JUNE 1956 50c

Guns

HOW TO BECOME A GUN ENGRAVER

HANDLOADING CAN MAKE YOU A BETTER SHOT WHY BULLETS KILL

MOVING TARGETS FOR BETTER SHOOTING



AUTHENTIC ANTIQUE

THE BRITISH FIRED ONE ROUND FROM THESE PREWAR SPRINGFIELDS! NOW JUST \$4995

Here is a small lot of this world-famous rifle, the like of which will never be seen again. These went to Britain early in WW II and were issued to the home guard when there was great danger of invasion. They were test fired by the Royal British proof house (British proof marks on receivers). They were ever fired again. They are AMERICAN 30/06 CALIBER 6.SHOT BOLT ACTION, BORES PERFECT. Guaranteed excellent by National Rifle Association Standard. The Springfield is the favorite North American big game hunting rifle for DEER, BEAR, ELK, MOOSE, MT. LION, ANTELOPE, you name it. It is the most accurate military rifle ever made. These are high number models originally made by Remington for the U.S. with all milled parts and four grove barrels (not 2-groove), same as used by Marine snipers in Korea. Softnose hunting ammunition everywhere. This is the greatest rifle ever made. In weight, balance, trim lines, accuracy, dependability. Only rarely are they ever found these days in this excellent condition. 10-day-money-back guarantee. For C.O.D. send \$10 deposit. All shipments F.O.B. Pasadena.



HUNTERS! CONFISCATED RUSSIAN RIFLES... \$14.95

This is the late Russian Model 7.62 MM Moisin Rifle, appr. 30° barrel. Mechanically perfect. Outside: good. Bore: fair. Ballistics: 2820 FPS with 150 grain bullet. Am-munition available everywhere in U. S., an excellent hunting cartridge. Hinged floor plate. Russian ordnance marks on receiver. The Russians won the Indernational Meet in Vene-zuela (1954) with this model rifle. These guns were confis-RUSSIAN RIFLE AMMUNITION FREE

20 rounds full jacketed ammo included with each rifle pur-chase. Additional cartridges: \$7.50 per 100 rds. This ammo

CONDITION

caled from Communist revolutionaries and placed on the free world market. They are of the type used by Red Chinese in Korea. The sale of these guns in no way aids any country behind the iron curtain. A Once-In-A-Lifetime collector's item. This is the lowest price we have ever seen which would allow a man to equip himself for big game hunting. For C.O.D. send \$5 deposit.

is for the Russian Moisin 7.62 MM, and also for the Moisin Nagant as made during WW I by Remington and Westing-Nagana house.

\$12.95

MODEL 95 MAUSER ACTION

GUARANTEED V.G. CONDITION! This is the lowest price at which a genuine Mauser 95 action has ever been offered to our knowledge. This lot is of European manufacture. All are finished with new European ordinance blueing. Here is an opportunity to equip yourself with a superior high powered hunding rille at a once-in-a-lifetime rock bottom cost. We recommend that this action be barrelled to 250-3000, JS Rem., 7 MM or 300 Savage. BARRELLED MODEL 95 MAUSER ACTIONS

We can supply these same actions barrelled (headspaced and test fired) to any of the above calibers. New barrels in the white less sights. Add \$30 to the cost of the action.



\$23.50 ppd.

\$23.50 Postpaid. Includes official gleaming chrome steel sheath. May Also Be Purchased By Civilian Collectors. The sabre is again authorized for dress uniform of U.S. Army Commissioned Officers. These are brand new, hand-made and hand-forged dress subres. Few people know that in-between wars Solingen, Germany, supplied most of the official swords and sabres for the U.S. (and many other countries). We have received a small shipment which we believe were made for our European occupation forces. This weppon is appr. 35" overall, lavishly engraved both sides and along concave edge. Engraving includes letters U.S. and crest of the United States. Total design is basically unchanged since time of Washington. A fice presentation gift to any officer or retried officer, and a legendary focal point of an y collec-tion. These will never be available again at this special price. 10-day money-back guarantee. For C.O.D. send \$7.50 ea.

24 CARAT GOLD TRIM DUTCH NAVAL DIRK

AUTHENTIC and exclusive dress dirk of Officers in the Royal Netherlands Navy, Mint condition. Cross Hill and Dommel are heavy 24 karat gold plate. Curious Ivory-like grip, fine steel blade, both sides hand etched --intri-cate dotphin and anchor emblem with other designs showing influence of ancient Spanish occupation of the Netherlands. A large dirk -14^c long. Completely rust and saltwater corro-sion proof. A rare connoisseur-collector's item. Beauthully, hand-made in the tradilion of finest cen-turise-old European workmaship and quality. In estremety U.S. APO or FPO air. 6695 pd.

FOUND IN EUROPE... HITLER JUGEND DAGGER-\$5.95

Complete with sheath. Identical to pre-1329 official ceremonial dag-ger of Hiller's Youth (Jugend) Corps. Assembled post World War II, now illegal in Germany, %/ over-all with a line steel blade. Check-ered black grip has Nazi swastika (black on silver) on red and while diamond. Imported by us from Europe. Sheaths are black steel and leather. An excellent huming mife. Add 8bc for U.S. APO or FPO airmail. No C.O.D.'s please.

AMMUNITION BARGAINS • NEW SHIPMENT • SUPPLY LIMITED

2 MM MARSER AMMO, 55.55 per 100. Attachter Manuel Deversari This is the automatic Garnese testimation prove gain, their in the mean-ment accuracy and service, Test X-MM (202) had packeted Manuel service automation with an discussion of the service of the mean-matic service of the service of the service of the service of the matrix of the service of the service of the service of the matrix of the service of the service of the service of the matrix of the service of the service of the service of the matrix of the service o

Cannot accept ochers under 100 nits. ALLONG COLT AMMUNYTTON, Commercial, Leand naw, Land hallets, Instes name, Annotase primed. Can be related at 55 March 100 nits. SeminoCoLLS Del North Hong biots, news, Junit SeminoCoLLS, at animumitian shart has obspared IRP Exercise X-O.B. Panaleses Printerio in Supergrammaticate has the biotspare IRP Exercise X-O.B. Panaleses Printerio in Supergrammaticate his other panels in the printerio in Seminoris and the seminoris of the Seminoris of the Seminoris Seminoris of the Seminoris of th 3 for \$1.00



5800

60

GOLDEN STATE ARMS CORPORATION 141 Armory Bidg., 1165 East Colorado St., Pasadena 1, Calif.

10-DAY MONEY-BACK GUARANTEE on all items shipped F.O.B. Pasadosa. Kniess and seeab are pastpaid. California includes and 25 state tax.

NEW LIGHT WEIGHT MODEL

Ð

(7)

863.25 .22 short. long or long rifle ammunition 4%" BARREL A brand new edition of our famous Single-Six twenty-three ounces of specialized engineering and skilled gunmaking. For sportsmen who want to travel light we have achieved lightness combined with durability, accuracy and balance. Altogether, an ultra modern single action revolver and an exceptional example of the successful use of aluminum alloys in firearms manufacture.

"SINGLE-SIX Revolver

WEIGHS

OUNCES

Now in production-see it at your dealer's or write for literature.



manufactured entirely in the United States of America by STURM, RUGER & COMPANY, INC. SOUTHPORT, CONNECTICUT



SHOOTING NEWS

Burbank, Calif. Pat Purcell, who qualified Expert on the Burbank Rifle & Revolver Club's lavish range here (up to 1,000 yards, and tough matches at 300-600) the first time he shot an Ml, has gone into the Marine Corps. Good stuff there. Camp Pendleton range officers take notice . . . Wayne Raxter shucked out a 135 with 7x's to score first and a trophy in Burbank's Emerson Rapid Fire match. This match was strictly for the rugged, or foolish: California's sunny weather was so cold the shooters snapped off all shots involuntarily, maybe he used radar. Runners-up <u>S. C. Scull</u> for a medal and second, <u>Stan Johnson</u> third . . . Check into this Burbank crowd, you local non-club shooters. They lure you out to the range with venison barbeques at \$2. . . . Visitor <u>Jo Smalley</u> racked up 351 with 5x's to win the Kempley Trophy match but not the cup. Trophy was won by second and club member <u>John Huggins</u>, 350. No sense letting it get out of the family. . .

<u>Miami, Fla.</u> You guys who think you've got a pretty good range, take a look at the Trail Glade ranges 11 miles from Miami. Dade County public money and real support from the shooters of the locality got the <u>Trail Glade Sports Park</u> <u>Association</u> set up and a terrific range with skeet and trap, rifle and revolver, covered firing points to keep the sun off and a top-notch snackbar so you don't starve to death on an all-day shoot. <u>Southeastern Regional Smallbore Rifle Championships</u> will be held there and other important regional matches. Florida State Pistol Championships, too.

Wheaton, Ill. The Wheaton Club stands at the top of the local club list with 9 wins and 1 lost match, other clubs in order being St. Charles, Aurora, Oak Park, Austin, Elgin, and Joliet. What's the matter, you guys from the Joliet Arsenal. Too worn out loading artillery shells to put a few .22's into the same spot on paper? Eight lost matches is pretty rugged . . . Wheaton held a gun traders meeting at the clubhouse. Guys who had extra guns swapped for ammo and vice versa. Keeps things moving around and stimulates interest. Anybody got an old Ladysmith .22 you don't need?

Fort Benning, Ga. Outstanding Army shooter, <u>Major Ben Curtis</u>, won honors in the Old Shooters Class at the breako match. Breako as played by Benning GI's involves eight clay birds at 25 yards, ten shots, any pistol except Free. Time, 2½ minutes. Referee supervises, following single shots to determine winners. Something bustible and you can score besides. Breako second place to <u>M/s Jim Wade</u> of San Francisco, . . <u>Lt. Col. Chet Harvie</u> chalked up 194 in slow fire and 193 in rapid fire to get a total with other matches of 581 x 600, winning against tough Army competition. . . Benning has some <u>International Matches</u> coming up and worth looking into. Scuttlebutt is Perry next August will be heavy on International type shooting so dig out the <u>"schutzenbuchsen mit damenkanzel"</u> and get that hip stance in shape.

<u>Chicago, Ill.</u> Former Olympic team member <u>Verle Wright</u> cradled his Olympicstocked 37 Remington to win the Any Sight aggy of the Great Lakes Championships. Top shooter was <u>Jarvis Ter Haar</u> who is the only man to have permanent possession of a Great Lakes trophy. This is his <u>second</u> one which he copped with a 1271 x 1300. Pretty Roberta Gubbins won the High Lady trophy with a new range record for women shooters. There were 186 registered shooters, mostly from Chicago but <u>Lou Chianelli</u> and <u>Floyd Cecil</u> came down from Kenosha, Wis., for the important six-day meet. Big money won, too. Verle Wright won five bucks! San Antonio, Tex. Mid-winter pistol hassle was held with tall <u>Bill Tony</u> of the Border Patrol racking up a 199 with the .45 in rapid fire. Guess he just bends spikes to keep his hands in practice. His score ties the open and makes Bill co-holder of the national record. <u>Lt. Dave Miller</u> of Fort Sam Houston took top honors for the events and shot 864 to set a new service record for the .45 short course agg. <u>Col. Tom Kelly's</u> Air Force Blue team dropped out of the clouds to sweep the center fire match—Kelly, 287; Crosby, 292; Sandlin, 283; and Mangham, 290 . . . Rough luck for Mangham who fired a 97 slow and dropped three points on ONE shot, a 7 . . Police officer <u>Jim Sperry</u> of San Antonio took a little too long in the .22 slow fire event and didn't get off a shot. Even with a partial score he made 1861! . . Shooters were honored by a visit from <u>Ad</u> <u>Topperwein</u>, that incredible marksman now pushing the far side of 80 whose record of 72,500 wooden blocks fired at with the .22, and only nine misses, still is one of the gunning wonders of the world.

<u>Middlefield, Conn.</u> Silver and gold was spread around liberally by the <u>Middlefield Rifle Club</u> at the Connecticut Sectional Smallbore Rifle Championships. Ninety shooters registered. . . <u>S. C. Burkhalter</u> of Fairfield was a real cut-up so they gave him a knife and fork award for winning the grand aggy with 785 x 800, and the association trophy. <u>Bob Jones</u> of Meriden won a gold medal with 20 shots standing, high overall of 189 x 200 and 2 x's.

Vancouver, B.C. There are in <u>Canada's Civilian Association of Marksmen</u> 43 registered pistol clubs in British Columbia. Some are from Washington. . . Fired at matches are .22's and .38 Specials but only a few .45 automatics, these bought by shooters who attended U.S. matches. . . Canadian army supplies Browning Hi-Powers and 9mm ammo for B.C. annual championships.

Southampton, Pa. Big money was taken by <u>Bayard Bouchelle</u> of Kennet Square in the Conestoga R & G Club match #1 with 200x200 and 19x's. He won \$2.37! Does that make him "professional?"... Second match was competently ended by junior <u>Howard Seal</u> of Wilmington. All these guys can shoot is possibles. Seal shot 200 x 200 with 15x's. And again third match was won by junior Howard with a 197. Prize money for both totaled \$3.75.

Syracuse, N. Y. Bench rester Ed McNally has just got word in about the new regulations which permit varmint rifles to be used in NBRSA competition. Combined weight of rifle and scope 13 pounds, any caliber, any scope. Targets recommended for 100 yards to be the 200-yard NBRSA target hung upside down, at 200 yards to be the 300 meter target upside down. The National Bench Rest Shooters Association will recognize 5-5 shot and 10-shot groups at 100 and 200 yards under NBRSA rules at registered matches. Rifles used should be really varmint rifles, not bench rest rifles doctored to meet the qualifications. Any commercial rifle in the weight limits is eligible. Custom rifles cannot have barrels wider at the breech than 1%". Muzzle maximum diameter must not be more than .900", not bigger in the middle than a straight taper. Barrel length to be legal minimum or longer. Stock to be conventional varmint rifle type, not wider than 3" at any point. Course of fire is up to the discretion of the club holding the match. This should give a real boost to the NBRSA game and you fellows with fine chuckers who have held off from bench resting because of the added cost of special equipment now can get in there with all the rest.

San Leandro, Calif. Cap-and-ball shoots are held by Western Revolver Association with qualifications same as time-honored .22, centerfire and .45 system... Just shows how this front loading craze is catching on in the major leagues ... The W.R.A. has a good idea to boost club attendance, their "appreciation" awards to members who show up regularly. <u>C. Spiken</u> holds the only 10-year award for being at the monthly shoots since 1946.

FOR SHOOTERS WINFIELDWINNERS & COLLECTORS



SWISS VETTERLI RIFLES

Latest model Swiss Vetterlis in very good to "mint" condition. Turnbolt action. Thirteen shot (tubular magazine). Caliber-.41, Swiss r.f.; Length-52"; Barrel-33.2"; Wt.-about 10 lbs.; Rifling-4-groove, 1:26" twist. Bayonets approx. 2 ft. long made in Neuhausen, Switzerland-with 18½" sabre blade and saw tooth back. Very rare. Switz Vetterli Bide \$13.95

Swiss Vetterli Rifle. \$13.95 Bayonet with leather scabbard, metal tips (sold only with rifle). \$3.95

REMINGTON ROLLING BLOCK CALIBER .43

Shoots the heavy lead bullet favored by hunters. Barrel-35". Overall length-501/2". Wt. 91/2 lbs. Becoming very rare.

AMMO: .43 Spanish Mauser for Rolling Block Rifle (385 gr. bullet, American Primer, Dominion New) 20 rds.-\$5.25. Military issue, lead bullet 20 rds .- \$2.40. Military issue, jacketed bullet. 20 rds. . . \$2.00

Free history of the Remington Rolling Block sent with rifle.

BRITISH COMBAT WEBLEY REVOLVER

Favorite of the British Tommies, converted to .45 Caliber ACP. Hard hitting, straight shoot-ing, it embodies the finest and strongest top breaking design ever devised – can be opened with a flick of the thumb. Closes and locks solidly. A standout gun for low cost, heavy caliber plinking or home detense. Webley, converted to .45 ACP complete with 2 balj moon clips,

"Good"- \$14.95; "Very Good"- \$16.95

Ammo: Caliber .45 ACP, 230 gr. 100 rds - \$6

BRITISH ENFIELD COMMANDO REVOLVER

The famous fast-action hand gun used so effec-tively by the British commandos, Shoots U.S. made .38 S&W cartridges. Six shot. Double action only. Five inch barrel. Dull black, battle finish. Wt. 271/2 oz. Fine balance. Man size grip. Perfect for off hand shooting and home defense. Enfield Commando, very good -\$17.50

Ammo: 38 S&W Reloads 146 gr. lead-Box 50 rds.-\$2.60 38 S&W (New) 146 gr. lead-Box 50 rds.-\$3.85

SMITH & WESSON **REVOLVER CALIBER .38**

Military model reconditioned and re-blued. Length -101/4". Barrel-5". Wr. 31 oz. Holds 6 shots. Sights, front-fixed; rear-square notch. Cal.-.38 S&W (not .38 special). Walnut grips. Condition very good to excel-. . \$29.95 lent

AMMO: (See above, under Enfield Revolver.)

NOTE: With revolver orders enclose signed statement, "I am not an alien, have never been convicted of a crime of violence, am not under indictment or a fugitive. I am 21 years or over."



VISIT OUR SPACIOUS SHOWROOMS



GENUINE REMINGTON ROLLING BLOCK RIFLES

Winfield now has the last known supply of these famous, much sought after weapons. Accurate and effective for big game or target, their smooth dependable actions are used in many fine hand-smithed specials. Rifle, *Caliber 7 mm* (*Wt.-9 lbs.; Barrel* -30"; Overall-45"; Grad. Rear Leaf Sight)

good to fair cond....\$16.95

Ammo: German Military 7 mm rimless, 60 rds. in clips - \$5.50 U.S. made 7 mm sporting (175 gr.) 20 rds.- \$4.30

Bayonet with metal scabbard - \$2.50

Free history of the Remington Rolling Block sent with rifle.

JOHNSON AUTO-LOADING SPORTERS. Greatest fire power big game rifles. Lightest recoil. Built-in 10 shot rotary magazine. (5 shot optional) Sporterized from famed Johnson combat rifle. Barrel 22"; O.A.L. 45%"; Wt. about 9.4 lbs.; Grad. Rear Peep Sight; "Swivel type" safety.



CUSTOM SPORTER

Available in Calibers .30-06, .270 and 7mm., New 6-groove, 1:12" twist sporter barrel. Highly blued finish. Gold beaded ramp front sight with removable, protective hood. Walnut stock, Monte Carlo Cheek Piece (R or L hand), full pistol grip and recoil pad. \$159.50

STANDARD SPORTER. .30-06 only. Same as custom sporter but with no glare blued finish, stock as above but no Monte Carlo \$129.50 Cheek Piece.

Either of above with Weaver K-4 Scope installed-\$69.45 Add'l. Ammo: .30-06 military 100 rds .- \$7.50; sporting 20 rds., \$3.90

Free Brochure on Request.



In serviceable condition. Design circa 1799. Today is still the only weapon allowed the natives under certain colonial governments. Offers a lifetime of interest and prideful ownership to shooters and collectors. Supply very limited. Specs (approx.): Length overall-68"; Barrel-51"; Wt.-9 lbs. Gooseneck mechanism. Painted stocks. Complete with ramrod, only \$29.95

MONEY-BACK GUARANTEE

Order any gun-any item-from Winfield-on a 10-day moneyback guarantee. If for any reason you are not entirely satisfied simply return your purchase for prompt refund in full.

C.O.D. ORDERS. Send \$5 deposit with C.O.D. orders up to \$50; \$10 on C.O.D. orders over \$50.00. All guns and ammunition shipped express charges collect. Orders filled same day received. (California residents add 4% State Sales Tax to your remittance.)

CONVENIENT LAYAWAY PLAN. Just 20% down and 10% or more monthly reserves the item of your choice. No interest or carrying charges. Item will be shipped when payments are completed.

FREE "GUN FLASHES" tells you all about our last minute bargains in guns, parts, ammo. Write today.



DEPT. G-6, 1006 S. OLIVE ST. LOS ANGELES 15, CALIFORNIA



CROSSFIRE

LETTERS TO THE EDITOR

Shotguns For The Army

I should like to express my regard for your magazine which dares to stray from the deeply-rutted trail of dogma with such articles as "Shotguns for the Army" and "Automatic Pistols for Police." Also enjoy Col. Askins' humorous and expressive style in his articles.

The impression I gather from library research is that the Geneva Convention policy on small-arms missiles permits no exposed lead on the surface of said missile. If a practical and economical method of jacketing buckshot pellets were devised, there would be no legal objection to its use. In view of the disregard for the lives of their massed slave subordinates evidenced by Communist tacticians in the past, ye fowling piece would seem to be an effective weapon. If the military were to settle on an off-size caliber, such as 14 or 18 gauge, light-fingered GI's, allies, guerilla raiders, and black marketeers would find the ammo of little use in civilian weapons.

Incidentally, in the scramble over adoption of a new NATO pistol caliber, why hasn't some shrewd cookie come up with a compromise caliber of .40 (about 10.25mm) which would lie between .35 (9mm) and our .45 (11.25mm)? The old .41 Colt Long and .38-40 were pretty effective in their day. James Ocendale Lansing, Michigan

Roy Rogers' Single Actions

Wow! I learned that I led with my chin on one thing in my Roy Rogers article. Roy owns a pair of gold plated Colt single actions, which came to him from the 101 Ranch show. The story is that these guns were used by Buffalo Bill, or so Roy believes. Well, I know Roy was sincere, but something kept worrying me, so I took down the serial numbers of the guns a while later. Unfortunately I sent them in to Guns editors too late to put it into the story: Roy's guns were made, according to their serials which are 349117 and 348754, in 1926, Buffalo Bill died in 1917, I thought this ought to be put straight-let's just say that "they belong to Roy Rogers," which ought to make them as important, historically, as if they had belonged to Buffalo Bill.

Tap Goodenough Boston, Mass.

Mau Mau Guns

I noted with interest your article in the Guns of September 1955, regarding the Mau Mau, and as an ex Kenya Police Reserve officer I would like to add that the photo-

graph you show on page 31 of this issue is one of the best I have ever seen. Most of the guns I have recovered have only had a bolt, such as an ordinary door bolt, with the end sharpened or brought to a point; they do far more damage to the owner than the person who it is aimed at. I would like to add, most of my work was done with a P-14 Lee Enfield, with a ball burnished barrel, scope sights of 6x, plus my .45 Colt automatic. I sleep all right at night. I wish you luck with your very interesting magazine.

> Victor Filmer Nairobi, Kenya British East Africa

'Dot Reticules'

The use of the expression "dot reticules, pioneered by Robert Thomas," which appeared in the November Guns is, I feel, unfortunate.

The Lee Dot for scope sights was originated by me more than 16 years ago and has been installed in over 100,000 scope sights, Jack O'Connor mentions using Lee Dots installed by me long before anyone else mentions a dot reticule. Herb Klein mentioned in a tiger-hunting article a couple of years ago using the Lee Dot for shooting tigers, and thought it was really the berries.

Others make dots, some on top of cross hairs, whereas I fuse it around both hairs. They come through the center of the dot. There is no patent on a dot as a dot, since one Cummins in 1893 patented a scope sight that had one feature of it "cross wires with a bit of balsam at the center." Cummins never made any. His idea of a dot was too crude to be worthy of the name; it was not on spider silk and was diamond shaped. But what the heck! Lee Dot sells ten to one over them all. I have put in a lot of work on dot reticules for scopes and I think I really ought to have some credit.

T. K. "Tackhole" Lee Birmingham, Alabama

Colonel Askins' Articles

Colonel Askins article must have touched a very sore spot with our competitive pistolshooting friend, Jack McFhee. He sounded as if the shoe really pinched.

I have known and associated with Colonel Askins since 1925. I have competed in hundreds of matches with him. Anyone that says he is a poor looser or poor sport is just a damned liar for my money.

Askins' article hit the nail on the head. I have witnessed many times the very things he brought out.

George W. Parker Amado, Arizona



David Crockett of Minneapolis, a sailor in boot training at Great Lakes, revealed he hadn't been doing so well on the rifle range. "I've never handled a gun before." he explained. "I'm a city boy."

0 0 0

□ In Rome, Nerio Aspromonto sneezed during the night and found that he had spit out something hard and heavy. It was a bullet that had struck him in the head 20 years before.

0 0 0

□ Two Brockton, Mass., hunters carefully checked off a list of things they needed for their duck hunting trip ammo, boats, boots, a thermos of coffee, license and binoculars. When they arrived at their favorite hunting spot deep in the center of a big marsh, they realized what it was they had forgotten . . . their guns.

0 0 0

Massie Martin of Charlottesville, Va., won a bet and is recovering from the effects in a hospital. He bet that a friend couldn't shoot his hat off his head. He couldn't. The hat stayed on Martin's head, with the bullet creasing the forehead.

