

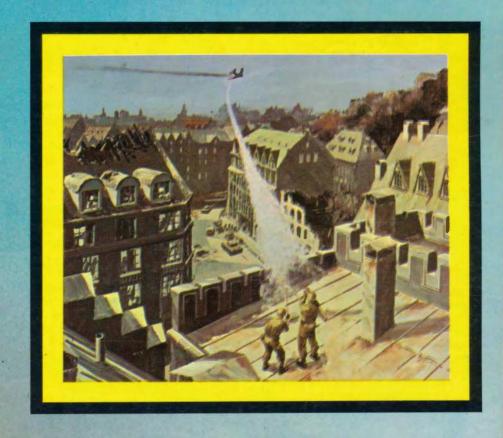
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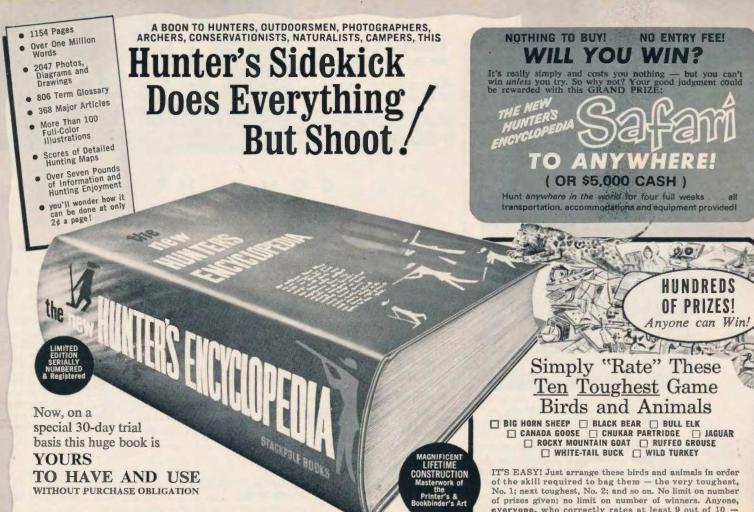


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TRIGGER

LAST MONTH we promised our readers some new ideas, and several of these are being introduced in this issue. The first is a new, enlarged "Gun Rack"; four full pages of test reports on new shooting products. Not only is the format changed, but this regular column is now in a new location—see pages 44 through 47.

One completely new department has also been added this month. On page 69, you'll find the first of "Home Gunsmithing Tips" by Wm. Schumaker. This new feature should answer a lot of questions, and solve a lot of problems. In this regular column, Bill Schumaker will cover work that can be done without an expensive array of special tools. If you're a gun tinkerer, you are sure to find this column to your liking.

Our exclusive gallery of guns in full color has been very well received, and we appreciate all of the comments, suggestions, and plaudits sent to us. This month, we have included in our color section several modern guns, along with a most unusual antique pistol. In answer to some of the requests we have had for separate copies of these color prints, we regret to say that none are available at present. As soon as we are in a position to offer extra copies, we'll announce it in this column.

This column is being written just before the big rush of Christmas buying, and the thought that many people are giving serious thoughts to buying guns-either real or toys -to youngsters for Xmas gifts brought to mind something I had read several months ago. A leading child psychologist was asked if toy guns are bad for youngsters, and his reply went something like this: "Not at all. A child is no more likely to become a criminal because he plays with guns than he is to become a priest because he plays with churches." He also added that the familiarity a child gains by playing with toy guns could prevent his becoming too inquisitive when it comes to the real thing. I hope that those of you who are interested in shooting -whether it be at targets, game, or just plinking-are giving your youngsters a chance to become responsible shooters. As the saying goes: "Take a boy hunting so you won't have to go hunting for the boy."

THE COVER

The Marine on our cover is one of many who are testing the new Redeye ground-to-air missile system. E. B. Mann witnessed one of these tests, and reports on this new development in our feature article on page 18. Those of us who remember the futility of trying to down enemy aircraft with ground fire during WW II will realize what a tremendous achievement this new missile is.

FEBRUARY, 1967

Vol. XIII. No. 2-146

George E. von Rosen Publisher

Arthur S. Arkush Ass't to the Publisher



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EDITORIAL OFFICES: Jerome Rakusan, 8150 N. Central Park, Skokie, III. 60076, ORchard 5-5602.

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REPRESENTATIVE: EAST COAST, Eugene L. Pollock, 210 E. 53rd St., New York 22, N. Y., PI 3-1780, REPRESENTATIVE: WEST COAST, Eugene Pollock & Assoc., 8380 Melrose Ave., Los Angeles, Cal. 70067 area code 213 phone 653-5841.

NATIONAL ADV. OFFICES, 8150 N. Central Park Ave., Skokie, III., 60076, ORchard 5-6010.

GUNS Magazine is published monthly by Publishers' Development Corp., 8150 N. Central Park Avenue, Skokie, Illinois, and at additional mailing offices. SUBSCRIPTIONS: One year (12 issues), 87.50. Single monthly copies, 75c. CHANGE OF ADDRESS: Four weeks' notice required on all changes. Send old address as well as new. CONTRIBUTORS submitting manseripts, photographs or drawings do so at their own risk. Material cannot be returned unless accompanied by sufficient postage. PAYMENT will be made at rates current at time of publication and will cover reproduction in any or all GUNS Magazine editions. ADVERTISING RATES furnished on request. Conyright 1966, Publishers' Development Corporation. All rights reserved. Title to this publication passes to subscriber only on delivery to his address.



ROSSFIRE

Two Cylinder Revolvers

In your article, "Half an Ounce of Lead," in Guns Magazine, November, 1966, you wrote that you "fail to see why no one offers .45 single-actions in a dual cylinder version."

Well, they do; Vanguard Arms Corp., P. O. Box 46566, Los Angeles, Calif. 90046, offers single-action revolvers with dual cylinders in .22 rim fire and .22 Magnum rim fire, .357 Magnum and 9 mm .44 Magnum and .44-40, and the one you were interested in .45 LC and .45 ACP. Price is \$63.70 for center fire or \$41.20 for rim fire, plus postage. Also, they only sell to FFL dealers.

Paul A. Quihillalt Lafayette, Calif.

Mr. Rockefeller comments:

I guess I should have said, "fail to see why one of the major manufacturers does not bring out a .45 single action in a dual cylinder version." I was aware that cheaply priced centerfire revolvers in dual-cylinder version were available, having seen them advertised. Having no information on these guns, and not being familiar with their quality, I did not see fit to mention them.

Some years back, I played around with a Webley Mark VI with two cylinders, one "converted" to 45 ACP for use with clips, and one rechambered to 45 Colt which I used with the 245 grain handloads mentioned in the article.

A little later, I wrote Ruger suggesting that they make a convertible version of the Blackhawk in these calibers, or even just make the Blackhawk available in .45 Colt. So far, no action has been taken to introduce such a gun. Maybe they will do so in the future, if enough interest is shown. You might write to Ruger, if you want to see this done.

I finally got my single-action, a Colt with 7½" barrel, but it's a .357 Magnum, not a .45 Colt. I got a chance to buy it reasonably, so I didn't gripe about caliber. The .357 is also a good cartridge!

.45 ACP Cylinder

I read with interest your recent article, "Half an Ounce of Lead," in the November issue of Guns Magazine.

Since I myself like to plink with large caliber handguns, have two such, a 1911A1 Colt ACP .45 army automatic pistol and a Colt SAA .45 of 1870 and 1880 vintage.

In fact, I shoot the SAA more than I do the other, and I get reloads for both locally. As I'm also a member of the Mid-West Fast Draw Assn., I like to do some of my SAA shooting from the hip. I've also recently acquired some of these .45 #9 shot cartridges to do some shooting at targets at the pistol range (when nobody is there).

But to get to the reason for this letter; you mention on page 65 of Guns where, "I fail to see why no one offers .45 single-actions in a dual cylinder version." Now, I'd like to answer this as I have just that combination you wish you had—all it takes is money. I paid the Colt Co. \$14 for an ACP .45 cylinder for use in my Colt .45 SAA. All I have to do in shooting the .45 ACP ammo or the .45 Long Colt ammo is just change cylinders and cylinder pin bushing. I have two cylinders but just one bushing, so when I do change, I take the bushing out of one and put it into the other, and shoot.

Naturally, you have to have the Colt .45 SAA revolver to start with. However, mine isn't for sale, so don't offer to buy. Also, mine has the 5½" harrel, not the 7½".

But I do have a lot of plinking fun with these two cylinders. And my SAA didn'tcost me a cent, as I'd traded two other revolvers for it—a S&W .38 Spec. Military and Police and a Colt M1917 .45 ACP.

R. M. Needham Lancaster, Ohio

Suggestions To Shooters

There are two major issues facing every hunter and shooter in the United States today: Anti-gun legislation and "No Hunting" signs. I bave three easy-to-follow suggestions that would ease the situation.

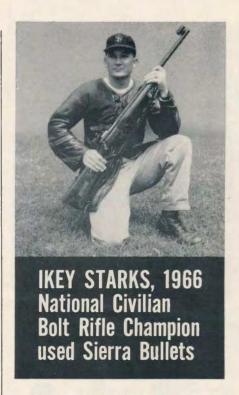
I. Join a local or national shooting club. You'll be informed of laws that will affect your right to bear arms and it joins your vote with thousands of others.

2. Write your Congressman or Senator. He wants your views. Let him know you are all for sensible gun laws, ones that protect your rights and punish that criminal.

3. Respect the landowner. Ask for permission to hunt. Many farmers will be glad to let you hunt their land if you take the trouble to ask. If you damage something, tell him. It could prevent another "No Hunting" sign. Ask the farmer to bunt with you or at least offer him part of the bag.

It's time sportsmen awaken to the fact that it's up to them whether or not we are to be able to enjoy hunting and shooting in the years to come. There's no better time to start doing something about it than now.

> Sp4 Victor M. Wilson APO New York



John A. Clerke, 1965 Champion also used Sierras

Mr. Starks won with a score of 792 out of a possible 800 with 74Vs. His score is the aggregate of scores fired in 7 matches: President's Match, Coast Artillery Trophy Match, Scott Trophy Match, Air Force Cup Match, Navy Cup Match, Nevada Trophy Match, and Crowell Trophy Match. He won the Clarke Trophy in the President's Match where 1938 high power riflemen competed.



Mr. Starks used a M70 Winchester .308 caliber match rifle with Douglas barrel. His loads were Sierra's 168 grain International with 44 grains of 4895 for short ranges, and the 200 grain Sierra Matchking with 47 grains of 4350 for the 600 and 1000 yd. matches.

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HANDLOADING BENCH

By DAVE WOLFE

Editor and Publisher of The HANDLOADER Magazine



NOT A MONTH goes by we don't get inquiries about the various surplus military ammunition components that are available. Latest was from a Nebraskan who fell heir to a batch of .30 cal. AP (armorpiercing) bullets, along with a few hundred steel-core 7.62 mm NATO projectiles. He has a problem, inasmuch as he'd read that AP ammo will damage (or at least cause faster wear) his target barrel. He figures that if such is the case, then the steel-core NATO bullets will probably do the same.

Well, Charlie, this matter of steel in bullets has been kicked around ever since I can remember. The late Phil Sharpe mentioned it, and again after the last BIG war, lots of fellows who had acquired plenty of military ammo got concerned about their pet barrels. For what it's worth, here's my view.

Rifling grooves are only .003"-.004" deep, so lands can't possibly cut through .015"-.025" jacket metal and actually contact steel cores. Therefore, the steel itself can't hurt your rifling.

Some experts say that since steel is harder than lead usually used for cores, it must exert more pressure on the lands, causing more wear. Frankly, I doubt this. All knowledgeable handloaders know that lead flows under normal chamber pressures, causing the bullet to upset to fill the rifling grooves, should the bullet be undersize to begin with. If this be so, then the jacket is forced against lands and grooves with pressure equal to chamber pressure at all times during its passage down the barrel.

Steel cores, on the other hand, will not flow or upset under pressures developed in chambers. Bullets so constructed cannot expand to fill rifling grooves. Without any such expansion, radial pressure is almost certain to be less than with soft lead cores. And it makes no difference whether the steel core is extremely hard tungsten carbide sometimes used in AP, or soft, mild steel used simply as a substitute for lead in 7.62 mm bullets.

Most shooters seem to feel it takes more pressure to force rifling into a steel-cored bullet than a lead-cored one. Their hypothesis seems to be that steel directly under the soft jacket makes it harder for rifling to cut through that jacket. This would only be true if lead cores were expected to give enough to allow the bullet to pass down the bore without being entered full depth by the rifling. Yet, we've already demonstrated

that lead cores expand to insure that rifling does cut its full depth into the jacket. In light of this, it would seem that rifling has just as difficult a job cutting into a leadcored bullet as a steel-cored one.

By now the steel-cored bullet doesn't appear as much a villain as we've been lead to believe. Let's look a bit further into this. Back in the ten years following WW II no match-grade military ammunition was made. We simply struggled along with wartime stocks of .30-06 M-2 Ball which lacked the bullet weight and ballistic coefficient to hold up well at long ranges. I believe it was the talented USMC shooters who discovered that the long (for its weight), 166 grain .30 AP bullet produced much better long range scores than the short, 153 grain M-2 projectile. I recall some Marines polishing the black tip off their ammo so no one would catch on to their secret. Soon, the majority of .30 caliber shooters were clamoring for, and using, standard military AP ammunition in competition all over the country. Eventually they found that it was not only good at long range, but would sometimes outshoot light-bullet M-2 at 200 and 300

During this time the armed forces and some individuals conducted tests to see if AP bullets were harder on barrels than other types. Military tests concluded that while AP produced a slightly shorter barrel life, the reduction was actually less than the variation normally found from barrel to barrel. Thus, for all practical purposes, barrel life was the same with both bullet types.

A few individuals continued to lambast AP as "ruinous" to barrels, yet until the coming of fine National Match ammunition, many shooters used the former with satisfaction. They reasoned (and rightly so, in my opinion) that any slight decrease in barrel life would be made up many times over by the comparative cheapness of AP as opposed to a nickel each for commercial bullets. It is interesting to note that AP-users frequently wiped its detractors' eyes in matches.

As we've already mentioned, tests have verified some slight decrease in barrel life when AP is used. Looking at this as a purely mechanical problem (which it is, shorn of shooting witchcraft and dark-of-the-moon incantations), the reason for the difference isn't too hard to find. AP bullets are strictly a military item—made by hundreds of millions in one hell of a hurry and not to the

fine tolerances of commercial or National Match bullets. Consequently, they are certain to vary considerably. We can expect to find them considerably over and undersize. It wouldn't be at all unusual to find a .3077" bullet, while barrel groove diameter might be .3085". And that steel-core bullet will not upset to fill the grooves.

When that happens, we have a gap between bullet and barrel through which "young" gas can escape-known as "gas cutting." This jet of hot, high-velocity gas increases the rate of barrel erosion, and it also carries away melted bits from the bullet jacket. The former reduces barrel life, while the latter certainly doesn't help ac-

Now, if those steel-core and AP bullets were produced to the same standards of quality as commercial or NM bullets, that gas cutting wouldn't take place-because the bullet diameter would be large enough to seal off the bore properly. And without that gas cutting, barrel life and accuracy would not suffer.

So there is your answer, Charlie. The AP and steel-core bullets you have may not be as accurate in your gun as others, but then again, they might be. They may not shorten your barrel life, depending on whether they fit your barrel. If firing a few groups proves the bullets will shoot accurately in your gun, then, by all means, use them. Boil it down to bare economics-those bullets-if they cost you anything at all-probably cost less than a third the price of commercial match bullets. If you have very many of them, the saving will pay for a new barrel long before you really need it.

I once handloaded .30 AP bullets for use at 600 yards in my M-1 Garand. First they were tumbled in hardwood sawdust dampened with lacquer thinner to remove waterproofing varnish and black tip paint. The thinner was allowed to evaporate, then they were tumbled a bit more to come out beautifully polished. Loaded in fired military cases, ahead of 51 grains of military 4895, they would stay in the 600 yard V-ring if I did my part. For use at the same time in a heavy-barrel Springfield, the same bullet was driven by 57.5 grains of DuPont 4350, also

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nicely accurate. Later, the same bullet was used in my .308 (7.62mm NATO) M-98 bull gun with 44.5 grains of DuPont 4320-also a very accurate load. When a few steel-core NATO bullets came my way, they did best with 46.2 grains of DuPont 4064. This last load wasn't as good as the AP load, and is hot enough that it should only be approached from a lower starting charge.

Shooters are a truthful lot, every bit as much so as fishermen, and certainly more so than golfers, but even so, some of the information that comes to be accepted as fact can be a little misleading. If you've got a batch of steel-core bullets, try them before getting your neck hair up. The price of surplus military bullets being what it is today, you can afford to replace a barrel now and then with the money to be saved.

In a recent edition of this column we inadvertently overlooked a small piece of information. A gentleman was concerned with keeping his M-99 .22 Savage High-Power in operation, now that U.S. makers have discontinued the ammunition. Well, he can make up all the cases he needs from .30-30, .25-35 or .32 Winchester Special brass. Aside from neck diameter, those calibers are almost identical to the .22 H-P. And the .30-30 will be with us for decades to come.

There are times when a fellow needs a few full-jacket bullets to load in one of the 9 mm or .38 calibers for auto pistols. While such bullets can be special-ordered from dealers, that's an expensive and time-consuming way to get them. If you have some sort of .38 (.357) bullet swaging equipment, the rest is easy. Just invert a Speer Plinker .30 cal. bullet in a .357 jacket. Swage, and, PRESTO! A full-jacket bullet, closed at both point and base. Some semi-wadcutter dies with sharp shoulders tend to tear the Plinker jacket, but this can be corrected by careful polishing of the nose punch cavity. Almost any flat or round-nose punch will work well.

Well, that's about it from the bench this month. We've got lots more dope on military surplus components in the files, so keep an eye out for this corner in the future, when we'll go into the subject again.

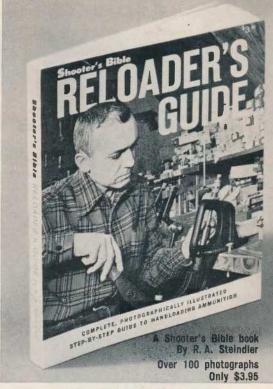


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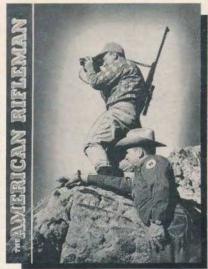
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News from the ...

SHOOTERS CLUB OF AMERICA

Dedicated to the Constitutional Right of Every Citizen to Keep and Bear Arms

Now that Congress is back in session, it is certain that we shall soon be hearing more about re-

strictive, anti-gun legislative proposals.
Although Senator Dodd's alleged connections with Julius Klein appear to have eliminated him as a serious threat to the future of the shooting sports, other politicians can be expected to vie for his mantle. It must now be obvious, to even the most junior legislator, that anti-gun proposals can be a quick route to publicity, prominence, and power.
The bill numbers and the sponsors may be differ-

ent during this new session of Congress, but the aim will be the same as usual -- restrictions applied to legitimate shooting sportsmen, in the hallowed name of anti-crime legislation.

As we ponder the possible new avenues of attack which may be used by anti-gun agitators, it is readily apparent that "the case for guns" must be firmly based on facts, figures, and the dissemination of pro-gun information to the general public. We of the shooting sports have not always been as well equipped in these areas as we should be, while our opposition has become extremely adept at using propaganda to the greatest possible advantage.

The S.C.A. expects the next wave of anti-gun proposals to be accompanied by a highly sophisticated utilization of public relations techniques. We must be ready to counter this expected "blitz" with "hard" information which can not be easily brushed aside.

We realize that this is easy to say, but hard to accomplish. The problem is now, and always has been, the availability of concise, usable information which is meaningful to legislators and the general public. One of the present S.C.A. aims is to help arm shooting sportsmen with such ammunition, to be used in letters to lawmakers, at fire-arms legislation hearings, in pro-gun law propos-als, and in general debates about firearms legislation.

To accomplish this, in part, we have obtained copies of the famous pro-gun publication, "The World of Guns." These are now available on direct inquiry to the S.C.A. for the reduced price of

\$1.75 each, or free if you enter your new membership or renewal on the application form below.

"The World of Guns" is the only complete, single

source of pro-gun information. Articles by noted firearms industry members and nationally recognized figures from outside the firearms world present a full and positive profile of the shooting sports and their place in the American scene. With 90 pages in an attractive soft cover, the 13 chapters of "The World of Guns" offer a complete arsenal of information you can use effectively in the pro-gun struggle.

Some of the more well known contributors who have been brought together between the covers of this important pro-gun weapon are: Stewart L. Udall, on guns and natural resources; Joe Foss covers the rewards of recreational shooting; Joyce Hornady on handloading; John Fleming probes guns and public safety; Sen. Mechem on the Second Amendment; E. B. Mann covers the firearms industry in war and peace; Winston Churchill on civilian need for guns; Robert Abels presents gun collecting as an art form; Dick Miller covers guns and American Sportsmen; Rex Applegate on guns and the law; Cass Hough shows the relation between firearms training and the growing-up process; and Lt. Col. Rathbun on the need

These are only a few of the many informative feature subjects which make "The World of Guns" so important to the pro-gun struggle. If you don't have your copy now, here is a chance to obtain it free with your S.C.A. renewal or new membership.

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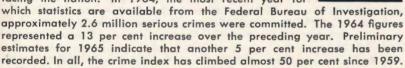
FACTS, NOT EMOTION, SHOULD GOVERN FIREARMS LEGISLATION.

The following are excerpts from a speech by Senator Roman Hruska (R.-Neb.) before the Senate on Tuesday, March 15, and which appeared in the Congressional Record of that date.—Ed.

Mr. President, on Wednesday of this week, the Senate Juvenile Delinquency Subcommittee will go into executive session to consider several pending bills concerning firearms.

It is essential that the members of the subcommittee approach the difficult task before them in a calm and constructive manner, free of the emotionalism which so frequently has surrounded the subject.

As members of the Senate are aware, the skyrocketing increase in crime is one of the most serious problems facing the nation. In 1964, the most recent year for which statistics are available from the Foderal Burgary



These hard statistics are alarming. They present problems of the most serious magnitude, deserving of massive efforts to arrest and reverse this frightening trend.

It is apparent that firearms were involved in the commission of approximately 4 per cent of the 2.6 million serious crimes committed in the United States in 1964. Further, firearms are used in less than a third of the homicides, robberies, and aggravated assaults. So even if all firearms in this country were somehow eliminated, the problem of serious crime would still be with us.

Mr. President, I want also to point out another fundamental fact about crimes involving firearms. They are committed primarily in our large cities.

The uniform crime statistics of the FBI for 1964 reveals that more murders were committed in Chicago, New York, Los Angeles, and Washington than were committed in 31 states with populations more than double those four cities and their suburbs. More aggravated assaults were committed in the four cities during the same period than were committed in 37 states with population totals three times greater. More robberies were committed in those cities than were committed in 43 states with four times the population of those four cities.

Mr. President, from these figures, it seems safe to conclude that crimes involving firearms are primarily a problem of the larger cities.

Why then is it necessary to saddle the entire nation with harsh and restrictive legislation to control the commerce in firearms to attack a problem that is centered for the most part in our larger cities?

This is not to say, of course, that crimes committed with firearms are not serious or that they do not present a threat to society. No reasonable person can disagree with the objective that firearms, or any potential tool of the criminal, should be kept from the hands of those who might misuse them.

But the basic question is how this objective can be best achieved without hampering or limiting the right of our citizens to purchase and possess firearms for lawful and legitimate purposes.

Mr. President, of particular significance are the two basic Federal firearms control statutes: the National Firearms Act of 1934 and the Federal Firearms Act of 1938.

It is these two acts that are to be amended by the pending bills before the Juvenile Delinquency Subcommittee.

Several witnesses in their testimony before the Senate Subcommittee and the House Committee suggested that a better job of enforcing the present Federal Firearms statutes can be done. They have pointed out that the Alcohol and Tax Division of the Department of the Treasury is not adequately staffed to enforce the laws properly. Available manpower of the Division is primarily concerned with alcohol and tobacco problems (Continued on page 12)

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and devotes relatively little time to firearms. It was further stated that many cases of violations of the laws are developed by Federal and state authorities but there is little enthusiasm by appropriate U. S. attorneys for prosecuting these cases. So, through the years since the enactment of these laws, relatively few convictions have been obtained under them.

There are four major bills pending before the Juvenile Delinquency Subcommittee to amend the Firearms Control Acts. Three of these measures, S. 14, S. 1592, and S. 1965 would amend the Federal Firearms Act of 1938. The other measure would amend the National Firearms Act of 1934.

A fifth measure has been introduced in the House by Congressman Casey of Texas; actually Congressman Casey has introduced two bills. The first, H. R. 5642, would set a mandatory 25-year sentence for the use or possession of firearms that moved in interstate commerce during the commission of a robbery, assault, murder, rape, burglary, kidnaping, or homicide other than involuntary manslaughter. His second bill, H. R. 11427, would provide mandatory 10-year terms for the first offense where the above-mentioned crimes are committed using firearms, and 25-year terms for subsequent offences.

This bill (S. 1592) was introduced by Senator Dodd on March 22, 1965, in behalf of the administration. The bill proposes major and significant amendments to the Federal Firearms Act of 1938.

It is a bill which I cannot in good conscience support. Mr. President, there are several basic reasons why I oppose this bill. At this point, I shall enumerate only some of the major arguments against the bill as introduced.

First. The bill includes rifles and shotguns as well os handguns. But it is the concealed handgun which is the primary tool of the criminal who uses a firearm in the commitment of a crime. If any legislation whatsoever is enacted, it should be limited to the handgun.

Second. The bill includes "destructive devices." These items should be treated separately in the National Firearms Act of 1934—as proposed in S. 1951.

I do not believe there will be too much difference of opinion in the committee or in the Senate. It is a matter of technical approach to securing an amendment to another oct and that is dealt with in S. 1951.

Third. The bill proposes a total bon on interstate mail-order sales to individuals. Apparently it would not apply to intrastate sales. If intrastate sales are allowed, the effect of the ban would only be to redirect mail-order sales through outlets in each state. Large mail-order retailers such as Sears and Montgomery Ward's would have little difficulty adjusting, but hundreds of small businesses would be put out of business!

However, there may not be a meaningful distinction between "inter" and "intra" in this situation, depending on the way courts would interpret the bill. If there is a total ban on all mail-order sales, it would single out for elimination only one chonnel of the commerce in firearms while leaving other channels intact. For example, one would still be able to buy over the counter or from an individual as in the classified ads of the Washington Post, or any other of the nation's newspapers. Thus, many ovenues of access would be available to the potential criminal who desires to obtain firearms. If any legislation whatsoever is enacted it should impose reasonable controls on mail-order sales of handguns only, but should not eliminate them altogether.

Fourth. A ban on imports is proposed, sove for minor exceptions. Imports have been characterized os military surplus "junk," flooding the market by the millions.

However, the actual import figures for 1963 and 1964 are less than half those cloimed by some advocates of S. 1952. Most important is the fact that imports are not evil per se because they are foreign made or are cheap in some classes. A total ban on imports would be protectionist help to domestic manufacturers to eliminate major competition. Domestic firearms, new and used, come in just as wide a variety of size, kind, and prices as do imports. It may be that junk or unsafe weapons should not get into the hands of the sporting public. But to reach this situation, consideration should be given to establishing qualitative standards for all firearms—imports as well as those of domestic manufacture. This, S. 1592 fails to do.

Fifth. License fees for manufacturers, importers, and dealers would be drastically increased. Most noxious is the \$100 fee for dealers. This would eliminate thousands of small dealers such as country stores, gas stations, and other places of small merchandizing, which carry ammunition as a convenience for their customers. A modest increase might be all right, but not those originally proposed in S. 1592.

Sixth. Licensing requirement would be severely tightened. The Secretary of the Treasury would be given broad discretion to issue or deny licenses for such things as the applicant is not "likely" to conduct his business in accordance with the act. Such unlimited discretion without standards or guidelines is objectionable.

Seventh. The bill is repugnant to the letter and intent of the second amendment to the Constitution.

Eighth. Much is being done and more can be done to enforce existing laws without resorting to the drastic and objectionable provision contained in S. 1592.

Mr. President, the summary of S. 1592 and the arguments that have been presented against it were directed to the bill as originally introduced. Senator Dodd has circulated among members of the subcommittee drafts of an amended bill. The amendments purport to make concessions to those who oppose it. The fee schedules are revised downward somewhat and some minor technical changes are made. But the essential provisions of S. 1592 remain and in some cases are tightened. The amendments as I see it do not cure the several defects of the bill.

