellent, many of my cases having been used over 15 times and they still have tight primer pockets. Hodgdons 4831 and factory 120 grain bullets have given me the same results as the Norma 205.

My best loadings with 4350 powder and 120 grain factory bullets average 3058 f.p.s. The average gain by the 20" barrel of the new 660 over the 18½" barrel of the 600 is 50 f.p.s. Accuracy of this Remington 660, with five fast shots, is about 1¼ inch. Many groups run well under 1 inch. A shooter can't ask for much better than this.

## HECKLER & KOCH

*(Continued from page 20)*

up for G-3 production as needed although with the exception of a portion of the first Bundeswehr order all G-3 production to date has been handled by Heckler & Koch.

While Seidel was burning up the drawing board Edmond Heckler and Theodore Koch were busy expanding the manufacturing facilities which would put a gunmaking town back in business. When the first G-3 order came in Heckler & Koch were working a 420-man crew. Within a year, the force had grown to 750 men, and by 1961 the employment roster numbered 1050. In 1960, in the midst of this period of tremendous expansion of his firm, and returning prosperity for his home town, Edmond Heckler died of a coronary occlusion. To state it more simply, it was just overwork. Following Herr Heckler's death, Theodore Koch and Alex Seidel divided the responsibilities of general management of the firm between themselves, with Seidel staking out the design department in particular as a personal fief. This structuring of the partnership has remained unchanged to the present.

The G-3, Heckler & Koch's basic product, has met with an acceptance which is indicative of the excellence of the weapon. Portugal adopted it as their standard military shoulder arm in 1961, and Norway, Sweden and Pakistan have since followed suit, each manufacturing it in their national armories under H&K license, and with the assistance of H&K engineering teams. Denmark and the Dominican Republic also have adopted the G-3, but purchase theirs direct from the H&K plant in Oberndorf. Indonesia acquired a quantity from somewhere, and Spain, of course, has long used the original CETME version.

By 1963, with the Stoner system beginning to draw approving if hesitant glances from the U.S. Marine Corps, and with Alex Seidel needing some intellectual exercise, H&K began designing the G-3 into an all-purpose weapons family. Today the firm offers an imposing small arms system. The runt of the litter, if we overlook the .22 caliber training units which fit all H&K weapons, is the MP5 submachinegun — a thoroughly excellent 9mm submachine gun which was recently adopted as standard by the West German Border Police and several of the German State Police forces.

From here on, the H&K offering gets pretty complex. Basically, there are three weapons families, the first, the G-3 family, chambering the 7.62 mm NATO round; the next for the U.S. 5.56 mm (.223); and the last bored for the 7.62 mm Soviet intermediate-power cartridge. Each family consists of an assault carbine, a light automatic rifle, a light machinegun, and a medium machinegun. Parts interchangeability even amongst weapons

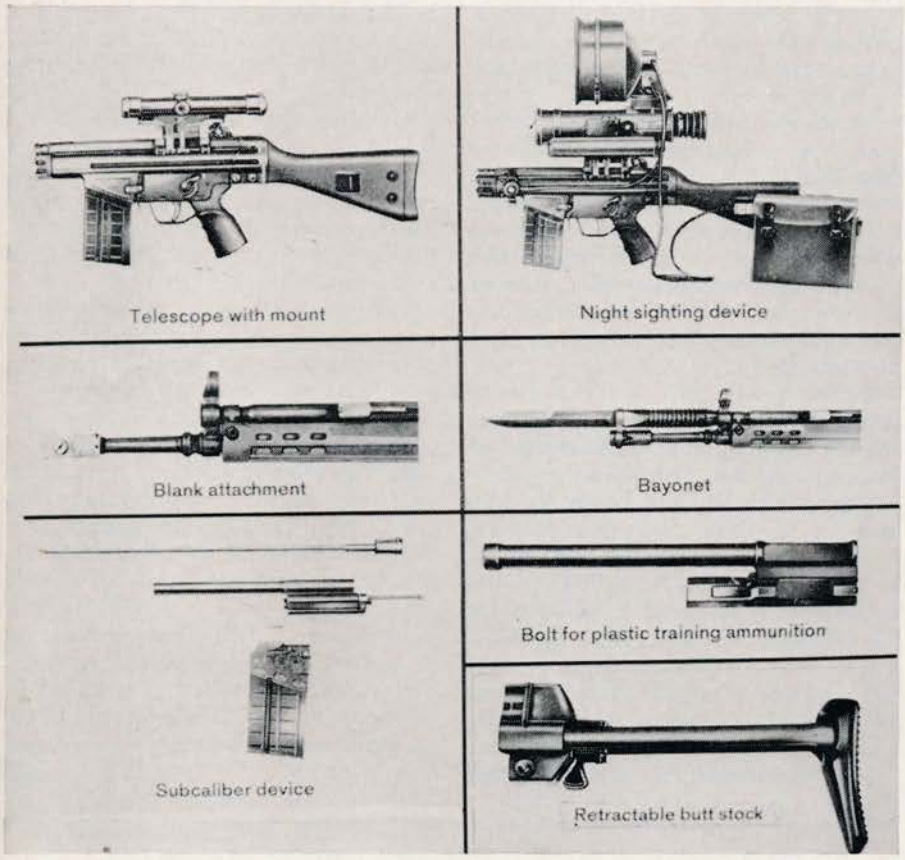
from the different caliber families runs to about 60 percent, with an additional 25 percent of the parts being almost interchangeable. The training and logistic advantages of such a concept are obvious.

The drawback supposedly is that no "family" weapon can do the job as well as an arm designed specifically for the task at hand. This objection is largely put to rest by the excellence and ingenuity of H&K's engineering. Their medium machinegun, for instance, feeds from either a box, a drum, or a belt, with quick-change parts effecting the switchover. On belt-feed, it makes no difference whether the links disintegrate or not.

For rifles and carbines, H&K press-fits and pins the barrels to the receivers. For the MG's, where quick-change barrels are a virtue, the H&K guns will switch tubes with the swiftest, and headspace is never a problem. If the customer bellyaches about single-shot accuracy from open-bolt MG's, H&K will build them to fire semi-auto from closed bolt and full auto from open. The light receiver permits H&K to pile the metal into the barrel, while still keeping overall weight reasonable, and a heavy barrel in an MG is surely a virtue.

The virtuosity of Seidel's engineering, the relatively low cost of the weapons, resulting from H&P's manufacturing techniques and high component interchangeability, plus a small mountain of available accessories, makes the Heckler & Koch stable of military weapons an extremely intriguing line-up.

Today, H&K employs nearly 2,000 workers in five plants, and they probably get more production per man-hour than any firm I know of. Every aspect of the manufacturing process is carefully planned for maximum efficiency, and every machine on the line contributes to the expeditious flow of finished parts. In order to increase production, H&K designed and built a large proportion of their milling equipment, and have since developed this into a profitable sideline, with Heckler & Koch machine tools commanding a respected place in the market.




Milling, grinding, and such are avoided though wherever possible according to H&K's manufacturing philosophy. Precision heavy-gauge stampings are their forté. Section stock likewise is used wherever possible, and milled forgings employed only where necessary.

A walk through the Heckler & Koch main plant leaves one with the immediate impression that there's a fantastic array of machinery in sight for so few people to work on. Generally, each man in the manufacturing division is expected to handle four machines at once. Set-ups, it goes without saying, are permanently locked, and skilled work is held to a minimum. Technology has yet to improve upon manpower when it comes to feeding parts to machines.

Inspection work is handled likewise, and female employees do most of it. A bench-mounted dial gauge is usually set up to read two diminsions of a particular part, and the employee's only task is to chunk the piece in right side up and make sure the needle registers within the tolerance zone. One indication of the success of the inspection operation is the fact that no files are to be seen on the assemblers' benches.

Manufacturing, Inspection, Assembly—each department is set up so that the work flows smoothly and constantly to the test firing ranges and the final inspection post. Any bottlenecks in the process are dislodged by a light second shift that exists purely to break log jams. The only obvious hitch in the system is the fact that the company is spread out in five different plants, and to obviate this inconvenience, Heckler & Koch maintains a fleet of eight trucks and fifteen cars that are constantly shuttling men and work from plant to plant.

The main plant is located on the original site, up in the hills above Oberndorf. The company administrative offices are here, as are engineering, sales, and research and development labs. Most of the assembly and inspection are done at the main plant, as are light stamping, grinding, and tool making. All H&K barrels are turned out here on a covey of Austrian-built hammer forging machines that cost about $125,000 a throw. Most of the proof, accuracy, and function firing as well is conducted on the 100-meter underground range beneath the main plant. Sniper rifles and machineguns which require firing at three hundred meters and over are tested on an outdoor range about fiftten miles distant.

Plant #2, in Boll across the Neckar, does the heavy stamping and welding. Two more plants in downtown Oberndorf mill the bolt components, stamp magazines, and do Bundeswehr repair work. The plastics division is likewise here, as are the heat treat and hardening shops.

The fifth plant, in Pforzheim, makes a few small parts and carries on the sewing machine business.

Behind the by-the-numbers routine of the production departments, one finds a legion of highly skilled set-up men and supervisors. And another

step up the ladder takes one into the rarified atmosphere of research and development. H&K guards their research lab like the basement of Fort Knox, but Herr Streckfuss, their knowledgeable lab chief, did disclose that he has some one hundred fifty to two hundred thousand dollars worth of store-bought instrumentation to toy with, and an equivalent amount of gear that he and his assistants have built themselves in order to carry out further experiments. For pressure testing, for instance, they use copper-crusher gauges against a tarage table, Piezo quartz crystal gauges, or strain gauges depending on the mood of the moment. They are set up for spark photography, shadow graph work, and heaven knows what else. Equipment to measure cyclic rate and muzzle flash, as well as a vast array of optical gear, was all designed and made by Streckfuss's department. His pièce de résistance is an item he built to measure felt recoil against the shoulder in order to back up his mathematical calculations that the lateral dispersion of energy by the locking rollers of the G-3 substantially reduces the kick of the weapon.

