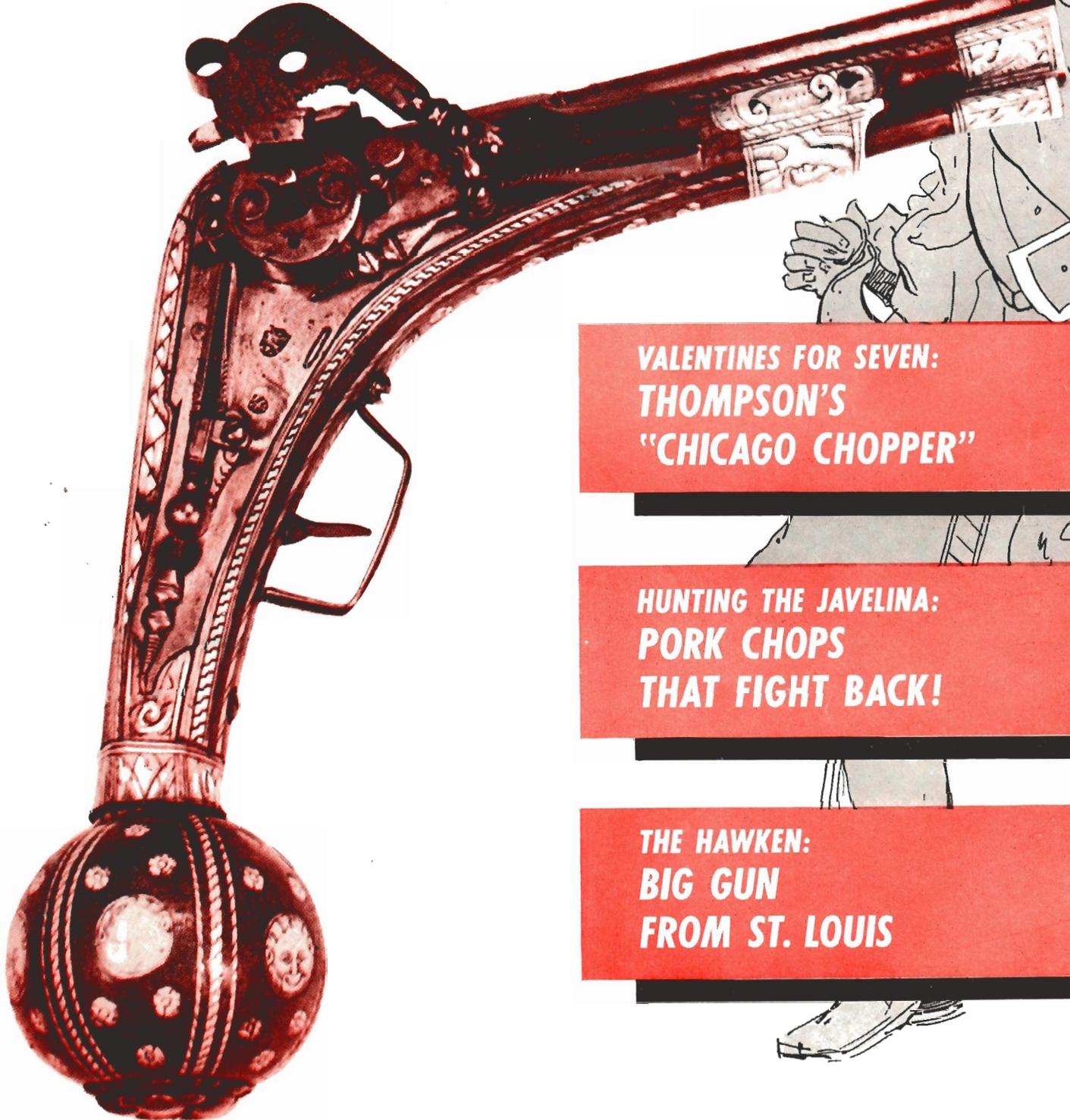


FEBRUARY 1955 50c

Guns

M A G A Z I N E



**VALENTINES FOR SEVEN:
THOMPSON'S
"CHICAGO CHOPPER"**

**HUNTING THE JAVELINA:
PORK CHOPS
THAT FIGHT BACK!**

**THE HAWKEN:
BIG GUN
FROM ST. LOUIS**



Photo from The Library of Congress

FIGHTING MEN OF THE WEST . . . George Armstrong Custer

"The Boy General" he was called—he with the long, golden hair and flashy clothes. His jacket was studded with enough gold to sink an admiral—but he was no garrison soldier! Courage and dash beyond the ordinary led to his rapid rise from Lieutenant to General in the cavalry during the Civil War. It was this fearless impetuosity which caused him to lead 264 men to their deaths in that memorable charge upon the Indians at Little Big Horn.

FEBRUARY 1955

Volume One

No. 2-2

Guns

MAGAZINE

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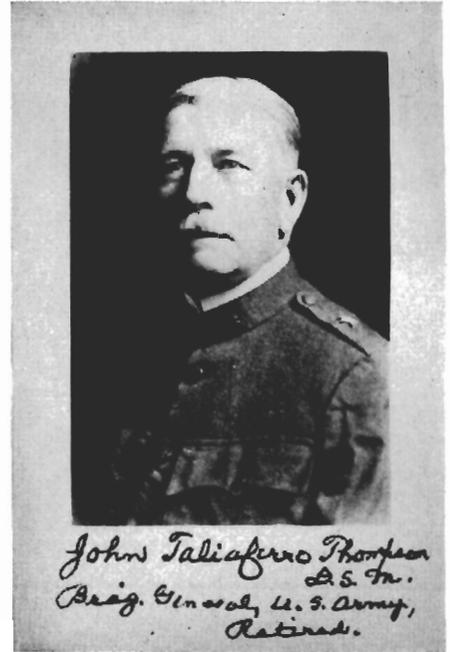
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Front Cover: Wheellock pistol, ivory inlaid and engraved, at one time in the armory of Duke Augustus I of Saxony, Elector of Holy Roman Empire. Now in Munich collection. Edward Ingres photo.

COL. THOMPSON'S "CHICAGO CHOPPER"



It was day for love—St. Valentine, 1929. A black Cadillac, a Chicago garage and seven dead men brought headlines for sub-machine gun called the "Tommy."

By WILLIAM B. EDWARDS

CUNS Technical Editor

THERE was a slight tinkling as the spent cartridge cases from the slamming breeches of two Thompsons showered to the floor.

Outside the tightly-closed doors of the garage at 2122 N. Clark Street in Chicago, the muffled staccato blasts sounded like a small truck backfiring. Inside, seven men lay slumped in the grotesque attitudes of death. On this St. Valentine's Day, 1929, a gun designed as a valuable tool for military and police work became an American Legend—the Tommy Gun.

They call it—not without cause—the "Chicago Piano." Its concert is a harmony of death—the rhythm of fifty or a hundred shots as fast as they can be fired. It has also been called, with overtly macabre meaning, the "Chopper." The Army calls it "the Thompson Submachine Gun, Model of 1928 A1". By whatever name, the Tommy Gun and the roaring twenties of prohibition Chicago are permanently linked in the world's mind.

Foreigners who are movie-goers, ask Americans traveling abroad, "And your Meestair Scarface—ees he steel active weeth hees Tommy Gons?" A native Chicagoan, registering at a little Paris hotel, finds the clerk look up

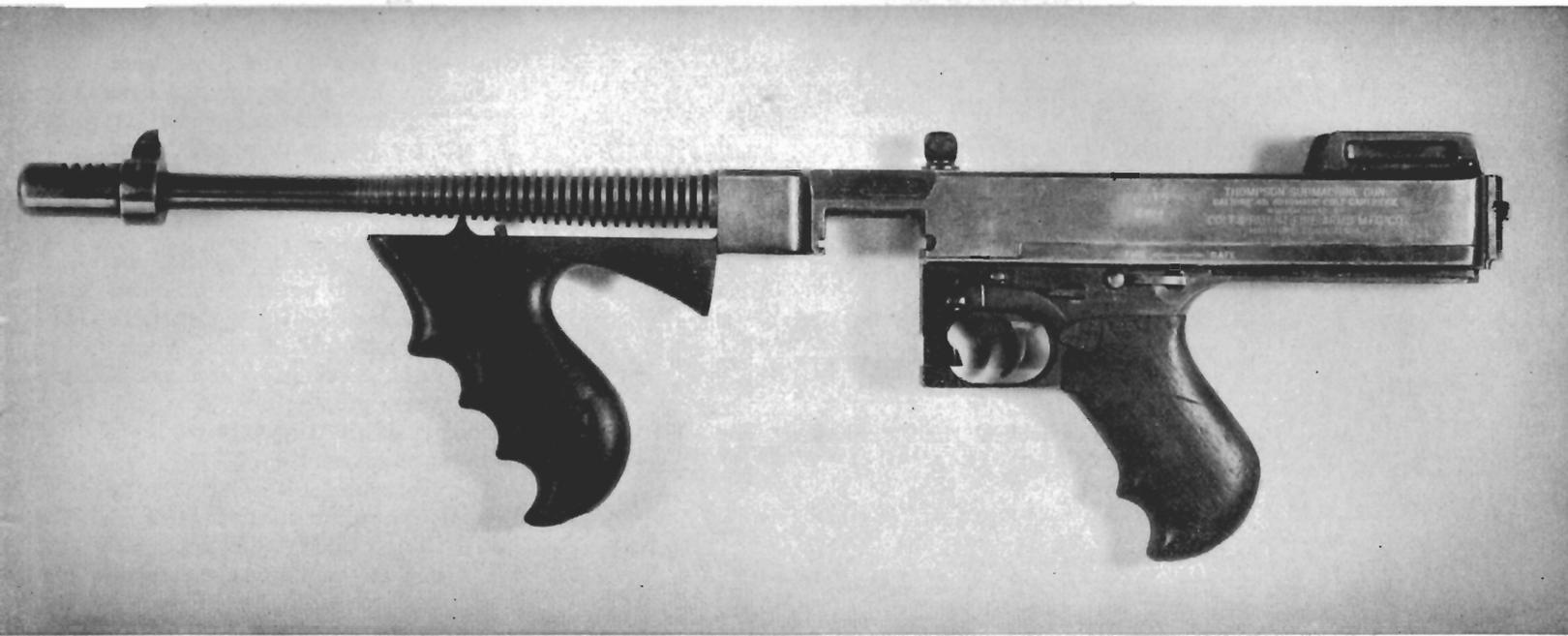
from the register with a smile on his face, "Monsieu' ees le gangstair?"

When Commander John Blish, USN, first applied for patent papers on a mechanical principle eventually to be incorporated in the Tommy Gun, he supposed he was merely getting a patent, not starting a whole folklore.

In 1915, there was an urgent need for rapid-fire infantry weapons and many methods of breech locking were tried. Commander Blish, while watching large naval guns being fired in drill practice observed a novel thing. The screw-thread type of breech closure would slip under the relatively low pressure thrust of drill rounds, but held

perfectly solid under the high pressure of full charge. With the drill rounds, pressure lasted so briefly that the way the naval cannon was designed it was perfectly safe. But Commander Blish supposed that if a gun could be designed with some inclined surfaces presenting a delay to the line of thrust of the breech block, so that under high pressure the adhesion of the sliding surfaces kept the gun "locked," and then the lower pressures would cause the breech to lose the adhesion and the sliding surfaces to slide, he would have the essence of a very fast firing





Tommy Gun with bad record is gangster gun, serial number erased, from FBI collection.

machine gun without all the expensive manufacture of recoil-operated guns then in use.

A patent for this design of gun, involving the belief that the surfaces would adhere under high pressure and slide under low pressure was obtained by Commander Blish. In 1916, Blish, Thomas Fortune Ryan the financier, and General John Taliaferro Thompson, U.S. Ordnance Department, formed the Auto-Ordnance Corporation to exploit Blish's patent.

Ryan, whose rise to a long and successful career in railroads, New York traction companies, and stock handling was coincidental with his marriage to the boss' daughter in the 1870's, eventually poured more than \$1,000,000 into the development of what became the Thompson-Submachine Gun. A million dollars to make Blish's friction delay principle work.

General Thompson's contribution to the group was equally substantial. Following the war, Thompson in 1919 became the chief advisory engineer of the Auto-Ordnance Corporation. His son, Marcellus Hagens Thompson, became vice-president and general manager of the New York city office.

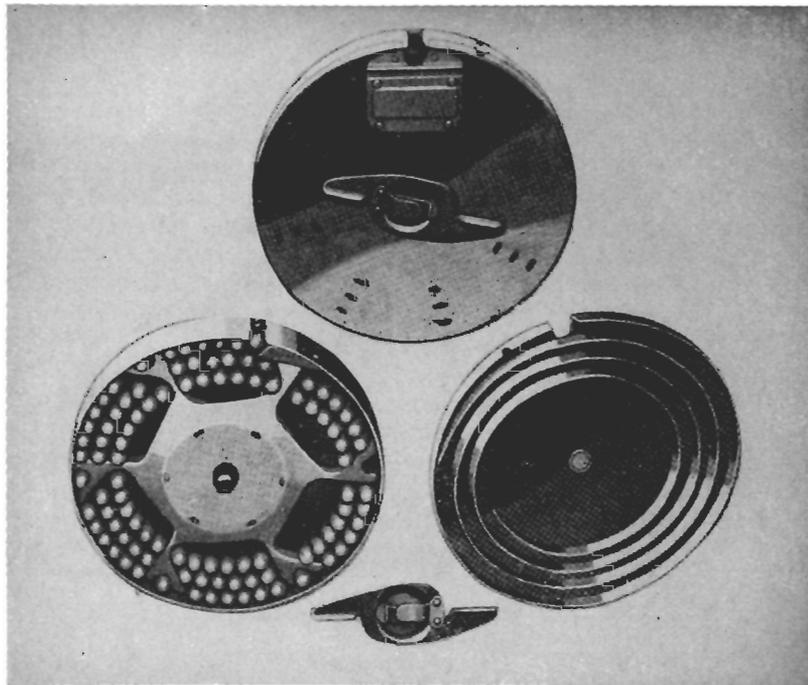
Thompson was no stranger to ordnance engineering. In his long and distinguished career he had been retained by the Remington Arms Company of Bridgeport as a general ordnance engineer in charge of British, French and Russian contract problems. With the Midvale Steel & Ordnance Co., as consulting engineer, he had designed the Remington-operated Eddystone rifle factory near Chester, Pa.—a plant which, as the world's largest small arms factory, produced the British "P-14" and the U.S. M1917 rifles.

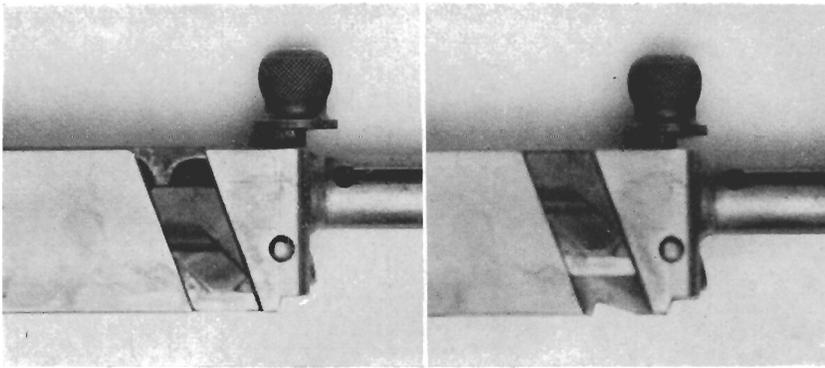
The guns which these three men planned to sell to every nation of the globe began to take shape. Patents were obtained upon the peculiar bronze-alloy sliding block which delayed the opening of the breech till safe pressure levels had been reached. Model guns were made in almost every caliber from the powerful 351 Winchester Self-Loading



Tommy Gun with good record is this Model 1921 on duty in a Chicago bank. Clip is vertical 20-shot.

Tremendous capacity of Thompson's "chopper" is demonstrated by take-down views of 100-shot drum.





Slide, block and lock in "locked" and "unlocked" positions.



Top: bolt of PC Thompson rifle has already slammed shut but fired case is still in air, illustrating slowness of operation, easy ejection. Below: bolt may be just discerned lifting out of frame recess, as case sets back in dry chamber. Gun shot well with oiled cartridges or dry ones; had very easy kick.



on down through 45 and 9 mm automatic cartridges to the tiny 22 Long Rifle, in a one-third scale model! As an infantry rifle, with a 20" barrel, musket-type wooden forestock and bayonet band, the .351 rifle was a wishful hope.

Designed as a large capacity machine pistol, with fore and rear hand-grips, the Model 1921 was a direct result of machine work done by Warney & Swasey in Cleveland. Altogether 285 patents were granted the Corporation including 38 in Great Britain, and many in other countries.

The pilot model was delivered to the Colt Company in Hartford and an initial lot of 15,000 guns contracted for, all in .45 caliber. Early model Thompsons show the excellence of manufacture associated with Colt products of this period.

Improvements occurred, with the principal ones being the attachment of a wooden buttstock, removable at will; sight changes for simplicity of manufacture; and the addition of the noted Cutts Compensator. It is possible to fire a TSMG without a Cutts Comp, but it does ride high. FBI practice involves loosely supporting the clip on the palm of the hand, and allowing the weight of the gun to drop it down in the line of sight between explosions. However, the Cutts Comp permits the Tommy to be easily controlled. It is, in fact, possible to remove the buttstock and using only *one hand*, hold the gun at arm's length and fire it fully automatic as a "pistol"! This the author has done, and shooting at a mark about seventy feet distant, the dust kicked up indicated a pretty regular grouping of shots—the gun simply "sloshed" back and forth in the air, and my job as shooter consisted principally in keeping it from falling down. There was almost no kick at all. From the shoulder, this was confirmed, but weighing about 12 pounds, depending on magazine and loading, it is a gun which should kick little anyway!

Twenty and thirty shot clips are available, as well as 50-shot and 100-shot drum magazines. These are dis-assembled to load, the face cover being lifted off and cartridges placed inside in the appropriate tracks. The hand grip was replaced with a wooden forestock and sling swivels, in the U.S. Army M1929A1 version. Slight internal modifications occurred in manufacture, but the distinctive Thompson



State trooper at roadblock uses Tommy Gun with 50-shot drum to back up questions in car check.

Originally planned for military and police use, Tommy Gun won notoriety on St. Valentine's Day.

square receiver was retained, and the top operating handle distinguished guns actually made under the patents of Thompson and Blish.

Among the earliest purchasers of Tommy guns were the large banks. One of the most important Federal Reserve institutions of the City of Chicago has an early M1921 Thompson, serial number in the 1500's—a true “collectors item.” While each and every man of their 150-man police force is trained in the use of the Thompson gun, for a number of years the force only had one 20-shot clip for the gun! Fortunately, the tangle of iron and irate tempers which is Chicago's traffic snarl had thrown a protective cordon about their bank long ago, and the automobile, more than any single factor, has made difficult to the point of impossible any large open “bank jobs” in the big cities. Either the criminal must resort to the methods of an “inside job” like the fabulous Brink's robbery in Boston, or forget the whole thing. The days of a bunch of hoods crowding into a bank, Tommy Guns pulled from violin cases, came to an end with the modern-day traffic jam.

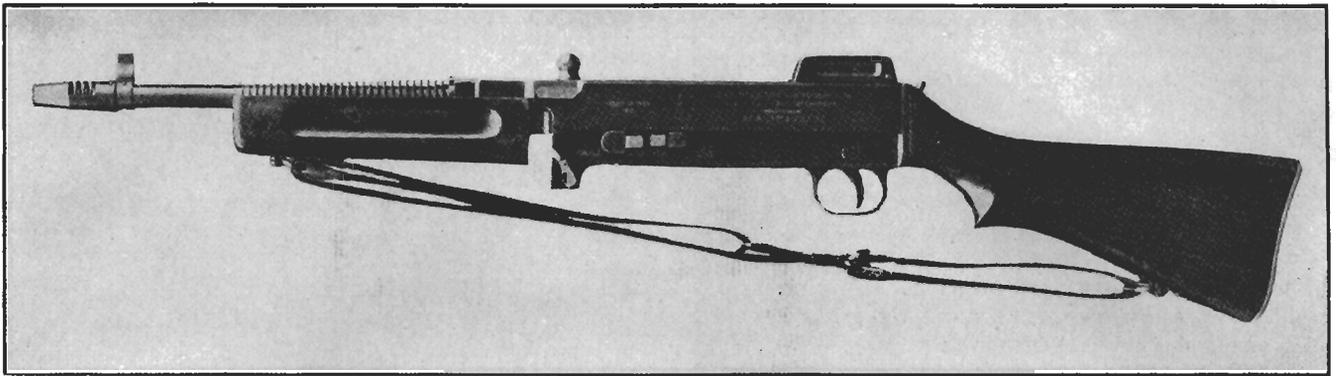
A caption from an early Thompson company catalog illustration of a police officer kneeling, reads: “Machine gun fire from the shoulder is the proven modern way to hit fast moving targets.” Unfortunately, police departments, handicapped by small budgets, were somewhat slow in grasping the opportunity. In the 1920's, no laws existed prohibiting the possession of a Tommy Gun.

Many hunters even purchased guns, under the misapprehension that they were good deer rifles. But gentlemen in certain sorts of business found them tailor-made for their needs.

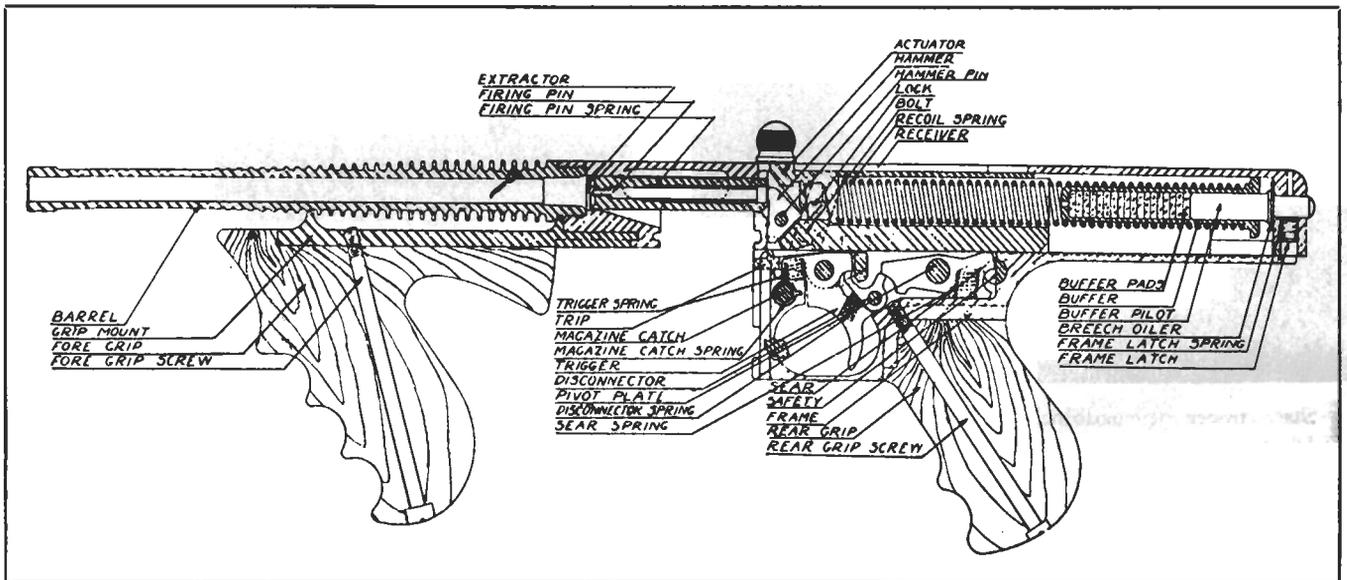
List price of a Tommy Gun was about \$200 and often the larger sporting goods stores, buying as a matter of course, would stock them. In farming areas the Tommy was regarded as a good coyote killer and the chain hardware stores offered them. A customer could step right up and plunk down his two bills and walk out with one, clip and ammo included.

The days of organized crime—Pretty Boy Floyd, John Dillinger, the Capone mobsters and O'Bannion's Boys—the Chicago police insist are but memories now. However, the subtle record of such operations as the intangible “Syndicate” make pretenses like this rather absurd. Tommy Guns are out of fashion these days, but once there was a strong rumor that some salesman for the Auto-Ordnance Corporation presented a Tommy Gun to John Dillinger, sort of a “review copy.” While unfounded, the story points up well the fact that as soon as gangsters began to use Tommy Guns in crime, police sales went up sharply!

Prohibition found a form of warfare ideally suited to the Tommy Gun. The O'Bannion mob, annoyed at the assassination of their leader in his flower shop by two Capone executives, decided to at least make a show of strength. Mustering eight touring cars, they converged on



English experimental Thompson Sub-Machine Gun made in 9mm Parabellum caliber by BSA Co.



Plan view diagram through center line of regular Model 1921 Tommy Gun in .45 caliber.

Scarface Al's Cicero hotel. From the first car came sporadic bursts of blank fire to scare away the citizens. Then as car after car proceeded at funereal pace past the building, Tommy Guns raked it from sidewalk to cornice with bullets. One gunman—evidently a demonstrator bent on showing the tremendous magazine capacity of the 100-round drum—got from his car and in best approved fashion, knelt and fired 100 shots through the Hotel Hawthorne's lobby. Chicago buildings to this day bear scars from the days of the "mobs."

The climax of gang warfare came with the St. Valentine's Day Massacre—still spoken of in awed tones by Chicagoans. Two men dressed as police officers carrying Tommy Guns, followed by two plainclothesmen carrying shotguns, descended from a Cadillac touring car and entered the S.M.C. Cartage garage at 2122 North Clark Street. The Moran gang inside, including a fairly innocent dentist who found a thrill in "name dropping" and association with criminals, quietly succumbed to what was a fancied "police raid." Lined up against the wall, the seven men waited for a "frisk." Instead, both pseudo-officers emptied the Tommy Guns, painting with red the brick wall. Later investigation disclosed that one gun was a 50-shot

drum gun, the other carried 20 shots. Both guns were emptied in the firing. If anyone, curious, had called the real police, an arrest might have been made without difficulty. Any onlookers who saw the four men in the street later, simply saw two men in the custody of two "police officers" enter the car and drive away. The Tommy Gun from the FBI collection is a "gangster gun" having had the serial number erased. The exact counterpart, same model, is shown, courtesy of a Chicago bank. Same tools, different workmen.

The United States was among the governments which reacted favorably to Colonel Thompson's invention. Purchased in sizeable quantities, the Navy, Coast Guard, Marine Corps and Army learned tactics which later proved of value in using the Garand and other more modern automatic weapons. The Cavalry adopted it as a standard weapon, and motorcycle front fenders were regularly fitted with a Tommy Gun scabbard carrier. British enthusiasts in the Army Ministry of Supply even went so far as to equip motorcycle handle-bars with brackets allowing the guns to be fired while the cyclist was in motion!

In the early 1930's, the government of Mexico obtained a few guns. Brigadier General Gustavo Salinas, Chief of

Air Service of the Mexican Army, wrote a glowing commendation of the gun which young Marcellus Thompson thought fit to print as advertising:

"There is no doubt that the fire-power of these guns have allowed our patrols in Segovia to accomplish what they have. They are an ideal weapon in narrow trails, especially in clearing out ahead where only a few men can be with a point and also in breaking up rushes of bandits attacking our troops. For the class of work we are doing down here, we should have a Thompson for each squad.

On the type of duty now being performed by this Regiment, the sub-machine gun has proved to be an invaluable weapon for small and isolated detachments, and for the supply train guards. It is believed that no weapon in existence can compare in effectiveness and desirability to it for use in hilly, wooded country. . . .

During the operations of the Nuevo Segovia-Expedition in Nicaragua, during July and August, 1927, I had much opportunity to observe this weapon in field service in a hostile country, and in actual combat, and it easily proved itself one of the most powerful weapons with which infantry troops can be armed.

The general opinion of those that have used the Thompson Submachine Gun in combat against a hostile armed force is that it is invaluable. Our forces have had to requisition additional Thompsons during 1927 to supply the demand of those engaged in combat with hostile forces."

