Pursuit of the tracing of the pistol strikes me as a rather worthwhile research project. Perhaps you can also go further with the rifle order than Hoch and I have, but I think you may want to check my file on this. I also think Paul's recollection will be much better than mine on this. We worked on it together and he has copies of everything I have.

A general comment: Bernabei is an authentic expert, and I think you should send him a copy of your 12/7 memo with attachments (I have not time now to read the attachments but I respond in order that this not get forgotten in the press of too many things). What may seem reasonable on the basis of logic may not be on the basis of ballistics, for example. I am sending him the carbon of your 12/8 to me.

What Hoch and I have includes even the copies of the magazines the FBI dusted (negatively as I recall) from Alba and reports (inadequate) on the tracing of the magazines there. It seems to me that there was a mysteriously, pretendedly official visitor before the FBI.

An assortment of people, including Garrison and I think Sprague, have conjectured that some kind of explosive ammo was used. Leon Davidson postulated ice bullets. I see no reason for anything like these farout things, particularly not if the M-C was planted to be found and was not used, as is my belief. They needlessly complicate the entire affair and introduce (Bernabei can tell you if this is wrong) hazards in return for no gain. The most important single factor in a successful assassination, aside from the competence of the shooters, is true flight of the projectiles. Explosive bullets and things of that sort are not as dependable in flight and, with good marksmen, serve no real need. The weapon and the type of ammo used depend upon the conditions of the assassination. For example, if it were to be other than close (and any part of Dealey Plaza is close to the most remote part in terms of shooting) a small-calibre, high-velocity ammo is best, for the lighter weight of the projectile and its higher velocity give it a flatter trajectory over a longer range. And this kind of ammo, in the readily-available hunting or varminting varieties, is designed to mushroom and fragment on impact, a humanitarian consideration when used against animals. Larger calibres behave similarly, but they require more opposition in fragmenting and mushrooming. This remains relatively little opposition. As bernabei explained it to me in the King assassination, the use of .30-06 rather than .243 in the Remington Lokt-Core line makes it more likely that the shot would be a success were the window of a car to have been between the shooter and the victim, the difference being accounted for my the greater mass of the .30-06 and thelarger size of the projectile/ tending to carry more of it to the target. He can probably explain this better than I, or you can see his explanation in my files.

It is my recollection that what I located in the Archives includes or fits what Hoch had that shows the torn part of the page is identical with the missing piece sent to Klein's. One aspect that may be worth further inquiry is t e dependability of the handwriting analysis on which, as I recall, all that order hangs.

I also have a Remington catalogue you might find interesting. It pictures and describes all the ammo they make and gives the characteristics. I also have relevant pages from standard spurces on the kinds of ammo that could have been used in the King case. Some may help.

First I would add this opinion: we have to get away from the hangup that military ammo was used in the crime. I do not believe it was and, aside from the alleged traces of copper found on the JFK clothing in back only, which does not mean military ammo but includes it, there is no evidence of which I know indicating that it was. The behavior, or the behavior as we have been told and as we have been able to reconstruct, indicates that it wasn't and it was the worst kind to use for that job. Until I can arrange the printing of POST MORTEM I am not disclosing all I have on this. The simplest persuasion is the spectro case. If it backed the official mythology, do you doubt for a moment they'd withhold it and force me to court on it? Rather would they be anxious for it to be known. And my work on the pictures I showed you and Jim summer before the one past has gone very far forward. The entire story is false. All of it, in all particulars.

There is another possibility in "late issue" other than currency in the ad, one I consider more likely. "Issue" has a special meaning in the military. I think as used in this ad it may well have been intended to mean a later model, one issued to the troops later.

On substitutions, particularly on inexpensive items bought by nails haven't used the mail-order houses much in recent years, but it was always the standard practise to substitute the similar if available when what was ordered was not. In those cases, it seems to me an order clerk included a printed or mimeographed form so stating or mage a note on the copy of the order returned with the shipment. I think Klein's would have done something like this in the normal course of business. Of course, what is not lightly dismissed is the official failure to check it all out and provide a persuasive explanation. As I recall, it was either ignored or close to it.

One of the aspects of these ads that have always interested me is the purcahse of junkier stuff than was necessary, better equipment being available in the same price range. And, if LHO had known what he was doing, he could have bought identical crap for less in Dallas and without leaving the traces mail entailed. The ads you copied show much better stuff for close to the same price, both rifles and pistols, so if he got what is attributed to him, he sure as hell didn't know what he was doing to begin with.

Another general comment, and this addresses the matter of explosive and other exotic bullets: I think successful assassinations require the greatest simplicity, in concept, execution and participants. The Sprague extension of Garrison is sheet insanity. Where could you find at least 50 he had these on the scene!) who could escape detection and keep their mouths closed? And what was the need for them? Same with umbrella signals (a conjecture made easier by ignoring the second one!). What need? Or for radio? What is wrong with the first shot as all the signal needed, if any was? The more complicated we make all of this, the more we escape reality, confuse outselves and frustrate success.

On Wecht: I also do not expect he will get access, but I regard it as the worst potential disaster if he should. There is too little political understanding and thinking. As of now there is relatively little we can learn from access to the film anyway, for we (meaning for the most part I, given the ethics and dependability of the critical community) know most of what it can show. And some of what it cannot. The many ways in which this can be counter-productive have not dawned on those who have not thought it through or lack the knowledge of fact that is requisite for doing it. It was a serious error on his part not to discuss this with me first, particularly because he was privy to some of my newer data and knew what I was working on and had an invitation to come here to examine all of it dating from the Halleck hearing. Perhaps in the days when we were restricted to the 26 and what any of us could extract from them such an approach, in vacuuo, could be justified. But not now. So, despite my great respect for Cyril's competence and objectives, I am satisfied that his frustration in this endeavor is in our interest. In telling you this, I also tell you what you may not know, that I was the first to ask for access to this film, the day it was announced that it had been transferred. It took much to change my thinking.

Sincerely,

Harold Weisberg

to sub	Mr. Harold Weisberg Route 8 Fredrick, Md. 21701	,	IN	COMMITTEE TO IVESTIGATE ASSASSINATIONS 927 - 15th Street N. W., #409 WASHINGTON, D. C. 20005 Tel. (202) 347-3837 date 12/8/71
		message		
	Enclosed is something you may any conclusions about any of this you might have some other informa picions about the mail-order gunp of Klein's ads among Oswald's pos Wecht has still not been grant the latest I've heard.	. I just want tion that might urchases and the sessions/are	to call: t somehow ne Dallas ther high	it to your attention in case dovetail into it. My sus- Cops' convenient "finding" as you can probably tell.
FOLD		reply	signedG	Bol Suit
	: Mail white and pink copies with carbon intact.	date	signe Reply, retai	din white copy, return pink copy.

December 7, 1971

Memorandum for File

Subject: GUNS; ARTICLES & ADVERTISEMENTS IN AMERICAN RIFLEMAN MAGAZINE

From: R. P. Smith

On December 6, 1971 I spent several hours at the Library of Congress examining back issues of various magazines in an effort to track down the source of the advertisement by Seagort Traders, Inc. (Los Angeles) from which Oswald purportedly clioped the mail-order coupon (CE 135) and ordered a revolver, supposedly received by him in March, 1963 about the same time as the rifle was delivered. While the mail-order coupon for the rifle purchase was identified as having come from the February 1963 issue of American Rifleman (VR, p. 119; see also Sylvia Meagher, AATF, pp. 48-50 for several pertinent observations on this, particularly footnote 4), there does not appear to have been any corresponding identification of the source of the coupon for the revolver purchase. This coupon bears the code designation "AM-3", which commonly (but not always) represents the initials of the name of the magazine plus the month of issue. Notwithstanding such a strong clue, identification of the magazine was not accomplished by the Warren Commission or, to the best of my knowledge, by anyone else. I searched early 1963 issues of American Rifleman, Field and Stream, Guns & Ammo, Sports Afield, and one or two others without success. appears to be no well-known gun or hunting magazine with the initials "AM", but I have not yet examined all the possibilities by any means.)