Despite the imposing amount of scientific brainpower they keep on tap, despite the programmed phalanxes of tooling and the magnitude of their five-plant operation, despite the breadth of their "weapons family," Heckler & Koch remains essentially a one-gun outfit. Some 75% of the work force is engaged in turning out the G-3 and its little brother the MP5. The sewing machine and milling tool business offers needed diversification, but as far as weapons go, it's basically a one-eggbasket situation.

This won't take long to change. The military weapons program exemplifies the extremely sophisticated engineering of which H&K is capable, and Alex Seidel keeps a staff of twenty fulltime design engineers (a comparatively enormous number) busily peering into the crystal ball.

Their first commercial effort, the HK-4 pistol—an engineering tour de force that fires four different calibers—is going into full production now after some delay. On further projects, H&K is prudently keeping the wraps staked down tighter. But one hears rumors of heavy caliber pistols, and "shotguns," I'm told, is not an unheard word around Oberndorf. All I can personally vouch for is that I've handled prototype H&K sporting rifles, and for my money this is an item worth saving up for.

To come the route that Heckler & Koch has—from a pile of rubble in a "verboten" zone to one of the world's most important arms plants, in the short span of fifteen years—takes a lot of faith, drive, ambition, and intelligence. This on the part of management and employees as well. Those I've spoken with feel a personal sense of accomplishment, and this healthy pride probably rubs off on the weapons somewhere along the line.

In the shadow of the main plant administrative building, surrounded by some of the most modern arms production facilities in Europe, the wood-frame shack that housed Heckler & Koch's first shop still stands. "We keep it there," an H&K official said, "to remind us where we've come from in the past few years." Actually, nobody pays it a hell of a lot of attention, for H&K is a go-ahead bunch of gunmakers with their eyes firmly fixed on the future.

## POINT BLANK

*(Continued from page 15)*

dull grey. A common practice among sportsmen is to wear a yellow tinted shooting spectacle. It was discovered that when thus outfitted the gunner may not see the yellow at all! White, the Canadian choice, was so poor it was used for control purposes only. Every game animal, practically, has some white about it, and a poorer choice can scarcely be imagined.

Hunters argue that the bright colors, when worn into the hunting country, are just as likely to attract the notice of the wily old buck as to be seen by other nimrods. John Madsen, conservationist for Olin Mathieson, says this ain't so. He contends all the deer can distinguish is motion, sound, and scent, and that in fact the animal is color blind.

A hunting garment manufacturer in Atlanta has cashed in on this finding and now makes a pants and coat ensemble of camouflage cloth with the basic color of neon red. The contention of the firm like that of John Madsen is that the deer cannot differentiate the color but the other hunters in the woods can. Thus the wearer is concealed from his quarry but is more visible to fellow sportsmen.

• • •

'Tween seasons we can get into some pretty profound discussions

about shooting problems which in all truth are more theoretical than actual. Take this matter of shot drift in a stiff norther. Everybody who is a wildfowler knows that when the webfeet really fly is when the weather is utterly stinko. It's usually colder than the Bering Strait and with a wind right off the Chukchi Sea. It is then that we commence to wonder if the wind is playing hob with patterns at 50 yards and beyond.

Deflection in Inches
3 or 9 o'cock wind - 30 MPH
12 gauge

| Load | Shot Size | 10 yd. | 20 yd. | 30 yd. | 40 yd. | 50 yd. |
|---|---|---|---|---|---|---|
| 3-¾x1¼ | 2 | 1″ | 4″ | 9″ | 15″ | 23″ |
| | 4 | 1 | 5 | 10 | 17 | 26 |
| | 5 | 1 | 5 | 11 | 18 | 28 |
| | 6 | 1 | 6 | 11 | 19 | 29 |
| | 7½ | 2 | 6 | 13 | 22 | 33 |
| 3¼x1-⅛ | 4 | 1 | 5 | 10 | 17 | 25 |
| | 5 | 1 | 5 | 11 | 18 | 27 |
| | 6 | 1 | 5 | 11 | 19 | 29 |
| | 8 | 2 | 6 | 14 | 22 | 34 |
| 3x1 | 4 | 1 | 5 | 10 | 16 | 25 |
| | 5 | 1 | 5 | 11 | 18 | 27 |
| | 6 | 1 | 5 | 11 | 19 | 29 |
| | 7½ | 2 | 6 | 12 | 21 | 33 |
| 3¼x1¼ | 7½ | 2 | 6 | 12 | 21 | 33 |
| | 8 | 2 | 6 | 13 | 22 | 34 |
| 3x1-⅛ | 4 | 1 | 5 | 10 | 16 | 25 |
| | 5 | 1 | 5 | 10 | 18 | 27 |
| | 6 | 1 | 5 | 11 | 19 | 28 |
| | 7½ | 2 | 6 | 12 | 21 | 32 |
| | 8 | 2 | 6 | 13 | 22 | 34 |
| 2-¾x1⅛ | 7½ | 2 | 6 | 12 | 21 | 32 |
| | 8 | 2 | 6 | 12 | 22 | 34 |

The Remington Co., a good many years ago, fired thousands of shots to figure out what the wind drift might be. A lot of their figures, I suspect, are interpolations because a shot charge, unlike a rifle bullet, has no fixed center and trying to decide the amount of wind drift in breezes that may go as high as 30 mph must take some guess work. Be all that as it may, the results are interesting and I give them here.

It is necessary to multiply the wind velocity in inches per second by the difference between the time that it takes the shot charge to cover the given range in air and the time it would take it to cover the same distance if fired in a vacuum. This gives the deflection of the shot in inches at the desired range. For this calculation the cross range component of the wind speed must be used. In other words, for a given wind velocity, the more nearly the wind approximates a 3 or 9 o'clock wind, the greater will be the horizontal deflection of the pellets. Before such calculations can be carried out it is necessary to determine the times of flight in the air for all the various shot sizes and muzzle velocities of the different loads.

In order to supply the necessary data, tabulations of flight times were prepared for shot sizes from No. 2 to No. 9, to 50 yards and for muzzle velocities of from 1150 fps to 1450 fps.

The Remington engineers point out that the figures which they secured are averages, sort of approximations, in all truth. For as they write, "The load is a cloud of pellets that has an indefinite and constantly changing shape, consequently the same degree of precision cannot be claimed for the shotshell windage data as for rifle bullet data.

Data in the chart is based on a 30 mph wind. However for 10, 20 and 40 mph winds the deflection may be calculated from the table by simply figuring that the deflection for a 10 mph wind is only ⅓ that for the 30 mile-per-hour breeze, for the 20 mph it is ⅔rd and for the 40 mph gale it is 4/3rds of the tabulated deflection.

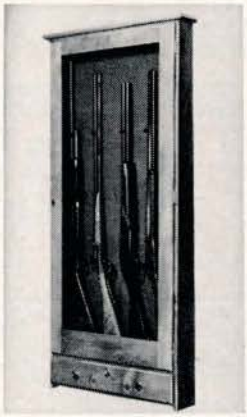
### *The Handicapped Shooter's Handbook*

**Over the years we have brought to our readers' attention the plight of the physically handicapped shooter with stories about the success obtained by individuals. There has been a considerable favorable response and requests for further development of the subject. Now, we are happy to report, the demand for more information and ideas for the handicapped shooter is being met by a book entitled *The Handicapped Shooter's Handbook.***

**This handy guide to the selection, use, and development of dexterity deals in detail with all the qustions a neophyte or established handicapped gunner would need. All popular forms of arms, large and small bore, target, hunting and combat course types are discussed as to suitability for both certain tasks and certan categories of users. Besides such special considerations as wheelchair shooting and one-handed operation, such areas of general firearms knowledge as muzzleloading, handloading, air guns and hunting are treated from the point of view of the handicapped. Shooting interests are beneficial to the handicapped it that they develop self-confidence, self-reliance and discipline, can produce give a strong sense of accomplishment, and allow handicapped persons to compete on an equal basis with the non-handicapped. For complete ordering instructions, contact the American Amputee Association, Box 3, Madison, Maine 04950.**

# SHOPPING WITH Guns

THINLINE WALL CABINET for four long-guns is the newest product from Yield House, the creators of popular wooden furniture and accessories. This shadowbox-type hardware holder is not quite six inches deep, a substantial saving of space over the ordinary wall cabinet, making it less bulky and giving it a trimmer appearance. This new one will take four rifles or shotguns—with scopes attached—in a minimum of wall area. Weighing 35 pounds and measuring 56½"x26¼", the Thinline holds the guns flat against a soft red or tan burlap background and comes in a choice of finishes. The spacious glass door and sturdy ammunition drawer both lock with keys, adding a modicum of security to the proposition. This thinline wall cabinet is available for mail order in ready-made or do-it-yourself styles at $66.95 and $42.50 respectively. See all of the Yield House products in their latest color catalog from: Yield House, Dept. 105, North Conway, New Hampshire 03860.