0 0 0

"Man carrying a machine gun" call brought seven squad cars converging on Chicago's Greer Trade School. Bristling with guns, police covered front and rear exits while one squad took up positions across the street to shoot it out with the machine-gunner. A man in civilian clothes carrying the gun walked down the stairs and the police surrounded him. The machine gun was wrenched from his grasp. "I guess you want to see this, too," he casually said, producing his FBI identification card. The Greer welding shop occasionally aids local Federal officers by de-activating machine guns which they have confiscated, and the FBI man was on his way back to the office with a welded-up gun.

Save 70% on ammunition with **LACHMILLER**

the tool that reloads them all!

- Shotgun shells
- Rifle cartridges
- Pistol cartridaes
- Revolver cartridges

Also swages bullets and re-forms metallic cartridge cases

Have better-than-factory ammunition for as little as 30% of the cost of store bought shells . . . and with amazingly little work. Every feature of the Lachmiller combination reloading tool is a result of requests from experienced reloaders. Strictly precision throughout, the

ENGINEERING COMPANY

6445-6 Son Fernando Rd. - Glendale I. Colifornia

Lachmiller operates simply and smoothly with an easy **downward** motion. A screwdriver and one minute's time converts from shotshell dies to rifle or pistol dies. You'll like the speedy, precise operation of the separate priming tool, and appreciate the built-in catcher for old primers, too.

LACHMILLER IS THE RELOADER'S BEST BUY

> Send for FREE folder describing additional benefits for the Lachmiller reloader

LACHMILLER

 Write Us for NEW 1956 Literature

 on new Rifle Target Scopes

 and Hunting Scope Attachment

W	DN '	THE	WEST
cost W	alber .44 C		Avy .36 Cal.
		Texas Pathrson 40 Cal. 1836	1851
6			1873
		1	Army .44 Cal. 1880
These	are replie	as of origin	E GUNS

THE GUNS THAT [

REAL GUNS-with gun blue finish. Send for free history and brochure about Guns of The West.

1847	Colt Walker-44 cal.	6.95
1873	Colt Peacemaker-45 cal.	5.95
1836	Colt Texas Paterson-40 col	6.95
1848	Colt Wells Fargo-31 cal	5.95
1860	Colt Army-44 col.	5.95
1851	Colt Navy-36 cal\$	5.95

tion pieces. Each gun comes complete with a short and enlightening history on its period. Send eash, check or Money Order now!

VALLEY GUN SHOP, Dept. G 7784 Foothill - Tulungo, Colif.

RELOADERS! B & M OFFERS YOU A COMPLETE SERVICE

Tools & Equipment

roois e aquipinent
B. & M. #28 Straightline Reloading Tool. complete
Complete stock—All calibers and weights of Sierra, Speer, Hornady, Remington, Winchester, Western, Norma and Jordan, Also empty Cartridge Cases, Primes and Per- cussion Caps of all popular makes.
POWDERS Complete Stock — Dupont & Hercules.
Everything to Service The Nation's Shooters.
LATEST B & M HAND BOOK Tells you how to reload in easy to follow instructions. Shows how to save 50 to 85% of your shooting costs. \$1.00 SEND FOR FREE FOLDER Dealers write for Discount Schedule
BELDING and MULL 102 N. FOURTH ST., PHILIPSBURG, PA.

MY FAVORITE GUN



By ROBERT RYAN Hollywood Movie Stor

In "The Proud Ones" I'm the sheriff who is supposed to uphold law and order in a western boom town. It isn't casy because most of the townspeople are apathetic, my deputy is out to kill me, and the crooked gambler I oppose has several trigger men. But I have my favorite weapon, a single action Colt .45 Frontier Model, and justice triumphs in the end.

As long as I can remember, I have always enjoyed having and shooting guns. I was born in Chicago, but each summer and fall my father would take me to Eagle River, Wisconsin, to camp and hunt. We used a Marlin .22, lever action, and it was one of the sweetest tifles I've ever shot.

My oldest son, Timothy, will be ten on April 11, and at that time I'm going to give him a .22 rifle and teach him to use it. I think this is important for every boy to know. I'll do the same for my other son, eight-year-old Cheyney, when he reaches ten. Both boys seem to have millions of toy guns now.

First I'll show Tim how to clean his rifle. Then we'll do some target shooting. Next we'll go out in the desert and I'll show him the proper way to carry his .22. Then we'll do a little hunting. A gun must be treated like a woman—with respect, love and lots of caution.

By GOVERNOR G. MENNEN WILLIAMS of Michigan

Hunting is one of our greatest sportin Michigan. and my constant companion is my 12 gauge Ithaca Featherlight. It's a standard model, without trimmings except for a recoil pad to lengthen the stock a little. I've used it successfully on ducks, pheasant and bobcats. My 14-year-old son, Gery, has a duplicate of my gun, equipped with a Polychoke. We find the Featherlight about as close to an all-round shotgun as you can get.

Slightly Blemished Cases

MESSAGE TO N.R.A. MEMBERS: For a long time we have been one of the country's largest importers of quality optical goods. You may have seen our research and school microscope advertisements in many of the other men's magazines over the past several years. We have always carried a complete line of binoculars as well. Our last inventory revealed quite a quantity of binoculars whose cases have a slight blemish, flaw or discoloration which prevents them from being sold at regular retail prices. The cases are genuine pigskin (two pigskin carrying straps included as usual). We guarantee that all binoculars are NEW FERFECT in every respect, optically, mechanically and in every detail. BINOCULARS are wide field, full size, calibrated for individual focus and interpupillary adjustment. They are made in Japan. Both objective and ocular lenses are fully coated.

SIX MODELS ON SPECIAL

6 x 30 The standard 6 power. (69 en hand). Our reg- ular retail price \$30.00. SPECIAL PRICE. \$15.99 ppd. Plus 10% Fed. Tax.	8 x 30 A faverite plains glass 8 Power. (34 on hand). Our reg. retail price \$35.00. SPECIAL PRICE. \$16.84 ppd. Plus 10% Fed. Tax.	7 x 50 7 Power large objective. The most posular Amer- ican binocular. (89 on hand). Our regular re- tail arice
12 x 50 12 Pawer. The most powerful in standard length. (32 on hand). Our reg. retail wrice 560.00. SPECIAL PRICE. \$23.48 ppd. Plus 10% Fed. Tax.	8 x 40 A special wider angle medel. Bautch & Lomb style. Reg. retail grice style. Reg. retail grice style. Reg. retail grice special price. \$26.90 ppd. Plus 10% Fed. Tax.	7 x 35 7 Power, Bausch & Lomb style. The special wide field desian, al- ways scarce, (54 on hand). Our reg. relail price \$40.95. SPECIAL PRICE. \$22.46 ppd. Plus 10% Fed. Tax.

MARRED TRIP

ppd

7 x 50 \$19.72 Ppd. Complete Plus 10% Fed. Tax

TO ORDER: Send check.

cash or money order. For Fed. Tax C.O.D. send \$5 for each pair. Binoculars shipped complete with cases and straps, well packed and insured. RETURN WITHIN 10 DAYS FOR FULL REFUND IF YOU DO NOT CONSIDER THESE THE MOST REMARKABLE BARGAINS YOU HAVE EVER SEEN.

> We have a number of each of two fine telescopes which cannot be sold for full retail

price because of defects not connected with the actual instrument itself. In most instances the tripods have been marred and

scratched. In some the carrying cabinet has been injured in the same way. Anyone willing to do some sanding and varnishing can have himself a perfect piece of equipment at a great saving. We guarantee the lenses, prisms, and mechanical function to

AND RANGE SCOPE Regular \$119.00 value

be perfect in every respect.

Purchase price includes all four ocular lenses: 15X, 20X, 30X and 60X. Since our special purchase included all four lenses with each instrument we cannot sell either telescopes or lenses separately. These are first grade astronomical quality achromatic coated lenses. You will note that all lenses, including the

60 power lens, can be brought to a pinpoint focus indicating an instrument free of abberations and distortions. Also included in the purchase price are the sighting scope with cross hairs, a revolving tripod head with 360 degree calibration and vertical movement (with positive stops for both vertical and horizontal movement), adjust-

able tripod and fitted hardwood carrying cabinet. Lenses are contained in brackets on top of scope and covered by a hinged member as shown in illustration. Focusing is accomplished by a positive gear system (knurled recessed wheel directly in front of ocular lens). Objective lens is 60MM with sunshade and threaded metal cap for maximum protection. Finished in weatherproof chrome and baked pearl enamel. Tripod head is steel, crackle finish with chromed brass moving parts. This is guaranteed to be a superior quality instrument for hunters and marksmen on the range or in the field.



PRISMATIC SPOTTING

SPECIAL

\$47.50

MARK VII REFRACTING TELESCOPE Regular \$45 value \$22.50 ppd.

15X, 30X, 45X powers. Includes sighting scope with crosshairs, sunshade, spiked tripod, fitted hardwood carrying case. All coated lenses. Appr. 22" long overall. Weatherproof chrome and baked enamel finish throughout. Full rotating head is fitted with compass and calibrated in degrees. An excellent range and general observation telescope.

> When in Los Angeles visit the two unusual Akron Dept. Stores.

MONEY-BACK GUARANTEE—If for any reason you are not completely satisfied return any instrument for full returd within ten days.

TO ORDER SCOPES: Send check, cash or money order. For C.O.D. send \$10 minimum deposit on any telescope. Telescopes shipped complete with all accessories listed, well packed and insured. Calif. resid. add 3% state tax.

THE AKRON

4411 SUNSET BLVD.

LOS ANGELES 27, CALIF.

11

FAMOUS GUNSMITH Says:





Finished barrels or barrel blanks

Send for list GA

JOHNSON AUTOMATICS ASSOCIATES INCORPORATED HOPE VALLEY, RHODE ISLAND

JUNE 1956 Vol. 2 No. 6-18





MAGAZINE

THIS ISSUE IN

military . . .

America's Biggest	t Arms Merchant	William B. Edwards	14
-------------------	-----------------	--------------------	----

hunting . . .

Why Bullets KillR. L.	Ahlness	18
White Grouse Of The ArcticJim	Rearden	34

shooting . . .

Moving Targets For Better Shooting	Nils Kvale	22
	M. Stebbins	
Hottest Of The Hot Shots	Kent Bellah	39

workshop . . .

How To Become A Gun EngraverJohn Rohner	26
Handloading Can Make You A Better Shot	37

departments . . .

Shooting News	5
Crossfire, letters to the editor	
Guns In The News	
My Favorite Gun	10
Trigger Talk	13
Cartridges, quips, quotes, queriesStuart Miller	42
	68
Parting Shots	

COVER

Superlative engraving on a Josef Winkler shotgun from Ferlach, Austria, by "graveurmeister" Albin Obiltschnig illustrates degree of skill which may be developed through years of practice. Single-trigger 12 gauge over/under is in the collection of Lloyd B. Gettys of David City, Nebraska.

George E. von Rosen PUBLISHER

Ben Burns EDITOR

Carola Mandel SCATTERGUN EDITOR

Sydney Barker

ART DIRECTOR

Col. Charles Askins SHOOTING EDITOR

Ben Rosen ART EDITOR

M. Magnusson

ADVERTISING MANAGER

Herbert O. Brayer WESTERN EDITOR

William B. Edwards TECHNICAL EDITOR

Louis Satz CIRCULATION MANAGER Tom Youngblood

ADVERTISING PRODUCTION

Marvin Ginn ADVERTISING SALES MANAGER

H. JAY ERFURTH

ROGER MARSH

Jack Provol MIDWEST REPRESENTATIVE

Eugene L. Pollock EASTERN ADVERTISING MANAGER

Editorial Advisory Board STUART MILLER ROY G. DUNLAP

JAC WELLER VAL FORGETT

GUNS magazine is published monthly at 8150 N. Central Park Avenue, Skokie, Illinois, Second class mail privileges authorized at Skokie, Illinois, SUBSCRIPTION: One year, 55.00; single copy Soc. CHANGE OF ADDRESS: Four weeks' notice required on all changes send old address as well as new. CONTRIBUTORS submitting manuscripts, 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 acceptance and will cover reproduction in any, or all, of GUNS magazine's domestic or foreign additions. ADVERTISING RATES will be funcient postage.



S HOOTING EDITOR Col. Charles Askins is off for the Far East for three months on a hunting expedition. He will be going to India, Indo-China and Pakistan. Armed with a Savage Model 99 in .358 caliber, there is reason to expect that when Askins and tiger meet, the smile will be on the face of ... Askins!

The Bengal tiger of southeastern Asia which Colonel Askins will visit first is the largest carnivore, bigger even than lions. Ten feet from nose to tailtip is not an unusual size for the royal cat of India. Askins hopes to be the first to kill one of these tigers with a Savage rifle firing the .358 load. The colonel will relate his experiences in a first person story in GUNS.

The colonel also plans to meet the "little" Asian elephant, and have a go at the "sladang." The sladang is the Oriental bovine that taught the African Cape buffalo all his nasty tricks. The African buffalo has been written about a good deal lately, but the Asian sladang or gaur is considered a rougher, tougher sort of bull. To get his elephant, Askins will shoot a Model 71 Winchester lever gun rebarreled to the .450 Alaskan. His stories will be flown in and printed in GUNS almost as soon as they happen!

To understand more about how and why Askins' bullets will kill elephants and tigers, readers would do well to study this issue's highly-important article titled "Why Bullets Kill." Written by R. L. Ahlness of Minneapolis, who worked with the Princeton ballistic research projects he describes in his article, it is a significant contribution to arms literature. Ahlness' explanation of exactly how a bullet makes a wound are here published for the first time in a popular journal.

A remarkable "how to do it" story is the gun engraving article by John Rohner, a University of Iowa museum employee. Rohner is only an amateur engraver, but his work which is all self-taught expression will compare favorably with many professional engraving jobs. His experiences in learning how to engrave, and the photos which illustrate the development of his engraving, will prove of much value to the gun hobbyist. "Made in the United States by Skilled Union Craftsmen"

PACIFIC SUPER TOOL

For perfect, low cost Ammunition!

Fast, easy, accurate—Pacific reloading tools have been top choice of expert handloaders for a quarter century; over a half-million satisfied customers.

Often imitated, never equalled

Pacific Super Tool, complete with dies, shell holder, primer arm\$39.95 Automatic

primer feed\$ 7.00

PACIFIC STANDARD TOOL NEW LOW PRICE!

For speed and accuracy at an economy price. Comes equipped with specially heat-treated sizing die (choice of either full-length or neck sizing only) and seating die with adjustable crimper. Features unique swing-out primer arm for simplicity in repriming the car-

tridge case.

USE Famous Pacific Dies for Absolute Precision!

Pacific Standard Tool, complete with dies, shell holder and primer arm...\$33.95 Automatic primer feed\$ 7.00

SEND FOR FREE CATALOG!

OADING R Р СІ Т PACIFIC GUN SIGHT COMPANY . 2903 EL CAMINO REAL . PALO ALTO, CALIFORNIA MK II Hunting Accessories Adjustable \$12.50 Trigger Neoprene One New Piece For Mauser, Springfield, Cheekpiece and Enfield. Also speed-\$3.95 **Right Hand Mauser** lock kit for all three. Safety **Right & left hand** \$15.00 4.85 to fit any low comb stock. DAYTON TRAISTER CO. MARKE DEALERS AND DT 7912 S. E. POWELL BLVD. JOBBERS INQUIRIES PORTLAND 6, OREGON INVITED

AMERICA'S BIGGEST ARMS

YOUTHFUL EX-GI SAM CUMMINGS RISES OVERNIGHT FROM UNKNOWN GUN COLLECTOR TO TOP ARMS DEALER, HELPING TO REARM GERMANS WITH THEIR OWN WEAPONS WHILE SELLING ANTIQUES TO U.S. GUN BUGS

By WILLIAM B. EDWARDS

HE HAS SOLD more guns in the past five years than Sears Roebuck. He deals with kings and presidents, not to sell them a single deluxe sporting rifle or shotgun, but to equip regiments of their armies for active field service. He has the entree into the war industries of a troubled world, and when he offers modern weapons at less than they can be built for today, he becomes a great friend. This man who has been behind every major gun deal consummated in the world since 1948 is a smiling, wrylyhumorous, rah-rah college boy named Sam Cummings. An almost silent figure in the gun business today, Cummings is untouched by the sordid side of his dangerous but very necessary business. Born 29 years ago in Philadelphia, the "City of Brotherly Love," Cummings is a merchant of death with a smile.

I first learned of Cummings in England nine years ago. All over London as I scoured the gun shops lining up guns to buy, the greeting confronted me: "I say, but of course you are acquainted with Sam Cummings? He's an American, you know." I didn't know, but I soon found out. Cummings didn't buy much then, he was just taking inventory. But when Cummings takes inventory, it is a pretty thorough matter. He has a bird-dog ability to smell out guns inside of government warehouses when the chief clerk of the ordnance department doesn't even know the guns are there.

Some of Cummings' deals sound like the tally of military small arms in use during the past 80 years. He has bought bulk lots of Enfield rifles from Britain, Vetterlis from Switzerland. Mausers from Spain and German-made war

MG-42's sold by Sam Cummings (with machine gun) to rearm West German troops were inspected in New York by embassy official in leather officer's coat before shipment to Bonn for issue to soldiers of new German army (right).





To supply small governments with top quality guns, Cummings always keeps stocks of modern military rifles like new Garands in New York warehouse.

MERCHANT

Burp guns sold by Cummings with export authorized by U.S. State Department were shipped to Nicaragua, later seized by authorities in Costa Rica.





In the foreign trade zone at New York, Cummings keeps stocks of machine guns for export sale. Caliber .50 Brownings are being checked before shipping.



At recent gun show Interarmco booth was center of interest for machine gun collectors. Works of German FG 42 were shown by Cummings to visitors.

surplus, Remington single shots from Denmark, Sweden and South America. More than a million Remington single shot rifles were made at Ilion, N. Y., and sold all over the world. Incredible as it seems, Cummings has bought back and sold in the U.S. almost 10% of this total. Major retail outlet has been the Winfield Arms Co. of Los Angeles which sells to sportsmen; Cummings himself is strictly wholesale.

Strictly wholesale . . . a look at the inventory of Cummings' New York foreign trade zone warehouse would lead you to think he coined the word. In the bonded warehouse under constant supervision of the Customs department repose over 25,000 current military small arms. Ready for immediate shipment are between 7,000 and 9,000 German K-98 rifles; about two or three thousand MP 40's in 9mm caliber; and an equal quantity of Stens, American M3's and Thompsons, both M1928, 1928A1, and M1 models -you pay your money and you take your choice. At this time Sam could supply from stock approximately 10,-000 new M1 Garand rifles, ready for shipment. He has quantities of Browning light .30's, about 2,000 of them. Browning .50's are the heaviest stuff on hand now although his stock of mortars is pretty good. He always has in his warehouse 81mm and 50mm mortars.

"We keep a good inventory there of military types which we might have to ship from time to time, but there is in addition a floating inventory of between 20,000 and 25,000 assorted obsolete small arms and about 1,000,000 rounds of assorted obsolete ammunition. Right now I've been expecting a lot of 4,630 obsolete European revolvers-all kinds. I don't know what they are and won't know until they get here. Then it takes about thirty days through Customs, but there isn't any point in worrying about them until they get here," the nation's biggest arms merchant says.

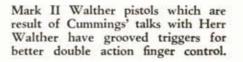
The vaulted sealed halls of the bonded warehouse testify to the fact that Cummings has these guns for sale at fixed prices, immediate delivery. Stacked like cordwood, so the air will circulate freely and keep them dry, or else piled high in long wooden cases in grease, Cummings' guns lie waiting the call to duty. That call comes with the jangle of money into the cash register, but Sam will take anything in trade to make a deal.

Cummings' most important single deal recently involved German warsurplus machine guns. When the West German Army was organized, to Cummings fell the pleasantly profitable task of rearming them. From his New York foreign trade zone warehouses, Cummings sold a large quantity of Machinengewehr 42's, the fast-firing, efficient German light machine gun. This lot was his pride and joy, for they were all new. He had picked them up in "some European country where they were dumped when the Germans left after World War II." Now, through the irony of the international trade in arms, they were sold back to the Bonn government.

"I went up to New York when the embassy sent out their inspector," Sam told me. "He crawled all over those guns, clicked the lids open and shut, checked the feeds. He had a flock of gauges and had them on every part of the guns. (Continued on Page 65)



American-made M1 rifle which Cummings sells for export only at under \$90 cuts Director of Civilian Markmanship price by \$20, but can't be sold in U.S.



Sport Model PP .22 with target sight Mk II line has grip lengthener clip to give better handhold in practice.



Deluxe engraved and plated Walthers now compare well with pre-war guns for quality of workmanship.

WHY

RESEARCH INTO WHAT HAPPENS WHEN BULLET STRIKES MEASURES CAPACITY OF CARTRIDGE TO DELIVER STUNNING, DEVASTATING BLOW ON ANIMAL TISSUE

BY R. L. AHLNESS



High speed film studies of bullet impact on gelatin blocks simulates

KILLING POWER is one of the most-talked-about aspects of gun lore. And yet few are the gun experts who know exactly why and how bullets kill.

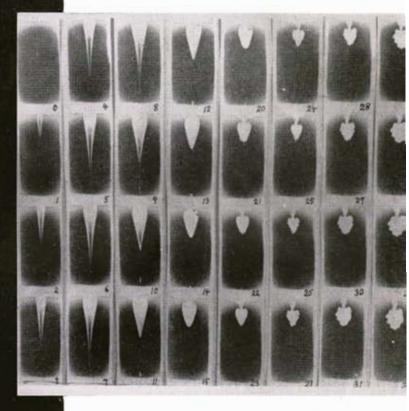
Finding out exactly what happens when a bullet kills is not as simple as it might seem or looks. It involves a complicated physical change that scientists have been studying with careful research in recent years.

Actually killing power is not the measure of a firearm to kill as such, but rather the capacity of a particular bullet to deliver a stunning, devastating, incapacitating blow. It is important for a police officer to know the facts about the killing power of a pistol cartridge just as it is vital for a hunter to know if his choice of caliber gives him enough killing power coupled with mild recoil and accuracy. But most important of all, killing power is of top interest to the military designer and to the surgeon. To the former. a knowledge of killing power of the enemy's weapons permits our own ordnance to provide maximum protection for our GIs. For the surgeon, killing power becomes an absorbing study on which depends his skill in saving lives.

From the work of the French scientist, M. Hugier in Paris who in 1848 first noted the explosive effect of a bullet, to the latest work of wound ballistics research teams in Korea, the study of gunshot wounds has had important life-saving phases. The Army research teams recommended introducing body armor in the Korean war which stopped 25 percent of all bullets which hit our soldiers, and up to 75 per cent of the shell and grenade fragments which had

BULLETS





Movie of how wound is made was done by firing steel ball into water and observing how it made hole which changed size.

effect on animal tissue. Ballistic action is shown in Winchester photos

previously been such a major cause of battle casualties.

In the research labs of the arms companies, the study of "killing power" has its humane side, too. Modern hunting bullets give a higher ratio of one shot clean kills now than ever before, as a direct result of studying bullet performance.

Extensive scientific tests have been conducted at Princeton University to determine what actually happens when a bullet strikes and have shown the mechanism of wounding as applied to calibers, bullet weights and velocities. Researchers have investigated nerve shock, that phenomenon to which so many of the effects noted in wounding have been attributed, and have come to some unexpected conclusions. From these tests bullet effectiveness can be determined. When a high speed bullet strikes, an actual explosion results. The amount of TNT which must be exploded to be the equivalent of a bullet of given weight and striking velocity may be calculated. It is this explosive effect of high velocity bullets which has caused both sides in wartime to accuse the enemy of firing explosive bullets.

When the bullet strikes, very large pressures are built up at the nose of the missile. The tissue is compressed and this region of compression moves out from the point of impact as a shock wave. As the bullet moves forward it tlings the tissues sideways as well as forward, and leaves a comparatively large conical cavity in its wake. This large cavity is temporary and may expand and contract several times before contracting to a smaller permanent cavity.



Curving shock wave in water, as in tissue, moves at the speed of sound ahead of the slowing steel ball.



Entrance wound of .30 180 grain Core-lokt shot at deer is small but dark area shows further tissue damage.

Caliber .30 150-grain Silver-tip bullet passing through 5" square gelatin expands block like meat of animal, although bullet has left target.













How expansion of bullets effect bigger wounds in animals is shown by test firing at various speeds. Top bullet is of solid brass which penetrated 18" of solid oak from a .375 loaded with 76 grains of 4350, demonstrating penetration but poor "wounding power" since it did not upset in target. Round-nosed bullets are Barnes copper-tube with small hollow point and weigh 285 grains. Intact slug at 1500 f.p.s. did not upset. Lower bullet with base intact was shot at 1700-1800 f.p.s. and started to open up, went through 9" gelatin and 24" into the sawdust backstop. Higher velocities decreased penetration of middle two bullets which thus gave all their energy to target and possess a better killing power through expansion.

20

Tests show that the larger temporary cavities produce more severe wounds, and that the size of the temporary cavity depends on the amount of energy delivered by the bullet.