However, in examining back issues of American Pifleman I ran across some other information of possible interest in regard to the rifle, both in respect to the advertisements and in respect to certain technical articles about ammunition and silencers which could conceivably have been used in the JFK assassination, whether in conjunction with the Mannlicher-Carcano rifle or some other rifle. I have made copies of some of this information as attachments to this memo. The following discussion is keyed to these attachments.

1. Attachments 1 and 2 are copies of the ads placed by Klein's Sporting Goods in the January 1963 and February 1963 issues of American Rifleman, the latter being the one corresponding to the "Hidell" mail-order coupon as indicated by the code designation "Dept. 358" as seen in CE 773. (Klein's ran advertisements regularly in all the various magazines that I examined, and apparently they changed the code designation in numerical sequence each time.) As pointed out by Sylvia Meagher (AATF, p. 48), the rifle shown in the February 1963 addiffers very appreciably, both in length and in weight, from that which was actually shipped to "Hidell". and it was apparently some months later, as in the November 1963 issue of Field & Stream (shown in Holmes Exhibit No. 2), before Klein's got around to advertising the 40", 7 lb. rifle that seems to have been shipped to "Hidell" in March 1963. Of the many Klein's ads that I examined for the first six months of 1963, every one that included the "6.5 Italian Carbine" (which is most of them) referred to a 36" rifle weighing 5½ lbs. I have not yet determined when the first appearance of the longer 2 heavier rifle occurred, but it seems almost certain that it was not before July 1963.

The possibility exists that Klein's exhausted their supply of the shorter rifle as early as March 1963 (resulting in a substitution being made in the "Hidell" shipment), but that the advertising department didn't get the word until later. Then too, "hobby" magazines of this type frequently are published a month or two ahead of their nominal issue dates, and the advertising copy has to be submitted well before the publication date. However, the tone of these ads ("LATE ISCUE", etc.), which was consistent all the way until June at least, seems to imply that a real effort was made to keep them current. Moreover, there is nothing in these ads to suggest that Klein's followed the practice of making substitutions without notifying the purchaser first.

2. Attachment 3 is an article from the January 1963 issue of American Rifleman on the subject of explosive bullets. Bullets of this type genuinely explode on (or just after) impact; they are not mere "dum-dum" or inert fragmentation bullets. There is surprisingly little information on this type of ammunition in ordinary reference works (e. g., Encylcopaedia Britannica), although one can find a great deal of information about explosive ordnance for larger caliber weapons.

This article is the first positive confirmation that I have found showing that ammunition of this type is practical for standard rifle calibers. It may be significant that all the developments described in the article are of World War I vintage. I assume such ammunition, like dum-dums, was banned by the Geneva Conventions (1920's), although obviously this would not deter assassins.

It is interesting that several nations, including the U.S., have had such ammunition in their arsenals in the past, and that Italy in particular (p. 24 of the article) had an exclosive bullet for 6.5 mm weapons. Although the bullets, as shown in the chart, are often of distinctive shapes or bear distinctive markings, instances, the only distinguishing feature may be a color marker of some kind, which of course could be removed. Thus the characteristics of the cartridge cases would not be a reliable guide as to the nature of the bullet. (A subsequent article by out exactly the same problem in identifying those.) Note also that some American fabrication of explosive bullets, in one instance on behalf of a hostile foreign article presents this information very methanology for the author of the

article presents this information very matter-of-factly in the third column of p. 22. I am unable to estimate just what kinds of fragment or residue such bullets would leave in or near the target. My hunch is that the fragments would tend to be very small particles or slivers, but much depends on the nature, amount, and physical design of the explosive charge. Conceivably, in some designs, the bullet might disintegrate somewhat like a grenade, producing several "chunks" rather than tiny particles. In any case, I would expect that ballistic identification would be rather difficult. Moreover, the larger particles would probably be dispersed to appreciable distances in all directions rather than following the approximate flight-path of the initial trajectory.

Considering how old the information in this article is, and how many advances in technology have occurred since World War I, one can only seeculate what kinds of new development in explosive ammunition may have taken place in recent years. Such developments would almost certainly have been kept well hidden under the cloak of security classification in view of the existence of international agreements to restrict the use of such weapons.

- 3. Attachment 4 is a short article from the same issue on "silencers". Again, as the article notes, there are problems in getting information on this subject. However, their existence for rifles as well as handguns is confirmed by this article, even though their effectiveness for rifles is somewhat dubious. It may be worth noting that even though the "crack" of a supersonic bullet cannot be silenced, the muffling of the sound from the muzzle (or chamber) might be of considerable value in concealing or disguising the <u>location</u> of the rifle to ear-witnesses. The marked paragraph in the second column is also of interest in showing that security classification enters into the question of availability of information on these devices. The reference to "semi-military purposes" is especially intriguing.
- 4. All of this information was oublished in the same magazine, and at about the same time, as that from which Oswald oursortedly clipsed a Klein's coupon and ordered the Mannlicher-Carcano rifle in March 1963. This was well before he could have seen the magazines at the Crescent City Garage in New Orleans (CE 1933).

RECIENCED TOO LATE FOR HUNTING SEASON!