With a restraint most admirable, General Salinas omitted to mention in his approbation that the "hostile forces" were Nicaraguan militia supported by U. S. Marines ordered to maintain the government of General Chamorro against the actions of rival deposed presidente Dr. Sacasa. A further evidence of the impartiality of the Tommy Gun, for Marine officers spoke most highly of it on their return from Central America!

Concurrent with the development of the submachine gun, Colonel Thompson had been working on an improved infantry rifle. A rotating bolt design, the bronze locking block was retained in principle. The bolt itself has a large screw thread shaped on the rear, cut on both sides, and with the turning of the bolt to "locked" position, the thread lugs lock into cuts inside the receiver. At the rear of the



Rumor has it that Dillinger was presented with "review copy" of Tommy. If true, he didn't need it when last portrait was taken.

bolt, the bronze friction lock is forced into cam cuts by pressure of the recoil spring, resisting the turning. The rear thrust of the case against the bolt, transmitted to the screw-lugs, produces a rotational resultant which through the bronze friction cam compressed the mainspring and unlocked the bolt. The fairly high pressure obtaining in the chamber would pop the case and bolt rearward, ejecting the shell.

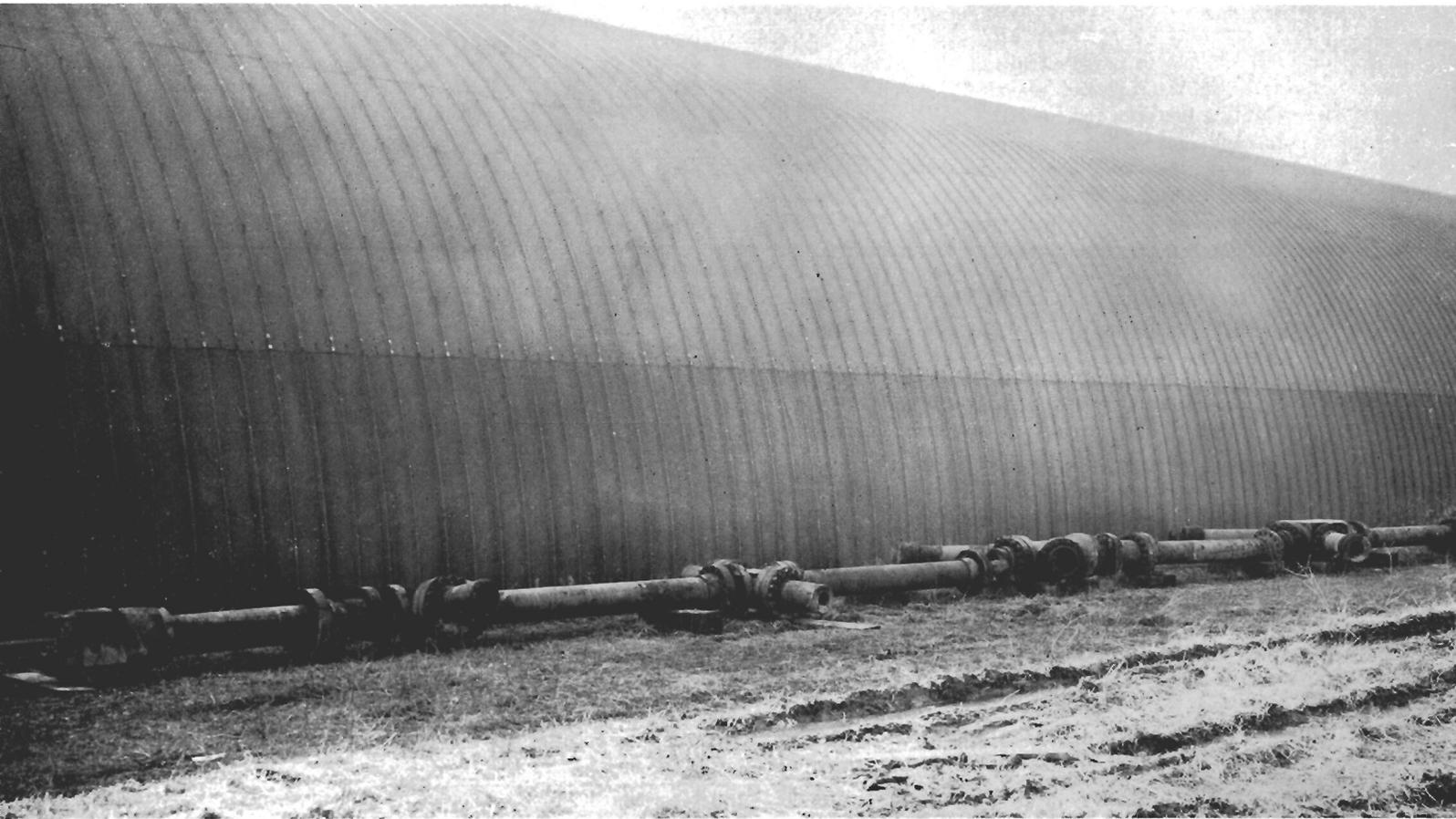
Oil pads inside the detachable magazines greased each case as it fed into the chamber. This was considered necessary to allow slipping of the case in the chamber under pressure. If the weak front (Continued on page 45)

While no longer being manufactured, the Tommy is still retained as symbol of deadliness. Here's light touch by cartoonist Yates.





HERR HITLER'S



Partially assembled at Aberdeen Proving Ground for study, the multi-section HDP gun looks like a "dug-up" sewer.

**FROM NINETY MILES AWAY IT COULD HAVE KNOCKED OUT LONDON . . .
BUT, NEVERTHELESS, IT STILL LOOKED LIKE PLUMBING!**

By HARVEY BRANDT

ONE of the pleasures of occupation Ordnance work in Germany in 1945 and 1946 was the humor of the job. Almost daily Allied officers learned of another weird and improbable project on which some colonel with a yen for the mystic and a direct line to Hitler had been working. The gun which shoots around corners was startling enough, tho scholarly searching later disclosed a U.S. patent on the identical idea during the 1880's. The notion has even "come home," and an attachment for our own M3 submachine gun exists to permit angle fire up to 90° from the initial line of bore. But to Ordnance men who thought they had seen it all, the Hochdruckpumpe (HDP) was another thing entirely.

Yes, it was a gun. The name "pumpe," however, was entirely appropriate—as a gun it was also the most unfortunate mess of plumbing ever seen! The gun tube was made up of forty sections which were approximately two feet long. Completely assembled, the gun was 394 feet long!

Externally the tube resembled nothing so much as a series of old-fashioned toilet drain traps, jutting from the side of the main pipe. Separately chargeable with gunpowder, the "traps," of which there were twenty-eight in all, were designed to add their impetus of combustion to the small main charge as the projectile progressed up the bore. Long range was the idea. The projectile was a

Hochdruckpumpe

“dart” or “torpedo” eight feet long, and about six inches diameter—the gun bore was 15 centimeters. Fins placed at the rear gave the 150 pound projectile its spin as the muzzle velocity of 4500 feet per second started it on its 130 kilometer journey.

Hitler shared the German fondness for striking, no matter how weakly, at the capital city of the enemy. During World War I, when France was the primary opponent, the Paris Gun had fired shells seventy miles into Paris. Now, Hitler planned to emplace the HDP in coastal batteries and pound London from a distance.

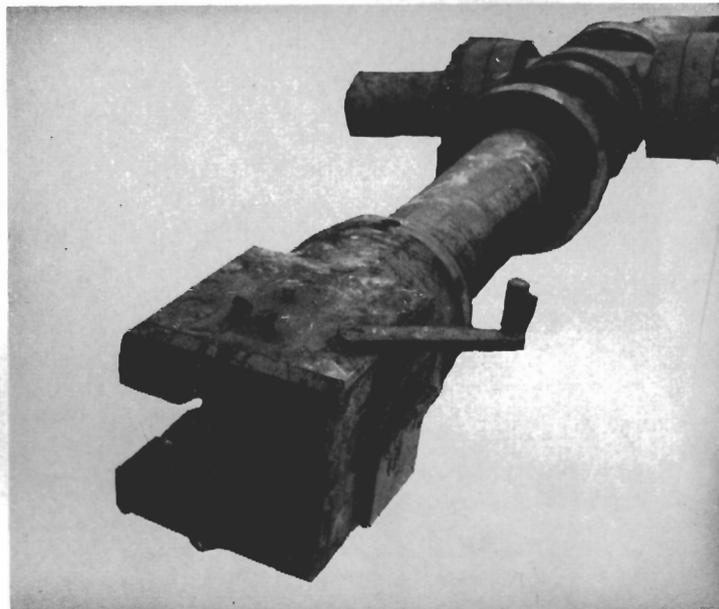
The small projectiles were admirably designed for distance work from such a gun, but were not large enough to carry any significant quantity of explosive. As in World War I, such “pounding” would have only meagre psychological effect.

A five gun battery was being constructed near Calais for firing on London, when observers spotted the works and the underground establishment was destroyed by air bombing before completion. A survey of the emplacement indicated an elevation of 50° was planned—some 8° short of the elevation of the Paris Gun which attained its long range by firing the projectile on a high trajectory through the stratosphere where air resistance was minimal.

A brief account of the HDP appears in German Research in the World War, by Col. Simon:

“Its tests were regarded as successful although the barrel exploded about one in every 3 shots. Since the barrel was made up of sections, it was planned to merely replace the blown up section. Crews were trained to replace sections quickly. Whereas the principle of the long, slender fin-stabilized projectile is good, no good results were expected from the multiple powder chambers even by the people who were working on the development of the gun.”

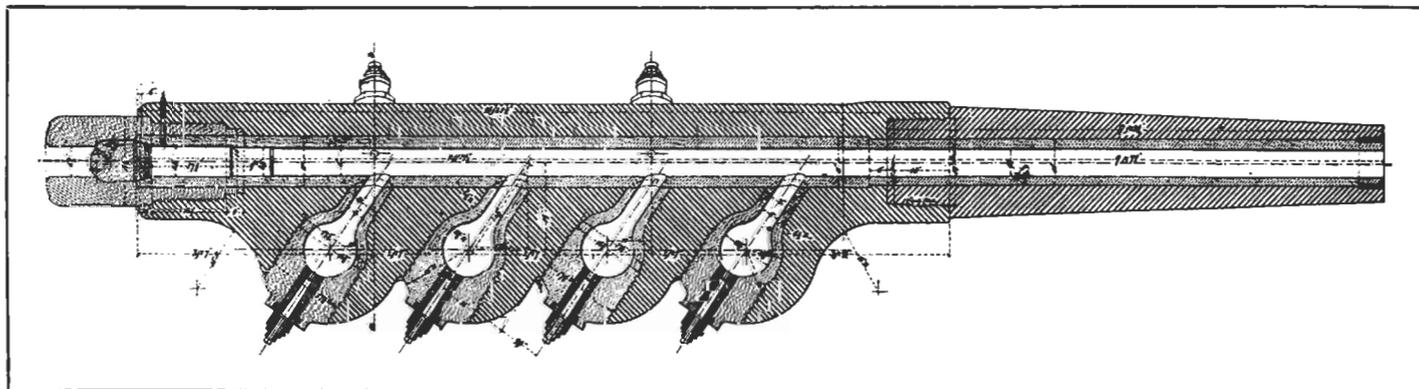
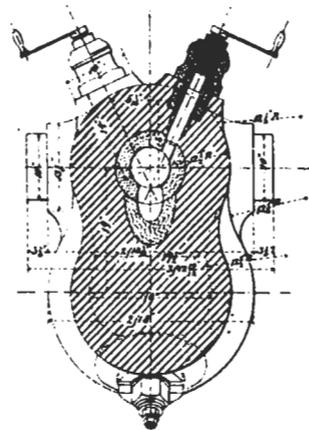
Colonel Simon was voicing the modern disapproval of the multi-charge principle . . . but not always has American ordnance been so conservative. Back in the 1880's, the Secretary of War was so intrigued by the claims of Messrs. Lyman and Haskell (Continued on page 40)



Breech block of HDP gun is similar to ordinary Krupp sliding breech. The bolted flange design permitted easy repair in field after accidents.

6-INCH LYMAN-HASKELL GUN

Pregnant look of 19th century Lyman-Haskell Accelerating cannon outlines the four supplemental “pocket charge” cavities. Not easy to fill, gun nevertheless achieved high velocity and great penetration in armor plate tests at Sandy Hook.





Priming pan of flint Hawkens soon gave way to easier capping of percussion model. Guns were full-stocked, later had half-stock.

WESTWARD— THE RIFLE!

FROM ST. LOUIS TO THE ROCKIES, HAWKEN WAS
A MAN'S RIFLE—ALL THE WAY

By NORMAN B. WILTSEY

IN 1808 St. Louis was small but growing. Beyond to the west, stretching countless leagues to the Pacific ocean, was a land full of mystery. It was also full of the elusive beaver, in huge numbers, and a trapper's seasonal take might easily put him into the rich man's class for the few months of the Rendezvous. Afterwards, broke in purse but with his trusty traps and rifle, he would take the long trail again for another year.

Jake Hawken was jubilant. In town scarcely a year, the fever of a town riding the crest of a boom had caught him and his ambitions of becoming a gunsmith in this raw, turbulent, gateway village—an open

Standard Hawken percussion rifle, middle, shows heritage of design from early U.S. M1814 flintlock rifle, right, popular with mountain men. Left, variant Hawken has longer barrel and tin fore-end tip.





Inside top Hawken lock is stamped maker's marks. Only "John", "M", and "C1717" remains, bolster cut-out having removed other stamping. Locks by Golcher are known and Hawken workman John Gemmer fitted them. Barrel of top gun is attached by "Carbine-like" patent breech.



Youngman

"Squaw man" Jim Bridger maintained a fort and trading post where Indians and mountain men swapped furs for powder and bullet lead.

door to the Louisiana Territory—seemed close to becoming a reality.

And reality it became. Within 20 years the name "Hawken" became known as the symbol—from the Rio Bravo to the Colombia—of the "best dang rifle made."

Trappers needed rifles and Jake, whose Dutch gunmaking ancestors had emigrated to America years before, was ambitious to open a gun shop and be first in a wide-open field. He was experienced in the making of flintlock guns, and the long half-stock military Harpers Ferry rifles of the U.S. Army explorers had become accepted by many of the western men as good, reliable standards of gunmaking. But to achieve good, reliable standards of gunmaking was an aim which did not come easy to young Jake. Until 1815 he probably worked about St. Louis as an assistant mechanic—hard work and plenty of dogged determination were necessary to turn ambition into reality for him.

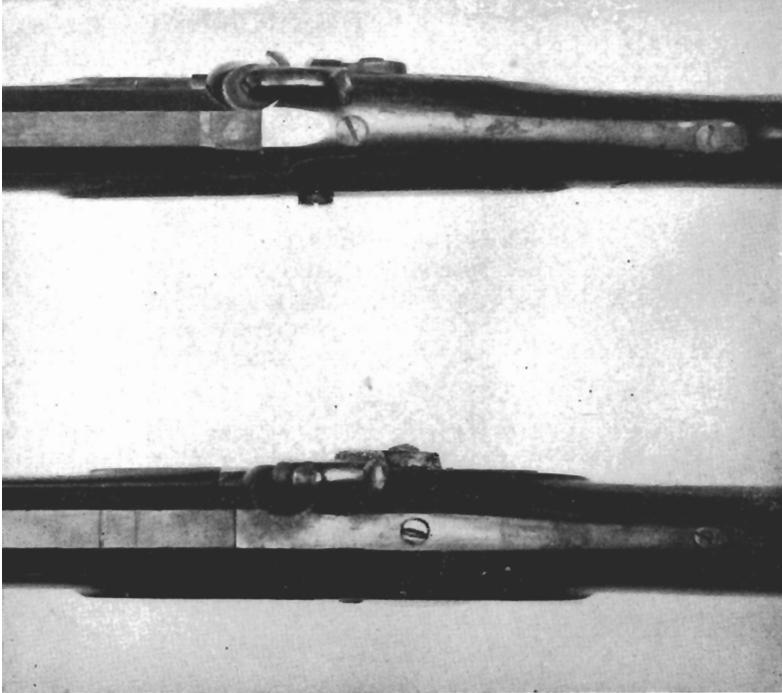
The shop of "J. Hawken, Gunmaker" opened its doors in 1815 but business was not too brisk—canals and wilderness trails had to be hewed through forests to allow settlers to arrive and become customers. Finally, after seven years, business warranted his sending to Maryland for his younger brother, Sam, to join him. Thirty year old Samuel arrived from Hagerstown by the easy way—steam-

boat from New Orleans—on June 3, 1822.

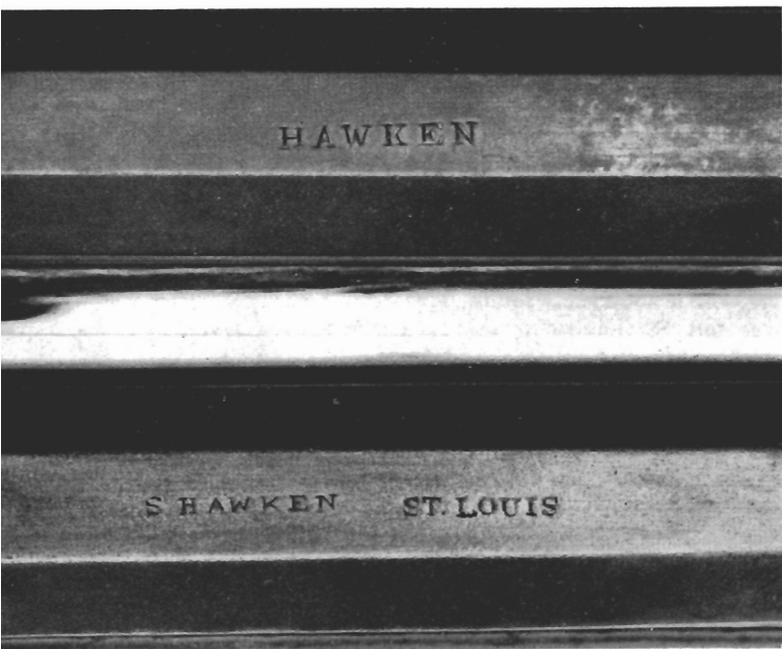
In the year of 1822, once-sleepy St. Louis had become a teeming headquarters for fur traders and trappers. They never left St. Louis for the Rocky Mountain trapping grounds without first visiting Jake Hawken's gunshop on the bustling levee. Keen-eyed, observant, they stood about the shop, intently watching the workmen at rifling machine and woodworking bench, thoroughly enjoying activity and the smell of oils, metals and fresh wood. Jake tolerated them as potential customers, but allowed no loud talking or horseplay. He had decided to switch produc-

Half-stock Hawkens had stocks fastened to barrels with two wedges.





Hand-finished Hawken rifles varied, but most had unusual lobe-shaped barrel tangs. Patent or solid breech at break-off was made to customers' special orders.



Hawken marks, above, may be found . . . if you're lucky enough! Collectors have also identified unmarked Hawken guns through peculiar barrel wedge design.

tion from flintlocks to caplocks about that time and was in no mood to brook criticism from the mountain men.

Bill Williams, famed trapper and Indian-fighter, was one of the first customers for a percussion-type rifle although he had walked in to buy a flintlock. Never noted for his good humor, Williams was annoyed to find Jake Hawken making caplocks. Growled Bill: "Percussion caps is handy, but ef ye lose a flint, ye can chip yoreself off another somewhars and yore gun is good as new."

To this old-fashioned argument, Jake Hawken retorted acidly, "Suppose it rains and wets your priming powder, or the wind blows hard enough to clean out your pan—what

have you got *then*? Pack enough caps to last and hang onto 'em, you damn fool!"

Dubious, willing to be convinced, Williams agreed to follow Jake's pointed advice. He never regretted buying the "new-fangled" caplock rifle.

Brusque, short-spoken and always busy, Jake Hawken was a conscientious gunsmith utterly devoted to his craft. Jake inspected each finished weapon before it left his shop. Almost fanatical was his insistence that each rifle be as near perfection as painstaking craftsmanship could make it.

"We only make 'em," snapped Jake in response to Sam's irked objection to such strict supervision. "Our customers stake their lives on our rifles!"

This was literally true. Hawken rifles went with General William Ashley's first expedition to the Indian country in 1823-24 and armed guides and freighters operating the wagon trains on the Sante Fé Trail. In later years the "Peerless Pathfinder," Colonel Fremont, specified Hawken for his men. The name "Hawken" stamped on the barrel became recognized as an unconditional guarantee of top gun quality in a turbulent period when a good rifle was a man's best insurance against personal disaster.

The firm now known as "J & S Hawken" grew and flourished until 1832, the Hawken brothers employed a dozen gunsmiths working full time. After Jake's death of cholera in 1849, Sam continued to turn out rifles at the new shop at 33 Washington Avenue. Sam retired in 1862, selling the business to John Gemmer, one of his top workmen. Old Sam returned to the shop every day for years thereafter, spinning yarns to the customers of early days in St. Louis and even taking a hand at making a rifle now and then. Sam died in 1884 at the age of 92. Gemmer continued making Hawken-type rifles until he retired from the gun business in 1915.

The standard Hawken rifle was not fancy; it was built plain and sturdy for long, hard, efficient service under exacting conditions on the plains and in the mountains. Jake Hawken detested "foofuraw" and was apt to bluntly advise a customer requesting silver mounting and elaborate wood-carving on a rifle to take his gun business elsewhere. Paradoxically, according to his mood of the moment, the mercurial little gunsmith might personally "work up" a rifle for a special friend with all the lavish trimmings possible.

In 1822 the brothers charged \$22.50 to \$25 per rifle, if no extra work was done on the piece. Later, as the demand zoomed, the price rose to \$40. Probably at no other time in gunmaking history did so little money buy so much gun. "The Hawken Rifle," they said, "was *the rifle* to mountain men, trappers, explorers and Indian fighters from the time General Asley built his first fort on the Yellowstone river to the last days of Kit Carson at Taos, New Mexico." Kit's favorite Hawken, at his death in 1868, was presented to the Montezuma Lodge, A. F. & A. M. of Santa Fé, New Mexico, where it is still on exhibition.

Another excellent example of the Hawken caplock rifle may be seen in the Colorado State Museum in Denver. Once the property of noted plainsman, Mariano Modena, this rifle is .50 caliber, weighs 12½ pounds, and has a 34¾-inch barrel. Purchased by Modena in 1833, this Hawken served its owner faithfully in many a tight "ruckus" for over forty years. In 1878 the old hunter, in failing health, presented his beloved "Old Lady

Hawkins" to his long-time friend, General A. H. Jones. "Keep her clean, General," Modena whispered huskily as he relinquished his rifle. Jones promised he would and the General and his family kept the pledge for more than half a century before presenting the piece to the Denver Museum.

Technically, the first Hawken caplock rifles seem to have been developed by adopting features of three flintlock rifles of the period just preceding: the time-tested Kentucky rifle, the Harpers Ferry rifle first made in 1800 and improved in 1814 and 1817, and the heavy English sporting rifles produced by London gunsmiths since about 1800. Very few English rifles had reached the American frontier in 1822; the Harpers Ferry was fairly numerous; the Kentucky most numerous of all. In 1822 the long-barreled Kentucky was considered the ultimate in perfection by gunsmiths and shooters alike. Daniel Boone and Simon Kenton had carried the Kentucky in the Indian-haunted woodlands of the "Dark and Bloody Ground," and the famed weapon had served America with brilliant distinction throughout the Revolution and the War of 1812. The superiority of the Kentucky was an unassailable tradition in 1822.

Yet, west of the Mississippi, the renowned Long Rifle of the early pioneers proved clearly inadequate for grizzlies and buffalo. Hunters, returning to St. Louis from the mountains, demanded of gunsmiths a rifle capable of dropping a fat buffalo cow or of stopping a charging grizzly. Jake Hawken, alone among St. Louis gunmakers, produced the needed weapon at the right moment and his market was ready and waiting. Mountain men were avid to buy the rifles as fast as he could turn them out and Hawken swiftly became famous.

The heavy octagon barrels of the Hawken were from 34 to 38 inches long, although a number of shorter and longer barrels were made. The rifling was seven grooves and lands, with a slow twist of one full turn in 48 inches. The straight stock of maple or walnut was fitted with a rounded iron trigger-guard with curved extension, deep-curved butt and raised cheek-piece. Patch-boxes were seldom used. Double-set triggers were integral with the



Joe Meek, mountain man and friend of Bridger.

trigger-guard. Early Hawken rifles were made with a full stock; later, the half-stock was adopted. Locks varied; some being of the ordinary "warranted" type, others handmade in the Hawken shop. R. Ashmore, an English maker, supplied locks for Hawken rifles, and a few have turned up equipped with locks stamped with the name "Meyer." A low silver blade set in a copper base was the standard front sight; a low (Continued on page 42)



Round ball bullet mould for muzzle-loading rifle. Knife was used to trim off lead.

Powder was life insurance miles away from supplies; tube or cup threw exact charge for individual gun.



Dimension "X"

—THAT LIGHTWEIGHT SPORTER

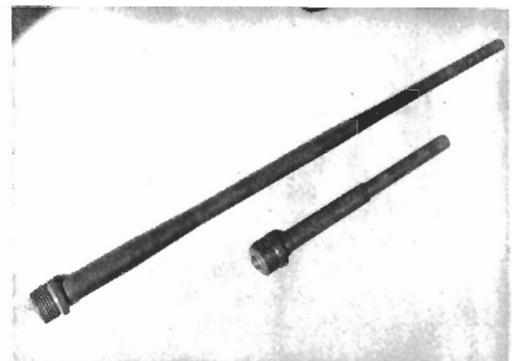
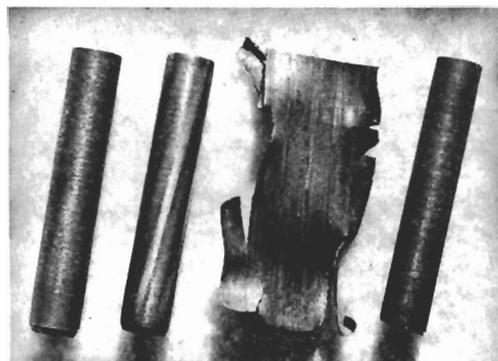
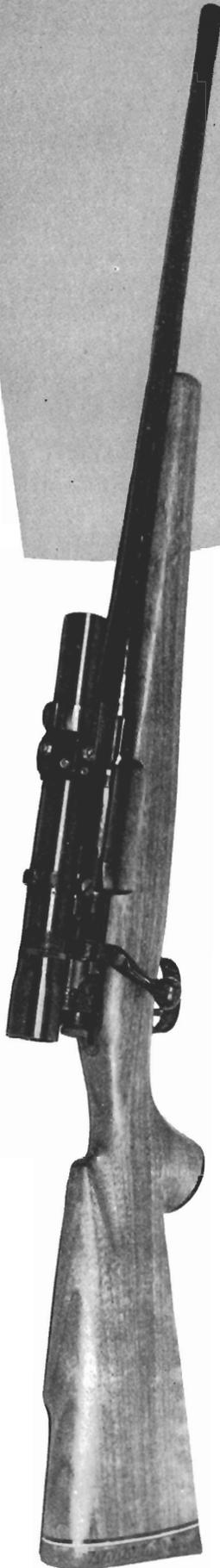
By NEIL KENNEY

THE hunt's over. You're back in camp, rubbing alcohol into that sore shoulder where the sling on a nine-pound standard sporter cut to the bone. Or maybe you're experimentally wriggling your fingers to see if you still have a wrist, where that same sporter dragged on your arm all day. There's not even a buck hanging from the tree outside to compensate for the fact that you, a city feller who loves the woods, is out of condition for totin' a pack and a ton of rifle.

And you think of these much-advertised "featherweight" sporters at fancy prices and wonder just how really light a rifle, with a scope, can be. Barrel weight is one major factor in overall weight. European sporting guns often seem to have barrels bordering on dangerous thinness—all right, just how skinny can you go in thinning out a rifle barrel? Where does the danger point really lie? We decided to find out, and laid out an experiment which we hoped covered all the angles.