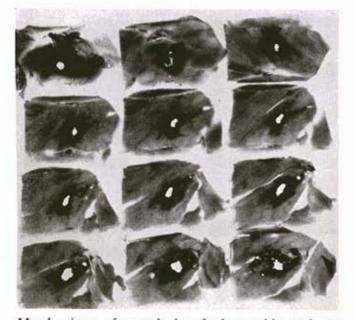
Kinetic energy depends on bullet weight and velocity. The velocity figure or value is squared in the energy equation, and bullet energies increase tremendously as bullet speeds approach the 4,000 feet per second mark. Thus bullet energy or bullet velocity becomes a primary critera in evaluating killing power.

In any wound the tissue in the area of the temporary cavity is severely stretched, but it may be sufficiently elastic to resist breakage. Nerve tissue can stand considerable stretching before breaking, but loss of function may occur. This temporary paralysis due to "nerve shock" may explain why big game animals are oftened downed with a hit in a seemingly non-vital area. Navy doctors in action at Guadalcanal and Tarawa noted the paralyzing effect, particularly on the arms and legs, of high velocity bullets.

The temporary cavity in the wake of the bullet accounts for bones being broken that were not actually hit by the bullet. The large temporary cavity formed in the wake of the moving bullet is actually a mass of watery tissue being pushed sideways at a velocity of from one fifth to one tenth of the bullet itself. It is this mass of tissue moving rapidly at perhaps 100 or 200 feet per second which may break a bone.

Up to recent years killing power has had to be largely guessed at through tests which were not exactly comparable to the behavior of a bullet on animal tissue. In choosing the .45 pistol cartridge many years ago over an impressive array of all types of then-available military pistols, test officers Colonels Anatole LaGarde and John "Tommy Gun" Thompson tried to make things as realistic as possible. They obtained cadavers from the Philadelphia medical school and proceeded to shoot at them from various ranges with all kinds of pistols and bullets. X-rays and dissection revealed bullet damage and gave them standards for evaluation. The decision to arm with a .45 pistol cartridge was the result.

Their tests were not wholly comparable to live animal



Muscle tissue of a cat's leg fired at with steel test bullet shows progressive change in bullet hole interior.



Holes made by four steel bullets passing through dog's leg confirm tissue-gelatin similarities for wounding tests.

tissue, which contains a great amount of water. After death, the body loses moisture. As a consequence, the ballistic behavior of their target did not exactly compare with the result on live tissue. Some other medium must be used, and some other means of studying bullet impact. Modelling clay and laundry soap have been used as fleshsimulating targets but they are inelastic. They expand easily but lack the flexing properties of actual tissue.

Common household gelatin is used at the Winchester labs where bullet research is conducted under the direction of M. L. Robinson, and whose photographers, L. P. Faeth and B. E. Wade, have made strobe photo studies of bullets at and during "wound" impact. Photos at speeds of 3/1,000,000th second capture details which happen too fast to be seen. Targets were gelatin blocks of a special consistency which approximates live animal tissue. The 5"x5"x11" blocks were laid on suspended rubber sheets. which permitted expansion in all directions. Such current work in private industry is an extension of the studies made at Princeton during World War II. A department of biology research staff headed by E. Newton Harvey carried out the most extensive wound-formation tests ever conducted to learn about killing power of bullets. In addition to the usual gelatin, tanks of water and other inert targets, pieces of fresh butcher's meat and also anesthetized cats and dogs were shot at. From research on these animals information was learned about wounds which resulted in greater success in the battlefield treatment of casualties, and in later hospital care of the gun-shot patient.

"Bullets" used were steel balls weighing from .05 to one gram, the largest being (Continued on Page 62)

MOVING TARGETS FOR BETTER SHOOTING

SCANDINAVIANS MAKE GAME OUT OF PISTOL MATCH WITH HIGHLY IMAGINATIVE TARGETS

By NILS KVALE



Swinging silhouette targets are used in Norway club matches. Shooters try

Flip-up enemy soldier targets, which offer surprise shots in gruelling Norway competition, are scored by referee.



PISTOL SHOOTING in Norway and Sweden has more attraction for Mr. Average Scandinavian than baseball in America for a Dodger fan in Flatbush. And there's a good reason why on the fringe of the long Arctic night, shooting is rated a top sport. One of the most important is that Swedes and Norwegians do not shoot at the static, unimaginative kind of bullseye targets used in America. They have targets that move and they have a brand of shooting that is a delightful game as well as a test of skill.

Not only are a variety of interesting targets from animals to gangsters presented to the marksmen but the shooters also have to keep on the move, almost playing a game of hide and seek with their cardboard quarry. A shooting match in Norway and Sweden is a combination of a long hike through the countryside, a military skirmish in which the shooter has to determine who is friend and foe, a charge up a hill on the enemy. a chase after an escaping hoodlum and a tangle with a charging animal.

For instance, one phase of the shoot calls for catching a gangster—cardboard species—but he must be brought alive into court. The job of the shooter is to hit him in the legs on a cardboard replica. Hits above a white line on the target deduct one point from the score.

The shooter has six shots in 30 seconds after a wire is pulled that releases a cardboard silhouette going away from the shooter on an overhead wire, dangling and swinging up and back. It's a tricky target and the shooter has



skill after long woods hike interspersed with shooting.

to decide whether to fire quickly or take more careful aim in his 30 seconds.

The shooting course has different gimmicks similar to this and becomes an exciting though exhausting game especially in the cold snowy days when much shooting is done in the Scandinavian countries. Whereas pistol shooting hibernates in the U. S. during the winter, in Norway and Sweden it is at its peak. When summer shooting ends, Scandinavian handgunners do not pack their equipment away in heavy grease, waiting for spring to return. When the first snow has fallen, it's time for the combat shoots along forest paths.

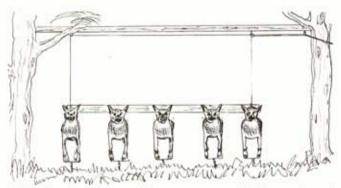
Freezing temperature, a steady fall of cold rain and wet snow, dim daylight lasting for a couple hours around noon, wet guns, wet ammo, snow in the sight notch, snow on your eyeglasses or in your eyes:—all this is normal during the late autumn combat shoots in the Northern countries. You start out through foggy woods, beneath dripping spruce trees and along muddy ridges, climbing up hills, and skidding down hills, guided by strips of red paper tied to brush here and there.

Pistol clubs in these forest areas are numerous. They keep shooting going almost the year round. Sometimes they cooperate with the rifle clubs. Then both rifle and pistol has to be used during the matches. At other times ski clubs enter the picture. Shooters have to wear skis for a cross-country run to get from one firing point to the next. Norwegian shooters use Luger M1923 commercial pistols in 9mm caliber although newer Swiss-SIG pistols are popular.

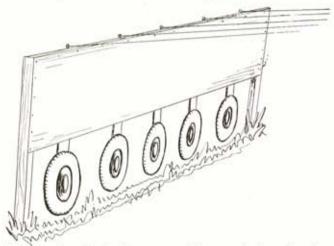
After panting in run to crest of hill, shooter is suddenly shown "enemy soldiers" for brief seconds to fire at.



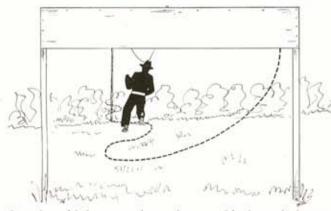
Walther .32's taken from retreating Germans are used in many Norwegian target shoots.



Difficult dog target has cut-outs nailed on board moved up and down like running animal by referee.



Moving "truck tires" rotate and bounce during shooting, A hit on rim or hub scores zero; tire itself must be hit.

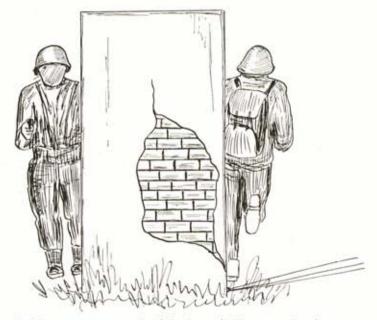


Running thief cutout drops down suddenly and zig-zags away but surprised shooter has orders to "take his man alive" so hit below white line is necessary to score.

The autumn combat shoots are by far the most uncomfortable. Perhaps just for that reason they are the ones found most interesting by many shooters.

RADI

Dressed mostly in old rags or other equipment which can take mud, and heavy rubber boots, competitors arrive by car, bus, train or bicycle at the place where the match is being held. Most of them arrive before dawn, to be able to use the few hours of daylight. The host club has circulated invitations to every pistol club within 50 miles or more, and for the big shoots even much farther away. A normal match held out in the farm areas usually draws 50 to 70 shooters. When championships for certain regions of the countries are held, the number of shooters can run into



Sudden appearance of "friend or foe" target simulates enemy facing shooter or back of comrade advancing in same direction as shooter. Test taxes caution and reflexes.



With cold numbing their fingers and wind smarting their faces, shooters pause to reload magazines for next target.

a couple of hundred. Because of the usual rainy, stormy weather, shooters gather in the local schoolhouse, or town hall, where club members keep a stove red hot. You do not actually need the stove before you start, but you will keep thinking of it before you have half finished your forest trip.

Upon entering, shooters check in and pay their entry fee, which is usually low. A club member assembles shooters in groups of five, and hands their score cards to the "group leader."

One important thing is reading the rules to the match, which is hung on the wall near the door. This schedule might tell you, for example, that the day's match will be fired at six different stations. There will be six rounds needed for each of five stations. On the sixth, you will be permitted to shoot as many shots as the time permits. This means that you can empty one magazine and start on the second, so with fifty rounds of ammo, you will be all set for the match.

Cartridge boxes are useless when your fingers are stiff with cold. The best thing you can do is to pour the fifty cartridges right into your pocket. The ideal pocket for this shooting game has a small hole in the bottom, just enough to let the water out and hold back the ammo.

In the midst of your preparations you will hear the fellow at the door yelling: "Group number five, ready for start in three minutes!" Group (Continued on page 44)

Firing is rapid when referee pulls cords and brings moving targets into view, so automatics are universally used.





Engraving tool is held steady in one hand and tapped around by chasing hammer which causes edge to cut tracks in steel. Pegs hold work on ball vise head. Stippled background (right) which sets off scrolls is developed by matting punch.

HOW TO BECOME A GUN ENGRAVER



ONCE CONSIDERED LOST ART IN AMERICA, GUN ENGRAVING IS COMING BACK AS AMATEURS FIND PATIENCE AND STUDY CAN PRODUCE QUALITY ENGRAVING

> Seventh gun engraved by author John Rohner, a single action Colt, was covered with floral scrolls which showed bold, firm execution denoting good control of tools. Frame scroll pattern is characteristic motif of author's work.

By JOHN B. ROHNER

GUN ENGRAVING in America is supposed to be a lost art but increased sales of foreign-made guns in the U.S. in recent years has revived popular interest in the craft. Seeing some of the beautiful work done in Europe has inspired U.S. gun nuts to try their hand at the lost art and they have been surprised at what can be done with a little intense application to the job.

But when it comes to buying a labyrinth of hump-backed circles and grotesque figures gouged from stem to stern on a gun, the American brand of engraving is still being undersold by Europeans. A complete job from Ferlach, Austria, for instance may cost \$200 and be of such good quality that you could not get the buttplate engraved here in the U.S. for the same price. Bolt action rifles can be engraved in floral patterns for as little as \$18 in Vienna. Even in Belgium, where the franc is called "the dollar of Europe," prices are ridiculously low compared to what American craftsmen ask. But the picture is not all pro-European; there is some mighty inferior work coming from the continent, too.

I watched one customer exclaim rapturously over the engraving of an imported double 10-gauge Magnum shotgun. "Man, they sure do know how to engrave over there" he enthused. Sighing, he explained "There's just nobody in America who can do work like that." I examined the breech engraving closely. The metal had been ploughed through when soft and then it was hardened.

European gunsmiths boast of their seven-year apprenticeships, but they must have had a rank beginner gouging this shotgun preparatory to gouging the public.

The notion that there is nobody over here capable of engraving is sheer horsefeathers. I know, because I've done it. Actually there are no deep, dark secrets to separate the craftsmen from the scratchers as far as the engraving craft.

I make no pretense of being a fine engraver. My regular profession is museum work. As assistant curator of the University of Iowa Museum of Natural History, I am constantly working with animals, but curiously my normal occupation slightly parallels the training of the European ap-



Working on rifle floorplate held on ball vise, author holds edging tool to clean up the first chased lines of pattern. Grinder is near to keep the tools sharp.



Simple scroll on plate is laid out first in basic curves.

Entire area is completely worked out with floral scroll.





Circlet is filled in with arbitrary freehand vine motif.

Background is matted with punch to show up engraving.





First real engraving job attempted by author had good coverage and organization but was poorly done.

209162-0

Snarling bear on breech reveals the engraver's knowledge of animals.



Contrasting work on pistol carved by commercial engraver E. C. Prudhomme of Shreveport, La., with Rohner's first try on revolver (above) reveals wide gulf in skills which separate artist from beginner.

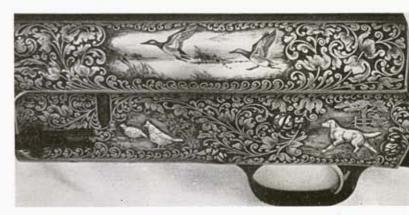
Carefully executed foliate arabesque by Bruce Meek has gold animals.

prentice engraver. He studies animals, draws them from life and from stuffed specimens until he knows their shapes. Just so has been my own familiarity with many different types of animals in the museum. It makes me very aware of my shortcomings when attempting wildlife carving. It keeps me dissatisfied with my work, and constantly trying to correct and improve.

Sometimes the only thing that keeps me going is the fact that I've been engraving for the past two years in my spare time and I still have high hopes for mastering the art. I do *no* commercial work. I've seen too much of it of poor quality, indicating that the almighty dollar spells quantity and not quality. All I have learned has been on my own as nobody seems to give out information in this field. My hope is that some day I'll be able to feel pleased with my work, not satisfied, but pleased.

The value of being dissatisfied has been evident to me from the first attempts I made at gun decoration. Several years ago I made a trip to Fort Worth, Texas, to see the late well-known engraver, Cole Agee, about having a gun decorated. At the time there was no suspicion in my mind that I'd ever try my hand at scratching up guns. We dickered and I ended up trading guns for his handiwork. After deciding that engraving was too expensive to have much more of it done commercially, I decided to try the simpler method of gun decorating—etching. Agee sent me some etching materials and with Howe's "The Modern Gunsmith" as a guide I proceeded to cobble up all the old gun parts in the house.

In time the bugs were worked out and I started what was to be a "finished" piece of work, etching some game scenes on a little Remington .22 autoloader receiver. The scenes were gamier than I had planned: a panel of a stag chasing a doe was innocent enough except I had put a lewd leer on the stag's face. In a circle on the right side I put the head of an elk, except maybe it was a caribou. It was the most angelic-looking deer I have ever drawn, and its mother could have been a cow. While the layout and general proportions of the animals were not too bad, the technical execution of the work was pretty sad. The gun came out of the etch solution fairly well, I suppose, for a tyro, but actually it couldn't pass inspection of even a blind man. The edges were rough, and the only way to clean them up was with an engraving tool. Etching by author on .22 rifle was first try at decoration but lack of control in modelling led him to try engraving.

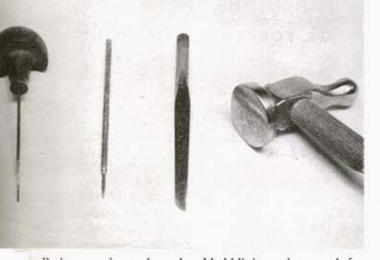


Bruce Meek's work demonstrates his unusual command of gold inlay as well as excellent lifelike duck engraving.

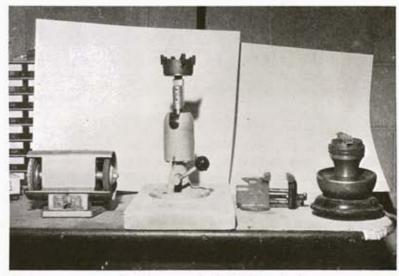
Early American engraving combined flat shaded scrolls of the English school with stippled relief backgrounds favored by German artists. Delicate sketch of antelope is in "Currier & Ives" style.

I wrote to Agee and he sent me some tools. I knew as much about using them as a monkey does about a Geiger counter. The graver tips snapped, crackled and popped like breakfast cereal. Inferior material, so I thought, and proceeded to order some high speed gravers. They were as brittle as old china. After corresponding with some of the engraving tool makers who politely informed me that I was wallowing in ignorance, I ended up with a set of Grobet engravers and sound advice to learn how to use them.

For weeks I pecked away. Some (Continued on page 58)



Basic engraving tools are hand-held lining point, punch for stippling, chasing cutter and flat face chasing hammer.



Wilton power arm for heavy work, ball vise to help cut scrolls, small vise and motor grinder are engraving aids.

BETTER ARMS FOR THE BETTER HALF



Girls like guns that are light in weight but not lacking in power, such as Featherweight Winchester in .243 caliber.

TO MAKE REAL SHOOTING PARTNER OUT OF THE LITTLE WOMAN, BUY HER BEST IN EQUIPMENT WHETHER FOR RANGE OR HUNTING

By HENRY M. STEBBINS

 $S_{\rm \, deep}$ snow of that first day of the bear season. The wind tore through Long Valley and up the steep sides of it.

He had everything in equipment, including a brand new Remington pump, a short-barrelled .35 obviously, for he was none too aware of where the muzzle pointed. A nice rifle to shoot. The girl toted a .256 Japanese carbine, a clunk that rings your ears when you fire it and kicks plenty in spite of its moderate charge. A good ten or fifteen dollars' worth of clumsiness and as raw as it came from the arsenal. Maybe this guy didn't want his girl to like hunting. Perhaps some fellows just have to prove their masculine superiority, have to be *the boss*, at home or out hunting. I know some of these kind, some are my friends. When they get out into the fields with their wives, they seem to blow a fuse of some kind. Their own equipment will be the finest made: new shotguns, powerful, fast-acting rifles, all made right for them. But the rest of their family might just as well be Indians trailing along behind heap big chief, judging from the crummy smoke-sticks they are usually supplied with.

To buy a gun for your wife or girl friend is an impor-



Lively targets will gain interest of beginning girl shooters who can then graduate to regular practice at targets. Ginger Stanley, a Texas "Annie Oakley," enjoys bottle busting for relaxation. LaVerne Young, Senn High School senior (right) sights open-eyed method as she takes firm hold on .22 Kit-Gun to score in the 90's.

tant thing, one that may mean all the difference between years of hunting comradeship and you alone in the field with your "gun widow" sitting at home. Yet there are those men who seem blind to this truth.

Of course, not all hunters are that way. I've seen teams in the field that were a genuine partnership. There were a couple out in the field one year and the girl seemed about three feet high. But her gun fitted her. It was loaded with air rifle shot, which anyone knows is deadly on everything from winged dragons and unicorns to pheasant and rabbit if your daddy's with you, carrying that beautiful old '97





manager Harold Wesson discontinued gun because of use by prostitutes.

Winchester 12 gauge trap gun. She wasn't "taken along;" she went as a partner.

Most people find proper equipment a help in enjoying any sport, and women are people, too! 'A bad start usually spells a bad end and that was the story of the gent with the .35 Remington. His girl drilled a little four-point buck through the bridge of the nose, in the right front knee, and at last high in the back. That shot landed behind the ribs but near enough to the spine to end the wretched performance. She didn't like the butchery, and no wonder. Your girl wants her kills to be clean and it's your job to give her every chance to make them so.

When the right moment comes she must be confident. She'll trust you to pick good equipment and teach her to use it. Let her start with a .22 at 50 feet indoors, then go out where sun and wind play around with sight adjustments and holding. Sandwich in workouts on game-colored targets. They're fun. Have her fire the big rifle with light handloads or use some easy intermediate caliber as soon as her smallbore shooting has climbed to 60 or 65 out of 100 offhand on standard paper, or around 85 or 90 in prone or sitting. That's precision above the average in big game country. She may want to join you in varmint hunting, though not with the piffling .22 rimfire. You want sure kills.

Ease handloads up to the power she'll need. The .30-06 firing a 170 grain .30-30 bullet at only 2500 feet per second is a terrific white-tail deer prescription. Marksmanship counts, and achieving it should be a game, not punishment.

I mentioned the '06 deliberately because it's too much gun for lots of us — and because so many are floating around. For that reason you may be tempted to make an easy decision on it.

Well, don't! She deserves the best, whatever that may be for her individually. It may be something much lighter to carry and milder in report and recoil. On the other hand, a more powerful rifle may be right, though hardly at first. On the third hand (something we've longed for when assembling some rifle actions) don't give her a .30-30 or a .250-3000 unless she's become a sharp, cool shot or will be backed up by a guide. Losing wounded game has soured women on hunting. One laid off it for years after a buck got away and never sagged a meat-pole. Later, when a Wyoming guide showed her an antelope way out there, she demanded, "Do you want me to shoot the Wimbledon Match with this 7 mm? Let's try to get closer." That pronghorn's head looks nice on their long south wall, between the two big windows.

In the .22 workouts your girl will have used the gunsling to achieve — and appreciate — accuracy. Hunting, she'll enjoy the helpfulness of a light 7/8 or 1 inch strap when no shot is expected. She'll take pride in carrying her rifle—slung over her shoulder it looks professional, and that pleases her immensely—but you don't want her worn to a sad-eyed shadow in doing it. For long shots in mountain or plains country she'll demand a shooting sling if you've reached par as instructor.

See that the stock fits her and that it isn't too long or too sharp at the toe. In prone such an antler jabs the shoulder and in offhand it throws quick shots high. You may want to shorten the stock; so put on down-pitch if it needs it. One girl I know likes a stock that tapes 12³/₄ inches from front curve of trigger to middle of buttplate. She's of average size and she fires mostly offhand, woods hunting. A little longer is good for prone. A thick, resilient, new recoil pad helps, but it can drag on snapshots if the stock overall is too long.

Keep the grip fairly large, a big handful for her. That helps take up recoil. But the rifle's lightly held forestock should be small where her hand grasps it at the trail carry. It's possible to cut down the magazine-well of a bolt gun and make the receiver an easy handful without detracting from any but bench-rest accuracy. We seldom need that in game country.

Most scopes make a rifle unhandy to carry at trail. I believe in them when they're practicable, but normal vision with good iron sights does fine shooting in the woods. Mount a glass on her rifle if she wants it but don't insist unless her big game shooting will be at over 150 yards.

A safari to the high blue of mountains or to remote, far-reaching timberlands is romantic, and appeals to many women for that reason. Too few go on such trips. But

Light Savage pump .22 is inexpensive rifle to start women shooters out with, combining simplicity with safety as shooter must pump slide action for each shot.

Women with some familiarity with firearms may like Savage Model 6 automatic rifle which is also a plinking .22 with large capacity tubular magazine.

uplands and duck-marsh sound their autumn call to the initiated, and town-bound friends regard with envy and some awe the woman who answers those thrilling summons. She's a lady of distinction!

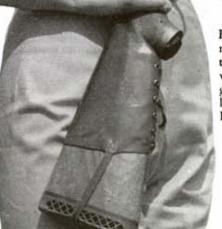
See that she's equipped and trained for the first hesitant plunge. Comfort, not stifling warmth, should line her clothes. The gun must be comfortable, too, not unresponsive to fire, not vicious in recoil. Here the streamlined double is queen, though some pumps and automatics balance well, too.

A 7% ounce shot charge is a sensible minimum for clean, humane killing in woodlot or along alder run, an ounce for ducks, pheasants, doves or mountain quail. The 20 gauge handles both. A 16 need be only a few ounces heavier for equal comfort with the deadly 23% drams, 11% ounces load — or more powder if long shots are common. One-twentieth of the gunner's weight is a good upland formula and she can usually get it in a standard or slimmeddown 20.

I know just one successful huntress who likes a .410. Tennis, riding, golf, and canoeing in fast water gave her the athlete's coordination, and she hunts New England's close cover. Down in Virginia another girl, a head taller and made of the same whipcord

and velvet material, praises in her gentle drawl an overand-under Marlin 16. A few shoot the 12 and like it, and some do well with the 28.

Very carefully fit the stock to her, having her wear hunting clothes while you cut and try. Don't put on much down-pitch if she's to hunt flying game in the uplands. Include a recoil pad in the overall length, which could be about $\frac{1}{2}$ inch more than that of the rifle stock unless she points-out her game instead of using the follow-through swing. For the former brilliant or else rather erratic style, a short stock seems natural. (Continued on Page 48)



Heavy recoil is no problem to the many women who are trap gunners like Evelyn Primm of Los Angeles.

WHITE GROUSE OF THE ARCTIC

SNOW BIRD OF THE NORTH COMBINES TRAITS OF QUAIL AND PHEASANT, OFFERS REAL CHALLENGE TO GUNNER

Zig-zag tracks on snow reveal presence of feeding ptarmigan which moved from little valley up the hill in Alaska.