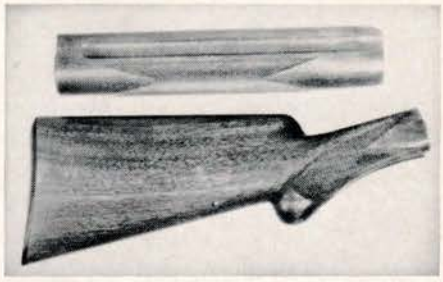
NUMRICH ARMS has announced that their popular Hopkins & Allen family of muzzleloaders has a new addition. The new Deer Stalker underhammer percussion rifle comes in the big .58 caliber bore. It uses the same slugs as the popular replica Zouave muskets to knock down larger game animals. The octagonal barrel of the Deer Stalker is 32 inches long with one full twist to 72 inches. The bore measures in at 57.5 calibers with a total weight of nine and a half pounds. Recapture the thrill of the early frontier hunt, like Dan'l and Davy, for only $74.50. See your dealer or write: Numrich Arms Co., 201 Broadway, West Hurley, N.Y.

OLD STOCK AID is a preservative balm and restorer for wooden gunstocks that is rivaled by very few preparations. And it is simple to use: just wipe it on, let set, and polish, and waterstains, minor scratches and mars disappear. Old Stock Aid polishes to a becoming dustless, hard oil finish.


Packaged in a conveneient four ounce plastic bottle, it will not break in the workshop or in the field. Many users have commented on successes using Old Stock Aid to restore lustre to dried-out stocks on antique and collector pieces as well as their everyday irons. Available at $1.50 per bottle from Coach House Products, Box 369, Glen Ellyn, Illinois 60137.

TARG-DOTS ARE fluorescent red, self-sticking circles of 1", 1½", 2" and 3" in size that make an excellent aiming point for all types of target shooting and sighting in. They highlite both iron sights and scope hairs, "taking the grey out" of target shooting. Targ-Dots are excellent for both dull shooting days and sunny days alike, and the self-sticking feature makes application to any relatively clean, dry surface an easy "stick-up." Take Targ-Dots along next time you go shooting and see how they improve your aim. Available from your dealer or: Peterson's Labels, 58 Harrison Brook Dr., Basking Ridge, N. J. 07920.

SILE DISTRIBUTORS now has a surefire remedy for tired or broken shotgun and rifle stocks: replace them, with inexpensive imported as-original wood. Made of the finest European walnut, completely oil finished, checkered and provided with butt plate, these Sile stocks are completely inletted so they can be installed as simply on a gun as the factory originals. Currently available are types for the M97 and M12 shotguns and the M94 lever-action rifle by Winchester, the new Browning automatic rifle, and Remington Model 11 shotguns in 12 and 16 gauge. Price for these dress-ups is $19.95 for the butt and $14.95 for the forend from Sile Distributors, 7 Centre Market Place, New York, New York 10013.



SHOOTING CLUBS CAN NOW design their own organizational embroidered emblems without experience or special talent. The patented "Design-an-Emblem Guide" available from A-B Emblem Corporation enables the untrained sportsman to organize a professional-looking sketch of patches for jackets, caps, shirts and other uses by tracing from the background shapes and designs in this useful booklet and indicating the lettering styles and arrangement. By requesting a copy of the guide on official club stationery, a club officer will receive prompt attention and a copy of A-B's full-color brochure showing all their emblems, plus a copy of the "Design-An-Emblem" book. To order, write A-B Emblem Corporation, Weaverville, North Carolina.

# SHOPPING WITH Guns

IMITATION PELTS can now grace the unrealized bwana's parlor or recreation room as trophies of mortal combat with the modern textile industry. Rojan Manufacturing of Philadelphia produces bear, lion, leopard, tiger, and panther rugs, complete with snarling ersatz heads. Made tough enough to withstand the wear of everyday functional use as rugs or wall hangers, these funfurs are made from dynel modacrylic fibers on a rubberized base. This nylon-like material is

washable in cool water and the heads are detachable for cleaning and shampooing. The most popular rug is the white "Polar Bear" design, all the rage for children's rooms and playboy penthouses. Other than jungle cats and bears in white, brown, or black, there are wolves, zebras, and giraffes, plus plaque-mounted replica heads for wall use. The hair-fiber is faithful in both appearance and texture. For complete information, write to the Rojan Manufacturing Company, 1228 Cherry Street, Philadelphia, Pennsylvania, 19107.

LOOKING FOR a career that will keep you in the great outdoors? Well the North American School of Conservation might have just what you are looking for. A free book from the school explains a plan to prepare men ages 17 and up for a wildlife or forestry career. You can have a healthful, adventurous life as a government hunter, game warden, forester or with private game farms and hunting clubs. Get full information. Write: North American Conservation, Dept. GP-1, University Plaza, Campus Dr., Newport, Calif. 92660, for the free booklet.

A GIFT FOR the well-rounded sportsman is to be found at the Alaska Sleeping Bag Company in an assortment of smoked fish delicacies. This unusual gift box will appeal to those who savor the exotic in Northern seafoods. The fish are caught in the icy waters off Alaska and processed in Alaskan canneries to assure the buyer of absolute freshness. Smoking is done carefully in the tra-


ditional manner to protect the delicate flavor. This coffer of new gourmet treasure includes four cans each of Fancy Columbia River Smoked Sturgeon, Smoked Salmon, and Alaska Small Shrimp, shipped anywhere in the U.S. for $12.50. A smaller eight can variety contains three each of the smoked fish and two of the shrimp for $8.50. Every order is fully backed and guaranteed, postpaid, by the Alaska Sleeping Bag Company, 701 N.W. Dawson Way, Beaverton, Oregon 97005.

ZERO BULLET COMPANY now is offering for the handloading gunners an economical wadcutter slug for .38 caliber range work. This latest improvement from Zero comes in a 148 grain size with hollowed base, sized and lubricated for easy use in standard reloading equipment. Information on the other bullet products in the Zero repertoire, including soft and hollow point hunting bullets, can be gotten for the asking from Zero Bullet Company, 7254 Farnum, Inkster, Michigan 48141.

TASCO OPTICS BRINGS the serious shooter and casual observer an automated spotting scope and telescope which is considered a breakthrough in the optical field of endeavor. This new Tasco electric telescope zooms from 15 power to 40 power with a remote control. The Model 2EZ instrument has an advantage over the conventionally operated type in that it functions vi-

bration-free and without laying a hand on it. As in all Tasco scopes, the Model 2EZ has fully coated lenses. It is powered by two penlight batteries (included) and has an adjustable tripod with altitude-azimuth control. Retailing for $39.95 the Model 2EZ is available through most sporting goods dealers. For further data on Tasco products, contact Tasco Sales, Inc., 1075 N.W. 71st Street, Miami, Florida 33138.

CHARTER ARMS HAS announced the availability of a new brassard displaying the company's trademark. Circular in design and measuring about 2½″ in diameter, the brassard depicts the Charter Arms "scroll" trademark in black and brown against a white field surrounded by a match-


ing brown border. Suggested list price of the new brassard is 98¢. Special prices are available to shooting clubs and other similar groups. For further details, write: Brassard, Charter Arms Corporation, Dept. GM, 265 Asylum Street, Bridgeport, Connecticut 06610.

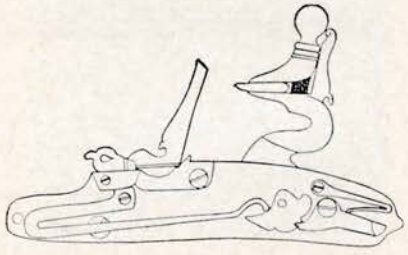
# THE FLINTLOCK

(Continued from page 33)

17th century the French lock was generally adopted over the greater part of Europe except where the Miguelet style persisted in some of the Mediterranean lands. Although the basic mechanism remained unchanged, style altered and a number of modifications designed to improve its action were adopted over the centuries and these afford some useful guides when dating flintlock pistols.

Mid-17th century lockplates were flat and fairly long but by the 1680's there was a tendency towards a somewhat shorter plate with a convex surface and a rather drooping banana shape. There was a continuing straightening of the outline shape while the curved surface was gradually flattened until the later pistols have simple, straight, flat plates.

A similar, almost parallel, development took place in the design of the



Earliest lock form shows pivoted sear with two cocking notches ("half bent" and full) but no tumbler bearing bridle.

cocks. Many early 17th century ones were flat but as the century developed the fashion for thicker, curved, D section, cocks grew. There was a swing back to the flatter cock on many of the late 18th century weapons, especially on military issue pistols. The general outline altered only slightly although it may be said that earlier specimens tended to have perhaps more pronounced curves, often embellished with skillful and attractive chiselling.

Very early locks had a small metal block, the buffer, set just in front of the cock and this was designed to prevent the cock flying too far forward. From about 1630 this feature was abandoned and replaced by a shoulder on the "lockside" of the cock which served the same purpose.

During the last quarter of the 18th century there first appeared another development in the form of a small roller fitted either at the end of the frizzen or else at the tip of the frizzen spring. Easier movement ensured a good crisp action which, in turn, usually meant a better supply of sparks. Better quality pistols of this period were fitted with a small link joining mainspring to tumbler so that surface areas in contact, and consequently friction, were reduced.

There were few changes in the style of the steel and pan covers although a rough generalization is that those of the 17th century and early 18th century are usually square-topped, while later ones are shaped to a point.

Triggers offer little guidance in dating beyond the very, very loose generalization that those of the early 18th century have a backward curl at the tip which tends to decrease in later pistols, and the triggers of the late 18th century pistols are usually quite straight and fairly broad.

A good flint was essential or sparks were sparse and misfires frequent. It was generally agreed that black flint gave best results and each piece was reckoned to be good for thirty strikes, after which it would need replacing. The various sizes of flints were, and indeed still are, manufactured at such places like Brandon in Norfolk, England, where expert kappers produced them in their thousands. Flints were normally wrapped within a strip of leather or, more rarely, lead, before being placed between the jaws of the cock.