NO MONEY DOWN

INTERIOR OF THE STATE OF THE CHARTER	a same mama	manan manan	30 DAY FREE TRIAL
PRICE SLASHEDI	WAR SURPLUSI		MODEL 1917 RIFLE
U. S. SPRINGFIELD M1903-30/08	ALL N.R.A.—Very good or better!		
bary rife for snorting use of frem attl. and this tell are all Model 1903.43's with the number Miscress Steel recovers, milled working parts. Made in Government Ararial—aut commercially assembled. 30,08 cather, 5-shot assistance. Adjustable real role switt, blade from sight, 433/4" overall. A 69 hs. American Walnut stock. Good to Very Good Condition.	T-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		Famed /
American Walnut stock. Good to Very Good Condition		30/06 The U. S. Madel 11:	Caliber LAST CALL! HURRYI
WAR SURPLUSI 30/06	30/06 c	is the lowest price rille in the no aliher! Known supplies are very not likely to be available!	1150088
U. S. M-1 GARAND RIFLE	Top gun author Hatcher's Notebook says a typical Mauser, it was improved in ac	rity Major General Julian S. H: s of the U. S. Model 1917 mine—' systal respects, and has a bolt and	receiver Rife.
Finest lot we've seed! Limited quantity! Famous World War II automatic rife in appular 30/00 caliber. All in NHA Very	Hatcher's notation author are a special material at the process of	a superbly alrony action." General s have shown the Model 1917 bar ls." 10" Superbly 26" learned with an	reis will Order No. 020-T33
C20-T25 Only	rifling, rifle overall 46,3". Peep sight ad- sight. Footproof safety, Turned down bo- with along swivets. All milled parts, per	ustable from 200 to 1600 yards, bi bit. American Walnut Stock and ha fect shooting contribunt	ails front nd guard
GARAND IN "LIKE NEW" CONDITION, All appeluitly selected and Seps crafting nerfect by Milk Kleini Corder took, those worst ball CO-TILIN. E20-T1000. Military 30/06 Ammo, per 120 rds. 37.20.	.30/06 WITH NEW TASCO HI C20-T1296, M1917 Rifle made by Eddyst	GH POWER SCOPES INST	ALLED READY TO SHOOT
LATE ISSUEL 6.5 ITALIAN	C30-T1295. M.1917 Rifle made by Eddysl C30-T1297, M.1917 Rifle made by Eddysl C30-T1297, M.1917 Rifle made by Remin C20-T1293. M.1917 Rifle made by Remi C20-T1293. M.1917 Rifle made by Remi C20-T669. Leather lace-on checkpiece &	gton or Winchester mounted with a one side mounted with the big I" or Win, side mounted with the big	Tasco 34" 4 power scope544.9 Fasco 4 or 6 power scope559.8 I" Tasco 4 or 6 power564.8
CARBINE Only 36" overall, weights only \$1/2-lbs. Shows	BRAND NEWI DIES OF	D.	ELUXE MARLIN 336C!
only 36" overall, weights only \$15-15s. Shows my slight use, lightly niled, feat fired and front stored, creaty for sight. Francisco. Tremed down Soil, thumb safety, 6-shot, clip fed. Hear open \$20-11-19. Specially Priced con.	FIRST QUALITYI		
C20-711-6. Superally Priced. C20-7750. Carbine with Brand New Good Quality AN Scope-34. \$19.95 downler, as illustrated. C20-7751. 6.5 mm Italian military ammo with free G-shet clip. 100 rds. \$7.50			
SPECIAL PURCHASE! TOP QUALITY!		RECOIL	PAD LAST CALL! HURRY!
TASCO VARIABLE POWER SCOPE! 3X TO 9X	The state of the s	SWIVELS .	. SLING
Brand newl . First quality! . Made by Tascol With a twist of the wrist your can have any above you would from 3 to	models adjustable open rear single remains a single open rear single remains a single remai	with full Markin warranty, Famo- nw lever action. Tubular magazine icco-Grouved barrel, Humind camp fr.	nords 7
recitate Manny and Human hard colors, preallas corrected, nilconen Blief for fee promises Lutture pre-preer and ship-cive, 1 tube, emblish fens caps, Deval 12-7, 14-48. Compare to \$00.05 Scopes Elawehred B20-7603X, Propil \$34.88	mounts, 20" barrel, 381'2" overall, 7 it sling swivels and oiled leather sling with Reministen caliber.	on, included FREE: factory fitted re-	COI pod. Order No. C20-T773
VARIABLE FOWER SCOPE 242X to RX. TASCO quality and features some as 820-T693 described above. Cresshair reticule. Compare to \$49.05 \$29.88 Scopes characteristics.	CZO-T773. Certified \$94.95 Mir's List. MARLIN 336C WITH AK SCOPE—Mount quality 1" diameter AX Scope with hard	State 30/30 or .35 cal	usco fine
212X or 4X SCOPES-CROSSHAIR or POST and CHOSSHAIR RETICULE, All the quality and features of H20/T693 described plus Fixed Relicule-always accurately	to prevent forging, Leather lens caus inc. MARLIN 336C. 4X SCOPE, MOUNTS, REC.	fuled. Scope has prosshair.	ELS. Compare at \$139.70 \$94.8
820-T1187X, 31-3X or 4X, State Choice, Prepaid Price	sting swivels and oited leather sling will reministor caliber. C20-T773. Certified \$94.95 Mfrs List. MARLIN 336C Wiffs at \$COPEMount for windop and elevation adjustments. to prevent fought, beater less cass in MARLIN 336C, 4X SCOPE, MOUNTS, REC MARLIN 336C, WIFF SILE AND SCOPE, MOUNTS, REC MARLIN 336C, WIFF SILE AND SCOPE, MOUNTS, REC Canagos power from 212 all the way us changes power from 212 all the way us hair refluint, leather tens cass. Tip-off m C20-T1191. MARLIN 336C, 2/37-8X SC Compare at \$152.15 clsewheret Nate 31/.	I. Maunted Ready to Shoot! Ta to B instantly. Nitrogen filled, may ounts. State caliber choice.	ace fine quality variable power scor
	C20-T1191, MARLIN 336C, 21/2X-8X SC Compare at \$152.15 elsewhere! State 30)	OPE, MOUNTS, RECOIL PAD, CARR	YING STRAP, SWIVELS: S104.8
SAVE SGO NOW! But Hurry—they won't last! Brand new famed Firearms International MATAGOR 10-gauge (31/2* shell) Magnum Shotgun, Deep cut price due to slight change in forth-	WAR SURPLUS PURCHASEI		ENFIELD SPORTER
SALE! New Matador 10 Gauge Magnum BAVE 560 NOW! But Hurry—they won't tast! Brand new famed Firearms International MATADOR 10-quipe (3/½" shell) coming model, Made for F-I by Aya of Spain, Perfect for ducks and gerse to 100 year model, Made for F-I by Aya of Spain, Perfect for ducks and shelts. 32" full sheked barrels. Knoraved receiver, selective automatic ejectors, couble safety underlecks. Checkered French Walnut stock and beavertail forearm, 45" overall, 34½ bis.	,303 British Caliber		