By JIM REARDEN

E VERY game bird has its own special charm. The sportsman who doesn't thrill to the sight of an old cock pheasant suddenly busting from cover, tail quivering and rainbow feathers flashing, might as well hang up his gun. It's difficult to describe the feelings of delight a covey of tight-holding bobwhites can give. The high-flying, tough, bandtail pigeon can deflate a crack marksman's ego quicker than anything I know. And any hunter who hasn't been fooled by a wise old ruffed grouse that has thundered from behind a tree—behind the hunter—has missed one of life's great pleasures.

I have hunted and loved all of these birds and more. But for me none of them are quite the same as the ptarmigan. That little gentleman of the north has some of the characteristics of many of our best known upland species. He has a spine-tingling cackle that can startle a hunter fully



Small bore guns like 20-gauge double barreled Fox shotgun can be successfully used for hunting of ptarmigan.

as much as does the ringneck's wild cry, and like the old chinaman, he dearly loves to run.

Fast and strong a-wing, the ptarmigan's flight resembles nothing more than that of a group of white pigeons. Yet, in heavy cover, they can leap out and dodge as capably as the fastest ruffed grouse that ever flew.

During summer, when the ptarmigan assumes a drab. mottled brown color, they aren't really too handsome. But during winter, when they turn pure white—except for the black tail feathers (save for the white-tailed ptarmigan) they're a trim, streamlined, beautiful bird. During breeding season the male willow ptarmigan's neck turns to a beautiful dark auburn, and his fiery red eye comb enlarges. To me there's no handsomer bird anywhere.

On my last hunt for the tough ptarmigan, I again found that they are real sport. We were after camp meat, Jim Brooks and I, and those abundant, speedy birds really provided it. Our first shots came when with flashing wings and raucous cries, a white and brown bird rose high into the late afternoon wind that poured across the Alaska range. Jim whirled and snapped a shot at it with his little 28 gauge auto. Feathers flew, but the tough ptarmigan righted itself momentarily until a second shot dropped it for good.

At the sound of the shots, half a dozen more ptarmigan burst from the willow thickets to speed across the tundra. Jim, with his third shot, neatly dropped one of them.

I saw they were going to fly within range of my old 20 gauge pump, so stood frozen until the right moment, then quickly snapped a shot at the leading bird. It and the one directly behind it dropped to the ground. There was no



Ptarmigan have big feet, leave large tracks in snow. Hunter stops to check direction and then follow bigger birds.

Returning from successful hunt in typical ptarmigan country of tundra and snow, hunters carry their bag of Arctic birds.



Summer plumage of ptarmigan is mottled brown which blends with the land, but changes to white in hunting time.



Fox double 20 brings good bag of "northern fried chicken," as Alaskan natives often call ptarmigan dinner.



time for a second shot. One of the two that had dropped started off on a run, but another shot stopped it.

We joined and discussed what direction to hunt from that point. Not that it really made any difference, for we could hear ptarmigan in all directions. The tundra seemed to be alive with them.

We were on our annual big game hunt in the Alaska range and three days before we had brought in two nice bull moose that we had found bedded down together. So we had our winter's meat hanging up near camp, waiting to be boated the 25 miles out to the highway. Because we had gotten our bulls early in the hunt, we had a week left in which to enjoy ourselves.

We fished for the sweet-fleshed, hard-hitting grayling that swarmed in the nearby clear stream, and we lolled about the high ridges, peering through binoculars at caribou, moose, and even an occasional grizzly that wandered through the country. We also were doing a little wing shooting—and what wing shooting those birds provided during that week!

Frost and a skim of ice on still water greeted us each morning as we crawled from our sleeping bags to cook our breakfast of moose steaks, ptarmigan, or grayling. We were living mighty high off the hog.

Ptarmigan were on the build-up. Like other members of the grouse family, ptarmigan are cyclic, with periods of abundance about every 10 years. Even as we had hunted our moose, we had noticed their abundance over previous years. While glassing for the big-antlered deer, we frequently saw huge flocks scale from the rolling mountains and heard their deep-throated cackling as they settled to feed on the huge blueberry patches so common in the range.

Once while watching a pair of bulls on the day previous to the opening day of moose season, I had almost jumped out of my boots when I slipped closer to the pair for a better look and had flushed a noisy, cackling ptarmigan. The moose ignored the racket, but I could have cheerfully wrung the bird's neck. That isn't my usual attitude toward ptarmigan, which is my favorite upland game bird.

After ptarmigan have fed on their usual fall diet of blueberries, crowberries, and cranberries, their dark flesh is as tasty as any bird I know. At home my wife cooks them as she would fryer chickens, but there is a better way. In camp I prefer to skin them, (Continued on page 56)



Checking fired cases for correct overall length is important first step in sorting hulls to be trimmed and loaded.

HANDLOADING CAN MAKE YOU A BETTER SHOT

BY 'ROLLING OWN' AMMO, GUNNERS CAN IMPROVE PERFORMANCE AND QUALITY OF MARKSMANSHIP WHILE CUTTING COST OF TARGET SHOOTING

By CHARLES HECKMAN

A FEW YEARS after the end of World War II noted gun expert John Amber took a trip around the country. He stopped at every crossroads store and village smithy where guns were sold, and he noticed a curious contrast to the prewar era. Within that short space of time everybody and his brother had taken up the handloading craze. Dealers who earlier hadn't known a tong tool from a nutcracker had their shelves stocked with the most perfect,

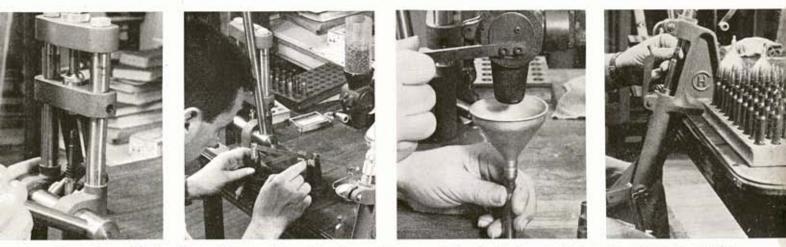
elaborate, expensive reloading tools, precision-made and life-time durable. The swing to roll-your-own was on.

There is a good reason for the handloading craze; it makes the average shooter a good shot and the good marksmen an excellent gunner.

Handloading makes sense, whether you shoot casually and infrequently, or whether you are a dyed-in-the-X-ring paper puncher and run a hundred rounds through your gun



Case neck trimming is done with tool which shaves off metal to right length. Outside and inside of neck may then be de-burred. Cases are next cleaned and lightly lubricated. Special die lubricant prevents buckling and tearing of brass when it is inserted in shell holder and run up into resizing die which shrinks neck and pops out old cap.



Post shoves fresh primer into case base. Powder scales are used to check charges thrown by automatic powder measure. Most measures are very accurate but scales should be used to check every tenth charge for safety and uniformity. Case is filled with powder through funnel and then bullet is seated to complete reloading operation.

every day. Rolling your own produces ammunition which is far more accurate than factory fodder.

There are several reasons for this, which do not reflect unfavorably on the ammo companies, but only on the fact that there are many makes and models of guns in use. Chambers from gun to gun will vary in dimension. This has to be—nobody can produce a factory-made gun in which all measurements are held exactly on the button. There must be tolerances. Hence the ammo companies are forced to make cartridges which are capable of fitting all guns of that particular caliber.

This means, for instance, that a .222 Remington case may fit snugly in a rifle chambered with a slightly-worn reamer, but fit loosely in another rifle, maybe even of the same make, that has a chamber which is a trifle bigger. This does not affect practical "hunting" accuracy, nor safe gun functioning. It does mean that when it comes to fine accuracy, the handloader has it all head and shoulders above the other members of the shooting clan.

When you reload your own ammo, you start off with a fired case which exactly fits the chamber of your rifle. The neck of the case is in line with the axis of the bore. You can set the bullet to the proper depth to engage the rifling just right in your particular gun. You can vary the powder, primer, bullet in make, weight and type to get the correct combination which shoots best in your particular rifle with its qualities of barrel bedding, vibration, muzzle whip and mechanism tolerances.

The ammo is custom-tailored to your gun. The sum total

of little differences is a big difference. The improved accuracy resulting from the careful, studied assembling of ammunition components has astounded thousands of shooters trying out their own custom loads for the first time.

Cost, too, is important. Although a handloader can easily burn up \$200-300 in a whole array of finely built reloading tools and a basement full of dies for many interesting calibers, most men are satisfied with equipment for one or two calibers. The basic cost of tools can be as little as \$20. A handloader can shoot for one fourth of the price of his store-bought fodder. Yet he can still burn full power loads with jacketed precision bullets, shooting straighter and to listen to some enthusiasts talk, killing even deader!

Mid-range loads of medium or low power are even less expensive. They can be exceedingly accurate, although you may have to crank the rear sight way up to give enough elevation for the slower bullet trajectories. Another value is that handloads allow you to control the power of your ammunition so that older styles of arms which would be dangerous with hot modern ammunition can be safely used with a lot of fun.

Wildcat reloading is a further benefit of handloading. Many of today's superlative factory cartridges owe their genesis to some gun-nut experimenter who worked over his brass to give better results when he loaded it with something a little different.

Many gun bugs think there is some mystery to handloading, and are afraid to try it. Actually, handloading is not complicated, mysterious, or even (Continued on page 49)

HOTTEST OF THE HOT SHOTS

New .44 Magnum Smith has beautiful finish with big grips to take kick of powerful load.

COURAWSSN

Weak folded-head .44 case (left) was beefed up by solid head in Special, then lengthened for high power Magnum.

SMITH & WESSON'S NEW .44 MAGNUM IS 'THE MOST' IN PRICE, WEIGHT, NOISE, RECOIL AND KNOCKDOWN POWER AND BIGGEST GUN ON MARKET TODAY

By KENT BELLAH

S MITH & WESSON has produced the "most" in handguns—the .44 Magnum. It is most in price, weight, noise, recoil and knockdown stomping power. The title may hold until rocket or ray guns are developed. It's flashy. Open the presentation leatherette and brass box of this hottest hot-shot and note the flashy bright blue or nickel finish, the red ramp front sight and beautiful target type stocks. You'll see a lot more flash in the two-foot ring of white flame ahead of the muzzle when "Bouncing Bertha" fires the hottest commercial load ever made. Good and powerful it is, and there will be more fiction written about it than Baron von Munchausen could think up.

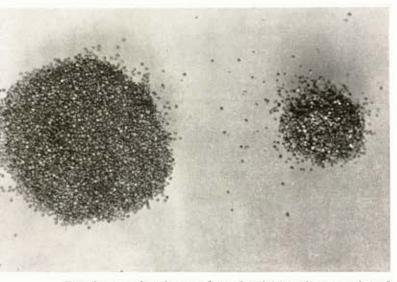
For \$135, S & W's three pounds of polished steel is yours, with either a 4 or 61/2'' barrel. Price quoted is not a down payment, but for the complete gun, without a recoil absorber, flash-hider or wheels. The Texas-size bone buster is really a beefed up, long chambered .44 Special, with a heavier barrel and a stronger cylinder, recessed for the cartridge heads. A double width target trigger gives a feminine touch-off to the 3-pound pull. The masculine monster has another refinement in a wider, deeply checkered hammer spur. A white outline rear sight slide makes it fast to find the red plastic insert in the front sight, especially in dim light. Highest quality alloy steel is used in all major parts. The wide rib and heavy straight barrel give it nice balance.

The shooter who uses factory fodder in the big bruiser will have a choice of grizzly bear loads that give a Roman candle effect or cream puff .44 Specials. No medium or heavy loads are available. Published ballistics claim 1570 feet per second with 1313 foot pounds of muzzle energy, more than four times the Special energy. Recoil seems four times as much when the hand cannon launches a solid type missile

Reloaders can choose the power and velocity they can use to best advantage. Those who want smashing power and range, with good shootability, will load in the pressure range of .44 Special guns. For example, the 170 grain Prot-X-bore hollow point can be driven 1500 feet per second to produce 850 foot pounds of energy, from either the Magnum



Bullets performing well in .44 Magnum handloads are: 235 grain Thompson gas check; 250 gr. Keith; 250 gr. Hollywood swaged; 220 gr. and 158 gr. Prot-X-bore. Latter can be loaded to 1700 feet per second, fastest in any .44.



Regular powder charge of .44 Special is only 4.5 grains of Bullseye shown with 22 grains of 2400-type in Magnum.



Mammoth Magnum is much too big for a garter gun, and is definitely not the right size for a lady's purse.

or Special case, and with shocking power all out of proportion to the paper ballistics.

The new grizzly bear .44 Remington Magnum is in a case identical to modern solid-head .44 Specials, except 1/s''longer. Overall length is approximately the same, as the bullet is seated deeper in the case, and powder capacity is almost the same, if identical bullets are used. The long case is merely to prevent using the hot load in old or unsafe .44 Special guns. The new bullet is an efficient 240 grain, flat point, semi-wadcutter with a gas check base to prevent leading at high speed.

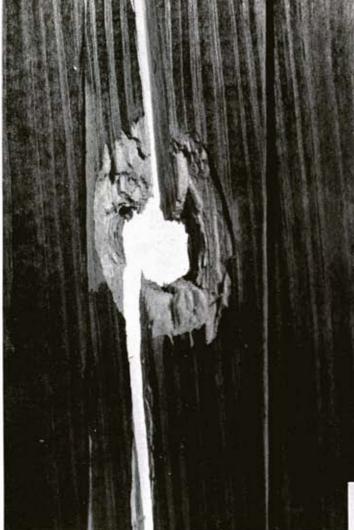
The refined ruffian was a long time aborning. Geneology of the .44 family started with cap and ball revolvers. Combustible cartridges, lip and rim fire metallics preceeded the .44 Smith & Wesson American, born in 1869. It was the first center fire brass case made for a 100 percent cartridgedesigned revolver. The little pipsqueak was followed a year later by the .44 Russian, a development of Russian ordnance. This new load started a 246 grain bullet at 750 f.p.s.

With a new bullet and better understanding of the relationship between bullet size, rifling and velocity, it proved very accurate. Never before had such precision been obtained in a regular cartridge and its popularity spread like wildfire. One could paper a house with record targets shot by that cartridge.

In 1907 the old record setter was further improved to give more power with equal accuracy. Using the same slug in a longer case which is a time-honored method of obtaining better ballistics, the .44 Special was released in 1907.



After firing .44 Magnum, authur Kent Bellah concluded that cannon should have come with a pair of wheels.



First board was shattered by Magnum .44 in penetration tests, went through seven 1" boards, stopped at eighth.

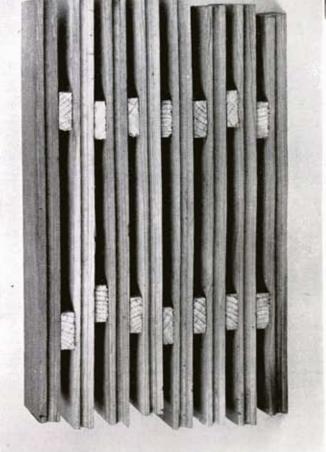
The new cartridge had a new gun for it, the first heavyframe swing-out Smith & Wesson or "New Century" model of 1907. Still the ammo makers were cautious about older, weak guns which had straight-bored cylinders that would take the .44 Special. As a result, for nearly half a century it was treated like an unwanted stepchild by the cartridge companies who kept the status quo of about 770 f.p.s., same velocity as the shortcase Russian, without improving the Russian's round nose bullet or increasing the charge.

Then came the Magnum idea in pistol cartridges. Some 21 years ago Smith & Wesson brought out the .357 Magnum, the most powerful revolver since 1873. It was simply a longer .38 Special case, with a bullet seated deeper to about the same overall length as the Special. It gave a .38 slug respectable velocity, and the secret of its efficiency was merely a heavy powder charge and a flat point bullet. Reloaders could obtain .357 ballistics in .38 Special cases. There was an immediate clamour setup by the shooters for a hotter .44. The new Magnum is finally the answer.

To see something of what this powerhouse would do, we nailed together a test block for penetration. Pieces of 1" flooring were nailed together with ½" spacers. The .44 Remington Magnum cartridge penetrated seven boards, and stopped in the eighth. All the boards were split apart, not just penetrated.

We tried out various .44 bullets, both in the new Magnum and during previous tests of hot (Continued on page 54)





Target to check power of .44 Magnum was made of 1" pieces of pine flooring nailed together with 1/2" spacers.

Famous "WHITE LINE" GUN ACCESSORIES

RECOIL ABSORBERS for all rifles and shotguns

CARTRIDGE PACKS for safe shell carrying

"SURE-GRIP" ADAPTERS for most popular revolvers

"10-POINT" GRIPS for most revolvers and pistols

By the TENS OF THOUSANDS, law officers, civilians, crack pistol teams and other outdoor sportsmen are now enjoying better, more accurate shooting using one of the famous exclusive "WHITE LINE" products.

WRITE FOR FREE CATALOG TODAY

MERSHON CO., INC. Dept. G. 511 E. Broadway GLENDALE 5, CALIFORNIA

SUB-DU RECOIL



NO MORE SORE SHOULDER, NO DISCOM-FORT, even if you fire ½ doz. boxes of 12 ga. shells in one day. Just button or safety-pin the container to inside of shirt or jacket and forget recoil; shoot better than ever before. Your recoil problems are solved. Seeing is believing.

SPECIAL OFFER TO READERS OF THIS MAGAZINE

Order a pad and try it out BEFORE you send any money. Just tear out coupon below. MAIL IT NOW. (This special offer might not be repeated.) FULL PRICE ONLY \$2.50, POSTPAID. Includes 3 oz. finest Natural Sponge Rubber Pad, topquality cloth container with 3 buttonholes, 3 buttons, 3 small safety pins and literature.

SEYMORE PRODUCTS

P.O. Box 66509, Los Angeles 66, Calif.

Please rush me a Sub-Du Recoil Pad for (right) (left) shoulder. I will try it out, then send \$2.50, or return the pad within 30 days.

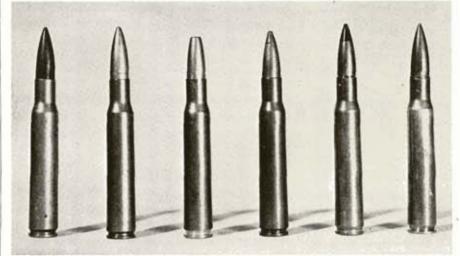
NAME		
ADDRESS	 	
CITY & STATE		

By STUART MILLER

Some Boo-Boo's of World War I eff

WHEN THE UNITED STATES entered World War I, the ammunition situation was confused, as usual. The army had facilities to make about 100,000,000 rounds of .30-06 ammunition a year. But the only bullet then produced was the regular flat-based service type: a pointed cupro-nickel jacket with lead core, and many special purposes types of loads had to be made. And there we were, smack in the middle of a shooting war that was going to end all wars. effective counter-measures. These in small arms ammo included three main types of new-style bullets for rifle and machine gun. They were the tracer, for showing the line of fire; the armorpiercing for use against planes, tanks, trucks; and the incendiary for touching off fuel in gas tanks as well as anything else inflammable.

> Our ordnance department sent an officer to England and France to study machinery and methods for producing these special bullets. This study was helpful in production but it did not stop us from making some classic and



Black M1918 Incendiary (left), M1918 Canadian AP, flat nose M1917 Incendiary, and lead tip M1917 AP are shown with 1945 AP and Ball M2 (right).

Two major ammo problems had to be tackled. First was the need to increase ammunition production to have enough for wartime use. Secondly, and very confusing, was the matter of special purpose bullets. The first problem was solved by placing contracts with the commercial firms, Winchester, Western, Remington, Peters, United States Cartridge Co., DuPont, and National Brass & Copper Co. DuPont made tracer and incendiary ammunition. The government arsenal at Frankford developed and produced special purpose ammo. The other companies turned out regular ammo by the ton. Canada furnished armor-piercing cartridges and some regular service rounds and blanks. An English firm was given a contract for tracer rounds. The first problem of quantity generally was solved. Next came new developments.

The World War introduced new tactics and equipment that called for rather expensive blunders in the cartridge field.

First of these classics was "the bullet that didn't shoot," the Model 1917 Armor Piercer. Basic parts of an AP bullet are the outer jacket, the hard steel core that penetrates, and a lead sleeve or envelope between the two that gives the core purchase on the target plate and helps prevent it from glancing off if it strikes at an angle.

Bullets of the M1917 AP had a cupro-nickeel jacket closed at the base and open at the front. The jacket was "loaded" from the front and the lead envelope that covered the steel core was exposed at the tip, like a pointed soft point hunting bullet. The bullet was a success as an armor piercer, but it was never used. The Army decided that since no other nation was using a soft point bullet (because of dum-dum "humane" rules), these M1917 AP's would be withdrawn from service and held for possi- (Continued on page 67)

JOBBING:

Sako barreled-actions, rifles (sporter and Mannlicher type), and Sako .222 actions. Lyman; Weaver; Unertl; Leupold; Pacific; BM; Redding; Redfield; Pachmayr; Williams; Marble; Echo; Buehler; Jaeger; Sierra; Hornady; Boyt; Tri-Pak; King; C&H; Wilson; RCBS; G&H; Mershon; ACE Products; Husqvarna action, Stith Scopes, Hoppe's, Argus, McKinzie, Forster, Lin-Speed, Birchwood and FERLACH GUNS. Norma and Thalson. Sheridan, Hi-Score Smiley, Wilsonite, Kollmorgen, Judd, Douglass, Colt, Alcan, Acme.

ENFIELD SPECIAL

18 pieces ____ ALL NEW ___ \$6.00 Prepaid: Bolt with collar; bolt sleeve; magazine box; maga-zine spring; trigger guard with catch pin & spring; fring pin & spring; sofety; bolck & screw; ejector; follower (milled); sear spring and safety spring



KRAG PARTS: KRAG PARTS: Receivers, stripped, \$4.00; Bolts, stripped Trigger Guards, \$3.00; Sear-Trigger Units Magazine Springs, \$1.50; Sates

. . NEW ENGRAVED F.N. ACTIONS . . with bolt forged for low scope safety, with finely engraved trigger guard, floor plate and receiver regularly \$74.50, SPECIAL PRICE both No. 1 & No. 3 \$59.50

+ nis is your	chance	10 SAVE \$13.00.	
ENGRAVED	F.N	STRIPPED	RECEIVERS_

NEW	P.N.	STRIPP	ED HE	CEIVERS-	
ENGRAVED	F.N. 1	FLOOR P	LATES		_\$ 7.50
ENGRAVED	F.N. '	TRIGGER	GUAR	D.	
STRIPPED					\$11.00
F. N. Complet					\$22.00
F. N. Strippe	d recei	vers, topp	ed for se	008	\$14.00

AMMUNITION

.22 Hornet Commercial (Remington)\$6.00 per 100
.45 Auto Commercial S.P. Ammo
gr. B.T.M.C
30-06 Govt. issue—M.C, 150 gr.—1943-44\$5.50 per 100 Lots of 500 or more—10% loss. Case of 1500 30-06 M.C. \$78-00. FOB MILLVALE.
ONCE FIRED CASES
.22 Hornet .300 Savage
.30-30 Winchester\$3.00-100
.308 Winchester\$6.00-100
.222 Remington
250,3000 Sounds \$5.00 100

GENUINE BUFFALO HORN:



thick Horn Blocks for fore end (solid) 2" x 11/2" x 11/2" (unpolished) -51.20 7/16" wide, highly polishe

.

NORMA BULLETS





Glaig's Lodge .



PRECISION-CHAMBERED BARRELED ACTIONS

CALIBERS: 220 Swift; 22-250; 257R; 270; 7MM; 308 Win.; 30-06. Also 250 Sav., 300 Sav., 243 Win., 244 Rem. Latest F. N. Mauser Action
 Best grade Ackley Chrome Moly Barrel, or Douglas Chrome Moly Ultra-Rifled Barrels with the smooth, hard, swedged rifling in most calibers, including 243 Win. and 244 Rem.
 Each unit precision chambered to mirror finish with proper headspace.
 Each unit test-fired with sample fired case included for your inspection.
 Length and rifle twist as wonted—otherwise we will ship recommended length and twist.
 Choice of sporter, Medium Heavy, or Heavy weight barrels.
 Barrels have fine-ground finish.
 Price S67:50 Sporter weight 51/2 lbs, \$72:50 Medium Heavy Weight (appr. .700 at muzzle) 7 lbs. Heavy weight \$77:50.
 (\$7:50 additional for the Douglas Premium Grade Barrel).

(\$7.50 additional for the Douglas Premium Grade Barrel) (\$12.50 additional for NEW ENGRAVED FN ACTION)

Now available-F. N. MAGNUM ACTION on .300, .375. H&H Boehler semi-oct. ribbed 26" barrel, sheard bead fitted in ramp, \$110.00

ACTIONS

F. N. ACTIONS IMPORTED-LITE WGT, vanadium steel barrels, blued with ramp (.220 Swift, .257-R, 250-3000, .270, 7 mm or .30-06), \$74.00 PREPAID. F. N. ACTIONS, Boehler 24" proof steel barrels, semi-octagon ribbed, matted. Sheared bead in ramp. Caliber .270, .308 Win. or 7 mm. 30-06, 22-250-220 Swift 26", 257R-250 Sav. \$95.00. IMPORTED SAKO BARRELLED-ACTIONS, .300 H&H

and .375 H&H, blued, \$89.95. SAKO ACTIONS on 26" 4½# med. heavy ACKLEY OR DOUGLAS chrome moly barrel, white, \$84.00, .222 Cal.