The construction of a lock was no simple process and required the skills of craftsmen such as spring makers, lock filers, cock finishers, engravers and polishers. No two locks were ever absolutely identical since each was hand made, and even with pairs of pistols close examination will reveal minor differences.

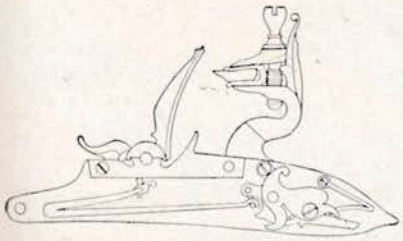
Spanish craftsmen early acquired a reputation for producing barrels of the highest quality. Spanish barrels were exported in quantity and may be found fitted to weapons of many nationalities. Seventeenth century barrels from Spain were produced by starting with a strip of metal made up of alternate layers of iron and steel. When hammered and twisted the variations in textures produced a pleasing "water-like" pattern which was emphasized by treating the surfaces with acid. By the 18th century this style of construction was being used by makers all over Europe to produce so-called Damascus barrels.

Starting with a metal plate the

maker hammered it to the appropriate size, when it was wrapped around a cylindrical former and the edges welded together. Skilful hammering and polishing soon rendered the join invisible.

Early pistols commonly had fairly short barrels with a large bore but from the 17th century there was a growing emphasis on a larger barrel and a smaller bore. Both these changes made for more accurate shooting and, of course, more expensive pistols were rifled or "screwed." Mechanical difficulties in rifling prevented a more plentiful supply of such weapons.

Accuracy and safety were the two prime considerations in designing a barrel and it was obviously most important to ensure that it was sufficiently strong to withstand the stresses



Good quality lock of 1780-1825 used a better, friction-reducing linkage, had curved shield to protect pan from rain.

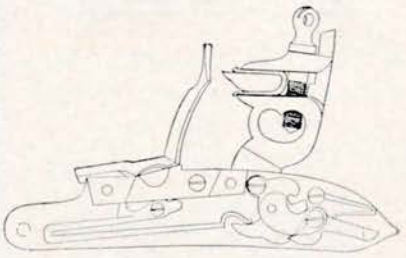
of explosion. The region of greatest pressure was at the breech, so the walls there were made thicker and then tapered gradually towards the muzzle. Some barrels are octagonal at the breech changing to circular, while later duelling pistols commonly have completely octagonal barrels. Most barrels were subjected to strict tests in which a larger than normal charge of powder was fired from them. If subsequent examination revealed no flaws, the barrel was marked by stamping it with a special punch to show that it had been proved satisfactory. Centers for proving were set up in a number of towns, each with its own special mark. In Great Britain, London was the main center but later Birmingham set up its own Proof House in 1813. Strangely, the U.S.A. has never established any proof laws although many manufacturers have carried out private proving of weapons.

Most barrels were attached to the stock by means of pins which pierced the stock and engaged with lugs set beneath the barrel. From the rear of the barrel extended a tang or strap and this was usually inset and screwed to the stock. Towards the end of the 18th century a new style fixture was introduced in which the barrel terminated at the rear in a broad hook which engaged with a metal socket fixed permanently in the stock. In place of the two or three pins, one wide bar secured the barrel at the fore end.

Many European and American pistols used an alternative method of holding the barrel in place. A nose cap, often of brass, was so designed as to slip over the barrel and stock at the muzzle where it was held in place by a spring clip. This, together with the tang screw, was quite strong enough to hold the barrel firmly in place.

Many gunsmiths marked their products with either or both their name and mark. Sometimes the name is stamped or engraved along the top of the barrel while those from Spain will be found to have a deep set mark, frequently of gold, the *poincon*, which records the maker's name. Most makers had their names engraved on the lockplate and these are invaluable in identifying and dating specimens.

Flintlock weapons were robust and reliable but were not without their faults. They were susceptible to weather conditions and, despite many ingenious designs, rain was very likely to dampen the priming. Flints were unreliable and even when they struck sparks there was an appreciable delay between the pressing of the trigger and the exploding of the charge.



French carbine lock, circa 1815, had both flashpan cover bridle and tumbler bridle, improving function and timing.

This "hang fire" was a serious problem for hunters aiming at a moving target, and it fell to a Scottish clergyman, an amateur chemist, to point the way to the solution. The Rev. Alexander Forsyth took up the idea of using chemical means to produce a spark. Fulminates are compounds which explode on impact and in 1807 he patented his idea, and was soon producing weapons using fulminate in powder form to detonate the charge. By the 1830's fulminates deposited on the inside of a small copper cap were in general use and this percussion system was soon adopted by the great majority of makers. Some owners had their flintlock pistols converted to the new system, and these are fairly easily recognized by their general appearance and signs of alteration on the lockplate.

## SIGnature OF QUALITY

*(Continued from page 43)*

into its present form, the Model SP 47/8. It is difficult to take a completely objective view of this beautiful pistol, but I will try to make an unbiased evaluation.

A first impression of the pistol is the contrast between the grips, made from some light-colored European wood, and the dark, deep-lustre blue. When you take it in hand, you know that the designers did not lose the original good grip shape of the Petter. The comfort of the Neuhausen grip is matched in non-target pistols only by the Luger, Remington Model 51, and Beretta Brigadier. The grip-to-receiver angle is also good. The top front corner of the left grip panel is cut away for the safety lever, where it falls conveniently under the shooter's thumb. The slide latch is still too far up and forward for operation by the firing hand. I would be appalled at the idea of altering an SIG, but for those less sensitive and more practical it would be possible to add a steel extension to the slide latch which bring it within thumb reach.

The SIG sights are excellent, square post front and square notch rear. They are non-adjustable, though they can be moved right or left with a sight mover, or a brass or aluminum drift. However, this may not be advisable or necessary. Sights on the Neuhausens I have examined were dead on at 25 yards, from the factory.

Before we continue, let me point out that there are commercial variations of the SIG that have fully adjustable sights, I will list these later. The pistol in the photos, the one examined for this article, was purchased in Zurich, and is the same model issued to the Swiss military.

Another feature retained from the original Petter design is the loaded indicator. Compared to the complicated system of the Walther pistols, it is a masterpiece of simplicity. The indicator is located on top of the slide, just to the rear of the ejection port, and consists of a spring-powered piv-

oting part which lies flush when the chamber is empty, and is tipped up by the cartridge rim when loaded.

The extractor, also a spring-powered pivoting part, is heavy and well-shaped. It does not protrude into the ejection port, but lies in its own well on the right side of the slide. The ejector is on the left inside, a heavy projection from the sub-frame. The magazine is well-made and strong, with a construction pattern similar to those of the Walther P-38 and Smith & Wesson Model 39. There is an automatic safety which functions to prevent firing when the magazine is withdrawn, a good safety feature for the forgetful, but of dubious value in combat use.

The trigger has a two-stage pull, smooth as silk. Because of the double stage, actual weight of pull is difficult to measure, but is about three pounds, and let-off is almost impossible to anticipate. There is very little overtravel.

Aside from the sub-frame containing the entire firing system, other internal points worth mentioning include the locking system. The barrel base has an enclosed track for the slide stop shaft, which closely controls barrel movement during recoil and relocking, preventing any tilting or untimed motion in either direction. The recoil spring and guide are a captive unit which cannot fly out during disassembly.

A note at this point on the inherent accuracy of the SIG barrel: A few years ago, well-known gun dealer Bob Olmstead visited the Hammerli factory in Schaffhausen, Switzerland, and he remembers seeing racks of new Model SP-47/8 barrels there. He had no opportunity to inquire about them at the time, but it would appear that SIG had contracted the rifling and finishing of at least some of their barrels by Hammerli.

As previously mentioned, the Swiss sidearm which preceded the SIG was a 7.65 mm Luger. For this reason, the Neuhausen is available in either 9 mm or 7.65 mm Luger, a simple matter of switching barrels. Also, a .22 Long rifle conversion unit is made, consisting of slide assembly, barrel, recoil spring assembly, and magazine. Unlike the colt conversion unit for our service pistol with its floating chamber, the SIG unit does not attempt to simulate larger-caliber recoil. In fact, this would hardly be necessary, since the perfect balance and superbly smooth locking system of the Neuhausen minimize the recoil of even 9 mm handloads. Also, unlike many conversion units which require some fitting, the SIG system installs effortlessly and functions flawlessly.

SP 47/8 SP 44/16

On the range, accuracy was equally good with 9 mm, 7.65 mm and .22 cartridges. Firing was from 25 yards, standard target for that range, no rest. Groups averaged just under three inches with centerfires, the 7.65 giving a slightly higher point of impact. With the .22 unit installed, and using match-grade ammo, even tighter groups were possible, the smallest being two inches. Also, let me add at this point that I am by no means a target-grade pistol shot, and I had never practiced with the SIG. In fact, I had not had an opportunity to fire one before this time.

Takedown of the Neuhausen is relatively simple. After removing the magazine and being sure the chamber is empty, cock the hammer and slowly draw the slide back about 1/5 of an inch. While doing this, maintain pressure on the tip of the slide stop shaft, which protrudes from the right frame above the trigger. As soon as a semi-

circular cut in the slide is opposite a like projection on the slide stop, it may be pushed out to the left. The slide assembly, with the barrel and recoil spring unit, may then be run forward off the frame. Recoil spring and guide, then barrel, may now be removed from bottom opening of slide. Finally, grasp the hammer and pull the sub-frame unit straight up out of the frame. No further disassembly is recommended for the non-gunsmith. Reassemble in reverse order. When replacing slide stop, first line up shaft hole in frame and shaft track in barrel, partially insert shaft, then move slide into position for complete insertion. Be careful to keep slide stop lever centered over its opening during this operation, so it will not swing to mar the frame or slide.