Mr. President, I wish to discuss S. 14 and S. 1965 simultaneously. I shall do so because both bills, with one important exception, are essentially similar. The exception is that S. 14, which is Senator Dodd's original bill, applies to all firearms whereas S. 1965, introduced by the Senator from Iowa (Mr. Hickenlooper) and Representative King, of California, in the House of Representatives, applies only to handguns. The principal provisions of S. 1965—which also apply to S. 14 with the exception noted—

First. No carrier in interstate or foreign commerce may deliver any

handgun to any person under 18 years of age.

Second. No manufacturer or dealer may ship any handgun in interstate or foreign commerce to any person, except a licensed manufacturer or dealer, unless that person submits to the shipper a sworn statement that the prospective recipient, first, is at least 18 years of age; and second, is not a person prohibited by Federal, state, or local law from receiving or possessing the firearm.

In addition, the statement must contain the true name and address of the principal law enforcement officer of the locality to which the handgun

will be shipped.

Third. Prior to shipment, the manufacturer or dealer must forward the sworn statement by registered mail-return receipt requested-to the local law enforcement officer named in the statement containing a full description-not including serial number-of the firearms to be shipped, and must receive a return receipt evidencing delivery of the registered letter, or evidence that such registered letter has been returned to the shipper because of the refusal of the local law enforcement officer to accept such letter in accordance with Post Office Department regulations.

Fourth. No manufacturer or dealer may deliver any package containing a firearm to any carrier for transportation or shipment in commerce

without prior written notice to the carrier.

Fifth. A person must be at least 21 years of age to obtain a Federal firearms license.

Sixth. The fee for a manufacturer's or pawnbroker's license shall be \$50 a year; for a dealer's license, \$10 a year.

Seventh. Ammunition, ammunition components, and minor parts of a firearm—such as springs, barrels, sights, and accessories—are removed from the application of the Federal Firearms Act.

S. 1965 has the endorsement of the sportsmen's groups and several other interested organizations. Mr. President, I would look upon this approach with favor. However, to make the bill effective, I would offer several amendments to strengthen it.

First. I would suggest that an over-the-counter purchaser of a handgun not a resident of the state in which the transaction occurs be required to submit the same sworn statement required of a purchaser by mail and undergo the same procedures as established for mail-order firearms transaction. This would, in effect, impose a waiting period and give notification to the purchaser's hometown law enforcement agency.

Second. I would propose that section 902(c) of the Federal Firearms Act of 1938 be broadened so that it would be a violation of the act for a federally licensed dealer or manufacturer to ship a firearm to a purchaser in violation of any state firearms control act.

Third. I would propose that the present \$1 dealer fee be increased to \$25 for the first year and \$10 for subsequent years. The \$25 initial fee would be applied to the cost of processing the initial application and of necessary investigation by the Treasury Department.

Fourth. I would propose that appropriate criminal penalties be provided for any person knowingly making a false statement in connection with the submission of the affidavit required for mail-order purchase of a

In my opinion such a bill would make a constructive and substantial contribution to the solution of what appears to be a significant problem if the firearms commerce in this country: namely, that mail-order purchase of handguns by convicted felons, certain juveniles, and other irresponsible individuals.

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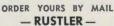
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Gunsmithing

Panel of Experts

Because of the heavy influx of questions, it has become necessary to limit the number of questions submitted in one letter to two. Your questions must be submitted on separate sheets of paper, must carry full name and address, and your Shooters Club of America membership number. If you are not a member of the Shooters Club of America, send a dollar bill with each question. Questions lacking either number or money cannot be answered. If you want a personal answer, enclose a stamped, self-addressed envelope for each question.

Killing Cartridges

I have a number of collectors cartridges and want to mount them on a display board. I pulled the bullets and dumped the powder, but how do I strike the live primers safely without the guns that match the cartridges? I want only dummy rounds on display.

Can the .22-250 and the .250-3000 chambers be checked with the same headspace gauge? Can the .25-06 chamber be checked with a .30-06 headspace gauge?

Who is considered (by experts) to be the best gunsmith in the United States?

Marvin G. Davis Jacksonville, Fla.

Put oil on the inside of the case and let it soak into the primer. This will kill the primer on old shells. The .22-250 and the .250-3000 use the same headspace gauge. The 25-06 and the 30-06 use the same headspace gauge.

There is no gunsmith considered the best. Many specialize in certain phases and have therefore built up a name for that work but there are probably many other men that do the same job just as well but have never received the publicity. Therefore you may have a local gunsmith that does just as fine work as anybody .- P.T.H.

.45 ACP Loads

I have a Webley Mark VI .455 which has been rechambered to handle the .45 ACP with half-moon clips. I need a powder charge and bullet which has good stopping power at distances no greater than 20 feet, but that will not have a great deal of pene-

tration in plaster walls since this gun is used for inside defense. The stopping power is more important than if it penetrates walls. For a bullet I was thinking of using either Hormady's 185 grain ACP or their 250 grain Long Colt. Which do you think best?

> E. C. Mertz Omaha, Nebraska

I'm afraid that any "stopping load" in the .45 ACP would do quite a bit of damage to plaster walls. If you want to use the gun for defense purposes inside your home, my advise is to worry more about the attacker and less about the walls.

A good load for your Webley is 3.5 grains of Bullseye behind the 185-grain bullet. This gives approximately 680 fps velocity at the muzzle. For the 250-grain bullet, try 6 grains of Unique, for a velocity of about 675 fps. You won't need to worry about accuracy at a distance of 20 feet.—p.w.

.32 S&W Long

I read with a great deal of interest your article on hand loads for the .32 S&W long and its use as a hunting weapon.

You state that these loads should be used only in a S&W K-32 but I have a Colt Officers Model in .32 S&W Long, and wish to know if these loads can be used safely in the Colt? I agree with you 100 per cent that this round has been neglected too long. The Colt I refer to was purchased prior to WW II and was accurized by the former King Gun Sight Co.

J. R. Anderson Durham, N. C.

While I cannot comment on the condition of your specific gun without examining it, it is my opinion that under equal conditions the Colt Officers Model is as strong, or even stronger, than the Smith & Wesson K-32. If you will study the cylinder cuts of each gun you will note that those in the Colt are positioned between the chambers while in the S&W they are in the thinner area.—s.B.

Rebarreling

I have been debating with myself for some time as to how to have some FN actions barreled and need a little advise or maybe just some encouragement.

First, I have an FN benchrest action, with bolt faced for .222 Rem. Target use and an

occasional shot at a crow from the yard, would be the only uses. The crow shots will be long, 150 to 200 yards plus, and the target use, just for my own pleasure. I do want an accurate gun, will use 52 grain bullets, and this brings up twist. I have considered Douglas heavy target or bench rest barrel, but just can't make up my mind which barrel and twist to use.

My next one will be a .22-250 varmint hunting rifle. I had considered either Douglas #3 or #4 sporter barrel. I will not be loading for maximum but will want as much velocity as I can get with good accuracy. I will use 55 grain bullets or maybe 52 grain, but what twist will I need?

William M. Cox Blum, Texas

I would recommend the .222 Remington with a Douglas 1 in 14 twist. We have found that this will give the best accuracy. On the .22-250, the 1 in 14 twist is also best .-

Authentic Luger?

I have in my possession a Luger bearing an American eagle crest on the top of the receiver. There is some doubt in my mind about its authenticity. Any information you can give me will be very much appreciated. Its description is as follows: DWM on top of bolt, serial number is 64123 Germany, walnut grips, grip safety, 3 inch barrel, 9 mm caliber, and nitro proof marks.

J. P. Bowe

Bensenville, Illinois I know of no "factory issue" Luger with a three inch barrel; if yours is actually only three inches in length it would seem that it was a "custom job" or replacement .- S.B.

Colt SAA

I have a Colt revolver, serial number 58. It is very much like the Colt's single action revolver that is current. Mine is .44 with a 7½ inch barrel. It has on the barrel "COLT'S PT. FA. MFG. CO. HARTFORD CT. U.S.A." On the side is "Sept 9, 1871" and "July 2, 1872." It is in good shape. I would like to know something about it.

R. D. Taubman Alma, Alabama

Your Colt revolver sounds like a very interesting gun, with its very low serial number and stated original barrel length. The Colt factory brought out the Single Action Army Model in 1873 and they made it until 1951. If your Colt is in the .44 caliber as stated, it is in all probability a .44 rimfire and this is rare enough, but with your low serial number, it is rarer still.-R.M.

.270 Deer Cartridges

I have the latest Model 700 Remington bolt action in caliber .270 I use this gun primarily for deer hunting in semi-wooded areas. I would like to know what cartridge and grain will shoot with best accuracy and are best suited for deer.

> John Bosini Feeding Hills, Mass.

From the way your question is stated, I assume you want a factory cartridge, rather than reloading information; and by "semiwooded" areas, you mean that there is a good chance you will sometimes be shooting through brush. My recommendation is that you choose any make of .270 cartridge, but with heavier bullets. In most makes, this is 150 grains. Personally, I prefer to reload this particular cartridge, using 130 grain bullets and 61.5 grains of 4831 powder, but most of my hunting is in the West and the wide open areas.

I don't believe you will find much accuracy difference between these two weights of bullets. Certainly, the heavier bullet is fine for deer and it will go through brush better ._ D.W.

Springfield Armory .45

I would like the know the value of a .45 ACP such as the one described in the March, 1966, issue by author Daniel K. Stern. This gun is in good to excellent condition.

Danial N. Thomas Providence, R. I.

Collectors value of a Model 1911 Springfield Armory marked .45 Auto on todays market would be from \$65 to \$95 depending on condition. Suggest you check your serial number and markings to make sure you have an original and not a made up model.—R.M.

Hunting Wife?

I have a very small wife, 95 pounds to be exact, and she likes to shoot with me very much. I have let her shoot a centerfire deer rifle up to .30-30 caliber, but she doesn't like the recoil very much. My problem is this: She liked shooting a .44 Magnum Carbine and I know this is good enough for deer. But before I go to the expense of buying one for her, I want to know if she will be able to kill deer; she says that their eyes are too pretty to kill. Can I let her shoot a single barrel .410 Iver Johnson loaded with .44 Magnum or .44 Magnum cases crimped to Speers .410 diameter bullet? I could make them up myself.

Verdell Krohnke Janesville, Wisc.

I certainly would not recommend the .44 Magnum in your .410 Iver Johnson. You would be much better off with .410 or 28 gauge slugs if most of the shooting is at short range. If you are going west, the .44 Magnum is illegal in most states; how about (Continued on page 70)

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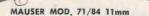
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OUR MAN IN



CARL WOLFF

ELECTIONS OVER

Suffering from the largest defeats in the elections were those who pushed for "Federal control" legislation. To this end, the voting had a beneficial effect for gun owners. The anti-gun forces have suffered a setback.

This development, however, does not mean that the battle is over. It means only the extreme edge of the GUNS BY PERMISSION ONLY policy has been lowered. It is this writer's projection that some federal law will be written within the next two years.

The question is, what kind of legislation? To be re-introduced at the start of the 90th Congress this January are four important bills. Two are the so-called Dodd bills. Two are the so-called Hruska bills.

Both Senators have one bill to amend the Federal Firearms Act and another to amend the National Firearms Act. Because the legislative drive for gun control will again start in the Senate, the bills to amend the National Act are less important, Congressional leaders agree. Because of Constitutional limitations governing the movement of measures of taxation. such a proposed law must start in the House.

The Senate's attention will be focused on amending the Federal Firearms Act. The bills to do this, although there are taxation provisions contained in them, are mainly measures regulating interstate commerce. Constitutionally, such a measure may start its legislative journey in the Senate.

SWITCHING OF VOTES

Last Congress, the 89th, saw the Dodd bill move forward from the Juvenile Delinquency Subcommittee to the full Senate Judiciary Committee. There the newly-introduced Hruska bill to amend the Federal Firearms Act was substituted.

The process which moved the legislation can only be described as a political wonder. Senator Thomas Dodd (D.-Conn.), as chairman of the subcommittee, had no trouble moving the more restrictive measure up to full committee consideration. He was outmaneuvered at this point.

Several amendments to the bill were offered and defeated. Then came the time to vote on moving the measure still further forward. The committee was split down the middle. Had Sen. Dodd agreed to some

amending his measure could have gone forward. did not, and so half the committee thought the measure too restrictive.

Sen. Dodd then proposed sending the milder Hruska bill forward. Only four of the committee's sixteen Senators dissented from the action. They were the Committee's top three Democrats, Chairman James Eastland (Miss.), Senators John McClellan (Ark.), Sam Erwin (N. C.), and young Edward Kennedy (Mass.).

When the measure was actually reported, Senators Dodd, George Smathers (D. - Fla.), Edward Long (D. -Mo.), Birch Bayh (D. - Ind.), Edward Kennedy (D. -Mass.), Joseph Tydings (D. - Md.), Hiram Fong (R. - Hawaii), and Jacob Javits (R. - N. Y.), then disagreed with the committee's action, calling it too weak.

Only Sen. Kennedy did not reverse himself. The others voted in committee one way then turned around and attacked the position they had taken in committee. Their objective, of course, was to get antigun legislation on the Senate floor for a vote. There the eight Senators planned to offer the harsher Dodd bill as a substitute.

The bill, as reported from Judiciary, actually died while pending before the Senate Commerce Committee. There was a gentleman's agreement the Commerce Committee would review the legislation after Judiciary finished with it. This route was possible because of the previously mentioned powers to regulate interstate commerce under which the bill would be Constitutional.

This coming session, the legislation is not expected to take the same route. According to Congressional procedure any amendment to the Federal Act should go to the Commerce Committee. It is expected Commerce will not this time waive its jurisdiction in favor of Judiciary.

When the measure again reaches the Senate Commerce Committee, an additional public review could be held. There, the elections had some direct effect. Sen. Ross Bass (Tenn.) lost out to another Democrat in the primary, and Mrs. Maurine Neuberger (D. - Ore.), did not seek re-election. Both were regarded as likely to vote for more gun control. (No replacements have been named.)

The trick would be to write legislation which would channel the federal government's authority into another direction. One idea is to put the purchase of firearms in interstate commerce under the jurisdiction of the mails instead of banning or practically banning shipments.

If a federal law was written to require that all firearms sold in interstate commerce move only through the mail, the local postmaster could be made responsible for seeing to it that local gun laws are observed. This would truly be federal law to aid local control.

Compounding the situation is the increase in taxes designed to close out small outlets. The Dodd bill, would, for instance, make it unprofitable for any hardware store to carry firearms. Only the largest outlets in metropolitan areas could afford licenses. The rural area is where the sportsman uses his firearm. Yet, this is the area which would be most affected. It would be strangled of its support for, and income from, the sportsman.

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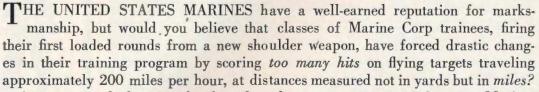
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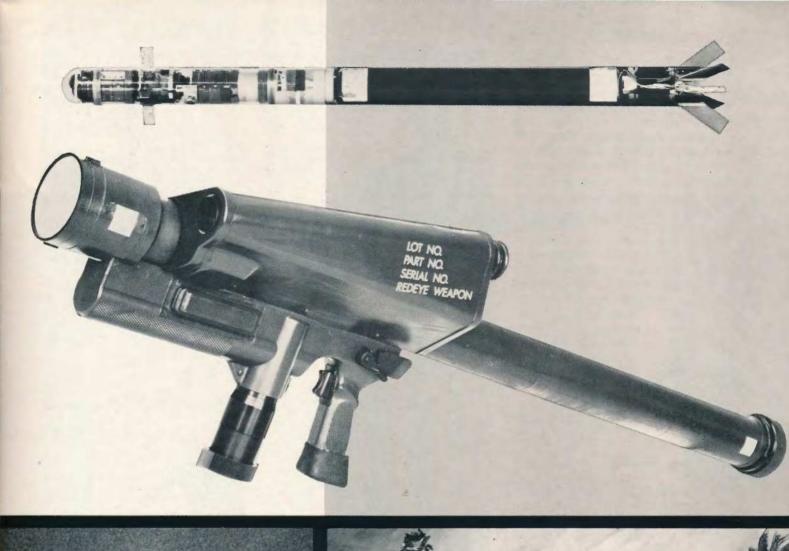
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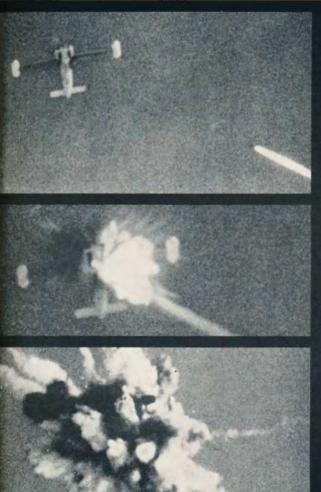
By E. B. MANN



Anyone so unlucky as to be the pilot of an enemy-type aircraft over a Marine-held combat zone, had better believe it—because he will be sitting squarely on top of a fatal explosion! Judging by what I saw at a routine firing by USMC trainees at the Marine Air Reserve Missile Training Detachment, Marine Corps Base at Twenty-nine Palms, California, his chance of coming out of such a situation alive would be minimal!

The weapon, of course, is the man-portable, shoulder-fired anti-aircraft missile system known as Redeye, developed by the Pomona Division, General Dynamics, Pomona, California, with funds jointly supplied by the U. S. Army and the U. S. Marine Corps. The Redeye program is managed by the U. S. Army Missile Com-







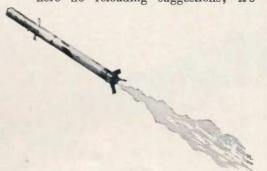
This artist's rendition of typical in-combat use of the Redeye shows the missile system's portability and easy aiming procedure. Sequence at left shows a direct hit on a small, highly maneuverable drone used in training.

REDEYE

mand at Redstone Arsenal, Huntsville, Ala. (This article will deal only with Marine Corps results and procedures.)

Knowing the tendency of Guns readers to expect ballistic data in any report on weapons performance, perhaps I should say now that you won't find anything very exact on velocity, trajectory, effective range, or striking energy in this article. I can only give you the answers that were given me, plus what I saw, plus a few guesses.

Home-workshop handloaders may be disappointed too, for they will find here no reloading suggestions; it's



"factory ammo" or nothing, for Redeye. Seeing that factory ammo track down targets, I asked hopefully how I could doctor a shotgun charge or rifle bullet to do likewise, but nobody would tell me. I just don't think, frankly, that Redeye has any future as a game gun; its missile is a heat-seeker, and I was told that neither birds nor beasts are hot enough to attract it.

There are many other electronically guided, infrared or proximity-fused anti-aircraft (and other) missiles-Sidewinder, Hawk, Sea Sparrow, to name a few-and many of them will do things Redeye will never attempt in the way of range and destructive capability. But those weapons require tons of highly sophisticated radar, computer, finding-aiming-tracking-control machinery, plus dozens of highly trained personnel; whereas the dream of General Dynamics scientists was of a weapon a man could carry into situations logistically unreachable by (for instance) a Hawk battery; a weapon impervious to heat, cold, or weather; a weapon a man could fire from his shoulder, like a rifle or shotgun, with deadly accuracy, to "kill" low-level strafing-bombing planes, and troopsand supply-carrying helicopters-in short, a weapon that would, for the first time since aircraft became war weapons, enable the foot-slogging soldier to (Continued on page 62)



WE GET

The subject of gun legislation has brought more mail than even we anticipated. Some of the letters blast backers of antigun laws; others propose boycotts against media which voices the views of these protagonists. Most of the letters are serious examinations of the value, constitutionality, and intent of specific legislation. A few are facitious attempts to ridicule gun legislation and those who endorse it-yet even in their facitiousness, there is an underlying message. Here is one such letter:

Hon. Arthur J. Sills Attorney General of New Jersey State House Trenton, New Jersey

Ever since the preliminary discussions regarding our current gun law which bears your name, I have found myself at odds with your thinking. However, your recent response to Senator Long's statement regarding the futility of firearms legislation has completely altered Dear Mr. Sills, my point of view. When you compared gun ownership with the crimes of arson and rape I immediately any your point regarding ownership of chicate as being appropriately as well as the crimes of arson and rape I immediately as well as the compared gun ownership of chicate as being appropriately as well as the crimes of a second gun ownership of chicate as being appropriately as well as the crimes of a second gun ownership of chicate as being appropriate the crimes of a second gun ownership of chicate as being appropriate the crimes of a second gun ownership of chicate as the complete gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of a second gun ownership of chicate as the crimes of chica my point of view. When you compared gun ownership with the crimes of arson and rape to immediately saw your point regarding ownership of objects as being synonymous with the

Just take rape, for example. Every male member of society between puberty and senility possesses the equipment necessary for the commission of this act. Obviously, any male having in his possession the normal external capitalia is a notantial rapid just as any our owner. possesses me equipment necessary for the commission of this act. Obviously, any male having in his possession the normal external genitalia is a potential rapist, just as any gun owner in a potential purderer commission of crimes.

a potential muruerer.

Now, we must do something about the easy availability of these "instruments of violence," articularly when one considers the recent surgical advances that have been made in the Scanparticularly when one considers the recent surgical advances that have been made in the Scanding view of these violent instruments can get one and no nerparticularly when one considers me recent surgical advances that have been made in the Sound dinavian countries. Anyone desiring one of these violent instruments can get one and no permit is required. It would help if all of these instruments were registered with the police While unavian countries. Anyone desiring one of these violent instruments can get one and no permit is required. It would help if all of these instruments were registered with the police. While this would perhaps be a clight inconvenience to some cocalled enormal it would definite would perhaps be a clight inconvenience to some cocalled enormal it would define the would perhaps be a clight inconvenience to some cocalled enormal it would define the would perhaps be a clight inconvenience to some cocalled enormal to the convenience to some convenience to some convenience to the conven is a potential murderer. this would, perhaps, be a slight inconvenience to some so-called sportsmen, it would definitely be in the best interests of the conerel public which is now at the more of any nut who nitely be in the best interests of the general public which is now at the mercy of any nut who

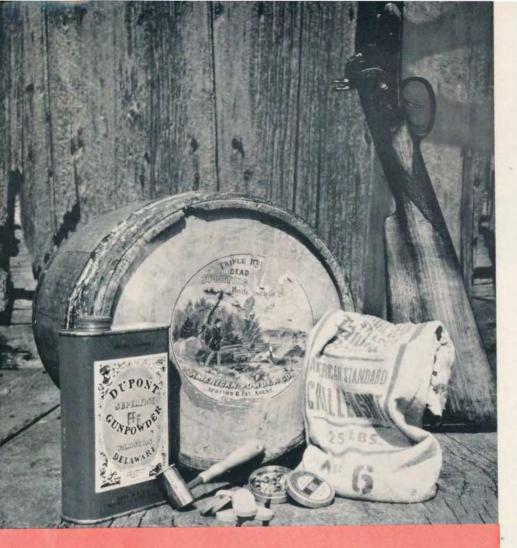
May I therefore seriously and soberly suggest that all male residents of New Jersey between the ages of 12 and 106 be required to register their short arms as they must their side arms and shoulder arms—with the police. Serial numbers could be tetocod on each one right at the and shoulder arms—with the police. Serial numbers could be tatooed on each one right at the happens to own one of these weapons. and snowider arms—with the police. Serial numbers could be tatooed on each one right at the station house desk with equipment available today. Some extremists may complain that this is a Nazi-inspired idea, but they should be ignored. Some men, of course, might require longer serial numbers than others especially if the coathetic harmony of the instrument is to be er serial numbers than others, especially if the aesthetic harmony of the instrument is to be preserved, as it should be, especially if it was made before 1898 and is classified as an antique or a decorator's item. Whether or not it is in working condition should not be a tor, since the owner could always have it renaired in an undercover manner and thus have tor, since the owner could always have it repaired in an undercover manner and thus be a

These same so-called sportsmen and extremists would also probably complain about the handling fee which would have to be charged. Again, these complaints should be ignored, nanding fee which would have to be charged. Again, these complaints should be ignored, since it is obvious that no honest man can reasonably object to any procedure which is so since it is obvious that no nonest man can reasonably object to any procedure which is so important for the common good. All unregistered weapons of this kind should be confiscated important for the common good. All unregistered weapons of this kind should be confiscated by the state of the confiscation o threat to society. important for the common good. All unregistered weapons of this kind should be connected and immediately by the state—by force if necessary—but in these cases the handling fee should not be abarred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as this would only come to import the sparred as the s not be charged as this would only serve to irritate the party in question. He might even seek an injunction claiming that irreparable damage had been done to him even though it could be a considered to the second se hardly be considered more than an inconvenience. As for Constitutional Rights (and some Right Winger is bound to raise that point) as far as I am concerned, any man who possesses are unregistered instrument is obviously planning to raise completely and he should es such an unregistered instrument is obviously planning to rape somebody and he should

Mr. Sills, if you would but effect this simple expedient, our women—the wives, mothers, daughters, sisters, sweethearts, yes even Congresswomen—would sleep better at night, for they would know that they will not be raped. Some of them might even stop carrying the pistols not be entitled to any rights at all. would know that they will not be raped. Some of them might even stop carrying the pistors and firearms which they now carry—illegally, of course— in their handbags and which they certainly need for protection under current conditions.

In orthogonal of this circula and legical extension of the "Silla Bill" I

In anticipation of your approval of this simple and logical extension of the "Sills Bill" I am advocating the immediate enactment of the above procedures into law and am further am advocating the immediate enactment of the above procedures into law and am further asking all of my friends to enthusiastically support any political candidate who will work to pass this law which is sorely needed for the protection of our women of every age, race, creed and national criefo and national origin.



For the Beginner-

Black Powder Shotgunning

By JOE RUPP, JR.



An adjustable shotdipper is a handy item.

LARMED ABOUT THE RAPID development in weapons design, a nervous gent in England wrote in part, ". . . if this new system is applied to the military, war will shortly become so frightful as to exceed all bounds of imagination. Future wars will destroy not only entire armies, but civilization itself!" This was written in 1817. It is hard to believe he was referring to the muzzle loading percussion rifle. Judging by present day standards, this horrible weapon didn't do much toward thinning out the population. However, I have discovered that its counterpart, the muzzle loading shotgun, can raise hell with mallard flights, partridge, and clay pigeons.

Everything you need to enjoy this sport is available on today's market. Equipment is simple. It has not changed much since your grandad's time when a hickory rod was the only reloading tool required. In those days, wads were made from the wall of a hornet's nest or the padding from an old saddle. Powder and shot were measured with a corncob pipe. A hot bowl dipped in the powder sack accounted for many a blistered hand but the practice would cure a badly

plugged pipe stem.

Checking the tag on these stick loaders, I find they range from ten to fifty dollars depending on condition and the seller's frame of mind. For some reason, the cost of a good muzzle loading shotgun is way below the figure that supply and demand would dictate. My pet charcoal burner parted company with its last owner for twenty dollars. For less than fifty you can buy a sweet little percussion double made up by a firm in Pennsylvania. These are smaller bores, from .410 to .32 gage with assorted steel or brass furniture. They are assembled from authentic, original parts salvaged from an old Belgium firm and entirely safe to shoot. If you want inexpensive shooting fun, here's a real opening.

Because they were built to take a mule-kicking charge, a muzzle loader in good condition has a wide safety margin. However, you should give a used piece a thorough inspection before taking it out into the field. Rusty breech plugs, badly worn nipples and splintered stocks are some of the danger signs to look for. Then too, a good many have been stored away fully charged and waiting to take a poke at anyone who dares to look down its throat. Chances are your al-



When shooting muzzle-loaders, it is a good habit to wear safety glasses as protection against eye injuries.

ley cleaner will be sound. If you have any doubts, get the nod from a competent gunsmith to be on the safe side.

Overhauling begins by separating the stock from the basic hardware. This is easily accomplished by driving out the small wedge from the barrel lug. Now you can get at the flat extensions on the barrel end called the breech plugs. These are just what the name implies. They are threaded and tapped into the breech following the boring process. Removal usually requires brute strength. If possible, use a smooth jawed wrench and a vise with sheet brass faces to protect the barrel. The inevitable blight of rust will most likely put up some resistance. A thorough soaking in penetrating oil (I hear some use Coke) should solve the problem. Cursing and swearing isn't much help. If the language gets too seamy, you will know you are doing something wrong. In this case, hie yourself back to the gunsmith and get it over with.