C20-T72, Certified 5189.50 Mfr's List			LAST CALL! HURRY!
E20-73, 10 Ga. 313" Magnum Shells, apecify BB, #2 or #4 shot, \$7.20 for 25. Ammo shipped Express College Colle		AVAILABL	E WITH AE COOL
12 Gauge	lot of Enfold	Amazing low price due to hun chase from British Air Ministry! T d No. 1, Mark III Rifles we've se	e special no finost on Rifle, Only
SAVE over \$40. Brand new Winchester Model \$0 FEATHERWEIGHT Automatic Shelpun, First quality, factory packed, Lutest Model, 12 gauge, 30 barrel, full choke, 3-shot, and 574 lost, 40147 overall. See 18 June 21, 50 hondage and 574 lost, 40147 overall.	long, long time! Buy with co cally perfect with clean sharp rilling atock with little appreciable wearing of a	mplete assurance your gon will be with smooth, giled fine-graine wood. Sporterized stock has good cie	mechani- d Walnut can lines,
czo-T1387. S98.77 coverall. S98.77 che st. 50 postcoet ond handling	lot of English and possibly the last family perfect. with class sharp rilling stock with little appreciable wearing of the last family stock with little appreciable wearing of the last seed to the last stock with little appreciable wearing of the last seed to t	r sight adjustable for windage and i le, solid brass butt-plate. 10-shot r British Caliber.	smovable S19.8
SALE! DE LUXE GUN CABINET	ENFIELD RIFLE with FLEETWOOD 4X 5 C20-7992.	COPE, 3/4" diameter, Mounted—Rea	oldy for Shooting! \$27.8
Your Choice of Genuine Walnut or Limed Oak Completely assembled and finished, Beautifully made of cabinet hard- wood hand rubbed to a Justicula finish. Recent your unas safe, dreses	Brady for Shooting! Leather Carrying St	rep Included C20-T893	
Comparing assembling and minimum, desautivity mass or cathod north- tio your don, Molds B guide. Barrel rocks and stock pits green felt timed. Full swistn drawer holds accessories. Locks for sliding glass the stock with Limed Oak Briefs or breutiful rotary cut Waintst. Shipped Fit. Collect from Indiana, Wt. 77 lbs. Certified 595.95 \$67.77 Mtr's List #EE0-22.	NEW HI-STANDARD	.38 S & W ENFIELD	M1917—COLT .45
Frt. Collect from Indiana, Wt. 77 lbs. Certified \$95.93 \$67.77	Shoots .22 rim-fire from BR Cap to Long Rifle. Ram- merless. Two Shots.	Double action only, 26 oz. 6	U. S. Government M1917 Service Revolvers: .45
ALASKAN WOLF FUR PARKA	Weighs only 11 oz.	only, 26 oz. 6 shot, 1012 over- all, Hinged frame, break-open action, fixed sights, hard rubber grips. Good condition outside.	AcP caliber 6 half-moon clips included \$12" barrel. Blued finish. Good condition inside and out. Easily worth \$50. Limits quantities
Ideal for Munting, Saling, Ice-Fishing, Outdoor Work end Gampus, Linuxirious Alaskan Wolf Fur Trinimed Hood, as used by Little America Antarctic Expedition, Water and Show Mangloran Bouther Ply Outher Ply	. HANDGUN PUNCHASERS: Please	Perfect mechanically.	
Water and Snow Repetions and Windsproof. Double Ply finest DiProof Nylon in and out. Snag Proof! Parks has concealed whit wristlets. Genuine DiProf to Sal warm as toost. Light as a feather. Drawtrings on hood and at waist. Convenient large hand warmer pockets. State choice of Tan or tyle. Ald \$1.00 Ft. do. 20.712.meNt. State suit size (34.48). ADIES: State Oreas size	and signed statement stating that you are 21 or over, not an alien, have not been convicted of a rrime, not under indictment, not a fugitive or drug addict. Also and permit if your city or state requires.	Add \$3.00 for special selection if desired.	45 ACP Ammo (E20-T488) \$2,3 per 50
pockets. State choice of Tan or Red. Sizes for all Slipover	dict. Also send permit if your city or state requires.	MAIL TODAYI IMM	MEDIATE DELIVERYI = 1 KLEIN'S—Dept. 323
10-721-MEN: State suit size (14-48). LABIES: State dress size (10-20).	NEW! '63 GUN DIGEST	i Recipie	KLEIN'S—Dept. 323
SALE PRICE	World's Greatest GUN BOOK	CASH CUSTOMERS: Ser	od check or money order in full.
Brand New! Cost U. S. Gov't \$14.90! Heavy oil-threed	Extrasl \$11.90 Val. DPPD.	handling unless otherwise s	y size order for postage and pecified. Handgun orders, and pped express, charges collect.
waterproofed cownide miners securely interest to the first full of	FREE GIFT!	C.O.D. Customers-Enclos	a 10° a C.O.D. Deposit.
NEW! FINEST 9 TRANSISTOR WALKIE-TALKIE	FAMOUS "SPRAY"	A THE NEW CHERTY CHETCHES	CHEDIT CUSTOMERS: No cown order will be shipped at once. IS: No Down Payment Required, of name and address of your Em-
Perfect for Munters, Fishermen, Farmers, Campers, Police Work, Contractors, Surveyors, TV Repairmeni Anyone Can Use No License Required FCG Approved!	to marining Entl. Come. 10	ployer and names and address you have (or have had) credit time, number of dependents, d.	d name and address of your Em- es of 2 or more firms with whom accounts. Airs your age, occupa- ate present job began and present pt confidential.
Small enough to hold light enough for your pocket	tained Atomiser! Milk Klein's Gift to you, for your Lady Fair, with any purchase of 59.95 or more from	(Pay balance, plus small shipp	pt confidential. ing and service charge, monthly.)
performance for the serious minded outsoorsman and outsoor worker! . Do not confuse with 'ginmichedup' items having buttery wearing radies and other gadgets. Easily operated	with any purchase of \$9.05 or more from this ad. Spray Flacon gives 1300 representation of the sprays of enchanting performed A great giftening a great great giftening a great great great great great great grea	RUSH ITEM NOS.	Creck Money Order
Small enough to hold		NAME	
handle, Private carphone with leather case, straps, handle, Private carphone with leather case in 54088	er. CLIP THIS COUPON for this amazing FREE GIFTI	CITY & STATE	
Save Morel 2 Walkie-Talkies, both for only SHE.GE		MONEY B	ACK GUARANTEZI wa ma a