With an approximate 5000 pound residual pressure left at the muzzles of most high-power barrels and with the fine steels of today the arrow pointed immediately to a muzzle diameter of alarmingly small dimension. It also pointed to a steel of uniform analysis whose percentages would all be known. With

Sporter complete with scope in 30-06 caliber tips scales at about 6½ pounds. Extra-light barrel makes this possible. Tube sections (below, left) show slimmed test barrel as it was cut at different points. Right section is 2" length sawed off at 16", next at 18"—note rifling marks bulged through from inside. Section at 20" had burst and flattened. Section at 28" was solid. See text. Right photo shows two barrels. Shorter is remains of test barrel as turned with fired shell still jugged in chamber. Long one is Enfield barrel turned to finish dimensions and after a stint of firing, dimensions are the same.





Author-gunsmith stands behind his work! With regular 150-grain load, gun is just rising from fingertips. Photo, right, taken at same . . .

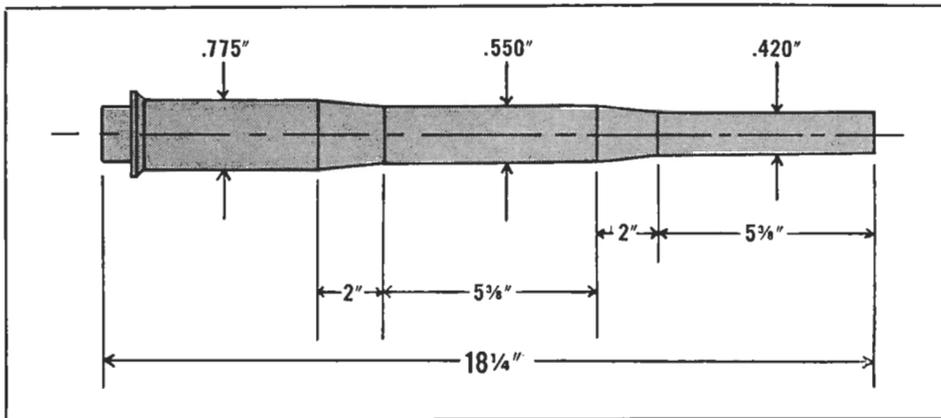


. . . shutter speed, shows firing of full charge behind 220-grain slug. In light gun this gives a very sharp slap that's rather unpleasant.

this in mind letters were exchanged with John Buhmiller, the barrelmaker in Kalispell, Montana and he agreed to supply the exact barrel needed plus whatever paper information went along with the steel.

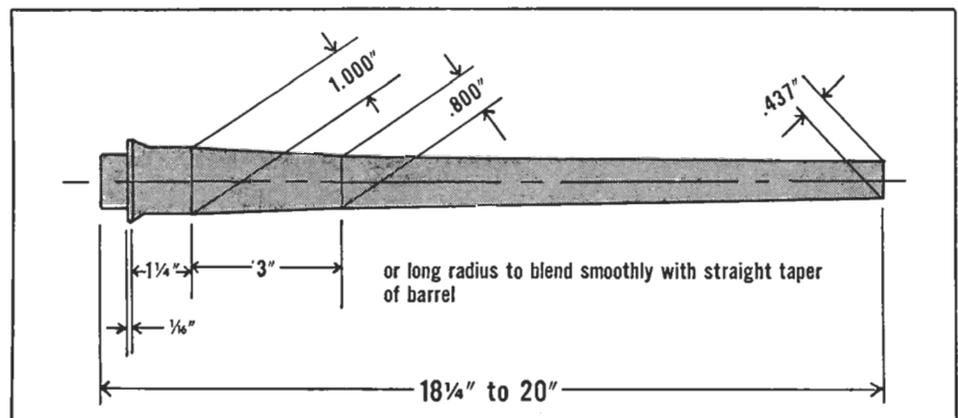
By doing his own normalizing he gives a barrel a very uniform texture regardless of content. This was borne out by working the barrel under a hardness tester after removal from his electric furnace.

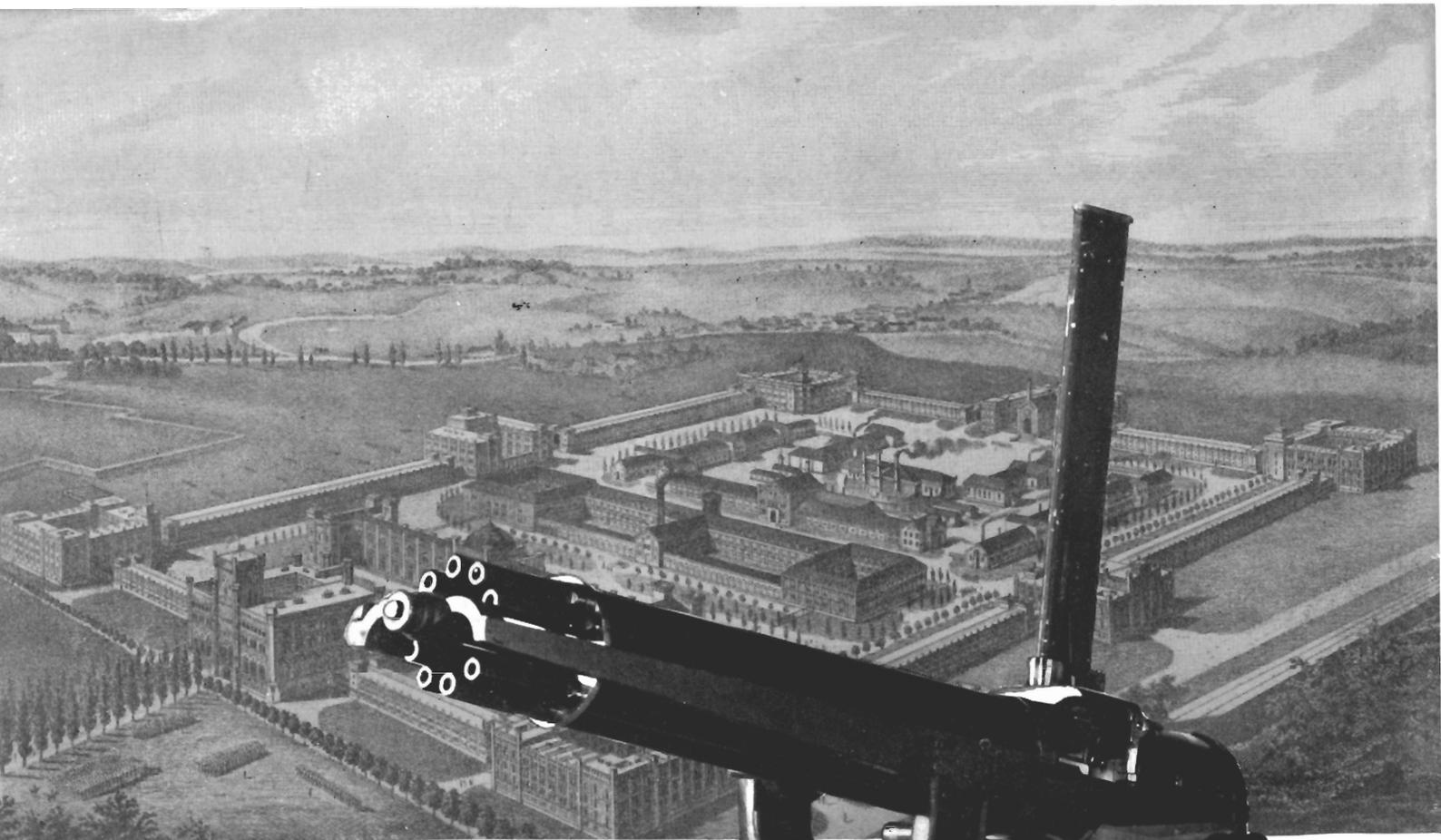
The content was chrome-moly-nickel with just enough other chemicals to make the steel basicly free machining. Caliber .30, 10-inch twist and a uniform hardness end to end of 93-95 on the Rockwell "B" scale or a Brinell of 200-210. It seemed a crime to sacrifice a perfectly good barrel on the altar of the unknown but for the results of the experiment to mean anything to all four sections of it, everything had to be known. *(Continued on page 39)*



Dimensions of diagram show small size to which the test barrel was safely thinned. Allowing a good margin with known barrel steels gives . . .

. . . improved sporter profile which is graceful in shape, light in weight. This is for 30-06 as indicated in text. Yes, other calibers will vary.





VIENNA:
GATLING'S
'ONE NIGHT
STAND'

By F. H. BAER

Clip feed was optional to the
Accles drum on gun that might
have altered history's course.

A MILLS bomb and a Browning pistol started it all. Europe squirmed on a powder keg and a wild-eyed Serbian student whose assassination of Austrian Archduke Francis Ferdinand at Sarajevo set off the spark that exploded into the First World War.

In 1914 the Austro-Hungarian empire was the leading continental power. Serbia, bound by alliance to Russia, was a small nation. Germany, a "dark horse" allied with Austria, almost won the war for the Entente within months because of its use of the machine gun as an infantry support weapon.

By this time Germany already had over 50,000 Maxim guns either in hand or on order. With these guns Germany held up its end of the war in Belgium and France. However, in the Balkans it was a different story. The Austrians fighting in this sector lacked positive machine gun support for their troops. They had the guns but the fault was that the high brass had no concept of how they were to be used.

Austria-Hungary, once the leader among nations became mere followers of Germany's military lead and they emerged from the war shattered in defeat. Once, though,

Herr Schmid-Marneffe, Vienna representative of the Gatling Gun Company of Hartford, Conn., offered a new and improved model of the Gatling to the Imperial War Ministry. Lt. Fieldmarshal Wilhelm, the Inspector General of Artillery, on November 23, 1883, ordered the Technical Military Committee to take the matter under advisement. Schmid was asked to provide more data on the gun, and to name a date on which extensive tests could be made before the Committee.

Within a fortnight the following test program was agreed upon between Herr Schmid and the Committee:

(1) Purpose: To test the improved Gatling Gun in those fields where the representatives claim better performance than in either the original Gatling model or other mitrailleuses. The test centers around two things: First, the general functioning, aiming ability, and firing speed is to be tested; secondly, the claimed possible use of the improved Gatling gun as a high-elevation gun like a mortar.

(2) Administrative Order: Since an extensive area is necessary to conduct the test, the chief proving ground, the Steinfeld south of Vienna, is to be used, with Felixdorf

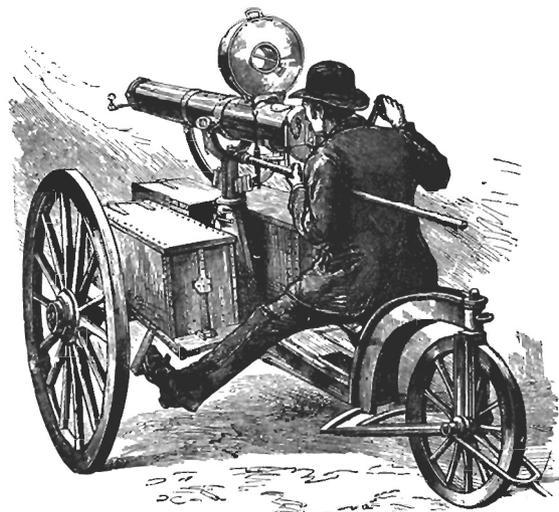
Gatling, basis of modern machine-gun tactics, was OK'd by Austrian tests but refused by Army. Franz-Joseph paid the penalty.

an American had given them a chance—a chance to buy a machine gun. The multi-barreled Gatling repeater which was the best mechanical rapid-fire gun ever designed.

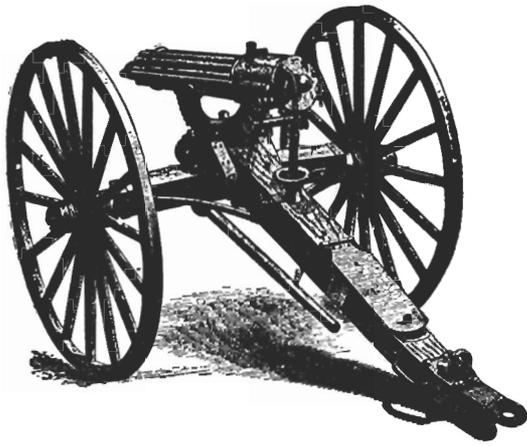
The year was somewhere in the 1880's, the site was Vienna: the Imperial War Ministry had permitted one gun to be imported for testing on the Army's principal artillery proving grounds. They kept the gun for three months.

After firing 2,000 shots, it was decided that the Gatling Gun, already adopted by America and England for their forces, should not be ordered as a standard weapon in the Imperial Army. Possibly coloring that decree was the ill-fated use of the French *mitrailleuse* during the Franco-Prussian War. Since the officers had little understanding of the capabilities of a rapid-fire rifle caliber gun, the French had no chance to use the gun with significant effect. Austria was a close observer of that conflict, and to many, the Gatling was just another *mitrailleuse*.

The War Archives in Vienna still have a file on the test: on yellowed paper, crushed and brown at the edges, in flowing old-fashioned script, one discovers the full story. . . .



Ten-barreled, equipped with drum, gun, above, was type used in test.



Gatling's effectiveness was multiplied when mounted on caisson as shown above.

as the center. The date of the test is dependent on the arrival of the gun and the ammunition. Mr. Schmid is to transport—at his expense—the gun and sufficient ammunition to the proving ground.

(3) Targets: Two different types. The first a vertical wooden wall, 2700mm high (105.3 inches) and 10600mm (413.4 inches) wide. The second, a horizontal target formed of 60mm (2.34 inches) thick planks, 6800mm by 7400mm in measurement. (265.2 by 288.6 inches.)

(4) Schedule: To test the new kind of magazine, developed by engineer Accles, holding 104 shots, as to the functioning of loading, firing, and self-ejection; and to test the aimed shot at high angle elevations the following tests are ordered:

(a) Slow fire against the vertical target, 500 meters distant (1,640.4 feet), one magazine with 104 bullets, the operating handle crank connected to the rear end of the main-shaft, thus reaching the highest firing speed with a ration of 1:1 of crank and main-shaft's revolutions. The second part of this test same as the first except that the crank was to be connected to a 2:1 reduction gear at the main barrel shaft, slowing the rate of fire by 50%.

(b) A salvo (burst) at the vertical target at 1,000 meters distance, (3,280.6 feet), one magazine of 104 shots fitted. This test was divided into two parts as above, one part with the 1:1 gearing, the second with that of 2:1.

(c) Salvos of between thirty and fifty shots while simultaneously traversing—side to side—the gun. Four magazines, fired at the 1,000 meter range.

(d) Firing four magazines at the vertical target at the highest speed possible, changing magazines included, to determine maximum speed of firing 416 shots, four

Open breech cover shows the detachable cocking arm. Individual bolts could be removed from rear for repair purposes.

magazines, at 2,000 meters range (6,561.6 feet).

(e) Rapid fire on signal against the vertical target, in bursts of thirty seconds duration, to determine speed of aiming and firing combined—six magazines full.

(f) Firing at high elevation of 80° against horizontal target plate 500 meters range. Accuracy and projectile effect tested, firing two magazines.

(g) Maximum range firing at 3,000 meters (9,842.4 feet) at about 40° elevation, three magazines.

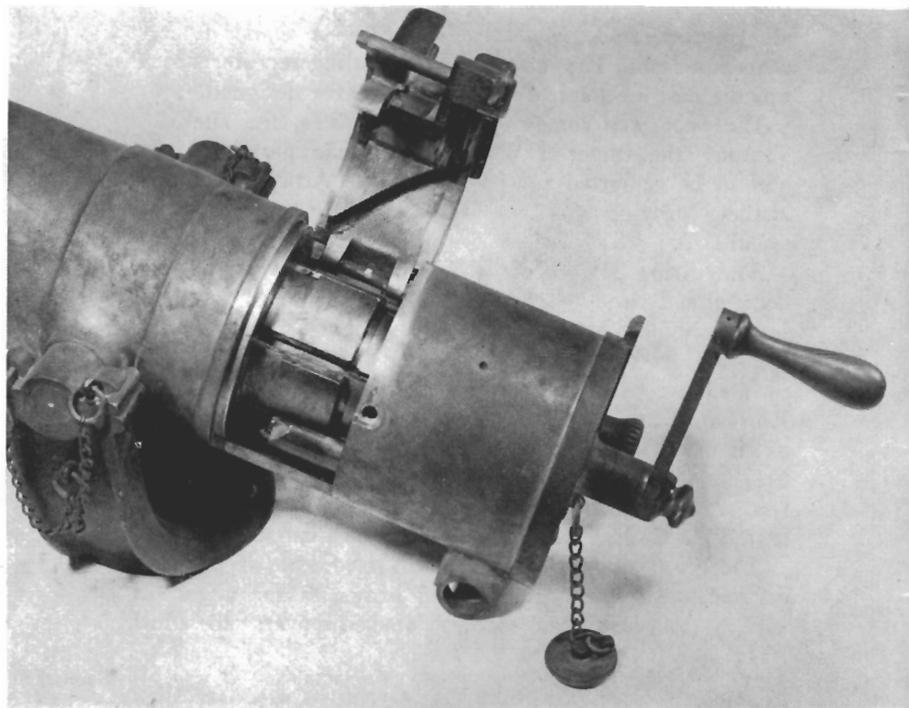
(h) Low-angle firing at depression of -50° to test ballistics, barrel action, and gun-carriage. Two magazines.

(5) Special provisions: The first part of the testing was to be conducted by the Gatling Gun Company's crew. For the second half, artillery proving department men were to be the crew. The inherent difficulties of the gun if handled by ordinary trained artillerymen, and hazards of functional difficulties, would be in this way tested. During the near-vertical firing, all observers except the crew were protected by a shell-proof bunker.

This program was signed by Lt. Fieldmarshal F. Kreutz, Technical Military Committee. Lt. Fieldmarshal Wilhelm of the War Ministry agreed and the program became an order.

Schmid's Gatling Gun arrived in four crates at the Port of Trieste, then an Austrian port of entry. Shipped overland, and accompanied by four additional cases containing 6,000 rounds of ball ammunition, the gun arrived in Vienna on the 16th of January, 1884. The test was called for the 19th of January.

Made by Colt's Pat. F. A. Mfg. Co. of Hartford, the improved Gatling was a ten-barrel model chambered for a .42" cartridge—probably the Russian service round for which other Gatlings had been made by Colt's. This was one change from former models which had been cham-



bered for the 45/70 U. S. Service cartridge and the Martini cartridge of 45 caliber for England. A further change was the doughnut shaped Accles drum feed. It held 104 shots and was linked to the main rotating shaft of the gun through a system of cogwheels.

From the rear of the bronze breech housing, any of the individual lock mechanisms could be removed, permitting simple replacement in case of breakage in the field. For security in shipping, in case the gun was perhaps stolen, the cam-ring which cocked the firing pins could be removed. This was an added safety in drill practice.

The mount was a conventional wheeled gun-carriage weighing 257 pounds. The gun yoke was engaged with a traversing slide moving 60° , operated by a hand-wheel, and elevation was from plus 65° to minus 50° . Gunners could dig a pit at the rear of the trail and lower the carriage into it, thus increasing elevation to about 90° . Sights were dual—one blade on each side of the barrel cradle and two sights adjustable for elevation (for distance) on the crank housing.

On the ice-cold winter morning of January 19th, members of the Committee and Mr. Schmid, accompanied by Mr. Accles, saw that the heavy storm and deep snow augured little good for the Gatling's top performance.

This improved gun had never been fired for accuracy before the 1884 test. Herr Schmid complained about the trying weather conditions, and the Committee decided to omit the test about 2,000 meters. The test report stated: "Vertical firing (at elevations from 82° to 85° —no single projectile reached the target. With a flight time for the projectile of between 40 and 56 seconds, the influence of the wind was too strong. No practical military value that the Gatling gun is able to fire almost vertically. Under all other angles and speeds of firing, the Gatling gun proves in all parts dependable and good." According to the Technical Military Committee, "the construction has reached such a degree of engineering, that the Gatling gun with the Accles magazine is the most perfect of all rifle caliber *mitrailleuses*."

Four days after the report was sent to the Imperial War Ministry, Herr Schmid was sent a bill. He was asked to pay the costs of the test, and "to please send 42 Guilders and 40 Kreuzers to the state treasury . . ."

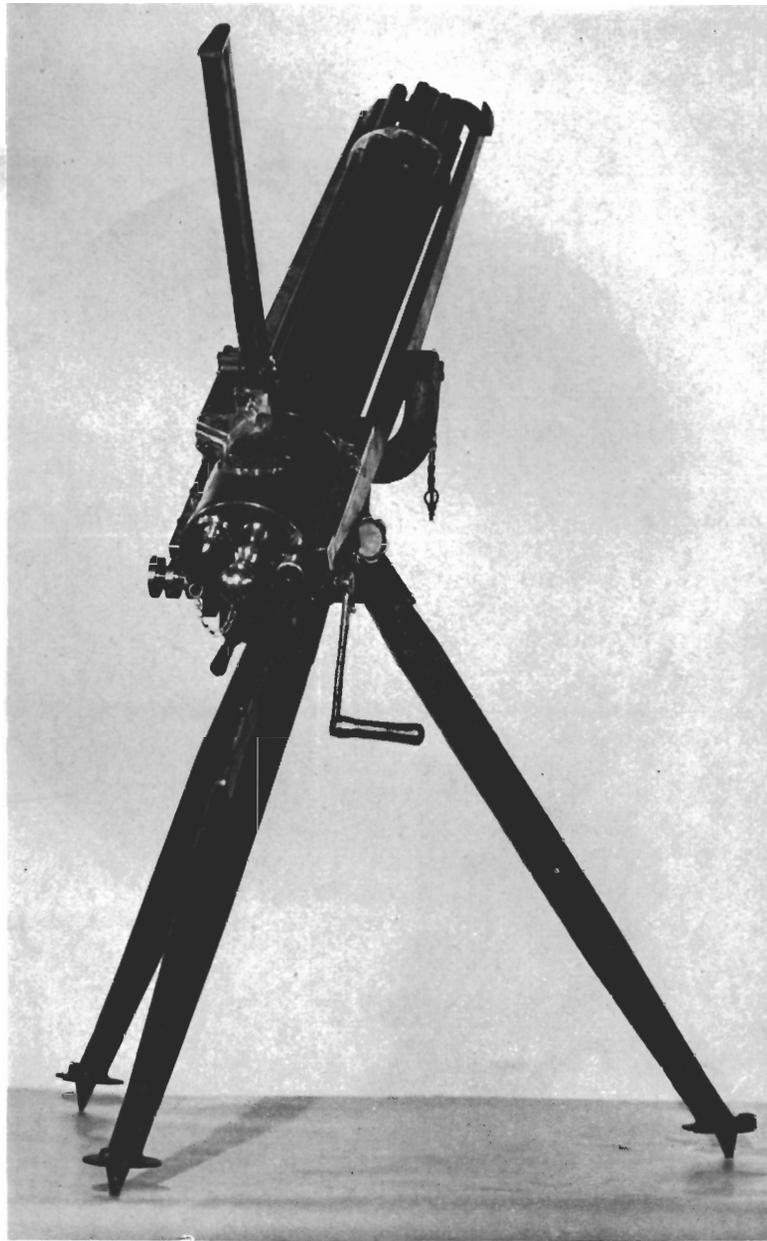
On February 22, he received a copy of the test report. And the matter was forgotten.

Four years later the Maxim gun came to Vienna, and was tested before the same Committee which had declared the Gatling to be so perfect. In direct comparison, the Maxim, was, of course, far superior. The decision of the Committee this time, under date of July 1888, was that:

"It can therefore be asserted that of all systems of machine guns hitherto tried, the Maxim is the best adapted for the purpose for which it is intended."

But even then the Government did not take the right step. In 1902, Andrea Schwarzlose, nationally famous as an automatic weapons designer, obtained patents on his machine gun. He of course brought it to the attention of the Committee—and still the top brass hesitated. In 1905 the Schwarzlose gun was adopted but improved patterns were so soon after introduced that the tactical concept of mass fire had no chance to get started.

In Germany, the machine gun had a proper start. In competition with the Gatling, served by four men, were:



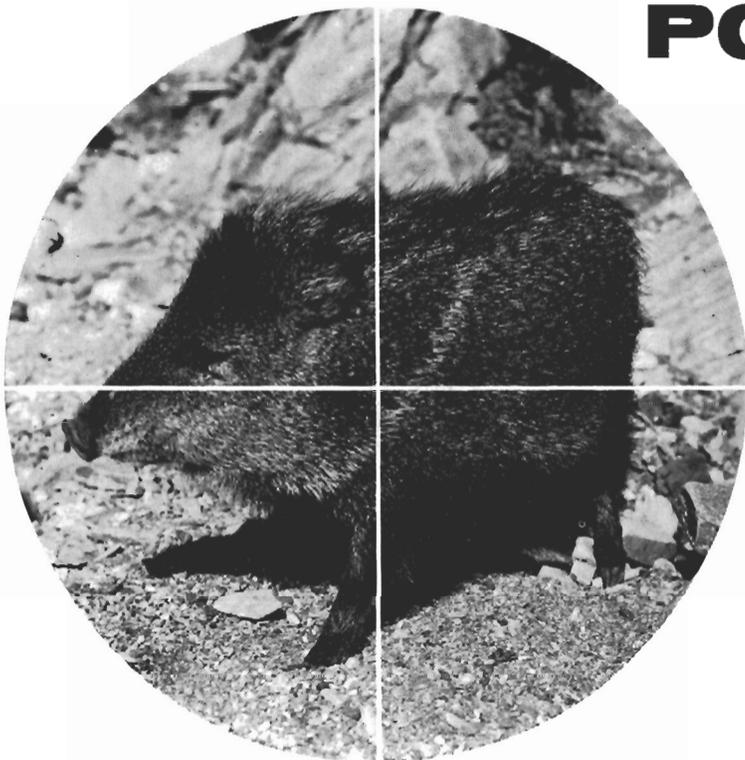
Side-crank Gatling shows massive breech housing, polished steel trunnion arms with sights attached.

the Gardner, which was in effect a two-barrel Gatling; the Nordenfelt, which was also hand operated and resembled a Gatling in principle; and the new Maxim gun, served by Mr. Maxim alone. The Maxim won hands down. After firing a single burst of 333 rounds in half a minute, Maxim was pleased to find that the Kaiser, who had been witnessing the competition, walked over and placed his hand upon the hot water jacket. "This is the gun, there is no other," said he.

Had his cousin on the Danube been as far-sighted, Austria might have had a machine-gun tradition at the start of the war. Old-fashioned Gatlings could have been scrapped and newer automatics made. But Austria had not permitted the notion to start.

Herr Schmid's Gatling was kept by the Commission as an oddity. Since no more was made for Austria, it soon was shifted from a "prototype" (Continued on page 42)

PORK CHOPS THAT FIGHT BACK



By Ralph A. Fisher, Sr.

*Coming at you at speed of 11 mph
desert javelina is 65 pounds of viciousness!*

*He comes equipped with two-inch, razor-sharp tusks
plus slashing hooves—fair game for any man.*

DESPITE his half-pint size, our southwest javelina is the toughest big game target for which the American hunter can get a hunting license. And this does not exclude the annual state-run buffalo hunts held in some parts of the southwest. The long-snouted head with fairly large ears, sharp two-inch tusks in upper and lower jaws, set upon a very thick neck, all make it a much sought-for trophy head.

Many tall tales have been written about the little pigs. Something of a mystery animal, they range from north-central Arizona, south through New Mexico and portions of Texas, and over the border and into the South American jungles. A big area, too big to be filled by the scant general knowledge surrounding the animal. The little big-game desert javelina remains a mystery package.

The adult javelina is a salt-and-pepper gray, with a yellowish wash on the cheeks and a conspicuous light-gray collar adorning the throat. The sexes are colored alike with no seasonal variation. On top of the rump is a nipped, odorous gland which the hunters call the "musk bag." Its tail is short; its mane long, with hairs that raise up from crown to rump as danger approaches to alarm the "sounder"—a group of pigs.

Some writers claim the truth about the little pigs has been stretched pretty thin. The majority of these dramas, they claim, were the product of some romantic individual out to gain a little personal attention.