The same procedure, only on a smaller scale, applies to the nipples. These extensions hold the percussion caps. A tiny hole through the center directs the flash to the powder charge. They take quite a beating from the hammer and will split after a time. You might also find the hole has been peaned shut. This has been anticipated and the nipples are threaded for periodic replacement. Check the threads and tapping. If badly worn, redrill and tap for next largest nipple size. When ordering new ones ask for a tube wrench. This T-shaped tool is worth every bit you will have to pay.

Having removed the breech plugs, you can now sight down the barrel to determine its condition. Rarely will you come across a smooth, shiny bore. Off the active list for a century or more, hanging over smoky fireplaces, lying in the musty corner of an old barn, sometimes hidden in the dark end of a second hand store, they are bound to be rusty and pitted. Remove the top layer with a stiff wire brush. Use this dry. Tap occasionally with a wood block to drop out the powdered residue. Follow with steel wool. This stage will bring out the pits. A liberal swabbing with Hoppes #9 should bring the piece up to shooting par. You might want to go a step further and polish with an oil patch dipped in pumice. A fairly coarse grinding compound can be used if pits are very deep. Although I have used this procedure with success, I would suggest you don't overdo it. An ambitious person might convert a 12 gager to a thin-walled ten. Anyway, you do not have to strive for an optical surface. A glassy bore will break up the shot pattern.

If you can have your burner chokebored, so much the better. At the risk of getting (Continued on page 56)



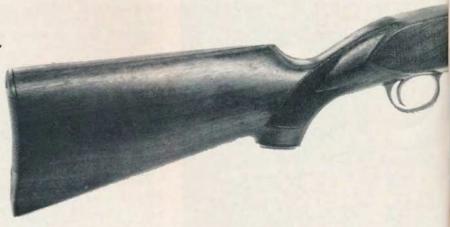
Barrel and stock are separated by knocking out the small wedge which binds the barrel lug to the stock. This is usually an easy process.



The proper size percussion cap will fit snuggly onto the nipple neck.

The fame of rifles by Ruger has spread worldwide—

let's take a close look at how it all began



The First Ruger Autoloader

A S YOU CAN SEE, this is pretty crude gunsmithing done during 1938 or '39 by the hacksaw and file method primarily. Funtioning, as might be expected, was very mediocre and the gun illustrates nothing but an idea."

So said Bill Ruger in a recent letter to the author.

"Nothing but an idea." In those four words gun designer William B. Ruger has unintentionally given us a remarkable insight to his personality. In brief, he is a modest man with plenty of ideas. His ideas have given the shooting public some of the finest and most advanced rifles and pistols in the history of shooting.

How did it all begin? Let's take a closer look at the gun that Bill Ruger describes as "mediocre" and see how

the wheels of genius turn.

I have long been aware of the unique semi-automatic conversion job that Bill Ruger performed on a Savage Model 99 lever action rifle. The caliber was .250-3000. As Bill said, the work was crude, but the gun worked and more important than the success of the gun was the success of the idea!

Back at the 1965 N.R.A. Convention in Washington, I first mentioned the old .250-3000 experimental gun to Bill and asked him why he chose the Savage Model 99. His quick answer gave me an insight into the thinking that created this gun. He said simply: "The 99 action seemed to make more sense as a pump gun." I may have sounded a bit incredulous as I repeated his answer. "A pump gun?" Bill laughed and assured me that the same mechanical movement that he had actuated by gas pressure could have been operated by a slide handle!

As I conceded his point, I mused at how foolish a guy could feel when he got into a technical discussion with a mechanical crackerjack. Fortunately, Bill is the kind of guy who handles his knowledge with an easy grace that does not make you feel uncomfortable.

There were other reasons why Bill selected the famous Savage 99. He liked the solid lockup of the breechbolt which allows the use of modern, high intensity ammuni-

By HARRY O. DEAN





An early photo shows Bill Ruger sighting in and benchrest testing a Model 99 Savage.



Ruger's experimental model has remarkably clean lines.

tion. The mechanism is simple and boasts a minimum of parts. The spindle magazine which contributed to the classic sleek lines of the 99 now became a means to an end. Its alignment just happened to be compatible with the direct passage of the operating rod through its central axis. With this change thereafter the push rod served a dual purpose because it then became the axle on which the rotor turns. To allow maximum rod diameter, a clock-style rotor spring was placed in the enlarged forward portion of the rotor. So much for the path of the operating rod through the magazine area. It's almost as simple as it sounds.

Bill had studied the unlocking motion of the lever cam and soon determined that the key to his conversion was to reroute the path or configuration of the cam track which handles the opening and closing of the bolt. His solution allowed most of the basic bolts parts to remain the same.

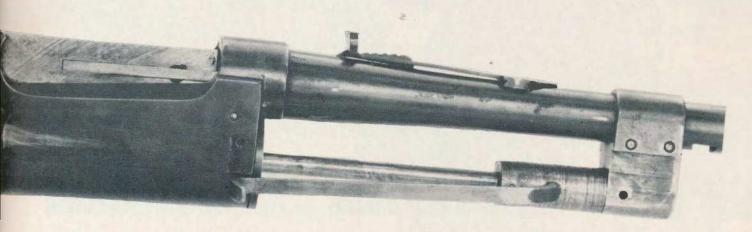
Let's see how a few words of Patent number 491,138,

dated February 7, 1893, describe this breech design of Arthur W. Savage:

"The frame, the bolt having a longitudinal movement therein and swinging to a locked position from a center of motion at its front, a cam surface on said bolt, and an abutment on the frame against which the cam surface acts, and a lever connected to the frame and operating on the bolt to swing and retire the same, in combination substantially as described."

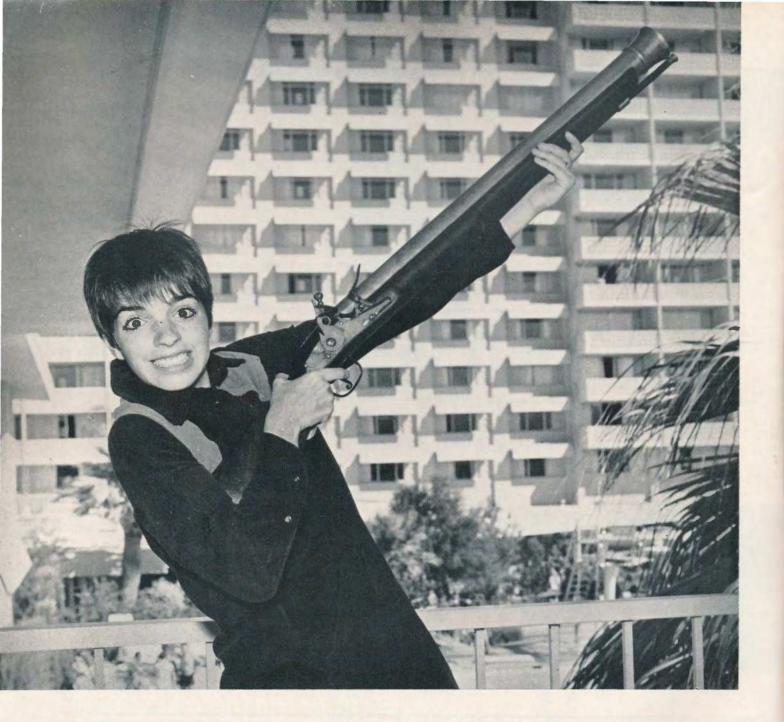
So states the early patent, long since expired. Now let's see how Bill Ruger approached the problem of operating the cam surfaces with his gas-actuated push rod:

He formed a rounded stud at the rod's rearmost end which roughly simulated the shape and size of the stud on the original lever. As this stud tracks back against the altered cam path, it depresses the rear end of the reciprocating breech bolt to unlock it and, at the same time, effect the bolt's rearward movement. (Continued on page 61)





GUNS • FEBRUARY 1967



THE SAHARA GUN SHOW

By ROBERT MANDEL

ONCE AGAIN, the Sahara Hotel in Las Vegas became the center of interest for gun collectors and dealers from the United States and abroad, as it played host for the annual Mid-Summer Antique Gun Show.

After the last Sahara show, which had as its main theme "Winchester guns," I thought I would never again see such quality of arms as was displayed at that show, but the dedication of this show to early European arms brought out a dazzling display of the finest examples of collectors' guns.

Walking through the vast exhibition hall you could see a rare German three-shot wheel-lock pistol, circa 1580; so rare that it won Best Individual European Arm of Show award for Frank Bivens, Jr. Frank also won the award for the best wheel-lock of the show.

One of the most unique and educational presentations I have ever seen was displayed by Dr. Walter Stryker of Wyandotte, Mich. It was not only a fine collection of Dutch firearms, but also featured a tape recording which described the arms on display and gave a full history of



each. At the same time, a projector showed color slides of the arms on a screen in the center of the display. This was truly a fine example of how much thought and knowledge can put into a dramatic presentation. Dr. Stryker won the well-deserved Best Display of Show award for his unique effort.

For the first time that I know of, this Sahara show was the first to recognize that the Bowie knife is, in itself, a fine object for collecting endeavors, and awards were made for these displays. Gordon Frost of El Paso, Texas, won not only the Best of Show Display, but also the Best Individual Bowie Knife award. Gordon's display of Bowie knives surrounded a scale model of the Alamo. Robert Abels attended the show with about 75 of his Bowie knives—he has the largest and best collection of these in the world—but Bob was acting as a judge, and he ruled himself out of the running for awards.

Other awards of interest included the display of a high art/German combination wheel-lock/crossbow by Dr. Hendricks of Altoona, Pa., which won Best Individual Artistic European Arm; the display of early arms and armor by Edmund Budde, Jr., of Amityville, L.I., N.Y., which won Best of Show; and the display of Confederate carbines by Dr. John Murphy of La Jolla, Calif., which won Best American Arms Display.

A fine display of rare Volcanic and Winchester arms won 2nd place Best Arms Display of Show for Elmer Taylor, of Orange, Calif. Not to be left out at the European





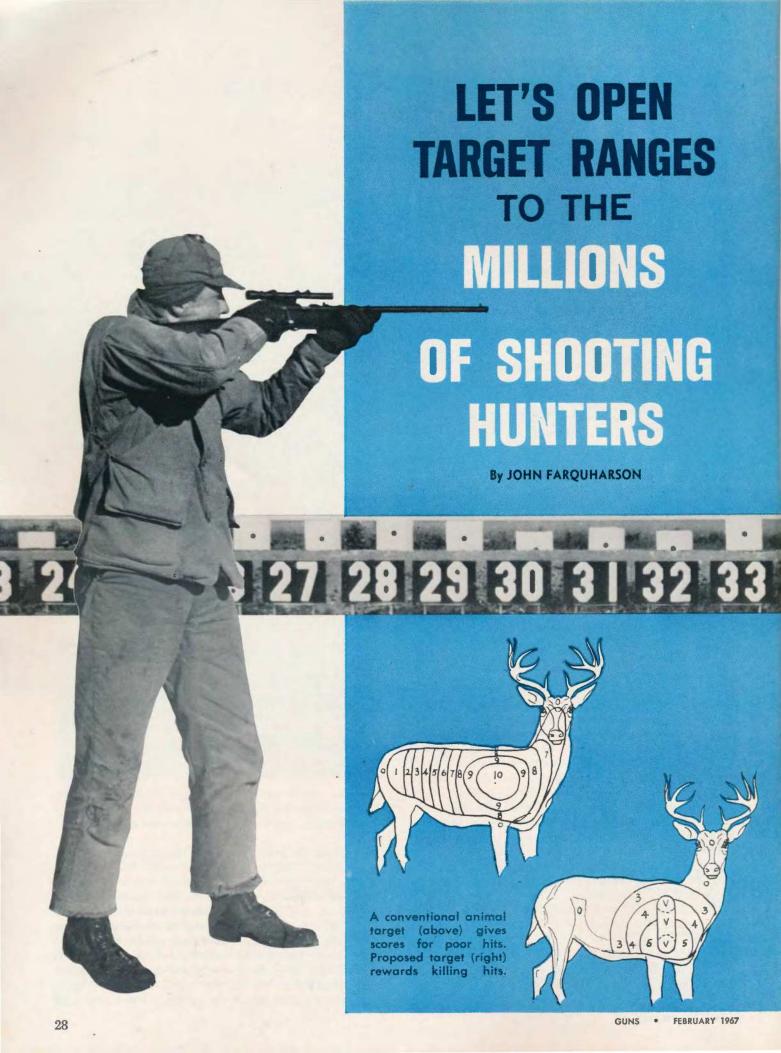
Attending the Sahara Gun Show were Bev Mann, Bob Mandel, Buddy Hackett, Tommy Bish, and Ken Liggett.

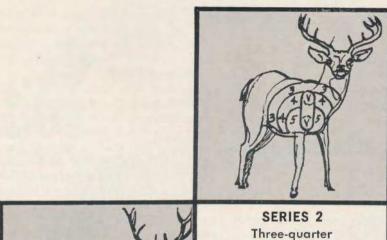


show, we found many fine displays of American arms. One was a 1866 Ulrich-engraved Winchester, displayed by James Fowler, which won Best Individual American Gun of Show.

All in all, the Sahara show was the greatest ever. Each time I attend, I feel that what I saw could not be outdone; but the next show seems to be more wondrous. Harry Mann, show director, and John Romero, Sahara's director of publicity, are again to be congratulated for coming up with a show that outshines each of the previous presentations. The Sahara Mid-Winter Show will be dedicated to Colt's arms. This should really be something to see. If you can make it to any of the Sahara shows, by all means do so; if you're a Colt fan,

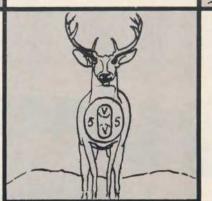
don't miss the next one.





West of the second seco

SERIES 1 Left or right full side view



SERIES 3
Front view



SERIES 4
Three-quarter rear view

34 35 36 37 38 39 40 41 42 43 4

front view

DESPITE PRIZES, medals, regular courses of fire at ranges varying from 200 up to 1000 yards, shooting at round "bullseye" targets never seems to have made a hit with the over 18,000,000 license-buying hunters. Many sportsmen maintain that the standard targets bear no relation to the neutral-colored deer they will hunt come fall. Also, you can never win your "Distinguished Marksman's" medal with the scope-sighted bolt hunting rifle you shoot; the rules forbid it.

These two reasons—a dislike of the military target, and lack of encouragement to use scoped big game rifles for range practice—have discouraged the mass entry of hunters into formalized shooting programs.

Since there are rifle ranges all over America, why not replace the black-and-white bullseye target with one of a full-sized full color North American game animal?

Every high power target range could then serve two distinct types of shooters; the competitive rifleman, and the big game hunter.

This idea has obvious advantages: (1) The rifle range is specifically designed for safe rifle shooting. It is far safer than garbage dumps, gravel pits, farm land, etc. (2) The full-sized animal targets can be seen and used at all

distances. (3) Targets are at a known distance—no guess-work. (4) Ranges are under common-sense safety rules for the good of all. (5) All three sizes of target frames can be used on standard steel carriers with little or no alteration. This means that a huge polar bear target on the 6' x 10' (1,000 yd. target frame) canvas can be used at 200 yards to prepare the hunter for an important, and expensive, Arctic hunt. (6) A pit operator signals, marks, spots and patches all shots on the paper. No wasted ammunition. (7) A simple switch of targets suits either competition rifleman or big game hunter.

The proposed paper targets are divided into fifteen species of North American game animals. These are: white-tail deer, black-tail deer, mule deer, black bear, antelope, Shiras moose, grizzly bear, caribou, elk, mountain goat, Rocky Mountain sheep, Alaska brown bear, polar bear, woods bison (buffalo) and the huge Kenai moose.

When printed on heavy paper that shows small bullet holes, these naturally colored full size paper targets would have four scoring rings, similar to the NRA targets. These are: V-ring, 5-ring, 4-ring and the 3-ring. These are in black and visible to the pit operator. A shooter with a 4X scoped rifle would have a hard time seeing the scoring

circles on the animal targets much beyond 100 yards—purposely so, since the hunter must know his game's anatomy.

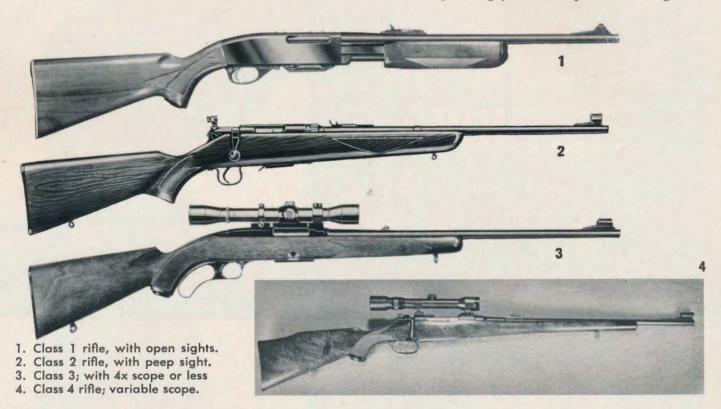
The game animal targets would be of standard size to fit any of the three target frames with no alteration. They would come in four series. Series #1 is all 15 animals facing either full left or right side view. Filling the canvas target frames, these paper animal targets offer several advantages over the excellent, but undersized, game targets now sold. Standard sizes and dimensions would make these targets available throughout America, an important consideration for future competitions

The rest of the paper game animal counts Zero (0). Isn't this as it should be?

The popularity of the present colored game targets does point to this proposed standardized full size North American animal paper targets as the means of bringing some of the 18 million hunters onto the available ranges where they can practice on the rifle ranges in the off-seasons under fair, firm and friendly safety rules. Wouldn't you like to practice on these sensible paper targets?

The signalling, spotting the bullet holes, and scoring is exactly the same in the National Game Rifle Championdown by the animal's tail. A Scratch (3-Ring) shot is shown when the red signal moves up and down by the head. A complete miss is shown by the waved red flags.

The fast-paced shooting test offered by these targets is a mixture of deliberate shooting, position work, snapshooting, rapid-fire work, and quick, accurate shots against moving game targets. The fellow with the Remington 141 in the mild .30 Remington caliber can use open sights on the various game targets at 100 yards. Knowing his rifle, he can register hits from prone, sitting, or standing. Yet, the guy with a scoped 700 Remington or



counting towards a National Game Rifle Championships.

Series 2 has the above 15 animals shown in 3/4 left or right front view. This is a slightly shorter, more difficult target. Series 3 has all game shown full front view. In Series 4, the game animals are all shown 3/4 rear view, as though they were fleeing from the hunter.

You can see how this becomes a step-by-step progression towards that hallmark of success; the one-shot kill. Start off with an easy target, master it, and go on to a more difficult one.

Getting away from the military overtones of target shooting, we could call these scoring rings on the animal targets: Heart (V-Ring), Lung (5-Ring), Wound (4-Ring), Scratch (3-Ring). ships as for the regulation NRA targets. This makes for increased use of the range and its equipment; lowering costs.

When a bullet pierces the paper, the pit operator notes what scoring ring it hits, or is closest to, and signals accordingly. Suppose it is a Heart hit, a V-Bull on the NRA target. The red cardboard "Spotter" stuck on the wooden plug that fits into the bullet hole is shown to the marksman on the firing mound. The white paddle travels horizontally along the animal's body.

A hit in the Lung (5-Ring) is rewarded by the white signal paddle moving straight up and down. A bullet hole far back in the Wound (4-Ring), shows the red signal up-andSpringfield .30-06 is by no means handicapped in the rapid fire, since this is broken down into 5 shot strings to suit the capacity of his magazine.

In the National Rifle Matches, the winner of the President's Match is a champion all-round target shot. It requires accurate shooting at various ranges in both slow and rapid fire work. Similarly, the overall winner of the proposed National Game Rifle Championships will be a real champion "field shot." With his one pet rifle, he will perform equally well in various positions at many ranges.

As shown in the rifle classifications, sights are the factor dividing the four classes of rifles. This is based on the solid theory that a man can see and shoot no (Continued on page 74)





WINCHESTER

Single Action Revolvers

The model at top, which looked most like a Colt, was designed by William Mason in 1883. The other three were made from designs of Hugo Borchardt.

By KINGSLEY P. KARNOPP

BACK IN THE '80's there was grave danger of war between the two greatest names in American firearms—Winchester and Colt. Up to that time Colt had stuck to revolvers and Winchester had stayed with rifles. Then Colt brought a rifle on the market, known as the Burgess. It was a lever-action, tubular magazine rifle, in caliber .44/40, resembling the Winchester 73 in general appearance and performance. Up to this point Winchester had the rifle world by the tail, with a downhill pull. Here was a situation which could develop into a full-scale war between titans.

Suddenly the situation changed—the war clouds blew away as Colt withdrew the Burgess from the market. Today no documentary proof of the exact reason exists, but the known facts are these:

William Mason, the designer whose name appears on the Peacemaker patents, showed up on the Winchester payroll in 1883. And he designed a single action revolver differing from the Peacemaker primarily in the shape of the grip.

Also about this time Hugo Borchardt, designer of the famed Sharps Borchardt rifle came to Winchester and designed three revolvers, all with swingout cylinders, but single action, and having various minor features differing from the Colt.

The above are known facts because the four designs still exist in the Winchester Museum in New Haven, Connecticut.

From here the story goes onto a rumor basis, as there is no known written record from the time. According to the rumor, T. G. Bennett, son-in-law of Oliver Winchester, bundled up the four revolvers and paid a friendly call on Colt, only a short distance away, in Hartford. One can only imagine what must have gone on during such a meeting.

The known fact is that shortly after this visit, Colt withdrew the Burgess from the market, and to this day no Winchester revolver has ever reached production. The reader is invited to draw

his own conclusion.

GUNS . FEBRUARY 1967

A DISSENTING VIEW

OF TODAY'S HUNTING CARTRIDGES

By NAMEER ALI JAWDAT

S OMEBODY HAS TO STAND UP and say that the Emperor is walking around in his BVDs. I guess I'm elected.

Pick up a favorite gun magazine, any issue. After an excellent article about a new pistol put out by Colt or Smith and Wesson; an article, equally exciting, on the conversion of military rifles to sporters; and, for the antique buff, one on the recent discovery of a Hopkins and Allen left-handed flintlock six shooter, we come to the hunting article. Not the varminting article, mind you, but the hunting article, which invariably goes something like this:

"We were standing on the ridge in the chilly light of dawn, Elmer O'Connor, Jack Keith, and myself, when the gigantic bull moose came over the rise and stood silhouetted on the cliff, broadside to us at a range of roughly four hundred and twenty-seven yards, one foot, eight and a half inches. It was now or never! I put my trusty "Brown Bess" to my shoulder, centered the Lee Dot on his boiler room, holding roughly 13/16ths of an inch over his aorta, and

squeezed off.

"'Brown Bess' is my favorite trophy getter. Built for me by crusty old Pete Martin of Brunswick, Me., on a reworked Schwarzlose action fitted with a reworked Jaeger trigger, it has a 32 inch stainless-steel barrel (He couldn't blue it and we have to keep it covered with Shinola, hence the nickname 'Brown Bess'.) bedded by Tom Shelhamer into a stock of laminated eucalyptus and crab-apple wood made to a design of the late Al Linden. It is chambered for my favorite wildcat, the .50 caliber machine-gun cartridge necked down to a victrola needle (supplied by crusty old Dave Sarnoff of RCA).



The charge propelling this wickedly ogived 7.5 grain pill was two hundred and three grains of bazooka powder, which Bob McNamara had made available to me for experimental purposes. The smokepole is topped by a Unertl 12X Ultra Varmint scope on a reworked Redfield Senior QD front mount and a welded-on Pachmayr rear mount (reworked, of course).

"The potent little pill, travelling at better than 7860 fps, hit the critter square in the brisket. He took three steps, slipped on a moose-pad, and hurtled down the side of the cliff into the valley where fifteen minutes later, flushed by our descent but triumphant, we found him stone dead. Once again the SOM (Super Otiose Magnum) had proved 'bad medicine' for moose! On dressing him out we found that the lethal little pill had penetrated at least one eighth of an inch into his hide before blowing up, and the shock had definitely been the cause of his death. Decidedly those people at RCA know something about making soft-point Victrola needles! The broken neck sustained as a result of his fall off the cliff was, of course, a direct result of the shock . . ."

And so on and so on.

Do I exaggerate? Yes, but not much. What I want to

TABLE OF SECTIONAL DENSITIES

Factory Loads

Suggested Loads

6.5 Remington Magnum

120 grain SD = .252

160 grain SD = .330

.350 Remington Magnum

200 grain SD = .207

300 grain SD = .310

 $250 \operatorname{grain SD} = .260$

.308 Winchester

220 grain SD = .331

110 grain SD = .166

125 grain SD = .188

150 grain SD = .226

 $180 \operatorname{grain} SD = .271$

Note: Sectional density is found by taking the weight of the bullet (in grains), dividing by the square of the diameter, and dividing this by 7000 (number of grains in 1 lb.)



say is that of the paths possible for cartridge—and incidentally rifle-design, we seem to have our feet firmly planted on the wrong one. For the hunter who is interested solely in woods hunting, there is a good choice of small, easy-handling semi-autos and lever actions that are chambered for slow, heavy bullets with good killing power; but they cannot be seriously considered except for thin-skinned game at practically point-blank ranges. The hunter interested in dangerous game at distances from right-here to two or three hundred yards has a choice between carrying a magnum of some sort or a medium-size rifle with a cartridge loaded with a woefully light bullet. The overwhelming trend of design today is towards the low-trajectory, high-velocity, low-weight bullet. This is fine for Western varmint shooting, where the distances are immense, the danger of ricochet is great, and the target is small, thin skinned, and does not take much killing.

But moose? Leopard? Jaguar? Wild boar? Grizzly? Tiger? Lion? All these animals are shot—999 times of 1000—at well under two hundred yards, and for that kind of shooting you need neither stratospheric velocities nor ultra-flat trajectories.

What you need is a well-made bullet with very good sectional density, and to hell with anything over three thousand feet per second. Which is to say a bullet that will not be deflected by a twig—or a blade of grass—or a

skunk beetle in hot pursuit of its beloved who happens to coincide with the path of the bullet.

But "velocititis," if we can call the disease that, has set in deep, very deep. The Remington Arms Company, one of the oldest and smartest arms makers in the world, produces the Model 600 carbine. Now anyone who hunts dangerous game at realistic ranges and sometimes in dense brush, and who prefers a bolt action, has at one time or another wanted to build himself such a gun. The Model 600, then, is just the job for anyone who does not want to go to the trouble and expense of rolling his own. What for calibers is this handsome rifle chambered? That should be a pretty reliable indicator of the current fashion in bullets. Let us ignore that faithful old warhorse, the .35 Remington, which has the sectional density of a box of Kleenex, but has proved adequate for deer, and the 6 mms (and where would they be without heavy bullets?) and the .222 which are essentially varmint cartridges and outside the scope of this article. Think of the three hunting cartridges for which this gun is chambered, the 6.5 mm and .350 Remington Magnums and the .308. Then think of them with bullets of the proper weight, say 160, 300, and 220 grains respectively. Between the three you could bracket any species of game from deer to rhino. The 6.5 mm Magnum is—or would be with a heavy bullet -a worthy successor to the (Continued on page 60)

GUNS • FEBRUARY 1967

I DON'T KNOW WHY, exactly, but it seems as though all gun shows are held in Boondocksville, Ohio, or Obscurity, Kansas. Apparently the only requisite for a site is that the place is at least 200 miles from the nearest collector, no matter what his interest.

It was some time back, at a 2-day show in Nowhere, Nebraska, or something like that, that I learned the philoso-

phy of the brown paper sack.

Having foregone the cocktail hour and left on a Friday evening, I managed to put some 600 miles of what some states laughingly call pavement beneath my tortured tires. This was accomplished in something over 12 hours. (Ten hours to ge to the right town and two hours to find the building where the show was being held.) The standard procedure is to forget the letter with the location on it, assuming that it will be easy enough to find in a town with a population of 35 souls. Upon arrival, then, you merely ask the elderly gas station attendant (he's always elderly, and don't ask which gas station. There are hardly ever two stations in the town) for the location of the gun show.

The routine goes like this:

"Pardon me, but do you happen to know where they're holding the gun show?"

"Gun show? Whatinhell is that?"