RECEIVED TOO LATE FOR HUNTING SEASON

大きのできるということになっていることであるというという

Cash or Credit

	MANA MOON ON COOK CIMEEN	B SWIMS WOW 8	DOU DICHINUS 30 DAY FREE TRIAL
	PRICE SLASHEDI	WAR SURPLUSI	U.S. MODEL 1917 RIFLE
	U. S. SPRINGFIELD M1903—30/08	ALL N.R.A.—Very good or better!	
	try rifle for sporting use of them all and this take all Model and and this take all Model are in Government Aranal-not commercially assembled. 30.0 actiles, the same all model uses in Government Aranal-not commercially assembled. 30.0 actiles, a single services with the same and th		The U. S. Medel 1912 Faffeld
	WAR 30/06	30/08 ca	The U. S. Model 1917 Enfield the lowest price rifle in the most desired libre! Mnnwn susplies are very limited— 50088
	U. S. M-1 GARAND RIFLE	Top gun author Hatcher's Netebook says a typical Mauser, it was improved in se	not likely to be available it it Major element in the Major element aution S. Hatcher in the Major element aution S. Hatcher in the Major element in the Major element
	Finest lot we've seen! Limited quantity! Famous World War !! and we've seen! Limited quantity! Famous World War !! at 2" overal!. Adjustable sight.	further says—"many tosts over the years always outwear the .03 Springfield barrel Specifications: 6-shot, top loading, 1 in efficial rifle overall 46.3", Preg stobt add	have shown the Mudel 1917 barrels will order No. C20-T33
	canabo in "Lista Advision of Tion. All specially selected and specially selected and printed perfect by Milt Neini of ode new, these won't last co-tills. [20-Tiolo. Military 30/06 Ammo., per 120 rds. 57.20.	CZQ-T33, M1917 Mille mase by Eddyston	10° S.groove 26° barrel with share clean wistable from 200 to 1600 yards, blade front sit. American Wilnut Stock and hand guard leet shooting condition! a \$29.88. Co2-T34. Made by Remington or Winchester, \$34.0
4	LATE ISSUEI 6.5 ITALIAN CARBINE	C20-T1296. M1917 Rifls made by Eddyste C20-T1297 M1917 Rifls made by Reming C20-T1292. M1917 Rifls made by Eddyste C20-T1293. M1917 Rifls made by Rem. s	one mounted with a Tasco 3/4" 4 power scope. 33.9 glon or Winchoster mounted with a Tasco 3/4" 4 power scope. 544.2: 539.8 glon or Winchoster mounted with a Tasco 3/4" 4 power scope. 544.2: 539.8 glon side mounted with leb big 1" Tasco 4 or 6 power. 559.8 glong. 539.8 glong. 539.8 glong. 539.8 glong. 539.8 glong. 53.9 glong.
İ	Only 38" overall, weight only 51g-lbs. Shows only slight use, lightly olied, inst fired and head spaced, ready for shooting. Turned down boil, thumb safety, 6-shot, clip fed. Rear open	BRAND NEW!	DELUXE MARLIN 336C!
-	ight. Fast loading and fast firing. \$12.88 colors are colors as specially preceded. New Bood Quality 4X Scope—34. \$19.95 dameter, as illustrated. \$19.95 dameter, as illustrated.	30-30 or .35 Rem.	T
1	SPECIAL PURCHASE! TOP QUALITY!		RECOIL PAD LAST CALL! HURRY!
1	Brand new! . First quality! . Made by Tascal With a twist of the wrist you can have any pawer you want from 3 to	models	BRAND NEW, factory packed be Luxe with full Marin, warranty, Famous Marin
1	9 Field of view 14-16 to 30-16. Crasshair ricultift Mannesium filmings had coated from the filming of the filming filming from the filming fil	shots, Famous Marlin Mi adjustable open rear sight, roc mounts. 20" barrel, 381/2" overall, 7 ib sing swivels and olde leather sling with	BRAND MEV. Gooden The State of Board Free of
-	VARIABLE POWER SCOPE 21/2% to 8%. TASCO quality and features same as \$20-7603 described above. Crosshair reticule. Compare to \$49.95 \$29.88 Stopes steewhere! \$20-11285%. Propaid Price.	Remington calibor. C20-7773. Certified \$94.95 Mfr's List. 5 MARLIN 336C WITH 4X SCOPE-Mounte quality 1" diameter 4X Scope with hard c	Sette 30/30 or 33 cal
-	21 3X or 4X SCOPES_CROSSIAIR or POST and CROSSIAIR RETIQUES. All the unity and features of 120.7693 described plus Fixed Reticule—always occurately contered. Compare at \$37.50 elsewhere! State choice of reticule. \$19.88 s10.71167X, 21/3X or 4X. State Choice. Prenaid Price. \$19.88	to prevent fogging. Leather lens caps inci MARLIN 336C. 4X SCOPE. MOUNTS, REC elsewhere! C20-T774. State 30/30 or 35 Mari in 336C WITH 214X to 8X SCOPE.	uured, Scope has crossiair. OIL PAD, CARMYING STARP, SWIVELS, Compare at \$139.70 \$94.88 5 cal. Mounted . Ready to Shoot! Tatco fine quality variable power scope to 8 instantly. Nitrogen filled, magnesium flueride coated lenses, cross sunts, State calibor choice.
1	SALE! New Matador 10 Gauge Magnum	changes power from 22/2 all the way up thair reticule, leather lons caps. Tip-off mo C20-T1191. MARLIN 336C, 24/2X-8X SCO Compare at \$152.15 elsowhere! State 30 M	
f	SAVE 569 NOW! But Hurry-they won't last Brand new tamed Shotque, Deen cut price due to a single (3/yg shell) Magnum Shotque, Deen cut price due to a single change in Gretheoming model. Made for F-I by Aya of Spain. Perfect for ducks and gerse to 100 yds., for fine and varmint, Shoots either 2/yg or 3/yg Magnum shells, 327 full choked wheth, Europeard resulver, selective automatic ejectors, double safely under- strain to the single selective automatic ejectors, double safely under- strain to the single selective automatic ejectors, double safely under- strain to the single selective which and insurerhall foreign. 42° \$10000	WAR SURPLUS PURCHASEI	ENFIELD SPORTER
	hards Carmint, Shooth either 20% or 20% annual meris, 20% in the hards Carmint shooth for the hards Carmint shooth for the hards Carmint shoot and hards carmint and a shooth for the hards carmint should be shown to be show	.303 British Caliber	
-	SALE! NEW WINCHESTER FEATHERWEIGHT AUTO SHOTGUN 12 Gauge	Comment C	AVAILABLE WITH LAST CALL! HURRY!
	FEATHERINGIGHT Automatic Shelgun, First quality, factory packed. Latest Model 12 gauge, 30° barrel, full cheke, 2-knot. Rasy, fast takentown, Select Walnut atoch. Weinha plans 150 nustone 120 (1900) 100 (1900)	lot of Enlield	Amazing for without scores of the second state of the second seco
ĺ.		long, long time! Buy with con cally perfect with clean sharp rifling stock with little appreciable wearing of w	Amazinn low price due to hune special Amazinn low price due to hune special Amazinn low price due to hune special of this quality that may be available for a malete assurance your gun will be mechani- i. with smooth, eiled fine-grained (Walnut odd. Specterized stock has good clean lines, sight adjustable for windings and clevation, e, solid brans butt-plats. 10-anot removable Pittish Calliber. \$19.88
	BRAND NEW! U.S. M1 .30 CALIBER CARBINE The Rife Every G.I.	blade front sight. Turned-down bult hands glip, sling awiyels, 441/2" overall, 303 E C20-T1253, Rifle ENFIELD RIFLE with FLEETWOOD 4X 50	
	Wontst Buy Now! The only U. S. Milliary small arms made with the inner and weight of a modern sporter, white only Sty. He. 18th Barrel, 30° over-all.	ENTIELD RIFLE with new TASCO 4X Scor	no, illustrated, 1" diameter, crosehair reticuls
	The day 0, 5, million's small arms made with Weinhis only 5/2 life, 10° barren, 10° morrell, Gas operated, 15 shot semi-automate. Receiver sight attitudes to 100 to 100 yds. New Comiston! Superbly 57888 C20-T859. Brand New M-1 Carbine, Fully Nickel Flated. 5118-05	NEW HI-STANDARD	.38 S & W ENFIELD MIBIT—COLT .45
	F10-T53, 14-skot Magazine, 3 for \$1,00; E20-T1192, 30 cml. Milliary Ammin. 38.75 per 100 rds.;	Shoots 22 rim-fire from 88 Cap to Long Riffo, Ham- merless. Two Shoots, Dual Extraction, Weighs only 11 oz.	Double action only 26 oz. 6 Might Service Might Service Might Service Mevolvers. 45 Acr caliber-6
-	Listen to London Tokyo Moscow Ships at Sea Planes Astronautal FAMOUS VISCOUNT SHORTWAVE-AM-MARINE PORTABLE RADIO!	E20-T1340 \$29.95	signts, hard rubber grips. Good condition outside. Perfect mechanically.
	Flays Over 300 Hours on Inexpensive Flashlight Batteriest INCLUDES , , Genuine Cowhide Leather Case with Carrying Strapt FARMONE for Private Liversiant Fames VISCOUNT Quality		E20-T97. Only \$12.90 E20-T15 \$29.95 Add \$3.00 for special selection 45 ACF Ammo (E20-T468) \$2.56 if desired.
	3 Bands - 8 Transistors—3 Diodes - Powerful Telescopic Antenna Generals in Case - Console Sound 31/2 Dynamic Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Transistors Turker - Proceedings - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Speaker * 'Meter-Miser' Battery Saver - Precision Slide-Bule Turker - Precision Sl	dict. Also send permit if your city or state requires.	MAIL TODAY! IMMEDIATE DELIVERY!
-	COMPADE AT SSO OF ELSEWHEREI	NEW! '63 GUN DIGEST World's Greatest GUN BOOK	227 W. Washington St. W. Chicago 6, Illinois
	Receives all standard AM broadcasts alus Shurtwave 6-1h Menacycles and Marinn Band 1.6-4.5 Mc. Operates on 4 stand- ari flashight batteries, Weight onty 2 Ibs., 10 ex. Showpiece black and chrome cabinel measures only 3/4/ x81/2 x1/6/.	Now with 5 FREE \$505 Extras! \$11.00 Val. OPPD.	CASH CUSTOMERS: Send check or money order in full. Add only \$1.50 per any size order for postage and handling unless otherwise specified. Handgun orders, and orders with ammo, are shipped express, charges collect. (Illinois unstancer anily—mild 4% Notes The.)
	KLEIN'S LOW PRICE 33975	Hamiltonder's Dignat\$2.05 ppt.	CO.D. Customers-Enclose 10% C.O.D. Denosit.
	NEW! FINEST 9 TRANSISTOR WALKIE-TALKIE Porfect for Hunters. Fishermen. Farmers. Campers, Police Work. Contractors, Surveyors. TV Repairmen!	AMMO. SALE!	payment required. Your order will be entoped at order New CREDIT CUSTOMERS: No Down Payment Required, To speed your order, ared note and add and the control of the contro
	Anyone Can Use, No License Required FCC Approved! FAMOUS "MAYFAIR" BRAND! FAMOUS "MAYFAIR" BRAND! Small enough to hole light enough for your nochet yet ranges up to 4 miles! Stransistor, in sech unit for clear	Swedish Mauser Model 94, metal jacketed, 159 gr. mili- tary 6.5 x 55mm ammo, 130	tion, number of dependents, date present jet began and present salary, information will be kept confidential.
	performance for the serious minded outdoorsman and outdoor worker! Do not confuse with "jumicked-up" litems hav- ing battery wearing radies and other gladgets. Easily operated with push-fortals awtich, volume confess. In	rounds per box. Shipped ex-	ENCLOSED IS 5 Check Money Order
	FAMOUS "MAYFAIR" BRANDI Smail eneugh to hole . light eneugh for your mochet . yet ranges up to a miles! 9-transisters in each unit for clear performance for the serrous miles of the service of the se	E20-T1123X—Box \$783 of 130 rounds	ADDRESS
_	cliefed. Shipped Poshairi during Sale only! STITUS FPO-T971ST-Each Walkie-Talkie. Save Morel 2 Walkie-Talkies, both for only	Limit 1300 rounds per customer,	100% MONEY BACK GUARANTEE!