Markings of interest to collectors are practically non-existent on the military model, consisting of a small Swiss coat-of-arms, a cross within a shield, on top just forward of the rear sight. In a small oval at left center of the slide are the letters 'SIG." The serial number appears on the left forward flat of both frame and slide. The .22 conversion unit is marked more in the commercial manner. On the left slide flat, in one line, "S.P. 47/8 Cal. .22 LG. RF.", and after a short space, "SIG Neuhausen A/RHF." The very last abbreviation referring to the factory location, at the Swiss Falls of the Rhine River. Unit serial number appears on the right forward slide flat and on the barrel in the ejection port.

The basic Neuhausen, the SIG Model SP 47/8 described and pictured in this article, is known commercially as the Model 210. It is available as described for just under $200, or with composition checkered grips and matte finish for about $10 less. A complete combination, with all components for 9 m/m and 7.65 m/m Luger and .22 long rifle, is just over $300. For about $25 over the price of the basic pistol, a target model is available, with matte finish, checkered grips, 6 inch barrel, adjustable trigger, and fully adjustable sights. The .22 conversion unit alone costs about $90. The importer is H. F. Grieder, Box 487, Knoxville, Illinois, 61448. For a handgun, these prices may seem a bit steep, but don't judge them so until you handle and fire a Neuhausen. The quality is apparent down to the smallest detail, and the accuracy speaks for itself.

If only the Schweizerische Industrie Gesellschaft hadn't dropped the 16 round magazine of the 1944 Model from this excellent design!

## NEW S&W RIFLE

*(Continued from page 47)*

single-stage, and a test with dead weight shows it stands at 4 lb. 3 oz. It is clean-breaking. According to the specs, this trigger is adjustable but on taking the rifle down there are no adjusting screws visible. The forward end of the trigger guard holds the floorplate latch.

The stock has a length of pull of 13¾". This is a mite on the long side for a fellow with winter clothing. The pistol grip is moderate in configuration and feels quite comfortable. The comb is too low for scope use altho it is the proper height for iron sights. An inspection of the inletting reveals highly expert work. The stock, both on the exterior surfaces and in the interior cuts, has been finished with an extremely hard plastic finish. In the showcase it makes the rifle quite attractive; how it will hold up in the field and after use to be seen.

I equipped the Model C with the Conetrol scope mount. The new job called the Huntur type. This is a bridge mount and an exceedingly sturdy one. It fits to the Mauser receiver with 4 screws. The scope was the new Bausch and Lomb Balvar, the 2.5-8X internally adjustable model.

Federal 80-gr. and 100-gr. factory cartridges were fired at 100 and 200 yards. Then Remington 100-gr., followed by Norma 100-gr. loadings were fired. Of the more than 30 groups that were fired none ran larger than 2.20" at 100 yards; 3.95" at 200 yards. The best group, shot with 100-gr. Federal HiShok, measured 1.01" at 100 yards. The extremely light barrel on this rifle tends to heat up very rapidly and for best groups it must be cooled between shots and between strings. The Conetrol Huntur mount and the B&L Balvar scope performed perfectly.

A series of hawks, shot from 95 yards to 185 yards, some 20 jackrabbits, together with a single coyote killed at 210 yards with the factory Remington 100-gr. proved the new S&W is a good game rifle. It has functioned perfectly, both slow fire and rapid, with three different factory makes of cartridges, and will take its place beside the high quality S&W sixguns as a firearm quite on a par with the best of the handguns.

# THE WESSON BROS. Part 1

*(Continued from page 35)*

patent for this improvement was entered in Edwin Wesson's name by the administrator of his estate, Edwin G. Ripley. After Edwin Wesson died, his heirs and some others organized the Massachusetts Arms Company and proceeded to manufacture Wesson & Leavitt repeating pistols, employing this 1849 patent.

Manufacture of the new model Wesson & Leavitt pistols led to one of the most spectacular legal battles ever to involve firearm patent rights. Samuel Colt was the plaintiff and was represented by Edward S. Dickinson, the leading patent attorney of the time. The Massachusetts Arms Company had equally distinguished legal counsel in the Honorable Rufus Choate. The case was tried in the summer of 1851 and the decision reached held that Edwin Wesson's system of revolving the cylinder did infringe on Colt's patent and the Massachusetts Arms Company was ordered to discontinue manufacture of pistols employing the Wesson improvement.

In an earlier patent of June 5, 1847, Edwin Wesson had been granted patent protection on a caplock rifle described as a "Magazine Fire-arm." This was a seven-shot caplock gun commonly called a goose gun. Seven bores were drilled in the barrel which was formed from a solid piece of metal, and the chamber was so designed that all bores fired at once. It was not very different in principle from a similar gun produced by Henry Harrington at Southbridge, Mass. The Harrington and Wesson families were related through marriage. I once owned one of these odd Wesson goose guns which came from the extensive Charles D. Cook collection. It is the only specimen I have ever seen or of which I have ever heard. Apparently not many were made. Among Wesson's papers there is a sketch showing a double barrel gun of this kind, but it proved to be too heavy.

A much broader field of production was the happier fate of Edwin Wesson's beautifully-made single shot caplock rifles. The famous Texas Ranger and Merican War hero, Capt. Samuel H. Walker, wrote from Mexico in 1847, "Everybody is also pleased with Wesson's rifle and are anxious to obtain them." Whether for military service, hunting, or target shooting, E. Wesson caplock rifles were hard to beat. Some of the match rifles were used by snipers in the War between the States and an excellent specimen may be seen at the Smithsonian Institute in Washington.

Wesson produced two principal styles of single shot rifles. The lighter rifles were made with a back action lock and set triggers. They employed the traditional halfstock which extended part way under the barrel. Barrels were usually part octagon and part round. The rifling on all was invariably gain twist; Wesson was so positive that this was the best that he could not be induced to cut any other type of rifling.

The second distinct pattern was a match rifle, ordinarily with a heavy cast steel octagon barrel about 30" long and fitted with a false muzzle. This heavy barrel was made without forestock and was designed with a hook type breech terminal. The barrel was held securely in position by a set screw under the frame which was of boxlike design with hammer hung on the right side and a separate plate extending back into the wrist of the butt stock to accommodate the working parts of the lock.

A rare E. Wesson item, made in small quantity, is a "buggy rifle" (sometimes called a "turkey rifle"). This was turned out with a box action similar to the heavy match rifle, but smaller in size. It resembled a heavy single shot pistol, and could be had with a barrel from 12" to 18" long. A detachable wood shoulder stock transformed it into a pistol-rifle. Arms of this type usually were put up in a partitioned leather or wooden carrying case. Wesson's better grade rifles were also put up in partitioned cases, generally of hardwood.

It was this writer's good fortune to discover in the archives of the Connecticut Historical Society at Hartford a wealth of material devoted to Edwin Wesson. In 1906 the Society was presented with 618 letters, bills, and other pertinent papers relating to Edwin Wesson's business activities, along with his "Account Book" from August 1, 1839.

Many pertinent details of the manufacture and sale of Wesson rifles are clearly shown. In brief, the records indicate that Wesson made rifles in quantity for dealers such as Edward

Lovell of Savannah, Ga., Lane & Read of Boston, Mass., H. K. Carter of Macon, Ga., John S Brown, Harrisburg, Pa., Moore & Baker, New York, Blunt & Syms, New York, and a few others.

Many of Wesson's orders came directly from individuals. Among the more famous persons who ordered rifles were Capt. Samuel H. Walker (already mentioned), Capt. R. B. Marcy, and John R. Chapman, author of "*The IMPROVED American Rifle*" published in 1848. Chapman was one of the best informed and most literate sportsmen of his day. On January 19, 1844, Chapman wrote Wesson: "You will oblige by making and forwarding one of Clark's Patent rifles and one of the 12-inch Shifting Butt pistols."

The "Clark's Patent" was a false muzzle designed by Alvan Clark of Boston with whom Wesson exchanged many letters. Wesson's right to use Clark's patent false muzzle system is confirmed by a letter dated November 8, 1841 at Concord from Alvan Pratt which states: "I understand by Mr. A. Clark that you have got the right of putting on the patent muzzle."

Chapman's description of a shoulder stock as a "shifting butt" appears to be a rather unique description which I have found nowhere else. In October, 1847, Chapman wrote Wesson that he had arranged with D. Appleton & Co. to publish his book.

When the book was published it contained some complimentary things about Wesson rifles, such as, "Edwin Wesson of Northboro, Massachusetts, stands first in public estimation as no other maker can legally use 'Clark's patent loading-muzzle,' and a weapon so made for target practice stands unrivalled in the world."

Chapman claimed prices up to $200 for Wesson rifles, but the Wesson account book shows a top price of $60 for the "Extra C.S. (cast steel) rifles." Lane & Read bought common rifles as low as $12, common pistols at $9 each and pairs of "extra" pistols at $40. On average a rifle with ordinary stock and blued iron mountings cost an individual $45-50. A rifle with better stock and German silver mountings cost $55-60.

It is interesting to note that Nelson Lewis, famous gunmaker of Troy, New York, bought barrels from Wesson, as did many others including Wesson's old mentor Capt. Silas Allen. Morgan James of Utica, New York, ordered gunpowder from Wesson.

Among Wesson's suppliers were Fairbanks, Loring & Co. of Boston who in 1840 sold gun locks at $17.25 per dozen (less 10% for cash or 6

months for a good endorsed note!); J. S. Gould & Co., Boston, sold steel bars at 12½¢ per pound; castings came from H. N. Hooper & Co.; and some iron came from the Easton Iron Foundry of Boston. The American Powder Co. of Boston supplied gunpowder. In 1843 Asa Waters & Co. offered to draw steel for 3¢ per pound.