To this bit of foolishness, I can only say: "Don't sell this 'desert ghost,' this 'little big-game' individual short. He has a mean and quick temper, and his tusks can cut."

They are worthy of respect. I have seen them kill within minutes a predator coyote that had tried for half-an-hour to cut a young javelina out of the herd. I watched a pet bull-dog of the L. Horrell cattle ranch die from the bite of an angry sow that even in death did not release her grip on the neck of the dead dog. The "ram rod" of the ranch had to cut the jaws apart to free the body of the pet dog.

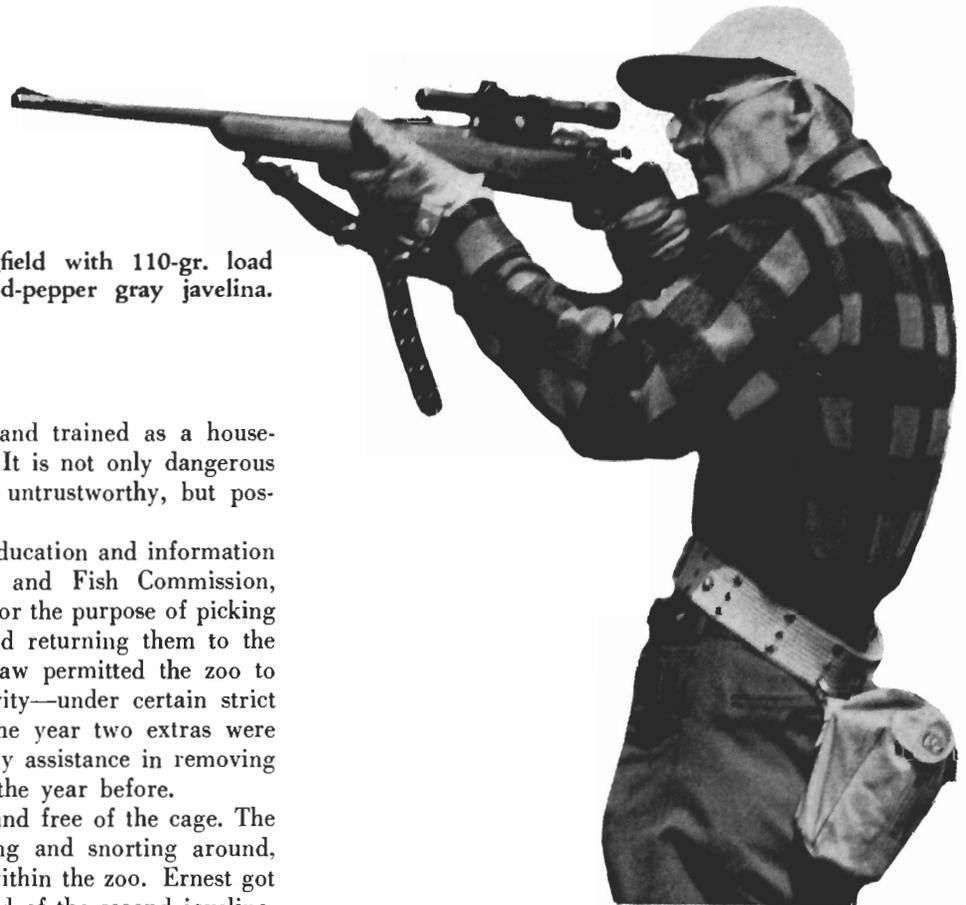
True, the javelina like most creatures of the wilds and wilderness are often blamed for viciousness that can only be connected with danger. Under most circumstances the animal is only trying to escape the contact with man. But the fact remains, the herd, known as a sounder, can drive almost any living creature before it and destroy it. This I have witnessed in the case of the bull dog and the hungry, sly coyote.

The average speed of the charging javelina tops 11 miles per hour. A herd of angry, stampeding wild pigs with average weight of adult males reaching 65 pounds and the females about 50 pounds, plus the two-inch razor sharp tusks and pounding, slashing cloven hooves, hell-bent with the sole idea of escape, is a danger to man or beast.

Sure, I'll agree that a well-trained dog can kill an isolated javelina. But I have seen very few isolated individuals in my ten years of hunting and guiding for the javelina whose principal natural enemies are the mountain lion, bobcats and the coyote.

Some have been captured as 'piglets' beside a dead sow that a hunter has killed during the open legal hunting

Through scope of his Springfield with 110-gr. load author draws bead on salt-and-pepper gray javelina.



season, taken home and reared and trained as a household pet. This I do not advise. It is not only dangerous because the yearling javelina is untrustworthy, but possession of a live one is illegal.

Ernest E. Mulch, chief of the education and information division of the Arizona Game and Fish Commission, visited the Apache Junction Zoo for the purpose of picking up a surplus javelina or two and returning them to the desert and freedom. The state law permitted the zoo to hold a limited number in captivity—under certain strict rules and regulations. During the year two extras were born, so Mr. Mulch, requested my assistance in removing two yearlings, born in the cage the year before.

We got the first one hog-tied and free of the cage. The angry, fighting sows were ripping and snorting around, exciting the rest of the wild life within the zoo. Ernest got the noose about the ears and head of the second javelina, and slowly choking upon the tight rope, I reached over the pen quickly to grab a rear leg and toss the pig free of the pen.

The old sow charged like a slash of greased lightning and clamped her jaws tightly closed over my right wrist. Shock is no word for the pain that shot through me. By the time the two javelina were released in the desert near Raymert, and we had returned to Phoenix, my arm was a highly-colored mass of bruises. By some chance, the long tusks had missed and only the two rows of teeth had torn flesh. It required shots and doctors care before healing, and it did leave a scar for evidence, that a javelina can tear you up.

Here in Arizona the little scrappers roam from 90 to and above the 6,000 foot elevation. Rugged might not be too mild a word to give you a blueprint of the range. He favors the desert country, where the soft soil near river or lakes permit him to root. The white-lipped peccary differs from the collared peccary, being more of a woodland species. He is listed as "herbivorous in diet" and his habitat is mostly cacti, mesquite, oak scrub and grass ranges. Practically omnivorous, he has a taste in preference for cacti; insects, fruits and seeds; nuts, roots, worms and toads; and is sure death to rattlesnakes.

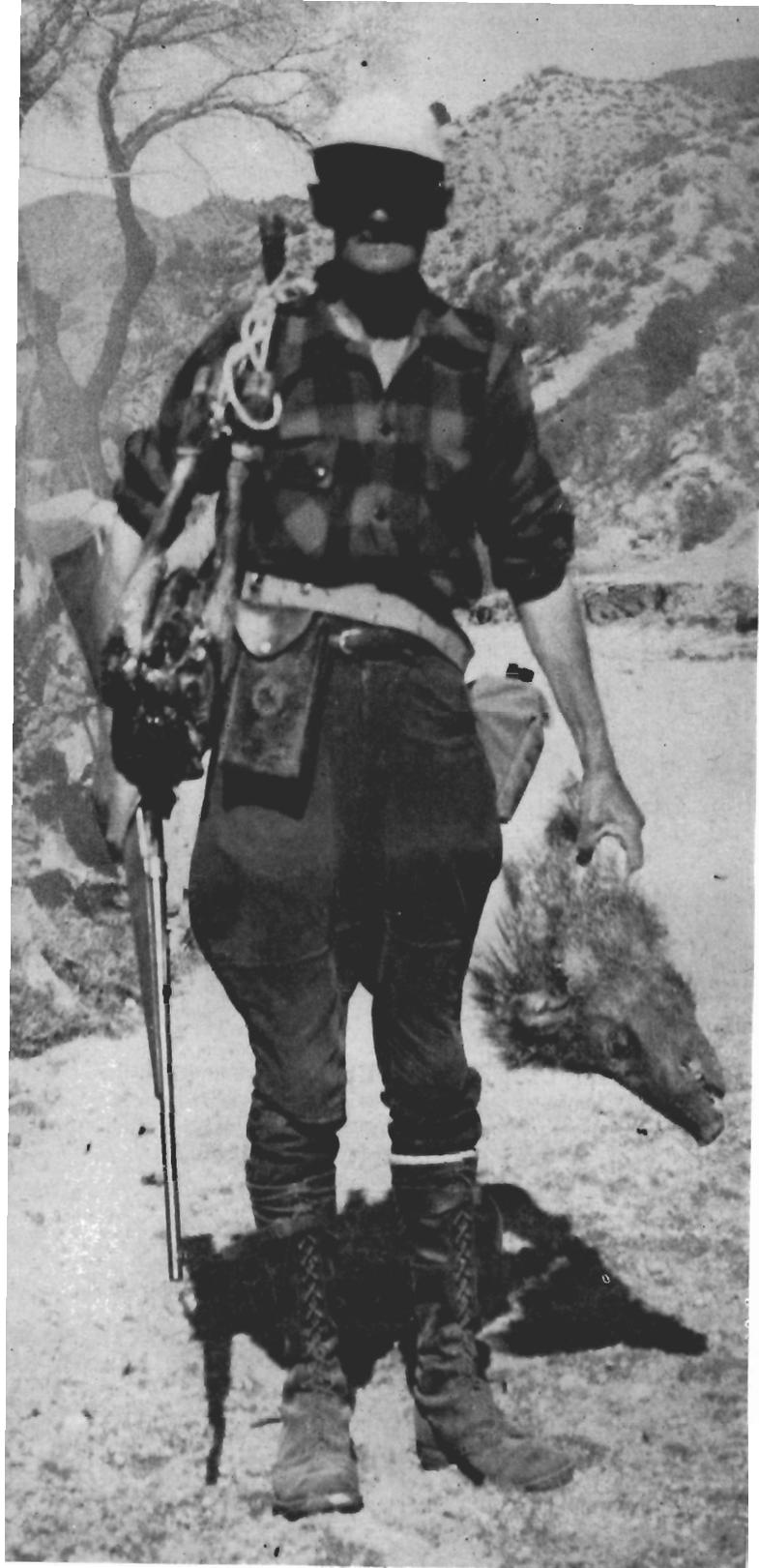
He has been called many things other than "javelina":

Stretched out between two hunters is a javelina who has just had the charge knocked out of him. You'll find his brethren in Texas, Arizona and New Mexico.

collared peccary; wild pig, desert hog, desert ghost, little stinker, and musk hog, being a few pet names heard afield.

Now classified as big game in Texas, New Mexico, and in Arizona, the javelina now offers "off-season" hunting. The open legal dates are set early in the spring, in Arizona, from February 12th, through the 28th. Season limit is one javelina per hunter.





Proof that Savage .22 Hornet in expert hands is adequate for pig hunt appears in author's hand.

Some people claim the meat is of little value to man, which is not so. By removing the musk sac from the carcass as quickly as the animal has properly been bled, the meat permitted to lose its body heat slowly, and then properly stored in locker or cold storage, has proven to be excellent in quality and flavor. No other game meat can match its flavor and it is now the main reason for

hunting the animal, surpassing that of trying for a "trophy head."

I started hunting for javelina during 1934-44. As a stranger then to the desert and its wildlife, I sought some form of hunting that would make amends for the lost marsh and upland hunting I had enjoyed as a young man in New Jersey.

There are many hunting fevers. But once you have chased over hills and cactus-studded desert acres after a fast fleeing herd of javelina that scatter a thousand little hoof prints in a sandy wash and deposit that rank 'aroma' upon leaf and the very air, you have contracted a fever that no person can cure you of.

For instance, my hunting-fishing partner, Homer McLeod, beat his boot-soles over many Arizona miles in five straight seasons and never did get the rear-end of a javelina in the lens of his rifle scope! Then on the last day of the 1953 hunt, deep in Beef Draw in the Pinto Creek area of the famed Superstition mountains, a herd of seven feeding javelina froze as one in a patch of prickly pear cactus.

Our driver halted the jeep. Tears were flowing down the cheeks of all. Our hands were cold and blue. This was February and 5,000 feet closer to heaven than in the Valley of the Sun. Homer was unable to locate a target until they moved up and scattered as I shot over their heads.

The fifth shot from his .30-06, dropped a huge old boar; the remainder of this family group topped the rim to safety. I had killed another large boar the day before some two miles from this area. From ten members of a rod and gun club hunting in the same locality this day, eight men bagged javelina: five boars, three sows.

Reports are that the javelina are almost wholly destroyed in the United States. That is just another 'tall tale'. For, the last day of the season, after severe hunting pressure had taken a count of over 100 javelina from this Pinto Creek section, we counted one sounder of 50.

In the morning there are often plentiful signs of fresh feeding upon cacti, grass and roots in the area about the camp site. But with the first crack of dawn and the first shot from a rifle, the javelina are on the move.

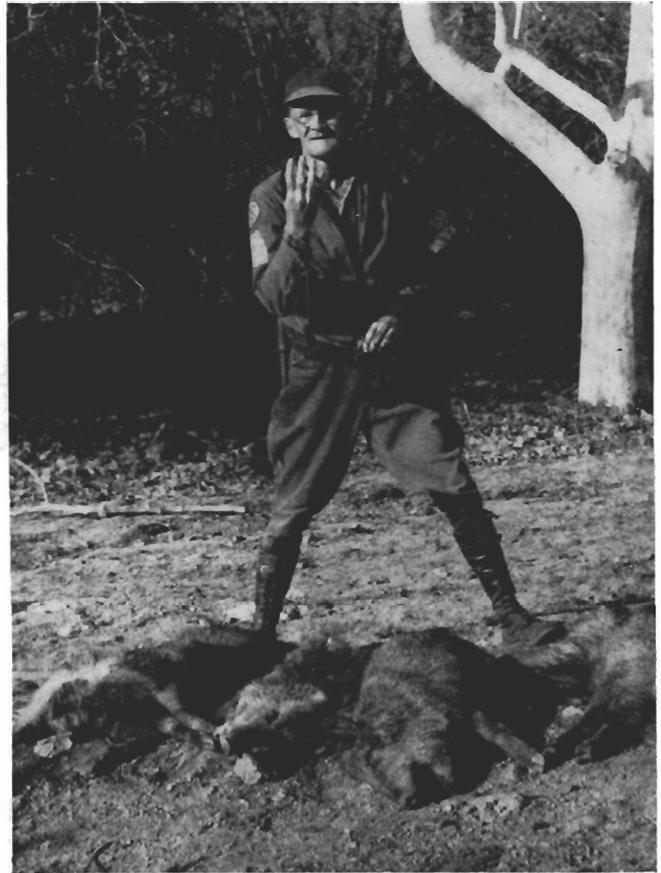
I've hunted a party of six or eight hunters in a canyon where the day before I had in silence spotted three big herds. The pigs were not working into the higher hills. Bunched in a group, they would bed down beneath an old mesquite or in a patch of cacti and let the hunt move in, past and beyond—then in silence scamper out the back door to safety.

They have the knack of 'freezing'. You can look your fool eyes from their sockets, and not spot one until he moves. They are a fast, small and tricky target. They can and do carry a lot of lead. A few of the hits that I have witnessed upon a javelina, would have felled a buck deer or bear, but the wild hog traveled for some two or three hundred yards, and still had another grain of fighting spirit left, to try a 'head-on charge'. Only a well directed bullet that smacked into the wide and angry mouth, made tagging another legal kill a chore.

Let me quote from a letter from Jim Kempthorne who had hunted three days with me in 1952 and never got a shot, except at a coyote and a sidewinder. "I hunted this year in the Santa Catalina Mountains near Tucson, with Myron and Bill Killam . . . at 600 feet we picked up fresh pig tracks and trailed them for three hours . . ."



To preserve flavor, musk sac on javelina's back must be removed as soon as animal has been bled.



End of successful hunt is depicted by four pigs in permanent repose. Pork chops enough for all.

"Suddenly Myron fired and bagged one . . . an hour later Bill shot and tagged another nice boar. Then, about an hour later and several hundred feet higher, I had one rush out of the brush head-on! . . . I shot."

A party of six hunted three days with me and missed every target that was spooked out of cave, cactus or canyon. They did not tire or complain. Javelina were seen each day and the little devils eluded the hunters each day. Not a tag was locked on a kill.

Then, last season, as the boiling car halted at the dead-end wash and the hunters and I crawled out, a slight movement on the hillside attracted my attention.

"There they are, feeding on yonder hill," I softly whispered.

"Slim" Sargent of Los Angeles, kneeled upon a rock plastered with ears off a prickly pear cactus, chambered a 100 grain bullet into the 257 Roberts, located a big boar in the Leupold Pioneer scope, and squeezed the trigger.

160 yards away that old boar dropped dead. It was a clean heart shot that echoed through the hills and scattered the feeding herd for the rim. The two other hunters gave chase. I reached the kill long ahead of the panting 'Slim', and removed the musk sac, gutted it and bled it, placed it in the shade and topped over the rim just as Roy and Earl cut loose at their selected targets.

Within twenty minutes we had three dead javelina. Within another hour we were on the paved highway and headed for an ice-locker.

Young Bill Klapp, of Austin, Texas, on a hunt in Texas last year with his dad and some men from the State of Texas Game and Fish Commission, shot a boar, crippled it and trailed it. The trail ended with the crippled pig deep in an under-slung cave and Bill without rifle, having lost it in the chase.

Armed only with his hunting knife and a thorny, slender arm of an 'Ocotillo' (not a cactus), he crawled into the cave and evicted the badly hit and bleeding javelina without injury.

On another occasion, several years ago, deep in the desert near Picket-Post Mountain, our party flushed a nest of some twenty javelina enjoying a picnic on prickly pear ears.

Four javelina were killed and tagged and a fifth, crippled but game had holed-up in a cave.

I also cut an Ocotillo arm and twisted it into the soft hair of the holed-up boar, the more twists, the more grunts—then like a shot from a cannon, out came a big pig! Ducking between my legs, it threw me off balance and I alighted neatly and soundly on the aged ears of a prickly pear that are well adorned with spines.

Mean? Well, maybe, but more just fighting to stay alive and get away.

The fleeing critter was in no way a cripple, unless you would call the loose hide on the end of the ocotillo stem still in my hand, an injury to the pig.

As I stood up, with a certain amount of pain and hurt pride, the real culprit dashed out (Continued on page 44)



Colt revolving rifle of early pattern was used by the U.S. Dragoons in Seminole War.

A COLT FLINTLOCK RIFLE?

SWAMP SAVAGE AND A CAPLOCK REPEATING RIFLE RESULTED IN A FLINTLOCK, A PAIR OF "2's" AND AN ENIGMA

SOMETIMES Colt acted like a mule. He was stubborn on one major point—sooner or later the Army would have to adopt his gun! But an Indian adopted it first!

The early factory was started in Paterson, New Jersey, and a few rifles, eight shot lever action repeaters, were coming off the lines. The year was 1838 and the Seminole War was in high gear. Rather than fool around any more with bureaucratic opposition in Washington, Colt decided to go to Florida and sell his guns directly. W. S. Harney, Colonel of the 2nd Dragoons, had given him some expectation that the General would buy his rifles. Colt arrived

in Florida, sold 50 guns, and the Dragoons went to work. Using the world's most modern repeating gun, Harney's men walked in after the Seminoles and dragged them out . . . or, in Colt's words, sometimes "shooting the savage warriors who were taken in arms and placing them in a conspicuous place on trees as a warning to others."

Harney's Dragoons were the terror of the swamps, and in large part contributed to the ending of that phase of the Florida war. Their success was made possible by using Colt's repeating rifles, which so mystified the Indians that a friendly chief, invited to a shooting exhibition, re-

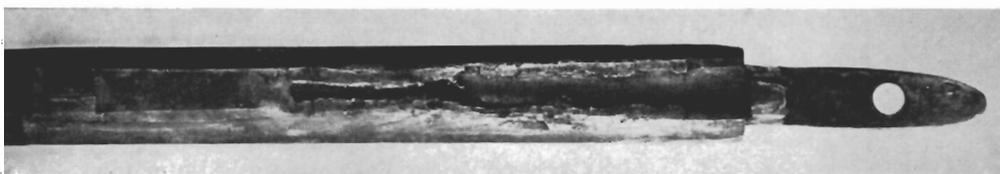
marked that he had seen enough—he was convinced the guns could fire indefinitely and there was no sense wasting good powder and lead!

There was one Indian at least who was not mystified by the Colt guns—the savage blacksmith who captured a broken Colt and salvaged the barrel for the unique rifle pictured here.

Marked on the barrel with standard Paterson marking, this single shot muzzle loading rifle is the antithesis of all for which Colt worked—not "modern" caplock, but old flintlock. Not a repeater, but a single shot!

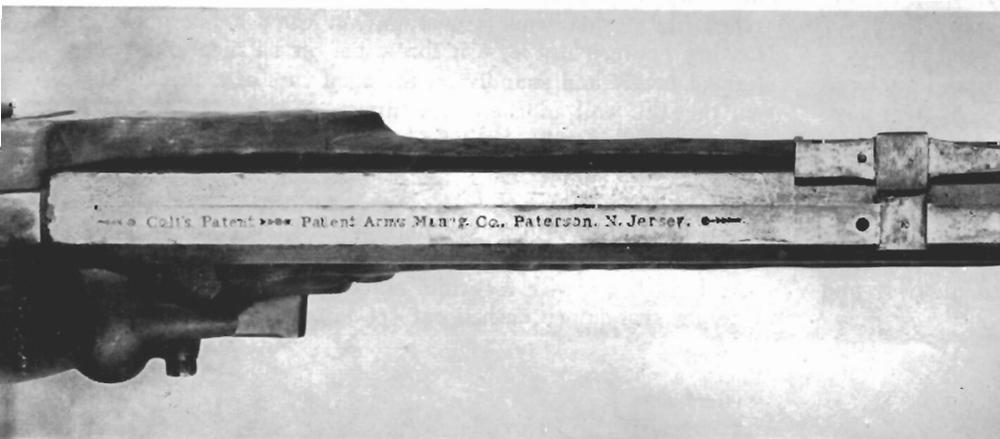
Fitted with a salvaged R. & D. Johnson Common Rifle lock and guard, this rifle shows typical Indian hand work throughout. The breech lug of the original Paterson gun has been sloughed off with a cold chisel, in a crude manner, and a common plug and tang fitted. Stock is of curly maple, darkened with age.

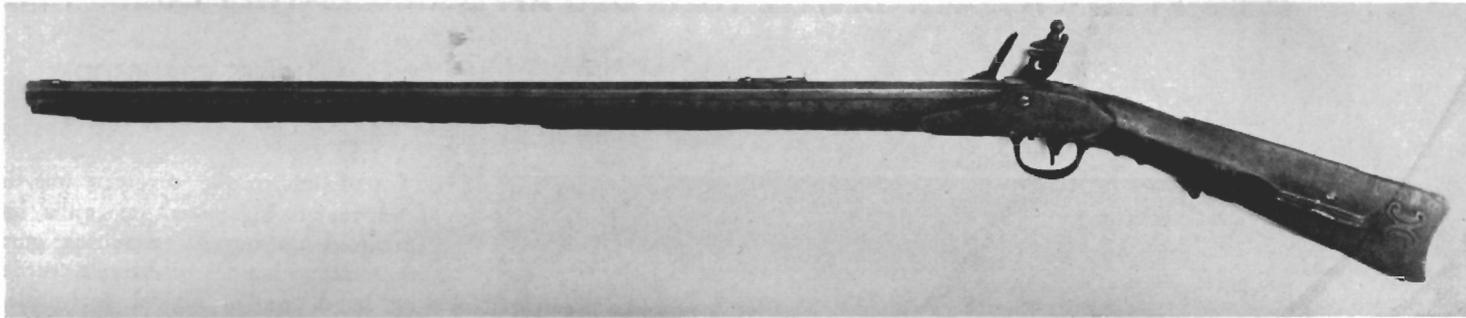
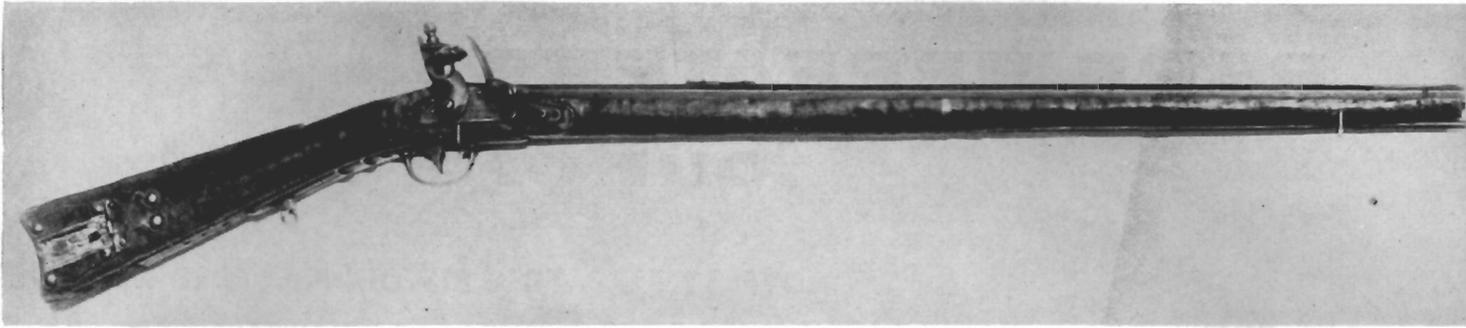
The Indian origin of the rifle is indicated by the liberal use of brass upholstery tacks. Around the patch box,



Bottom of Indian rifle barrel shows tool marks from cold chisel.

Pulse-thrilling Paterson mark appears on barrel and "2" on sight.





Brass tacks stud Indian gun stocks. Carved on cheekpiece is a rough imitation of the early Colt trademark.

brass tacks are used in place of wood screws to hold the plate. The Indians used tacks as an easily applied form of decoration and the lavish studding of a rifle indicated that the savage considered this one "very bad medicine." With the finely rifled Colt barrel, about .44 caliber, this was one rifle guaranteed to help its maker lift a few scalps.

The Common Rifle lock was a conveniently salvaged part from a damaged U. S. rifle, and the job of making the stock the easiest part of the assembly. A strip of metal is tacked on for a buttplate.

The stockmaker apparently had an original Colt rifle complete before him, not simply the barrel. Carved onto the left side of the stock, below the cheekpiece, is a raised area which simulates the style lines of the first Colt trademark! This, on the Paterson rifles, was an inlay of silver in the shape of four horses' heads, neck to neck in a square. Whether the Indian craftsman attached any significance to this mark is not known. Horses were familiar to the Seminoles, and as in all primitive groups, prized highly. The carving of the horses' heads symbol may have been a part of the "medicine" of the rifle, to make it shoot well.

The whole trouble with the Colt rifles in Florida was their delicate and fragile design. The limbs and springs of the lockwork easily rusted and became inoperative. The Indian gunsmith was not stymied—Colt barrels shot well, and with a US lock, he had a rifle!

The serial numbers of the guns taken by Colt to Florida are not known. It is a safe assumption that they were early in the series—but to find that the rifle, serial number "2", was in use against the U. S. forces almost as soon as the 50 rifles had been issued, would be too much of a novelty. Yet such seems to be the case!

In the collection of arms belonging to Edwin Pugsley, now property of the Winchester company, are a few Colt Paterson rifles. One of these guns is number "2", according to Winchester historian Tom Hall. Of these guns he has this to say:

"We have what I believe is Paterson number 2, for the parts bearing numbers correspond with those that are numbered on rifles having higher serial numbers. I had the rear sights of several Paterson rifles removed, and found that in each case the serial number was stamped on the under side of the sight base made to go into the slot in the barrel, but there is no number on the barrel itself. On our rifle number 2, there is a 2 on the under side of the sight base. . . ."

The Paterson-stamped barrel fitted to the flintlock rifle is *also* serial number "2"!

Upon removing the rear sight, which was the original Colt sight, a number "2" was found stamped into the base. At the bottom of the sight slot, a "2" was *also* found—at variance from Mr. Hall's findings but clearly in keeping with old shop practice which required every part that was finished to bear a like number for re-assembly!

So far as Paterson serial numbers run, it is known that the guns were numbered in separate series, beginning at "1".