SAKO ACTION on imported medium heavy barrel, blued, no sights. Ready for stocking. .222

SUN-BURST pistol grip cap.

596 00

x 50

AMMUNITION

Write for FREE New Catalog—List No. 27

SCOPES OF OPTICAL EXPERIENCE

• 4 x 90 \$57.00

SERVING SPORTSMEN SINCE 1934 Milluale, Pa.

21/2 x 70 \$49.00

UNPRIMED CASES

• 6 x 42 \$64.00

BARRELS

BOEHLER BARRELS, proof steel, semi-octogon, ribbed, matted entire length. Made by FRANZ SODIA of Ferlach, Austria in .25, .270, 7mm, .30, 8mm and .375. 26" Highly accurate—in the white, \$45.00. (Fitted to your action, with sheard bead, complete price \$60.00)

New Springfield 4-groove barrels \$13.00 FRANZ SODIA Boehler proof steel barrels, 24" gradual taper. About 21/2 lbs.; highly accurate 1-10 twist, coliber .25, .270, 7mm or .30 \$30.00. (Fitted to your action, headspaced and

test fired, \$10.00 more),

MAUSER 25 CALIBER MAGAZINES, NEW, EACH \$3.00.

ACE DOUBLE-SET

TRIGGER

\$10.00

Mauser or F.N. Ac-tion - \$6.00 more.

YOUR

Fitted to





MOVING TARGETS FOR BETTER SHOOTING

(Continued from page 25)

number five, that's where you belong. You get ready. "Group number five, go!" The door opens, and you and your four companions pull your hats down to your ears and start walking in the wind and rain.

Daylight has increased. You can see the red strips of paper tied to the twigs. One after the other, guns in right hands, your group moves forward. Jumping a creek, wading through mud holes, the rain and snow hits you in the face, but you're still warm and dry and feel happy. You and your companions are looking for a small sign, and there it is, suddenly: "STOP."

A fellow comes out of the brush, snow on his hat and shoulders, a raindrop on the tip of his nose. With a grin he approaches your group, saying: "I wish to welcome you to station number one. You will be shooting six shots at a moving target. Shooting time is thirty seconds, as long as the target can be seen."

A few yards from the path is the firing line, five small poles driven into the ground, numbered one to five. Shooters choose their points, which they will have to keep for the rest of the match. The station commander gives the order to load with six rounds, checks magazines, and then: "Ready, observation forwards!"

In front of you is 50 yards of open space in the forest, the ground covered with yellowish grass, snow and low brush. No targets are visible. After a few seconds, the station commander, with his stop watch in his hand, pulls a wire. Up they go, five cardboard targets picturing soldiers' faces and steel helmets. Guns are raised, and shots crack. Thirty seconds go fast when you have to hit a small target six times at 40 yards. The targets fall down backwards, and again you hear the voice of the station commander: "Malfunctions or misfires?" This is just a safety precaution, to insure that all pistols are empty. In case you get a malfunction or misfire, you may correct it during the 30 seconds and go on firing. You will be given no extra "alibi" time, since enemy soldiers never stand waiting while you fumble . . .

The group hurries to the targets and checks the hits which are recorded on their cards. The station commander points out the direction to the next place to shoot, the group leaves, and he patches up the targets and gets ready to receive the next group.

Again you are marching along, guided by the red strips on the twigs. The first raindrops have started passing your collar, but otherwise your condition is perfect. Five hits on station number one. The top shooters count the other way: Lost one.

Station number two. Firing line. Station commander. It begins to snow heavily. At 25 yards a wall, built from painted cardboard, runs across parallel to the firing line. Below it is a space of about two feet, the height is about seven feet. Station commander tells you the targets will appear above or below the wall. They will be visible six times. You load with six rounds. More shots from a second magazine are permitted.

Ready and there they are, below. Automobile wheels, painted on cardboard. You must hit the tire. A shot outside is one miss; inside, on the wheel disc, is another miss. And the wheels move, up and down, rather slowly, like the wheels of a truck running on an uneven road. The station commander stands behind the shooters and pulls the wires. You have to decide—shoot slowly the six rounds and try for six hits or shoot fast, change magazines and get a chance of seven or eight? Some shooters do get seven or eight that way. Some get six, others get six from one magazine, again others three from two magazines . . . it's all up to you!

Then on the march again. Five hits, Makes ten so far. You climb ridges, jump creeks, up and down the path goes. At station three you feel the rain running down inside your clothes, and you try to tighten up by putting your handkerchief inside the collar.

This time you can see the targets—jumping dogs. You have seen them and fired at them before, so the surprise is absent, but the difficulty remains. They are printed cardboard dogs, full size, at 25 to 30 yards distance. The dog is seen from the front in a running position. By pulling a wire, the station commander can make the targets jump up and down, simulating the dog coming at you. Six shots, 25 seconds.

Approaching the target afterwards, you find three holes in the dog. One missed entirely, and here's the trouble with that dog target: two good shots of yours, dead center, count as misses because you had put them in the white square between the dog's legs! But, anyway, it's three hits, total 13. The expert counts: lost one more

More snow, more mud. You try warming your hands by holding them in your pockets, and get them out again too late when you skid and put the seat of your pants into the dirt. The man behind give you a hand. It's here and now you start thinking of that cozy red hot stove.

Station four, at the foot of a steep hill, at least 35-40 feet high. Trees on both sides, no targets visible. The ground is half snow, half dirt and grass. The station commander orders you to load six rounds into one magazine, magazine into the pistol, but no chamber loading. This is a safety precaution, because he is going to give you two minutes to climb that hill, find the targets and fire your shots. A whistle signal marks the end of the time. If you fire too late, he will subtract one hit from your card.

Here, once more, you will have to decide your shooting pattern. If you are an active, outdoor worker and used to running, you may speed up and get more time for the shots. If you're an office man, a few extra seconds will be of no help on the top if you arrive exhausted, more dead than alive from running up the slippery hill. In that case, you better take it easy and shoot fast. The targets are fixed this time, a scaled-down version of the usual full-size man target, showing a running soldier coming at you. Distance is rather long, 50 to 60 yards. High or low shots will still count at hits, but you must keep an eye on your sideways, "windage" movements.

Snow is still falling. A big flake fills up your sight notch. Blow it out, go on-then your gun jams, you jerk the slide back, out goes the empty case, and you fire again. Up at the targets you find six hits! You count with the expert: lost none.

By now the snow changes into rain. You are approaching station five. At the stop sign the station commander, soaked from the snow and rain but still in good spirits, puts his hip flask back in his pocket and says you are going to fire one shot at a time. The station commander job is a cold one on days like this. If the arranging club isn't a large one, the same member often will have to hold out on his station during the whole match—hence the bottle for "warming up."

It's your turn. You find your firing point only 15 feet from a gateway-like construction, a couple of wires running from the top of it towards the background, and no target visible. The station commander tells you that this is the gangster game, but you want him "alive" in court, and you must, therefore, hit him in the legs. This area is marked by a white line on the target. Hits above the line will take one point each off your score card. Six shots, 30 seconds. The commander pulls a wire.

There goes your gangster! Falling down from a horizontal position behind the top portion of the gateway, and dangling left and right, a cardboard silhouette goes away from you on a wire fastened to the top of his hat. Again you have to make a sudden decision. The dangling motion decreases by and by, but at the same time the distance between yourself and the gangster increases, and you have got only 30 seconds in which to shoot. Should you fire rapidly? Or take more careful aim?

Checking the cardboard shows three hits. It is a bad score for one hit above the white line. You killed the gangster. That hit costs you one of the two others, so you leave station five with only one more hit on your card. Too bad, after the six good hits on number four.

By now you see the end of the course. You pass along the red strips of paper, and find the front men from your group waiting for you. They send you immediately to station six after you have finished five. No chance to inform the last man in your group about the gangster, if you wanted to. The groups who have finished are requested not to talk about the target types to insure that every man meets them with the same lack of knowledge about their design, and this is always respected.

More rain, more mud, more creek jumping. Snow falls from the spruces as your group moves along the path. You are wet all over, and cold.

You are now very close to station six, the last one. The group commander suggests a little running to warm up. Not too fast, though; you will soon be on the firing line again. The time you use between stations is of no importance to the match. If your group is slow, you will hold up the next group, and they will ask you to hurry. If you are advancing too fast, the "stop" sign will take care of that. Usually, groups are started at about ten-minute intervals.

Station six. Again you wait in the brush, the firing point out of sight. One at a time you are called on for shooting. Again the group commander delivers the score cards, dripping wet, to the station commander with snow on his hat. "Couple of high scores in this group," he'll say. "The best one so far was 25, you have one of 25 and one 27. Fine."





105 grain Round Nose

for Medium Range Game 4.25/C

LEWISTON, IDAHO

45



And soon you are at the firing point. Twenty yards ahead is another cardboard construction, three fect wide and six feet high, painted like a brick wall. This is the "friend and foe" arrangement. Now you are a soldier. You may have one or more of your own men in front of you, so look out before you shoot. If you hit a friend, it means two hits deducted from your score card. The target you will be shooting at appears six times, each time three seconds. Six rounds in magazine.

By pulling strings, the station commander can make either target, friend or foe, appear on either side of the wall, one at a time, or both. You will have to lower your gun and use your eyes here. The friend target is a soldier seen from behind, carrying a full pack. The enemy target is another soldier seen from the front. The friend target is there alone. You take up the slack in your trigger but fortunately recognize the field pack, swing to the other side where the enemy just dropped out, and pull off the shot. The gangster at station five taught you to stay away from those minus hits. This time your score again is six, a total of 26, which is a pretty high score in your class.

And now back at home base, where the red hot stove comes in real handy. And so does the hot coffee served by the wives of a couple of club members. Even with the wet clothing, it is a wonderful feeling to get warmed up inside and out, and wait for the prizes being awarded. This is done as soon as the soaked score cards are checked, and the last group, including the station commanders, has returned to the house. You wait around and discuss the match. Some shooters clean their guns, which may have been throwing a mix-up of oil and water into your eyes this day.

While the dusk creeps out from the forest, score cards are checked. Their different colors tell the staff which competition class the shooters are in. There are usually three classes. Your score of 26 will be just good enough for a first prize in the second class.

With loud cheers for the winners another "combat shoot" is ended. Shooters leave for home,—everybody agreeing that playing soldier is okay, if targets don't shoot back. And it is fun when you only have to do it for half a day, and then can go home for a good dinner.



The Perfect Anytime Gift for THAT Man!

Prevents Guns from Rusting

Something New, Novel and Very Practical, too

No Technical Difficulties to Trouble You!





Von Lengerke & Antoine Gun Display Case 9 North Wabash Avenue, Chicago

Eliminates Dampness Permanently

COLLECTORS ... DEALERS ... SHOOTERS ... NOW Can take care of Guns the Modern Way – with Electricity!

What DAMPP-CHASER Is:

- Slim metal tube enclosing sealed electric element.
- Complete with cord set, easy instructions; no extras to buy.
- Permanent. Never needs attention, refills or baking out.
- Easy to install—place on floor of cabinet or closet or fasten to gun rack.
- Inexpensive to use, only a penny a day to operate.
- Guaranteed by factory for 5 years.

GUN COLLECTORS

Now you can put those glass doors on your cabinet with no fear of dampness troubles—and you won't need to spend hours wiping your guns every time they're handled.

What DAMPP-CHASER Does:

- Eliminates costly dampness. Proven success—over 200,000 now in use in cabinets, closets, pianos and organs everywhere.
- Radiates continuous gentle heat safely and automatically circulates warm, dry air thru entire contents every few minutes.

OTHER IMPORTANT USES

DAMPP-CHASER also protects holsters, leather cases, wood gun stocks, fishing tackle, golf clubs, stamp collections, books, tools, clothes, shoes, belts, jewelry, silverware, pianos, organs, Radio and TV sets, musical instruments and merchandise in dealers' showcases.

Choi	ce of	3 5	izes
------	-------	-----	------

Model No.	Tube Length	For Cabinet Shelf or Rack	Watts	Retail Price
1G	1 ft.	14" to 25" wide	8	\$5.95
5RG	2 ft.	26" to 47" wide	15	\$6.95
7G	3 ft.	48" to 72" wide	25	\$7.95

ALL MODELS 117V AC/DC ALSO AVAILABLE FOR OTHER VOLTAGES

If space for gun storage is larger than 3'x6' use more than one DAMPP-CHASER

SATISFACTION GUARANTEED

Your purchase price will be refunded if not satisfied after a 30 day trial.



Every	Shooter and Collector needs	
	a DAMPP-CHASER® to	1
	protect his guns	
SAFE	DAMPP-CHASER, INC.	
	Hendersonville, North Carolina	

DAMPP-CHASER,	INC.,	1452	Ridgewood	Blvd.,	Dept. G6
Hendersonville, North	Carolin	na			
			the la slates	Indiant	and a

State Quan State Quan	Model	Length	Price Price	\$each \$each
Ship to	Polipaid anywa			

-	 		

City and State_

My favorite Que Dealer is



LUND'S NUTRIA RANCH 9725 Sunland Blvd., Dept. 39, Sunland, Calif.

BETTER ARMS FOR THE BETTER HALF

(Continued from page 33)

Make sure that the comb won't be high enough to bruise her face, which should rest comfortably on it without having to be pressed down hard.

Private sessions with you and the hand trap will make her not too self-conscious when she steps out at skeet—or at the 16 yard trap if ducks or cornfield pheasants are to be her main courses afield and at those triumphant dinners at home. Soon she'll be ready to compete with others. Shooting 'under pressure'' hardens us for the challenge of hunting.

Here goes with some heresy. Skeet and trap shooters get in the groove, develop rigid techniques that don't always pay off in the field. So her final sessions should be with the hand trap again. It can whet her skill to the sharpness that makes opening day looked forward to rather than secretly dreaded.

Pistol shooting is one form of the sport that lots of men leave their wives out of. Sometimes it happens that the gal just doesn't like guns and shooting. When that occurs, there just isn't much that can be done about matters—she'll have to change her mind all by herself, for mules got nothing on women for stubbornness.

I know one fellow whose wife, a middlesized Chicago Swede, is strong as a horse. She absolutely cannot pull most ordinary revolvers through the double action cycle. Little Walther PPK's in .22 caliber have too much kick for her, Smith & Wesson Kit guns are too heavy on the hammer, Colt Couriers are difficult to hold onto in firing the light, .32 S&W short. Yet the huge Colt New Service with its 17-pound military pull is one gun she seems to be able to work double action, though if she ever fired it, she'd probably be a nervous wreck for weeks. Yet other guns don't seem too much for her, and a little Remington 121 autoloading .22 is her favorite for plinking. Whether she will ever pick up the enthusiasm and discipline neces-

207 Second Street, San Francisco 5, California

sary for target shooting is another matter, one only the future can answer.

Most women have hands big enough to grip any ordinary revolver. The different grips from the small Kit gun or Terrier sizes up to the M & P frame sizes and the Colt Official Police handle are not too large for most women's hands. Since .22 revolvers are made in all sizes, the .22 revolver is a good one to start with. Don't be ashamed of using the pipsqueak .22 BB Caps, either: they are accurate at short ranges and although they drop a little over the 50 foot - 20 yard range, they will group well enough to show whether she is learning or flinching.

When she passes the beginning stages and shows she isn't afraid of the gun, it is easy to work up through the calibers, using midrange or even lower-powered .38 Special handloads. There are many women who even work up to handle the .45 automatic pistol, surprising to their pleased husbands, and something of a shocker to unprepared male contestants when these delicate femmes step up to the firing line and begin blasting away as the targets flash. What one woman can do, your gal can do, but it will take patience and encouragement on your part to teach her how to shoot. If a trace of irritation or sarcasm creeps into your voice as she pulls some dumb trick, she'll freeze up like an iceberg, and you might as well teach target shooting to a stone. Be careful, lead her, don't push her, and you'll find that you've got an Annie Oakley in the house.

Some of the happiest hunting teams and shooting partners are man-and-wife hookups. Maybe you think the Dianas who have poked their shiny, newly-weathered little noses into this story come from some "dream of fair women" such as Tennyson used as timber for a poem. Hardly. They are girls I know.

Girls? Sure, for all of them are young in heart. Right there, I suppose, lies much of the magnetism they have for their men. •

WISLER'S-"The Most Complete Western Gun Shop." KAMPLITE INVERTED LANTERN **Frontier Celt Casts Brilliant light** Ash Trav downward. No downward shad-Full size, cast ows. Stormproof in aluminum replica, wind or rain. Safe. Antique copper Cannot spill. Burns finish, with Black at any angle. Burns regular Colt \$7.95 (auto) gasoline or With Polished white gasoline. Burns 10 hours on Colt \$9.95 one filling. Can be used as spot or flood \$18,95 **Frontier Colt** light. **Post Bracket** GUNS For mounting SHOOTING SUPPLIES name or mail 1956-57 \$6.50 101443/07 FAULTMENT box. **Gun Catalogue** Everything for the Hunter, Shooter, & Handloader, \$1.50 For Shelf Brack-Hunter, Shooter, & Handloader, \$1.50 Prepaid, (Refunded with first order) Adat, Inc. 0 ets. Pair \$11.50 WISLER WESTERN ARMS

Write for Literature

HANDLOADING

(Continued from page 38)

dangerous. The routine of loading a cartridge by hand is subject to more actual safety checks than factory ammo loading by automatic machines. In home-brewing ammo you put a primer in the back of the case, a measured charge of powder inside, and push a bullet into the front end. Then you are ready to go. This is, of course, an oversimplification, so let's take it step hy step and see just how complicated this husiness really is, this minor miracle of making better ammunition at less cost than a multi-million dollar factory can build.

Basically, reloading is filling up the expensive cartridge case. It stands to reason then that the most important single aspect of reloading is often considered to be case preparation. The one tool which affects the case most is the resizing die: neck and fulllength. The die is a cylinder which slips over the case and shapes it after the initial firing has expanded it in the chamber. A precision-built loading tool, whether it be a hand tool or a loading press, is highly important. Without good tools to work with, your efforts will be largely wasted. Good tools are half the hattle, and like everything else, the best is cheapest in the long run.

There are three basic types of loading presses. The "C" type is a single plunger pattern with the various dies fixed in the top end and a lever handle placed below to push the case up and down in the tool as the various de-capping, sizing and other operations are performed. The separate operations are done on a whole series of cases in rotation—that is, you may be loading a hundred cases, so the tool is set up with a neek sizing and de-capping fixture and the hundred cases run through with this die in place. Then another die to do another job is fitted and the hatch run through again for the next operation.

Second type of press and one much used is the "H" type, with two upright rods or bars on which the die holders are mounted. A platform is moved by a lever and pushes the cases up and down. Several dies can be assembled to the "H" press at one time and so it is faster than the single-die "C" press. The two guide bars resist any twisting from heavy pressure as the case is full-length resized, permitting a fairly light, compact tool of relatively great strength.

Third type of tool is one which all the various die fixtures are assembled into a

ELEVATION ADJUSTMENT

25 MINUTES

OF

ANGLE

DID YOU KNOW You Can Reload Your Fired Shells for Less Than 40c a Box?

> It gets to the point that if you like to shoot, you have to reload. Box of 20 .30-06 shells including federal tax cost you about 20c each per box, yet you can safely and easily reload them with C-H Reloading Equipment for as little as 2c a shell and save the difference. In addition, ammunition that is custom made is more accurate and packs the power you want.

> Your sporting goods dealer or gunsmith is "headquarters" for C-H Reloading Equipment and reloading supplies. See him; He will be happy to introduce you to the BIG advantages of making your own ammunition.

CHRELOADING EQUIPMENT

C-H DIE COMPANY is the world's largest manufacturer of reloading equipment, your Guarantee for unequalled performance.

See your dealer or for further information write today.





Reloading Equipment", and illustrated catalog.

SAFETY

MAIL	COUPC	N TO	DAY!
Terminal A Gentlemen.	0. P.O. Box Annex, Los A : Please rush	ngeles 54,	California
today!		_	
ADDOFFE			

ADDRESS	
CITY	STATE
The name	of my sporting goods dealer or gunsmith is

BUEHLER RINGS Amazingly simple . . . gives a positive elevation of 25 minutes of angle as well as the usual windage.

MAYNARD P. BUEHLER

ORIVDA, CALIFORNIA

FOR FULL INFORMATION SEND TODAY FOR NEW FREE CATALOG No. 10-G (OUR TENTH ANNIVERSARY ISSUE)

NOW! NEW UNIVERSAL

SCOPE MOUNT BASE

MADE TO FIT ALL

Windage Adjustment Over 50 Minutes of Angle

DEALERS C GUNSMITHS

49

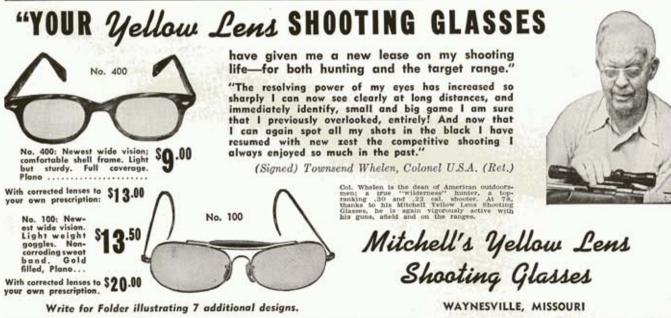


top turret, which can be rotated over the moving shell holder for the successive operations. Since the resistance to the force used to shape the case is not in line with that force, there would be a tendency for the turret to be pushed off center and warped. Consequently, turret tools are made of very solid construction with close fitting to prevent this. They have the advantage of holding all the dies for any one caliber ready to be used one after the other. They are more expensive in cost due to higher production costs.

Cases for accurate reloading must all be sorted out according to type, make, and even lot number if possible. Uniformity is the secret of accuracy. Length is first to measure. Case necks stretch slightly and the soft brass flows in firing. Gradually any case will lengthen at the neck. This must be trimmed back. A special case gauge, or a vernier micrometer can be used to measure your cases. Set the verniers on a new case for length and then try all the fired ones. Too-long cases set aside—they must be neck trimmed later.

The reason for sorting the cases is uniformity, and this may be affected by the wall thickness of cases from different makers or from different lots. One lot of Mexican 7mm surplus ammo came to me recently for reloading. I looked inside and noted two, three, four and maybe more flash holes inside various cases. The cases were "berdan" primed and should have had two flash holes. With typical Latin gaiety, the Mexican arsenal workman had decided that if two holes made it shoot well, three would be 50 percent better and four would make it 100 percent better! Of course, by varying the speed of ignition and thus of burning of the powder, these cases would be hopelessly inaccurate for target shooting since the bullets would shoot high, low, and everywhere with the same powder charge. So check your cases-rule out all the variables in reloading., Be uniform in every detail.

There are several makes of case trimmers on the market. All operate on essentially the same principle—a little like a tiny lathe with the cutting edges in the tailstock and the case set into the headstock. You turn a







little crank and the case rotates and the cutters shave off a curl of brass. For really heavy cutting, if the cases have been stretched by repeated firings, you may hold the neck trimmer in a vise. Usually it is easy to do and you can just hold it down on your loading bench.

Neck trimming leaves a square shoulder on the case mouth. This corner should be knocked off by slight chamfering inside and outside. A hand tool can do this easily, just a catter held in the fingers as the case is rotated against it. Hold the case inverted so the slivers of brass won't fall inside it and mix with the powder later. After the batch has been neck chamfered, wipe each case carefully so the outside is free of grease, dirt and grit. The inside of the neck should be scrubbed clean with a bristle brush.

You are now ready for sizing and the cases must be clean or else grit may scratch the inside of the die, or gouge and weaken the case wall. A wooden block drilled as a shell holder is handy and should be used at this time. After the cases are wiped clean, they should be rolled on a clean soft rag lightly oiled with a die lubricant. Case oiling is very important, as it reduces friction and the die slides easily over the case, swaging down the neck so it will hold the bullet properly. Too much lubricant will puddle up and put a dent in the case or a wrinkle. Too little will allow the case to collapse and tear. A little lube inside the case neck will aid bullet seating. Some die makers have experimented to obtain a lubricant that works well with their particular equipment. Neck sizing and de-capping are simul-

taneous operations in most modern loading

presses. The case is fitted onto the movable shell holder and a throw of the lever pushes it up into the die. A punch passes inside the case and forces out the old primer while the die slips over the case neck and swedges it down to correct size. An expanding plug then brings each neck to bullet dimension.