During the 1843-44 period Wesson did business under the name Wesson & Prescott but it is evident that he answered all the correspondence and was the dominant force in the enterprise. The names Harrington, Miller, Marden, Briggs, Muzzy, Smith, Fay, Wright, Dudley, Halket, Belknap, Buckram, Wright, Hendricks, and Stevens appear to have been on the Edwin Wesson payroll at times, in addition to Edwin's brothers Franklin, Daniel and Martin. Wages varied from $1 to $2 per day. At Northborough in 1840 Wesson paid Cyrus Gale only $110 per year rental for his shop and forge.

When Edwin Wesson was forced to lay down his tools and answer the summons of death in 1849, the books were closed on the distinguished career of one of America's greatest riflemakers.

## RUGER .30 CARBINE REVOLVER

*(Continued from page 49)*

worked over by a skilled pistolsmith. Of the various 9 mm autoloaders, I'd have to give the nod to the Browning Highpower and especially one with tangent sights which are easily adjusted for targets out to 600 yards. But the sights need to be worked over with a square notch replacing the rear "U" and a square post replacing the front. And a trigger job will help as the 7½ pound minimum pull that Browning has established for the Highpower leaves much to be desired.

This is where matters stood until early in 1968. Oh there are other handgun cartridges that might seem to be good long range plinkers but while they might have a good point or two, if you can't see the bullet strike they end up pretty worthless. And this is what happens to the .22 Remington Jet and .256 Winchester, which at the present time isn't being made in a handgun since Ruger quit production of the Hawkeye.

The .30 Carbine is in a GI carbine or civilian copy, a pretty weak sister. For plinking or small varmints it isn't bad but anything above the size of the fox should best be left to a more powerful cartridge.

But in a handgun the .30 Carbine does have interesting possibilities. Actually Ruger wasn't the first to use this cartridge in a handgun. Just who should get the honors is probably now unknown, but at one time Christy had available both cylinders and barrels for the Colt Single Action for this cartridge. As the cartridge headspaces on the mouth the SA revolver, either Colt or Ruger is an ideal choice for rimless cartridges. At one time there was also an autoloading handgun called the Kimball which was chambered for the carbine cartridge but the gun didn't last too long and it was said that the gun was unsafe to shoot. Colt made at least one SA chambered for the carbine cartridge but as far as is now known they made but one, on special order, during WW II and this is now in a collection, and much too valuable to shoot.

Before and after shots of various bullets fired into sand at 65 yards.

Ruger first promised delivery around mid-June. Then, after July had arrived, they promised delivery could be expected sometime during November. It wasn't until January that the new Ruger finally arrived. As produced, this comes with a 7½" barrel only and no doubt a shorter barrel would make great inroads on velocity as it must be remembered that the carbine cartridge is first, a rifle cartridge.

As with other Rugers, the trigger pull is crisp with just a slight amount of creep and the weight of the gun is such that recoil will never be a problem, although muzzle blast is another item. Ear protection of some kind is a must!

Fit and finish of the metal is very good, although this was to be expected from other Rugers already

owned. The one debit was the front side blade which leans a wee bit to the west when aiming south. Perhaps the sight fitter was still recovering from the effects of New Years. Actually this slight defect hurts nothing and the gun was shot for two weeks before this was even noticed!

Shooting the .30 Carbine Blackhawk is a pleasure. Recoil is light and the cartridge is flat shooting and bullet strike is on a par with the .357 Magnum. Actually bullet energy between the .30 Blackhawk and the .357 are similar and it seems to me that it is easier to shoot the .30 Blackhawk. Part of this, no doubt, stems from the difference in barrel length which is 7½" in the .30 Blackhawk while 4⅝" in the .357 Blackhawk. It is also possible to shoot more .30 cal. cartridges compared to the .357 due to less recoil.

All in all the .30 cal. carbine Blackhawk is a good shooting fun gun and useful for varmints and a meat getter too with lighter loads. Paired off with a GI or civilian carbine there is practically no end of shooting fun in sight!

Reloading for the .30 Carbine is a simple chore, almost! Due to the taper of the case there are no tungsten carbide size dies available, which means that each case or at best every other one must be lubricated, and after sizing this lube must be wiped off before seating primers and charging the case with powder. When it comes to reloading for the various handgun cartridges the T-C size dies have this gun bug plumb spoiled!

There are two things that must be watched, case length and bullet diameter. Generally GI cases will vary all over a 40 acre field as to length. While I haven't run into any troubles with short cases, the opposite is true with long cases. One case, Lake City 1952, measures 1.308" while the latest Lyman Reloading Manual #44 lists the length at 1.286". This case is so long that it won't even allow the bolt of a GI Carbine to close far enough to fire. So those of you who have a supply or plan to buy GI cases because they are cheap, take heed. It is no fun trimming several hundred cases to proper length.

For those of you who want to use cast bullets in the Ruger Blackhawk Carbine, go right ahead. As with any other handgun this one is well suited for cast bullets, but watch bullet diameter. Bullet diameter cannot exceed .3085" or possibly .3080". 'Tis a sad affair to load up a batch of cast bullets sized to .309" and run several miles up to the shooting grounds only to find that due to oversize bullets the ammunition won't chamber! From that time on every reload was tried in the chamber *prior* to any shooting trips.

Cases that are too short could result in poor ignition. As the Blackhawk Carbine headspaces on the case mouth as does the 9mm Luger, .38 Super and .45 Auto cartridges, a case too short could allow the loaded round to slip into the chamber too far for the firing pin to reach the primer.

One other item to watch for is belling of the case mouth. There should be a slight belling for easy insertion of the bullet but excessive belling will overwork the case mouth and shorten case life due to split mouths. Also, if this belling isn't completely removed it, like an oversize bullet, won't allow the case to chamber fully. A slight amount of crimp after bullet seating will take care of this. But don't overdo the crimping as the case must headspace on the case mouth.

A good set of dies is needed and for this there are none better than RCBS. I made the mistake, when I ordered my GI carbine from the DCM several years ago (none of which are now available) of buying a set of what I thought were top notch dies. While there isn't anything wrong with the other dies, the size die leaves something to be desired. This size die sizes alright, but only the last 5/16" of the case mouth, which gives a bottlenecked appearance to the loaded round, and not all cases will seat in the chamber due to this "neck" sizing.

Of bullets there is no shortage in .30 calibre. Of bullets that will expand at Blackhawk velocities (1400 to 1600 fps) there is a big shortage. One bullet that looked full of promise was Norma's 93 grain .30 cal. Luger pill. So far these have acted like full metal jackets and not a one has shown the least bit of expansion. In passing it should be noted that these bullets are available as FMJ or soft point but here only the soft points were used. To date only half or short jackets show expansion out of the Blackhawk. Cast bullets, Lyman 3118 cast as a hollow point when loaded with 13.5 grains of H-110, must explode as only the base portion, past the hollow point portion, has been recovered.

The Norma Luger bullet was, as stated, a disappointment, especially when you consider that the .30 Luger has a velocity of around 1150 fps and I was able to drive it as high as 1800 fps and it still wouldn't expand. Norma's old 9 mm Luger bullet was in the same class though as when loaded hot in the .357 Magnum it also wouldn't expand.

So far none of the jacketed bullets show any expansion of the jacket, even the half or short jacketed bullets fail in this respect although both

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Speer Plinkers and Hornady SJ's show good expansion of the lead alloy nose portion. From this it would appear that we need thinner jackets for those bullets made specially for the Carbine or at least a thinner nose portion of the jacket, or stick to HJ, SJ's or cast bullets.

In cast bullets there isn't really a wide choice. The best three are from Lyman being their #3118, 311316 and 311359. The first is a plain base and the other two for gas-checks. For flat-test shooting the #311359 is best being spitzer form. For best all around use the first two numbers would probably be best though as they are flat nosed. All three molds can be had to cast undersized bullets which is to be desired as this will still leave about .002" to be removed in the sizing operation.

While for highest velocity the two gascheck designs would be best there isn't any reason why the #3118 can't be used with a gascheck seated under the bullet with the cup down. This will not only protect the base but give a slight gain in the velocity spread from high to low and also a slight gain in velocity. But in striving for really top velocity in using a GC in this manner the powder charge should be reduced about one-half grain.

For those of you who don't cast, drop Richard Beinzen, c/o Green Bay Bullets, 233 North Ashland Avenue, Green Bay, Wisconsin, a letter requesting his cast bullet list. These bullets are top notch and priced too low for quality received.

While 2400 seems to be the most popular powder for reloading the Carbine there are several other powders which, if tried, will also give good results—powders such as H-110, AL-7 and Winchester's new ball powder 680BR. While this last named powder isn't mentioned in Winchester's loading data it gave very good results. The one load that Winchester does list is with 630P and this is rather a weak sister load hence my use of 680BR which gives a better velocity and the load could probably have been increased as this load, 16.0 grains 680BR, gave no signs of pressure.

Other powders such as 4227, AL-8, and Herco have also been used in the carbine but it was thought that these were either too bulky or slow burning to give good results in both the carbine and Blackhawk.

One thing that was noticed in chronographing factory loads was the wide velocity spread in the Blackhawk, some loads the spread going as high as 180 fps. Either the powders used weren't compatible for the shorter barrel of the Blackhawk or possibly the primer could have been too hard for best ignition with the handgun. But considering the long and heavy fall of the Blackhawk, I'd guess that it was the powder.