Did the serial number "2" Paterson rifle have a "twin?" Rifles were first in production, and in the market by the winter of 1837-38. Colt's trip to Florida began at the beginning of February, 1838, and the possibility that Paterson rifle "2" was included in the lot of guns shipped cannot be ruled out. But it seems there *were* two guns bearing the same serial number. How this came about can only be guessed at. Colt might have picked up the rifle "2" now preserved in the Winchester museum as a sample for some Christmas selling, and told a workman to go on and number another the same. Such things have happened, and the following gun numbered "2" proceeded to take its place in the cases for shipment.

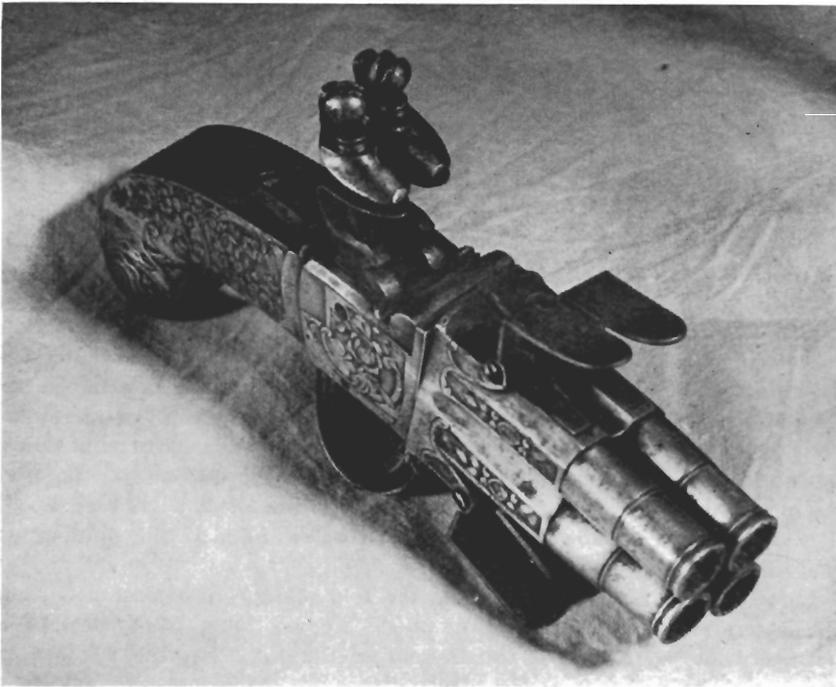
The Indian flintlock rifle is a strange commentary on the way things turn out—the world's most modern caplock repeating rifle, chopped up into a muzzle-loader for a swamp savage!

RARE REPEATERS...

four of a kind

NOVELTY REPEATING PISTOLS PRECEDED REVOLVER
BY MANY YEARS. DESPITE THEIR ODD APPEARANCES—THEY COULD KILL!

By JAMES CRANBROOK

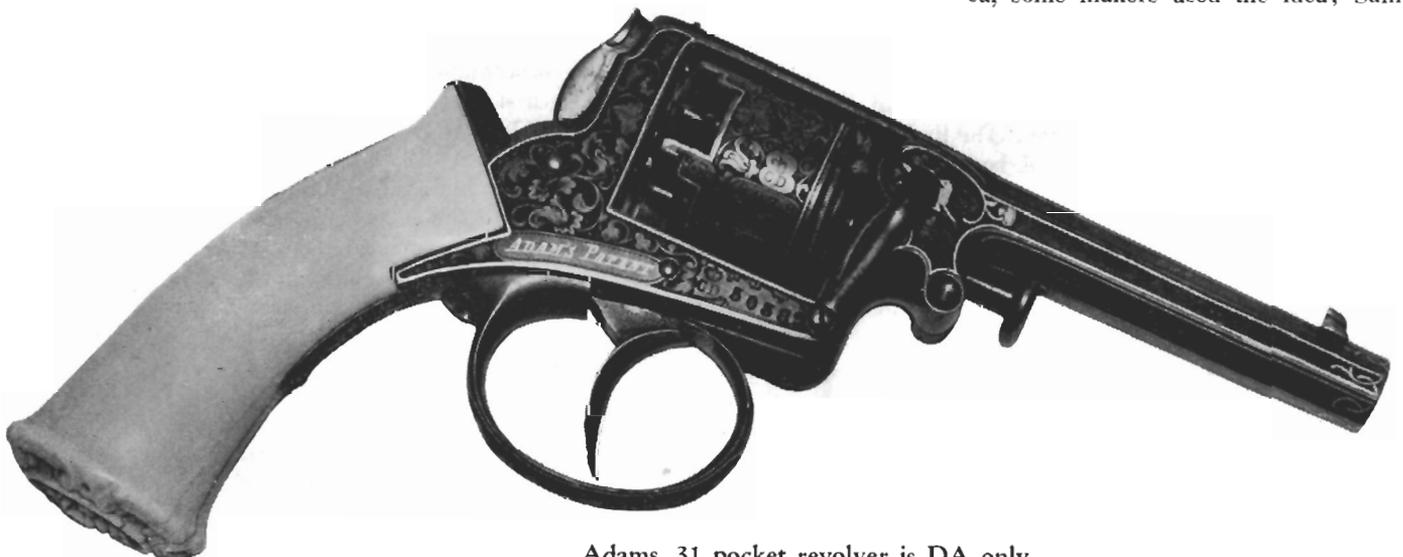


Dandified English roll-over great coat pistol.

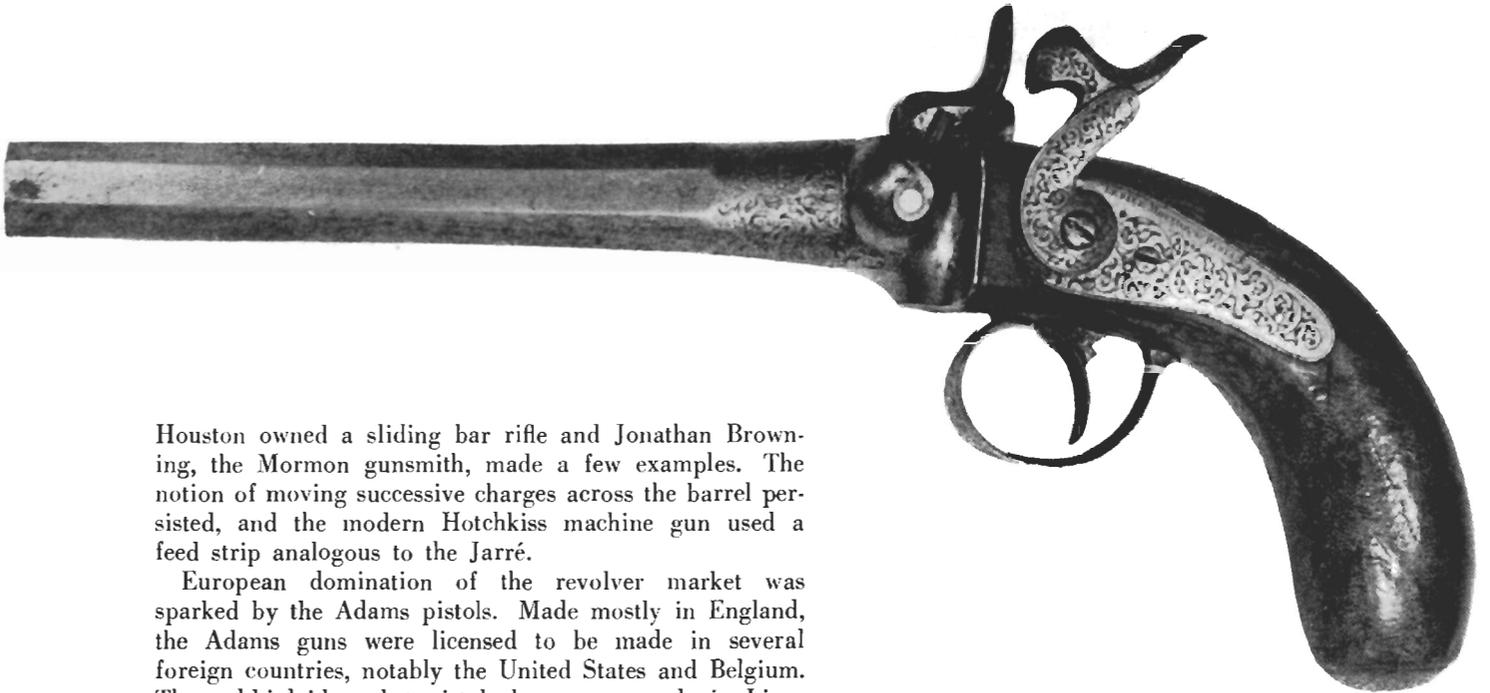
LONG before the revolver was invented ingenious gunsmiths had dreamed up novelty repeating guns. A rotating bundle of barrels, turned by hand, was a logical early idea. The English flintlock pocket pistol shown, made in London about 1780, is a good example of the design. Two top barrels were fired, after which the barrel block was turned for the remaining two. A pair would give eight shots in all—enough for a Mayfair dandy to dispel a crowd of attacking ruffians, say in Covent Garden some evening.

By the 1850's, gunsmiths had some strange ideas in the market. LePage of Paris made the two-shot single barrel pistol, facing page. With the second charge loaded atop the first, the selective trigger would fire them in proper succession.

Jarré, another Frenchman, produced the two bar-breech or "harmonica" pistols. Pin-fire, these sliding chambered wonders were multi-shot but bulky and impractical. In America, some makers used the idea; Sam



Adams .31 pocket revolver is DA only.

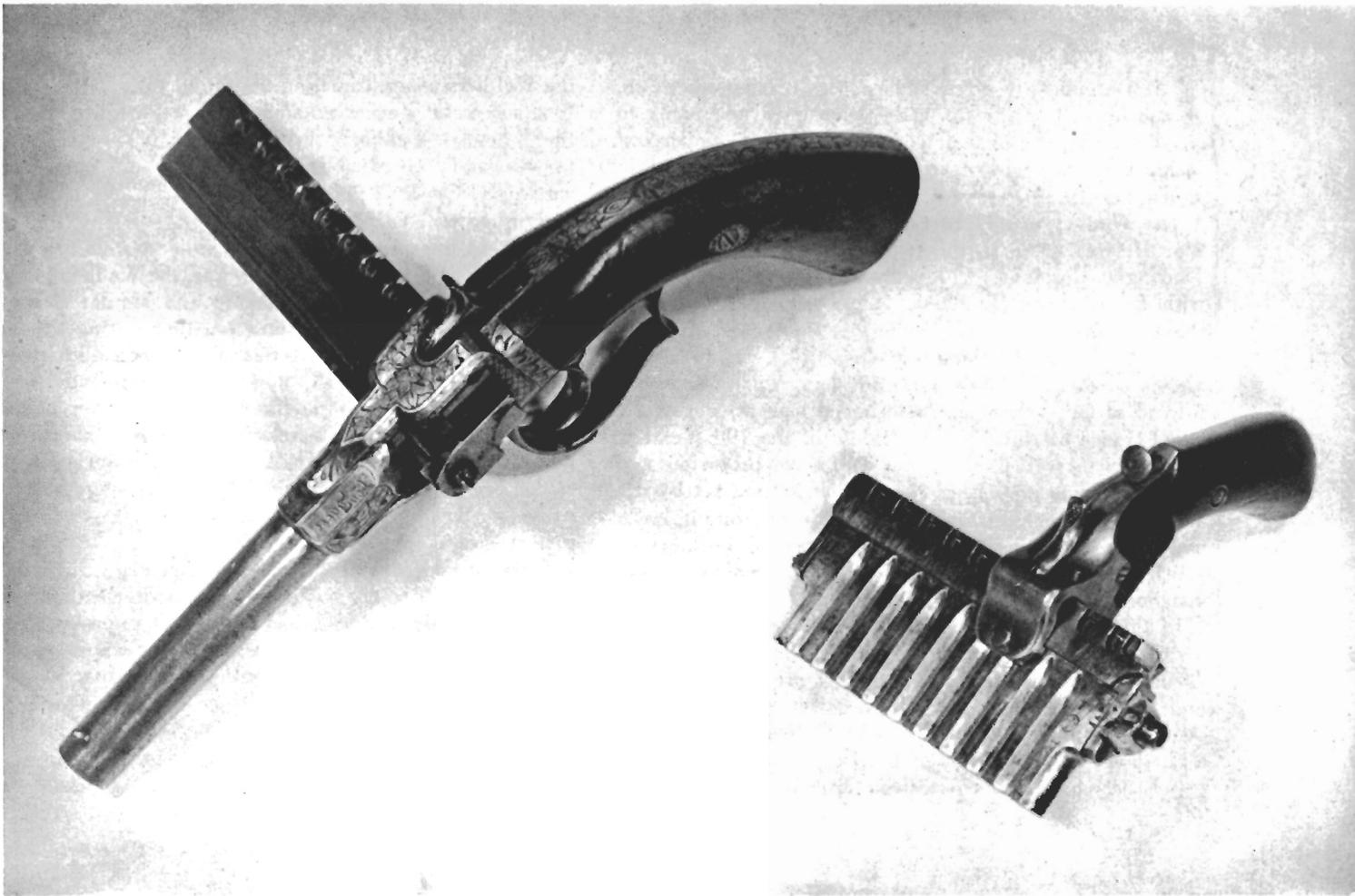


Houston owned a sliding bar rifle and Jonathan Browning, the Mormon gunsmith, made a few examples. The notion of moving successive charges across the barrel persisted, and the modern Hotchkiss machine gun used a feed strip analogous to the Jarré.

European domination of the revolver market was sparked by the Adams pistols. Made mostly in England, the Adams guns were licensed to be made in several foreign countries, notably the United States and Belgium. The gold-inlaid pocket pistol shown was made in Liege at a time when foreign patentees were cracking down on unlicensed imitation of their designs. This one, made by an unknown whose initials are "C.D.", is inlaid in gold with "Duly & Legally Licensed". ©

LePage two-shot "Lindsay" pistol.

Two versions of "harmonica" pistol were made by Jarre about 1850-60.



"Target-Sporter" is latest version of Walther Mod. PP.

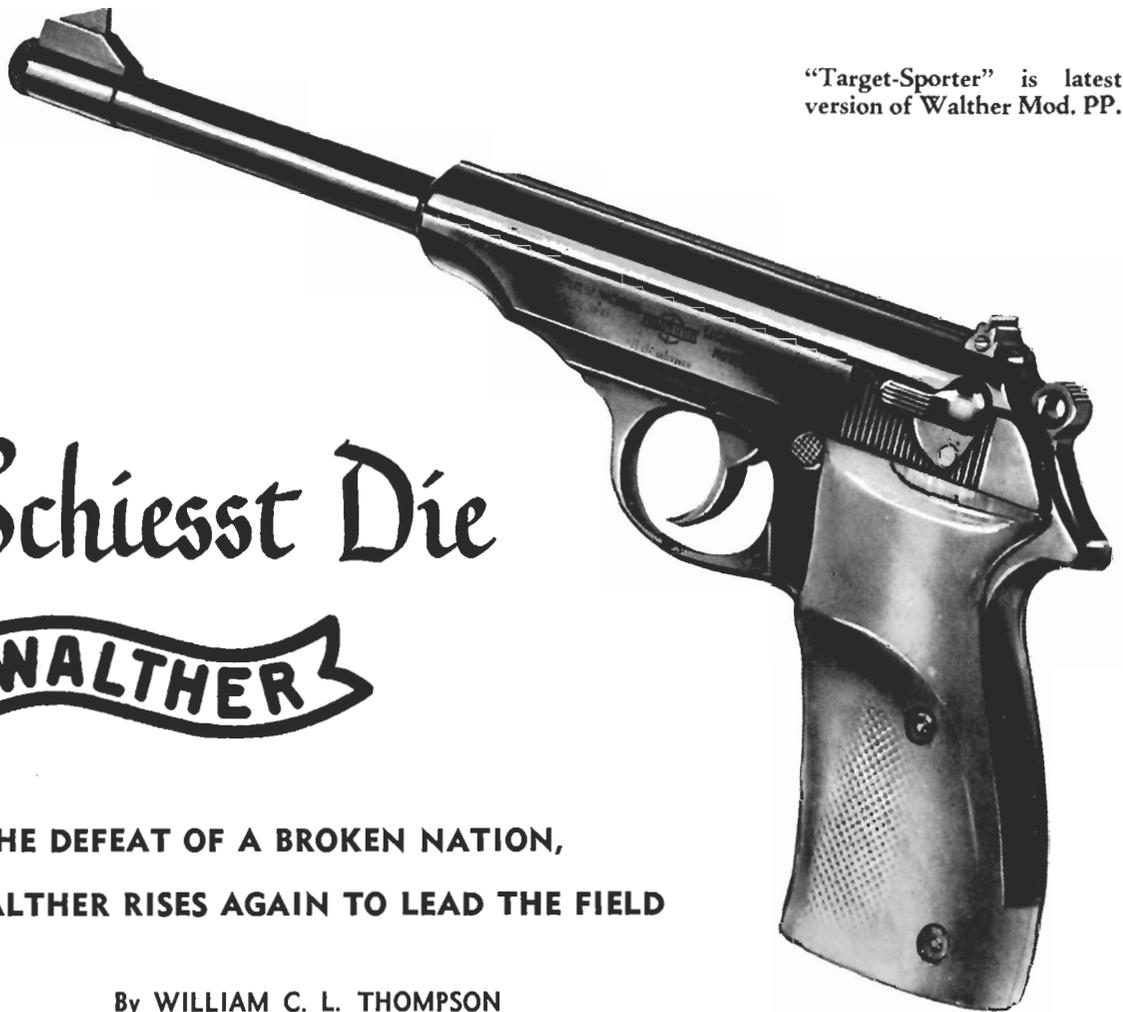
So! Schiesst Die



WALTHER

**OUT OF THE DEFEAT OF A BROKEN NATION,
WALTHER RISES AGAIN TO LEAD THE FIELD**

By WILLIAM C. L. THOMPSON



THE Germans are a resilient peoples. Strike one down, and he will spring up again determined and ready to go. But strike one of their corporations down, and it will spring back threefold—take, for example, the famous firm of Walther . . .

The Walther pistol, most sought-after pistol of World War II, was made in the twin cities of Zella-Mehlis in Thuringia, Germany. For years this city shared honors with Birmingham (England), Liege (Belgium) and the shops of the Connecticut Valley as purveyors of armaments to the world. Gunsmiths were at work in Zella-Mehlis as early as 1440 AD, and soon after guilds were formed of lockmakers, gun and barrel makers, and of the allied trades of war. By the middle of the 19th Century this district rivalled all others as far as profusion and quality of guns produced. Nearly 150,000 musket barrels alone were made here during the Napoleonic wars in Zella, and the associations of smiths, masters and journeymen which developed were integral cogs in Germany's war machines of 1870, 1914 and 1939.

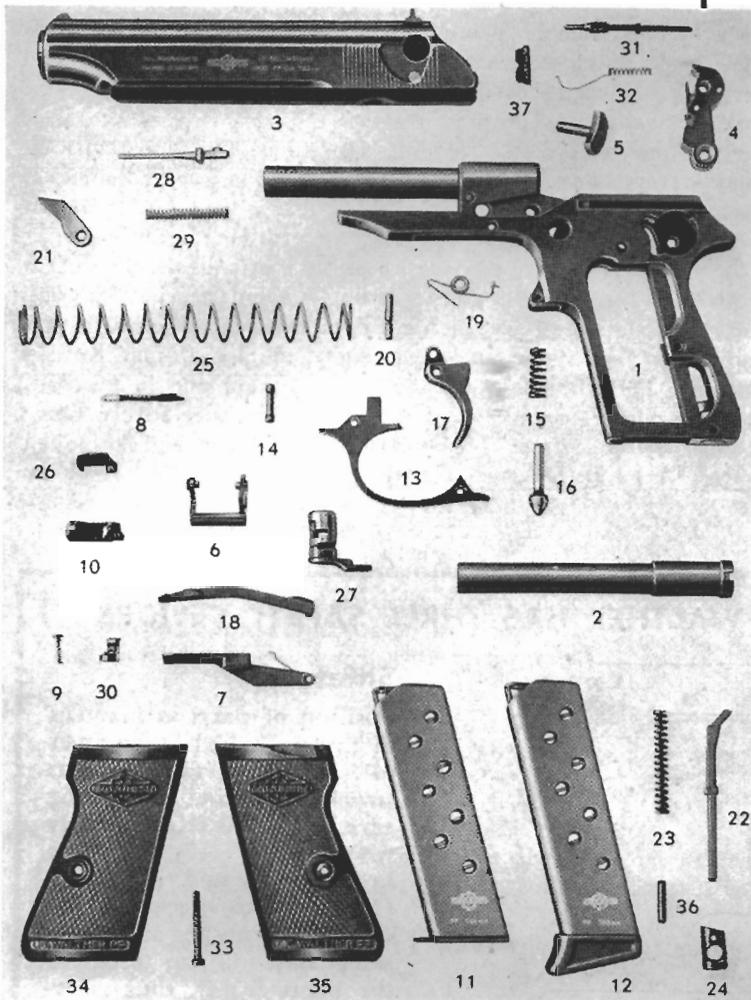
In this combined town, Carl Walther, with the aid of his eldest son, founded a small family firearms business. At first they manufactured sporting firearms—shotguns and rifles—of little distinction in design though of very good workmanship. Then the little Walther factory found a challenge in the advent of the Belgian-made automatic pistols designed by the American, Browning. After 1900,

the Walthers concentrated on the production of Germany's first successful pocket automatic or self-loading pistol—the "Model 1 Walther"—in the popular 6.35-mm. Browning, or as it is called in the U.S., the .25 auto pistol cartridge. The little gun was an instant success, simple in design and well finished and durable.

By 1914 improved .25 and .32 caliber pistols had been introduced, and at the close of the war, the Walther factory was well established. Tool-making and similar peaceful occupations kept the labor force together during the lean years of obedience to the terms of the Versailles treaty, with an occasional small, non-military automatic being produced, improved or modified from the older models. Up to 1929, all of these were standard pistols of ordinary design, straight blowback, with conventional spring-driven strikers or inside hammers, and were of value solely because of their excellence of finish and the quality of materials used.

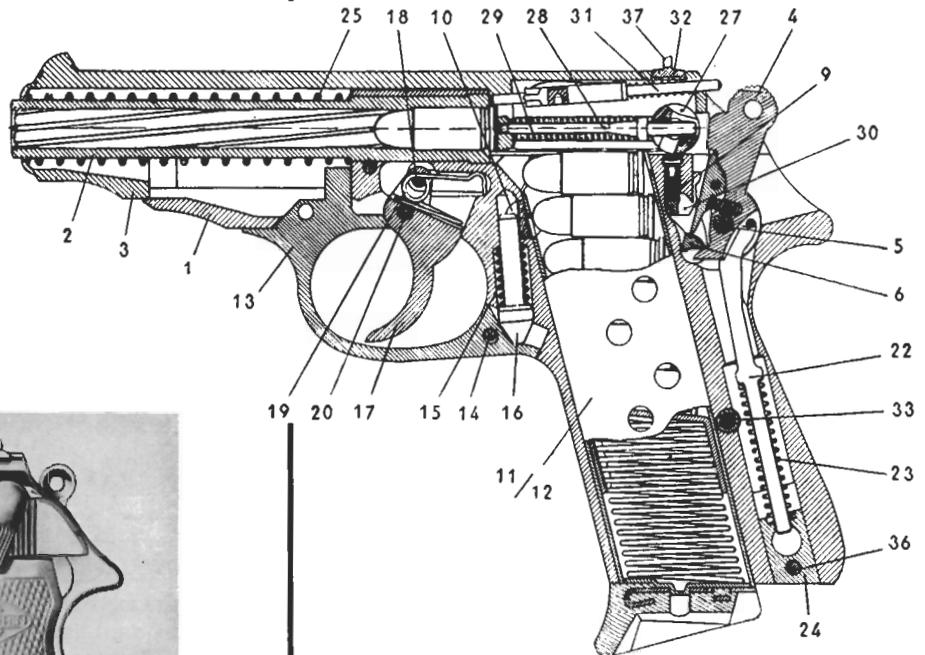
First introduced in 1929, the new Walther PP (*Polizeipistolen*) or PPK (*Kriminalmodell*) double-action automatics in .22LR, .32, or .380 were instant successes. They were designed primarily for domestic or export police trade and were popular even with casual target shooters since their innate hang and balance is well adapted for accurate instinctive shooting.

Attempts to design a trigger mechanism which would lift the hammer and drop it again, to fire a "dud" car-



- 1 Receiver with barrel, complete
- 2 Barrel
- 3 Slide
- 4 Hammer, complete
- 5 Hammer axis pin
- 6 Sear
- 7 Ejector
- 8 Extractor plunger with spring
- 9 Automatic inside safety spring with rest disc
- 10 Magazine catch and spring
- 11 Magazine (standard)
- 12 Magazine with finger rest
- 13 Trigger guard
- 14 Trigger guard axis pin
- 15 Trigger guard spring
- 16 Trigger guard spring guide
- 17 Trigger
- 18 Trigger bar
- 19 Trigger bar spring
- 20 Trigger pivot pin
- 21 Automatic uncocking lever
- 22 Hammer strut
- 23 Hammer spring
- 24 Hammer spring stop
- 25 Slide recoil spring
- 26 Extractor
- 27 Exterior safety
- 28 Firing pin
- 29 Firing pin spring
- 30 Automatic inside safety bolt
- 31 Signal pin (except for cal. .22 L R)
- 32 Signal pin spring
- 33 Stock plate screw
- 34 Right stock plate
- 35 Left stock plate
- 36 Hammer spring stop pin
- 37 Rear sight

Simple in design and with few parts, Walther PP is compact and efficient service pistol. Phantom shows detail of "signal stiff", loaded chamber indicator, part #31.



Nickel finish PP is made in post-war France under personal supervision of Fritz Walther.

tridge, as in a revolver, had been largely unsuccessful until the Walther models. The PP is the larger of the two, being longer in the barrel and the slide, and deeper through the grip and magazine, so that these basic parts are not interchangeable in the two models. Lockwork, the hammer, trigger, springs and other parts, however, are essentially similar and in most cases and models may be interchanged.

A number of desirable features are built into these pistols. The double-action permits certain safeties to be used. Obviously, in a gun with all the springs at rest there is nothing to jar off and fire the cartridge. Further, springs at rest are longer lasting and will not lose their strength as in guns in which the firing pin or hammer spring must be compressed at all times while the chamber is loaded.

On the left of the slide, conveniently placed for the thumb of the right hand, is a serrated latch, a thumb safety, which operates in novel fashion. Placed fore-and-aft, the gun is ready to fire with the chamber loaded and the hammer cocked, as in a conventional pistol. However, it may be made safe as follows:

Pivoting the safety downwards interposes a steel block between the movement of the hammer and the firing pin butt. As the safety moves, it finally trips the sear and the hammer is permitted to fall forward, striking not the firing pin but the steel block of the safety. In this position the trigger is still to the rear and no longer linked with the hammer.

By pivoting the safety back to its fore-and-aft position, the linkage between hammer and trigger is restored, the trigger moving freely to the "front" position. Carrying the gun in this position is still perfectly safe, as another block of steel now interposes itself between a part of the hammer and the frame, preventing it from reaching the firing pin. Thus, in case the gun should be dropped on the hammer knob, it will not fire. To shoot, it is only necessary to pull the trigger through the complete rearward movement. Through the double action linkage this action lifts and drops the hammer, firing the cartridge. The force of the explosion operates the slide in the same way as any ordinary automatic. For successive shots, with the trigger in the rear position and the hammer cocked by the movement of the slide, it is only necessary to pull the trigger.

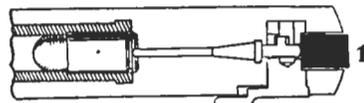
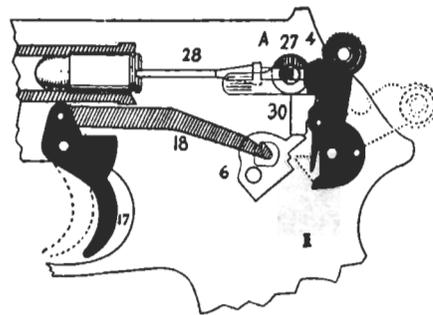
The grip angle of these guns is very well thought out. Placement of the magazine catch varies: on most models it is convenient to the thumb, on the side of the frame to the rear of the trigger, but on certain police models

an optional placement on the heel of the grip is employed. This latch is theoretically more secure from accidentally dropping the magazine by carelessness in firing.