E CALIBER

By CHARLES H. YUST, JR.

RIFLE-caliber explosive cartridges form a very interesting group which it is quite possible for anyone to add to his collection. It is only necessary that extreme caution be practiced when encountering any cartridges of which there is the slightest doubt as to identity, especially those that have unusual-appearing bullets.

While explosive cartridges are safe enough to have in a collection, the nature of this type of ammunition must always he borne in mind, along with the possible effects of time.

Never probe bullets

Some of this class are of hollow- or open-point type. Never, under any circumstances, thrust any object down this opening. Never use pliers or other tools on bullets that have copper or lead tubes in the nose, or use tools on those with mechanisms, such as the U.S. Spot-Light types or the Austrian Anti-Balloon Round.

Do not drop explosive cartridges. While they are intended to withstand ordinary handling in the field, age may have had a deteriorating effect on some of the components, and a drop may be enough to explode them. Also, do not use an inertia-type bullet puller-the blows could be enough to actuate the mechanism.

Some collectors like to section bullets to study their construction. Unless you are well versed in such procedure and have the proper safety equipment, confine this sectioning to the large variety of inert-type bullets. Those who like to shoot should refrain from firing explosive cartridges.

The Argentine 7.65 mm. Type R high-explosive cartridge (Fig. 1) is identified by a black bullet tip and black primer annulus. Bullet jacket is cupronickel clad steel. The round was manufactured for Argentina by Hirtenberg Patronenfabrik in Austria.

So far as known to this writer, Austria had in service 4 types of explosive cartridges for 8x50R Mannlicher rifles and machine guns. All these were used in World War I, and one of them was introduced as far back as 1910.

Explosive cartridges Model 1910 and Model 1914 (Fig. 2) are known as Einschusspatronen (sighting cartridges), intended for observing point of impact, supposedly in training. They were manufactured at the government arsenal at Wellersdorf.

These are very hard to distinguish from the ordinary ball round as the bullet has the same general shape. For identification a colored band was placed around the cartridge case just below the shoulder. However, this band could be worn off. If the bullets are removed from the case, it will be noted that they are considerably longer than the ordinary ball bullet.

The Model 1910 cartridge has a red hand around the cartridge case. The bullet jacket is gilding metal, but coated so that it looks like the ordinary steeljacketed ball bullet. The portion of the bullet seated below the case mouth was not coated. The base of the bullet is

marked -. The explosive in this car-12 tridge consists of potassium chlorate and antimony sulphide.

Model 1914 cartridge

The Model 1914 cartridge has a black band, and the bullet jacket is steel. The nose of this bullet has a small, flattened projection which is also an aid in identification. Base of the bullet is

marked -.. The explosive is compressed blackpowder mixed with aluminum.

The third cartridge in the Austrian series is known as an air burst shrapnel (Fig. 3). It appears to have been introduced later in World War I, because the cartridge is headstamped 1917. It can be identified by the flat-nose, hollow-point bullet. The mouth of the cartridge case is crimped. In 1917 a crimp to hold the bullet more tightly was included for use in machine guns.

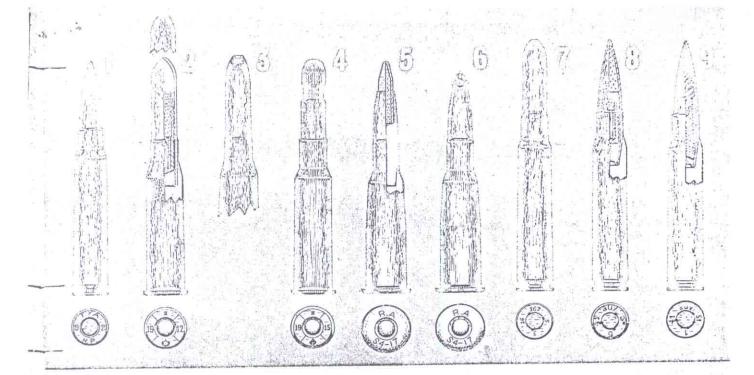
The last of the Austrian cartridges is known as an anti-balloon round. There were 2 patterns, which at first glance look alike as they have practically the same external dimensions. The first pattern (Fig. 4) is headstamped "1915" and the bullet length is 1.425". The cartridge case is not crimped to hold the bullet. The second pattern is headstamped "1916" and the bullet length is 1.305". The cartridge case is crimped to the bullet. Shape of the case for this round is slightly different from that of other 8x50R Mannlicher rounds. It is still 50 mm, long, but the neck was made longer by shortening the shoulder, to give more bearing surface around the bullet. It is not known certainly if this cartridge was intended for use in rifles, in machine guns, or both. The first time this writer saw such cartridges they were loaded in a number of regular Mannlicher rifle clips.

There are 2 patterns of spot-light cartridges in 8 mm. Lebel. The first pattern has a hollow lead-pointed insert in the bullet nose (Fig. 5). The explosive must be sensitive, as it detonates on impact. The second pattern (Fig. 6) has an unusual appearance. The explosive is placed in the cavity in the bullet nose and the cavity soldered closed.

The cartridge cases were made by Remington Arms-Union Metallic Cartridge Co., at their Swanton, Vt., plant. The bullets were altered from the regular solid Balle D. The first pattern was altered and loading completed at Frankford Arsenal; it is not known where the second pattern was completed.