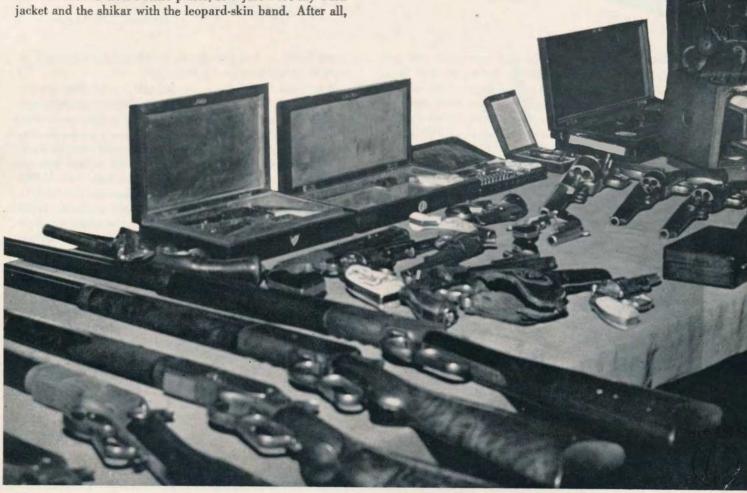
"Well, it's—oh well, it's a sort of—look, have you seen any fellows today driving Cadillacs, wearing cowboy hats and smoking cigars?"

"Oh, them guys! You ain't one of them, are ye?"

I could see why he hadn't identified me as one of the regular group. I was driving a Jaguar at the time, and I had always felt that the cowboy getup was a little pretentious with Illinois license plates, so I just wore my bush jacket and the shikar with the leopard-skin band. After all,

the saga of the BROWN PAPER SACK

By JAY CHARLES





when you have a beard, you don't really go in for more ostentation.

"As a matter of fact, I am sort of looking for them. You don't happen to know where they were headed, do you?"

"Yup, they're over to the old Abner Doubleday Memorial buildin'. You jest folla this here road a couple miles—up to the Cantrell place. They got a yeller barn with a hawg-feed sign on it. Then you turn off to yer left fur about seven 'r eight miles 'til yew come to a bridge across a crick. Turn right t'other side of the bridge 'n go about five miles down the county road and y'll see a ball park off behind a grove o' walnuts. Jest swing 'er right in there. Buildin's right under the bleacher-seats. Y'can't miss it."

Waving a weak "Thanks," I drove out to become hopelessly lost for about two hours.

Finally arriving at the "Abner Doubleday Memorial Buildin'" I unloaded my trading stock, located my reserved "table" (3 planks and two sawhorses) and set up shop. About seven gallons of coffee, consumed at the concession run by the Ladies' Auxiliary to the local Cemetery Association, made me feel semi-human again. (This cost about 30 cents. It's the only bargain at a gun show.) I wandered around to a few tables and looked over the goodies. At one table I saw a gun that I'd never seen before. A very unusual thing to happen at a gun show, since they are always attended by the same people who bring the same guns. If there is a trade or a sale during a show, the item still comes to the next show—it just turns up on a different table, usually at a slightly higher price.

Examining the newcomer, a nice rifled percussion pistol, I decided that I had to have it.

"Seventy-five," was the matter-of-fact answer to my casually raised eyebrow.

I shrugged and replaced it on the table. Nobody ever makes a deal this early in the show, anyway.

By mid-afternoon, the place was bustling. Collectors and dealers from all over the country were there, milling around among the tables. The locals were all there, too, with wives and children in tow. It must have been a lot more exciting than going down to the barber shop and watching haircuts. There didn't seem to be any dealing going on, though. The show was young yet. Tomorrow would be the day.

Sunday morning dawned and I felt as refreshed as possible after a stay in one of the local tourist rooms that offered room and board. I found out that the board was what you had to sleep on.

I yawned as I picked up the percussion pistol and raised an eyebrow.

The owner yawned, "seventy-five."

"Consider a trade?" I yawned.

"Nope," he yawned back. "Belongs to my brother-in-law. Consignment."

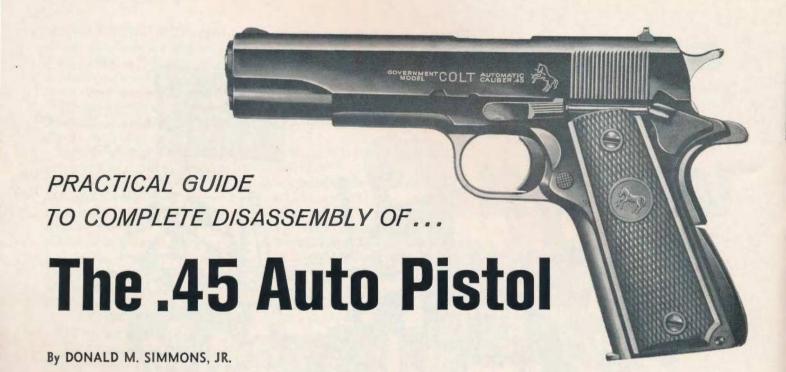
I really could have bought it then, it was worth the money and I hadn't paid the rent yet . . . but I stood firm. I just had to make a sale, that was all.

Returning to my table, I found a fellow handling my Colt's Cloverleaf House Pistol. "Seventy-five," I yawned.

"Nice piece—ya wanna buy a set of original pearl grips for it? Only five bucks."

"Not really," I yawned.

As the morning progressed, there was still no business. Just a flurry of people in such a (Continued on page 73)

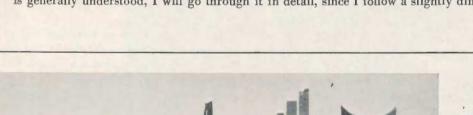


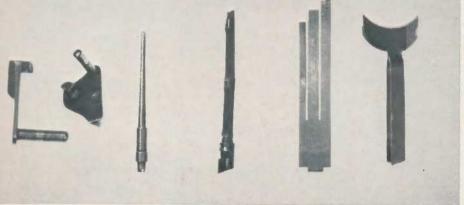
THERE ARE THREE primary reasons why you should learn to take apart any firearm you own. The first is obvious, in order to clean it and keep it in first-class working order. The second reason is that with the knowledge of how to take your gun apart, the knowledge of how it operates also comes, giving the user the ability to diagnose and repair ills in an emergency. The last reason is one that could only be given or understood by a certain kind of person: It's fun, just as taking apart a Chinese puzzle is fun. I feel too that this enjoyment is heightened if only the parts of the firearm are used in disassembly.

It is with all this in mind that I have delved into the complete stripping of the Colt Models 1911 and 1911A1, using only the pistol's own parts as tools. The only group that can't be disassembled in this manner is the mainspring housing, but since it is only one, it can be flushed repeatedly with oil until clean. In addition, the sights are left alone, since it serves no purpose to remove them. The time it takes me to do one of these tool-less stripping jobs is $4\frac{1}{2}$ minutes for takedown and $6\frac{1}{2}$ minutes to reassemble. The names and numbers of each part are taken from the exploded drawing supplied by Colt.

FIELD STRIPPING

Field stripping the Colt is the first step to full disassembly. Even though this procedure is generally understood, I will go through it in detail, since I follow a slightly different pro-

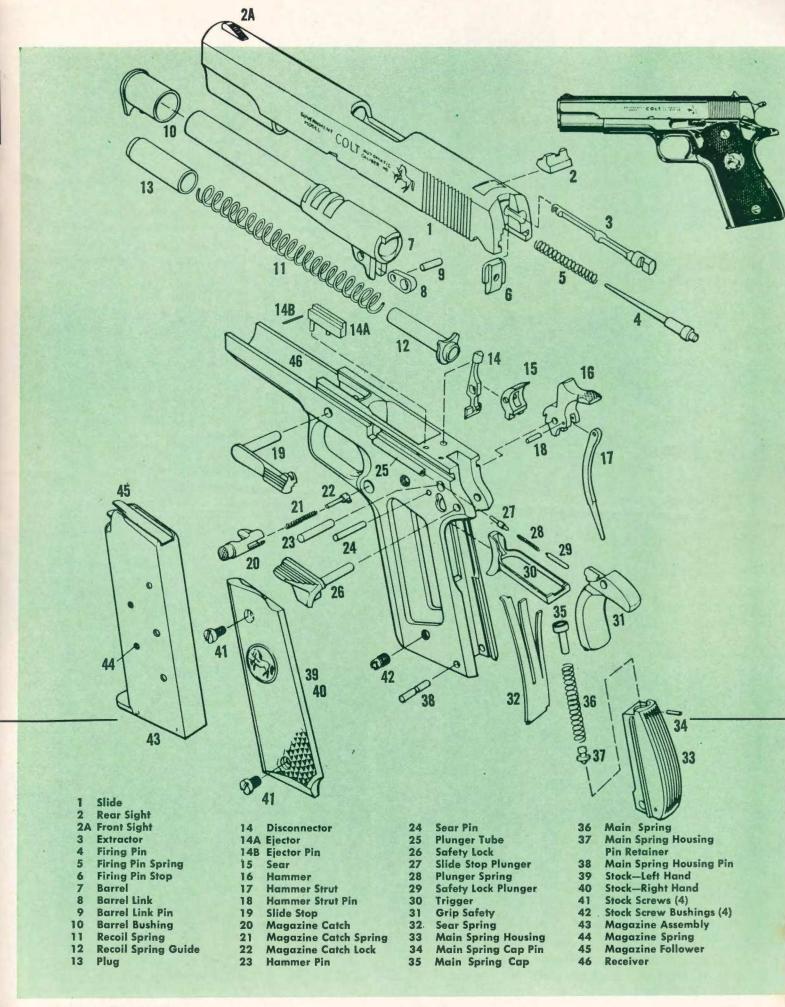




Parts of the .45 Auto used as tools in disassembly include the slide stop, safety lock, firing pin, extractor, sear spring, and trigger.



A Pressing firing pin clear, safety lock can then slide the stop out.





Drift the mainspring housing pin out of its hole using the firing pin and a wooden block.

THE .45 AUTO. PISTOL



D Grinding down the base of the sear spring makes an effective screwdriver for stock screws.



The extractor's hook section is used to help in withdrawing the follower from the magazine.



C Using the sear spring's small leaf, turn the magazine catch lock counterclockwise while holding the catch in.



Press the magazine spring down using the trigger, secure it there with the firing pin, and remove the trigger.



G Using the tip of the slide stop, the firing pin can be pressed home until the firing pin stop catches the pin.

cedure than the GI method. The first move that is made in any gun handling is to be certain that the gun isn't loaded. This is done very quickly and positively with the Colt by retracting the SLIDE (1) and checking through the ejection port the MAGAZINE FOLLOWER (45) and the chamber in the BARREL (7). If no cartridge is seen, the pistol is clear. At this point, notice that the SLIDE STOP (19) is engaged in the slide stop notch. In the slide, the smaller notch about 1/2 inch toward the breech is the disassembly notch which we will be talking about later. Release the slide by pushing it back slightly while the thumb of the right hand pushes down on the slide stop. Don't let the slide slam closed; ease it forward with the left hand.

Looking at the muzzle, push in the PLUG (13) while at the same time you turn the BARREL BUSHING (10) clockwise 90 degrees. Ease the plug from the RECOIL SPRING (11) by turning it clockwise. Move the slide to the rear of the RECEIVER (46) until the SLIDE STOP (19) enters the disassembly notch in the slide and then remove the MAGAZINE (43).

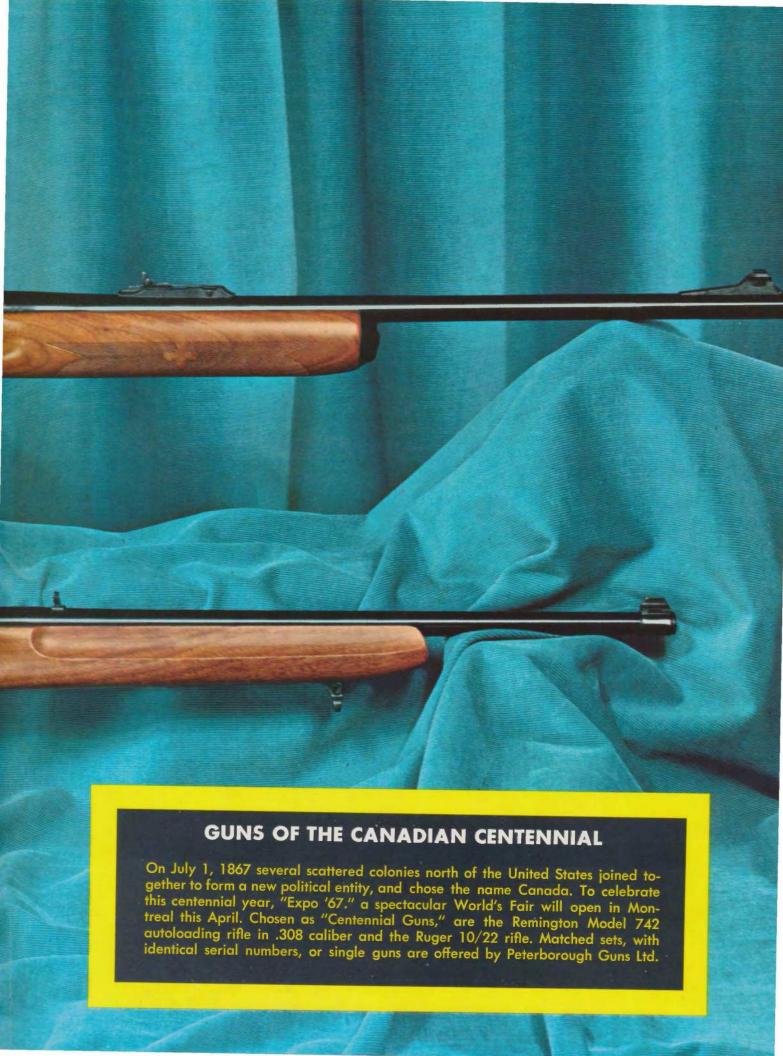
By pushing on the pin section of the SLIDE STOP (19) as it protrudes from the right side of the RECEIVER (46). the slide stop can be lifted from the left side of the pistol. This piece should be placed in a special pile which we will call "tools," Holding the pistol butt upward, draw the slide off the receiver toward the front. Withdraw the RECOIL SPRING and the RECOIL SPRING GUIDE SUBASSEMBLY (11, 12) out of the slide toward the rear, then pull the recoil spring from the recoil spring guide. Turn the BARREL BUSHING (13) counterclockwise as far as it will go and remove it from the slide by pulling it toward the muzzle. The BARREL SUBASSEMBLY (7, 8, 9) is removed from the slide by first pushing it up with a finger through the ejection port in the slide. Next make sure that the BARREL LINK (8) is swung as far as it will go toward the muzzle, then slide the barrel subassembly forward out of the slide. We have now completed what is usually called field stripping and we have broken the original pistol into three basic groups: the magazine, the slide, and the receiver. We can now start to further disassemble the pistol without the benefit of tools.

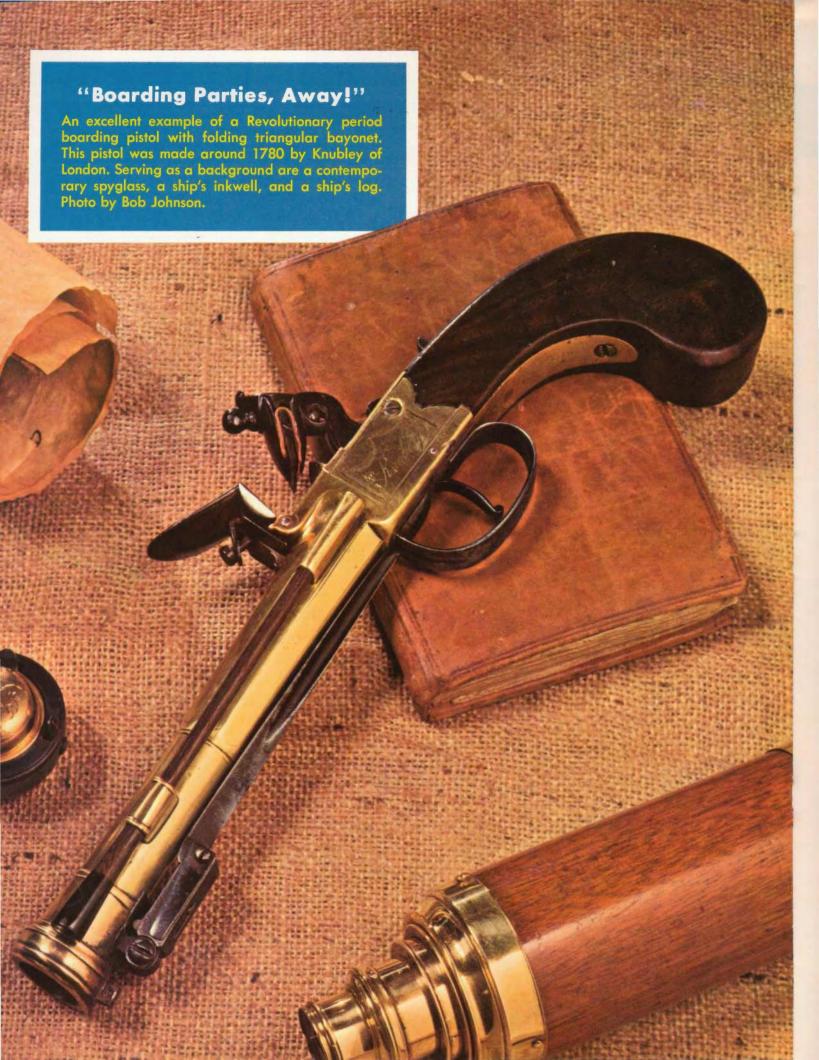
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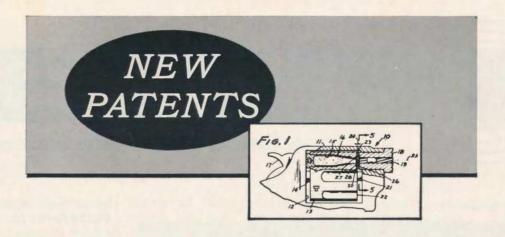
Sums color Gallery





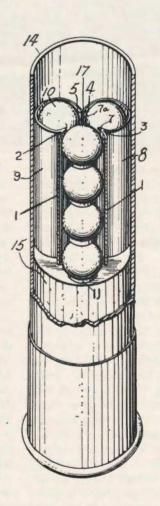






IN COMBINATION, a plurality of columns of shot projectiles and a projectile spacer receptacle therefor, said projectiles having a portion which is generally spherical, a shot cylindrical column integral with said spherical portion and extending therefrom, said cylindrical column having a concavity at the end thereof opposite the spherical portion, the curvature of said concavity being equal to the curvature of said spherical portion, said projectiles being aligned in three substantially contiguous columns with the spherical surface of one of said spherical portions engaging the concavity of said cylindrical portions of another projectile, said columns of projectiles forming a generally three-leafed clover leafed pattern in cross-section defining a central axis extending longitudinally of the columns of projectiles, said receptacle having a generally three-leafed clover leafed pattern in cross-section with each leaf substantially surrounding each of said three columns, said receptacle initially formed from flat rectangular pliable, resilient sheet stock, said sheet stock folded in two places parallel to one side of the rectangular sheet stock to provide three equally sized rectangles in said sheet stock, said folds and the ends of the rectangular sheet stock parallel to said folds extending inwardly toward said longitudinal axis of said columns of said projectiles, each of said equally sized rectangles of said sheet stock being arcuated to substantially surround one of said columns of said projectiles, said receptable being constrained in said three-leafed clover leaf shape so as to develop a spring action which has a tendency to release itself from said clover-leaf shape to the shape of said equally folded rectangular sheet stock.

3,264,996
BUCKSHOT-LOADS FOR SHOTGUN-SHELLS
Eugene Rimar, Pinellas County, Fla. (7853 1st Ave. S.,
St. Petersburg, Fla. 33707)



To get a copy of patent, send the number and 50¢ to the Commissioner of Patents, Washington 31, D.C. To communicate with an inventor or assignee, if the address given is insufficient, send a letter to him in care of the Commissioner mentioning the patent number.



GUN RACK.

REPORTS ON NEW GUNS AND SHOOTING EQUIPMENT...

Remington Guns



Two new versions of old Remington guns have recently made their appearance. The M 572 Fieldmaster is a slide-action .22 RF that handles very well and looks extremely good. Topped with a Redfield 4X scope, the gun on the indoor range digested every round that it was fed, and in over 400 rounds there was not a single malfunction. Although not designed as a target rifle, it has the inherent accuracy of one, and even the trigger pull, free of creep or backlash, was of nearmatch quality, breaking at 3½ lbs. consistently. The gun handles all .22 RF cartridges, and the tubular magazine feeds and the action handles a mixture of the .22's, from LR to Shorts equally well. The cross bolt safety at the rear of the trigger guard is positive and the gun cannot be fired when the trigger is kept depressed. The tubular magazine holds 20 Shorts, 17 Longs, or 15 LR cartridges, and a choke bored model is also available. Checkering is of the impressed variety, and the highly durable RK-W finish is used.

The old favorite, the semi-au-

tomatic Woodsmaster, Model 742, looks like a million bucks and handles like it too! This clip type rifle has long been a favorite, in the eastern woods especially, and this new model has a lot of eye appeal. The test gun was chambered for the .30-06 cartridge, and with Weaver mounts and rings and a Leupold 2X-7X variable scope, the gun performed as well on the range as a lot of bolt action rifles. The internal parts of the gun have not been altered to any appreciable degree, and the external appearance, from the RK-W finish to the inverted and impressed basket weave checkering, gives the gun a mighty handsome appearance. The trigger breaks at 31/4 lbs., and with sundry lots of factory ammo, and with various bullet weights, 100 yard groups measured between 1.25-1.60 inches.

The test gun, a BDL grade rifle, does not have either a rubber recoil pad or any provisions for afixing a sling, but these are really minor considerations. The Carbine version of the 742 has an 18½" barrel and is chambered for the .30-06 or the .308 Win-

chester cartridge, while the rifle is chambered for the 6 mm Remington, the .280 Remington, the '06, or the .308 Win. Barrel length of the rifle is 22", and the BDL grade is available in the two .30 calibers, either right or left hand. Recoil of the '06 is very light thanks to the gas operated action and handling the gun and staving on target is no trick at all. Recoil is minimal and there is little noticeable muzzle jump or rise. In firing over 250 rounds of sundry factory ammo and reloads, there was not a single malfunction.

Pacific Shell Catcher



Reloading shotshells has become very popular in the last ten years, and the addicted shotgunner who does not load his own these days is a rarity indeed. A great many trap and skeet ranges and clubs now have rules that preclude your picking up your hulls if you use an autoloader, and those using pumps or doubles have long ago learned to open their guns in such a fashion that they can catch the newly fired hull. Those shooting the autoloader often resorted to some sort of home-made shell catcher, and some of them are wondrous things to behold.

The Pacific Gun Sight Company now offers a handy shell catcher for several Remington shotguns, namely Models 11-48,

GUN RACK ...

TESTED IN THE FIELD, ON THE RANGE, AND ON THE BENCH

878, 58, and 1100. Retailing for only \$5.95, the Pacific Shell Catcher is installed by simply removing the gun's operating lever and replacing it with the Shell Catcher. In actual tests, using a Remington M1100. I found that the catcher does a fine job, that fired shells can be removed manually or by simply rolling the gun on its right side while you are holding it and then catching the shell in the right hand. The Shell Catcher is supplied at the present only for 12 ga. hulls, but by bending the two wire prongs together a bit, it can be used for the 16 and 20 ga. hulls. The new Pacific product comes ready to install, and extensive tests, using both paper and plastic hulls, proved that Bob Dietemeyer knew what he was doing when he designed this one. It is a handy little thing that will find favor with those who load their smoothbore ammo and who use an autoloader.

Mauser 98 Actions

When I saw these 98 Mauser actions, sold either as actions alone or with Douglas barrels, the price looked so good to me that I bought a couple of them for future use. Sold by Engel & Frost Arms Service, 1756G Koons Rd., Greensburg, Ohio, 44720, they are barreled with a #1, #2, or #5 Douglas tube. In standard calibers, cost is only \$53.50; magnum calibers run five bucks higher. The company also offers F.N. actions with Douglas barrels, and a complete gunsmithing service is available. I shipped one of these barreled actions to Fred Huntington of RCBS for some testing, and he reports that the Rockwell C-scale rating of the action is about 41, while the bolt averaged 36.5 to 37. This is better than many of the popular actions which are softer, and hence they lend themselves to hot magnums or wildcats.

Priming Tool



Priming rifle or pistol brass as a separate operation in handloading ammo is a method usually reserved for the accuracy buff or the experimenter. Most handloaders are content with knocking out the spent primer and while sizing the case, seating a new primer. In recent years the automatic primer feed on loading presses has become popular and is, on most of the tools that I have seen or tested, a good feature that saves a lot of time and trouble. Precision shooters, and most notably the benchrest boys, have done a lot of'experimenting concerning primer seating depth, primer pocket cleaning, and uniformity of primer seating. Some handloaders never learn the feel of a primer being seated properly; others drive the primer into the primer pocket the way they'd drive a nail into a 2x4.

Special primer seater tools are on the market, and the one offered by the Gun Clinic, 81G Kale St., Mahtomedi, Minnesota 55115, is the most precise tool that I have ever encountered. Called the Model 46, and selling for \$28.80, the tool reaches you completely

assembled and tested. Each unit comes with a reversible shellholder, and unless otherwise specified. the shellholder will handle the '06 and the .38 Spl. cases, and of course, all cases based on these two caseheads, such as the .257 Roberts, the .270 Win., and so on. The M 46 Priming Tool is a precision piece of equipment engineered for simplicity of operation and for uniform priming of metallic cases. Bearing surfaces. cams, and all other moving parts are designed for long and hard use, yet no force is required to operate the tool's lever. With a bit of practice, it is amazing to see how quickly and uniformly primers are seated.

In actual bench tests, I found it best to operate the lever with the left hand, insert and remove cases from the shellholder with the right hand. The special primer feed tube and the primer loading tube are designed so that transferring primers from the box to the primer tray that comes with the tool is simple and foolproof, and there is no chance of inactivating a primer through contact with greasy fingers.

This tool, besides being of interest to the precision shooter, should also prove to be a valuable asset to the commercial loader who desires precision priming without the troubles that are so often encountered on the automatic machines used by so many commercial loaders. The M 46 Priming Tool is a fine tool that does but one job, but that job it does extremely well. While the price tag of almost \$29 might seem high and you must expect at least 6 months waiting time when you order one, good primer seating while loading quality ammo in quantity lots is so important that both the cost and the wait are certainly worthwhile.



GUN RACK ...

REPORTS ON NEW GUNS AND SHOOTING EQUIPMENT...

Marlin M-62 Levermatic



With the ever-rising popularity of the old .30 M1 carbine and the new commercial loads available, it was probably inevitable that someone would come up with a non-GI-type rifle chambered for this cartridge—I guess.

Marlin's Model 62 Levermatic carbine was the recipient of the new chambering. This shortstroke lever action has been around for a few years in .256 Winchester magnum caliber and. at \$69.95, is the lowest-priced center fire lever action extant. The .30 has more meat-moving potential than the pip-squeak .256; sacrificing some muzzle velocity and energy, but delivering nearly twice as much lead. This should bring it up to medium-sized varmints like fox and covote at closer ranges, but I'm afraid a lot of them are going to be hauled out for deer season. It just ain't enough cartridge for that no matter what anyone says.

The test gun that we received had a nice enough overall appear-

ance, except for being a bit thick in the wrist; which is a common ailment in this price group for some reason. I liked the forend design with the "tear-drop" shape. It had a nice feel to it. The cheekpiece was low enough to be comfortable with the iron sights, and buttplate and pistol grip cap sported white line spacers.

On the mechanical end, the action was quite fast and locking was simple and positive. "Forcing" a few rounds through at high speed didn't cause any malfunctions. The box magazine has a capacity of four rounds and can be put in any which way—even backward. This would be a distinct advantage, except that it will only feed one way. Even the old GI "tin can" clips fit better than that.

In actual shooting, the M62 turned out to be a nice little plinker. Not intended as a target rifle; the only shots I put on paper were for sighting in. We "busted" tin cans with it for the better part of an afternoon and had no com-

plaints on performance.

The ammo that we were using was Norma's round nose soft point stuff, which does have a satisfactory jolt to it. Shock power is shown on tin can in the photograph.