Magazine extensions of two types to aid holding were available. The most common one is made of plastic to match the grips. A more unusual pattern, apparently the very latest design made just before the war and found in the last Walther pre-war price list, is the "Eine neuerung Griff-Verlängerung"—"Our new grip lengthener."

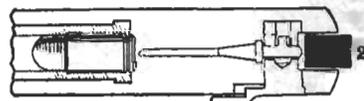
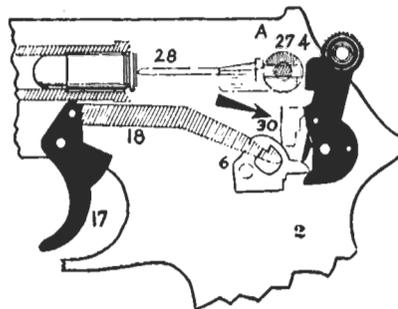
Available in three and possibly four calibers, the PP and PPK pistols became exceedingly popular. The .32 (7.65-mm. Browning) in the PP model held nine cartridges; in PPK, the capacity was eight; the 380 (9-mm. Kurz or Short Browning) in the PP held eight and in the PPK, capacity was seven. The 9-mm. model is relatively scarce, as the .32 was the standard German police and Army caliber (in that gun) and the greater part of the production

THE WALTHER HAS THREE SAFETY DEVICES



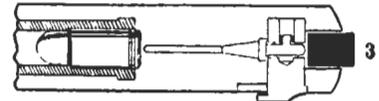
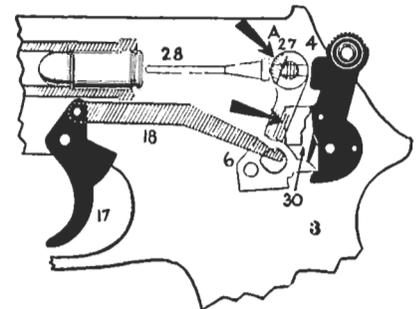
Safety

Position of parts at moment of firing. Pushed by hammer (4), the firing pin (28) has struck percussion cap, firing cartridge. This happens only when trigger (17) has been brought back and trigger bar (18) has worked sear (6) upward. This pushes automatic safety bolt (30) up to cut in the hammer (4), thus clearing the hammer path.



Automatic Safety

Trigger is in rest position, but ready for firing with outer thumb safety released. The automatic safety bolt (30) stops hammer (4) from hitting the firing pin.



Double Safety

In rest position, safe, there is a second safety. When exterior thumb safety lever (27) is lowered to proper position, A shoulder blocks hammer, locks firing pin.



Pulling down trigger guard at front, then pulling slide to rear and upward is procedure for take-down. Be sure gun is empty and magazine is removed.

was of this caliber. Both guns are reported to have been available in .25 caliber, but this is unconfirmed and the caliber is not listed for this model in the April 1, 1939, price list of the Walther factory.

The most popular caliber of the Walther in America has been the .22, and the used gun retail value of such a pistol is about double that of one in more ordinary caliber. Capacity of the magazine in .22 long rifle is eight shots and its weight, balance, and smooth operation make it a pleasure to shoot. In the center-fire calibers, a loaded chamber indicator—a rod which protrudes from the rear of the slide—is built in optional at a higher price, but this is omitted in the .22. Otherwise, except for the lighter slide inside, the several guns are alike.

Grips are usually of plastic, a sort of mottled or walnut effect, but genuine ivory and fancy woods were available, as well as ordinary wood nicely checkered. Mother-of-pearl was also to be had. Standard finish was a smooth metal surface, blued with a chemical process to a lustrous blue-black. Nickel or gold-plating was available to special order, and any combination of grips, plating, bluing, and engraving could be had at listed prices. For really superior work, prices would be quoted according to the order. Dull chrome plating was also offered.

Although the dural receivers, to further lighten the already reduced PPK, were intended for this model only, the requirements of the German Government made Walther issue some of the PP with the light frame. Slides also were experimentally made from this metal, a third as heavy as steel, and nearly as strong, but were not generally produced.

A considerable production of these two pistols was achieved. Probably over one half million were actually manufactured by the time the American forces occupied the Walther plant in 1945. The inventory on hand at the

time of capture was said to exceed 375,000 pistols, of which a good many were the PP and PPK models.

Walther also produced several models for military use in the German service caliber of 9-mm. Luger. In 1938 the Walther trial entry was adopted as the "P-38," or "Pistole 1938." It employed the double action feature and was an improved firearm in many ways. Even earlier, Walther had prepared several models of a much enlarged PP chambered for the 9-mm. cartridge, but any thoughts of producing this experimental gun were put aside by the time of the adoption of the P-38.

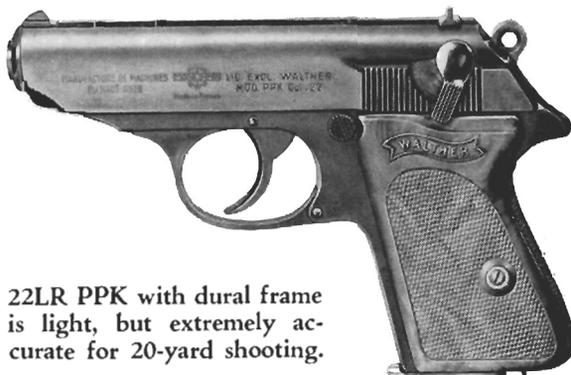
A rifle of automatic design was produced in some quantity by Walther, as well as one of the Mauser factories. The two establishments prepared two similar automatic rifles in the early part of the war (after the entry of the U.S.) designated the "Gewehr 41-M" and "41-W," for Mauser and Walther. The Walther (Continued on page 43)



9mm PP is pre-war German pistol made at original plant in Zella-Mehlis.



32 PP has magazine lengthener of plastic, and release catch on frame left side.



22LR PPK with dural frame is light, but extremely accurate for 20-yard shooting.



THAT
OVERRATED
HOG LEG

Most-decorated pistol of all time is the Colt Frontier and Single Action revolver. Engraving, inlay, fancy grips were usual.

By GEORGE PEARSALL

COLT'S FAMOUS REVOLVER WAS GOOD— BUT TODAY'S REVOLVERS FAR SURPASS IT FOR SERVICE

*Be not afraid of any man,
no matter what his size.
When danger threatens, call on me,
and I will equalize.*

THIS eulogy inspired by the Colt Single Action revolver is typical of the romantic quotations that have grown up around the gun to the point of smothering it. Fiction has become so interwound with truth in the story of the Colt Single Action that it is high time someone faced up to the facts. This is not an easy task because all our lives we have been surrounded by the synthetic romance of two-gun days, "Ride 'em Cowboy" and stories of "Judge Colt and his jury of six."

It is my thesis that this obsolete old handgun has been surrounded by fable and is one of the most overrated arms

in existence. If its history is written in blood, too often it was the blood of the man who held it. Now simmer down, settle in a chair, and let's look into the matter.

Let's clarify the name. The first of these guns was produced as the "Model of 1873" Army revolver in .45 caliber and was popularly termed the "Single Action Army" and the "Peace Maker." The "Six-Shooter" (.38-40 caliber) and the "Frontier" (.44-40) were made soon after. In fact, before the Colt Company discontinued its manufacture a few years ago this revolver had been made in almost every caliber, among them the .32-20, .41 Long Colt, .44 Special, .38 Special, and even the .357 Magnum!

Ten years ago you could find Colt single actions in practically every gun store and pawnshop in Denver, Fort Worth, El Paso and other western towns. They were a drug on the market and you could almost name your own



Scofield S&W for cavalry was faster loading.



1873 Army was obsolete 1878 by new model DA.

price. Many were sold for \$10 or \$15, and only those in exceptionally fine condition would bring as much as \$25. But today they are no longer manufactured and the romance and publicity engendered by the movies, television and radio have made them the symbol of the Old West. As such they bring prices up to \$100 or so for singles, and far more for "matched" pairs, particularly if the buyer fancies himself a two-gun man.

It is true that there are many collectors who have an honest desire to secure a good specimen or specimens to add to their collections, but the Colt single action has never reached the rarity that most collectors like. As far as the romance is concerned, I will admit that some of it must be true but the Colt has received much credit that rightfully belongs to earlier models and some of its contemporaries. Our early wars and the majority of the Indian campaigns had been settled with muzzle loading, flint and percussion type arms before this gun was ever developed. When the single action was introduced it did not take the West by storm. Many of the old-timers (any peace-officer over 21) retained their percussion guns, their Colt Dragoons and Colt .44 Army revolvers, and those fine Remington cap-and-ball jobs. There were also (perish the thought) many fine European hand-guns carried and used in the American West.

I am not saying that the single action Army was not an improvement over its predecessors. It definitely was, in that a cartridge gun has a lot of things in its favor over a percussion piece. But it left a lot to be desired. Its accuracy was no better than previous models and its many weak points belie the false impression of ruggedness that its appearance presents. With so many design weaknesses, it is a wonder to most gunsmiths that it had such a long life but not that many of the characters who relied on it had such a short one.

Specifically, the bolt that restrains the cylinder from turning when in a firing position is about as fragile as the hairspring in a watch, and without it you are practically unarmed. The trigger sear is so thin and light that

it grows shorter continually from chipping and breakage. Remember that this was the period of flat springs and while a hand-spring could probably be worked out of a well heat-treated hair pin, making a main-spring without shop facilities was something else again.

The ejector-rod was held on the gun by one screw with a coarse thread (and the help of your patron saint) and was apt to be lost at any time. Personally, I never could figure out why any of the screws remained in the gun after bouncing over some of those pony express trails. I have had the back-strap screws become so loose in the course of firing less than a box of shells that I practically had a swivel gun. Of course, as long as one retained the main-spring and the firing-pin on the hammer one could, with the use of both hands and a small club, get the gun to fire. But I can't say that it was something to depend on. In most of the movies I've seen and novels I've read the hero occasionally checks to see if his gun is loaded. If it were me, I'd also be doing a general inspec-

1873's finish, case-color and blue, followed older percussion revolver finishes. Duplication of colors is difficult in refinishing.





Loading of Frontier was very slow but in 1873, contrasted with older cap-and-ball models, it proved satisfactory. Shells are loaded singly.



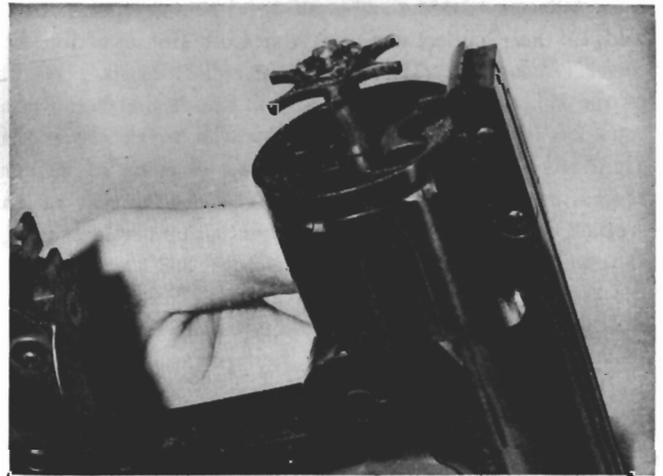
Side ejection (shown on Bisley model variation) permitted rigidity of solid frame construction and avoided accidental dropping of loaded shells.

tion to be sure I had both grips!

This may seem like unusually severe criticism, and perhaps some of it is. With all other forms of weapons, when something better came along the old was replaced by the new within a reasonable length of time. But down through the ages comes the single action Colt.

The same period produced the early Smith & Wesson, in models called the American, the Schofield and the Russian. This was a solid frame gun with a far superior grip and nothing to get loose. Of course it also had its failings, more or less limited to a short hammer spur and a heavy main-spring which, if a man had visions of long life, he probably overcame with daily practice. This gun could be reloaded much quicker and in Indian skirmishes, or for clearing out a whole barroom of baddies, I don't doubt that was a definite advantage. It seems that a gun was used as much for a club as for shooting, and in this respect the two appear to be on a par. However, the picturesque names given to the single action Colts were so dramatic that it is no wonder most Americans believe the West was conquered with nothing more than a Colt sixshooter and a Winchester rifle.

The aura of invincibility that surrounds the single action Colt eventually had believers even in the Colt gunsmith ranks (or their superiors) for, with the advent of Smith & Wesson's 357 Magnum, they chambered the single action for this powerful cartridge. But it was like putting the heart of a lion into the body of a house cat. The gun was not designed for a cartridge of this type. It simply couldn't take it and was discontinued. Probably the best known



Pop-out feature of S&W auto-ejecter top-break revolvers threw empty shells clear of frame but might eject loaded shells by accident.

and most successful of the many adaptations was the Bisley model which is a semi-target version of the single action Army. The Bisley had some advantages, such as a more substantial trigger and a wide hammer spur, but it retained all the other faults inherent to the Army model.

Perhaps one of the basic reasons for the long life of the single action was the lack of actual improvement in reliability of the models immediately following. Let's examine the "Lightning" and "38 DA" to see what I mean. Both

were double actions, but this did not mean too much to the men who lived by their guns. Reliability was, and is, of paramount concern. As a matter of fact the weaknesses that were found in the Army model were not only retained but actually increased and magnified in the Lightning model, for it had more fragile springs of intricate shape, a trigger spring that was a constant source of failure and a grip that was made for a child.

The DA reduced some faults but in doing so picked up a few of its own. For example, either by accident or intent the barrel and the bullet were not the same caliber. It was apparently hoped that the undersized bullet would find its way from the cylinder to the barrel with the assistance of a hollow base, and then somehow manage to lean against the lands of the barrel long enough to attain some of the rotation necessary for accuracy. Colt also tried making double action revolvers along the same line as the Army model. These were the "Philippine" and the "Alaskan." Undoubtedly they were a great improvement from a military viewpoint but for some reason or other they never did catch the eye of the romanticist and dreamer. All of these last four died a natural death.

Today, in view of the fact that its manufacture has been discontinued only a few years and that the country still abounds with them (there were 360,000 made, more or less), they still draw big money. Although never considered an antique or even rare, those specimens in excellent condition sell today for more money than a brand new .357 Magnum of the latest design. This just shows what romantic notions and stories will do, even for an inanimate object.

It is hard for us to realize that the value associated with this gun today actually places it in a class, dollar-wise, with some of the earlier weapons that are real collectors' pieces. I don't mean that it brings as much as the Walker model or the Paterson Colt, but it still sells on a par with some Dragoons.

Certainly it cannot stand comparison with the Colt and Smith & Wesson revolvers made today, or even those designed during the past 30 or 40 years, nor is there any reason why it should. It is unsuitable for target use because the hammer fall is so long that the average gun of today would have its projectile on the paper before the primer went off in this old timer. Its reputed ruggedness and dependability are really found in such pieces as the Colt New Service (also discontinued) and the Smith & Wesson .38/44. As a matter of fact there is nothing about the single action to compare with modern revolvers.

Samuel Colt doesn't need it as a monument. He died in 1862, 11 years before its introduction, and his monument will always be those wonderful Paterson and Walker Colts, the guns that won the Mexican War and helped the Texas Rangers achieve their reputation. The single action happened to be present during a very colorful period of our history. It spurred along quaint expressions such as "the little man with the big gun." It helped as atmosphere in Western stories.

If you want a gun today, no matter what the purpose, we have them bigger, more powerful, and far better constructed. So, speaking for the Colt Single Action Army Model of 1873—the famed and fabled "Peacemaker"—let's let it "Rest in Peace." ●



Swing out simultaneous ejection feature of solid frame construction of modern Colt ("customized" Official Police .38 shown) or other top-quality re-



volvers, permits strength, accuracy combined with easy loading and unloading. Not as fast as S&W top-break, it is better for shooting hot loads.

CARTRIDGES . . .

QUIPS, QUOTES AND QUERIES

By Stuart Miller

To "Repel Boarders"? . . .

ONE of the more spectacular sets of cartridges, the yacht cannon-punt gun series, is one difficult to identify. Much of this difficulty is due to the fact that above the No. 2 size, there seems to have been no attempt at caliber headstamping. Add to this a large number of unmarked flare cartridges, and small cannon shells of various nationalities, which closely resemble the yacht cannon shells, and you have all the ingredients of a nice headache. Especially with prices of authentic specimens being what they are. While the following list, from the Hartley & Graham 1891 catalog, cannot be considered a complete list, it should clear up some problems:

Number	Case	Case Length	Bore	Charge
8	paper, or brass	3¼"	⅞"	12 drams
4	paper, or brass	4"	1"	20 drams
3	paper	4½"	1¼"	⅛ lb.
3	brass	4¼"	1¼"	⅛ lb.
2	paper, or brass	5"	1¾"	¼ lb.
1	brass	5½"	2⅛"	½ lb.
0	brass	6"	2½"	¾ lb.
00	brass	7"	2½"	1 lb.

They also mention a No. 2½ cannon with a 1½" bore, but do not go into detail. They list "U.M.C. Waterproof Paper Shells for Yacht Guns in the following sizes: 3½ x 1½": 5 x 1½": No. 2 and No. 3 in either loaded or empty primed shells, packed 25 in a box." The catalog didn't state, and I have often wondered whether the "Loaded" shells mentioned were merely blanks for saluting, or whether they furnished them in solid ball or buckshot, to "Repel Boarders!"

While most cartridge collectors are familiar with the Poultney's Patent paper and brass foil wrapped cartridges for the Smith, and the Gallagher breech loading percussion carbines, not many have this same type cartridge in the 50 Maynard carbine cartridge. This photo of cartridge and original labeled box is from the Standard Collection. All the cartridges I have located have been made by this same manufacturer, B.C. English of Springfield, Mass.

The lack of power soon made these cartridges unpopular. A thick disc, pierced by the flash hole, was necessary internally to fasten the brass foil to the head of the case. This cut the size of the powder chamber of the cartridge so that only a charge of about 26 grains could be used. This was but two grains more powder than was used in the skin cartridges for the 44 Colt revolvers at this time, while the Maynard carbine bullet weighed around 140 grains more than that of the revolver. When these Maynard foil cartridges were used with the usual solid brass

cased Maynards with their charge of slightly over 40 grains of powder, the differences in range and penetration must have been great and confusing.



Question Marks . . .

Here are some of the more interesting questions that have come in:

"Why is it that there seems to be more Model 1873 Maynard cartridges, than the M1882 Maynards?" C.M., San Jose, Calif.

When the M1873 Maynard came out, the center fire single shot rifles were nearing their greatest popularity. Maynards, with their barrels for every purpose, small game, big game, target, and shot gun were popular and they made quantities of the guns and cartridges. The only repeating rifles on the market were lower powered. But when the M1882 came in, Winchester and others had brought out the higher powered repeating rifles, and the singleshot rifle was beginning to go out of fashion with many shooters. Then too, it is difficult to tell the M1882 cases with their conventional design and lack of headstamp, from the Everlasting cases and others. It is impossible to confuse the M1873 cases, because there was nothing like them. So actually, many of the M1882's were not saved because of their plain appearance, or else are incorrectly identified, or in the "Unknown" section of the collection.

"I recently picked up a 276 Pedersen cartridge—at least the measurements are identical—with the headstamp "K31 276". Is this a Pedersen? If so, who made it, and how come?" S.G. San Mateo, Calif.

It seems that after our government turned down his semi-automatic rifle, in favor of the Garand, Pedersen took his rifle to England. There he organized a company and tried to interest the military in his gun. For its tests

etc., they had Kynoch make up a batch of ammunition, exact copies of the 276 FA Experimental cartridge, that the rifle was designed for. Your cartridge was made by Kynoch in 1931.

•
"Here's a specimen I can't place. It is a 9mm Luger auto with the truncated cone bullet, and the head stamp "MAXIM USA 1918". Don't tell me that the army used a Maxim sub machine gun in World War I?"

S.R. Mt. Clemens, Mich.

No, don't believe there was a 9mm Maxim sub machine gun used by us or anyone else. You have the wrong Maxim. This one is the Maxim Munition Corp. of New Haven, Conn.—though the actual manufacturing was done in a plant leased from the H.B. Wise Co. of Watertown, N.Y. The cartridge itself—a desirable one—was made for the Italian Model 1915 double barreled Villa Perosa sub machine gun. These cartridges, and some 45 ACP ammunition for our government seems to be all the calibers this company produced.

•
"Did Newton Arms Co ever have any of their 35 Newtons with this headstamp N.A.Co. 35 N?"

C.W. Warner, Okla.

That is one that I have been looking for and asking about for years, and have come to the conclusion that they don't exist, so marked. Any of you fellows got one, or proof of one? This type headstamp shows up frequently on their 256, and 30 Newtons, but some 35 by Newton that I found last year loaded with their patent 'Protected tip soft point' were not headstamped.

•
"I recently bought a "Cattle Killer Cartridge" from a dealer. When it got here, it was just a blank cartridge. Shouldn't there have been some sort of bullet with it. If not, how did they kill a cow with a blank cartridge, scare it to death?" R.N., Warren, Mass.

While you gave no details, assume this cattle killer cartridge is for the "Captive Bolt Apparatus." In this type apparatus, there is a long sharp pointed bolt that is drawn back into the contraption and the blank cartridge inserted into the chamber for loading. The apparatus is placed on the animal's forehead, and the protruding end of the firing pin is tapped with a mallet or hammer to fire. The force of the explosion of the blank drives the sharp spike into the animal's brain. At the same time the "head" of the bolt keeps it in the apparatus and allows it to be withdrawn. Hence the term "Captive Bolt." These blanks came in different strengths for different animals. For example, the Schermer brand had the following strengths: #1 for pigs; #2

for cows and light oxen; #3 for heavy oxen, and the strongest #4 for bulls. There were some types of cattle killers that used a bullet—some lead, some steel capped lead—but they were not as popular as the type mentioned above.

•
Now for a question of my own that has had me asking for years—any of you got the answer??

"What company made the 58 rim fire musket cartridges headstamped "58 CAL", and the 50-60 Peabody rifle musket cartridges marked "50 CAL"?"

KENNEY (from page 17)

Dimension "X"

... lightweight sporter

So, it was fitted to an FN Mauser action and chambered for .30-'06. The ammo used was military, M2 lot TW #18995, with loading and pressure data available from the arsenal. Headspace was 1.1941 inches but the bore was left unlappped and the chamber unpolished for obvious reasons.

The experiment's four sections started with turning down the barrel for two inches at the muzzle, firing between successive tool passes until something happened; either the two inch muzzle blew off or bulged or bent. When the barrel reached a 12-inch length it was turned on three diameters at once. The third portion of the experiment consisted of turning a barrel of *unknown* qualities to the composite dimensions arrived at in part #1 plus a calculated safety margin. The fourth and final portion of the experiment dealt with accuracy. So, on to the details—and if you are susceptible to shock it is suggested you read no further unless you wish your eyes to pop, twirl and then roll across the floor.

28-inch—Nothing happened until the two-inch section from 26" to 28" reached a diameter of .355 inch at which time tool pressure plus the weight of the barrel hanging between centers bent the thin tube beyond straightening. It was cut off, machine setup was changed to use a head center and steady rest. Tool passes between firings were changed from .030 inch on the diameter to .020 inch.

26-inch—Got down to .360-inch diameter with no drastic action. On firing at .340 inch the tube bent .008 inch from true with no diameter change. This was straightened and a pass taken to reduce the tube to .320 inch at which

point it blew off. One part of dimension "X" had been reached. Average wall thickness of the tube blown off was .008 inch, figuring lands and grooves. The thin tube rang like a tiny gong during the final pass.

24-inch—Nothing at .350 inch, blew off at .330 inch. On this length a 1/8-inch radius was put in the corner instead of leaving it square. It made no difference. What happened to the blown tubes? Tool passes were dropped from .020 inch to .015 inch.

22-inch—This firing took place in a box. The shot at .350 inch bent the tube .007 inches with no diameter change. This was straightened and tube turned to .335 inches where it blew off, leaving a small shred on the muzzle. Steel scraps tore holes all around the inside of a one-foot cardboard box indicating an angle of departure of about 65° included; nothing recovered.

20-inch—Nothing at .355 inch, blew off at .340 inch. This time five old issues of *Holiday* magazine were laid over the muzzle. The complete tube was recovered, completely flattened, halfway through the fifth magazine!

18-inch—No change at .360 inch, base of tube bulged at .345 inch. Root swelling was exactly .025 inch tapering to .006 inch at the muzzle. Rifling showed through the outside and could be felt. Tube bent .033 inch from true.

16-inch—Nothing at .370 inch, bulged at .360 inch. Dimensions indicate, falsely, a sharp pressure rise, as a check on passes showed. The breaking point was catching up with the amount of metal being removed. The bulge was .006 inch at the root, muzzle was normal, tube bent .011 inch. Unburned powder turned up and the explosions began to get obnoxious.

14-inch—Bulged at .375 inch, blew off .365 inch.

This brought us to the second section, that of turning down three diameters at once. Sizes were .500 inch from the muzzle for 3 3/4 inches. From there back for another 3 3/4 inches the size was .750 inch. The last four inches over the chamber was one inch. Tool passes of .030 inch were made over each diameter between firings. Incidentally, all this firing was done with the barrel screwed up only hand tight. The gun was lashed to a 2x4 which was butted against a steel rod in the ground.

Nothing happened until the relative dimension were .880 inch, .630 inch and .380 inch at which point the muzzle section bulged .029 inch at the root and bent 1/16 inch. This left roughly eight inches of barrel and the firing was getting quite blasty with unburned powder scoring the 2x4 very deeply. The sizes of the remaining two sections were brought to .760 inch and .510 inch and

it was here that work ceased on the muzzle and was concentrated on the steel left over the chamber, giving the barrel enough length to maintain peak firing pressures.

The section over the chamber finally bulged at .700 inch. Bulge was just ahead of the receiver ring and amounted to exactly .005 inch. The empty case was a bit sticky to get out but not really bad. This killed this portion of the experiment but firing went on just out of curiosity.

Chamber section was turned to .670 inch, extractor removed and gun fired again. At this point the word "gun" is used very loosely. The bulge was .009 inch this time and the case had to be hammered out. Total chamber swell was now .04 inch. Chamber section was turned again to .640 inch, fired and the bulge became .013 inch outside and a total of .027 inch inside. Couldn't get the case out.

Up to now all the qualities of the experiment were considered with known data. To learn how good the resultant figures were an unknown had to be introduced which brings up the third section in the form of a discarded two-groove Enfield barrel with arsenal and year marks obliterated, the bore being well sprinkled with minute pits.

After a composite sketch was made using the figures gained from section one, a safety margin was figured and added. Then a three step barrel was designed from these figures, fitted to the same action, chambered to the head-space and turned to the new size. It was $18\frac{1}{4}$ inches long and from the muzzle back for $5\frac{3}{8}$ inches was .420 inch in diameter. A taper two inches long led up to the next diameter of .550 inch and another two inch taper went to the section over the chamber which was .775 inch.

The bare barrel weighed $12\frac{1}{2}$ ounces and could be visibly bent in your hands. This was the barrel that was to stand up under all the subsequent firing—we hoped. We were to use the same arsenal ammo and some proof loads. Just by the wayside try turning down an Enfield barrel to those dimensions. Guarantee you to warp between passes just the way the barrel does.

The barrel was miked at several positions after firing each of the first several army rounds and showed no change whatever. After ten rounds of this, 40 more were fired before measuring things again. Still no change so the proof loads were brought into play. These were all two grain overloads with 220 grain bullets and the cases sure showed it, being well mangled by pressure but absolutely no change turned up in the barrel dimensions. Thus far the experiment was a success.

A final gesture was made that had no

bearing on the true nature of the experiment but the results were such that we're still going in circles. There must be an answer for it and we'd sure like to have it. A gob of wet clay was stuck into the muzzle for about a half-inch and covered one side of the bore leaving about half of the opening for the bullet to get through. One last proof load was fired and again nothing happened in the way of a dimension change but why was

BRANDT (from page 11)

Hitler's folly . . .

that he approved the construction of their gun.