Three German explosive types follow, A 7.92x57 mm, explosive round was introduced during World War I (Fig. 7) which, at first glance, could be mistaken for the old Model 1888 roundnosed ball cartridge. However, the bullet has a hollow point and the bullet

Continued on page 24



FIGURES

- 1 Argentine 7.65 mm. Type R High Explosive Cartridge 2 Austrian Sighting Cartridges. (at top) Model 1914. (below) Model 1910
- 3

- Model 1910

 Austrian Air Burst Shrapnel Cartridge (bullet only)

 Austrian Anti-Balloon Cartridge (bullet only)

 Austrian Anti-Balloon Cartridge, first pattern

 8 mm. Lebel 'Spot-Light' Cartridge, first pattern

 8 mm. Lebel 'Spot-Light' Cartridge, second pattern

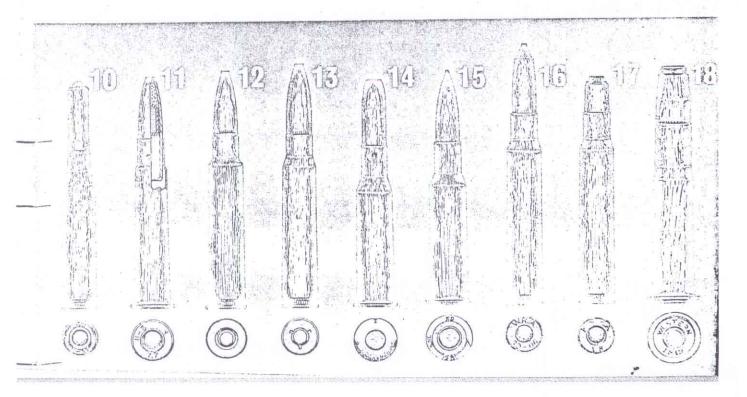
 German 7.92x57 mm. Explosive Cartridge, World War I

 German 7.92x57 mm. B-Patrone Observation Cartridge

 German 7.92x57 mm. "S.m.K. L'spur Ub. m.Z." (Practice

 Ball with Steel Core and Self-Destroying Tracer)

- 10 Italian 6.5 mm. Explosive Cartridge
 11 Japanese Navy 7.7 mm. Rimmed Explosive Cartridge
 12 Japanese Army 7.7 mm. Semi-Rimmed Explosive Cartridge
 13 Japanese Army 7.92x57 mm. Explosive Cartridge
 14 Imperial Russian 7.62 mm. Explosive Cartridge
 15 Soviet Russian 7.62 mm. Explosive Cartridge
 16 U. S. .30 Gov't M1906. H.E. 'Pomeroy' Explosive Cartridge
 17 U. S. .30 Gov't M1906. H.E. 'Spot-Light', Experimental Cartridge
 18 U. S. 11 mm. Machine Gun. H.E. 'Spot-Light', Experimental Cartridge



NRA Publications

THE National Rifle Association makes available to its members useful and valuable information on firearms and ammunition and their use, in the form of NRA Illustrated Handbooks, RIFLEMAN Reprints, and Range Plans.

NRA Illustrated Handbooks NRA Illustrated Handbooks contain selections of the best material on various subjects that have appeared in article form in The RIPLEMAN in recent

years.

Firearms Assembly Handbook \$2.50* Gun Collectors Handbook \$1.50* \$2.000 Hunters Handbook Questions And Answers Handbook \$1.50° Reloading Handbook \$3.500 Shooters Guide \$2,00* Shooting Handbook \$3.50* * Price to NRA members, postpaid from NRA Headquarters. Price to non-members, add SI.

"Rifleman" Reprints

RIFLEMAN Reprints are smaller booklets that contain selected articles giving a wealth of practical information on specific arms or types of arms.

Civil War Small Arms	500
Metallic Sights	50¢
Military Rifles	50¢
Remodeling The 03A3	50¢
Remodeling The .303 Lee-	
Enfield Rifle	50€
Remodeling The U. S. Model	
1917 Rifle	50¢
Sighting-In Rifles And Shotguns	500
Telescope Sights	50¢
The .45 Automatic	50¢
The M1903 Springfield Rifle	50¢
The M1 Rifle	50¢
The U. S. Cal30 Carbine	50¢

Range Plans

NRA Range Plans provide useful information, based on successful 'in-use' installations, on range construction and layout that can serve as practical guides to interested clubs and individuals in building similar ranges.

the street of th	
Bench Rest Construction	10¢
Construction Of Indoor Rifle	0.00
And Pistol Ranges	\$1.00
50-Ft. Summer Camp Range	10¢
High Power Rifle Range Plans	75¢
Outdoor Pistol Range Plans	50¢
Outdoor Smallbore Rifle Rang	e
Plans	50¢
Range Construction-Part-	
Time And Special	\$1.00
Range Location And Land-	
scaping	10¢
Running Deer Ranges	50¢
Safety Ranges And Inter-	2.54

You Can Have A Place To Shoot Available from National Rifle Association, 1600 Rhode Island Ave., N.W., Washington 6, D. C.

\$1.00

10¢

national-Type Ranges

Universal Outdoor Smallbore Rifle Target Frame jacket is uncoated steel. Most rounds found today will probably show signs of rust. There should be a black primer annulus, but this could be worn away.

Shortly before World War II, the Germans adopted an explosive incendiary cartridge known as the B-Patrone, or observation cartridge (Fig. 8). On German ammunition charts and lists, it was always included with training cartridges and not with Service cartridges. The bullet jacket is gilding-metal-clad steel. Inside the nose was a compartment filled with white phosphorus. This was followed by a lead sheath which contained a detonator backed by a firing pin. There is a lead plug in the base of the bullet. There is no weep hole leading to the phosphorus as in a regular incendiary bullet.

Rounds of early manufacture had a chrome-tipped bullet for identification, then a silver-tipped bullet. The last, and most often seen, had the lower portion of the bullet stained black leaving the tip unmarked. Additional marks may be encountered, such as a thin green band near the point which indicates a high-velocity round; or a lacquered band at

case mouth (very hard to see) which indicates tropical loading; or both. This bullet was loaded into brass and steel cases. The primer annulus was black.

There was another training cartridge employed by the Germans that contained an explosive element. This was known as "S.m.K. L'spur Ub.m.Z.", which can be broken down to mean. "Practice Ball with Steel Core and Self-Destroying Tracer" (Fig. 9). The bullet has the usual gilding-metal-clad steel jacket. The jacket contains a lead sheath, carrying a short steel point. Behind this is a container which tapers into a teat that contains an explosive, behind this another container with tracing mixture. This bullet explodes when the teat end of the explosive container, as a result of burning of the tracer, transmits the heat through the thin wall of the teat to the explosive.

This round is identified by about 34 the distance from the point of the bullet to the case mouth being blackened. These bullets also were loaded into brass and steel cases.

Italian explosive cartridge

An explosive cartridge was manufactured in Italy during World War I for Italian 6.5 mm. weapons (Fig. 10). It is not hard to identify due to the unusual shape of the cupronickel jacketed bullet, which also has a small hollow point. Inside is an explosive charge and detonator backed by a firing pin.

Japan had a series of explosive riflecaliber cartridges, all with the characteristic that the bullet had a flat nose.