The only serious complaint that I would have on this piece is the safety: Almost everything about the safety, as a matter of fact. First, it is very small, very sharp and very hard to work. It is located on the right side of the lever, just aft of the trigger. Easy enough to reach-if you happen to be right-handed. I doubt very much that a southpaw could get to the safety without changing his grip completely. Since lever actions are a well-known refuge of the left-hander, it seems strange that they've been so completely ignored in this design.

All in all though, the M62 Marlin in 30M1 is a real "fun gun" and will probably be the first centerfire rifle for a lot of youngsters as well as replacing a lot of .22 rimfires now located conveniently near the door of a farmhouse.

Jerrow's Inletting Blue

As far as my experience with inletting blues goes, there are three kinds: terrible, too thick or too thin; good, these have a tendency to dry out in the bottle eventually or they dry on the job and then flake off; or so good that you hardly ever hear of them since the professionals keep a few of their trade secrets well hidden. I recently found such an inletting blue and liked it so well that I bought three bottles.

I was having some trouble with my 7x57 which had been sitting in an old stock that needed internal and external work. One of my bottles of inletting blue had dried out, the content of the other was the consistency of water—much

GUN RACK...

TESTED IN THE FIELD, ON THE RANGE, AND ON THE BENCH

too runny to be of use. I then recalled having bought those three bottles of Jerrow's Inletting Blue. Using the directions John Buhmiller had given me-use only a little and even then you'll have too much-I started the job one evening. I was promptly interrupted and never got back to my bench until the following week. That inletting blue was still good. still left enough dye on the wood, and best of all, it wipes off easily with a rag or a couple of patches. One bottle will do quite a few jobs, and one bottle retails, postpaid for \$1.25. You can get it directly from Chuck Jerrow, 452G Fifth Ave., Kalispell, Montana.

Techsonics Chronograph



Distributed exclusively through the Micro Sight Co., 242G Harbor Blvd., Belmont, Cal., 94002, the improved model of the Techsonics Model 65 chronograph is an interesting and precise piece of apparatus. Measuring only 2 inches thick, 33/4 inches wide, and 6 inches long and weighing only 11/4 lbs., the chronograph in actual use gave some very accurate velocity readings. Retailing for \$69.95, complete with battery and screen holders, the chronograph is well suited for the shooterhandloader whose interest leads him into the field of external ballistics and who wants to know, more or less accurately, just how fast a certain pet load travels.

The chronograph is transistorized and fully portable, making set up and operation simple and inexpensive. Because of the smallness of the unit and the screen set-ups, it can be stored quite easily. It can be carried along to the range in a small shooting box, with the board that holds the screenholders being the only extra equipment. As most other available chronographs, this one also measures elapsed time of flight, and there are four methods of reading velocity - three of them direct and one by interpolation. Screens are mounted one, two, or five feet apart, depending on the anticipated velocities. The velocities obtained in this manner are read directly on the face of the chronograph under the appropriate heading of the screen distance used. If a different screen spacing is used, then elapsed time in milliseconds is recorded, and this must then be interpolated into fps.

The chronograph is designed to operate on a standard 9 volt transistor radio battery, and battery life is excellent, especially if the unit is turned off while screens are being changed or while entries are made into the shooting log. Tapes for the various chronographs now available are usual-. ly expensive and cannot be obtained locally in most cases. The Techsonics M 65 chronograph uses regular kitchen aluminum foil, and you cut the tapes yourself, using as much or as little tape as you may find essential. By cutting the foil about 3/16" wide, and making the rear tape slightly wider or cutting it in the shape of an elongated diamond, it is a simple matter to align the start and the stop screens and to break both tapes without undue strain on the part of the shooter.

The Techsonics Model 65 chronograph is a simple and quite reliable unit and the price places it within the reach of most serious handloaders. Like all other chronographs, it does not take kindly to rough usage, and I found fading somewhat bothersome when the chronograph was used in the sunlight and when temperatures were in the high 80's.

The M-P Three Station Tool



The Micro-Precision Co., Box 1422G. Omaha, Nebraska, 68101, has introduced a number of new items in the last two or three years, and John Thompson, the prexy of the company, gave me a sneak preview of some of the things which are in the hopper for the next few months. M-P has one new tool that I liked so well that I bought it and left it on my bench. This is a 3 station, H-type tool that has the stations arranged so that the left and the right stations are located forward of the center station. There is plenty of space between the stations to work and handle cases, dies, bullets, etc. The left station of the M-P tool has a special locking device that makes it possible to use the handy M-P case

HANDLOADING THE 270 WINCHESTER

By JAMES OLT

SINCE ITS INTRODUCTION in 1925, the .270 Winchester has become one of the most popular American big game cartridges—if not the most controversial. Lovers of heavy bullets and large holes in the ends of rifle barrels curl their lip at the "puny" little cartridge. On the other hand, shooters preferring a hard-hitting cartridge that is also accurate and easy on the shoulder think the .270 is one of the greatest things since clean socks.

Be that as it may, the .270 is a very widely used number. It has dropped uncounted numbers of elk, moose, and grizzly. On light game like deer, antelope, and mountain sheep it is dynamite in concentrated form. Numerous Alaskan brown bear have fallen to the cartridge and one of the largest polar bears on record met his end from a 130 grain .270 bullet. The .270 has also been used extensively in

Africa and Asia with excellent results on such ponderous creatures as the giant eland and notoriously tough babies like the oryx.

The .270, with its light 16 foot pounds of recoil is just about an ideal cartridge for the lightweight mountain hunting rifle. Its report, while up there, is not much for a 22 inch barrel. Great inherent accuracy and flat trajectory make the .270 an easy cartridge with which to hit game at long and unknown ranges.

As much as I like the .270, I will be the first one to admit it has a big drawback insofar as the average shooter is concerned. Unlike the .30-06, .308 Winchester, and .280 Remington which have a large variety of bullet weights and shapes available over the counter, .270 users have to content themselves with only three bullet weights; 100 grains, 130 grains, and 150 grains. Of these three loads, only

one is really good, one is fair, and the third is miserable indeed. The Dominion Cartridge Co. of Canada, offers an excellent 160 grain loading of the .270, but few American shooters can get their hands on Dominion cartridges.

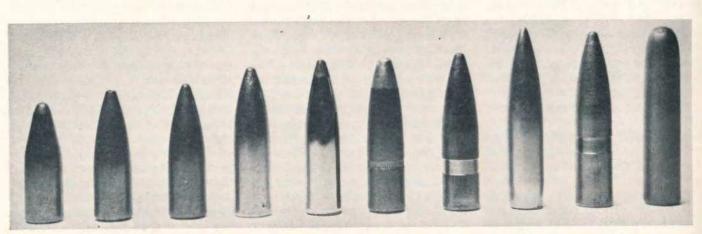
The handloader is really the only one who can take full advantage of the .270's potential. He has to work with a case that is almost a perfect match in powder capacity compared to bullet diameter. He can get an excellent variety of bullets in 90, 100, 110, 120, 130, 140, 150, 160, 170, and 180 grain weights. It is no trick to cook up a variety of handloads that make a real hell-bender out of the .270 and improve its versatility immeasurably, as we shall see.

The 100 grain .270 factory load features a quick-opening bullet with 3480 fps muzzle velocity. Accuracy is usually good, but it can be improved upon. The 100 grain .270 bullet is somewhat like the 110 grain .30 caliber pill in that it is somewhat stubby and lack-

ing in sectional density.

My favorite varmint load in the .270 is the 110 grain Sierra bullet in front of 53 grains of DuPont 4320. Muzzle velocity is a very respectable 3450 fps. The heavier bullet, with its better sectional density, shoots somewhat flatter and resists wind drift better. I might add that I have found this to be about the most accurate load that can be put through a good .270 rifle. My 5 shot groups usually run an inch or slightly under at 100 yards, with some going as small as ⁵/₈ inch.

I think the .270 is too much cartridge for run-of-the-mill varmint shooting. It is too noisy and unnecessarily powerful for most situations. However, under special conditions it can be very good indeed. It is a superblong range coyote cartridge. Many



Bullets available in .270: 100 gr. Hornady, 100 gr. Speer, 110 gr. Sierra, 130 gr. Speer, 130 gr. Sierra, 130 gr. Nosler, 150 gr. Norma FMJ Boattail, 150 gr. Nosler, and 180 gr. Barnes.

fine chuck shooters find it just the thing for the extremely long shots on the windy days. I have noticed that a lot of these hotshots use heavy, custom rifles with high powered target scopes, and they turn up their noses at shots closer than 300 yards.

Winchester's original loading of the .270 featured an excellent spire point soft nose bullet at the then sensational velocity of 3160 fps. The present day 130 grain factory load is much the same as the old one. The old Winchester soft point has been replaced by the Silvertip and muzzle velocity is listed at 3140 fps. It was, and still is, an excellent open country big game load with either the Winchester Silvertip or the Remington Corelokt.

After having experimented with numerous powders including 3031, 4895, 4064, 4320, 4350, and 4831, I have come to the conclusion that nothing is any better with the 130 grain bullet than 58-60 grains of Hodgdon's 4831 powder. My pet .270 shoots particularly well with 59.5 grains of 4831 and either the Sierra or Speer 130 grain bullet. It consistently puts 3 shots into 3/4 inch or less at 100 yards. Case life is long and extraction is easy. I have gone as high as 62.0 grains of 4831 without signs of high pressures. Frankly, I don't think it is possible to get

enough 4831 in the standard .270 case to cause any pressure troubles with the 130 grain bullet. A stout charge of 4831 also gives a slight improvement over factory velocities. My pet load chronographs right at 3200 fps in my rifle with its 24 inch barrel.

Whenever the .270 is compared to another cartridge by a 'nonbeliever' the miserable ballistics of the 150 grain factory load are used for comparison. This load was expressly developed for hunting light game in heavy cover. It consists of a 150 grain round nose bullet deliberately underloaded to a muzzle velocity of slightly under 2800 fps to insure minimum brush deflection and meat destruction.

A .30-06 or .308 Winchester fan will slyly point out that since the 150 grain '06 and .308 loads retain more velocity at 300 yards than the 150 grain .270 factory load, it proves that the .30-06 and .308 are superior cartridges. A well-known bench rest shooter (who knew better I'm sure) tried to make a similar comparison in an article he wrote ballyhooing the .280 Remington.

In coming out with these sloppy analogies, the .270 haters conveniently overlook a few important facts. First of all, a 150 grain .270 bullet has about the same sectional density as a .30 caliber bullet weighing 180 grains (and also about the same as the 140 and 160 grain 6.5 and 7 mm bullets). If the 150 grain .30-06 and .308 loads are going to be compared with the .270, it should be with the 130 grain .270 load. We then find that the .270 hits the hardest and shoots the flatest.

Secondly, the 150 grain .30-06 and .308 factory loads have a pointed bullet whereas the 150 grain .270 slug has a round nose. Even the most cloddish of gun enthusiasts knows that a round nose bullet is stinko for retaining velocity at long range. And lastly, a 150 grain .270 bullet can be pushed considerably faster than 2800 fps.

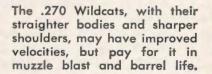
The natural load for the .270 Winchester is a 150 grain spitzer at a muzzle velocity of 3000 fps. This can easily be achieved with 58-59 grains of 4831. Pressures with Western cases usually run below 50,000 psi. The 150 grain spitzer at 3000 shoots to the same point of impact as the 130 grainer out to 300 yards and from there on out it is slightly flatter. The heavier bullet bucks the wind better and hits harder. I suppose there is a difference in recoil, but it is so slight I cannot notice it.

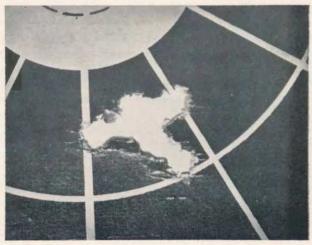
At 400 yards this hot 150 grain .270 load produces more foot-pounds of energy than either the 140 grain .264 and 180 grain (Continued on page 58)





Custom made for the southpaw author, this scoped .270 rifle is capable of sub-MOA groups. The group at right was fired using handloads in this rifle.





DO-IT-YOURSELF

LIGHTWEIGHT SPORTER



By ROBERT A. BURMEISTER

Though the new sporter doesn't have the most beautiful of stock designs, it is more handsome than an issue Springfield.

THE MODEL 1903 A3 Springfield rifle can be remodeled into an attractive lightweight sporter without undue expense or effort. Having used since 1952 a standard weight 1903 Springfield which weighs, with Bausch and Lomb 4x scope and mount, a good solid 9.20 pounds, I often longed for a lightweight "knock about" Springfield as a second rifle. After shooting a wide variety of .30-06's from a slick, featherweight Weatherby to various Winchesters and Remingtons, I decided that this knockabout lightweight number should have iron sights, a 24 inch barrel, and weigh 7 to 7½ pounds.

Reducing the G. I. issue 03 A3 Springfield from approximately 8½ pounds to 7¼ pounds presented some problems, even after eliminating the hand guard, bayonet lugs, etc. which have no place on a sporting rifle. Accurate laboratory scales showed the following weights for my old standard 1903 Springfield sporter: Bishop stock, including

WEIGHTS OF SPORTING RIFLES

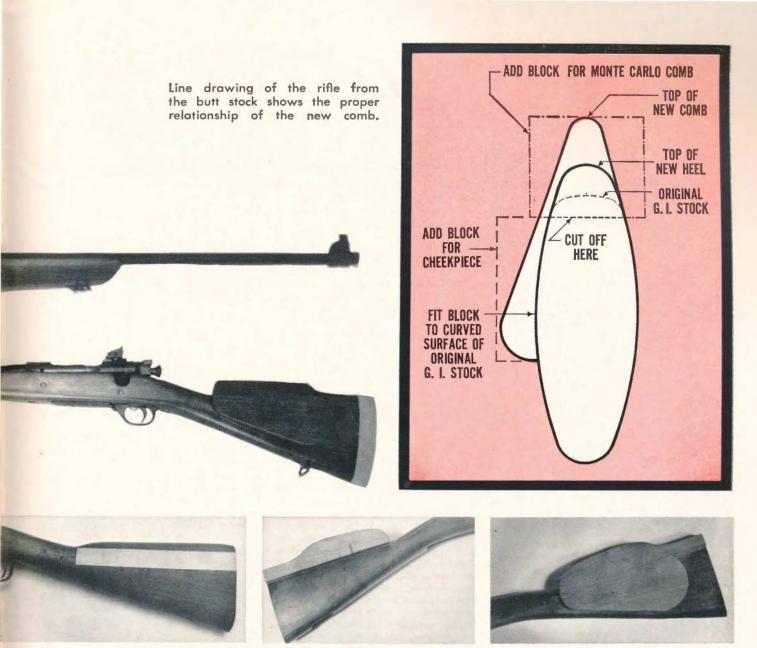
	Wei	ghts Action, Barrel,	
Rifle	Stock	Sights	Total
Winchester M70, .30-06,			
24" barrel, open sights	2.61	5.74	8.35
Remington M721, .270, 24" barrel, open sights Winchester 54, NRA model, .30-06	1.94	5.31	7.25
24" barrel, Lyman 48 U.S. 1917 (Enfield) remodeled to	2.31	5.79	8.10
sporter, rear sight ears off, Monte	2.50	6.16	0//
Carlo stock, open sights Weatherby 300 Magnum	2.50	0.10	8.66
no sights or mounts B & L mount	2.18	4.86 5.25	7.04
B & L mount & 4 x scope	2.18	5.78	7.96

butt plate, grip cap, sling swivel studs, 2.70 lb.; action and barrel, less sights, 5.58 lb.; 4x Bausch and Lomb scope and mount, 0.92 lb., for a total of 9.20 lb.

Weights of some other sporting rifles are shown in the table: A study of these weights showed that for the proposed lightweight Springfield it would be necessary to lighten each of three major components of the rifle, i.e., barrel, action, and stock.

How to lighten the barrel? I "miked" dimensions of a number of sporting rifle barrels to see whether I could effect a reduction of practical value. The table shows these dimensions and in the last column are the ones I chose for my lightweight 03 A3 barrel. I decided not to cut off the 2 inches and more of length as is so frequently done in these days of extremely light rifles which are built, as Col. Edward C. Crossman used to say, "for carrying, but not for shooting." Furthermore, I don't like short barrels because of the objectionable muzzle blast, and I just could not see sawing off 2 inches or more (thereby saving only an ounce per inch) as these last couple of inches serve as a beautiful anti-muzzle blast device. Retaining the original 233/4 inch length also eliminates costly sight alterations. Incidentally, the military sights are very good, being adjustable as well as stronger than most commercial models. The front blade is easily made more vivid by use of 3M's "Reflecto-Lite Tape." A sight blade protector is handy for travelling. The issue 03 A3 barrel with front sight weighed 2.92 pounds. After a gunsmith turned it down, it weighed 2.29 pounds; hence a savings in weight of 0.63 pounds.

Not much can be done to the action to save weight except with the trigger guard. But weighing several types of trigger guards gave surprising results: stamped guard, 0.41



Adding the Monte Carlo comb and cheekpiece is done in three steps. First cut the stock along the masking tape marker. Second, glue on the shaped block for the comb. Third, add cheekpiece block, making certain that it butts up against the comb block.

lb.; milled guard, 0.52 lb.; aluminum alloy guard, 0.20 lb. Hence by using the aluminum alloy guard a saving of 0.32 lb. was made as against using the milled guard, or a saving of 0.21 lb. as against using the stamped guard.

The stock became an interesting problem: Noting that a new commercial stock blank would require considerable work and special tools for proper inletting, I decided to see what could be done with the G. I. issue, to make it light in weight, of adequate dimensions, and reasonably handsome in appearance.

First the stock was cut on a power saw above the masking tape as shown in the photo. This saw-cut surface was then sanded smooth and walnut block for the new Monte Carlo comb was fitted, thus providing a higher comb than on the original stock which was much too low. Next the butt was sawed off to afford a flat surface for the new butt plate. Then a roughly oval block was fitted to the left side of the stock, butting against the comb block above it

(see photos). Before gluing, both blocks were roughly shaped to the approximate dimensions of the Monte Carlo comb and checkpiece. Final shaping (including slimming of the forearm) was then accomplished by a power sander, cabinet makers rasp, and sand paper (grits #80, #120, and finally #220). During these operations, the rifle was reassembled several times to insure proper comb height. This turned out to be about ½" below the bottom of the cocking piece when the bolt was in its most rear ward position.

I decided to leave the original barrel groove as it was, and since the turned-down barrel is of lesser diameter than the original, a gap exists which is about the same as that of the new 1965 M70 Winchester. This is "free floating" with a vengeance. (If I should later object to this gap, I can always use glass bedding). I also decided to retain the straight grip which makes for a fast handling rifle.

After the stock was in its final (Continued on page 77)





ONG YARDAGE SHOOTERS confounded the pundits in the 1966 Grand American. High fashion in trapshooting circles demands that you must occasionally mutter about low-yardage shooters walking off with the biggest batch of marbles, including the Grand American.

Delbert Grim, from Lincoln, Nebraska, won the biggest batch of all the marbles by breaking one hundred straight from the twenty-three yard line in the Grand American Handicap, turning back 3,465 challengers. Donald Slavich, North Hollywood, California, shooting from 24½ yards, broke one of the two 99s in the big handicap event, and also annexed the High-All-Around trophy. The other 99 gunner was 19-yarder Willard Langford, of St. Petersburg, Florida.

Ninety-eight used to be considered a good score in the big event on Friday, the Grand American Handicap, and has won the trophy in a number of years. This year, spectators witnessed a pack of seventeen shooters deadlocked at 98. Congestion at the top was so great that lights were used for shoot-offs.

Completing the long yardage saga, the fabulous Dan Orlich, a 27-yarder naturally, took High-Over-All for the week's shooting with 982 of 1000 targets (600 16-yard, 300 handicap, and 100 doubles).

Only the 16-yard events fell shy of some of previous year's marathon shootoffs. Ken Jones, of Condon, Oregon, topped the field with the usual 200 straight, then was extended only 100 extra targets to win. Iva Jarvis topped the Ladies, which is not exactly news. The Junior victor was Steve Carmichael, the pride of Kansas City. Mark Burgess, of Indianapolis, Indiana, member of a distinguished Hoosier shooting family, topped the Sub-juniors. Top Senior was H. G. Aldritt, from Excelsior, Minnesota.

One of the most surprising bits of news from the 1966 Grand, and certainly to his friends one of the most pleasant, was the Professional victory by D. Lee Braun, of San Mateo, California. The big win was not surprising because of ability, which the winner of this event always has, but because it represents a victory over long illness.

16-yard Class Day, always fired on Tuesday, also failed to produce some of its famous lengthy shoot-offs. Top gunner was Jim Beck, who took the title with 200 straight, plus a mere fifty more in extra innings. Class victors were: Class A, Ted Bachuber; Class B, Ed Buchwalter; Class C, James Holtzhauer, and Class D, Robert Mitchell.

Lorall Delaney, Anoka, Minn., took Ladies

Class A, and the B trophy went to Ruby Jenner, Waupaca, Wis. Lillian Niederer, Titusville, N. J., was the C victor, and Class D Ladies went to Doris Howe, from Rock Falls, Illinois. Nancy Krebs, Ripon, Wis., was the AA Junior titlist, and the Class A Junior trophy went home to Sacramento, California, with Norman Nicolai.

Many beginning trapshooters must surely think that Mercer Tennille, from Shreveport, Louisiana, invented the game of doubles. He didn't, but he did take runner-up in 1966 Class AA, to another top doubles shot, Homer Clark, of Alton, Illinois. Donald Peed, Brandywine, Maryland, took the top doubles trophy, over Myron Willoughby, a townsman of Harry Truman.

Some 1568 handicap hopefuls took another crack at glory on Saturday in the Vandalia Handicap, and Leo Schanke edged Jim Bowers for the biggest share, in a battle of Hoosiers. Schanke is from Beech Grove, and Bowers from Union City, Indiana. Another Hoosier, Doug Bedwell, from Brazil, took High-All-Around in the Junior division, which would seem to indicate that Hoosiers really are hot shots. The feminine All-Around trophy went to Lorall Delaney, also a class winner in 16-yard competition.

For the record buffs, Delbert Grim's perfect hundred was the seventh to be shot in the Grand American Handicap, and the first 100 straight from the reasonably rarified atmosphere of 23 yards since the great C. A. Young turned the trick in 1926. Dan Orlich's 982x1000 cracks the standard of 978 set by C. E. Barnhart in 1964. This is a figure that has been slowly creeping upward, an today it might be fun to predict what it will take to win the High-Over-All ten years from now. Remember, this figure is based on an entire week's performance, and includes six hundred 16-yard birds, three hundred handicap targets (both of which are shot over a three-day period) and the final day's 100 doubles targets.

It must be considered that the shooter who is good enough to hang in there for three days on the 16-yard targets, has pushed himself back and back some more on the handicap line, and that after acquiring the long yardage, must shoot well for three days at handicap, then master a new game on the last day, shooting at a pair of targets instead of singles. Orlich's 982 looks like a formidable score. It may be around for a while.

And, while we are looking ten years in the future, one begins to wonder how many shooters can be processed on one day for the big Handicap event. Some 3,465 shooters represent almost seven hundred squads, firing 500 shots each, in one day. Will we have four thousand, even five thousand, ten years from now? These sound like big figures, but so did 3,465 ten years ago. As I understand it, the grounds can't be enlarged much over than their present size, so we must be thinking toward either a new spot or a longer shoot.

Other shooting news finds the 1966-67 Women's Interclub League in Pennsylvania under way. Torresdale-Frankford took the opening match in the new year's series, with 216 of 250 wind-swept targets. Mrs. L. R. Wolf and Mrs. Otto Neiderer scored 45s for the victors, with Mrs. W. W. Remmey at 44, Mrs. William E. Frost at 42, and Sue Comly, 40. The host club, Valley Forge, was second.

High gun for the day was Mrs. Bruce Ambler of Huntingdon Valley, with a 48. For more feminine shooting news, Mrs. Lillian Neiderer, from Titusville, New Jersey, who also made these pages as a class winner at Vandalia in the Grand American, won the Lady of America Championship at a four-day West Hogans event hosted by the Atlantic City Gun Club. Mrs. Neiderer broke 191 of 200 mixed targets (16 yard and handicap). Susan Hardy of Devon, Pa., was runner-up with 183.

Elwood Hicken from Chester, Pa., took the Atlantic Indians Signal of Peace Handicap shoot at Shawnee-on-Delaware, from a field of 125 braves. 25-yarder Bud Schenkel from Huntingdon Valley CC took the runner-up spot. The Ladies race was a close one, with Mrs. B. W. Mickle of Oaklyn, N. J., edging Mrs. Andrew Webb, another Huntingdon Valley clubber, 89-88.

In more Atlantic Indian uprisings, A. W. Snyder from Bethlehem, Pa., turned back Philadelphians Joseph Carson and Burton England after a shoot-off, when all three had deadlocked at 95 of 100 mixed targets. Harry Barr, Riverside, Conn., turned back Dr. J. W. Conover III, 48-47 in the doubles contest. Dr. Conover hails from Absecon, N. J. The David J. Hasingers, from the City of Brotherly Love, recorded an excellent performance in winning a husband-wife event at Roxborough Gun Club: Dave broke 98: Jane, 97. S. Fesmire of Perkasie topped Pierre Houdry 100-99 in the open singles test for the same day at Roxborough, and John Steele was the doubles victor. Don Haldeman won the handicap race, with Hasinger second, and R. G. Krause third.

Fred Lang, of Vineland, New Jersey, won two trophies in the annual Quaker City Gun Club championships at Holmesburg, Pa. Lang went straight for the victory in the handicap event, and took high-over-all, after taking second for the 16-yard race,

George Goodman was the 16-yard victor, 25-24, in the shoot-off with Lang. Mrs. Rhoda Wolf topped Mrs. Mary Christopher 25-24 in extra innings to take the ladies 16-yard trophy, and Mrs. David Hasinger was the distaff handicap champion. A. A. Dorr, Medford Lakes, N. J., took the doubles trophy, for 48x50.

Jake Stavitsky was a handicap winner at a Pine Valley Gun Club test, and Leon Demboski surprised 65 shooters to annex a handicap trophy at Roxborough Gun Club. For one late skeet item, Bob Rodale was the big gun in the Rural Sportsmen's Harvest Skeet Championship at Trexlertown, Pa., winning both 20 and 12 gauge events.

.45 AUTO PISTOL

(Continued from page 38)

SLIDE DISASSEMBLY

With the hammer at full cock, pull the SAFETY LOCK (26) from the receiver's left side and turn to the slide group. Using the long pin-like section of the slide lock, push in on the FIRING PIN (4), so that it clears the FIRING PIN STOP (6) which can then be pushed down, out of its slot in the slide. See photo A. On some early pistols this pin section may be too large to fit into the hole in the firing pin stop. This can be remedied by drilling the stop out with a #22 drill so that disassembly in the future will be easier. This will allow the FIRING PIN (4) and the FIRING PIN SPRING (5) to be removed. Separate these parts. Using the firing pin as a tool, pry the EXTRACTOR (3) out of the slide and place both in the tools pile. This completes disassembly of the slide.

RECEIVER DISASSEMBLY

Next lower the hammer. When the slide has been removed from the pistol never allow the hammer to fall freely as it will damage the thin section of the receiver. Place the forward tip of the firing pin into the cupped recess in the MAINSPRING HOUSING PIN (38) and with a block of wood hit the back end of the firing pin. See Photo B. This will drive the pin from the receiver from left to right. Recock the hammer and the MAINSPRING HOUSING SUBASSEMBLY (33, 34, 35, 36, 37) will partially slide down its grooves in the receiver grip section. Remove it completely, completing its disassembly.

Lower the hammer again and take the GRIP SAFETY (31) out of the receiver rear section. Remove next the three-leafed SEAR SPRING (32) and place it with the tools. Pushing on the right hand protrusion of the HAMMER PIN (23) will allow its removal from the left side of the receiver. This releases the HAMMER AND HAMMER STRUT SUBASSEMBLY (16, 17, 18). They can be further separated by drifting out the HAMMER STRUT PIN (18) with the firing pin. In exactly the same way the SEAR PIN (24) can be withdrawn, freeing the SEAR (15) and the DISCONNECTOR (14).

Now take the SEAR SPRING (32) and insert the shortest leg into the screw-like slot in the MAGAZINE CATCH PIN (22). See Photo C. At the same time push the left side of the magazine catch in until it is parallel with the receiver. Turn the sear spring counter-clockwise 90 degrees and the MAGAZINE CATCH SUBASSEMBLY (20, 21, 22) can be removed from the right side of the pistol. To further disassemble, use the same leaf of the sear spring to turn the slotted pin back clockwise 90 degrees and the MAGAZINE CATCH PIN (22) and the MAGAZINE CATCH SPRING (21) will come out. The TRICGER (30) will slide out of the receiver's rear section. Place the trigger in the tools pile.