All loads listed were used with the Alcan small pistol primer and in no case did these give the slightest trouble when fired in the carbine, or Blackhawk. They were tops in every respect.

.30 CARBINE LOADS and VELOCITIES

| *Bullet* | *Weight* | *Powder* | *Weight* | *Velocity (fps)* Carbine | Blackhawk |
|---|---|---|---|---|---|
| Remington Factory | | | | 1991 | 1461 |
| Winchester Factory | | | | 1895 | 1328 |
| Norma Factory | | | | 1981 | 1498 |
| Lake City 1952 | | | | 1979 | 1406 |
| Alcan | 73 gr. | H-110 | 17.0 gr. | 2302 | 1619 |
| Norma SP | 93 gr. | H-110 | 16.5 gr. | 2285 | 1606 |
| Hornady | 100 gr. | H-110 | 16.0 gr.* | 2141 | 1520 |
| Sierra | 110 gr. | H-110 | 15.0 gr. | 2029 | 1414 |
| Norma SP | 93 gr. | 2400 | 17.0 gr.* | 2358 | 1814 |
| Norma SP | 93 gr. | AL-7 | 14.0 gr.* | 2329 | 1682 |
| Speer | 100 gr. | AL-7 | 13.5 gr.* | 2235 | 1682 |
| Sierra | 110 gr. | 630P | 11.5 gr. | 1744 | 1169 |
| Sierra | 110 gr. | 680BR | 16.0 gr. | 1988 | 1475 |
| Pierson HP | 85 gr. | AL-7 | 14.0 gr. | 2350 | 1883 |
| Lyman Cast #3118HP | | Green Dot | 3.0 | | 908 |

*Hot load, reduce one grain.

*Except for Lake City load, no factory ammunition was hard to extract, these were sticky, as were most of the loads marked*. All loads will work the action of a GI carbine. The 93 grain bullet is made for the .30 cal. Luger while the 73 grain bullet is for the .32 auto-matic and available as FMJ only. Sad to relate none of the above bullets can be depended upon for sure expansion all the time in the Blackhawk, especially is this true of the 110 grain Sierra, 93 grain Norma and 85 grain Pierson. Jackets on all of these are too heavy for handgun velocities.*

*Cases were Norma and in all cases, whether fired in Carbine or Blackhawk, primers were Alcan small pistol. Cast bullets must be sized to .308" due to small throat diameter of Blackhawk and all case mouth belling must be removed or loaded rounds will not seat.*

## GUNS AND THE LAW

*(Continued from page 29)*

certain situations where a sniper has been located and manpower is short, the commander can order his men to work as individuals but generally the two-man team concept, enabling protection, covering fire and movement, maximum observation and combat efficiency, and aggressiveness, should be maintained.

### BASIC SEQUENCE OF OPERATION

1) Report of sniper incident.
2) Dispatch of police to seal off the area.
3) Dispatch of counter-sniper unit to scene.
4) Commander of counter-sniper unit estimates situation, coordinating his planned operation with police field commander, on scene, arranges for additional support, if needed.
5) Deployment of unit against sniper.

By definition, a good sniper is an expert marksman who can consistently hit, with his first shot, a target as small as a man's head at distances up to 300 yards, under varying conditions of light and weather. The police sniper training program should develop this kind of accuracy amongst all team members. They should be equally expert in any and all weapons issued, including those used with chemical agents.

Scopes with post and crosshair reticules, should be mounted on all shoulder weapons including shotguns. It must be understood by police administrators that a telescope sight does not improve, in any way, the ability of the poor and average marksman. The principal function of the telescope sight is to enable the expert marksman to see his target better, while at the same time, putting the target and sight into focus at the same instant. Because so much police riot-combat takes place involving fire at partially concealed, fleeting targets, under very poor light condition, the telescopic sight is essential in counter-sniper operations.

In a special training program, care

and use of telescopic sights, methods of range estimation, effects of light, wind and trajectory on hit capability, firing at moving targets and partially concealed targets at unknown ranges, effects of ricochets and bullet penetration must be covered. Ammunition allowances should be great enough to enable consistent, regular practice after the training period is completed. The eventual marksmanship objective of all unit members should be reached when each man is able to fire a 10-inch-group at 300 yards. The face of a man is estimated to be approximately 10 inches in diameter at this range which is normally considered to be the maximum police capability needed in most urban situations.

Additional basic subjects should include use of concealment and cover, methods of fire and movement, use of binoculars in observation, radio and signal transmission, maintenance of good physical condition, building search techniques, and basic street fighting tactics.

The final stage of training should be devoted to practical problems concerning all phases. If possible, built-up areas should be used where all forseeable sniper-barricade situations can be simulated, including the observation, planning and deployment phases. The team concept with the inter-relation setup of individual segments of the unit must be practiced constantly. This is best done by realistic training exercises and problems that are only limited by the ingenuity of the training officer.

A typical military ten-day training program follows. The same basic pattern can be used, with necessary modifications, for police operations.

The departmental status of the counter-sniper unit with its special training and skills, should be developed to the point where its morale is of the highest order and its members are considered by other men in their department as a force capable of handling the most dangerous, risk-filled situation.

## TRAINING SCHEDULE

| Day | A.M. | P.M. |
|---|---|---|
| 1 | Orientation, organization<br>Inspection of equipment | Known-distance firing<br>Zero rifles and check technique |
| 2 | Firing shot group<br>Qualification 300-600 yards.<br>Elimination | Additional practice<br>Range estimation<br>Selection of firing positions |
| 3 | Searching areas<br>a) Exercises to develop speed<br>b) Exercise to develop patience | Use of concealment and camouflage<br>Selection of and movement by concealed routes. |
| 4 | Nomenclature, use and care of telescopic sights<br>Zeroing of rifles at 400 yards | Study of trajectory, effects of wind and light.<br>Known-distance firing with telescopic sights to determine holdoff, and sighting at elevated and depressed targets. |
| 5 | Known-distance firing for additional practice in hold-off, using obvious targets. | Same as A.M., but using concealed targets. |
| 6 | Firing unknown ranges at obvious targets. | Same as A.M. but using concealed targets. |
| 7 | Firing exercises involving selection and occupation of firing positions. Concealment and camouflage. Free firing at concealed, fleeting targets. Dawn and dusk visibility. Searching areas for periods of varying length. | |
| 8 | Same as 7 | |
| 9 | Same as 7 | |
| 10 | Final examination involving terrain not previously used. Final elimination of those who fail to qualify. | |

# .22 RIFLES FOR HUNTERS

*(Continued from page 23)*

insert in front. Sometimes I remove the iron sights and use a 4X Browning hunting scope.

For the rapid fire, I swing over to the Mossberg Model 144LS rifle which weighs 8 pounds, has a 26″ semi-bullgun barrel, an adjustable trigger pull which I have set at 3¾ lbs., and an excellent micrometered rear sight movable to ¼-minute changes at 100 yards. In front is a Lyman 17A front sight. I use an aperture insert ordinarily, but may, at times, attach the Browning 4X to this rifle since I use a 4X scope on the big bore hunting rifle. The stock on the Mossberg is target-type with a cheekpiece and high comb meant especially for scope use. The fore-stock is semi-beavertail and is long enough for a forward hand position, which I prefer. I do not use a sling in hunting so it is cast aside for this practice.

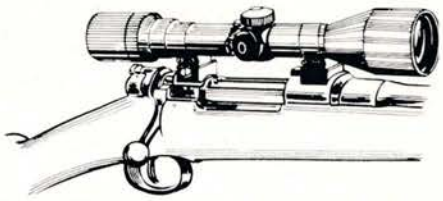
With this African soiree behind me, I shall keep right on with this practice shooting; it isn't something that is to be done by spurts and starts. It is a kind of firing that is cheaply accomplished with the inexpensive .22 hulls, and unless the gunner is dutiful about his practice his skill will go up and down.

The other day I read of some fellow who advocated very much what I am saying here, but instead of firing a heavy .22 he advocated practice with the light weight .22 rifle. His argument was that when you could hit with a 4½ lb. gun, holding it steady and fighting the necessarily crude sights, you were then in form for the better balanced and better sighted big bore. This is a fallacy. It is essential the practice .22 be a first quality shooting iron; excellent as to accuracy, with a decent trigger pull as near like your hunting arm as you can adjust it. The weight should be all that of your heaviest centerfire hunting model, and if you use a scope as most all of us do, the practice rifle should have a glass sight—with a reticle inside precisely like the crosshairs in the hunting tube.

There are other good rifles besides the Savage-Anschutz and the Mossbert 144 LS. I especially like the Remington 40XB; in standard weight, it goes 10 pounds. The barrel is 28 inches, it has excellent Redfield Olympic rear sight and aperture front, single shot, and an adjustable trigger. The splendid stock with a high comb works for either iron or scope sights. The 40XB comes in a heavier barrel which boosts the gun weight to 12 pounds, but I find for my training that this is taking the weight too high. It is best to stay with the 10 pound gun.

When you fire 60 rounds with this rifle, 40 of them sitting and 20 standing, you have lifted 600 pounds. This is something of a training grind in itself and it is excellent to accustom the hands and arms, the legs and the back, to the weight of the rifle and the necessity for holding it solidly. After several months of regular firing with the 10 lb. rifle, a switch to the regular bigbore hunting arm with its weight of 8½ or 9 pounds, gives the shooter a feeling of good steadiness.