The Japanese Navy 7.7 mm. rimmed cartridge (Fig. 11) was for use in Naval aircraft machine guns and ground machine guns. It could also be used in British .303 rifles and machine guns, because it had the same external dimensions as the British .303 cartridge. The bullet of the explosive round had a cupronickel jacket. The front compartment inside the nose contained cyclonite and PETN. To the rear of this is a gilding-metal cup filled with aluminum and cyclonite, or alternatively alu-minum and TNT. This is backed by a lead plug. This is the general arrangement of the whole series of Japanese explosive bullets of rifle caliber. The primer annulus is violet.

The Japanese Army 7.7 mm. semirimmed explosive round (Fig. 12) has a flat-nosed, gilding-metal-jacketed bullet. There was a black identifying band around the case mouth. It has also been reported that there was an explosive round with the 7.7 mm. rimiess cartridge series. This would look like Fig. 12, except for a smaller case head.

There was an explosive round of the Japanese Army 7.92x57 mm. cartridge (Fig. 13). This has a flat-nosed, gilding-metal-jacketed bullet, and there was a white identifying band around the mouth.

Russian explosive cartridge

Imperial Russia had an explosive cartridge for 7.62 mm. rifles and machine guns (Fig. 14). This cupronickel jacketed bullet has a flat nose with broad and shallow hollow point. The copper detonator container is visible. There is a firing pin and explosive included.

Soviet Russia also had an explosive incendiary cartridge in the same caliber (Fig. 15). The front of the bullet contained thermite powder, followed by a lead sheath containing a detonator backed by a firing pin. A lead plug is in the base. The gilding-metal-clad, steel-jacketed bullet was pointed just like the ball bullet. This cartridge was identified by a red or red-and-green bullet tip. Cartridge cases were either brass or copper-coated steel.

The rifle-caliber explosive round was also attempted by the United States.

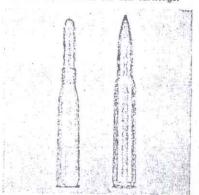
A .30 Gov't M1906, H. E. 'Pomeroy' cartridge (Fig. 16) was made by Winchester for the Government. The bullet had a pointed copper tube inserted in the front end, which contained an explosive. This can be identified by the shape of the point and its green tip.

The last 2 cartridges are the U. S. .30 Gov't M1906 H. E. Spot-Light round (Fig. 17), and the 11 mm. Machine Gun H. E. Spot-Light round (Fig. 18). These are quite easy to identify by the unusual appearance of the bullet. Both were experimental.

6.5X58 "P" CARTRIDGE

Please identify a rimless bottleneck rifle cartridge marked "DWM 457" and "K" ("K" on either side of head). This cartridge is about cal. .25, has a long tapered case shoulder, and a long round-nose bullet. To what rifle is it adapted?-S.C.

Answer: The cartridge is a commercial version of the 6.5 mm, Portuguese cartridge made in Germany by DWM. It is commonly called 6.5x58 Mauser or 6.5x58 "P" (case length is 58 mm.), "K" is for Karlsruhe, where the DWM ammunition plant is located, and "457" is the DWM identification number for this cartridge.



6.5x58 "P" (L) and .30-'06 cartridges

This cartridge is adapted to the 6.5 mm. Portuguese Mauser-Vergueiro Model 1904 military rifle and to 6.5x58 Oberndorf Mauser sporting rifles. Its long round-nose bullet weighs 155 grs., and the muzzle velocity with 25.6" barrel is 2568 f.p.s. (feet per second).—L.O.

SILENCERS

How do rifle silencers work, and how effective are they? Why are they not generally used?-D.E.V.

Answer: One of the very first successful firearm silencers was developed by Hiram Percy Maxim, a member of the famous American family of inventors.

Silencers operate by trapping the powder gases at the muzzle and releasing them over a little time. While this time is very short. it is enough to lower and lengthen the pressure peak of the escaping gases, thus largely doing away with the resultant sharp report. Maxim originally believed that for effectiveness the gases had to be given a whirling motion through passages around the inside of the silencer, and his first successful silencer was designed on this basis, Experience showed that this was not necessary, the requirement for effectiveness being only that the gas escape slowly, The principle is exactly the same as that of the internal combustion engine muffler. Of course, there must be a hole through the device in the projectile's path.

Trapping the muzzle gases and releasing them over a little time results in slowing them. The force required to do this necessarily involves an equal and opposite forward reaction force on the firearm, de-creasing the recoil. A silencer thus acts also as a muzzle brake.

A good silencer can be remarkably ef-

JANUARY 1963

fective in muffling the escaping gases. It may even eliminate nearly all noticeable sound from a small powder charge, leaving only the sound of the gun hammer or striker and of the bullet impact on the target to be heard. The silencer has, however, some major limitations.

One of the greatest is that while noise from the powder gases leaving the muzzle can be muffled, nothing can be done to silence the loud crack made by projectiles passing through the air at speeds higher than that of sound. Even at transonic speeds the projectile makes a considerable noise. The effectiveness of silencers is therefore limited to guns firing projectiles well below the speed of sound.

Silencers are less than effective on revolvers because they do nothing to muffle the gas escaping at the cylinder joint. They are also ineffective on those self-loading arms which open while there is still some pressure in the barrel, since both gas from the opening breech and also the moving mechanism make a noise.

There are also the disadvantages of a device attached to the gun muzzle, where weight and bulk are most inconvenient.

Some United States patents which have been issued on silencers are Nos. 880,386; 1,018,720; 1.207,264; 1.259,251; 1,482,805.

The silencer was given a military application during World War I, when a sniper model of the M1903 Springfield rifle was made with a Maxim silencer and a Warner & Swasey telescope sight. The rifle was very awkward, partly because of the silencer and partly because of the telescope sight design, and there was of course the inability to silence the bullet crack which has been explained above.

Silencers were employed during World War II on some small weapons used by various nations for semi-military purposes. These were classified, and no detailed information is available on them.

Silencers for sporting guns were produced by the former Maxim Silencer Co. over a period of many years. There appears to have been a rather steady demand, but never a very great one. That company discontinued the manufacture of silencers about 1925 as being unprofitable. Manufacture was then taken up by 2 or 3 small manufacturers, but without much success.

Now the only known source of gun silencers is Parker-Hale Ltd., Whittall Street, Birmingham 4, England. Parker-Hale calls these devices sound moderators, and manu-

factures them for cal. .22 weapons only.

The most important limiting factor is now the regulation of silencers by law. The National Firearms Act includes silencers among the weapons and devices which must be registered with the Alcohol and Tobacco Tax Division of the Internal Revenue Service, with payment of a tax of \$200. Payment of \$200 tax must be repeated at each transfer of the item. Also a tax of \$200 must be paid by the maker (other than established firearms manufacturers, who are licensed separately) on each such item made. Also there are restrictive state laws on silencers,

Because of the severe regulation of these devices, THE AMERICAN RIFLEMAN has not developed information or data on making firearms silencers.-E.H.H.

PRECISE ...



you'd expect the new 4x BUSHNELL BANNER 22

riflescope, to be twice the price for even half the precision*



*brilliant, too!

(Bushnell world

. only \$14.95 (complete with mount for grooved receivers)

NOW AT YOUR DEALER. ASK FOR FREE 30-DAY TRIAL; OR WRITE:

ARAX-46 Bushnell Bldg., Pasadena, California In Canada: 1310 W. 6th Ave., Vancouver 9, B.C. Pistol Scopes . Binoculars . Photo-Optics Spotting Scopes . Microscopes . Sunglasses

AMERICAN RIFLEMAN