Next insert the lower end of the sear spring into each of the four STOCK

SCREWS (41) and remove them from the receiver. See Photo D. This will let the LEFT-HAND (39) and RIGHT-HAND (40) STOCKS be removed. It is a good idea to keep each stock screw in the correct hole in the stocks. The tang of the sear spring is too wide to do the job quickly, but by grinding it down on both edges until it is a 1/4 inch wide, a very effective screwdriver will be made for future disassembly with no weakening of the part. The SLIDE STOP PLUNGER, the PLUNGER PIN, and the SAFETY LOCK PLUNGER (27, 28, 29) may be slid from the PLUNGER TUBE (25). Use the firing pin to push these out from front to rear. The individual pieces may be pulled apart then, if desired. This is the limit of disassembly of the receiver group. The four STOCK SCREW BUSH-INGS (42), the PLUNGER TUBE (25), the EJECTOR (14A), and the EJECTOR PIN (14B) are not normally removed.

MAGAZINE DISASSEMBLY

Let's turn now to the last section to be stripped, the magazine group. Insert the back end of the TRIGGER (30) into the mouth of the MAGAZINE (43). Press the trigger down on the MAGAZINE FOLLOW-ER (45) until the trigger rests on the magazine lips, keeping the trigger as far back as it will go in the magazine. Observing through the second from the top hole in the magazine, release tension until the second coil of the MAGAZINE SPRING (44) is just below this hole and then insert the firing pin through the hole. See Photo E. This will hold the magazine spring but will free the MAGAZINE FOLLOWER (45) to be withdrawn with the EXTRACTOR (3) by engaging the upper tongue of the follower. Pull the follower to the magazine lips and withdraw forward. See Photo F. DON'T SPRING THE LIPS! Now hold the magazine against your belt and pull out the firing pin, freeing the MAGAZINE SPRING (44). This completes the disassembly of the magazine group. The floor plate is not removed. The entire pistol has now been completely disassembled and we have used



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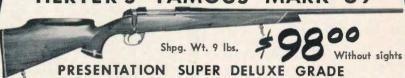
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nothing but parts of the pistol with the exception of a piece of wood (a shoe heel will do fine if you are above timber line).

We now have in front of us a neat grouping of parts. Note that the BARREL (7) is an assembly but there is no purpose in further stripping and with some guns this removal of the LINK (8) and the LINK PIN (9) can be beyond the owner's ability. If the urge to remove this pin becomes overpowering, then go about it in this way. Drift the LINK PIN (9) out with a conventional drift in an arbor or vice. Do this two or three times until the pin is loose enough that you can take the back end of the firing pin and push it out. Of course you can disassemble from then on by using the pin.

ASSEMBLY

At this point the worn-fingered reader is often told to simply reverse the disassembly process and he will be easily able to reassemble the multi-pieced pistol: This is a gross oversimplification. The first item to be put together is the MAGAZINE (43). Place the MAGAZINE SPRING (44) in the magazine so that the full coil of the spring goes to the bottom of the magazine, with the pointed end toward the front. Using the TRIGGER (30) as in disassembling, push down on the magazine spring until the short coil has passed below the second hole in the magazine. Take the FIRING PIN (4) and push it through this second hole in the magazine, thus securing the magazine spring. The MAGAZINE FOLLOWER (45) is then inserted into the magazine tail down and the trigger reinserted to push the follower down. Holding the trigger, remove the firing pin and this allows the spring to apply tension to the magazine follower. This completes magazine assembly.

Reassemble the SLIDE STOP PLUNGER (27) to the PLUNGER SPRING (28) (note that this spring is kinked in the middle), and to the SAFETY LOCK PLUNGER (29). Take this subassembly and insert it into the PLUNGER TUBE (25) on the left side of the receiver. Replace the STOCKS (39, 40) on the receiver, tightening the stock screws with the end of the sear spring. Put the trigger back into the receiver, keeping the short part of the trigger contact area up.

Reassemble the MAGAZINE CATCH SUBASSEMBLY (20, 21, 22) using the short leaf of the sear spring. Place this subassembly into the receiver from the right side, holding the left side flush with the receiver. Again use the short leaf of the sear spring and turn the MAGAZINE CATCH LOCK (22) 90 degrees clockwise.

Next, assemble the DISCONNECTOR (14) and the SEAR (15) so that the legs of the sear are against the cam section of the disconnector. Place the pin-section of the disconnector into its hole in the receiver. Use the end of the trigger as a temporary rest for the cam end of the disconnector until the sear pin can be inserted. Align the holes in the receiver, sear, and disconnector using the firing pin as a locator, then insert the SEAR PIN (24).

Assemble the HAMMER (16) and the HAMMER STRUT (17), using the HAMMER STRUT PIN (18), making sure that the strut angles in the proper direction.

Place this subassembly into its place in the receiver and secure it with HAMMER PIN (23), which pushes in from left to right. With the hammer in its uncocked position, move the hammer strut up until it touches the cocking spur. Next place the SEAR SPRING (32) so that its longest leaf presses on the left leg of the sear and the middle leaf presses the cam section of the disconnector. The sear spring is held in place by sliding the MAINSPRING HOUSING (33) into its grooves until it is about %th inch from its assembled position.

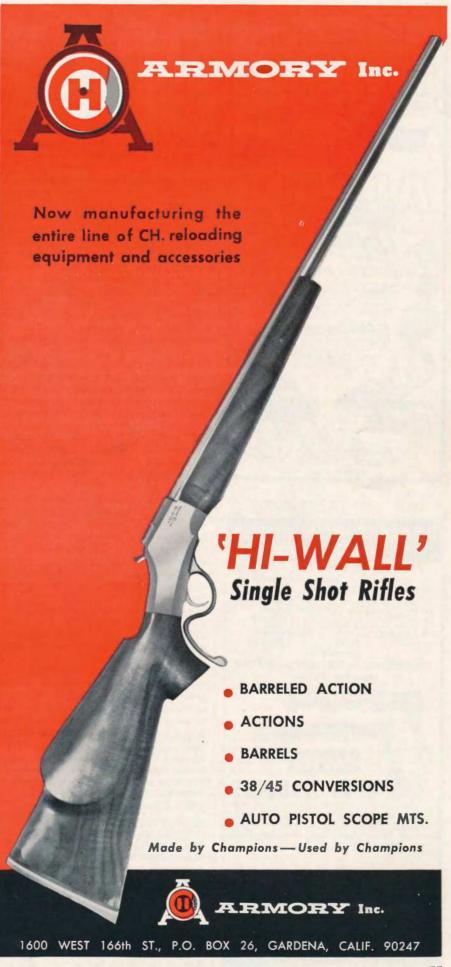
Position the GRIP SAFETY (31), cock the hammer, and place the end of the hammer strut into the MAINSPRING CAP (35). Insert the SAFETY LOCK (26) in its "safe" position. The SAFETY LOCK PLUNGER (29) will resist complete insertion, so depress it with the firing pin as the safety lock is pressed home. Lower the hammer, push home the mainspring housing, and insert the MAINSPRING HOUSING PIN (38) with the indented end on the left of the receiver. Drift it home with the firing pin and a block of wood. This completes the assembly of the receiver group.

Insert the EXTRACTOR (3) into its position in the slide. Place the small diameter end of the FIRING PIN SPRING (5) onto the FIRING PIN (4). Push both into their hole in the slide with the right forefinger while pushing the FIRING PIN STOP (6) into its grooves so that it bears against the firing pin. The firing pin can be completely pressed into its hole with the slide stop as the firing pin stop is pressed home. See Photo G. This completes slide assembly and leaves the pistol field stripped.

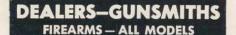
With the slide turned bottom up, slide the BARREL SUBASSEMBLY (7, 8, 9) into the end of the muzzle, making certain that the LINK (8) is swung as far forward as it will go. Slide the RECOIL SPRING GUIDE (12) into the RECOIL SPRING (11), making sure that the small end goes on first. Place this subassembly into the slide from the breech end so that the spring protrudes through the muzzle. Now place the BARREL BUSHING (10) in its place in the muzzle, starting it in with the small lug upward, then swinging the bushing clockwise as far as it will go. Cock the hammer, hold the slide upside down, and slide the receiver on from the rear. When the disassembly notch in the slide aligns with the disassembly hole in the frame, insert the slide stop. The slide stop plunger will resist complete insertion, so move the slide stop down and around the plunger, pressing in and up in the final movement.

Screw the PLUG (13) onto the still protruding recoil spring in a counterclockwise direction. Press the plug into the slide and swing the barrel bushing counterclockwise, so that it catches the plug. Insert the magazine, but DON'T slam it home! This completes reassembly.

If you find there are certain parts which do not come apart as easily as I have described, take them apart the first time using conventional tools. The next time they will move more freely. These instructions apply to the Colt Super 38, the Commander series, Norwegian Colts, and all of the Spanish Llamas. The Star and Ballister-Molina cannot be disassembled in this manner.







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BLACK POWDER SHOTGUNNING

(Continued from page 23)

technical. I would like to point out why a choke-bored muzzle loader will pattern better than our modern breech loaders. When the latter were invented, designers were faced with the problems of a forcing cone. In order to have the shotshell fit properly, the breech has to be enlarged. Because the chamber was of a greater diameter than the actual bore size, a taper was developed to bridge the two. This taper is known as the forcing cone. Depending on the relation of chamber depth to shell length, the wads are either compressed smaller than the bore when leaving the shell mouth, or they reach a point in the cone larger than the wad's diameter. In both cases, gasses are allowed to escape past the wadding. When this pressure reaches the shot, a blown pattern

Inspect the stock carefully, especially near the breech tang. Faulty inletting jobs sometimes fail to provide enough clearance at this point and a crack develops. This oversight is also found on many of our present day models. Until the barrel settles down into stress points with continued firing, this area takes up the brunt of the charge. Drill a hole at the fine end of the crack and plug with a dowel. If the timber is badly damaged don't fool with it!

While the finish will not affect the gun's performance, a few words here for those who would enjoy its aesthetic value. The majority of these charcoal burners were made for meat getting and nothing else. The wood was anything on hand that had aged long enough to be workable and reasonably dry so it would not warp. Yet, I have seen some beautiful grain uncovered beneath the surface of these varnished or painted relics.

Preparing the wood for a new finish is almost too basic for repetition here. Much has already been written on the subject for amateur consumption: Some so involved as to make us quit before we start. Instructions on the reverse side of a can of varnish remover and a bottle of paste filler pretty well cover the entire process. If you decide to use a stain, try this "oldie" on for size: Into a pint of regular household ammonia, break up a plug of chewing tobacco and let stand for about ten days. Shake well and strain through a cheesecloth. The mellow tint will compliment any period piece.

For the final finish, spray, do not brush, with lacquer. This simple application has all the good qualities of varnish minus the shortcomings. Avoid shellac or other quickies. Their longevity is directly proportionate to time involved applying it. Of course, an oil rub will produce the best finish but the correct procedure is too detailed to be included here.

The shooting recipe calls for black powder, percussion caps, lead shot, and wadding. That's all. An adjustable dipper will come in handy and is inexpensive. I have one made by Lyman and selling for about a dollar. Later on you might buy a wad puller

and a few other gadgets. However, the basic list is enough to put you on the firing line. Now, let's review them one by one.

Black Powder . . . It is advisable to buy this in one pound cans. Made up of saltpeter, sulphur, and charcoal, the approximate proportions by weight are 75, 10 and 15 in that order. From the loading data prescribed in Nineteenth Century literature, it is apparent the quality of powder has been improved. In manufacturing, it is graded by a screening process. The resulting sizes are designated as Fg, FFg, FFFg etc. The more F's, the finer the grain, FFg or FFFg will suit our purpose. While the finer grades burn faster, I prefer FFg since it leaves less deposit in the barrel. So far I have not found an appreciable difference in performance.

Treat black powder with respect. Unlike smokeless powder, this stuff is really touchy. A small spark, even static electricity will ignite it. Do not smoke while handling it.



Home-made carrying box keeps the powder, shot, and wads at hand.

A pound of black powder can set off an explosion you and your neighbors will remember for a long time. Another thing, it stinks when burned. Matter of fact, the sulphur makes it reek. Do not clean the smelly bore in your kitchen. Go outside or in the basement, some place far away from the wife. Women are sensitive about these things and could bring your fun to an abrupt ending.

Percussion Caps . . . Sold in small tins, a supply should be ordered at the same time nipples are purchased. If not, you will have to measure the nipple neck and order accordingly. Alcan and Remington supply them in three sizes, small, medium, and large. Alcan designates theirs as G10F, G11F and G12F. Remington does not use the letters. Medium size appears to be the most popular in stock. The proper size should fit snuggly over the nipple.

Lead Shot . . . This is sold in twenty-five pound cloth bags. The bag does not take up as much room as one might think. My friend Bill Shores and I divvy up on various sizes. That way we cover the entire range from fine trap loads to the heavier size for geese. An all-round start would be about number six, later on bracketing with five and seven. Experiment with different loads until

you find the one your burner spits best. Avoid storing the glass jars. Breaking can cause a nightmarish mess. I spent one night trying to salvage ten pounds of number six's that had spread from one end of the basement to the other.

Wads... These come in cartons of a thousand. Sizes are indicated by thicknesses. My over-the-powder reference is a nitro card .200 inches thick. This is followed by a heavy felt wad .500 or a half-inch thick. The purpose of the felt is to cushion the initial blast against the lead shot. It makes sense that deformed shot will throw an erratic pattern. The final wad (over the lead) is usually .200 or possibly .175 depending on individual experience. The plastic wads with their beveled, flexible rims have good potential. If you are going to try them, use a minimum load to start with.

The loading sequence is simple but there are safety measures to reckon with. First of all, do not load with your head directly over the muzzle. Slant the gun away from you when feeding because a spark may be lingering from the last shot. A measure of black powder on top of a tiny ember will singe your eyeballs if you insist on peeking down the tube. The old rule still stands . . . do not get in front of a gun unless the fear of death or the sight of blood seems comical to you. Wearing safety glasses is a good habit to get into.

Before loading up for the first shot of each session, place a cap on each nipple and fire at a grassy patch on the ground. If the nipple vents are clear and the barrel is not clogged, you will be able to see the grass move. This practice also burns out any oil that may have settled in the breech.

Equal amounts of powder and shot are also universal. How much of each depends on the individual piece. Using number seven shot, my favorite 12 gage load is made up of 3 drams powder to 1¼ ounces shot. Here are a few hasic loads to cut your teeth on:

are a lew	Dasic loads to cut	
Gauge	Powder	Shot
20	2½ drams	1 ounce
16	2¾ drams	11/2 ounce
12	3¼ drams	1¼ ounce

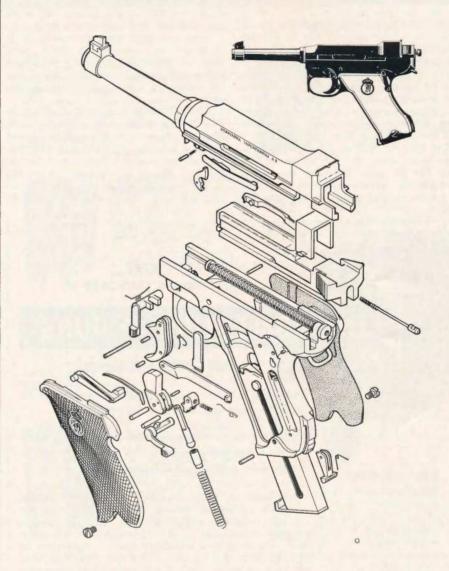
Pour in the measured amount of powder followed by a card wad. I usually carry a few of these in my mouth while loading. The wetting action works like a squeege on the barrel wall. The first card is followed by a thin felt wad. This is optional. These should be rammed home rather firmly with a dowel rod slightly smaller than the bore. (I have long ago discarded the thin hickory rod for field work.) When properly seated, the rod will bounce when dropped on the over-powder wad. After pouring in the lead shot a final card is tamped into place. This one is seated lightly to avoid damaging the soft lead. Next, place a cap on each nipple and settle the hammers gently on top until a suitable target presents itself.

After every shooting session the gun should be thoroughly cleaned. Since this powder is highly corrosive, never leave the old belcher overnight without attention. Separate the barrel from the stock and hold under the hot water tap. The hotter, the better. After a good flushing, swab the barrels with patches until they come out dry. Follow with gun oil inside and out. Run a fine wire thru the nipple vent. Remove the oil coating only when you're ready to shoot again.



AT THE LAHTI PISTOL

By SHELLEY BRAVERMAN



THE DESIGN of the Lahti is credited to Aimo J. Lahti, former Chief of the Government Arsenal of Finland. Adopted by the Finns in 1935, it was named L-35; the VKT sometimes included with the name refers to Valtion Kivaari Tehdas (State Rifle Factory), the original producer.

At the moment of discharge the bolt is locked to the barrel extension by a saddle-shaped slide; during recoil this slide is lifted up, out of engagement with the bolt, allowing the bolt to complete its cycle. Because of the unusual weight of the parts (the pistol weighs almost three pounds) an "accelerator" is necessary. This device imparts additional momentum to the bolt at the moment of release from the barrel extension.

Sweden adopted the basic design in 1940, designating it the Pistole m/40. It was produced by Husqvarna Vapenfabriks from 1940 to 1944. Its total production life was a bare nine years and during this relatively short period it was consistantly modified, but never "finalized." A complex firearm, very expensive to manufacture, the Lahti should soon become highly prized as a collector's item, outvalueing the Luger.

To dismount: 1) Clear chamber and remove magazine; 2) Hold barrel back in recoil position and turn locking lever down and forward; 3) Slide barrel assembly forward and off; 4) Press locking-block and remove bolt. (Reassemble in reverse order, noting that indicator arrow on locking-block points toward barrel.)

RELOADING THE .270

(Continued from page 49)

.300 H&H factory load! The .270 will do this with a 24 inch barrel while the .264 and .300 H&H need 26 inch barber poles to achieve their advertised velocities. Furthermore, the .270 will deliver these results with considerably less wear and tear on the shooter's anatomy.

The .270 was never intended to be a brush cartridge, though it will do the job admirably with the right bullet. The big 180 grain Barnes round nose slug and 55.0 grains of 4831 make an excellent combination for hunting large game at close range. The long, heavy bullet bucks brush well and the .032 inch copper tubing jacket insures deep penetration. The muzzle velocity of this load is right at 2700 fps.

The late Alf Madsen, the famed Kodiak bear guide, wrote me that he would consider the 180 grain Barnes in the .270 a very effective combination for the big bears. If I ever go after a brown bear with the .270 this is the load I will use.

The lad who wants to use his 270 to hunt deer in heavy cover can also cook up a good handload for the job. I like the 150 grain round nose Winchester soft point pushed along at 2500 fps with 41.0 grains of DuPont 4064. It gets through the brush amazingly well and destroys very little meat.

There have been many attempts made to "improve" the standard .270 W.C.F. case. Most of these wildcats have straighter bodies and a sharper shoulder. Necks may be shorter or longer, depending on the

I don't know of a single version of the .270 "Improved" that was really successful. Most of these wildcats wouldn't exceed standard velocities by more than 50-75 fps and a few wouldn't even equal factory ballistics. One or two actually did get 100 to 150 fps more oomph, but pressures, recoil, and muzzle blast increased tremendously. Barrel life was also short: many tubes showed erosion after 300 rounds and accuracy was almost always sour.

Other wildcatters went to the short belted magnum case. Some very fancy ballistics have been claimed for some of the .270 magnums. Actual chronograph and drop tests by independent agencies prove otherwise though. The late Al Barr made drop tests with the .270 and a well-known semiwildcat .270 magnum. The results of the test were written up in an article which appeared in "American Rifleman."

The differences between the two cartridges aren't even worth arguing about. Both .270 rifles were equipped with 4X scopes mounted the same height over the bore. At 500 yards the standard .270 W.C.F. with a 130 grain bullet dropped 42.00 inches while the .270 Magnum with the same bullet dropped 40.25 inches.

This all leads me to believe that the standard .270 Winchester case holds all the slow burning powder that can be effectively burned behind a .27 caliber bullet. Increase the case capacity and cram in more powder and about all you do is run up the pressures and recoil. Gains in velocity are minute.

The big trend with the gun writers today is to tell the peasantry if they don't rush out and buy Remingchesters new magnum they will be out to lunch with their old fashioned clunkers. I don't go along with this garbage at all. What the hucksters don't tell you is there often is a good bit of wind in the factory ballistics they glibly quote for the 6.5 and 7 mm belted magnums they are pushing.

When many of these new wonder weapons are chronographed with 22 and 24 inch barrels and over-the-counter ammunition, we find they resemble the 37-year-old .270 (and for that matter the .280 and .30-06) a lot more closely than the manufacturers care to admit. In many cases the .270, hand-loaded with a 150 grain spitzer at 3000, will actually exceed their performance with less kick and muzzle blast.

One semi-commercial 7 mm magnum I know of is supposed to push the classic 160 grain bullet at 3100 fps. Actual chronograph tests showed the muzzle velocity to be about 2900 in a 26 inch barrel! Yet the gun writing hacks will tell you this is a far superior cartridge to the outmoded old .270 and .280.

The reason for all this is that velocities of some of these magnums are taken in 26. and sometimes 30 inch barrels. Pressures are often over 60,000 psi. The testers can get away with this for controlled one shot per case. Nobody wants to carry a 30 inch barrel hunting though, and pressures that high are entirely too much for consumer use.

Alas, I fear we .270 lovers will never see our beloved cartridge loaded to maximum velocities with a good variety of bullets, and for good reason. Winchester has spent a great deal of money to promote its .264 and Remington is doing likewise with its 7 mm magnum. It would hardly behoove these companies to put the old .270 right up in the class of these newcomers for obvious sales reasons. It's a shame though. for the .270 Winchester is one of the most efficient and potentially versatile cartridges yet to come along.



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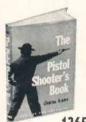
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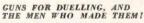


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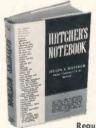
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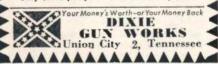
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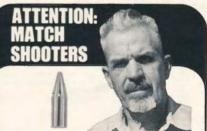
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A DISSENTING VIEW

(Continued from page 33)

Mannlicher-Schoenauer 6.5 mm; and a 300 grain solid from the stubby .350 Magnum case could probably go through a wall without perceptibly changing its trajectory.

The .308, which already makes a lot of sense in this carbine, would be very near perfect for anything up to and including lions and tigers if the available commercial cartridges for it included and the 220 grain load of its big brother, the .30-06. The recoil in this loading would probably fold you into the shape of an out-of-tune accordion; but you could balance that against the fact that you can carry the little carbine all day without being tired, and you could swing it around handily in dense brush. Besides, there is much to be said in favor of being bruised by one's own rifle rather than being subjected to the protests of, say, an enraged wild boar who has just had one of those celebrated "potent little pills" bounced off a pet rib. Pigs is pigs, and the bigger they grow the nastier they get. In the south of Iraq I have seen a boar unzip a horse from guggle to zatch because the horse had made the mistake of stepping on him while he was enjoying his siesta. No thank you, I prefer the recoil, especially when Pachmayer makes butt pads that are not only functional but extremely handsome.

Most of my own boar hunting has been with the 7x57 and the .30-06. With the 7 mm-after some disastrous experiences with the 139 grain bullet-I always used the always satisfactory 175 grain soft point. With the '06 I have used the 150 grain, which was lousy; the 180, which was very good, and the 220, which was very near perfection. The best kill I ever made was with a 220 grain Kynoch soft point in an FN Mauser with a 24 inch barrel and a Hensoldt 4X. I hit a giant economy-size pig at around 150 yards, bang center in the shoulder, and the only motion he madeaccording to a friend who was spotting for me-was a twitch of the tail. I have never seen an animal so finally poleaxed in all

One thing that did give me a lot of grief in both the 7 mm and the .30-06 when using the heavy loads was that the recoil would ram the long bullets back into the shell and deform their soft noses, which could—in fact almost invariably did—cause a malfunction on the last shot of a string. This problem, of course, would be aggravated by a lighter rifle. The solution I suppose would be either a rotary magazine on the Mannlicher-Savage model, or one of those cartridge steadiers soldered inside the magazine that you used to see advertised. I wonder if these really worked?

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The .30-06 is too popular and widespread a rifle for anyone to worry about a lack of decent loads for it, but the picture for other medium-size cartridges, standard and new, is dim indeed. The heaviest bullet I have been able to find in a commercially loaded .308 Winchester is 200 grains. The 7x57, the white-hunter's standby and one of the best anchors ever made for anything short of a sexually frustrated bull elephant, is nowadays loaded with a 175 grain bullet but is kept down to .30-30 pressures, presumably to protect a few nitwits who might use it in unsuitable guns. Moreover, the 139 grain loading, exactly what we don't need, has been re-introduced. The 8x57, which is very nearly as good as the .30-06—and in certain loadings could be better for heavy use—is kept down for the same reasons as the 7 mm. I seem to remember that there used to be a 235 grain loading for the 8 mm, but I could be wrong; anyway, if there isn't, there should be.

It is at this point that those readers whose patience has been turning brown around the edges will explode. "Yes, yes, damn it, but what about the pressures you're going to run up with those long heavy bullets and the quick twists necessary to stabilize them?"

They have a point there, of course, and the question merits a carefully considered answer. This is the answer: "Nuts,"

In the first place, the whole point of the exercise is that it is unnecessary to load a cartridge with megaton loads when the bullet and not the charge is doing most of the work. In the second place, although I do not have my Greenhill Formula handy, and cannot tell you what rifling a given bullet would need to stabilize it, I would be surprised if any of the heavy bullets I have mentioned—the 235 grain 8 mm; the 220 grain .308; the 175 grain 7 mm—or comparable ones, would need anything much tighter than a twist of thirty calibers, if that. And incidentally, I wonder if anyone has done anything new on the use of freebore in rifles chambering long bullets. A lot has been said and written about the inaccuracy of freebored barrels, but I suspect that that is because the light bullets used were so short that their entrance into the leade was never completely true, and this caused them to wobble or even keyhole. This should be a most interesting and rewarding field of experiment, and yet I know of no serious work on the subject since the late lamented Ralph Waldo Miller developed his MVF some thirty years ago.

To sum up, what is needed is not more overloaded magnum cartridges pushing "potent little pills" at 5000 fps. What is needed is a series of good loadings in the medium-size cartridges, with reasonably powerful charges of powder propelling hullets of good sectional density—by which I mean a factor of at least .300—bullets that will hold a usable trajectory, penetrate deeply, and kill clean; to be used in rifles you can carry for hours without being Chongo, the

Ringling Brothers' Strong Man, and that you can swing around in a confined space.

When the day comes that they are readily available, let us celebrate by making a giant bonfire of the "energy" tables that clutter up the ballistics sheets. As far as I can figure, they are arrived at by the formula:

$$E = \frac{450240 \text{ V}^2 \text{ (p+b)} - dM}{A}$$

where:

E = energy:

V = muzzle velocity;

p = powder charge in carats;

b = weight of bullet in pounds;

dM = distance from the muzzle to the nearest bar, and

A = the square root of the weight of barrel filings in P. O. Ackley's shop.

What they are supposed to mean I do not know. For example the Norma ballistics tables tell you that the energy of the 7 mm 110 grain bullet (in the 7x57) is 1267 ft/lb at 300 yards; for the 175 grain bullet at the same range it is 1097 ft/lb. Does that mean that the lighter bullet has more killing power at three hundred yards?

So, gentlemen, there you are. The line of enfuriated gun nuts waiting to saw me up into boards and take me home for kindling will please form on the right.



RUGER AUTO RIFLE

(Continued from page 25)

Did this change the basic bolt operation or the cartridge feed? Not one bit! Everything worked the same. A careful study of the accompanying photographs will serve to clarify this.

To achieve the semi-automatic functioning Bill sought, it was necessary for him to modify the sear-trigger mechanism somewhat. This, plus the creation of a gas port to actuate a conventional gas piston beneath the barrel, comprises the basic motivation. A charger handle added to the lower right portion of the receiver provided the "Modus Operandi" for the initial charging.

By observing the total rearward travel of this charger book in the photographers, you may easily ascertain the probable if not the actual stroke length of a Savage 99 if it were to be converted into a pump gun! Pretty short shuckin' the way I see it!