Another good rifle for this practice, and one that I have used for the past 30 years is the Winchester Model 52. Like the 40XB there are two versions of the 52 rifle; the standard barrel and the heavy. The first weighs 9¾ pounds and the latter goes 11. Of these, the standard is the better for our purpose since it is nearer the weight of the hunting rifle. Accuracy is superb, and the trigger can be adjusted for weight, movement and



over-travel. The stock, with a length of pull of 13⅝″ and a drop at comb of only one-quarter inch below the center line of the bore, is plenty straight for scope use. I find when I shoot the M52 that I've got to swing back to the Mossberg if I want to practice rapid fire. This fine Winchester in the first several models I had was a repeater with a clip-loaded magazine. But now it is a single shot. But so, too, is the 40XB.

Another .22 which I use a great deal for my big game training is the new Walther Model UIT-Standard. This rifle is made by the Walther Co. of Germany and imported by Interarms, Ltd. of Alexandria, Va. This rifle had been recently developed by Walther to meet the International Shooting Union rules for 50-meter rifle events. The gun weighs 10 pounds, has a barrell of 25.6″, and a choice of two triggers. One is too light for the use of the huntsman but the other can be set for 3 pounds, and this is the one to select. The rifle has a speed lock and a firing pin fall of one-quarter inch. The sights are micrometer rear with audible click adjustments. The front is the globe with aperture inserts. The stock is full size and with a Monte Carlo has the right drop for scope use. The receiver is grooved for tip-on scope mount and the iron sights are readily removed when the shooter wants to practice with the optical sight.

This rifle is fine for offhand practice. The barrel is straight, with a diameter of .865″, and this gives it a muzzle heavy feeling which contributes to great steadiness. This, coupled with the extremely fast lock time, gives the shooter full value for every good hold he makes. The Walther is a single shot and cannot be used for rapid fire practice but it is a real joy for all the other practice.

Last winter, for my practice, Al Freeland, importer of the BSA Martini-International Mark III rifle, sent me down one of these English-made .22's. This one had been made up for a southpaw—I am a left-hander—and the loading port and sight base had been reversed especially for the port-sider. The rifle has a speedlock, an especially short hammer fall, and is superbly accurate. The trigger pull is adjustable for weight from 8 ozs. to 3½ lb. This was a good thing for my purpose, and I immediately set the weight at the full maximum, it came near my hunting rifle.

The barrel is 29″, bullgun type, and contributes to a 12 lb. overall weight of the arm. The sights were Freeland design and were excellent. This rifle shot superbly. The only objection I could find was that it was a couple of pounds too heavy for my needs. Twelve pounds of rifle is okay for the targetman but a mite too much for the fellow who is only practicing to sharpen up his game hitting.

There are other good twenty-two rifles for this training. These others I have not shot and cannot comment on them with as much knowledge as those I've mentioned here. Some of these other good numbers are the Savage-Anschutz models 64, 1408, 1410, 1413 and 10. Remington also has a good one in the Model 513T. Undoubtedly there are others that have escaped my notice. Suffice to say any .22 will prove a good trainer if it weighs in the neighborhood of 10 pounds, has first-water accuracy, bang-up sights, and a good trigger. The stock must be of the high-comb kind so that a scope can be attached and used comfortably. Such a rifle will provide invaluable practice and

make the gunner, once he gets into game country, a whale of a skilled marksman.

The hunter who is determined to improve his gamefields batting by regular practice with a good .22 rifle should concentrate on two shooting positions; the sitting and the standing. Prone is awfully steady but seldom do the circumstances of the hunt permit a shot from this low visibility stance. Occasionally after sheep, and sometimes on pronghorn, the chance arises for a shot off your belt buckle. In practice, if the shooter knows he is flinching, then a stint at the prone is in good order.

Huntsmen who are green at the game frequently try a shot from the kneeling. This is awfully unsteady and uncertain unless the shooter has a whale of a lot of practice. It is so much better to drop down on the haunches and bang off the shot from the sitting which is quite steady.

There are three good solid positions to shoot from in the sitting. One of these is the open-leg position, another is with the legs crossed, and still a third is with just the ankles crossed. The gunner should try all three and use that one which seems the most unstrained and comfortable. Fat boys have trouble with the crossed-leg and crossed-feet stances. These require that the shooter leans far forward, and this puts an ache in a big gut. The open-leg position is best for these shooters.

In the open-leg position the marksman faces about 30 degrees to the right of the mark and pulls his knees up until he can bend forward slightly and place his elbows either on his knees or ahead and below the knees. The feet are flat on the ground if the ankles are supple enough. The spine is inclined from the waist and the head is held high. If the head is leaned forward too much the shooter must look out from beneath his brows, and this rapidly puts a strain on the eye muscles. The head is held just as upright as possible.

In the crossed-leg or crossed-ankle positions the body is leaned forward very markedly and the body position is quite low. It takes a pretty athletic individual to assume this stance and not be acutely uncomfortable. It can be done with practice, and once it does become comfortable it is exceedingly stable; especially the crossed-leg position where the outside of each foot is placed on the ground and then the knee of the opposite leg rests on this foot and ankle.

Of all the shooting poses, the most difficult by far is the standing, and yet it is probably the most important. Still hunting, where the nimrod stalks his game, almost invariably requires a shot offhand. Wounded critters, when followed up, likewise do not give the time for any other position. The sportsman who can deliver a good and killing shot standing is indeed a finished gamelands marksman.

To shoot good offhand the gunner has to stand still. Few people can, and when they get a rifle in their hands which will weigh from 8 to 10 pounds they are further unbalanced. The secret of a steady body and a quiet rifle is to transfer the weight of gunner and gun to the bones of the body and away from the muscles. This is done by taking up the following stance.

The shooter separates his feet no father than the width of his shoulders, turns his body when positioning his feet so that he is 90 degrees to the mark. He lifts the rifle to his shoulder and as he feels the weight of the piece he bends backward, keeping his legs straight. Weight should be evenly divided between the two feet. As he bends backward the center of balance of the rifle shifts and comes to rest on the spine.

The left arm should be bent sharply at the elbow and should be drawn back very near the balance point of the rifle. The right arm is permitted to droop at the elbow and the right hand should be comfortable and under no strain at all. It should be positioned so that the trigger will be pulled in a straight line with the gun bore. The trigger finger should not bear or press against the stock or the trigger guard.

The head should be upright, not tilted or leaned to the left to reach the comb of the stock. If the head is inclined, the semicircular canals in the ear which control the human's balance are activated and act to correct the tilt. This causes unsteadiness. In order to keep the head straight and erect it may be necessary to cant the rifle. This is perfectly okay, and with the scope it can be compensated by rotating the glass until the crosshairs are in plumb. The shooter thereafter must be careful that he attains the same degree of cant for each shot, but this is not difficult.

Regardless of how much the marksman may practice he never gets so good he can hold the rifle motionless. Because of this he must co-ordinate the trigger squeeze with the movement of the piece. This is done by aligning the sights and, as the crosshairs momentarily pause over the very center of the mark, a little pressure is applied to the trigger. During this brief interval the rifle will have swayed off the center, but the pressure applied to the trigger is maintained; not relaxed and not increased.

The shooter maneuvers the rifle back into the center, and once again adds force to the trigger; not a great deal of pressure, for to do that will sway the gun adversely. Again it swings wide and again he holds the accumulated pressure. Painstakingly he brings the crosswires back into the middle again. After several trials, each time pressing only when the sights are perfectly lined up, and holding when they are not, he finally 'breaks' the sear with the sights dead on the mark and a good hit results. This is the only way the rifle can be shot successfully offhand.

With practice, the shooter gets so he can fetch the sights into the center of his target and add pressure very rapidly. Meanwhile keeping the sights perfectly aligned. This is done in rapid fire and successfully, too. It is all a matter of practice, especially with the .22 rifle.

What makes .22 rifle practice worth-while? A big kill like this!

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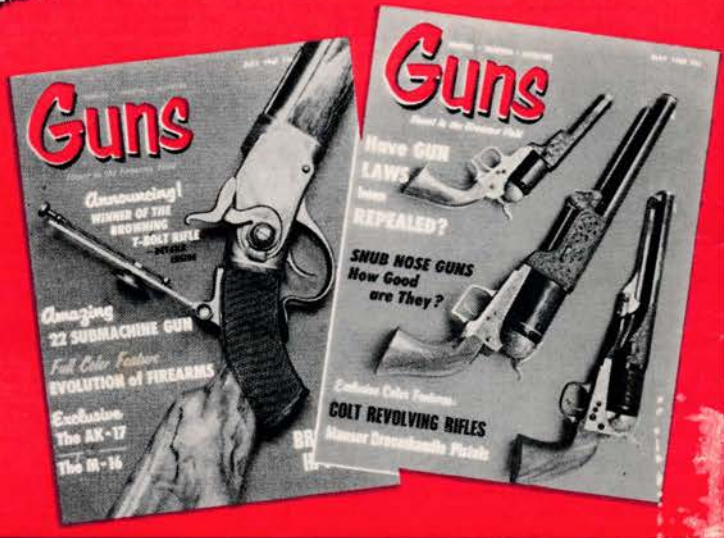


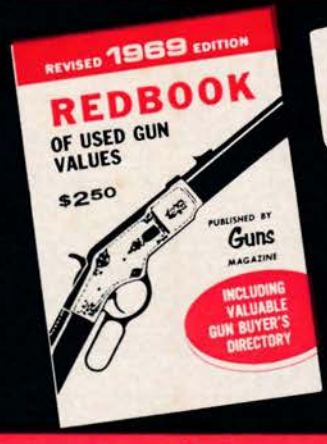


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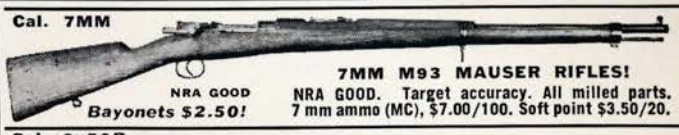

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