Not one bit less fantastic than the HDP, the gun designed by James Richards Haskell in 1855 had to wait a while before maturity. With Azel S. Lyman, Haskell worked out the mathematics and drawings of a 30' gun of 8" bore, made in three sections. At a cost of \$55,000—appropriated in April of 1891 to finance the work—the Lyman-Haskell Accelerating cannon was built at a foundry in Reading, Pa.

Made of hydraulically forged steel, and using two extra chargers shaped onto the side of the tube proper, the L-H gun was expected to attain high velocities and great armor penetration for the projectiles. The breech powder was slow-burning, while the "pocket" powder was quick burning—the loading of the WWII experimental caliber .50 High Velocity cartridge was a modern application of this kind of loading, although it was of course in a single cartridge, and not in any supplemental chambers.

The L-H gun was tested on armor plate of standard properties. Ordinary guns of the period were considered more or less satisfactory if their shot could punch through armor plate of one diameter thickness—that is, through a plate the thickness of which was equal to the bore diameter of the gun. Astonishingly, the L-H gun on test could penetrate up to three diameters of armor plate.

The U.S. paid a flat royalty of \$100,000 cash to the inventors for the rights to the invention—and then shelved it! The record of unknowing America-German "cooperation" in ordnance development leads to imagining a novel picture—possibly in some high office in the Deutsche Waffen-Ampt some scholarly Colonel spent the war years pouring over U.S. Reports of the Chief of Ordnance, looking for new designs to invent for Der Führer. ●

there dry, finely pulverized clay in the chamber when the gun was opened up?

For the final portion of the job a new blank was selected and turned to the same dimensions as the Enfield barrel and tested with a few newly loaded proof shells. The barrel and action were then set into a military stock, which left the barrel free floating, and a scope fitted to the action.

Firing was conducted at 50 yards from a bench rest with military and handloads with the barrel both free-floating and padded at the fore end.

Average group size, free-floating, military— $2\frac{1}{16}$ inches.

Average group size, padded, military— $2\frac{3}{16}$ inches.

Average group size, free-floating, handloads— $1\frac{1}{16}$ inch.

Average group size, padded, handloads— $\frac{3}{4}$ inch.

Five five-shot groups were fired in each category showing that extremely light barrels, if treated correctly, will shoot. The indication of this experiment is toward $5\frac{3}{4}$ and 6-pound guns if you can get in and out of a car without kinking the barrel! And while this experiment cannot be construed as gospel for lack of a hundred other barrels turned and fired the same way, it does show that you don't have to be afraid to attack one with a lathe tool. An extremely trim and light sporter can be had by watching the barrel contour leading to a $\frac{7}{16}$ inch or a $\frac{3}{8}$ inch muzzle. By choosing a very straight grained, hard piece of wood for the stock there need be no fear of a decided change of impact any more than there is with a heavy barrel. At present there is in the gun rack a .30-'06, with scope, that weighs in at $6\frac{1}{4}$ pounds with a 19-inch barrel. It's stocked straight and high in the comb and is comfortable to fire offhand. Prone is another story.

The builder of super light, yet respectably powered, big game rifle must consider these things: accuracy, reliability and weight and emphasis on the latter two. The suggested dimensions in good steel will give us reliability. As for weight, in rugged mountain hunting you carry a rifle miles and hours in order to shoot it a fraction of a second. Pounds are important. If the rifle will shoot into a six inch bucket at a hundred yards your only worry regarding getting meat on the table is your own holding ability. The rifle will deliver.

So a light action such as the thin-ringed Mausers or a 1903 Springfield fitted with an aluminum magazine guard and a light, straight grained, well sealed piece of wood will put that hunting rifle well into the carrying class *if it has a light barrel*. Don't forget that the barrel controls the main percentage of the total weight.

So if it shoots well, is short, safe and light—let's go hunting! ●

EYES FOR A BAT!



.50 CALIBER SPOTTING GUN STEERS THE BATTALION ANTITANK RIFLES TO TARGET

BAT .50 caliber spotting rifle.

By CAPT. WILBUR JONES

ONE of the main problems in firing large guns is the necessity of firing several shots for range, to get "on target" before firing for effect. Spotter aircraft have proved of value for conventional artillery, but the Army's light "one man cannons"—the various recoilless rifles—posed a different situation. Firing several shots from ambush at point-blank range disclosed the gun position to approaching enemy armor and a salvo of tank shells often followed the first spotting shots from a hidden recoilless 57mm or 105mm rifle.

The BAT—Battalion antitank—is a light recoilless 106mm rifle of improved ballistic qualities, accurate at 1000 yards. Extreme range is farther, but the 1000 yard range is a practical distance in a war of movement. The gun is mounted on and can be fired from a jeep, or transported by three men as infantry support.

Mounted on the 106mm tube is the .50 caliber automatic spotting gun. Self-loading from a ten shot box, the new breech mechanism is compact and simpler to manufacture than the regular Browning. A fixed-barrel gas operated pattern, the spotting rifle should be capable of pin-point accuracy.

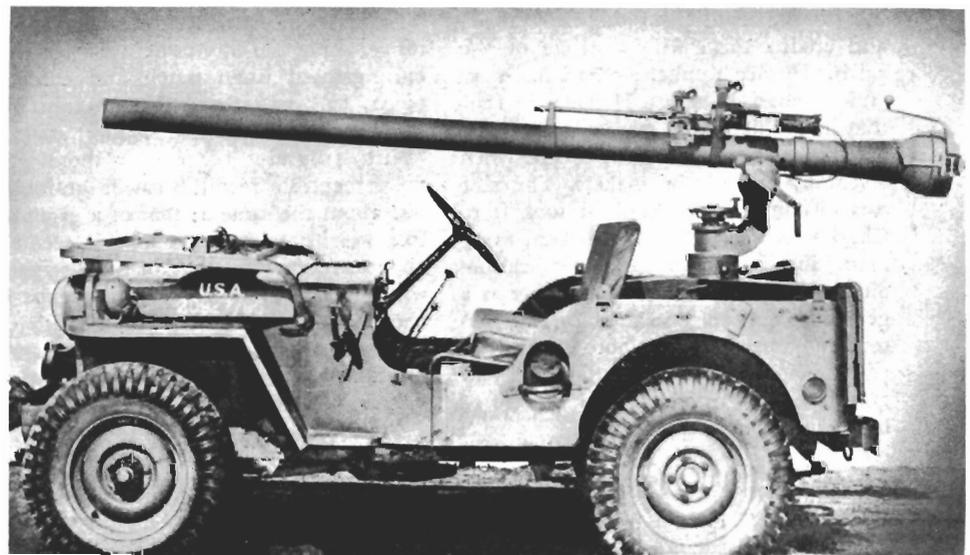
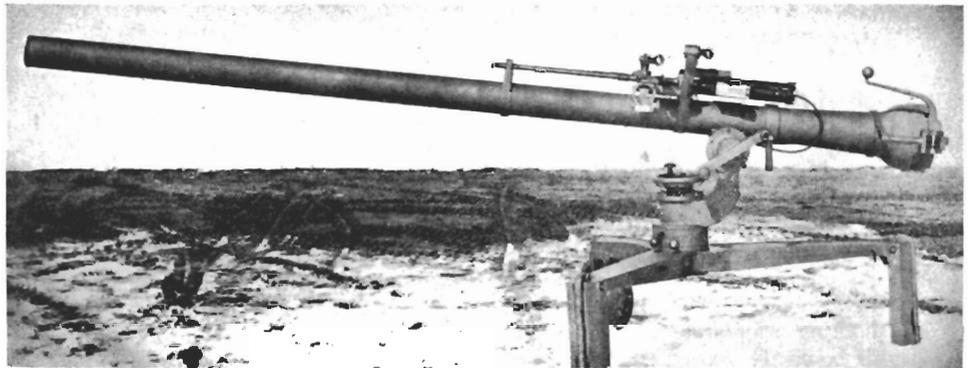
The slender thirty-odd inch long barrel resembles that of an overgrown Winchester Model 70. The breech is tubular with a small bolt handle sticking from the side. Magazine is a detachable box holding ten cartridges in a staggered row like the BAR. Overall length, with flash hider and a recoil brake, is about $3\frac{3}{4}$ feet. The gun is not intended to be used separately.

BAT itself fires 106mm shells of

Versatile BAT can be fired from its ground mount or mounted on Jeep. The spotter eliminates sighting-in shot.

new design which are stated to be capable of punching through the heaviest armor plate contemplated for tanks. Spotting fire is accomplished by the conventional .50 caliber ammo, loaded with special bullets which not only leave the flash line of tracer, but give a puff of smoke on impact. Then BAT takes over and for the first time infantry has a weapon enabling it to meet tanks on even terms.

This is one "bat" that isn't blind. Fitted with the .50 spotting rifle, the new 106mm will be an integral part of tank fighting troops, mobile and accurate. While mass fire and spray gun tactics find favor, yet deliberate, aimed fire in a new application continues in demand on the battlefield. ©



GATLING'S VIENNESE WALTZ

model to a museum curiosity. In the vast halls of the Army historical museum, a part of the Vienna Arsenal, the Gatling reposed gathering dust until 1945. In that year of "liberation" of Vienna by the Soviet armies, the Gatling was

destroyed or stolen by some zealous Red Army officer.

If the Government had listened to the Committee members who recommended the Gatling *mitailleuse* things might have been different. ©

Report on the Gatling

Report of the Technical Commission to the Imperial War Ministry (under Sect. 1, No. 1466, ex 1883) dated January 26, 1884.

1. Tested gun: Gatling mitrailleuse, 10-barrel type, caliber 0.42 inches or 10.67 mm. Weight of barrel-container 105 kilograms (231 pounds), weight of the gun-carriage 167 kilograms (257.4 lbs.)
2. Ammunition: Berdan rifle ammunition, weigh of powder charge 5.06 grams (0.177 oz.), weight of bullet 24 grams (0.840 oz.). Weight of the filled 104 shot magazine 11 kilograms (24.2 lbs.)
3. Test of function: Vertical target, 500 meters distance, with rear crank, 77 hits per 104-shot magazine, and 46 hits out of one magazine from the half-speed side crank firing.
4. Salvo: 1,000 meters distance, again 77 hits out of one magazine. Five changes in the direction and the elevation of the barrels, no complaints as to operation of aiming mechanism or firing mechanism.
5. Horizontal target: 500 meters distance,

elevation between 82° and 85° (rear end of gun carriage lowered 40 cm or 15.740 in. into the ground.) 208 shots without a single hit. However, good "projectile effect." (In the icy ground, which was covered with small stones, holes up to 8 cm in depth or 3.148 inches were observed indicating considerable terminal energy to the bullets as they fell.)

6. Firing speed: Salvo of 50 shots with rear crank 1.4 seconds, with side-mounted crank 2.5 seconds. Totally filled magazine—104 shots—2.8 seconds rear cranking speed, and 4.82 seconds for side-crank operation. Changing magazines took 3.1 seconds average. Rapid fire from 5 magazines, 2 minutes and 12 seconds, including changing, or about 1,150 shots per minute.*

*U.S. Army's newest .50-caliber Browning machinegun M3 is heralded as fast-firing with cyclic rate of 1,200 rounds per minute. . . .

can be fired with a half-ounce round bullet and all the powder that accuracy will permit, without any recoil that a hunter or soldier would notice. This test gave me the impression that on a calm day I could keep in a 12-inch bull, which is all that I would guarantee to do with any gun fitted with such sights."

Kephart shot the Hawken in the off-hand hip rest position in this test and obtained best accuracy with 82 grains of powder.

The customary powder charge was half the weight of the ball. With this load the Hawken shot practically "flat" up to 150 yards and with the heavier loads shot nearly level sighted at 200 to 250 yards.

Weighing a solid 10 to 13 pounds, the Hawken was made in several calibers—from .44 to .53. Larger caliber rifles were made for special customers—the largest on record being the .66 to .68 caliber Sam Hawken made for General William Ashley. The barrel of this king-sized piece was 3-feet 6-inches long and carried an ounce ball. Using this rifle on a summer buffalo hunt in 1824, Ashley killed a huge bull with one shot at 280 yards.

The Hawken was a prime favorite with the mountain men. The half-ounce ball, propelled by a "bar load" of 200 grains of high-grade English Diamond Grain powder, was lethal against buffalo, elk and bad Injuns. Even the mighty grizzly—respectfully tagged "Old Ephraim" by the trappers—could be stopped by the Hawken. Not by a heart shot—grizzlies "plugged dead center" through the heart had been known to reach and kill the hunter before they died. To drop a half-ton of red-eyed, charging bear in his tracks, the hunter had to score a brain shot through the grizzly's eye or through the roof of his yawning mouth. That brand of life-or-death marksmanship took guts as well as skill—the icy nerve to wait out the great bear's awesome rush and the ability to place that single half-ounce ball in exactly the right spot at precisely the right split-second. Timing told the story when facing Old Ephraim; the hunter who fired too soon or too late paid for his irrevocable mistake with his life.

Hunting buffalo was utterly different and far less dangerous. Picking his quarry out of a herd of the ponderous, shaggy beasts, the hunter rode his trained buffalo horse up on his chosen victim from behind and on the left side and blasted away at point-blank range. The vital target area lay well back on the buffalo's flank rather than directly behind the left shoulder. Aimed behind the last rib, the hunter's ball smashed down and forward through the intestines toward the heart. A buffalo's heart hung low in his huge

JAKE HAWKEN'S BIG GUN

buck-horn slanted slightly backward was the rear sight. Silver bead front sights were also available on special order.

In range and accuracy, the Hawken was outstanding in its day and surprisingly good even when judged by modern shooting standards. Bill Hamilton, in his book *My Sixty Years on the Plains*, stated that "Hawkins" were the best rifles on the frontier in the early 1840's and credits them with a range of 350 yards. Horace Kephart, noted historian and rifleman, bought a Hawken in 1896 that had remained in storage many years and had never been fired, except when tested by one of the makers. The rifle was unstamped but Kephart took it to Charley Siever, an old Hawken workman, for inspection and verification. Siever positively identified the rifle as a genuine Hawken, one that he had personally worked on more than 40 years before. The venerable German gunsmith recognized the lock as one of his own manufacture.

Kephart's Hawken was a .53 caliber, half-stock, equipped with a 3/16-inch silver bead front sight and buckhorn rear sight. The gun weighed 10½ pounds, with a lightweight stock and a very heavy 34-inch octagon barrel.

In *Shooting and Fishing* magazine, October 1, 1896, Kephart published an account of his try-out of this Hawken. The test was conducted at 200 yards range, using the half-ounce (217 grain) ball, greased linen patch and charges of 41, 82, 123, 164, and 205 grains of FFFg Deadshot powder. Kephart stated: "With 41 grains of powder there was no perceptible recoil; with 82 grains it was about the same as that of a 32-40 of like weight; with 123 grains it seemed about as heavy as that of a 38-55-330; with the 164 and 205 grains I experienced less shaking up than with a Springfield 45-70-500 fired in the same position. My arm was neither lamed nor discolored. The results satisfied me that a muzzle-loading rifle of 10½ pounds

body, and thus could easily be missed by a man shooting from a running horse. By making the quartering gut shot at close range, the experienced hunter fatally wounded his buffalo even though he missed the heart entirely.

Smooth-bore guns were preferred by hunters running buffalo, since this type of weapon was easier to load on the back of a racing horse than a rifle. Some hunters became so expert at this that loading and firing ten miles in a mile run was a commonplace occurrence. Heavy horse pistols were often substituted for long guns in these buffalo chases.

Rifles, especially the powerful Hawken and the fine sporting rifles made by famed English gunmakers Richards and Manton, were best for stalking buffalo on foot. Francis Parkman in *The Oregon Trail* wrote: "The method of 'approaching,' being practiced on foot, has many advantages over that of 'running'; in the former, one neither breaks down his horse nor endangers his own life; he must be cool, collected and watchful; must understand the buffalo, observe the features of the country, the course of the wind and be well skilled in using the rifle. The buffalo are strange animals; sometimes they are so stupid and infatuated that a man may walk up to them in full sight on the open prairie and even shoot several of their number before the rest will think it necessary to retreat. At another moment they will be so shy and wary that in order to approach them the utmost skill, experience, and judgment are necessary . . ."

Along with Bill Williams, Mariano Modena and Kit Carson, Jim Bridger packed a Hawken throughout most of his fifty years on the Plains. Bridger took "Ol' Bull Thrower" into retirement with him in 1871 and hung the battered rifle above the fireplace of his Missouri cabin. The old gun, many times rebored until it was nearer .60 caliber than its original .53, sported a double row of brass-headed tacks stud- ding its cracked, worn stock; mute yet eloquent testimony to the number of Indian and grizzly *coups* it had scored.

"A man's rifle", declared Jim proudly to awed neighbors come to call on the famous scout and mountain man. "Fifty year I packed a Hawkins on the Plains, all the way from the Great Salt Lake to the Mackenzie River. This yere Ol' Bull Thrower is the last of the lot. I could shoot her all day without cleanin' and my last shot went jest ez true ez my first—er anyhow, my second. When I threw down with her on a pizen-mad grizzly er a skulkin' Blackfoot, she made 'em come every time! Yes sir, gentlemen, this yere weapon is a *man's* rifle all the way!"

There could be no finer accolade for Jake Hawken and his rifle. ●

THOMPSON

(from page 33)

WALTHER MAKES A COMEBACK

... weapons for victory?

arm, much modified, was adopted and produced in quantity as the *Gewehr u Karbiner 43*.

Although the Walther factory was running day and night, using slave labor from the nearby concentration camps of Dachau and Buchenwald, and making small arms exclusively for Germany and her allies, not a bomb from the intensive strategic raids touched the plant! It was intact until the occupation when it was discovered that throughout the labor troubles, material shortages, priorities and regulations, Waffenfabrik Walther had continued commercial production of most models, for civilian and police export sales, right up to the last minute!

American occupation forces confiscated the experimental models in the large factory museum and engineers' offices, and many of these unique patterns have turned up since in the hands of returning servicemen. Carl Walther, grandson of the founder, moved to Switzerland with a bundle of tool drawings for the famous Olympia Pistole, world renowned target pistol for Olympic shooting, made in .22LR and .22 short calibers. This gun is now being

known arms authority and editor of *Gun Digest* obtained a .380. In addition to these two reports, a third was obtained on the .22, from a Colonel who had bought one.

In all three guns failure to feed was a common thing, due to the very heavy magazine spring and the improper finishing of the slide stop. This stop inside jugged into the path of the rising cartridges and jammed the gun—in my .32, 48 out of 100 shots fired in the gun were jams! Almost equally as bad was the .380, while in the .22, the firing pin broke in the first few shots!

A synthesis of these reports was typed off and sent to the San Francisco importers of the Walther pistols . . . almost at once they called long-distance to find out what was wrong. They were told so in no uncertain terms, and as a result they sent a photostat of this report to Fritz Walther in France.

Now Herr Walther is an old-time German gunsmith of meticulous fussiness. Things just don't slip by him when he is looking—and most of the time he is looking. The early Manurhin guns were a bad mistake—and a mistake which

- *What has happened to America's long supremacy in shooting?*
- *Why did the Russians win hands-down at Caracas last winter?*
- *Why are the Russian athletes favored to take the 1956 Olympics?*

Find the answers in—

"Russia—Nation of Marksmen"

—in the March issue of GUNS

produced by the Hammerli works in Lenzburg.

In the tremendous works of the Manufacture des Machines du Haut Rhin at Mulhouse-Bourzwiller, in Alsace, France, manufacture of the PP and PPK Walthers has been resumed. The production of the PP pistols from this plant was, until recently, very poor. While the guns were interchangeable with pre-war Walthers, the finish and fitting was execrable. Claims to "pre-War" quality were pretense, not fact. Yet the intention was good, and what actually happened was something of a novelty in this modern, "fast-buck" world.

A sample .32 PP was received by the author for test, while John Amber, well-

was at once corrected. Those guns still in the hands of jobbers and dealers were called in, a move of consumer service almost unprecedented. Within six months, the guns in circulation of this new production began to show improvement, and with resumption of manufacture last year of the PPK with lightweight dural frame, finish and quality can certainly be called "equal to pre war."

The PPK lightweight is available in .22LR caliber. This is a gun which can only be called "remarkable." It seems to have the precision of a long-barreled sporting or target pistol, yet it can be palmed by most men and carried inconspicuously in the coat or trousers pocket. As a woods or camping pistol it is fine,

and for target work at short indoor ranges a surprising degree of accuracy can be maintained. Years ago I bought a .22 PPK Walther secondhand when the owner let me take it down to the cellar and pop away at a shotgun hull placed on the edge of the coal bin. I couldn't fire more than one shot at it without hitting it! Sure, distance was maybe 20 feet, but the natural pointing qualities of the little gat are tops. The availability of new guns now as good as the original should please a lot of enthusiasts.

In Germany, the Walther shops are again at work. The old plant in Zella-Mehlis is *kaput*—the tools to Russia and the models to American collectors. But in the new plant in Ulm-Donau, Walther craftsmen are at work turning out air pistols and rifles of standard but good quality. The .177 Walther air-pistol handles like a big target pistol, and if you hold it right, it will show the score! Trigger pull is odd—a military double-stage type, and the advertising folder accompanying the gun speaks of "Walther Weapons For Victory." Shades of Versailles and Locarno—just "whose" victory is concerned?

Yet there is an impartiality about the Walther guns—only the matter of quality is dogmatic—it must be of the best. When the restrictions are raised on domestic German production of rifle bore guns for military use, the skilled air-rifle workmen at Waffenfabrik Walther will be ready at their machines to produce again one of the world's finest guns, the Walther pistol. ●

FISHER

(from page 25)

Javelina hunt

... pork chops with tusks

of the mouth of the cave, dashed between the hunters standing about to assist my 'plucking party,' but I was able to get a safe bead on his rear and fire one shot from the hard hitting .22 Hornet. That bead ended my javelina hunting for the season!

Even guiding parties, in which, as a paid guide I cannot hunt to make a kill except to end the suffering of a cripple, is not all hard work. There are many happy hours that bring you closer to good companionship and true sportsmanship.

But you, the hunter, will have to work harder for this little big game animal than you will for any other sort of game for which you can obtain a hunting license. He's mean, fast and treacherous so be careful. But remember, the prize will be well worth the hunt. ●

NEW in the MARKET

Colt Round-up . . .

AT THE mid-Winter matches in Tampa, Florida, last year, the Colt company unveiled a new revolver, the bone-shocking "Three Fifty Seven." Chambered for the .357 S&W Magnum cartridge, the Colt gun was the final answer to a question long plaguing hand-loaders ever since they started stepping up pressures and velocities in the big Colt "41 Frame."

As originally made, the 41 Colt frame, (the Official Police and Officers Models) was not strong enough to handle the .357 shell without shaking loose. The



"Three Fifty Seven" Bone-shocker

new gun is re-designed with strong groove fillets and increased frame dimensions at stress points to take the beating of the .357 cartridge. Firing pin is a separate floating pin retained in the frame by a plate somewhat like that in the 45 Colt automatic slide. Barrel lengths are 4" and 6", tapered like the 38 Officers Model Match or the old heavy OMT. Finish is Dual-Tone Blue. Many at first disapproved of the combined sand-blast and blue finish introduced by Colt in 1947, but appreciation of its merits grows on one. The pitted blast areas tend to resist bluing wear and retain oil on the surface, combating perspiration corrosion. The polish on flat surfaces is very good, and the appearance of the gun is pleasing. Trigger is grooved while the hammer spur is a "broad tail" type which makes single-action thumbcocking easy. Grips are checkered walnut, with checkers so sharp at first that some of the tender handed shooters even complained! But after firing a few rounds of .357 Magnum the checkers got smoothed off slightly! Grip is well-shaped to take the slap of kick, and the gun can be fired with comfort. A little shaping with a file will permit the little finger to be wrapped around beneath the grip, if you like that hold. It helps keep a large caliber gun under control. The rear sight is the Colt ACCRO

which is adjustable for windage and elevation and gives a large, square sight picture. At 20 yards my gun holds dead on as sighted from the factory.

Single action is crisp with little backlash—but in double action a difference is felt. Standard revolvers from all factories nowadays are pretty rough in action. Target grade guns are smoothed up more. But for a long while Colt has suffered in comparison with other makes so far as double action pull goes. Now the Three Fifty Seven seems to have a main spring which is a little different—it has a kink or two in it, and this makes the leverage during compression change, the fulcrums moving slightly in the flexing of the spring. The Three Fifty Seven DA pull is smooth and regular, and a distinct improvement over earlier post-war models. This trick with the mainspring has been used on Colts before, but this seems to be the first time it is put into practice. At \$89.50, the 36-39 ounces of Three Fifty Seven is a man-sized service or target gun well worth the money.

Colt "357" Ballistics	Grains		Barrel	ft/sec	MV	ft/lbs
	158	158				
.357 Magnum	158	4"	1142	469		
	158	6"	1295	589		
.38 S&W Special	158	4"	760	203		
std. vel.	158	6"	870	266		



"The Marshal" .38

RECENTLY announced is another Colt model, called "The Marshal." Chambered for the 38 Special cartridge, regular and hi-speed, the Marshal is a modernized version of the Official Police revolver. The square butt has been rounded in the Marshal, which permits slightly less bulge in plainclothes dress, and avoids the rasping of wooden grips which occurs in regular square butt guns worn under the officers' service blouse.

New, wide service sights are a feature of the Marshal. On the 2" barrel the front sight is .110" wide with a .135" rear sight. On the regular belt 4" model, front sight is 1/8" with the same clear .135" rear notch. With the quick-draw sloping front sight, serrated to break reflections where it is seen by the shoot-

er, the new gun is a good quick draw weapon, ideally suited to police and plant protection work. It is finished in standard Dual-Tone Blue and priced at \$64.60, or in nickel at \$71.05. Weight is 29 oz. with 2" barrel, 31 oz. with 4" barrel. ©



.32 Courier, real "stingy"

SMALLEST of the new Colt line is the pocket-sized Courier. Made of light alloy in the frame and cylinder, with a round butt improved over the old Pocket Positive, this little gun does not bulk in the pocket and should prove an attractive item for the "totin' trade." Chambered for the 32 Colt New Police cartridge, taking in the same chamber the 32 S&W Long and Short, the Courier with the 3" barrel is a gun for business.

I first saw this gun at Camp Perry, but Bill Henry, Colt's smiling salesman, kept a pretty sharp eye on me so I had to wait a while. . . .

The day after receiving the gun, I wanted to show it to a visitor and began to search for it. After a few minutes, I discovered it in my side pants' pocket! Weighing only 12¾ oz., the 32 Courier is a real "stingy" gun.

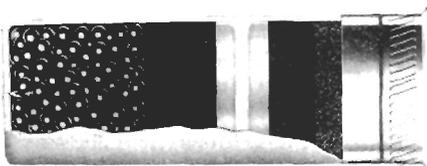
In shooting, the small grip tends to permit the gun to get swallowed up recoiling into the hand. A rubber cup such as is fitted to a cane or crutch would build the grip up for practice shooting and can be left off in hide-away carrying. The rear sight is so wide it looks like a plough had been dragged through the metal. Combined with the square front sight, the whole picture is easy to get and easy to maintain. "Kick" is insignificant, the small size of the grip makes it difficult for people with large hands to hold it tightly. But it is designed as a small-frame gun, for people with small hands, and under those conditions it fills the bill. Actually, it is the standard Police Positive Special grip

shortened and rounded, offering to shooters directly from the factory a shape which was previously a custom gunsmith job.

The rustproof anodized alloy finish is a shade darker than the steel bluing but overall it is a nice item. Action is even and good for a service gun: at the price of about \$60, the Courier should be popular.

It is planned to offer this gun also in 22LR caliber. Such a pistol will fill the bill for a reliable camping pistol of standard pattern.