Of course, throughout all this sophisticated plumbing work, Bill had to hie himself out to the range every now and again to see if the bullets were going to expel from the proper end. To his elation, he found that they did. They did indeed! One would dutifully emerge from the muzzle at each and every pull of the trigger . . . well, almost every pull! As with all new things, there were the usual bugs to be ironed out. A touch of the file here and there (plus a few mumbled incantations) and the little autoloader began to bark on command.

After Bill had rattled off four or five hundred rounds he was sure of one thing: It worked! In fact, it worked quite well. The extracter claw seemed to be too narrow for

dependable high speed operation, and a wider and more firmly fixed part was considered as the probable cure. Meanwhile, a light oiling of the cases seemed to expedite extraction to a satisfying degree.

A sleek and streamlined semi-auto high power rifle that spits .250-3000 bullets and coughs hot brass is quite a culmination to what Bill Ruger called "nothing but an idea."

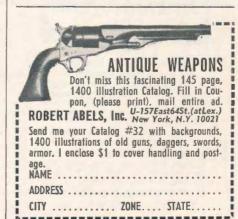
At last year's N.R.A. Convention I again discussed this early conversion with Bill and asked if he would mind if I wrote the story. Many an inventor would be somewhat reluctant to let people see some of his early "file and hacksaw" work. But in line with his usual good nature, he agreed.

Since the early experimental work we have mentioned here, a lot of water has passed under the Ruger bridge. And the bridge from which Bill Ruger watches it flow is pretty much of his own making. It is called "Sturm Ruger and Co.," and its products have found their way to the far corners of the earth. From "nothing but an idea" came Ruger automatic pistols and sixguns in a variety of calibers. Then followed, in rapid succession, the Ruger .44 Magnum autoloading carbine in three variations, the 10-22 semi-automatic sporting rifle and finally, the beautiful new single shot falling block rifle for the connoisseur of firearms.

Despite these lofty achievements, Bill Ruger keeps his feet firmly planted near the grass roots and he enjoys showing people the old Savage 99 conversion which detained him along the way.







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REDEYE MISSILE

(Continued from page 20)

defeat, almost invariably, aircraft that have heretofore pinned him down, gunned him down; blown him apart, incinerated him with napalm, or landed enemy troops to surround him.

Redeye took seven long years in gestation, and they were years frequently darkened by frustrations and hope-killing setbacks. Low cost and extreme reliability were "must" factors; portability, both as to weight and size, was an essential objective. The weight-size objective was achieved by replacing miles of wiring and such individual components as diodes, resistors, capacitators, with microcircuits contained in small silicon chips. Reliability has been proved by severe, extensive tests in all kinds of environmental conditions. And as for accu-

I said in my opening paragraph that Redeye's accuracy, even when fired for the first time by trainees, is so high that drastic changes have had to be made in training procedures. This is the story:

Obviously, you can't afford to use airplanes as training targets for a weapon that destroys airplanes. The targets used are ground-controlled electronically guided "drones," about ten feet from nose to tail and eleven feet from wingtip to wingtip, with infrared generators (heat pots) suspended under one or both wings. These heat pots generate only a small fraction of the heat produced by an airplane engine, so the gunner's aim on a drone has to be closer than would be necessary on an airplane in order to "lock" the heatfinder to the lesser heat source.

However, the first classes of trainees hit drone after drone with such deadly accuracy that other plans had to be made; drones, too, are expensive! So drone operators were subjected to a crash training program of learning how to make Redeye miss! Fortunately, the drone has characteristics that make it possible for it to evade Redeye, whereas a plane could not. The drone, expertly operated, can be turned "on a dime," up, down, or to either side, at top speed. No plane can do that. So turned, the drone's small heat source can be hidden behind its own wing, reducing its attraction for the heat-seeking missile sufficiently so that the missile "loses" the target. The drone can do this-often enough that an adept operator can conserve a reasonable number of drones; a plane cannot.

Another conservation measure is to fire a volley of three or more missiles at one drone. The theory is that, if a drone must be destroyed in spite of the best evasive action (and many are), at least three gunners will have had their required one-live-missile firing experience. (In one such firing, Missile One knocked the heat pot off the drone; Missile Two dived at and hit the falling pot. The drone escaped, damaged but flyable.)

Redeye is not infallible; I know of no weapon that is. A few newspaper writers, witnesses to early Redeye firings, gave Red-

eye only "passing grades" for operational efficiency; others gave it "rave" notices. I can evaluate it only on the basis of what I saw, and on the basis of a lifetime of weapons use, observation, and appraisal. I saw many Redeye missiles miss evasive drone targets; but they were graze misses, and I do not believe any aircraft, to say nothing of any helicopter, could have avoided them. This was borne out by the fact that hits were made in spite of drone acrobatics; and by the fact that the one drone I saw sent down the range without acrobatics, in plane. like flight, was knocked down with a sort of nonchalant inevitability before it reached mid range by one Redeye.

I think the lack of enthusiasm expressed by some writers regarding early firings may have been due to early weaknesses in the weapon which have since been correctedand to failure of some writers to evaluate correctly the evasive potential of the drone targets as against that of an aircraft. My own opinion is that Redeye is a breakthrough achievement, an amazingly sophisticated space-age weapon reduced to one-man portability and Tinker-Toy simplicity of operation, with an extremely high accuracy rating made even higher by the quickness and ease with which it can be taught and acquired.

This feeling is shared with gleeful enthusiasm by the Marines who have fired Redeye, and those who have seen it fired-and this, I think, may be as important as Redeye's ability to destroy its targets. It is no mere theory but war-proven fact that a man's confidence in his weapons makes him a better fighter. The Marines are confident of Redeve, Another war-proven fact is that nothing shatters fighter morale more quickly than the situation in which troops must cower and accept casualties from an enemy they cannot effectively reach. To the infantrymen, strafing and bombing aircraft have been such an enemy. He could shoot back, but rifle fire is hardly more than accidentally effective against the strafer-bomber. If he had a battery of quad "fifties," he could score occasional kills; but what mudslogging platoon has a battery of quad "fifties" in such action as that in Viet Nam or Korea? With Redeye, he can shoot backeffectively. He can carry Redeye with him, in any terrain; and he can see it hit. And he can be fairly sure that, once he has knocked down a few aircraft, few aircraft will come against him! The enemy CO who would continue to send his aircraft against units known to be armed with Redeye would have to be, as one Marine put it, "some kind of a nut!"

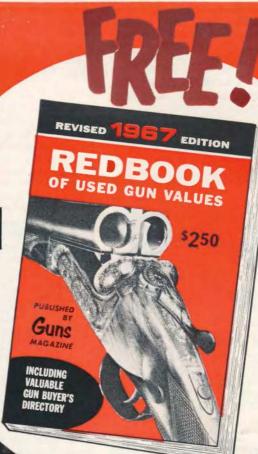
Redeye is delivered to troops as a single launcher-and-missile unit, in a three-unit "trunk" container. It is ready to fire except for its battery unit, which can be locked into place as quickly and easily as shoving a shell into a gun. The picture of the trainee in firing position shows how the weapon is mounted, with the long missile-container tube over the (Continued on page 81)

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G-2

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SHOPPING



are useful for carrying other long items, while the narrow bottom flange forces the load up over the shoulders. In two sizes, one for men and one for women, the Matterhorn pack is priced at \$28.75 plus postage from Gerry, Dept. G-2, Box 910, Boulder, Colorado.



NEW BARRELS for Springfield Muskets are available from Numrich Arms in exactly the same length and outside dimensions as the original 1863 musket barrel. The new barrel fits muskets from 1855 to 1864 and the .50-70 trap-door Springfields up to 1870. In the white and without sights, it may be used on three-band muskets or cut down for the carbine and cadet models. With hammers at just \$3.50 extra, the musket barrel sells for \$42.50 from Numrich Arms, Dept. G-2, West Hurley, New York.

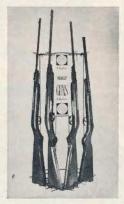


THE TRAINER stock for S & W Models 41 and 46 was designed by Herrett's to give the feel and balance of the .45 auto to these .22 caliber automatics. In two styles, duplicating either the flat or arched mainspring housing of the .45 auto, these fine stocks are carved from select grade walnut for a lifetime of service. Priced at just \$15.50 from Herrett's Stocks, Dept. G-2, Box 741, Twin Falls, Idaho.

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A NEW LINE of "High-Power" pellet rifles from Daisy features precision construction, superb accuracy, and extra value in four models listing from \$14.95 to \$29.95 suggested retail. The new pellet rifles feature seasoned beechwood stocks, blued steel barrels and receivers and the famous Daisy controlled velocity in a new precision-machined shooting mechanism. The new line includes two .22 caliber models with solid steel rifled barrels and two .177 caliber models, one with a rifled seamless steel barrel and the other with a smooth bore that handles BBs or pellets. The guns have spring loaded or screw lock rear sights, blade or bead front sights, break action cocking, and high luster finishes on metal and stock. Available from your local Daisy dealer.

SWIFT'S TELEMASTER is a brand new zoom telephoto scope with a magnification range from 15X to 60X. With fingertip controls located inside the circumference of the tube, the Telemaster has no bumps or bulges. The focus control is marked in both meters and feet and the system can be focused to less than 40 feet. As a long range spot-



ting scope it has no equal. For photographers there are special adapters compatable with the "T" systems of most SLR cameras. There is even a special infra-red focus point adjacent to the focus control for use with infra-red film. The Swift Telemaster is available at all fine camera and sporting goods stores.



TARGET SHOOTERS will welcome the addition of the #75 Detachable Target Sight to the Redfield line of fine target sights. The #75 is a micrometer adjusted receiver sight that has many of the same fine features and the same unbeatable guarantee as Redfield's famous Olympic and International lines. Yet, the price of the #75, with base, is only \$16.95, ideal for Junior shooters. All graduation marks are in clear, black figures on highly polished surfaces. There's ample blank space on one side of the elevation shaft for the shooter's own range markings. New from Redfield, the #75 Detachable Target Sight is sure to be a favorite with marksmen who insist on quality and precision, but are limited in the amount of money usually needed for such equipment. At your local dealer.

Wyltzei Guns

SHOOTERS BIBLE for 1967 has just been published and it has been expanded to cover more makes and models of firearms than any previous issue, as well as a record number of feature articles by authoritative gun writers. This is the 58th annual edition that has been issued by Stoeger Arms, the book's parent company. Covering 25,000 in-



dividual items with 8,500 individual illustrations, the Bible's 576 pages cover the world's major rifles, shotguns, and handguns, listing prices, specifications, descriptions, ammunition, and accessories. Priced at \$3.95 the Shooters Bible is available from Shooters Bible, Dept. G-2, 55 Ruta Court, South Hackensack, N. J.



VIBRAM PACS are a new boot designed by Eddie Bauer which will outwear three pair of ordinary boots. These boots have an unbelievable number of comfort features: speed laces. Vibram snow tread soles and heals, oil-tanned water-proof uppers, plus snag deflectors which defy separation of upper and bottom. The leather has been so carefully tanned that by the second wearing they will have moulded themselves to your ankle and calf. The comfort ankle insert of soft glove leather pampers and protects the sensitive Achilles tendon so that you'll enjoy that oldshoe feeling with no breaking-in period. Priced at \$22.50 postpaid, the Vibram Pacs come in D and EE widths in whole sizes from 6 to 13 from Eddie Bauer, Dept. G-2, 417 East Pine, Seattle, Washington.

GUN DIGEST for 1967 is here. Covering the full breadth of the firearms field with such greats as Askins, Barnes, Dalrymple, Keith, Serven, Ormund, and others, Editor John T. Amber has outdone himself with this 21st anniversary edition of the famous Gun Digest. There are articles on Viet Nam guns, competition shooting, wildcat cartridges, stocks, varmint hunting, firearms' mechanisms, and many, many more. In addition the complete up-to-date illustrated catalog section gives detailed specifications and



prices. The various directories, ballistics tables, where-to and how-to listings make the Gun Digest a one-stop encyclopedia for any and all data on guns. The frosting on the 1967 Gun Digest cake is a 16 page section of magnificent full color firearms, armour, and hunting scenes. Order your all new 21st anniversary edition of the 1967 Gun Digest for only \$4.95 postpaid from Gun Digest Association, Dept. G-2, 4540 West Madison St., Chicago, Illinois 60624.



VICTOR SHELL BOX has a special appeal to hunters since it holds plenty of shells for a day's hunting plus any accessories that are likely to be needed. At home it doubles as a shell case and a storage case for gun cleaning equipment. Made of rugged brown plastic, the D-21 shell box has no metal parts to corrode, no seams to let water in, both features especially attractive to duck hunters in wet blinds or boats. Priced at just \$1.89 at fine sporting goods stores everywhere.

THE NEW EDITION of the Norma Gun Bug's Guide has been expanded by one third to include new ballistic and other data for the handloader. One of the most interesting sections of the new Guide deals with do-ityourself chronographing, with special attention to actual working tolerances in terms



of temperatures, barrel dimensions, and measuring systems. Complete ballistic and loading data on all Norma components are included, which should make this Guide a standard reference for the handloader. Copies are available for \$1 each from Norma-Precision, Dept. G-2, South Lansing, New York.



THIS FLINTLOCK Coach Guard Blunderbuss is a modern replica of the type used in the guarding of stagecoaches in the days of English highwaymen. Its other uses included standing guard at gates and in naval warfare. Its overall length is 27½ inches. With fine steel barrel, blued trigger and screws, and ebonized wood stock, this blunderbuss sells for \$79.95 and is fully proofed in a famous Liege Proof House. From Centennial Arms Corp., 3318-G-2, West Devon Ave., Chicago 45, Illinois.



A NEW FULL COLOR 80-page "Handbook-Catalog" on Gunberth gun cabinets is now available to the hunter and gun collector. This deluxe plastic bound "Handbook-Catalog" took three years to compile and illustrates finished cabinets as well as the complete Gunberth line of ready-cut kits, plans, and patterns for 33 models. Available from Coladonato Brothers, Dept. G-2, Hazelton, Pennsylvania, the price of the "Handbook-Catalog" is \$2.95, refundable with the first ten dollar order.

KOLPIN BROS, No. 75 Gun-Tector features a deluxe leather grained Vinyl cover with a deep, rich lint-free plaid lining and extra thick Moisture-Gard padding. Moisture-Gard is Kolpin's exclusive new space age chemical treatment that stands guard against rust and



corrosion in 100 per cent humidity conditions. A full length zipper opening and a special zipper pocket with rubber sight protector. It's a great buy at just \$9.00 from Kolpin Bros., Dept. G-2, Berlin, Wisc.



G-66 Fisherman's Hand Cleaner is the new easy way to remove fish odors and clean hands at the same time. This is a giant size wet strength towellette, saturated with a remarkably effective deodorizing agent. It cleans hands, removes dirt and grime, and eliminates fish odors, while preventing chapping. Twelve of these individually packaged towellettes come in a reusable snap lock poly bag which retail for \$.98 at your favorite sporting goods store.



WILDLIFE DECALS for campers, trailers, trucks, boats, etc., in full natural colors are permanent and waterproof. Easily transferred by the simple water process, these decals consist of two large figures, approximately 10 by 17 inches, and several small figures on each sheet. They are available in pheasant, mallard, Canada goose, bass, salmon, trout, deer, elk, moose, and bear. They cost only \$3.50 per sheet and make ideal gifts for the outdoorsman. From Washington Poster Co., Dept. GP, 16824 Pacific Hwy. South, Seattle, Wash.

SHOPPING

A NEW AND HELPFUL aid for deer hunters is now available, a guide to field dressing, skinning, butchering, boning, and taking care of your trophy head. This guide is unique in that the pictures and text by nationally known naturalist Leonard Lee Rue III has been condensed into one easy to carry waterproof panel that, when folded,



will fit into the pocket of your hunting coat. There are 12 deer hunting tips, seven useful ground-to-air emergency signals, plus a 374 square inch fluorescent hunter-orange signal panel. Priced at just \$1.50 this useful guide can be ordered from Hicks Enterprises, Dept. G-2, Belvidere, N.J.



SIMPLE AND SAFE, this locking pistol cabinet combines utility and beauty to keep your handguns safely displayed. You can arrange or rearrange up to 10 pistols at will. The natural or red burlap (specify) conceals hanger holes in the back panel. Special rubber covered screw-in hangers protect your guns from scratches and keeps them upright for easy handling. The large drawer in the base will hold dozens of items. Just one key unlocks both the drawer and the unbreakable sliding plexiglass front. The dimensions are 30 by 24 by 6 inches. In rich grained pine or maple finish at \$29.95 with express charges collect, or in kit form at just \$18.95 postpaid (add \$1.00 west of the Mississippi) from Yield House, Dept. G-2, North Conway, N.H.

TASCO'S Number 100 Zoom Binoculars are like having eight different binoculars in one pair. Outstanding features of this wide angle set of binoculars are: continuous zoom action from 7X to 14X with the finger tip control lever, barrium crown prisms for best



image quality and lightweight magnesium body. It is equipped with retractable eyecups and camera tripod adapter. It is furnished with a V-cut leather case and attractive gift box. Priced at an amazing \$69.95 from Tasco Sales, Inc., Dept. G-2, 1075 N.W. 71st Street, Miami, Florida.



ALASKA'S Corduroy Stadium Coat is the perfect coat for weekends in the country, spectator sports, and campus wear. Made for hard use in all kinds of weather, the weather resistant 8-wale 100 per cent cotton cordurey is tailored for comfort and long wear. The soft, warm 16-oz. wool lining also faces the wide shawl collar. The sleeves are lined with heavy satin so the coat slips on and off easily. Other features include bartacking at points of strain, whipstitched buttonholes, water repellant and stain resistant treatments, and permanent mothproofing In charcoal with plaid wool lining, the Alaska Stadium Coat is 32 inches long in size 40, and has deep pockets and side vents. In sizes 38 to 46 at \$34.95, and size 48 at \$39.95, the coat is available from Alaska Sleeping Bag, Dept. G-2, 334 N.W. 11th Avenue, Portland, Oregon.

WY LITTE Guns

DREMEL MOTO-TOOL KIT is a complete electric machine shop for the sportsman "doit-yourselfer" yet it weighs only 13 ounces. It delivers the 27,000 rpm speed necessary for use by gunsmiths, machinists, craftsmen, and hobbyists for grinding, shaping, inletting, deburring, etc. The kit consists of one Model Two Moto-Tool with chuck and 1/8"



collet, plus a wide variety of attachments that will make the toughest job go quickly. Available complete at \$22.95 postpaid from Gander Mountain, Inc., P. O. Box 248, Dept. J, Wilmot, Wisc.

MATCH-O-MATIC bullet swaging tool offers a new concept in swaging tools, using a powerful cam with positive straight line action and metal to metal contact throughout. The unique design of the Match-O-Matic eliminates the double stroke; there is a simple upstroke for swaging and downstroke



for ejection. It will produce 125 to 150 matchgrade bullets per hour, swaging bullets of all shapes, calibers, and weights: gas checked, zinc based, hollow points, boat-tail, target, soft point jacketed, plinkers, wad cutters, and the secant ogive. The manufacturer claims that bullets swaged with this machine will out-group any bullets ever used and will not lead the barrel. The camming action provides pressures upward to 60,000 psi, insuring complete compression to bond the core to the jacket. For complete information write Valley Automatic Machine Co., Dept. G-2, Vestal, N.Y.

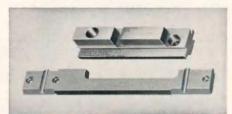
GUN KOTE is the new positive protection for your gun, providing metal with a protective shield that defies rust and corrosion. A late model over and under shotgun treated with Gun Kote looked good as new after being submerged six months in San Francisco bay. It withstood marine growth and corrosion that normally would have pitted and ruined conventionally coated metal. The Gun Kote kit contains two 15 oz. aerosol cans-enough to provide permanent protection for three long guns. One can is the cleaner, the other Gun Kote 13-7. So simple is the process that anyone can provide permanent protection for his gun in just half an hour. The list price for the complete kit is \$14.95. For further information write Ammodyne, P. O. Box 1389, Dept. G-2, Los Angeles 53, Calif.



THE TRUAIM rifle and pistol rest is a precision made rest for use both in the field and at the bench rest. To use in the field, press the Truaim into the ground with foot pressure on the base. A belt hook is provided for convenient field carrying. When using the Truaim on the bench, slip the rubber foot on one prong, and the bench support fixture on the other. Bending the plastic covered yokes to fit your rifle will allow it to remain upright. Pistol shooters find the rest an excellent auxiliary support. The rest retails for \$7.95 from the Truaim Company, P. O. Box 111-G-2, Pittsburgh, Pa. 15230.

MORSETH SPORTS Equipment has announced the development of a new extra heavy duty laminated hunting knife blade. This is the first time that a laminated blade has been produced from 1/4 inch stock, Developed in cooperation with a Norwegian steel works, this new laminated blade eliminates the compromise between edge hardness and blade strength necessary with ordinary steel stock. The Morseth blade is made by forging a thin section of high carbon Swedish steel between two layers of softer Norwegian iron. The resulting blade has the hardest practical cutting edge, yet can be placed in a vise and bent almost double without breaking. To receive a free catalog with a full description of handle, sheath, and blade styles, send a 5c stamp to Morseth Sports Equipment, Dept. G-2, Box 406, Redmond, Wash.

BIANCHI HOLSTERS has just issued their catalog for 1967, featuring a wide range of outstanding designs for service or sport. There are holsters for every need, with styles for derringers, service autos and revolvers, fast draw rigs, belly guns, and literally every other design that a shooter could want. Bianchi holsters are made from the finest leathers, using the best dyes, oils, waxes, and hardware. Each holster is custom made to the specifications of the buyer, insuring perfect fit and reliability. Write for your free catalog showing the complete line of the famous Bianchi holsters, Dept. G-2, 945 West Foothill Blvd., Monrovia, Calif.



NEW FROM TASCO: 15 precision bridge mounts to fit 37 different models of Winchester, Mossberg, Marlin, Savage, Remington, Mauser, Springfield, and Lee Enfield rifles. Only \$5.95 at department, sporting goods stores, and gun shops. Distributed world-wide by Tasco Sales, Inc., Dept. G-2, 1075 N. W. 71st Street, Miami, Florida 33138.

ORDCO RANGE FINDER will measure exactly any distance from six feet to as far as you can see. Conceived by Dr. Luis Alvarez, inventor of the ground approach system to land aircraft in thick weather, the Ordco range finder will prove an invaluable aid to the varmint hunter. No longer will he have to "guestimate" how high to hold on that chuck. No longer will there be argu-



ments on how far that shot was. Elevation problems are a thing of the past for the deer and elk hunter as holding for trajectory is no longer a matter of estimation. The Ordco measures distance to any size object in yards, statute miles, or nautical miles. It is four inches in diameter and weighs less than five ounces. The case is made of high impact plastic. The retail list price is \$18.50 and is available from many sporting good stores. For further information write Davis Instruments Corp., P. O. Box 1543, Dept. G-2, Oakland, Calif.

REDEYE MISSILE

(Continued from page 62)

tube over the gunner's shoulder. Flip the toggle above the pistol grip, press the flat rectangular "button" above the forearm grip, and the weapon is "ready." A simple triangular reticle in the scope sight enables the gunner to find the target easily-and when the target is in range and "in the sight," a flashing light in the scope and a beeping noise tell the gunner to fire. It is as easy as

Pulling the trigger activates the two-stage motor. The first stage kicks the missile out of the launcher and safely away from the and its guidance fins take over, receiving target-position data from the seeker electronics, and computing that data into command signals to the fins to guide the missile to the point of target interception.

You would expect, as I did, that Redeye's in-launcher weight of 28 pounds would make it awkward and burdensome to handle, but it doesn't work that way. weight balances on the shoulder, and the short forward extension lets the weapon swing and "point" like a shotgun. Marines are trained on "simulators" that work exfidence with a verified "kill;" they just aren't letting civilians shoot "live" Redeyes; but the gunner instructor who heard my comment nodded. "Redeye," he said, "is like Greyhound: flip, press, pull-'and leave the driving to us!"



Photo shows relative size of the missile and heat-seeking device.

As for trajectory, firearms students used to tracing trajectories in neat curves would flip trying to pre-plot a Redeye trajectory. The Redeye trajectory looks more like the track of a bird-dog homing on a scent in a snowy field than like a bullet trajectory. This may be frustrating to the ballistician, but it has a high morale value to the gunner; he gets the feeling that he can't miss! And be's very nearly right.

Redeve has received enthusiastic welcome by the Army, the Marines, and by the Navy for use on boats too small to accommodate the radar-computer machinery necessary for other missiles. Observers from friendly nations who have witnessed Redeye firings are urging fast production to meet the demands of the U. S. services, in the hope that their orders for Redeye may then be honored.

Redeye requires no supporting personnel or equipment, presents no logistics problem (it can go anywhere a soldier can go), requires no maintenance. Its operation is simple, easily taught, quickly learned by anyone; no college degree needed. Its effective accuracy, in Marine opinion (which is, after all, experienced opinion), is "fantastic." And _it delivers the knock-out.

As the Marines put it, "What more could you ask?"



REDEYE GUIDED MISSILE

Surface to air (shoulder fired) Type:

Speed: Supersonic

Range:

Classified. (My guess is that the target may need to come within three to five miles before Redeve's heat-seeker will react. As to how far Redeye will then travel to reach that target, a most unscientific count of seconds between launch and explosion, multiplied by "supersonic" speed, suggested to this writer that "three miles"

is, shall we say, conservative.)

Propulsion: Guidance:

Two stage, solid fuel.

Warhead:

Infra-red homing.

Conventional. (I.e., non-atomic. I don't know what it is, but it makes an impressive flash in the sky, and a resounding "boom;" and all

I saw come down were-fragments.)

Weight:

Launcher and missile, 28 pounds.

Missile, 18 pounds. Length: Missile, 47.5 inches.

Diameter: Missile, 2.75 inches.

gunner; the second stage then fires inside the missile to lift Redeye to its flight velocity. Already, Redeye is "hooked" to its target by the heat-seeker "eye" in its nose,





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Ave., Pendleton, Ore.

actly like loaded weapons except that nothing leaves the launcher-same as dry-firing practice with a firearm. I tried one of these simulators, and came away thoroughly confident that hitting an airplane with Redeye would be easier than hitting a duck with a shotgun charge. (No sbotgun I ever saw tells you, "You're on target; go ahead and pull the trigger!") I can't prove this con-





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HOME GUNSMITHING TIPS

By WILLIAM SCHUMAKER

 \mathbf{F}^{ew} things in the home gunsmithing category are more simple than grinding off the ears of 1917 Enfields. Only tool requirements are an ordinary electric bench grinder and a flat mill file for finish contouring and use as a backing for emery and crocus

cloth for final polishing.

In spite of this, we rarely discover that an Enfield brought in to be scoped, has been ground down to fit and bring any type of scope bases to a zeroing level. If the receiver bridge has been left too high it can be ground down to requirements of whatever type mount is selected. When too much metal has already been removed, correction develops into a miserable job of making and fitting thick shims, and finding longer screws to hold the rear base in place.

Easiest of all, is to simply grind the ears off to give rear top of receiver a height and contour identical to the front receiver ring. Buehler, Redfield, Weaver, and a number of other manufacturers make such mounts. A metal straight edge can be laid across

the action opening to determine approximate level. If drilling and tapping for scope bases is done while the rear receiver bridge is still slightly too high, a perfect shim-free elevation fit can be achieved by installing the scope, firing the rifle to test, and grinding or filing down the rear bridge as required for elevation.

If the rear receiver bridge has al-

ready been ground below level, Buehler can supply a 1-piece base of .075 additional depth at rear, as well as those having the M-70 and 700 Remington depth and contour.

On Remington Enfields, having a solid receiver bridge in the ear area, two-piece M-70 Buehler bases can be used with the bridge ground to a thickness of about .180". The Remington M-700-721-722 rear base is about .012" thinner and will work on a receiver bridge of corresponding additional depth.

These rear bases can be installed by cleaning out the Enfield rear sight threaded hole with a 6/48 taper tap, affixing base with the first screw, marking second hole with a sharp metal scribe through the base, then drilling and tapping. The original Enfield sight hole is not 6/48, and cleaning up with the 6/48 tap leaves a somewhat loose fit. A longer 6/48 screw reaching full depth of the bridge should be used, both screws and bridge holes de-greased and loctight applied before tightening.