Decapped cases should be inspected for off-center or enlarged or torn flash holes, cracks in the case base (from high pressures and many reloadings) and dirt. Most of the time it is possible to skip this precaution, especially with fairly new or once-used brass. Many loading presses are built to set the new primer on reverse lever throw.

Sometimes a primer pocket must be reamed to restore it to the proper size. When reloading government cases, where the primer was originally held in by a circular crimp or stake marks, the little burrs of brass must be reamed off. This can be done with an old file end or screwdriver ground to fit, although reamers are sold according to the different primer sizes.

After priming, a second neck chamfering is necessary. Actually, the first chamfering can be omitted unless the necks have been trimmed. Its only purpose is to remove the sharp edges. The second chamfering after priming is to bevel the inside of the neck a little to receive the bullet base without shaving any metal off the bullet. This is something which is easy to over do, so don't be too enthusiastic about removing metal.

Most reloaders use a powder measure with some sort of graduated charger so that when the measure handle is cranked, the right amount of powder will be dropped into the case. Both powder scales and a measure are



necessary. With the scales a charge is weighed out. Then the measure is set to throw that charge. Every fifth measured charge is dumped onto the scales as a "production check," and for really precise loading the scales are used. The better measures throw charges very closely and can be relied on for all but the very finest hair-splitting accuracy. When each case in your loading block has been charged, it is wise to take a look into them with a flashlight. Any case which appears just a little "too full" should be dumped and the contents weighed. You might, you just might by some strange accident have thrown a double charge into that case. In calibers where the normal charge is a full case this is of course impossible, but in some pistol calibers a double charge is a sure way to blow up a gun.

Last comes the bullet. Not least in importance, it is the bullet that finally tells you if you have done everything just right. When it strikes the target in the same hole made by the one before, you know you have found the secret of accuracy-uniform handloads! The bullet is placed and guided so that throwing the press lever moves the case up over it. The die is pre-adjusted to seat the bullet to the right depth. Long, heavy bullets will have to be seated deeper than short, light bullets. The gun design may require cartridges of the same overall length to function properly. Adjustable bullet seating dies will also allow you to experimentally vary the powder volume by seating the bullet deeply, or seating it way out, all in the interests of accuracy.

Handloading is a fascinating hobby. It is scientific, yet easy. The variables for experimenting are few—primer, powder, bullets, cases—yet the possibilities are many. The would-be big bore shooter can improve because he is for the first time able to afford the ammo necessary for practice. Handloading is unique in the fact that while increasing the quality and performance of the product, you decrease the cost, something almost unheard of these days.



315 ELKS BLDG. SPRINGFIELD, ILL.



There is no better way to protect your guns, firearms, and archery bows. Ask your dealer about the many other KOLPIN PRODUCTS. LOOK for the KOLPIN LABEL... it is your assurance of the best. An unlocked gun case and a curious small boy may result in an accident that could have been avoided. Kolpin zipper type cases feature a locking ring as shown.



The "STRAIGHT-A-WAY" .. \$5.50 NO. 62 Alligator Vinyl leather. Quilted gun cloth with thick felt inner padding with hendle-sling and 16inch zipper.

The "ALGONQUIN" \$5.50 NO. 15 Deep brown Shy-hid Vinyl leather. Two-tone Diamond gun cloth with thick water repellent cushioning with wraparound handle and full length zipper.

SEE THESE AND MANY OTHER STYLES AT YOUR FAVORITE SPORTING GOODS DEALER OR WRITE TO







for 4 er. to \$15.00 per gal. 25c postage per kit. Refer all orders to jobbers. California, Albey Supply Co., Lafayette, Calif., Box 244. New England States, Monadnock Sport Shoo, Milford, N. H. Bocock-Stroud Co. Winston-Salem, N.C. AS jobber. Popular discounts on all products to the trade Exceptional proposition for JOBBERS. Write:

BLEVINS GUN SHOP 303 Pine Avenue Fresne 4, California

HOTTEST OF THE HOT SHOTS

(Continued from page 41)

.44 loads. The 235 grain Thompson gas check, 250 grain Keith, 250 grain Hollywood swaged, 200 grain Prot-X-bore hollow point, and the 158 grain Prot-X-bore H.P. all perform very well with charges adapted to them for accuracy. The 158 Harvey Prot-X-bore bullet can be driven 1700 f.p.s. with 1,000 foot pounds of energy, the highest speed varmint bullet in any .44.

Listed powder charge for the .44 Magnum is 22 grains of a 2400-type powder. Commercial powder may be different from canister powder, but there are indications the .44 Magnum Remington load was reduced somewhat before the ink was dry on the published ballistics. I pulled one .44 Magnum bullet and found 20.2 grains of powder that looks like 2400, but probably not the same as canister grade.

This is not a surprise. The published load is more than most men can use with pleasure and efficiency. Original .357 fodder for example delivered 810 foot pounds of energy. but current loads are reduced, and range between 370 to 638 foot pounds, depending on the barrel length and brand. These are still very powerful, but reloaders can obtain over 1000 foot pounds with soft lead core Jugular bullets, which may be close to the actual energy of the .44 Remington Magnum.

As an indoor gat, the new S & W can do a good shell-shocking job. In the wide open spaces she can push a big slug out to 500 or 600 yards or more, with efficiency, if by some miracle you can make hits at that range.

Hunters will find it effective on large or dangerous game, and one carefully placed shot could take the largest animal in this country. I am not recommending that anyone attempt to take deer and larger game with any handgun. Most big animals are not hit in vital spots and run away to die. Exact bullet placement is important, no matter what the handgun bullet energy is.

The new ,44 actually drives a larger and heavier bullet at higher velocity than the best .357 factory loads, and the respectable slug is much more deadly. The higherpriced gun and fodder with a double whammy at both ends is proof that big bore energy does not come free and easy. Those who use only factory ammo in other guns will find the recoil is an entirely new experience. It has a terrific kick. After the first shot they may examine the gun to see if all chambers fired at once. To quote a New York state dealer, "We named it the Moose Master. When it goes off, everything in front of it falls down and everything behind it falls down."

Magnums, like death and taxes, are here to stay. The .44 will be a heavy heavy-duty stopper on men or automobiles. I have shattered motor blocks with hot .44 Special handloads and made the big slugs penetrate auto bodies at sharp angles. No doubt the new hand artillery will rip through even more steel and upholstery. A shot fired in some two foot long boards simply shattered the first planks and the bullet gave more pene-

New! Fitz Gold Bond Ten-O-Grips UNBREAKABLE! NON-SLIP! PERFECT_FIT! DEEP Precision Molded of High-Impact "Duramite" SHARP CHECK-The FIRST and ONLY Hand-Gun Grip ERING! Unconditionally Guaranteed in Writing! Gold Bond packed with every grip is your Warranty against breakage from any cause whatsoever. Best grips you've ever used or your money back at once! **Form-Fitting** Makes Your Hand a Part of Your Gun! Gold Band Ten-O-Grips Made for: S&W K, Combat, M&P (Sq. Bt.) Magnum, Hi-way Pat., .44 and .45 Target & Outdoorsman; COLT OM & OP, Trooper, .357 Mag. & Python. RIGHT HAND ONLY! Finger-Grip CHANNELS COLORS: Butt-Walnut, Flame-Grain Rosewood, African Ebony, Antique Ivory, Mother-of-Pearl. Fitz Anatomic Wood Grips For above Revolvers—Walnut \$13.50, Cherry \$16.50, Genuine Flame-Grain Rosewood \$27.50, COLT .45 Same Prices, CURRENT Hi-Standard AUTOS, WOODSMAN & MT.—Walnut \$15.50, Cherry \$16.50, Rosewood \$27.50. No old model H.S. or Woodsman. RIGHT HAND ONLY. POSTPAID Calif. Res. add 3% tax. DEALERS! JOBBERS! REPS! At Last! The deal you have been Send Check or M. O. looking for. Write for prices. Note: Dealers' Price List sent ONLY if you write on Fire Arms Dealer's Letterhead. No C.O.D's, pleasel Box 49702, Los Angeles 49, California

tration than any of my heavy hollow point handloads in other guns.

Shooters have learned that velocity is more destructive than bullet weight, and the proper type of expanding or exploding bullet is even more destructive. Shooters will demand, and get, more speed in the future. At present the Thunderbird-model of .44 is the extreme ultimate, with speed for the velocity fans, and slug caliber and weight for the big bullet boys. Its development could set off a chain reaction to bring some other semi-obsolete calibers up to date. Wildcatters were working in this field many years before the first Magnum was brought out. Be assured that experimental work is in progress now.

Any gunsmith can easily deepen the chambers of .44 Special guns to accept the powerful Remington Magnum cartridge. This could be dangerous. I do not recommend it, and hope my friends especially will not attempt it. Many people have had .38 Special guns rechambered for .357's, and I suppose most of them got away with it. The .44 Magnum cartridge is not only hot, but big. Large holes in the cylinder make the walls thin. I do not think either conversion is wise, especially the .44.

Before some fellows rush down to blow a considerable stack of wampum on a considerable revolver, they may suffer mild frustration trying to decide whether to purchase a 4" or $6\frac{1}{2}$ " barrel. The short one is much easier to carry and my conception of the ideal length for a revolver, for the purpose revolvers were designed. It will reduce the velocity some. But longer barrels seem to burn heavy charges of powder better, with a bit less muzzle blast and recoil. If handiness is not a major consideration for a long range hunting gun, and energy is, then the long tube is better. There is not much difference in the holding, sighting or hitting accuracy.

No one will set any new speed shooting records with any gun that has heavy recoil. But the kick can develop an acute case of flinchitis. No one can accurately place slugs when they dread to let the hammer fall, with gritted teeth and closed eyes. Here is a tip to help you condition yourself to the terrific recoil. Squeeze the oversize stocks tighter than usual, as tight as you can squeeze without trembling. Keep the gun in line with your arm, so your arm and shoulder will absorb part of the recoil. Firing too many practice rounds in a day is not good. A cut-up and beat-up hand will cause most people to flinch so hadly they miss the paper. or jerk the trigger and miss the backstop. A few practice rounds fired every day or two are much better than burning a lot of fodder quickly. One advantage of extremely hot loads that are not a pleasure to shoot, is they often cause one to try to make every shot count, which is very important. Anyway, the boisterous blaster wasn't intended for backyard sparrow plinking with Magnum fodder, nor is it a ladies' purse or garter gun. The leap-year born "leaping Lena" is a Dr. Jekyll in terminal energy and a Mr. Hyde in the way it abuses your hand.

THE ORIGINAL PLASTIC STOCK INLAYS Pro my business and I make the finet. Brilliant colors, besutiful designs, hand cut to ratest list. C. D. CAHOON • DEPT. 2, TOPSFIELD, MASS.



Now included in my greatly enlarged MONTHLY lists.

The most unique service in the antique arms field, these lists bring to you **EACH MONTH** hundreds of new and different antique rifles, muskets, pistols, flasks, uniforms, curiosa and associated items. Variety is my "key word" and I am sure there are items of interest to everyone.

Subscription price is only \$1.00 per year and is refunded with your first purchase. Lists are sent First Class Mail so that everyone receives it at the same time.

NORM FLAYDERMAN

WRITE NOW!

Wallingford Hall

Kennebunk, Maine

particular about your pistols

In accessories and service, as well as handguns, you'll find the finest at Pachmayr.



The favorite with handgun shooters. Widely used by service teams. Finest construction. Grained simulated leather in grey or maroon. Also simulated black or brown alligator.

4 Gun Model.....\$29.50 (with back door....\$35.00)

5 Gun Model \$35.00 (with back door.....\$40.00)

This model takes all spotting scopes up to and including B & L.



1220 S. Grand Ave., Los Angeles, Calif.

WHITE GROUSE OF THE ARCTIC

(Continued from page 36)

wrap a couple strips of bacon around them, put some mixed dried vegetables in the body cavity, or onions, sometimes with a pat of butter or a chunk of cheese, add a little water for the vegetables to cook in, roll the whole works in a couple of layers of aluminum foil, then drop the package into the coals of a burned-down fire. Man, talk about eating!

There are three species of ptarmigan. Those Jim Brooks and I were hunting were rock ptarmigan. In white plumage, their black area in front and line through the eye

is their best identifying mark. In comparing it with the willow ptarmigan, the bill size is relatively much smaller; of course the bird is smaller too, but it isn't always easy to determine that.

The willow ptarmigan is the largest of three species, weighing about 11/2 pounds. It has no dark eye line, and it generally prefers lower elevations.

The white-tailed ptarmigan is the only one of the three species that always has a white tail-the others' tails remain dark year-



\$800 for any target

round. The other two species, the rock and the willow, range across most of Canada and throughout Alaska. It was the willow ptarmigan Jim Brooks and I were hunting that September afternoon in the Alaska range. After killing two birds each we decided to hunt down a willow filled draw which slashed across the low-bushed mossgrown tundra. Each of us took a bank, and we had walked about 300 yards when a single bird rose with scarcely a sound and started to skim away from us just over the tops of the willows.

Both of us fired, and two loads of 71/2's stopped him cold. Some hunters prefer to use number 6 shot, for the ptarmigan has a harder coat of feathers than do most grouse. I prefer the 7½s which in my ounce 20gauge Express loads threw about 50 percent more shot than No. 6's. Lighter pellets, true, but the 71/2's make a denser pattern and I try to keep my shots within 25 yards or so. Light shotguns, such as the 28 Remington 11-48 and 20 gauge pump Model 12 Winchester guns Jim and I use, are plenty heavy for ptarmigan. Sometimes, when they flush, it helps to have a slick-actioned repeater, but doubles are also plenty satisfactory-a buddy of mine uses a Fox in 12 and does okay.

Finally we neared the end of the draw and saw dozens of birds running back and forth in the thick willows, with the more-or-less open tundra ahead of them. The white feathers that had started to replace their brown summer plumage made them stand out against the dark, bare ground, and it looked like a yard full of spotted chickens-almost. We were within 30 yards of the end when a few birds flushed low, and scooted straight away from us. We let them go. Although they are a little more sensitive in their tail ends than to a frontal shot, where their chests are feather-protected, the distance was too rapidly increasing for a sure kill. A choke that you could tighten down quickly for a long one might have been a help but as it is they just didn't offer a fair shot. We let them go, since there were more where they came from, and ran in closer to wait for the majority of the birds to come out.

Suddenly the cover exploded, and birds rocketed all directions. I heard Jim fire and saw a bird drop. A single towered high over me and I leaned back, raised the little gun, and dropped the bird almost at my feet. Quickly I pumped the action and swung on a fast flying bird moving to my left, feathered it, and watched it recover and continue flying. It was almost out of range when my final shot dropped it.

Jim had made a triple kill—one bird with each shot. We now had 10 birds, plenty for camp meat for a couple of days, what with the moose and grayling we had on hand. Incidentally, the limit on ptarmigan in Alaska is 15 a day, and the season is open from August 20 until April 15. (Yes *April* 15).

The sun was dropping behind the newly snow-covered peaks and there was a sharp chill to the air as we walked back to camp. Ptarmigan cackled here and there in the distance as they flew to their roost sites.

We tossed dry wood on the campfire and warmed ourselves by the leaping flames. Fragrant wood smoke drifted upward through the tall spruces, the river flowed endlessly past, and a loon downstream flung its weird and beautiful cry into the Alaskan widerness.

It was good to be alive.



Something New-The HIDE-AWAY HOLSTER

This is what they see



This is what you know



GOOD new thing the HIDE-AWAY HOL-STER, for law officers, gun enthusiasts and everyone who wants a really practical, convenient HIDE-AWAY holster for a personal gun. Handerafted to

Here's a really

specifically fit any type hand gun you request. Invisible when you want it to be. Doesn't bulge. kick your ribs or wear out your leg . . no more greasy shirts or rusty guns. Weighs only 21/2 ounces, has riveted nickel clip for

long wear. Fits inside trouser band. Made of highest quality top grade leather. All sizes, makes and models. Send your weapon make, barrel length and caliber with \$2.95 for postage prepaid shipment, On COD, you pay postage. Dealer inquiries invited.



Dept. H. **B&J** Leather Goods Co. P.O. Box 990 Brownsville, Texas



HOW TO BECOME A GUN ENGRAVER

(Continued from page 29)

people have massive wrists and hefty forearms. They have a fencer's command of their gravers. But not I. I found this was too difficult for me, and I most commonly use the technique known as "chasing." Chasing involves tapping the graver with a small hammer to dig out the steel.

Finally the scratches began to straighten up and clean out. The metal was rolling out in longer strips and the curves were less jumpy.

The work was slow and it came the hard way for there was nobody to give me pointers. A lot of satisfaction comes from learning by yourself but it can be pretty discouraging at times. Such things as a proper engraving block, the angles of cutting needed for different kinds of steel, and little details like transferring designs from a paper sketch through carbon paper to the steel are just a few of the problems faced.

The second gun I tackled was one which as I recall looked pretty good to me-then. A .38 swing-out revolver, it had a large frame area which I filled with scroll engraving. The work was a sort of a vine-like pattern. I did not follow any convention but just tried to develop my own style as I went along. The general distribution of scrolls over the area was not bad, but the detail execution of the work was very crude.

I have seen plenty of work not as good being sold commercially and advertised. There is no such thing as cheap, full coverage engraving. One of the major arms companies advertised that the difference between its several grades of engraving was not in quality but in coverage. The quality was all the same. I believe them. I saw one of their last pre-war revolvers with their best engraving on it, and the quality was very poor. apprentice level in a European atelier.

By my third attempt I was getting so I could feel at home with steel. Curves in scroll work were better and I was trying a little shading with fine lines to give some modelling to the pattern. The fourth gun, a Single Action like the third, used the same scroll pattern in the frames and cylinders. This is sort of my "trademark." Most men in the engraving field can look at a job of carving and tell you who did it, if they have seen the work before. My own vine-like pattern around the Single Action hammer and trigger screws is characteristic. There is a reason for this similarity. Engraving is difficult to do, and is something that must be learned in the hands. By repeating the same pattern I gain a little in ability to work around the curves easily without halting and breaking the line.

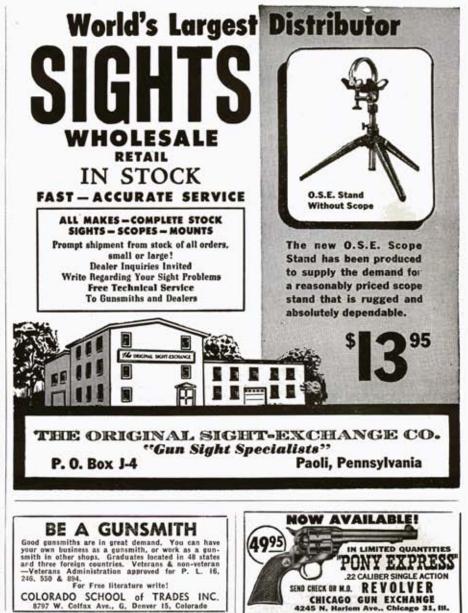
Fifth of my engraving efforts was another Single Action, one fitted with ivory flying



eagle grips. My eagle carving on the right grip was a little strange. Some people thought it looked like a bale of hay with wings, and others felt it was an English sparrow. I stuck to my argument that it was a stylized eagle, and one editor thought enough of the color photo to print it on a magazine cover. The scrolls were fair, better in outline but not well shaded. They were somewhat flat and "colorless." Most of the color was made up by the flashy gold and silver plating, highly polished. A good buffing wheel is used to cover a multitude of sins these days, and some of the flashiest guns are runners-up to more sedate-appearing weapons with more careful engraving on them. I did get in a fanciful vine motif on the backtrap that I liked.

My sixth effort was again a Single Action Colt. For some reason this gun seems to look its best when decorated with floral or scroll work on the frame, cylinder, and along the barrel. It is a favorite of engravers. By this time I wanted to try my skill at animals. On the left breech I put a snarling bear's head: on the right, a front view of a buffalo. When I showed photos of this gun to an engraving expert I was told: "Your scroll engraving is not very good and lacks character: the bear snarling is quite good and I suspect as you become more critical of your own work your animals will improve. The scroll does not make as good an effect as common gunsmith's engraving of the English school." Yet the comments were correct; the scroll is pretty poor. Then I started using a different cutting tool. And that part about being critical dug in-since then, too, I have been studying other engraver's scroll work. The results are getting better.

The last gun which I have done, the eighth, is another Single Action. The improvement is only slight over the one immediately before, but a long way improved over that first swing out .38 I chopped up. The scrolls are much more regular and the sweeping curves begin to have the fluid quality which marks a good scroll work. The cuts are more regular and the highlights in the bright steel



PECAR / BERLIN Vari-Powered Scopes



ican shooters the finest in German optics and workmanship. The only vari-powered scopes in which it is pos-

sible for the shooter to have the correct size recticle for the power desired.

Nils O. Hultgren, Los Angeles, custom stockmaker: "The Pecar is a fine scope, my customers are real gun nuts and in my sample scopes I have a Pecar Scope. Their choice is usually the Pecar."

Pecar/Berlin binoculars will soon be ready for delivery. Ask your dealer to show you the Pecar Scope, Free Literature.



Authorized Jobber Inquiries Invited

Krieghoff Drillings: In 18 or 16 gauge with any caliber rifle, engravings and monograms. Send 16 cents for literature and prices Krieghoff Agency's open.

DEALERS-GUNSMITHS

Write for a sample Pecar Scope to compare and to show your customers. No obligations except to return or pay for the same within 20 days. Send credit reference. Order today and show your customers the finest at competitive prices. The choice of leading custom gunsmiths and makers.

CHARLES W. LEAVELL Sumter, South Carolino

The Gunsmith BLACK FINISHING UNIT

Made especially for the man who wants to do the best in firearm refining – for himself or for profit. This same process is used by manufacturers. Comes complete with tanks,

burners, supply of PENTRATE crystals, instructions and all equipment needed. Write for details.

HEATBATH CORPORATION Springfield 1, Massachusetts

MUSKET CAPS "Top Hats" Eley Bros. English Fresh pack \$6.00 per M. Minimum 500 \$3.00. Express, not mailable ED HOWE Coopers Mills, 10 Molne

BIRD DOG TRAINING Want shooting dogs for training right now. Training all year in the field under natural conditions on wild quail. Have your dog trained right by a man with over 35 years know how as credit. Rates \$25.00 per month with board. Wire or write.



give it a "crisp" appearance. It is definitely better work than earlier examples.

I'm still in the amateur stage, but I've seen worse professional work offered for sale. The present American trend with "the fastest and the mostest" is driving craftsmen into oblivion. The sight of streamlined guns and plastic parts, to name a couple, are things that get my dander up.

People don't finish things: they just quit. I'm tired of cutting my hands on the edges of stamped trigger guards and leaving my prints on shellac covered gumwood stocks. Engraving has taken a quality dive so that anyone who has a scratching tool goes into business. But in the short time that I've enjoyed engraving guns myself, I think I have shown that it isn't necessary to be a slave to the modern school of slap-dash.

I can not honestly say that anyone who desires to do so can be an engraver. Of course, artistic ability is needed if one desires the ultimate in art. But here, too, artistic ability is not enough even when one masters the use of the tools.

Fine engraving may make use of animal scenes. Good animal reproductions require a knowledge of anatomy. It is far better to make a stylized animal than attempt an accurate work of steel sculpture if you lack knowledge of the subject. But the best thing is to keep your hands off of good guns, and hie yourself out to the zoo with sketch pad and pencil, until you can put down the essence of line that makes a brown bear or a Dahl ram or a lion.

Once you have acquired some command of the shapes you are going to deal with in gun engraving, then is the time to start in working with metal. You should gather up some old pieces of flat and curved steel to use instead of ruining a good gun. After practice can come the actual engraving of a real gun, but get to know the tools and the metals first.

I have never seen an article on gun engraving that wasn't lacking in information the beginner needs. Engraving need not require a lot of tools. After once getting into it you can decide what you need and work up from the minimum. A few simple things such as a vise, gravers, a chasing hammer, matting tool, and sharpening stone will provide the basic needs for a beginner. If after making the attempt you decide you have neither the ability, patience nor the desire to continue, you will have very little invested. If, howere, you discover that improvement is worthwhile and you intend to give engraving a serious try, you can start buying more equipment.

First purchase is a vise to hold the material to be engraved. A small vise such as is sold to be clamped on a temporary workbench might be used, but it should be screwed down tightly. A medium-sized vise is better, just to give a solid foundation to your work. A flat-faced chasing hammer is necessary.

The important tools are the ones that scratch metal: onglette die sinker's chisels. At least two are needed. A different but related instrument is the lining tool. An India or white Arkansas stone will be needed to keep an edge on the cutters. A Vibro-Tool or a fine center punch can be used to matt the background. These are the bare necessities, but they should be of good materials, especially the gravers. Bob Brownell of Montezuma, Iowa, handles the Grobet line of engraving tools. His catalog shows various types of gravers. It is extremely important that only the best quality gravers be chosen.