Shooters still remember the dead days of 1946 when not a wheel turned at Colts. Then the company subsisted on promises and silver bracelet charms or lapel pins. Now the strides forward taken by Colt in these past few years show that the old spark is there; that the boys in Hartford have a trick or two up their sleeves. ©



"H-wad", efficient design

"H-WAD" is the designation of the new Remington shot-shell obturator which effectively seals the shot charge in the barrel against gas cutting and "blown" patterns. Made of new polyethylene Dupont plastic, the H-wad conforms to bore changes, from forcing cone out to choke, and also is claimed to have a recoil-reducing effect. In skeet and trap loads, this is supposed to be perceptible to the shooter, and results in a shooter being able to fire longer strings in practice and competition without tiring. The new wad is available only in Remington and Peters shotshells and coupled with the Remington-introduced flat-top crimp marks a step forward in efficient shotshell design. ©

FAST-ACTING pump repeater, the new Remington Model 760 high power rifle, is now available in the popular 257 Roberts caliber. Also made in .270, 30-06 Springfield, 300 Savage, and 35 Remington. Price is still only \$104.40 in standard grade, for all calibers.



Remington Model 760, fast-acting pump

Tommy Gun

. . . million dollars' worth

portion of the case did not slip back with the base, case rupture might occur causing a jam.

Blish and Thompson protested that the designs were "locked breech," but some army officers weren't so sure. Major General Julian S. Hatcher (retired), then a junior officer, was a member of the Ordnance Boards examining rifles. As a result of much firing of the Thompson guns under various conditions, he came to the conclusion that the "Blish principle" simply did not exist.

The actual adhesion of metals does not happen, says Hatcher. Although a delay in the operation of the gun is in effect, this is ordinary friction. Several batches of Thompson rifles were made up, but after 1924, Colonel Thompson ceased his rifle efforts in America. Among the disappointing things to arms inventors was the Army's transient decision to reduce caliber from a .30 to the new 276 Pederson cartridge.

Turning to England as a possible market, Thompson entered into agreements with the Birmingham Small Arms Company, Ltd., a division of Vickers, to experiment on the "principle." Ryan was still underwriting the efforts. In 1928 a War Office prize was offered of £ 3,000 to encourage arms designers. The entry of Mr. Pederson, who in the U.S. was rapidly becoming the "fair haired boy" of Army Ordnance, was runner-up to Colonel Thompson's gun. But the prize, to Thompson's gun for "superiority," was little enough—\$15,000—to repay the hundreds of thousands of dollars spent in research.

Other models of the Tommy Gun, in European calibers and characteristic British styling, were worked up at Birmingham. Marcellus Thompson was active in this designing, but nothing ever came of it.

In 1934 the death blow was struck to the Thompson interests—the passing of the Federal Machine Gun Act as it is affectionately known. Including a description of the Tommy Gun in the Act, Congress passed a tax measure which theoretically removed Tommy Guns from criminals' hands. To purchase a Tommy Gun involved a \$200 transfer tax, payable to the Director of Internal Revenue. This tax must be paid by the party who gives, lends, sells or otherwise disposes of the gun—and for legitimate arms dealers, this meant an increase of 100% in the retail price.

Previously sporting goods dealers had

BOOKS in REVIEW

READING — OLD AND NEW

commenced to worry about the illegal uses of the guns. It was often the custom to state to a prospective purchaser that "I'd have to get the gun from my wholesaler, but if you want to leave your order I can get it from the warehouse and have it here in the morning." Then, notifying the local or state police, a would-be bank-robber would often find himself confronted with some hard-eyed questioners when he came to the "Will Call" desk on the morrow.

The Machine Gun Act raised from a local to a Federal status any crimes committed with a Tommy Gun, including the mere possession of an unlicensed one. The organization of the FBI with teeth—arming the agents and giving them federal jurisdiction—in that same year was like hand in glove, and the nation wide manhunts were on. Sidewalk violinists were harrassed and the hurdy-gurdy enjoyed a new popularity. But the original Thompson firm had folded.

In 1939, Colonel Thompson was an old man, but his son, Marcellus Thompson, was very much interested in the business. The heirs of Thomas Fortune Ryan sold to a new firm, the Thompson Automatic Arms Company, all stock in the old Auto-Ordnance Company. Marcellus was president. With the approach of War again in Europe, contracts were in the offing.

Britain sought aid and the Tommy Gun was returned to production. The Savage Arms Company of Utica and Chicopee Falls, engaged in production of the gun, and Remington came along soon after. Under the complicated financing of Lend-Lease, more than a million and a half guns were made during the war. Toward the last, it was discovered that the British forces were finding some defects.

The Commandos, and the U.S. Rangers who had adopted the Tommy Gun as their emblem, as well as their armament, found that occasional jams would occur with bronze lock guns. When the bronze locks were taken out and thrown away, the guns functioned perfectly. Distressing to relate, in 1940 we discovered what Herr Bergmann in 1918 in Germany had learned—a pistol caliber automatic gun does not need any sort of breechlock to function properly and safely!

Redesignated the "Submachine Gun M1," with the operating handle placed sensibly on the side of the frame like a common Schmeisser or Sten, the modified version of the Tommy Gun was a valuable weapon till the much-cheaper M3 was in production. But the M1 had nothing of Commander Blish's all-important design in it! More than \$1,000,000 had been spent by Mr. Ryan on the say-so of Commander Blish, and Colonel Thompson, to develop a me-

THE BOOK OF THE GARAND, by Major-General Julian Hatcher, USA (Ret'd), Infantry Journal Press, 1115 17th Street N.W., Washington 6, D.C. 292 pages, illustrated, photos and diagrams. \$6.00.

The author, who has been an Ordnance-man since he was knee-high to a 105, needs no introduction. And to the ten million GI's, one would assume that the Garand rifle, the U.S. Rifle, Caliber .30, M1, needed no introduction too—but this is not the case.

Most GI's learned to point the M1 in the general direction of a clump of trees and fire. Considerable adverse publicity during the development of the M1 gave rise to the argument that "heck, it ain't too accurate, anyway." Those combat infantrymen who had a chance to learn the whims and quirks of their guns found that it was as accurate in battle work as any gun the enemy had—and often more accurate! Combat experience built up a healthy regard for the efficiency of the Garand rifle.

Being a mass-produced gun, the Garand was a bit sloppy in some aspects of fitting. General Hatcher's book tells where these points can be cleaned up, and how the inherently accurate Garand can be changed from a mere service rifle into one capable of match competition.

Much of the book is devoted to fascinating historical notes of the development of the Garand and competitive rifles submitted to Ordnance for test during the 20's and 30's. Considering the great number of "gun nuts" these days who fancy themselves as gunsmiths and tinkers, the Book of the Garand, with its page after page of critical evaluation of general automatic systems, and its authoritative reprinting of Ordnance requirements for small arms, should prove valuable reading. Telling in so many words the probable tests that a modern self-loading rifle might be up against, General Hatcher's book ought to be required reading for NATO rifle proposers.

chanical principle which did not exist and was unnecessary anyway. Perhaps Mr. Ryan did not mind too much. Upon his death, \$300,000,000 was the kitty for his heirs—an error of one third of one percent should not be held against a man. ●

COLT FIREARMS 1836-1954, by James Serven. Privately published by the author, Santa Ana, California. 385 pages, 500 illustrations, indexed. Price \$15.00.

In 1946 the Office of the President of Colt's Manufacturing Company observed in a private letter that access to the factory's old records could not then be offered and as so much had already been written on Colt, these published works would undoubtedly afford any researcher sufficient material.

Since that time enough material has been published on Colt and his firearms to sink a battleship!

The latest in this field is Jim Serven's large (9" x 12" x 1") and very comprehensive work. Covering the line of Colts from the beginning to publication date, details of uncommon variant forms or experimental models have necessarily been glossed over in giving the collector an exhaustive summary of facts and figures on all models regularly produced. Primarily a catalog of details and types, *Colt Firearms* presents in graphic form the many percussion, conversion, and cartridge models made in Paterson, Whitneyville, and Hartford. Paterson and Hartford long guns are covered in considerable detail.

Price lists, advertisements, and other factory manuscript or documentary material is reproduced, adding much to the interest of the book.

A page or two devoted to the little-seen Colt double rifles and several pages covering Gatling Guns and the automatic machine guns made by the Colt company are included for the collector of bigger stuff. Oddly, though mention is made of the famous (or infamous) Thompson Submachine Gun, no illustrations are included, nor are any shown of the Thompson rifles, several of which are in circulation and available for the collector. The long, close association of the Thompson interests and the Colt Company should, one thinks, have more than passing mention. After all, the accent on high prices of Colt Western Guns will soon divert the less wealthy collector to other fields—such as Middle Western Guns.

ARMOR AND ARMS by T. T. Hoopes, City Art Museum, St. Louis, 5, Mo. 1954 43 pages, 53 illustrations, paper covers, from the publisher at 85c post-paid.

This handsomely illustrated booklet is an introductory survey of ancient Euro-

pean and Asian arms and armor. Sections are also devoted to weapons from Roman and Grecian times up to the full armor of the Renaissance.

This book should prove interesting to the beginner from the introductory nature of the text and the illustrations will make it valuable to the more advanced scholar or collector.

The material on early firearms is surprisingly comprehensive.

INTERNAL BALLISTICS, Philosophical Library, N.Y. (15 E. 40th St., 16) 1954. 311 pp., illus. \$5.00.

A symposium prepared under the direction of Colonel F. R. W. Hunt, of Vickers-Armstrongs, Ltd., this book contains a series of articles by leading scientists of England upon many aspects of powder and shot performance derived from wartime and later research. The exposition of historical information on propellants leads into a chapter titled: "The Thermochemistry of Propellant Explosions."

While it is hardly a book recommended for the Saturday plinker, *Internal Ballistics* may prove of invaluable reference for the serious student of arms and ammunition design. The interested layman, without stumbling through a maze of equations, may yet glean considerable information of interest about velocity recording apparatus, composition of powders, especially English Cordite types, measurement of stresses in gun tubes, and similar technical subjects.

There are three books available inexpensively from The Infantry Journal Press, 1115 17th Street N.W., Washington 6, D.C. The first costs \$1.00 and is called **HITLER'S SECOND ARMY**. The second sells for \$3.50 and is titled **SOVIET ARMS AND SOVIET POWER**. The last is called **HOW TO SHOOT THE U.S. ARMY RIFLE**, and sells for only 25c.

The book on the "second army" of Adolph Hitler deals with a subject terrifying to the reflective reader who considers that "it can happen here". It describes in detail the organization and procedure of the vast police systems which the Third Reich created to hold down the civil populations of the conquered nations during World War II. Semi-military in nature, the groups such as the Waffen SS, the Sturm Abteilung, and others, were considered a threat to our subsequent invasion, and Allied observers felt they would constitute an army inside Germany which would resist. The elements in Germany which sponsored and acted in police organizations guilty of mass murder and crimes

Matter of Fact

BY EDWARD A. JOSEPH...



EVEN BEFORE THE SINGLE-SHOT PISTOL HAD BEEN PERFECTED SOME UNKNOWN ENGLISHMAN HIT UPON THE IDEA OF A **REVOLVER**

HE MADE A WORKABLE GUN—SOME TIME DURING THE REIGN OF **CHARLES I** WHICH MEANS THAT AROUND 1640 A REVOLVER HAD BEEN DEvised

THE GUN WAS NEVER PRACTICAL, AND REMAINED SOMETHING OF A CURIOSITY— IT WAS EVENTUALLY PUT ON DISPLAY IN THE GRIM TOWER OF LONDON AND WAS AFFECTIONATELY NICKNAMED THE **"PEDDER BOX"**



THERE HAS BEEN **NO BASIC CHANGE** OF THE REVOLVER, DESPITE THE TREMENDOUS ADVANCES IN GUNS FOR OVER **100 YEARS** OR SINCE SAMUEL COLT'S GUN WITH A CYLINDER THAT AUTOMATICALLY REVOLVED

G.I.'S HELMETS—DEVELOPED DURING WORLD WAR II CAN WITHSTAND A **45 CALIBER BULLET FIRED AT POINT BLANK** RANGE WITH A MUZZLE VELOCITY OF 725 FEET PER SECOND



A CASE HISTORY STUDY OF MORE THAN **4000** CASES OF AGGRAVATED ASSAULT REPORTED BY WASHINGTON, D.C. POLICE SHOWED THAT **REVOLVERS AND PISTOLS** WERE USED IN ONLY **193 CASES**, RIFLES AND SHOTGUNS IN **37 CASES** OR A TOTAL OF **5.8%** WHICH INVOLVED THE USE OF FIREARMS OF ALL KINDS



of genocide are still extant. Reading this little volume will make the reader look with sober eyes on current plans to rejuvenate Germany as a military State.

Soviet Arms and Soviet Power is likewise, at first glance, a "dated" volume. First issued in 1949, it seems to be a resume of Soviet accomplishments in the late War with Germany. But on the record of the past does the present build the future, and a re-evaluation of Soviet military potential by such a well-placed observer as General Augustin Guillaume, then of the French Embassy to Moscow, is of lasting value.

The only purpose of these two books today is to make the citizen well informed about the two major powers with which America may have to deal closely in the near future.

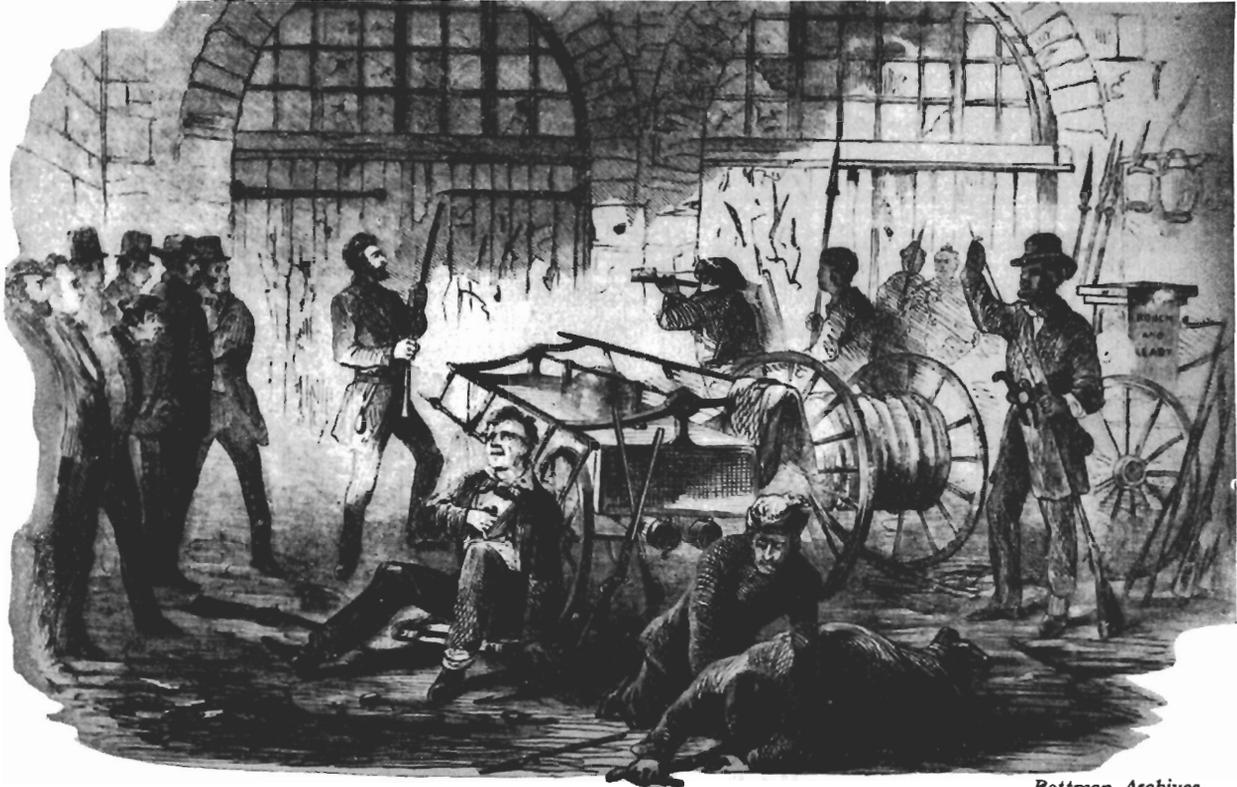
Lastly, the reader is directed to the classic little booklet on shooting the M1 rifle. Setting forth the best principles of marksmanship and combat rifle training, *How to Shoot the U.S. Army Rifle* is informative reading.

Maynard P. Buehler, who is becoming almost as well known in the sporting publishing field as he has been for his excellent line of scope sight mounts

and gunsmiths specialties, has issued a little gem called the *Still Hunter's Handbook*. Written in a straightforward manner, it tells pretty much all one needs to know about creeping up on your deer and getting a good shot. At slightly over a penny a page—it sells for 35 cents—it is a good bit of information that may spell the difference between \$400 sunk in an unsuccessful hunt and that trophy you've been working toward for five years. From Maynard Buehler, Orinda, California.

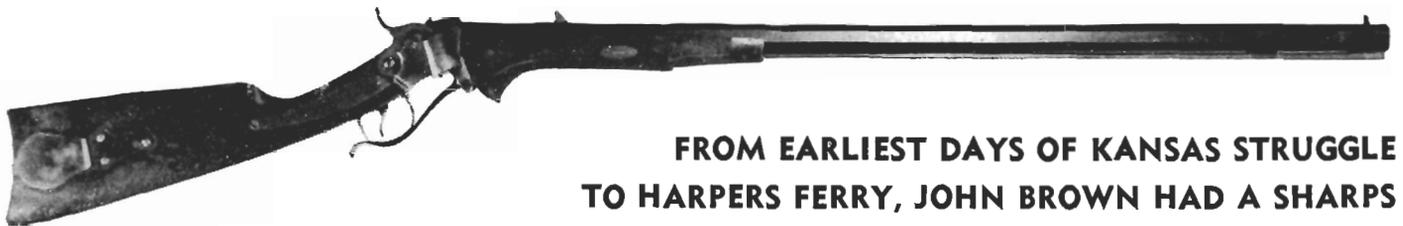
The Federal Cartridge Corp., Minneapolis, Minnesota, offers free two little booklets on shooting. One, titled **HOW TO GET YOUR DUCK**, describes in language almost as precise as an engineering drawing just how to fill your boat with those hard-flying over-water bombs. The other booklet, **HOW TO BAG THE UPLAND FLYERS**, is a handsomely got up item with colored pictures of quail, grouse, pheasant, etc. Notes on where and how to get the birds concludes with a happy ending—several tasty recipes for the chef to work with. Of course, it's up to the shooter to see that she has something to work with.

JOHN BROWN'S RIFLE . . .



Bettman Archives

John Brown, his sons and "army" of abolitionists stood off repeated attacks on the stone fire house at Harpers Ferry Arsenal, Virginia. Wounded, Brown was captured by Col. R. E. Lee.



FROM EARLIEST DAYS OF KANSAS STRUGGLE TO HARPERS FERRY, JOHN BROWN HAD A SHARPS

“JOHN BROWN, Aaron C. Stevens, Edwin Coppoc . . . evil minded and traitorous persons . . . not having the fear of God before their eyes, but being moved and seduced by the false and malignant counsel of other evil and traitorous persons and the instigation of the devil . . . are hereby charged with:

“One: Confederating to make rebellion and levy war against the State of Virginia . . .

“Two: Conspiring to induce slaves to make rebellion and insurrection. . . .

“Three: With committing murder. . . .”

As the litany of the court droned on, Old Brown, eyes deep-set in recall, thought back over the flaming years which had brought him to this bar of a Lesser Justice. Too vividly in memory he knew the hell-hole of the arsenal firehouse at Harpers-Ferry with the minny balls poking splintery fingers through the doors and thudding of the battering ram as Colonel Lee's Marines breached the tiny fort; remembered the Kansas years, and a Sharps sporting rifle he had once so proudly carried—'til the 200 Sharps carbines fell into his hands and the mad dream of revolt seemed a possibility.

Brown's original Sharps rifle, made for him in 1848,

Collection of M. C. Clark



Nippes-made Sharps rifle was finished to order of John Brown who wanted it plain. Maynard primer is in front of hammer.

was indeed among the earliest of Sharps guns. Seemingly from the first, Chris Sharps' destinies and those of Old Brown were linked.

Brown wanted no makers name on it—this breechloader for the Kansas fighting—since there were many who did not care to be identified with his movement. So gunsmith Albert S. Nippes finished it plain.

Sharps' patent models show his handiwork, and Nippes had some sort of contract agreement with the inventor. Modified externally, the early production Sharps guns used the Maynard tape primer, which was a great improvement in capping for percussion guns.

Nippes had altered many flint muskets to Maynard priming percussion system. The speed of firing the breech-loading Sharps with this design must have appealed to border raider Brown.

The Nippes-Sharps was one which Brown treasured greatly. Although without decoration, the mellow walnut burl-grain stock and smoothly finished case-colored and blued metal parts gave snap and sparkle to the "eye appeal." Brown used the rifle, but for some of his forays he evidently preferred quieter weapons—like the sabre-hacking murder of the Doyles back in Kansas.

From the Emigrant Aid Committee, Brown obtained 200 new Sharps carbines which he diverted to his plan against Harpers Ferry. Seemingly aware of the folly and impending doom, Brown on a trip to New England gave his prized Nippes rifle to a friend. On June 3, 1859, Brown called at the home of Charles Blair of Collinsville, Conn. and gave him the rifle in token of his aid. Actually, Brown was in town on bloody business having just ordered 1,000 pike heads from the Collins Axe Company of Collinsville. With these he hoped to arm the slaves in an uprising which from the Ferry would spread through the South.

"I'll carry the war into Africa," Brown once said, but his scheme was doomed. The slaves, as a group, did not want freedom. No mass rallying to his sanguine standard occurred. Instead the telegraph flashed the news and Lee came to the rescue of the Arsenal. The assault on the firehouse drew many spectators. U.S. Marines smashed the door and Brown was taken.

In a museum there is one of the 200 Sharps carbines with the eloquent inscription on the patchbox: "Captured from insurgents October 18th 1859 at Harpers Ferry, Virginia. . . ."

CROSSFIRE...

LETTERS TO THE EDITOR

Hand Gun . . .

. . . can you help me locate a S&W .38 revolver, a .32 Beretta automatic or a .32 Savage automatic for my collection. I enjoyed the article "Those Two-Bit Spanish Pistols" and find such handgun stories helpful and interesting . . .

Pfc. William Chenault, Jr.
First Marine Div.,
c/o FPO, San Francisco, Cal.

Any sporting goods store should be able to help you. S&W Military & Police model .38 Special is priced at \$61.62. The Beretta .32 standard blue finish automatic, \$43.50. Savage is obsolete, not made since late '20's. A .32 in good shape would cost \$25 to \$30.

Missed Swiss . . .

I enjoyed the story on the Swiss free pistol and think you've got a great idea in GUNS magazine. But I've asked several gun dealers in town and nobody seems to know where Grieder, the Hammerli distributor is located. Can you tell me?

Charles Sykes,
St. Louis, Mo.

Contact H. F. Grieder at 3069 Cleveland Ave., N.W., Washington 8, D. C.

Cartridges . . .

. . . like your magazine. Since I'm a cartridge collector I'd like to see some stories about rare cartridges.

John Hessian,
Waterbury, Conn.

We're ahead of you. Stuart Miller, collector and cartridge dealer for forty years, begins his monthly column with this issue. Check contents page for location.

Wha hopped?

Was surprised to find your mag on the newsstand last week. Didn't know that anything on guns was around, but I sure like it. One thing I want to know—what were the guns

on the front cover? I read it from front to back and couldn't find a thing about them.

Louis Merritt
Wilmette, Ill.

Sorry. Guns on the cover were Great Western Frontier revolvers, caliber .45, from GUNS reference collection. Credit Stan Holden for the photography. Planned for a future issue is a story on the guns and the factory that makes them.

Bouquets . . .

. . . GUNS stands an excellent chance for success in that at the present time there seems to be no publication on the market devoted exclusively to firearms as such . . .

Walter E. Anderson, vice president,
Winfield Arms Corp.
Los Angeles 15, Cal.

May we offer our heartiest congratulations on the birth of GUNS magazine!

Volume I, Number I reached us recently and we would like to say "welcome" and "best wishes." If the succeeding issues maintain the high caliber of the first, GUNS should take a high place among the fine magazines devoted to firearms.

R. E. Lewis,
Managing Editor,
ORDNANCE Magazine

TWO FOR ONE!



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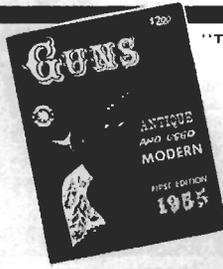


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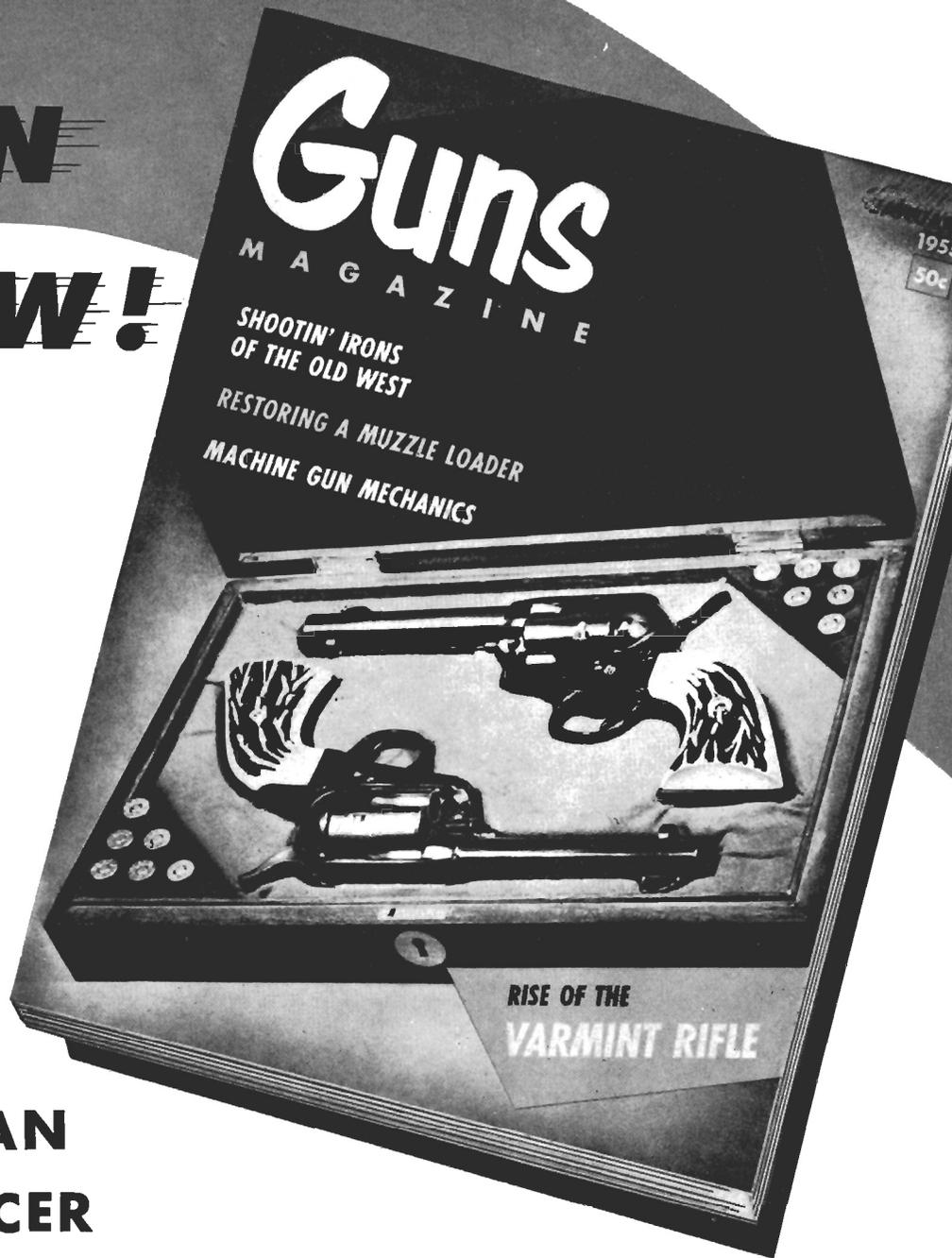
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