Winchester Enfields having the milled out bridge area, lack room for the two-hole mounting and must be fitted with one-piece base scope mounts. But before you grind your Enfield ears down, select the proper mount, then grind the receiver bridge to fit and bring scope to a zero level.

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Here's true sighting versatility ... with all the most desirable features. For any kind of shooting at any range, choose the light, compact, 21/2x to 7x Model V7 or the big. bright, 3x to 9x Model V9. Crosshairs are constant-size and always centered. Adjustments are internal and guaranteed accurate. Optics are sharp and brilliant. Dependable performance is assured by sturdy construction, complete weatherproofing, American craftsmanship. The V7 is \$62.50, the V9 \$69.50 ... at your dealer's now.





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QUESTIONS AND ANSWERS

(Continued from page 15)

6 mm or .243? The recoil is not severe and these calibers are adequate for deer.

To find out if she will be able to kill a deer, take her out hunting with you this fall. If she can dress the animal without complaining, she might have the makings of a hunter.—D. W.

American Bulldog

I have been given an American Bulldog pistol .44 cal. I'd like to know the present value of this piece, and if cartridges are still available.

> George R. Nadolny Jr. Norwich, Conn.

The American Bulldog Revolver was made in four calibers: .22 RF, .32 RF or CF, .38 RF or CF, and .44 Webley. Barrel length was 4½ or 6 inches, and its value on the collectors market is about \$10.00.—R.M.

Odd Luger

I am about to purchase a Luger which both myself and the dealer are trying to identify. It is a 7.65mm, barrel length 8", S/N 8314, has an adjustable toggle link rear sight ranging 100-200 meters, a Swiss cross and sunburst over the chamber, and the frame above the locking bolt reads "Made in Germany." Know anything about this one?

Clark R. Morris Drexel Hill, Penna.

I know of no factory issue Luger as described by you—however, this doesn't mean that such is not possible. The adjustable toggle-link rear sight is indicative of the Navy Luger, but as far as I know these were equipped with 6 inch barrels. Further, the "Made in Germany" legend indicates commercial export, and this is new to me on a Luger with the Swiss Sunburst.

From the information furnished, it would appear that this Luger is an assembly of parts of two or more models.—s.B.

.243 Conversion

I have an 8 mm German Mauser dated "1907—Danzig." The barrel is pretty far gone but the action is perfect. I wish to install a .243 caliber barrel on this action. Would you let me know what has to be done to the action and bolt to take this cartridge.

Harry G. Ballard, Sr. Inwood, N. Y.

When you convert a Mauser '98 to .243, nothing has to be done to the bolt, but sometimes you have trouble with the feeding. If this is the case, the magazine will have to have a block installed at the rear and the follower shortened.—P.T.H.

Winchester Model 95

I recently received a rifle that has been in our family for a number of years. I would like to know if it has any value, is safe to use, and if so, should I shorten the barrel.

It is a Model 1895 Winchester, .30-40 Krag caliber; "Nickel Steel—30 US" is stamped on the barrel. It appears to be in good shape; most of the bluing is gone but it is not rusted or pitted.

John Sauter Pontiac, Mich.

Your 1895 Winchester is a collector's item, and should not be altered in any way. It is quite safe to shoot with normal factory loads of .30-40 Krag.

In the condition you describe it is probably worth about \$50.00 or better,—R.M.

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C. Combination camp knife and throw knife with 4½" blade, 3½" \$3.30 leather handle\$3.30

b. Malayan - type throw knife, can also be used as skinning knife because of single sharp edge and overall, blood groove. Hondle wrapped with cowhide band\$3.85

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Mauser Conversion

I have recently obtained a Mauser 98 action with the thought of building a rifle more potent than my present .30-06. The top of this action is stamped (bcd) SN:9177b. Could you tell me what pressure this action will stand up to. I am considering the following calibers: .308 Norma Magnum, .300 Win. Magnum, .264 Win. Magnum, .300 H & H Magnum, and .375 H & H Magnum. Could you tell me what pressures would be developed by the above cartridges in max. factory loads. Any other comment you might have as to the building of such a rifle would be appreciated.

Gregory Zubroski APO New York

Your Mauser was supposed to have been proof tested to between 55,000 and 60,000 pounds pressure. All the calibers you mention are between 45,000 and 53,000. I believe that you will find the .308 Norman Magnum or the .300 Winchester Magnum will work best in this action due to feeding.—P.T.H.

.17 Javelina

I need some information. Can you supply me with some articles on the .17 caliber Javelina rifle. I need loading data and a name of a maker of such arms. What is the noise of a .17 compared to other rifles?

Joseph E. Reshel Royal Oak, Michigan

My best load is 20 grains of 4198 behind a 25 grain Walker bullet, made by the Walker Bros., Louisville, Ky. using Federal small rifle primers. Velocity in my 20 inch barrel is 3710. One load recommendation by Ackley for the .17 Javelina is 17 grains of 4198 with a 25 grain bullet at 3705 fps. Recoil of my rifle is almost nil, and muzzle blast comparable to the Hornet or Bee with a sharper "crack." If you are in the market for a .17, write to the O'Brien Rifle Co., 324 Tropicana #128, Las Vegas, Nevada 89104. Vern O'Brien makes the .17 his specialty, but his rifles are of the modern design-similar to Weatherby's. He'll send you a brochure for the asking .- D.W.

.257 to .30-338

I wish to have made up a rifle in the .30-338 caliber. In discussing this rifle caliber and its performance with some of my friends, information on its performance has indicated some very excellent results.

I presently have a Weatherby .257 Magnum. Checking the brass for the .257 and the .30-338, I find that the diameter of the brass is within .0002 to .0003 inches of the same size. The .257 brass is approximately .10 to .15 inches longer than the .30-338. The length of the magazine in the action is

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sufficiently long to handle the loaded .30-338—to the best of my knowledge, based on tests made with my Weatherby rifle. The .257 Weatherby is equipped with a Zeiss scope in 1½-6x with a Jaeger mount. The complicating part of this scope mount is that the forward ring is attached to the rifle barrel and not to the front part of the action. I want to retain this scope and mount with the rebarreled rifle if possible. Can you advise me if it is possible to rebarrel this action to the .30-338 caliber.

Brigadier General Kyle L. Riddle Langley AFB, Virginia

Your rifle will convert to the .30-338 very well. I don't know the diameter of your barrel, but if it is heavy enough I would recommend having it rebored to a .30 caliber and then rechambered to the .30-338. This way you won't have to worry about changing the scope mount. If it's not heavy enough, rebarreling is the only answer.—P.T.H.

Lee Navy

Could you give me the value of the following rifle. It is marked on the receiver, "The Lee Arms Co., Bridgeport, Conn. U. S. A." and except for the fact that the bolt is different, it appears to be the standard Lee Navy. I have drawn a picture of the bolt and receiver on the following page and although they are rough, they might help.

Jack L. Drawdy Savannah, Georgia

Your Lee U. S. Navy rifle, if in good condition, is in demand by serious collectors, and is worth between \$80 to \$125.—s.B.

Old Doubles

I have two double barrel shotguns, both in 12 gauge, that are both quite old. One is Belgian made with rabbit ear triggers. It was made by J. J. Weston and has the serial number 2610. The other was made by the American Gun Co., New York, and has the serial number 124280. I would like to know what these guns are worth.

Stella Geyer Middleberg, Florida

Unfortunately your shotguns are not old or rare enough to qualify as collector's items—yet they are old enough to forego use as sporting arms. Their value is limited to their decorative value—about \$12 to \$15 each.—S.B.

Rolling Block Conversion

Is it feasible and safe to rebarrel the Remington Rolling Block to the new .225 Winchester. If so, which of the Remingtons would be the most desirable and where could I get this done?

L. H. Bobo Dallas, Texas

The Remington Rolling Block action is perfectly safe rebarreled to .225 Winchester. Any of the actions will do; the choice is yours. It is necessary to bush the firing pin hole and reduce the diameter of the firing pin. Any good local gunsmith should be able to do the job for you. Itenot, contact the Chicago Gun Center, 3109 West Armitage Avenue, Chicago, Illinois.—P.T.H.

Scott Shotgun

I have a double barreled shotgun muzzle loader, percussion cap. The name of it is W. and C. Scott & Son. On the breach are proof marking nos. 11 and 5. There are other numbers that I can't make out. Can you tell me the history and value of the gun—it is in pretty fair shape.

Max B. Laney St. Louis, Mo.

Your Scott shotgun sounds like it could be English. Are there any English proof marks on the barrels or on the breach? If not English, the only American maker I can think of would be W. I. Scott and Richard H. Scott (brothers) of 1848-61 at Albany, New York. A fine condition percussion shotgun will bring between \$50-100. The lesser the condition the lesser the value. Smaller gauge (20, 28) will bring a better price.—R.M.

GeCo Carabiner

I have an original GeCo Carabiner Model 1919, .22 caliber rifle. It has a bad ejector block, and I've tried to find another. I've written to several gun shops without success. I wonder if you could tell me where it came from and where I could find what I need. This is a single shot.

Tommy Ramierz Santa Susana, Calif.

Your GeCo rifle was made in Germany for local trade but there have been a few brought into this country. There is no place that I know of where you can get the extractor for it and to make one would cost more than the rifle is worth.—P.T.H.





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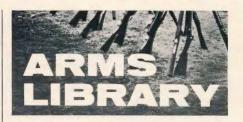
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TEACHING KIDS TO SHOOT

By Henry M. Stebbins (The Stackpole Co., Harrisburg, Pa., 1966. \$2.95)

You may be a top-ranking shooter, a real hotshot in the field, but can you teach a youngster how to handle a gun safely, can you teach him how to shoot so that the young shooter hits what he is aiming at? If you have any doubts about your abilities to teach gun handling and shooting, then this book is the one you should have on hand when you start your first session-and a little bit of browsing through the book will convince you that author Stebbins knows whereof he speaks. Devoid of technical jargon and filled with down-to-earth facts and how-to tips, this is yet the best book of this kind that has come to my attention.

DUELLING PISTOLS

By John A. Atkinson (Stackpole Books, 1966. \$12.95)

You probably never will have to defend your honor "with pistols, at twenty paces," but if you do, bear in mind this advice to duellists from a writer in the early 1800s: "Be cool, collected, and firm. Think of nothing but placing the ball on the proper spot. If you are hit do not feel alarmed. The chances of being killed are 14 to 1, wounded 6 to 1." But the chances are far better than those that you will enjoy this book. It tells you carefully, even amusingly, how to "call out" your man without offense to protocol; it describes in considerable detail many types of duelling pistols, flintlock and percussion; and it tells the stories of seven notable duels. Scores of pictures, some of them in full color.—E.B.M.

NO SECOND PLACE WINNER

By William H. Jordan (W. H. Jordan, P.O. Box 4072, Shreveport, La. 71104. 1966 \$5.00)

If Bill Jordan isn't the fastest and potentially the deadliest man with the doubleaction revolver who ever lived, I'll stick with him until convinced otherwise. This is not said lightly; As a long-time friend and admirer of Ed McGivern, I never thought I would rate a man above him. But McGivern was only a some-times practitioner of fast draw, whereas Jordan has practiced it for 35 years, as an insurance in police combat and as an exhibition "stunt," and it is my belief that Jordan is faster "from leather to target" and just as accurate as McGivern was. McGivern might crank out one more shot in a half-second than Jordan, but counting Jordan's double-action shots in a fast (Continued on page 78)

BROWN PAPER SACK

(Continued from page 73)

hurry to deal that they didn't have time to look at the guns.

A friend sauntered up with a brown paper sack in his hand. "Any business?" he

"Nope, how about you?"

"Sold a couple of pieces this morning."

"You're the only one."

"Just a matter of technique. Want to watch?"

"Sure!" I followed him.

He stopped at a table across the aisle, looked aimlessly around and shifted the paper sack to his other hand as he handled a piece from the display.

'Whatcha got in the sack?" the exhibitor asked.

"A couple of clunkers," my friend yawned. "Can I see 'em?"

"Sure, if you want." He nudged me with his elbow as he produced a couple of ordinary-looking pieces from the bag.

"Whattaya got on this one?"

"One-and-a-half. Pretty nice one, really. It came out of a home."

About ten minutes later, we walked back to my table. He was counting the money. "Shouldn't have let him talk me down to one-twenty-five, but I wanted to show you the action."

"I've seen that piece at shows before. What did you mean about it coming out of a home?"

"Hell, I didn't say whose home, did I? Hey, whataya got here?"

"Colt's Cloverleaf. You dig Colt's, don't you?

"Yeah-whatcha got on it?"

"Six bits-I need just that to pick up another piece that I want."

We'd done business before. He just handed over the seventy-five dollars. "It's worth it."

"That paper sack gimmick is pretty clever. How'd you work it out?"

"The Reubens really started it. Back in the old days they'd walk in with a real sleeper in the bag; a Paterson or something, Those days are gone forever, but the boys never say die. Now it's just like the trainer that hits the mule over the head with a twoby-four. First, you gotta attract their attention. They're half-committed when they ask you to open your sack." He chuckled a little as he left, thrusting the Colt into the paper bag.

I had just returned to my table with the newly-acquired percussion when Charlie came up. He was a fellow-collector from my home town, but I only saw him at shows.

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Hess Vernor, DeLand, Florida

"Hey, I didn't know you'd be interested in that percussion. I traded it off two weeks ago in Limbo, Louisiana."

To the guy over at that table?"

"Yeah, he's the one."

"He said it was a consignment. From his brother-in-law."

"Yep. He likes to get cash. He's been consigning stuff that way as long as I've known him. He doesn't even have a brotherin-law."

"I bet he never had a father, either. What did you bring up that I can use, Charlie?"

"Not a thing. Had a nice Rogers and Spencer that you would have liked. Took it to Apathy, Iowa with me, but you weren't there."

"Yeah, that weekend I went to the show in Travesty, Kansas."

"Too bad you missed it. Traded it off last week in Amnesia, Alabama. Had some nice engraving on it."

"Like this?" I exhibited a recent acquisition.

"That's the one! Where'd you get it?"

"Antique show last Wednesday in End-ofthe-Line, Idaho. I gave the guy one-seventyfive. How much did he make on me?"

"Fifty-give or take a dollar-there was some tradin' on the deal. Say, speaking of trades; how about this one I picked up a couple of minutes ago? A Colt's Cloverleaf House Pistol with original pearl grips. It came out of a home. Only one-twenty-five and a couple of old spur-triggers. Not bad, huh?"

"Charlie," I choked, "We have probably driven-between us-some four million miles this month, just to buy each other's stuff from middlemen at a huge profit. You live four blocks from me. Tell me, why are we spending all this time and money going to gun shows?"

He looked puzzled for a moment, as if he couldn't understand my reasoning. "Well My Gawd, Jay, how else can I get away from my wife?"



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TARGET SHOOTING HUNTERS

(Continued from page 30)

better than his rifle sights allow. This gives the greatest number of riflemen the fairest chance to garner a win in individual matches. The latest bolt rifle with barrel sights would have no advantage against a woods loafer and his .30-30 rifle . . . at short ranges.

The Overall Aggregate winner would probably use a mild recoil, accurate rifle, usually a bolt or single shot, in the .270, .280, or 7 mm range. This fits in perfectly with game guide Les Bowman's recommendations regarding ideal calibers, rifles, bullets and cartridges. The first essential, according to Mr. Bowman, is a comfortable rifle that one can shoot accurately and without flinching. This gentleman's experience bears added weight because he has watched masters like the late Townsend Whelen, Jack O'Connor and Warren Page pull off one shot kills on game at long, unknown ranges. Bullet placement and type, not just caliber, was the winning factor.

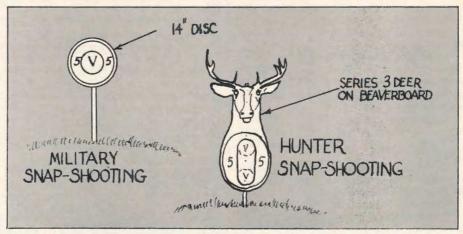
Through such shooting practice on the available ranges, hunters will upgrade their shooting skill to where they can, like their stalwart ancestors, take to the single shot rifle for taking of game.

Here is how a Game Animal Target shooting test would work out in practice. Let us assume there is a full size colored Shiras moose on the 6' square NRA frame. It is

all ready to be scored and marked by the pit operator. Our sportsman waits in the prone position on the 100 yard shooting mound. His rifle is a 4X scoped .270 bolt rifle with a 1¼" shooting sling.

Previous bench rest testing reveals that the .270/130 is capable of 2 moa (minute foreleg to get center Heart (V-Ring) hits. From 100 to 300 yards, our hunter fires his ten shot groups, refining the scope adjustments. He records all shots in a looseleaf Range Record Book, which would have miniature drawings of all game animal targets on a moa grid and space for all data: rifle, ammo, loads, scope aiming points, sight adjustments, weather, wind, etc.

After "zeroing" his .270 at 300 yards, the hunter backs off to 400 yards without touching his sights. He simply holds high to get center hits. At 400, the cross-hair is held



Military snapshooting target could be adapted for hunter as shown above.

of angle) accuracy and groups 3 inches high at 100 yards. Knowing this, the shooter holds the crosshairs low, just behind the 10½ inches high and at 500 yards it is twice as high. Once you become used to it, holding high or holding off is easy. This is the way Larry Moore won the Wimbledon Cup Match after a thrilling shoot-off in 1963.

Finally, at 600 yards, the sportsman must hold a clear foot above the entire 6 foot square frame to hit the bull moose target. Through the 4X scope, the tiny size of the once-giant target depresses him, and he silently resolves to take few such shots.

After this 100-600 yard practice with the .270/130 load, the hunter is wise to repeat with the 150-160 grain spitzers at 2800 fps. These fine projectiles "bold up better" for the long shots. What has this example of shooting accomplished?

First, the hunter is much more accustomed to his new .270 after firing 3 boxes (60 shots) on score at six ranges. Second, not one shot has been wasted-an important fact in this day of expensive ammunition! The pit operator signals, spots and patches the bullet holes in the target. On the mound, the hunter spots his target through his 20X spotting scope. He plots his groups in his Range Record Book. Every bullet has been accounted for. Through practice, he knows where to aim for one shot kills. Third, he is on a rifle range, specifically designed for safe shooting. After obeying sensible safety rules, our man is free to concentrate without interruption on his own shooting. Fourth, the colored Game Animal Targets stand out sharp and clear against the white frame. Being full sized and in proportion to each other, means that the animal targets can be seen and shot at from short, medium and long ranges. Fifth, there is no guesswork about the shooting distance. It is a surveyed and measured 500 yds., not a "guesstimated" 750!



There is the matter of flinching—bucking the shot. The local rifle range is where you find out whether you can really handle that magnum. A lot of game is lost through flinching shooters and their bucking cannons. Better a quieter rifle, one you can handle.

Those who saw the ABC-TV program, "American Sportsman" on Sunday, March 27, 1966, enjoyed the film on the one shot antelope hunt. Four picked hunters from

as game animal recognition tests (so farmers don't have to paint "cow" and "horse" on livestock); if you strongly feel that through this method, marksmanship would vastly improve and hunting "accidents" would decrease; if you feel that America can once again become a nation of marksmen, then you can do something about it.

Show this to your local sportsman's groups, clubs and shooting organizations. Write it up for your local newspaper sport

TARGETS AND SCORING

Target Frame	Size	Range	Animals
NRA type "A"	4'x4'	100-300 yds.	White-tail deer, Black-tail deer, Mule deer, Black bear, Antelope.
NRA type "B"	6'x6'	500-600 yds.	Shiras moose, Grizzly bear, Car- ibou, Elk, Mountain goat, Rocky Mountain sheep.
NRA type "C"	6'x10'	800-1000 yds.	Alaska brown bear, Polar bear, Woods bison, Kenai moose.

RIFLE CLASSIFICATIONS

Rifles are classified according to sights, and certain of these are given handicaps when shooting against other classifications. Any caliber is permitted, and any type of action suitable for hunting may be used.

Classification	Sights	Handicap
Class 1	Open	Add 10 points to aggregate score.
Class 2	Aperture	Add 7 points.
Class 3	Scope, to 4X	Add 4 points.
Class 4	Scope, to 10X	No extra points.

each of the four participating States traversed the Pronghorn areas. Each man had but one shot. He either delivered the goods—or went home skunked, and waited a whole year for another crack at the bucks. An antelope is small, only about 18" body depth. At 300 measured yards, he shrinks to gopher size. Imagine how many more master one-shot sportsmen we could have if you could put up a life size pronghorn buck on the 200-400 yard ranges and patiently practice on the paper animal? Was there ever a better illustration of the need for a full series of game animal targets to fit present target frames?

Study the proposed "National Game Rifle Championships" using your present game rifles and these game animal targets. See how the "action" shoots; rapid-fire, snapshooting, the "deers' hearts" (Falling Plates), running deer and antelopes, have been mixed in with deliberate and position work. Get this action on TV and watch shooting and hunting grow, watch the public reaction become more knowledgable and sympathetic to safe shooting.

If you feel that this method would better use our present ranges in the off-season; that game commissions could use this standardized game animal target series to conduct shooting tests for applicants and also serve column organizations. Try these ideas out at your local range, and invite legislators, police commissioners and public notables out to watch the fun.

When I walked out onto Blair Range, North Vancouver, B.C., that bright sunny morning back in 1957 and watched the fun and challenge in the Snap, the Rapid, the Falling Plates, I thought, "What a fine thing for the annual hunter!"

I still think so. Don't you?

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LIGHTWEIGHT SPORTER

(Continued from page 51)

shape, it was washed several times in a solution of ½ trichlorethylene, ½ naptha, and then in turpentine to remove all traces of old oil finish. It was "whiskered" (that is, wetted and heated to raise the grain and then sanded) and a 1 inch rubber butt plate was fitted (to make the stock 13½ inches long). This was made of rubber (Shoredurometer rating—38) and was hollowed out on the inside to reduce weight. A polyurethane varnish was used as a wood finish because this new synthetic material is highly durable and easy to apply.

The varnish was applied by use of 2 inch square wool swabs cut from an old blanket. A fresh piece was used for each application. Swabbing in this fashion produces a very thin coat which first acts to fill voids on the surface of wood and then builds up to form a smooth, velvety, but not glossy finish. There are no brushes to clean, no problem of runs or sagging because the coats are very thin. Light sanding with #220 grit sand paper is done between every second coat but not after the last one. Eight coats were applied on successive nights and only about 15 minutes was required each time. Finally a butt swivel from an old Springfield stock was fitted to the forearm and the original butt swivel was replaced on the butt. This stock actually exceeded expectations for handling qualities and appearance.

Weights on the completed lightweight Springfield are as follows: Turned-down barrel, action, military sights, and aluminum alloy trigger guard, 4.81 lb.; G. I. remodelled stock, with new Monte Carlo comb and cheekpiece, 2.01 lb.; one inch rubber butt plate, 0.22 lb.; swivels and screws, 0.15 lb., trigger guard and another dollar went for the rubber for the butt plate. In addition I had the bolt bent to accept a scope should I eventually decide to add one. This job cost \$9.00.

No refinishing was done on the Parkerized metal parts of the receiver and bolt mechanism, because of the difficulty of removing all of the original finish and tool marks in a symmetrical and uniform manner. Most rebluing jobs on these parts make the gun look as though hot black syrup had been poured on the metal. In some cases the lettering on the receiver ring is partially

DIMENSIONS OF RIFLE BARRELS

Distance From Breach Inches	Winchester M70, 30'06		Winchester 54, 30'06	US 1917 Enfield	Weatherby .300 Mag.	1903	Springfield 03A3	03A3 Lightweight
0								
3	1.050	0.964	1.020	0.987	0.914	0.992	0.985	0.867
6	0.797	0.790	0.792	0.868	0.718	0.885	0.889	0.735
9	0.768	0.757	0.761	0.750	0.693	0.781	0.793	0.696
2	0.737	0.723	0.730	0.722	0.672	0.736	0.711	0.668
15	0.706	0.687	0.698	0.696	0.646	0.705	0.710	0.639
18	0.672	0.651	0.652	0.669	0.618	0.675	0.687	0.617
21	0.638	0.615	0.631	0.640	0.587	0.654	0.663	0.592
24	0.603	0.580	0.602	0.615	0.550	0.618	0.616	0.550
26	_	_	-	0.599	_	-	_	-

for a 7.19 total. The original rifle weighed 8.43 lb. as issued, of which 5.65 lb. was barrel, action with a stamped trigger guard, and sights; the military stock and fittings weighed 2.78 lb.

Costs were low too. The gunsmith's work, turning down and rebluing the barrel, cost \$12.00 while I spent \$15.00 for the alloy

obscured by heavy buffing, corners which are meant to be sharp are rounded, and planes which are supposed to be flat are wavy. Hence I prefer the clean honest lines of the original arsenal fabrication. On this lightweight Springfield the gleaming blue barrel is in pleasant contrast to the silvery Parkerized receiver.

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CITY..... STATE.....

(Continued from page 72)

burst requires real concentration—and that's fast enough. As Bill says, "In a gun-fight, there's no second place winner," and Bill has won several. This book "tells all," from evaluations of holsters and how to wear them, to the same for guns, loads, practice loads, how to practice for combat, and how to conduct yourself if the real thing happens. I wouldn't take a lot for my copy; you'll feel the same about yours.—E.B.M.

FRONTIER RELICS

By Les Beitz (Edwin House-Crown Publishers, 1966 \$6.95)
Written in pleasant Western lingo, this is "a collector's guide" for almost anything you can mention in the way of Western relics, from wanted posters to barbed-wire samples to guns, each with a range of probable values. There's a fair amount of history here, too; the development of barbed wire, the evolution of the stirrup, even a sort of running discussion of Western art (Remington, Russell, Wyeth, et al). Good reading,

THE STORY OF ALLEN AND WHEELOCK FIREARMS

By H. H. Thomas (H. H. Thomas, 635 New Circle Rd., N.E., Lexington, Ky., 40505, 1965. \$6.50.)

whether you are a collector or not.-E.B.M.

This is the first time that an entire book has been devoted to the guns produced by Allen and Wheelock. As such it is an outstanding book, one well worth having. As a privately produced book, it is a surprise—text is well done, typography is neat and tidy, and the photographs and illustrations are meaningful and clear, so clear in fact that they can well serve as a guide to the guns of Allen and Wheelock. As a source material for collectors this book by Thomas should prove most helpful and enlightning. I could only wish that some other books pertaining to the field of gun collecting were as well done as this one.—R.A.S.

THE GUN DIGEST, 21st Edition

Edited By John T. Amber (The Gun Digest Co., Chicago, Ill., 1966. \$4.95)

Once again Amber and his crew of capable writers-editors have turned out a very valuable and fact-filled Gun Digest. If your interest lies in the hunting field and you want the latest dope on the new calibers, then this new Gun Digest is for you. If you are a collector, then the Digest is for you. If you are a technician, a handloader, a wildcatter, then again, the new Gun Digest is for you-in short, this issue of the Digest has something for everyone, and the color plates and the use of color inside the printed pages are the "something new" that Editor Amber promised us. An excellent buy for everyone who likes to shoot, hunt, or collect guns.-R.A.S.

HUNTING LOST MINES BY HELICOPTER

By Erle Stanley Gardner (William Morrow & Co., New York. 1965. \$7.50)

Erle Stanley Gardner, whose name guarantees interesting reading whether in the cases of Perry Mason or in non-fiction, brings up to date the story of the Lost Dutchman, with side glances at a few other "lost" el dorados. Fine story, fine story-telling, fine pictures—but the Dutchman remains a mystery despite modern methods of prespecting.—E.B.M.

PHOTOGRAPHER ON AN ARMY MULE

By Maurice Frink with Casey Bathelmess (University of Oklahoma Press, November 1965, \$6.95)

The story, and scores of the remarkably fine pictures, of Christian Barthelmess who photographed the American West and its people, white and red, during the last years of the nineteenth century. Good reading; graphic history.—E.B.M.

INDIAN FIGHTS

By J. W. Vaughn (University of Oklahoma Press, 1966. \$4.95) J. W. Vaughn is, so far as this reviewer knows, the first researcher to bring modern detection devices into the search for facts about the Indian battles that have long been controversial among students of Western history. Using metal detectors, Vaughn has uncovered cartridges, cartridge cases, and other bits of metal debris under the famous battlegrounds, bringing new light to moot questions. Reviewed here, with new evidence, are the Fetterman disaster, the Rosebud campaign, and others. Maps and pictures make the explanations of the battles easy to follow, and Vaughn's comments on the various situations and the conduct of the men involved make interesting reading.—E.B.M.



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