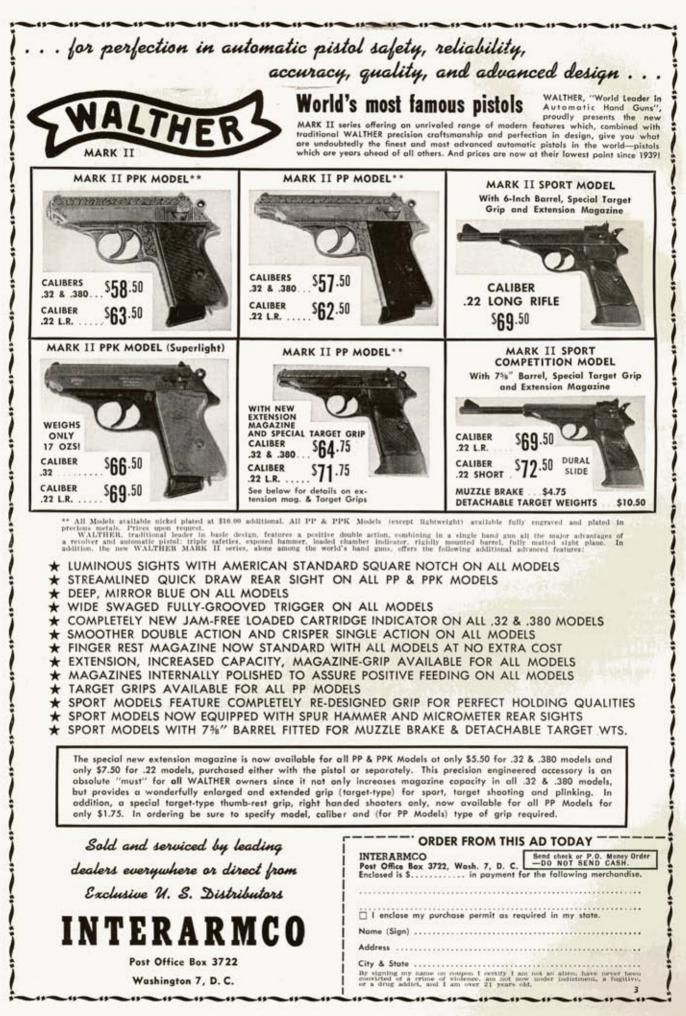
My experience has shown that the ordinary jeweler's vise is too light for chasing and holding most gun parts properly. I solved this by getting a Wilton power arm and found that for the majority of pieces it worked fine. For more irregular parts a four-jawed lathe chuck proved satisfactory. On harder metal parts it is necessary to chase the metal by driving the graver with hammer taps. This method requires a firm hold as the tips break easily if there is the slightest vibration in the vise. Contrastingly, engraving by hand is executed by working the engraving block in opposition to the cutting tip. This is true mostly on curved lines.

The angle of the cutting edge depends on metal hardness. Soft metals require more acute angle graver tips than hard metals. Hard metals require almost a right angle cutting edge and will work better if the tip is curved slightly and the chasing is done almost at right angles to the surface being engraved. For use on difficult metals I make my tools from drill rod.

When working on hard metals you will sometimes come across heat-treated steel or case-hardened steel. Don't play games with it! The factories have it all over the amateur engraver as they can engrave the piece and then harden it. Unless you are a metallurgist, I suggest you forget about removing a little of the temper so that the scratching goes easier. Eyeballs come two to a customer, and you should just think once about letting the local blacksmith soften up that receiver for you-think once and abandon the idea. Case-hardening can be removed by polishing. But good polishers are more scarce than good engravers. Rounded edges with high-gloss buffed curves and screw holes that are dished out with rouge so they look like eyes "squinting" make for beautiful headaches when you start cutting.

Only by comparison of one's own work with the better work of others, by self-imposed and honest criticism, can one hope to improve in ability. Competition among engravers is a healthy thing and should be encouraged. But the consumer, the guy who pays for the work, should take part in that competition. He should look at the engraving which he is offered and not be afraid to criticize it. When buying engraving, just stack your money up against the skill of the man you are paying. Haul out a dollar bill and examine the borders. Are the floral patterns on that gun you want to buy done as skillfully and with such delicacy of shading as on a paper bill?

Look at the figures on the gun. Examine the gold animals. Is the figure of the cowboy done as well as the standing figure of Liberty on an old quarter? Are those ducks done as well as that eagle on a half buck? Does the horse look like a horse, or only an old goat? Look well, man, it's your money and if the work that you are paying for isn't as well done as engraving examples which you already possess, why make the exchange? Frame the dollar bill and study it for quality! Or better still, try your own hand at gun engraving. It might be easier than you think.





WHY BULLETS KILL

(Continued from page 21)

about ¹/₄" in diameter. They were shot from a specially constructed gun at impact velocities of 1,000 to 4,000 feet per second. Photographs at speeds up to 7,000 frames a second showed clearly the changes occurring on impact and during the formation of a wound. Recent developments in micro-second X-rays made possible pictures at speeds of 1/1,000,-000th second of wound formation inside the target! These X-ray pictures fully confirmed the reliability of the gelatin and water tests as simulations of live animal targets.

When a high velocity bullet hits a surface of tissue, the momentary pressure at the front is enormous. The liquid in the tissues is compressed. The compression moves out from the point of impact as a shock wave, The velocity of the shock wave is the velocity of sound in water, about 4,800 f.p.s. This primary shock is ahead of the bullet which becomes slowed and finally stops while the shock wave continues. The possible destructive effect of this shock wave is hinted at by some high speed photos taken of a steel ball fired downwards into a tank of water through which air was bubbled. The bubbles were large and of a uniform size. When the bullet passed through the water, bubbles some distance from the path of the ball were affected. Large bubbles were "shattered" into clusters of smaller bubbles.

Similar disruption may take place in an animal, especially one shot in the gut where the organs may contain air and open spaces. These shock waves closely resemble waves formed by explosions. It is possible to say how many milligrams of TNT exploded within the body will equal any given missile at any velocity. Shock waves can kill through tissue damage to an organ located some distance from the path of the bullet, if the disturbance is great enough.

The path of the bullet in forming a wound is a remarkable phenomenon. High-speed motion pictures showed that a ball in wounding a gelatin block lost velocity. Bullet energy was transferred to the gelatin. In animal tissue, this energy is transferred to the water in the tissues displaced by the bullet. Since water is incompressible, this water is accelerated outwards from the bullet, and creates considerable tissue destruction.

The amount of destruction is related to several things. A bullet which expands will present a wider "wetted" surface and increase wound damage.

The coned cavity made by a bullet creates a wound, but the cavity alone is not the only wounding factor. A pulsation occurs in the cavity walls as it contracts after the passage of the bullet. The cavity will diminish and the entrance hole through the highly elastic skin will draw together, sometimes to bullet diameter or less, although in the early development of the wound the entrance hole was many times larger. As the outside skin contracts, the cavity will undergo a secondary expansion, even though at this time the bullet may have left the body. This expansion and contraction, as tested in many gelatin blocks and tanks of water and checked out by shooting at anesthetized animals, will occur three or four more times. Knowledge of the probable extent of internal wound damage from surface examination was important in the

Korean campaigns in getting surgical help to men who might have been let off in earlier wars with "first aid."

To the hunter, a bullet which creates too much damage may be an effective killer, but it doesn't leave much meat to eat. Controlled expansion in a bullet is important here. One which mushrooms almost on contact will destroy much valuable meat. Preferred is a bullet which will delay its mushrooming until it has penetrated several inches. This type of bullet is what hunting writers mean when they talk about the slug "blowing up in the boiler room" of the deer.

Bullet fragments have a lethal quality, too. Mushrooming bullets at high speeds often break up into several pieces, with the base remaining solid and continuing to penetrate. Although the velocity of these minor pieces of the bullet is less than the original impact velocity, it is enough to cause further damage.

Several shock-wave tests were made on frog hearts suspended in a tank of Ringer's solution which kept them "alive" and working. After steel spheres were shot into the tank, raising pressures in the solution in the same manner that pressures would be raised in the body of a deer or bear, the hearts were carefully examined with high speed movie cameras. Hearts directly in the temporary cavity were damaged and stopped. Two outside of the range of the temporary cavity were unharmed although hit by shock waves whose peak pressures were about 25 atmospheres, 375 pounds per square inch. A third heart outside the cavity area was torn and bleeding, and its beat slowed. Shock waves of 32 atmospheres had hit it, but it was also in a position where rapid radial movement of the water as the cavity contracted and expanded pulled it violently back and forth on its mooring. It is just this same stretching and tearing which must damage tissue around the path of the bullet.

Since cavity formation had much to do with the results of this test, another series were conducted with shock waves alone. The bullets were stopped by a plate of armor in contact with the surface of the solution holding the frog hearts. In one test the peak pressures which struck the hearts were between 81 and 117 atmospheres. Despite the greater intensity of shock wave, none of the hearts was injured.

So-called nerve shock is much discussed by hunters but not much is known about it. An elastic tissue such as an artery may stand the stretching of cavity formation without a break. Nerve can undoubtedly stand considerable stretch without breaking, but loss of function may occur. This would explain the temporary paralysis sometimes observed after injury. Nerve shock alone cannot kill, even if produced by an extremely high velocity bullet, since nerve shock is in itself only local. Nerve shock affecting a vital organ can kill, by stopping the involuntary action of the heart or diaphragm. In the first case paralysis will occur: in the second, death.

Two qualities of bullets were confirmed as important in wounding. Kinetic energy, or "muzzle energy" shared responsibility with stability. Bullets are stabilized by spinning in the rifling, so that they fly true when they leave the gun. Deviation from the long axis of flight is "yaw," which exaggerated becomes tumbling or keyholing. In keyholing,



Hara-Kiri, Fascinat

3 Jones Ave., Wilmington, Massachusetts



BUILD IT YOURSELF!

PISTOL-BERTH* MODEL NO. HM-14DD-12-Overall Dimensions: 50" w, 26" h, 4" d

Easy to follow working plans are now available to you. Plans for Pistol-Berth with twin doors are complete for the 12 gun size illustrated and also include details with complete bills of mate-rial for 20 and 28 gun sizes. The plans for the single door model are complete for 6, 10 and 14 gun sizes. The extra space in the larger sizes is gained by adding to the heights only, the widths and depths remain the same.



DETAILED WORKING PLANS FOR: **PISTOL-BERTH with Twin Doors** Complete for 12, 20 and 28 gun sizes \$2.95 ppa **PISTOL-BERTH** with Single Door Complete for 6, 10 and 14 gun sizes. .\$1.95 ppd New! EXCLUSIVE "HANDBOOK"

Just published 1 This NEW "Handbook" is a comprehensive study of all types of Gun Cabineta. It selects the type best for you. Then tells you, shows you HOW TO BUILD and FINISH your own Gun Cabinet. Details on Kits, Plans and Hardware for 22 different models are all listed in NEW HANDBOOK. (Finished cabinets also vallable) Yes it saves contains realed pattern available.) Yes, it even contains scaled patterns and drawings for you to work from. Don't buy or build your cabinet until you consult this au-Now! Only \$1.00 ppd. *Copyright **Dealers' Inquiries Invited**

the result is an increase in contact between the moving surface of the bullet and the tissues. Since the material gouged out by the moving bullet is completely destroyed, any increase in the area that the bullet hits produces more tissue destruction. The increased area also affects transfer of kinetic energy from bullet to animal. Sharp-pointed military bullets are not used for big game hunting because they will penetrate right through, delivering very little energy to the target. A defective tumbling bullet, on the other hand, would result in great tissue destruction.

The results of the Princeton tests, the Korean surveys, and even Colonel LaGarde's tests of pre-1914, show what factors must be considered in any debate on the killing power of a given gun and load. First and most important, wound severity is definitely a result of bullet energy, if the bullet stops within the target. In the long drawn out argument among shooters of light, high velocity bullets versus low velocity, heavier bullets, the following conclusions can be made: where kinetic energy of the two bullets and the placement of the bullets is the same and both remain within the body cavity, the results of both should be roughly equal. The heavier bullet with its higher frictional drag is more apt to remain in the body cavity, thus delivering more energy to the body and hence a more stunning blow.

Soft-point bullets adapted for police use, such as the powerful Winchester .357 Magnum bullets, take advantage of the need for increased bullet area on impact. They are designed to stop in the body, not pass uselessly through.

Research on hunting bullets also continues. A big bullet would be a sure stopper. But a big bullet with the necessary velocity would kick too much. Accuracy, versatility under different hunting conditions, and that intangible quality of "the human factor" also enter into the bullet equation. The "human factor," a euphemism for the reaction of the live target when hit, also is involved in bullets for hunting. How many times has a hunter shot a deer in a sure-fire vital spot, and then trailed him for two miles through brush? And how many police or military men can offer experiences with gunshot wounds which defy natural laws? How many soldiers now carry scars of battle wounds, which should have proved fatal except for the will to live? That was one thing the Princeton scientists couldn't tie down in their gelatin blocks and water tanks.

COLADONATO BROS., Dept. G12K, Hazelton, Pa.



AMERICA'S BIGGEST ARMS MERCHANT

(Continued from Page 17)

His knowledge of the weapon was amazing. I said to him, 'You know the MG-42 pretty well.' And do you know what he replied. He said 'Ja, I was in de German army but I was on the Eastern front all during the war.' Anyway, there didn't seem to be much he couldn't check on those guns, and he took the lot. I saved just two.'

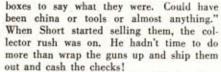
Cummings cannot buy American surplus guns in the States, but he can outsell Uncle Sam through his foreign purchases. The U.S. price on the Garand rifle, which is available to shooters from our Army Director of Civilian Marksmen at a little over \$100 including packing, can be bought from Sam Cummings for \$80-odd. Sorry, export price, only.

When it comes to hoss trading, Sam can out-swap the government. U.S. sales must be for dollars only. Cummings will take anything he can get. He'll trade Colombian tin for Chilean nitrate for Argentine beef to get dollars. He will carry accounts in a dozen different currencies in as many banks, just to keep doing business. In one softcurrency nation in South America Sam stumbled across one of the major finds of recent years. It was practically his only true "collector gun" deal, involving several thousands of the exceedingly rare Winchester 1873 muskets. The ordinary rifles and carbines are plentiful, but the muskets for 30 years had been looked on as very scarce. That they were still considered scarce was proved by the three Florida dealers who were practically at each other's throats jockeying for the "exclusive franchise" to sell these muskets to Florida collectors. Cummings wasn't concerned. He sold them all to one dealer who came down from his up-state store to pick them up at the foreign trade zone in New York.

"They were piled up in cases in one of those huge storage rooms," dealer Dick Short told me. "No marks, nothing on the



FLASHI



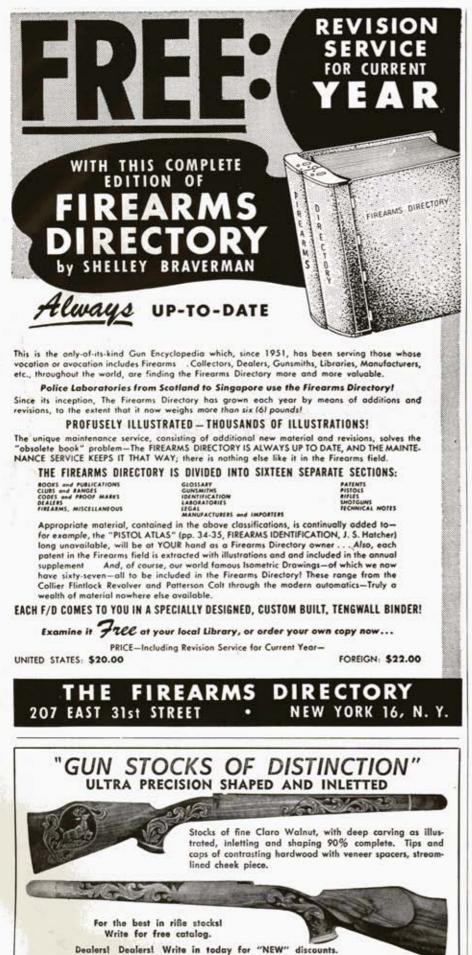
When he talked about South American deals, I asked Cummings if there were any Gatlings left in the Latin countries. "Didn't see many at all," he replied. "Of course Bannerman was supposed to have sold a lot down there but there seemed to be just a few in each country when I was there. They were mostly museum pieces, not in working order or all painted over. I couldn't guess what happened to them.

"I've been to South America a few times," says Cummings. "In 1951 I shipped a quantity of assorted submachine guns to Nicaragua on State Department license, cleared by the U.S. government. Darned if those same guns didn't turn up last year in Costa Rica across the border, where Nicaraguan rebels were planning a revolt in their own country! The Costa Rican authorities wanted to sell the guns back to me but I wasn't too interested-it was a small lot of about 400 pieces, mostly M3's, Reisings, and a few Berettas. There were some new Madsen guns in the lot, too, made in Denmark."

He turned and picked up one of the flat Madsens. "This is sort of the 'oyster shell' school of tommy gun design. It opens out into two flat halves for cleaning and assem-







203-G SHORE DRIVE BREMERTON, WASHINGTON bly. Sell a lot of those guns. I guess this sample has been shown to more government buyers than any gun there is. I don't want the idea to get around that I sold those guns to cause a fuss in Costa Rica. I have some very nice friends there—Colonel Domingo Garcia and Major Jorge Pacheco of the Costa Rican army I know well. Bought over 11,000 obsolete guns that Costa Rica had a couple of years ago and cleaned out their arsenal so they like me to drop in when I'm down that way—it's a beautiful country."

Cummings got into the gun business the hard way. He was neither born to it, nor did he suddenly promote a million dollars and decide he wanted to be a munitions dealer. As a kid he liked guns. In the Army they made him an infantry sergeant and put him in basic training, although he wanted to be in ordnance. When he got out after the war, he took some courses at Oxford University in England, studying law. So far he has 2½ years of law school but it doesn't look like he'll have time to finish it up.

"After I left the army, I had a chance to go to Oxford on the GI bill," he explained. "I bought one of those little English cars and in 1948 when I got out of Oxford I took a little trip around. Those were the golden days of the arms business! I went to places in Belgium where they had simply tons of the stuff, all sorts of guns and ammunition good stuff, too. But I didn't have any money. And in England then, the dealers couldn't give guns away. You know the prices, a few shillings for modern .38 Special revolvers, all dirt cheap."

"What did you use for money?" I asked. expecting Sam to clam up and not answer. Instead he nodded his head toward tall. stocky A. C. Jackson, vice-president of the Winfield Arms Corp. "I had met Mr. Jackson while I was in England, and he had a little money to work with. There were others interested, of course, some financiers.

"When I got back to the U.S. from Oxford in 1948, I had exactly eight bucks in the bank. So I decided something should be done about all the guns over in Europe. After a little while I contacted Jackson and others, and told them I knew where there were guns that could be bought. I said that I'd show them the right guns to buy, what to sell them for and how and where, and all I wanted was my commission."

Now importing high grade commercial arms, Sam Cummings for one year has a world-wide exclusive sale of the Mark II Walther pistols made by Manurhin. Actually he will sell most of these in the U.S. The unusual contract reflects the fact that there are many Walthers in the works in various stages of manufacture and it will take a year to run all of the old model through and into the market. After that Sam has a nine-year continued contract for the American sale of the Mark II. Through his own company. INTERARMCo., Cummings sells wholesale only.

What's ahead? Perhaps peace. Then Cummings with the Walther agency will do all right selling commercial type guns. The return of the famous P-38 9mm army pistol, scheduled to be in production at the Walther works in Germany in a year, and the "Olympia" match target .22 pistol will give Cummings a complete line of commercial and police guns. Like munitions dealers before and since, peace or war, win or lose. Cummings will come up smiling.

ANTHONY GUYMON, INC.

CARTRIDGES

(Continued from page 42)

ble use at a later date. All the M1917 AP's I have seen were loaded at Frankfort Arsenal and can be easily identified by the exposed lead tip. Most are stamped F A 18. Ordnance had been working on a better AP bullet. On July 12, 1918 they stopped making the M1917 AP's and stated that the

new M1918 AP's would be out by August 1. Main change in the M1918 AP round

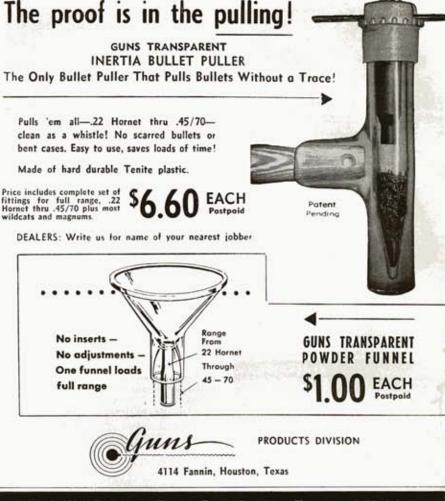
was the jacket, made like the regular hard nosed bullet. The core was assembled from the rear instead of from the front like the M1917. Most of the M1918 AP's have a narrow cannelure in the jacket about $\frac{1}{10}$ " above the case mouth. Some of this ammo was made in Canada.

The M1917 Incendiary was patterned after the British "Buckingham" incendiary, a flatnosed cupro-nickel jacketed bullet. A $\frac{3}{164}$ " hole drilled in the side of the jacket about $\frac{9}{10}$ " from the bullet nose was closed with a low-temperature fusible alloy plug. The bullet was loaded with yellow phosphorous and closed at the rear with a serrated lead plug. There was also a lead plug at the front.

As the bullet was fired, friction with the rifling caused the lead plug in the bullet side to melt. Once free of the bore, the burning phosphorous was thrown out by the spin.

The British had dropped their flat-nosed incendiary and we were happy to follow suite. Frankford had developed the M1918 incendiary some time earlier and was just awaiting official word to go into production.

The new M1918 had the pointed profile of the service bullet, and had the bullet jacket blackened for identification.



HOLLYWOOD RELOADING EQUIPMENT



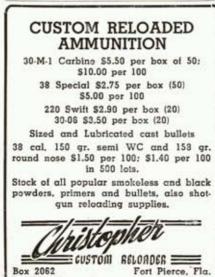


SHOPPING



HI-STANDARD LIGHTWEIGHT SPORT-KING has a frame of forged aluminum. The LIGHTWEIGHT weighs only 27 ounces, over half a pound less than the all steel Sport-King. A 10 shot .22 long rifle autoloader with choice of $6\frac{3}{4}$ " or $4\frac{1}{2}$ " interchangeable barrels. Hammerless, with positive safety lock, square notched rear sight. Has push-button takedown, sure-fire magazine, non-slip trigger, checkered grips. Sells for \$43.75 in choice of barrel length. Extra barrels, only \$8.00 for either length. Write to Dick Almy, Advertising Manager. The High Standard Mfg. Corp., Dept. G-6, Hamden, 14, Conn.

WELLER'S COMPLETE GUN CLEAN-ING LINE features a super solvent-cleaner preparation that •prevents barrel corrosion plus a lubricating quality for added rust protection. Other accessories include: Smooth, light gun oil, gun and rifle cleaning

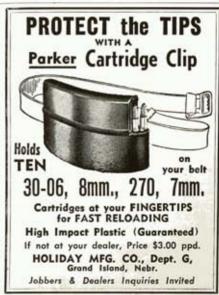


patches, shotgun cleaning swabs, spring tempered wire brushes, pistol and cleaning rifle rods, shotgun cleaning rods to fit all 410 to 12 gauge guns. Also deluxe gun cleaning kits for pistols, rifles or shotguns in various gauges and calibers—and a multi-gauge shotgun kit. Sold in leading hardware, sporting goods stores. Erwin Weller Co., Dept. G-6, Sioux City, Iowa.





TWO NEW VARIABLE POWER RIFLE SIGHTS have been introduced by Bausch & Lomb. The BALvar 8 provides powers between 2½X and 8X, while the BALvar 24 provides a range of 6X to 24X—with a simple twist adjustment. Both sights are designed for big game, varmint and target shooting. Equipped with a remarkable new reticle whose crosshairs cover less than ½th inch at 100 yards. Reticle does not change in apparent size as power is changed; focus remains constant throughout power range; eyepoint remains steady. BALvar 8 retails at \$95.00. BALvar 24 at \$160.00. Bausch & Lomh Optical Co., Dept. G-6, 635 St. Paul St., Rochester, N. Y.



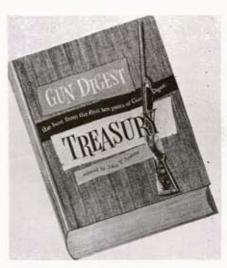




A BREVEX MAGNUM MAUSER RIFLE ACTION is now being built commercially on new tools and dies by Brevex of Paris, France. It is not a military off-cast or reworked standard size mauser action, but a true fullsized Magnum action created to meet the demand for magnum sporting rifles. In two models with a retail price of \$118.50 each, model 300 accommodates calibers such as the .300, .375 H & H, etc., and model 400 accommodates calibers in the classification of .404 Jeffery's, .416 Rigby, .505 Gibbs, etc. For full information write: Tradewinds, Inc., Dept. G-6, P.O. Box 1191B, Tacoma 1, Washington.



BROWNING DOUBLE AUTOMATIC SHOTGUNS with receivers in four rich color combinations has been announced by the Browning Arms Co. A scientific metallurgical process infuses color into the metal itself assuring lasting beauty. New color combinations will include Dragon Black with Gold Engraving, Autumn Brown with Silver Engraving, Forest Green with Silver Engraving and Velvet Gray with Silver Engraving. Barrels are blued as usual, stocks and forearms are of fine French walnut. Selection of colors were made by well known, veteran sportsmen. For prices write to Browning Arms Co., Dept. G-6, Ogden, Utah.



"GUN DIGEST TREASURY," a big new hook for shooters, hunters and gun enthusiasts, contains a carefully selected collection of shooting and gun articles. Includes interesting reading like: "proof marks, guns will last a lifetime, fun with handguns, how to hunt quail, used guns and how to buy 'em" etc. Profusely illustrated, "Gun Digest Treasury" contains 392 pages. Heavy paper hound edition \$3.50 postpaid; deluxe library bound edition \$5.00 postpaid. Available at your favorite book store or order direct from The Gun Digest Co., Dept. G-6, 227 W. Washington St., Chicago 6, Illinois.





FOR YOUR HANDGUNS

BETTER ACCURACY
MORE KILLING POWER
NO BARREL LEADING with

HARVEY PROT-X-BORE BULLETS

PROT-X-BORE BULLETS combine a lead bullet with a zinc base, either when swaged or cast. Provides greater accuracy and killing power. The zinc base keeps the barrel clean of corrosion or leading. SWAGED BULLETS, MOULDING EQUIPMENT AND SWAGING DIES AVAILABLE.

LOOK!! HAND GUN HUNTERS! JUST LABORATORY TESTED. HARVEY 127 Gr. JUGULAR JACKETED S.P. 357 Magnum Velocity 1951 fps. Over 1000 fp Energy. 114 Gr. JUGULAR JACKETED H.P. 2025 fps. Over 1000 fp. Energy. ALSO for 38 Special at lower velocities. READY FOR IMMEDIATE DELIVERY. Loading tables furnished. All bullets packed 100 to box.

Write for free descriptive price list.





SHOPPING



"HOW TO RELOAD FIRED CAR-TRIDGES" is the title of a new film offered by the Lyman Gun Sight Corporation. Produced for active shooters who want to do more shooting and spend less money on ammunition. A full color, 16 mm. film that runs for 15 minutes, it gives a detailed and graphic story of the steps necessary to reload fired cartridges. By following the film's instructions, a gun sportsman can do up to ten times his normal amount of shooting for the same cost. Available on loan without charge to Sportsmen's Clubs and other organizations. Write Mr. Charles Lyman III, Lyman Gun Sight Corp., Dept. G-6, Middlefield, Conn.



LEE SONIC EAR-VALV is a precision built mechanical hearing protector. A tiny device, it fits comfortably into the ear canal to admit normal conversation and healthful air circulation—yet it removes the shock and harm from loud noises. A substantial aid in improving shooting scores as it reduces flinching and nervousness during firing. Priced at \$3.95 per set, Lee Sonic Ear-Valvs are packaged in a small, durable plastic carrying case. Also widely used in industry and government agencies to protect hearing prescribed by many ear specialists. Sigma Engineering Co., Dept. G-6, 1491 Vine St., Hollywood 28, Calif.



CAMP CAN makes hunting, fishing or camping trips more enjoyable for the entire family. Folds up conveniently for space-saving storage in trunk of car. Opens up to spacious 3 ft. square by 6 ft. tall size. Can be put up in only ten minutes by following simplified instructions. Features steel, telescoping type poles, cover of lightweight, water-resistant fabric. Available in choice of red, green or olive drab colors. For sale at \$29.95 complete and shipped direct from the Branding Iron, Dept. G-6, 3441 Blacklidge Drive, Tucson, Ariz.



WITH Guns



NEW SIGHTING-IN GUIDE FOR SHOOTERS is equally useful for all popular, modern small and large game cartridges. Consists of two discs, pivoted one on top of the other. The slotted top disc revolves to match up the bullet weight, muzzle velocity and energy with sighting-in distance in yards giving zero impact in yards. Also gives the path of the bullet above or below the line of sight in inches from 50 yards to 350 yards. Provides a total of 38 different sighting-in values. Available for \$1.00 postpaid from The Marlin Firearms Co., Dept. G-6, 11 West 42nd St., New York 36, N. Y.



SMART LOOKING GUN CABINETS suitable for displaying and protecting guns

are now available to gun collectors and hunting enthusiasts. Constructed by expert craftsmen of select, kiln-dried wood, each cabinet has a beautifully hand-rubbed, natural finish. Large, roomy drawers and doors can be safeguarded under lock and key. Hardware to match each cabinet. Choice of finishes include Solid Cedar, Walnut, Cherry, Knotty Pine and Poplar with Maple. Specifications, prices, illustrated circular sent free upon request. Write to Greater Products Co., Dept. G-6, Mifflinburg 3, Penna.



"PAK-O-BULLS" are a new kind of cellophane packaged targets. Each package contains a specific type of target as desired. For example, 50 yard targets are available for .22 caliber rifles or air rifles, 20 yard targets can be obtained for pistols, or shotgun pattern sheets can be purchased. Available in three sizes, "PAK-O-BULLS" sell for 30¢, 60¢ and \$1.00. All targets are clearly lithographed on official target paper. Order direct from or write for full information to Wisler Western Arms, Inc., Dept. G-6, 205A Second Street, San Francisco 5, Calif.



JOHN CHARLES CO., 257 Fourth Ave., Dept. G-06, New York 10, N. Y.



.44 Special and .45 Colt revolver Doubles Killing power of bullet \$4.95 postpaid - Dealers inquire GOERG ENTERPRISES Alfred J. Goerg Manager 609 South Vine St. Port Angeles, Wash.



THE GUN MARKET

Classified ads 15c per word per insertion including name and address. Payable in advance. Minimum ad 10 words. Closing date for the August, 1956 issue (on sale July 1) is May 16. Print your ad carefully and mail to: GUNS Magazine, 8150 North Central Park Blvd., Skokie, Illinois.

COLLECTORS

TONS RARE Antique Gun Supplies, Illustrated catalog 25¢. Dixle Gun Works, Dept. G. Union City, Tennessee.

MANY MODERN, Antique Guns, List 10¢, Modern, Obsolete Cartridge list 10¢, Ed Howe, Coopers Mill 10, Malne,

GUNS & AMMUNITION

SELECTION OF 500 Shotguns, Rifles & Pistols, foreign and domestic, Illustrated catalogue 25¢, Davis & Sons, Inc., 400 E. Jefferson, Louisville 2, Kentucky.

FAMOUS SWISS 7.5 (30 Cal.) Mannlicher Type Carbines and Schmidt-Rubin Rifles. Finest lot ever received. Individually selected in Switzerland. Excellent, no seconds. Carbines \$75. Rifles \$50 While they last. Military and Sporting Ammunition prices on request. Dealer inquiries invited. Randau Arms, 911 Pico, Fresno 4. California.

LEARN GUN repairing at home. Profitable business. Details 10¢. Modern Gun Repair School. Box 430-G. Marshfield, Wis.

SURPLUS OFFERINGS: .38 Smith & Wesson (Military and Police) Revolvers, excellent condition, only \$24,50. Free New Holster, Shipped Duty Free, Send remittance for immediate shipment. International Firearms Co., 1011 Bleury St., Montreal, Que.

AMMUNITION: 30-06 SPRINGFIELD factory loaded—for all 30-06 caliber rifles, only \$4.75 per 100 rounds, \$37.50 per 1,000 in case lots of 1500, 5 cases \$32.50, 10 cases \$29,50 per 1000, 30-30 Winchester \$65.00 per case 1000, 45 A.C.P. \$4.25 per 100, 1000 rounds \$35,00, 2000 or more \$29,50, Shipped Duty Free. Immediate shipment, International Firearms, 1011 Bleury, Montreal, Que.

PAMOUS ENFIELD Deluxe Sporters, 30-06 callber (manufactured by Winchester, Remington, Eddystone) 6-shot repeaters lightweight, only \$34.50, 303 British callber \$29.50, 30-06 Enfield Barrelled Actions \$29.50 and new military fitted stocks 99¢ each. Dealers quantity discounts. Shipped Duty Free. Send remittance for immediate shipment. International Firearms Co., 1011 Bleury, Montreal, Que.

RIFLES: FAMOUS .303 Short Lee-Enfield (S.M.L.E.) No. 1 Mark 111 Service Model, ten-shot repeater with detachable magazineonly \$29.50. Shipped duty free. Send remittance for immediate shipment, International Firearms Co., 1011 Bleury, Montreal, Que.

WINCHESTER MODEL 70, 270 calibre, KV Scope and mounts, excellent, \$100, Invest 25¢ in Big Bargain Catalog of Guns-Scopes-Binoculars-Archery-Camping, Reloading Equipment, Underwood's Post Road, Shrewsbury, Massachusetts,

PISTOLMEN, FREE Illustrated Catalog. Clark accurized guns, hundreds items for Pistolmen only. Gil Hebard, Knoxville 2, Illinois,

GUNS: BUY-Sell-Trade. Trade handguns for shotguns. 10 boxes factory 38spl. \$30.00 prepald. Jeff. Trader, Pocomoke City, Maryland.

SPRINGFIELDS, MAUSERS, Japs. etc. at big bargain prices. Free Gun List. Al's Gunroom, 1 Beekman St., New York, N.Y.

SACRIFICE !! WINCHESTER Model 70 Sporter in 220 Swift, special trigger, special bolt, Redfield mounts, Lyman 6X scope, special Lee dots with automatic rangefinder and alming points for 300, 400 and 500 yards with no adjustments or estimating ever needed. This rig weighs just about 9 lbs, yet has grouped 1 inch at 200 yards !! Used only 4 times. Cost over \$250, sacrifice at \$189. Cone, 775 South Madison, Pasadena.

1.000,000 ITEMS-EVERY Gun Accessory ! New-Used-Antique, Kentuckles, Lugers, Mausers, P38's, Colts, double rifles, swords, armor, Agramoute's, Yonkers 2K, N. Y. U.S. 30-40 CAL. KRAG rifles, Very good, \$37.50; U.S. 30-06 cal. Enfield rifles, Excellent, \$39.50; U.S. 45-70 cal. Springfield rifles, Good, \$22.50; U.S. 30-06 cal. Springfield rifles, Grade A. Very good, \$55.00; Perfect, \$65.00; Grade B. Very good, \$42.50; German mod, 98.8 mm. Mauser rifles, Very good, \$37.50; Excellent, \$42.50; Jap 7.7 mm, rifles, Excellent, \$18.00; Jap 6.5mm, rifles, Very good, \$20,00. Money back guarantee; Free Gun List, Freedland Arms, 34 Park Row, New York, New York.

LEE-ENFIELD No-4 Mark-I. 303 rifles, new condition, \$50.00. Martinl-Enfield Carbines, 303, single shot, 20 inch barrels, fine, sturdy gun, Good, \$20.00. Complete list \$.10. Automotive Supplies, Inc., 595 West Church, Newark, Ohio.

PARKER-HALE six shot, .22 Adaptors for .38 Enfield and .455 or .45ACP Webley revolvers. For complete details write: Gun Department, Automotive Supplies, Inc., 595 West Church, Newark, Ohlo.

RIFLES, 303 BRITISH Enfields, as issued, good conditions, \$27,50 each, 303 British Millitary Cartridges, \$7,50 per 100, Remington Pump Action Rifles, Model 14½, Cal. 44-40, used, 12 shot, good condition, \$39,50 each, 44-40 Cartridges, \$12,00 per hundred. Public Sport Shops, 11 S. 16th Street, Philadelphia 2, Pa.

FLAT TOP Bisley, Rare "For 44 8 & W ctdge," About N R A good \$225.00; "Hacker Martin light flintlock. Prox. 36 caliber. 44" barrel. Fancy patch box. Fine \$225.00; 1866 Winchester musket with bayonet. Good, except for rear sight & band screws \$85.00; New Model 44 S & W Russian cut for stock, About 70% nickle. Replacement grips, otherwise good, With shoulder stock holster \$60.00. (Permit or license). Sam Holmers, 13503 Lakewood, Paramount, Calif.

30 CALIBER 12-SHOT high-power precision Swiss Rifle, silk-smooth action, fine accuracy, low recoil, excellent shooting condition, \$14.95; 48 MC cartridges \$5.00; Hunting ammo \$3.00 per 20, Brochure Free, 32-page catalog #15, Modern & Obsolete Pistols, Rifles and Shotguns, Obsolete and Hard-to-get Foreign & American Ammunition, Loading Tools, Clips, Magazines, Accessorles—price 25c ppd. Martin B, Retting, Culver City 23, California.

COLT SINGLE Actions, calibers .22, 32-20, .38-40, .44 Special, .44-40, and .45 Colt with 4%, 53% or 7½" barrels, blue or nickel, like new, \$85.00, Greer Firearms Company, Box 201, Griffin, Georgia.

SPORTSMEN AND Hunters, Save money on shotgun shells. Send today for free literature. L. & W. Supply Co., St. Marys, Ohio.

SWISS ARMY Rifles '89, Famous Schmidt Rubin Rifles, Hi-power 7.5mm (.30 cal.) 12 shot repeater, fast loading detachable magazine. The speed of an automatic, excellent condition, while they last \$16.95. (2 of these fine rifles \$29,50). Ammunition \$2.65 box 20. (2 boxes \$5.00). Send remittance immediate shipment, International Firearms, 22 Kingman St., Albans, Vermont.

.22 CALIBRE SHORT Lee Enfield (S.M.L.E.) Service Model Rifles (similar to .303 Short Service Rifle No. 1) Best training rifle ever made. Only a small quantity originally manufactured. \$24.50 each. .22 Calibre famous B.S.A. Martini Target Rifles (Over \$100.00 value) \$30.50 each. Shipped Duty Free, Send remittance for immediate shipment. International, 1011 Bleury, Montreal, Que.

ENGRAVING-SCROLL, Gold Animals-Individual designs, Doubles restocked, Gunreblu, Biltmore 15, N. C.

YOUR JAP rifles altered to 30.06, \$6.00. Jap shells \$3.75. Boits altered for scope \$4.50, engine turned \$4.00, both \$8.00. Catalog .03. TP Shop, West Branch 16, Mich.

AMMUNITION LESS Than Cost. Factory 25-35 Win. \$12.05 Per 100, 33 Win. \$14.00 Per 100, 348 \$16.50 Per 100, Blanks' 30-06, Tmm, Smm, 30-40, 44-40, \$3.00 Per 100, Reloads, 38 Spec. \$32.50 Per 1,000, 45 Auto \$45.00 Per 1,000, Bullets, Sized and Lubricated 38 Spec. \$16.00 Per 1,000, 45 Auto \$18.00 Per 1,000, No C.O.D.'s. Shell Shop, 3705 Sunset Blvd., Los Angeles 26, Calif.

GRIPS-IVORY, pearl, stag, wood. Your design inlaid-gold, platinum, ivory for discriminating. Gunreblu, Biltmore 15, N. C. FOR SALE—Send 10¢ for list of Shotguns. Rifles, Handguns, Ammunition, or send 25¢ for all lists, Frayseth's, Willmar, Minn.

INDIAN RELICS

2 FINE INDIAN War Arrowheads \$1.00. Filmt Scalping Knife \$1.00. Filmt Thunderbird \$2.00. List Free, Arrowhead, Box 1249, Hot Springs, Arkansas.

ENGRAVING

GUN ENGRAVING on all modern or antique Guns. Floyd E. Warren, Rt. #3, Cortland, Ohio.

FINE ENGRAVING on fine guns, E. C. Prudhomme, 305 Ward Bldg., Shreveport, La,

PARTS & SPECIALTIES

SHOTGUN STOCKS And Beavertail Forearms hand fitted and finished in American walnut. Box locks \$14,00, side locks \$16,00. Forearms \$10,00 and \$12,00. Checkering \$3,00 extra. Blueing rifles and shotguns \$10,00; Pistols \$7,50. Discount to dealers. Information on request, Treloar Gun Shop, 523 Lime St., Waterloo,lowa.

GUNSMITHING

SHOOTERS: IF you are interested in learning Gunsmithing and are willing to spend a few hours in your home shop for a handsome accurate .22 target pistol, send 3 cent stamp for complete information, P.O. Box 362, Terre Haute, Indiana,

GREENWICH FIREARMS Inc. 169 Chambers St., New York 7, N. Y. Specializing in repairing-Making custom match rifles and pistols. And all types of varmint rifles.

GUNSMITHING, BLUING, military conversions, custom stocks and repairs, G. J. Kozykowski, 4360 Raleigh St., Denver, Colo.

GOLD-SILVER-nickel plating. Bright prewar bluing. Antiques, Frontiers restored. Gunreblu, Biltmore 15, N. C.

PATENTS

INVENTORS: WHEN you are satisfied that you have invented something of value, write me, without obligation for information. Write Patrick D. Beavers, Registered Patent Attrney, 1099 Columbian Bidg., Washington 1, D. C.

INVENTORS-SEND for free Patent Information book and Inventor's Record. Registered Patent Attorney. Associate Examiner, Patent Office 1922-29: Patent Attorney & Advisor. Navy Department 1930-47. Gustave Miller 66GP Warner Building, Washington 4. D. C.

RELOADING

HANDGUN RELOADERS. "Perfection" Carboloy Resizing Die-Postpald \$20.50. No cleaning or oiling cases, guaranteed not to scratch, Lasts your lifetime. "Hollow Pointer" doubles the shock of your solid bullets-\$4,95 Postpaid. "Friction Free" handle for the old model Wilson case trimmer-\$1.50 postpaid. Full line of cast and lubricated bullets. Reloading fifty rifle and pistol calibers in your cases or mine. Enclose 6¢ stamps for information. Buey's Reloading Service. 5325 Arlington Street. Phila. 31, Penna.

BINOCULARS & TELESCOPES

"WHICH MODEL?", "How to Check Alignment"—Free leaflets by Binocular Experts; ¹/₄ century experience. Binocular List with quality analysis. Free repair estimates. Mirakel Optical Co., Mount Vernon 8, New York. HINOCULAR SPECIALISTS, all makes re-paired. Authorized Bausch & Lomb, Zeiss-Hensoldt, and Bushnell dealer. Tele-Optics, 5514 Lawrence, Chicago 30, III.

BINOCULARS REPAIRED by expert crafts-man. Hard coating, Eye cups replaced, all makes. We have optics to repair any make, Collimator alignment to Gov't specification. Free check up and estimates, prompt service, Special rates to clubs, All work guaranteed, Binocular cases, any size \$3,00, 1 Miller, 703 South Third Street, Philadelphia 47, Penna

WANTED

WINCHESTER LEVER Action guns, Winches-ter loading tools, Marlin 1881 loading tools, H. A. McCallum, Monroe, Ore.

WANTED: OVER/under 12 gauge with high velocity rifle barrel for American ammo, De-scribe fully. Stan. Wade, New Port Richey, Fla.

MISCELLANEOUS

100 TRICK KNOCKOUTS for self-defense \$1.-1c each. Priest, Box 251, Evanston 1, Illinois.

PIPE SMOKERS. If you want the best tobacco ponch you have ever used try TOMIIIs TaBa-KaSak. Good looking. So air tight it floats. Perfect gift for Dad. Introductory Offer Only \$1,00 Postpaid. Complete satisfaction guaran-teed or money back. Tom Mills, Box 3086 UC, St. Louis 5, Mo.

JOBS—HIGH Pay. South America, the Islands, USA, foreign countries. All trades. Clerical, labor, engineers, drivers, others. Women also, Fare paid. Application forms. For information Write Section 93H, National Employment In-formation, 1020 Broad, Newark, N. J.

WORMS WITHOUT Digging-Get the new improved electric Worm Master Rod. Results guaranteed. \$2.29 postpaid in U.S.A. Gellfuss Associates, 1888 Carroll Avenue, St. Paul 4, Minnesota.

MONEYMAKING WHOLESALE catalog. Thousands of nationally advertised items. Send 50c for catalog plus \$1.00 merchandise certifi-cate. Gelifuss Associates, 1888 Carroll Avenue, St. Paul 4, Minnesota.

ENGRAVING, HIGH relief, scroll, cattle-brand, inlay work. On all guns, from \$15 to \$3,500. Liberal denier discounts. Marty, Box 9204, Washington 23, D. C.

IAWAIIAN KONA Koffee Generous Trial Package, Hawailan Souvenir "Green Dia-monds" Key Chain, Hawailan Lucky Emblem Shoulder Patch For Your Shooting Jacket, Your Choice One Dollar Postpaid. William Wilson, Box 167, Ililo, Hawail,

"INTERESTING MAILS"-25¢ keeps your malibox full three months. Bentz, (Desk-/87), Chatawa, Mississippl.

AUTHENTIC COLT Revolver Tie Clasps, Exact replicas in one-fifth actual size: Peace-maker, Texas Paterson, Wells Fargo, Light-ning, Navy and 1849 Pocket, \$2.75 Post Paid, Gift Boxed. Other guns and sets available. Sy Krell, 1772 Manor Drive, Irvington, New Jersey.

DOCUMENTS, LETTERS, Mexican War Period, 1846-1848, Original, not reproductions, By high officials, various subjects, fine for framing. Very Good, only \$7.50 my choice, Spanish translated free, Satisfaction guaran-teed. F. Madis, Maiden Rock, Wisc.

MAKE MONEY-Magazine Subscriptions, 50% commissions, Bonus, Personal orders, Qualified Agency, 451EF Kingston, Brookiyn 25, N. Y.

ELECTRIC PENCIL: Engraves all Metals, \$1.50. Beyer Mfg., 10511-Q Springfield. Chi-cago 43,

TAXIDERMIST

"MODERN TAXIDERMIST Magazine," Greenfield Center, 11, N.Y. Devoted Exclusively to Taxidermy Methods, Photos. Trial Year's Sub-scription, \$1.00.

FINE DETAILED Sculptor Taxidermy, 37 years experience, A. E. Masters, Master-Taxi-dermist, 1174 Beaver St., Missoula, Mont.

COIN COLLECTORS. Number one exchange publication. Sample 30¢ Numismatic News, Iola, Wisconsin,



CHECKERING TOOLS — Hand-Filed Set of three—Checker, Border, and Cleaner—also di-rections, Popular 16-line set \$3.00; 18 and 20 line \$3.75, Postpaid, Thousands satisfied; sold last 15 years, Free Catalog, Warner Products, Baldwinsville 4, New York.



Haggeund-

Z

GHG "Of course, for fifty dollars more, you are getting an additional 218 feet



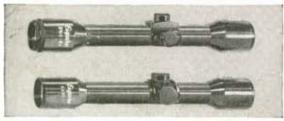
NOW AGAIN!

... through the miracle of international commerce TRADEWINDS, INC. brings you the world's finest rifle scopes and mounts... as fitting companions for the world's finest "lightweight" rifles

HUSQVARNA MONTE-CARLO LIGHTWEIGHT

Combines all outstanding features of the Series 4100 Husqvarna Lightweight rifle, but designed specifically for use with telescopic sights. Incorporates the new Husqvarna HVA Action with slide safety, lightweight, 2012-inch barrel of finest Swedish steel, Monte-Carlo stock of selected European Walnut has built-in cheek piece, hand-checkered pistol and foregrip. Receiver is drilled and tapped to accommodate the ESQUIRE 2-piece top mount, and other popular scope mounts. Overall weight (less scope and mount) 6 lbs., 12 oz. The Monte-Carlo Lightweight—calibers 30-06, .270, .308, and 7 MM (7 x 57)—popularly priced, \$145.50.

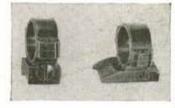
ESQUIRE HUNTING SCOPES



TOP 234 x -- 8x; BOTTOM 4 x 81

Designed and engineered with all finer features found in most expensive hunting scopes, and offering these additional advantages: Binocular focusing, greater light transmission, larger field of view, lightweight 26mm steel construction, precision ground optics, extremely accurate windage and elevation adjustments, and—of course—moisture and dust-proof. Crosshair reticule or crosshair-dot reticule, same price. ESQUIRE 4X SCOPE (4 power magnification) \$57.50; the popular ESQUIRE VARIABLE POWER SCOPE (adjusts from 2½ power to 8 power magnification) \$89.50.

ESQUIRE SCOPE MOUNTS



Another important FIRST! A scope mount precision made specifically for Husqvarna HVA Rifles and ESQUIRE Scopes. Accurately

machined for perfect fit to contour of HVA Receivers; mounting screws are definitely aligned to fit the factory drilling and tapping. Built-in Windage adjustments permit perfect bore sighting of scope and minimize internal adjustments of scope reticule. Scope mounts easily in 26 mm split rings. Mounts and Rings, complete, \$17.50.

AVAILABLE AT ALL HUSQVARNA FRANCHISE DEALERS Write for Literature

RADEWINDS INC. P. O. Box 1191, Tacoma 1, Wash. Canada, Dorken Bros Co., 408 McGill St., Montreal.